GMSD Budget & Regular Board Work Session
April 19, 2023 1:00 PM
Board Room, GMSD Office

1. GMSD FY 23-24 General Purpose Fund Budget Summary Highlights
2. Revision of Policies - First Reading
3. Miscellaneous FY 22-23 Budget Amendments # 24 & 25
4. Dogwood Elementary School Cafetorium Stage Expansion Project
5. Dogwood Elementary School Kitchen Improvement Project
6. Houston High School Door Hardware Replacement
7. Approval of Grant of Tenure to the Recommended Teachers
8. Nominations for the 2023 TSBA Volunteer and Student Awards
9. Further Business

Germantown Municipal School District

Monitoring:	Descriptor Term:	Descriptor Code:	Issued Date:
Review: Annually	**Staff Conflicts of Interest**	**5.601**	**05/**/23** **05/23/22**
		Rescinds: **5.601**	Issued: **03/19/18**

The employees of Germantown Municipal School District shall avoid any situation in which a conflict of interest or the appearance of impropriety could interfere with the duties and responsibilities of the employee. The following is prohibited:

- Any pecuniary transaction, indirectly or directly, by a professional employee or school board member concerned with supplying books, maps, school furniture, and/or other apparatus to the school system of employment or to act as agent for anyone is expressly forbidden by statute.
- All employees, including non-faculty employees and school volunteers, are prohibited from requiring current or prospective students to participate on club teams, AAU teams, or any other program or event in which an employee/volunteer is compensated.
- Individual tutoring or any types of coaching/instruction for compensation to any student currently enrolled in a staff member's school, during the school year.
- Individual tutoring or any types of coaching/instruction to any student attending a summer instructional program or instructional camp at which the teacher is working during the summer break.
- Selling items, ~~or~~ soliciting money, or soliciting for personal services, for personal gain or profit during school hours or at an off-campus event attended by students and staff.
- Soliciting, referring, or encouraging students into programs, schools, or universities for personal compensatory gain.
- Employees shall not accept any gifts, money or consideration or favor of any kind from anyone that a reasonable person would understand to be intended to influence the judgment or decision-making of the employee.

It shall not be considered a violation of this policy for an employee to receive entertainment, food, refreshments, meals, amenities, or foodstuffs that are provided in connection with professional development conferences.

Legal References

T.C.A. 49-6-2003

Germantown Municipal School District

Monitoring:	Descriptor Term:	Descriptor Code:	Issued Date:
Review: Annually, in October	**Student Records**	**6.600**	**05/**/23** **11/30/21** **06/02/14**
		Rescinds:	Issued:

A cumulative record shall be kept for each student enrolled in school. The folder shall contain a health record, attendance record, and scholarship record; shall be kept current; and shall accompany the student through his/her school career.

The name used on the record of the student entering the school system must be the same as that shown on the birth certificate, unless evidence is presented that such name has been legally changed. If the parent does not have, or cannot obtain a birth certificate, then the name used on the records of such student shall be as shown on documents which are acceptable as proof of date of birth.

The name used on the records of a student entering the system from another school must be the same as that shown on records from the school previously attended unless evidence is presented that such name has been legally changed as prescribed by law.

When a student transfers to another school within the system, the school shall send the original records to the transfer school.

When a student transfers to a school outside the system and his/her records are requested, the school shall keep the original records and send copies to the transfer school.

ACCESS TO STUDENT RECORDS

Authorized school officials shall have access to and permit access to student education records for legitimate educational purposes. A "school official" shall include GMSD Superintendent, , GMSD administrator, GMSD Board Member, GMSD teacher, GMSD support or clerical staff, GMSD attorney, GMSD nurse and health staff, GMSD counselor, GMSD human resources staff, GMSD information systems specialist, GMSD school security officers, GMSD school resource officers, and contractors, consultants, volunteers or other parties to whom GMSD has outsourced institutional services or functions. A "legitimate educational interest" is the "school official's" need to know information in order to:

1. Perform required administrative tasks;

2. Perform a supervisory or instructional task directly related to the student's education;

3. Perform a service or benefit for the student or the student's family such as health care, counseling, student job placement, or student financial aid.

Authorized school officials may release information from or permit access to a student's education record without the parent(s) or eligible student's* prior written consent in the following instances:

1. To comply with a judicial order or lawfully issued subpoena pursuant to the terms of state law. The school system will make a reasonable effort to notify the student's parent(s) or the eligible student before making a disclosure;

2. If the information requested is "directory information" (unless the parent/guardian or eligible student exercises their right not to have directory information disclosed): ~~disclosure is an item of directory information;~~

3. To comply with the requirements of child abuse reports to the extent known by the school officials including the name, address, and age of the child; the name and address of the person responsible for the care of the child, and the facts requiring the report;

4. When certain federal and state officials need information in order to audit or enforce legal conditions related to federally supported education programs in the school system;

5. When the school system has entered into a contract or written agreement for an organization to conduct scientific research on the system 's behalf to develop tests or improve instruction, provided that the studies are conducted in a manner which will not permit the personal identification of students and their parents by individuals other than representatives of the organization and the information will be destroyed when no longer needed for the purpose for which the study was conducted;

6. To appropriate officials if the parent(s) claim the student as a dependent as defined by the Internal Revenue Code;

7. To accrediting organizations to carry out their accrediting functions;

8. When a student seeks or intends to enroll in another school district or a post-secondary school. Parent(s) of students or eligible students have a right to obtain copies of records transferred under this provision;

9. To financial institutions or government agencies that provide or may provide financial aid to a student in order to establish eligibility, to determine the amount of financial aid, to establish conditions for the receipt of financial aid, and to enforce financial aid agreements.

10. To make the needed disclosure in a health or safety emergency when warranted by the seriousness of the threat to the student or other persons, when the information is necessary and needed to meet the emergency, when time is an important and limiting factor, and when the persons to whom the information is to be disclosed are qualified and in a position

to deal with the emergency. Whether a health or safety emergency exists, shall be made in the sole discretion of GMSD administration on a case-by-case basis.

11. To the Attorney General or his designee for official purposes related to the investigation or prosecution of an act of domestic or international terrorism. An educational agency that, in good faith, produces education records in accordance with an order issued under this Act shall not be liable to any person for that production.

12. To any agency caseworker or other representative of a state or local child welfare agency or tribal organization authorized to access the student's educational records when such agencies or organizations are legally responsible for the care and protection of the student.

Authorized school officials may release information from a student's education record if the student's parent(s) or the eligible student gives written consent for the disclosure. The written consent must include:

1. A specification of the records to be released;

2. The reasons for the disclosure;

3. The person, organization, or class of persons or organizations to whom the disclosure is to be made;

4. The signature of the parent(s) or eligible student;

5. The date of the consent and, if appropriate, a date when the consent is to be terminated. The student's parent(s) or the eligible student* may obtain a copy of any records disclosed under this provision.

GMSD ~~The school system~~ will maintain an accurate record of all requests to disclose information from or to permit access to a student's education records. ~~The system~~ GMSD will maintain an accurate record of information it discloses and access it permits. ~~The system~~ GMSD will maintain this record as long as it maintains the student's education record.

The record will include at least:

1. The name of the person or agency that makes the request;

2. The interest the person or agency has in the information;

3. The date the person or agency makes the request; and

4. Whether the request is granted and, if it is, the date access is permitted or the disclosure is made.

** The student becomes an "eligible student" when he/she reaches age 18 or enrolls in a post-secondary school, at which time all of the above rights become the student's right.*

RIGHTS OF NON-CUSTODIAL OR NON-RESIDENT PARENT

A non-custodial or non-resident parent may request in writing that a copy of the child's report card, notice of school attendance, names of teachers, class schedules, standardized test scores and any other records customarily available to parents be furnished directly to such non-custodial or non-resident parent. The written request must include the mailing address of the non-custodial parent. A non-custodial parent will not have access to this information if GMSD is presented with a legal document prohibiting release of the information to the non-custodial or non-resident parent. In addition, a non-custodial or non-resident parent has the same right to review the education record of a student as that given to the custodial parent, unless there is legal documentation prohibiting such review by the non-custodial or non-resident parent. However, the personal information of a custodial parent shall not be accessed by or released to a non-custodial or non-resident parent with the child's education record.

GMSD shall provide proof of a child's graduation from high school to either of the student's parents within twenty (20) business days of the parent's request.

ANNUAL NOTIFICATION

Within the first three weeks of each school year, the school system shall notify parent(s) of students and eligible students of each student's privacy rights. For students enrolling after the above period, this information shall be given to the student's parent(s) or the eligible student at the time of enrollment. The notice shall include the right of the student's parent(s) or the eligible student to:

1. Request, Inspect, and review the student's education records;
2. Seek correction of items in the record which are believed to be inaccurate, misleading or in violation of the student's rights, including the right to a hearing upon request;
3. File a complaint with the appropriate state or federal officials when the school system violates laws and regulations relative to student records;
4. Obtain a copy of this policy and a copy of the student's educational records;
5. Exercise control over other people's access to the records, except when prior written consent is given, or under circumstances as provided by law or regulations, or where the school system has designated certain information as "directory information."

The notice must include the following:

1. The procedure for exercising the right to inspect and review educational records; and
2. The procedure for regularly amending records.

DIRECTORY INFORMATION

"Directory information" means information contained in an education record of a student which would not generally be considered harmful or an invasion of privacy if disclosed. It includes, but is not limited to the student's name, address, telephone number, e-mail address, photograph, date and place of birth, dates of attendance, grade level, enrollment status, participation in officially recognized activities and sports, weight and height of members of athletic teams, degrees, honors and awards received, and the most recent educational agency or institution attended.

Student directory information for 11th and 12th graders shall be made available upon request to persons or groups which make students aware of occupational and educational options, including official recruiting representatives of the military forces of the State and the United States.

Parent(s) intending to limit or withhold student directory information should file notice in writing with their student's school principal no later than ~~September 1 annually~~ two weeks after notification to advise GMSD, in writing, of items they designate not to be used as directory information. The records custodian shall mark the student record for which directory information is to be limited, and the designation shall remain in effect until it is modified by the written direction of the student's parent(s)/guardian(s) or the eligible student.

~~*The student becomes an "eligible student" when he/she reaches age 18 or enrolls in a post-secondary school, at which time all of the above rights become the student's rights.~~

INSPECTION PROCEDURE

Parent(s) of students and eligible students* may inspect, review and request copies of the student's education records upon written request.

Parent(s) or eligible students shall submit to the records custodian a request which identifies as precisely as possible the record(s) to inspect, and this inspection must be completed within 45 days from the receipt of the request.

The right to inspect and review educational records includes the right to a response from school officials concerning requests for explanation and interpretation of the data. School officials shall presume that the parent has the authority to inspect and review records relating to his/her child unless GMSD receives a copy of a court order to the contrary. ~~the school system has been advised that the parent does not have the authority under applicable state law governing guardianship, separation, and divorce.~~

When a record contains information about students other than the parent's child or the eligible student, the parent(s) or eligible student may not inspect and review that information.

FEES FOR COPIES

A reasonable fee for copies provided to parent(s) or eligible students shall be determined by the director of schools. If the fee represents an unusual hardship, it may be waived in part or entirely by the records custodian.

CORRECTION PROCEDURES

Parent(s) of students or eligible students may seek to change any part of the student's record they believe to be incorrect. The director of schools shall develop an acceptable procedure to establish an orderly process to review and potentially correct an education record.

** The student becomes an "eligible student" when he/she reaches age 18 or enrolls in a post-secondary school, at which time all of the above rights become the student's rights.*

Legal References

T.C.A. § 10-7-503
T.C.A. § 10-7-504
T.C.A. § 36-6-104
T.C.A. § 37-1-403
T.C.A. § 49-1-703
T.C.A. § 49-1-704
T.C.A. § 49-6-406
T.C.A. § 49-6-902
T.C.A. § 49-6-3001
10 USC § 503~~(c)~~
20 USC § 1232g
34 CFR § 99.4
34 CFR § 99.5
34 CFR § 99.7
34 CFR § 99.10
34 CFR § 99.11
34 CFR § 99.20
34 CFR § 99.21
34 CFR § 99.22
34 CFR § 99.30
34 CFR § 99.32~~(a)~~
34 CFR §99.33

Germantown Municipal School District
Budget Amendment

Fiscal Year: 2022-2023 Amendment # 24

GMSD Acct #	GMSD Acct	Original Budget	Approved Changes	Requested Changes	Amended Budget
141-73100-707	Building Improvements	-	-	309,000	309,000
143-39000	Reserves	1,176,848	-	(309,000)	867,848

REASON FOR AMENDMENT:

To appropriate funds for Dogwood Elementary School's kitchen renovations.

APPROVAL / DENIAL:

_____ Budget revision is approved effective _____.

_____ Budget revision is denied for the following reason(s):

_____

_____

_____

_____ _____

GMSD Board Chair Date

_____ _____

GMSD Superintendent Date

Germantown Municipal School District
Budget Amendment

Fiscal Year: 2022-2023 Amendment # 25

GMSD Acct #	GMSD Acct	Original Budget	Approved Changes	Requested Changes	Amended Budget
141-71300-429	Vocational Instructional Supplies & Materials	-	-	500,000	500,000
141-71300-730	Vocational Instruction Equipment	-	-	20,000	20,000
141-71300-707	Building Improvements	-	-	30,000	30,000
141-46790-802	Revenues - ISM Grant	-	-	550,000	550,000

REASON FOR AMENDMENT:

To appropriate funds for the Innovative Schools Model (ISM) grant to cover STEM curriculum and furnishings/improvements for the Aviation classroom.

APPROVAL / DENIAL:

_____ Budget revision is approved effective _____.

_____ Budget revision is denied for the following reason(s):

_____

_____

_____

_____ _____

GMSD Board Chair Date

_____ _____

GMSD Superintendent Date

Dogwood Stage Expansion 4-5-23				
Bidder	**Grinder Taber Grinder**	**Wagner General**	**Barnes & Brower**	
	$ 379,514.00	$ 396,900.00	$ 398,897.00	
Allowance	$ 50,000.00	$ 50,000.00	$ 50,000.00	
Total	$ 429,514.00	$ 446,900.00	$ 448,897.00	
Checklist:				
Addendum Acknowledgement	x	x		
Prime Contractor's License	x	x		
References	x	x		
Drug and Alcohol Testing Form	x	x		
Boycott of Israel Act	x	x		
Iran Divestment Act	x	x		
Certification of Understanding	x	x		
Bid certification page	x	x		
Certificate of Liability Insurance	x	x		
Bond Information per $1000	$ 9.00	$ 10.00	$ 12.70	
Bid bond	x	x		

Issuance Date: Wednesday March 15, 2023
Mandatory Pre-Bid Meeting: Wednesday March 22 @10 a.m.
Deadline for Questions: Wednesday March 29 by 4:00 p.m.
Bid Opening Date: Wednesday, April 5 at 2:00 p.m.

Germantown Municipal School District Invitation to Bid
Dogwood Elementary Cafetorium Stage Expansion

GMSD BID #FY2023-005

Germantown Municipal School District
3350 South Forest Hill Irene Road
Germantown, TN 38138
(901) 752-7900

3350 South Forest Hill Irene Road. Germantown, Tennessee 38138 (901)752-7900

INVITATION TO BID

March 15, 2023

Germantown Municipal School District (GMSD) will accept Bids on:

Dogwood Elementary School Cafetorium Stage Expansion Project
8945 Dogwood Rd., Germantown, TN. 38139

Bid shall be mailed or hand-delivered in a **sealed envelope marked "Dogwood Elementary School Stage Expansion Project - GMSD BID #FY2023-005"** in the lower left-hand corner of the envelope and addressed to: Jackie Saunders, 3350 South Forest Hill Irene Road., Germantown, TN 38138. If using express mail (FedEx, UPS, Priority Mail, etc.), please place in a sealed enveloped inside the express mail packaging. *Bid must be received by GMSD prior to the time indicated below.*

BID DATE: Bid shall be opened at the Germantown Municipal School District Office at 3350 South Forest Hill Irene Road at 2:00 p.m. on April 5, 2023, at 2 pm. Central Standard Time.

All bid responses must be received and time-stamped on or before the required bid-opening time (local time), soon thereafter all bids will be publicly opened and read aloud. **Bids received after the specified date and time will be considered late and will not be opened.**

All purchases are F.O.B. Germantown, Tennessee per attached specifications.

Germantown Municipal School District reserves the right to accept bids in part or whole, reject any or all Bids, or to accept a Bid containing variations from these specifications if the Bid so merits. The Executive Committee or their designee(s) are the final authority and shall have the authority to reject any single Bid or all Bids submitted and to make awards, as deemed, to be in its best interest. If awarded, awards will be made to the lowest and/or best vendor.

Bids must be submitted on the Bid Schedule Document that the District issues and ***the Document must be signed by an authorized party.***

See attached Specifications, Bid Form, Drug and Alcohol Testing Acknowledgment Statement and Affidavit along with Company's Drug Testing Policy, Iran Divestment Act and Vendor's Qualifications and Reference Form that ***must be returned*** as part of the Bid.

The standard Germantown Municipal School District Services and/or Products Contract and Required Insurance Certifications are included and ***will be required*** from the selected Bidder.

During the competitive bid process, Bidders are instructed to contact only those employees of the associated departments specifically designated in this Invitation to Bid.

Sincerely,

Jackie Saunders
Procurement Services
Germantown Municipal School District

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD BID #FY2023-005
Dogwood Elementary School
Cafetorium Stage Expansion Project
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GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD FY2023-005 Dogwood Elementary School Cafetorium Stage Expansion Project
IMPORTANT DATES

DATE	EVENT
March 15, 2023	**INVITATION TO BID PUBLISHED**
March 22, 2023	**MANDATORY PRE-BID MEETING, 10:00 A.M.** *Meet at the front office of Dogwood Elementary School, 8945 Dogwood Rd., Germantown, TN. 38139*
March 29, 2023	**4:00 P.M. QUESTIONS DEADLINE** All questions must be submitted in writing to Jacqueline.saunders@gmsdK12.org
April 5, 2023	**BIDS DUE BEFORE 2:00 P.M.** **BID OPENING AT 2:00 P.M. GMSD DISTRICT OFFICE** **3350 S. Forest Hill Irene Road 38138**
May 25, 2023	**START OF JOB**
July 30, 2023	**COMPLETION OF JOB**

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD BID #FY2023-005
Dogwood Elementary School
Cafetorium Stage Expansion Project
CERTIFICATION OF UNDERSTANDING AND AGREEMENT

In compliance with this Invitation to Bid, in consideration of the detailed description attached hereto; and subject to all conditions thereof, the undersigned agrees, if this bid be accepted to furnish any or all the items upon which prices have been quoted in accordance with the specifications applying at the price set opposite each item.

The undersigned further agrees, if awarded an order or contract, to indemnify, protect, defend, and hold harmless Germantown Municipal School District, its Board Members, agents and employees from all judgments, claims, suits or demands for payment that may be brought against Germantown Municipal School District, its agents and employees arising out of the use of any product or article that is provided pursuant to the bid.

The bidder further agrees to indemnify, protect, defend and hold harmless Germantown Municipal School District, its Board Members, agents and employees from all judgments, claims, demands for payments, or suits or actions of every nature and description brought against the aforementioned alleging injuries or damages sustained by any person arising out of or in the course of the bidder performing or failing to perform the service and/or providing or failing to provide the goods related to this Bid.

I further attest and agree to immediately notify the Procurement Analyst, Germantown Municipal School District, if either I or the entity I represent can no longer make the foregoing certification. I understand that failure to notify the district may invalidate any and all agreements I have with the District.

I agree and certify my understanding of the requirements of the below:
The Contractor Licensing Act of 1994 of the General Assembly of the State of Tennessee and Amendments thereto, Tennessee Code Annotated (T.C.A.), Title 62, Chapter 6, Section 62-6-119 requires that all contractors must be licensed contractors in the State of Tennessee. Companies responding to this bid shall provide, in accordance to TCA, Title 62, Chapter 6, Section 62-6-119, Paragraph (b), **"…name, license number, expiration date thereof, and license classification of the contractors applying to bid or the prime contract and for the masonry contract where the total cost of the masonry portion of the construction project exceeds one hundred thousand dollars ($100,000), materials and labor, electrical, plumbing, heating, ventilation, and air conditioning contracts, appear on the outside of the envelope containing the bid or in the submission of an electronic bid except when the bid is in an amount less than twenty-five thousand dollars ($25,000). Only one (1) contractor in such classification may be listed. Prime contractor bidders who are to perform the masonry portion of the construction project which exceeds one hundred thousand dollars ($100,000), material and labor, the electrical, plumbing, heating, ventilation and air conditioning must be so designated upon the outside of the envelope or in the electronic bid. Failure of any bidder to comply therewith shall void such bid and such bid shall not be considered. It is the duty and responsibility of the awarding person or entity who received the envelope containing the bid or the electronic bid to verify only the completeness of the required licensure information. Prior to the opening of the envelope or acceptance of an electronic bid, the names of all contractors listed thereon or therein shall be read aloud at the official bid opening and incorporated into the bid. Prior to awarding a contract, the awarding person or entity and its authorized representatives shall verify the accuracy, correctness and completeness of the information required hereby. The failure of any bidder to comply with all of the provisions hereof shall automatically disqualify such bid. However, bids administered by the Tennessee Department of General Services shall require that the information be furnished within the bid or bid document only. When the bid is less than twenty-five thousand dollars, ($25,000), the name of the contractor only may appear on the outside of the envelope containing the bid or in the electronic bid document, and upon opening the envelope or review of the electronic bid, if such bid is in excess of twenty-five thousand ($25,000), the same shall automatically be disqualified.**

Germantown Municipal School District reserves the right to require a Performance, Materials and Labor Bond from the successful proposer. In such an event the document cost for the Performance, Materials and Labor Bond will be reimbursed to the successful proposer. If a notarized Performance, Materials, and labor Bond is required by the Owner the notarized Performance, Materials and Labor Bond must be from an insurance company licensed in the State of Tennessee for 100% of the contract amount awarded. If required, the notarized Performance, Materials and Labor Bond must be provided to:

Mr. John Truong, Operations Supervisor
Germantown Municipal School District
3350 S. Forest Hill Irene Road
Germantown, TN 38138

State the cost per $1000.00 for Performance, Materials and Labor Bond, if required: $_____

The successful Bidder shall be prohibited from discriminating against any individual on the basis of race, color, national origin (including ancestry, or any other subcategory or national origin recognized by applicable law), religion, sex (including any subcategory of sex recognized by applicable law), age, disability, veteran status, genetic information, or any other basis protected by applicable law.

Germantown Municipal School District encourages qualified minority and/or women-owned businesses to submit bids.

Germantown Municipal School District offers educational and employment opportunities without regard to race, color, national origin (including ancestry, or any other subcategory or national origin recognized by applicable law), religion, sex (including any subcategory of sex recognized by applicable law), age, disability, veteran status, genetic information, or any other basis protected by applicable law.

_____ TERMS:_____DELIVERY: Days A.R.O._____
COMPANY NAME

_____ _____
ADDRESS PHONE FAX

_____ _____
CITY STATE ZIP EMAIL ADDRESS

Name and Signature below certifies that you understand and agree to all information contained in this bid.

_____ _____
AUTHORIZED REPRESENTATIVE (PRINT) SIGNATURE DATE

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD BID #FY2023-005
Dogwood Elementary School Cafetorium Stage Expansion Project

Important Documents to Return to GERMANTOWN MUNICIPAL SCHOOL DISTRICT

Included	Name of Document
	GMSD Vendor Registration Packet, Including COI (SEPARATE ATTACHMENT) (**WITH BID**)
	NIGP Coding Sheets (SEPARATE ATTACHMENT) (**WITH BID**)
	W9 (SEPARATE ATTACHMENT) (**WITH BID**)
	Certification of Understanding and Agreement (**WITH BID**)
	Bid Certification Signature Page (**WITH BID**)
	Bid Form (**WITH BID**)
	Bid Label (**ON BID SUBMISSION**)
	Contractor's Qualifications and References (**WITH BID**)
	Drug and Alcohol Testing Acknowledgement & Affidavit (**WITH BID**)
	Iran Divestment Act- Attachment B- Signed & Notarized (**WITH BID**)
	Non-Boycott of Israel Certification (**WITH BID)**
	Bid Bond (If Applicable) (**WITH BID**)
	Addenda (ALL SIGNED) (**WITH BID**)
	Statement of No Bid (IF you choose not to respond to this bid, please fill out and return)

GERMANTOWN MUNICIPAL SCHOOL DISTRICT INVITATION TO BID GMSD BID #FY2023-005
Dogwood Elementary School Cafetorium Stage Expansion Project

1. SCOPE OF WORK

1.1 PURPOSE

This bid should include all labor, materials, and all other considerations in the Kitchen Improvement Project for Dogwood Elementary School in accordance with the specifications.

Detailed specifications and scope of work are attached. The above description is not intended to be exhaustive and all details pertaining to scope of work and specifications are contained in the attached document.

1.2 SUPPLY REQUIREMENTS

Detailed specifications and scope of work are attached.

1.3 INVOICE TO

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
C/O JOHN TRUONG, OPERATIONS
SUPERVISOR
3350 South Forest Hill Irene Road
GERMANTOWN, TN 38138

1.4 VENDOR'S RESPONSIBILITIES

FOR SEALED BIDS:

ALL DOCUMENTS APPLICABLE AT TIME OF BID **must be signed in ink, dated, and returned with your bid documents** to allow your bid to be considered. Documents not returned **will** result in a non-responsive bid.

Disclaimer: *All required documents may or may not be listed. It is the Contractor's responsibility to review all documents and return as specified. All information shall be entered in ink or typewritten. Mistakes may be crossed out and correction inserted before submissions of bid. The person signing the bid shall initial the correction in ink. Corrections and/or modifications received after the designated bid opening time will NOT be accepted.*

FOR SEALED BIDS: (continued)

1) **Vendor Registration Packet, Including Certificate of Liability Insurance Naming the Germantown Municipal School District as Additional Insured-** Please double check checklist on signature page.
2) **NIGP Coding Sheets-** Please check all categories that apply.
3) **W9-** Please complete, sign and date.
4) **Certification of Understanding and Agreement Page-** Page must be completed and signed with an original signature in ink.
5) **Bid Certification Signature Page-** Contractor's License Number(s) must be inserted.

Page must be signed with an original signature in ink by an authorized officer, employee or agent of the bidder.

6) **Bid Form-**Page must be completed and signed with an original signature in ink.
7) **Contractor's Qualifications and References**
8) **Drug and Alcohol Testing Acknowledgement & Affidavit-** Document must be completed and signed with an original signature in ink.
9) **Iran Divestment Act- Attachment B-** Document must be completed, signed **and notarized** with an original signature in ink.
10) **Non Boycott of Israel Certification-**Signed and notarized with original signature in ink.
11) **Bid Bond-** (5%)
12) **Addenda (ALL)**
    All must be signed in ink and returned with your bid documents. It is the Bidder's responsibility to verify if an addendum was issued.

13) **All BIDS must be submitted in a sealed envelope with the *Vendor's Name, Bid Number, Bid Open Date, and Project Name* clearly marked on the outside of the envelope.**

14) Bid Label- Please place on bid package or carton.

NO BID ADJUSTMENTS WILL BE ACCEPTED.

2. TERMS AND CONDITIONS

The terms, conditions and specifications listed in this bid constitute the total terms and conditions that will be acceptable. Germantown Municipal School District will not be bound by conditions other than those stated.

Specifics on start of work must be coordinated with John Truong, Operations Supervisor, Germantown Municipal School District, john.truong@gmsdk12.org, 901-752-7900.

2.1 INFORMATION GIVEN PRIOR TO AWARD

- Oral explanations, instructions and interpretations given to bidders prior to award of contract will not be binding. It is the District's intent to provide all bidders equal opportunity to access and acquire all available pertinent information necessary to formulate a responsive bid. Any information, specifications, plans, data or interpretations which the District discovers is lacking and may be important to all bidders, will be furnished to all bidders in the form of an addendum.

- **Any and all revisions made to this bid prior to the due date will be posted on http://www.gmsdk12.org/BidRFPOpportunities.aspx under Purchasing and will be the responsibility of the Bidder to check for any and all revisions.**

2.2 METHOD OF AWARD

The District reserves the right to award to the lowest responsive, responsible bidder; to award multiple contracts; and, to award the bid/contract that is deemed to be in the best value (most advantageous to the District) as determined by some, or all, of the following:

- Prices offered
- Quality of product/service offered
- General reputation and performance capabilities of the bidder
- Conformity with specifications herein
- Delivery and/or installation schedule

- Location and availability of service and/or repair facilities, personnel and parts
- Suitability for intended use
- Responses to provided references
- Payment terms/discounts offered
- Demonstrations provided, if required
- Ability to meet contract requirements such as warranty provisions, insurance requirements, bonding requirements, etc.

Germantown Municipal School District reserves the right to award this bid by line item, groups of items or the entire list of items (Lump Sum Total), whichever is deemed to be in the best interest of Germantown Municipal School District. Lump sum totals will be determined by the sum total of the extended unit cost of each item in a lump sum grouping. In all cases, the unit cost multiplied by the quantity bid will determine the extended cost of a line item.

2.3 PRICING

- All pricing must be completed on the bid sheets provided.
- Successful bidder shall furnish all labor, materials, tools and equipment for the installation.
- As deemed necessary, Germantown Municipal School District reserves the right to seek competitive pricing or bid items listed during the duration of the awarded contract.
- Costs not delineated in the bid response will not be negotiated in the contract.

2.4 PERFORMANCE

- All work is to be performed during normal working hours—7:00 a.m. to 3:30 p.m., Monday-Friday. Extended working hours must be approved by the District.
- Completion date must be no later than **July 30, 2023**. Bidders must indicate the date for completion of the project. Completion date may be a factor in the bid award.
- All work should be performed in a neat and workman-like manner. Any and all cleanup of debris is the responsibility of the Contractor.
- If at any time Germantown Municipal School District is dissatisfied with the quality of service provided, a written notice of the specific problem(s) will be furnished to the vendor by certified letter. If the problem is not corrected to the satisfaction of GMSD within 5 days of the written notice, this entire contract may be unilaterally terminated by GMSD with no further obligation on the part of the District.

2.5 SPECIFICATIONS

- The specifications given are not intentionally written around any one manufacturer and are for the purpose of indicating general size and description of the job.
- The District hereby reserves the right to approve as an equal, or to reject as not being equal, any item the bidder proposes to furnish which contains minor variations from specification requirements but may comply substantially therewith. Items exceeding specifications will be considered as meeting specifications.
- The bidder shall abide by and comply with the true intent of the specifications and not take advantage of any unintentional error or omission but shall fully complete every part as the true intent and meaning of the specifications.
- All bids must meet or exceed the enclosed specifications. Bidder must indicate manufacturer's name and model number offered. If bidder fails to provide this information, and an award is made, then the bidder shall supply the item(s) as specified. All items supplied

by the successful bidder(s) shall be: 1) as per manufacturer's name (or approved equal), model number and description quoted; and 2) new and unused. Remanufactured and/or reconditioned items will be unacceptable. Items delivered not meeting these requirements shall be subject to return and replaced at no additional cost to the Germantown Municipal School District. Any exceptions to the specifications must be clearly noted and documented, literature to be included with bid for items quoted. Bid will be considered incomplete for failing to include required product literature along with bid and will be rejected.

- Changes to the bid specifications are not valid unless authorized in writing by the District Purchasing Department by means of an Addendum.
- Germantown Municipal School District reserves the right to request any additional information deemed necessary in the evaluation of this bid. Requested information shall be submitted within five (5) business days from date of request.
- Germantown Municipal School District has the right, at its discretion, to terminate or renegotiate this Agreement due to occurrence, event or action beyond its control.
- The District reserves the right to extend the terms, conditions and prices of this contract to other Institutions (such as State, Local and/or Public Agencies and/or School Districts) who express an interest in participating in any contract that results from the bid. Each of the piggyback institutions will issue their own purchasing documents for purchasing of the goods/services by bidding of this service. Bidder agrees that Germantown Municipal School District shall bear no responsibility or liability for any agreements between bidder and the other Institution(s) who desire to exercise this option.

2.6 BIDDING REQUIREMENTS AND CONDITIONS

- Sealed Bids will be received at the GMSD District Office—3350 South Forest Hill Irene Road, Germantown, TN 38138—***before*** **Wednesday, April 5, 2023 at 2:00 p.m**. Timely receipt of bids will be determined by this date and time at the address specified. Hand delivery is encouraged to ensure timely receipt. **No bid will be accepted *after* 2:00 p.m. on April 5, 2023.**
- Questions regarding bid specifications should be directed via email to **John Truong**, Operations Supervisor, Germantown Municipal School District, john.truong@gmsdk12.org, by no later than 4:00 p.m. Central time on Wednesday, March 29 by 4:00 p.m. ***All questions must be submitted by email; no oral questions will be accepted.***

Purchasing questions related to this bid must be submitted electronically to Jackie Saunders, at Jacqueline.saunders@gmsdk12.org, no later than 4:00 p.m. Central time on **Wednesday, March 29, 2023.** ***All questions must be submitted by email; no oral questions will be accepted.***

- **All price quotations and related materials must be received in a sealed envelope and marked with label provided to clearly display time, date, and nature of bid.**
- All material that is submitted in accordance with this solicitation becomes the property of Germantown Municipal School District and will not be returned.
- The bidder shall submit their bid upon the forms furnished by the Purchasing Department of Germantown Municipal School District. **On the bid form**, the bidder shall specify **a unit price** in figures for each pay item for which a quantity is given. The bidder must also show the **products of the respective unit prices and quantities** written in figures in the column "Amount Bid," and the **total amount of the bid** obtained by adding the amounts of the several items. All figures should be written in blue ink or typed. *Penciled entries will not be accepted and the bid will be rejected.*

- The bid as well as the **Certification Agreement** and **Hold Harmless Agreement (included in Vendor's Packet)** shall be signed in ink by the individual or agency authorized to sign and submit this bid for the bidder.
- Mistakes may be crossed out and correction inserted before submission of the bid. The person signing the bid shall initial correction in ink. Any other type of alteration to this bid document by a vendor will deem that vendor's response null and void.
- The bid signature page must include the bidder name and address and the state and address in which the business is domiciled.
- The successful vendor shall be a licensed contractor in the State of Tennessee and shall meet all necessary legal requirements of conducting business with Germantown Municipal School District.
- Bidder must submit a list of three (3) references for projects completed. References shall be for projects of similar size and scope. References shall include: company name, address, telephone number, contact name, email address and date project was completed.
- The successful bidder shall meet the necessary legal requirements for conducting business with the Germantown Municipal School District.
- No bid may be withdrawn for a period thirty (30) days after the bid opening without written approval of the Procurement Analyst.
- Bidder's recommendation must be compliant with local, state and federal laws and regulations including but not limited to seismic. The successful bidder shall perform its obligations hereunder in compliance with any and all applicable federal, state and local laws, rules and regulations, including applicable licensing requirements, according to sound engineering, management and safety practices and in compliance with any and all reasonable rules of the school districts relative to the premises.

2.7 LIABILITIES

- It is understood that the bidder, if awarded an order or contract pursuant to this bid, agrees to protect, defend and save harmless, Germantown Municipal School District from any suits or demands for payment that may be brought against it as a result of the contract.
- The successful bidder agrees that it will function as an independent contractor and agrees to indemnify and hold harmless Germantown Municipal School District, its Board Members, employees, and agents for any and all claims that may arise out of its duties contracted for pursuant to this bid.
- Successful bidders and their employees must adhere to all applicable school policies and procedures.
- The successful bidder will be responsible for obtaining and furnishing any/all permits with local and/or state code enforcement agencies to complete the project as described in this bid.
- The bidder shall hold the District, its officers, agents, servants, and employees harmless from liability of any nature or kind because of use of any copyrighted, or uncopy righted composition, secret process, patented or unpatented invention under this bid, and agrees to defend, at its own expense, any and all action brought against the District because of the unauthorized use of such articles.
- The District, by execution of this Agreement, assumes no liability for damages caused to persons or property by reason of Contractor providing services herein or for injury to any employee, agent or subcontractor of the Contractor performing under this Agreement.

2.8 IRREGULAR BIDS

Bids will be considered non-responsive and shall be rejected for the following reasons:

- If the Bid Form(s) are on a form other than that furnished by the District or if the form is altered or any part thereof is detached.
- If there are unauthorized additions, conditional or alternate bids, omission of addenda, or irregularities of any kind, which tend to make the bid incomplete, indefinite, or ambiguous as to its meaning.
- If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- If the Bid Form does not contain a unit price for each pay item listed except in the case of alternate pay items.
- If the Bid Documents are not sealed when received by the District.
- If the Signature Page or other documents requiring a signature are not signed in ink.
- If Addenda are not signed, in ink, and returned with the Bid Documents.

2.9 SAMPLES

Requirements for samples are as follows:

- Samples of items, when required, shall be furnished free of cost to the District.
- Samples of items selected may be retained for future comparison.
- Samples that are not destroyed by testing, or that are not retained for future comparison will be returned upon request at the bidder's expense.

2.10 DOCUMENTS INCLUDED IN CONTRACT

The specifications, terms/conditions and detailed requirements shall become a part of any contract agreement and/or purchase order that result from this bid.

2.11 DEFAULT

In case of default by the bidder, the District may procure the articles or services from other sources and may deduct from any monies due, or that may thereafter become due to the bidder, the difference between the price named in the contract or purchase order and actual cost thereof to the District. Prices paid by the District shall be considered the prevailing market prices at the time such purchase is made. Periods of performance may be extended if the facts as to the case of delay justify such extension in the opinion of the District.

2.12 DISQUALIFICATION OF BIDDERS

Any of the following reasons may be considered as being sufficient for the disqualification of a bidder and the rejection of their bid or bids:

- More than one bid, for the same work from an individual, partnership or corporation under the same name or a different name.
- Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for future work with the District until any such participant shall have been reinstated as a qualified bidder.
- Bidder, or its principals or affiliates, is disbarred, suspended, or ineligible from federal contracting.

2.13 BID BOND

When required, bid will be accompanied by a 5% Bid Bond or a Cashier's Check in an amount not less than the amount indicated on the Bid. Bid Bonds shall be signed by the bidder and their surety

company. Power of Attorney for the person who executes the bond on behalf of the surety as Attorney-In-Fact must accompany the bid bond. When required, bidders must supply certificate of insurance or bonds through a company that is authorized to do business in the State of Tennessee.

2.14 PUBLIC RECORDS

Notwithstanding anything to the contrary contained herein or within the other document supplied to Germantown Municipal School District by the Contractor, the Contractor understands and acknowledges that the District is a governmental entity subject to the State of Tennessee Public Records Act and that any reports, data or other information supplied to the District regarding services performed hereunder may be subject to disclosure as a public record in accordance with the laws of the State of Tennessee.

2.15 WARRANTY

The Contractor warrants to the District that all goods/work shall be free from defects in design and faulty or improper materials and/or workmanship, shall be in strict compliance with the terms of this Agreement and shall be fit and sufficient for the purpose intended. This warranty- labor and material-(Manufacturer's Standard) shall be effective for one year from the date of acceptance by the District of such goods and/or services as satisfactorily complete, and shall be in addition to all other warranties, express, implied or statutory. The warranty shall survive the termination or expiration of this Agreement.

2.16 COLLUSION

Bidders, by submitting a signed bid or proposal, certify that the accompanying bid or proposal is not the result of, or affected by, any unlawful act of collusion with any other person or company engaged in the same line of business or commerce, or any other fraudulent act punishable under Tennessee or United States law.

2.17 CONFLICTS OF INTEREST

By submitting a proposal, the Bidder certifies that no amount shall be paid directly or indirectly to an employee or official of Germantown Municipal School District as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Bidder in connection with the procurement under this Bid.

Any individual, company or other entity involved in assisting the District in the development, formulation, or drafting of this Bid or its scope of services which shall be considered to have been given information that would afford an unfair advantage over other Bidders and said individual, company or entity may not submit a proposal in response to this Bid.

2.18 INDEMNIFICATION

The Contractor shall indemnify, hold harmless and defend regardless of outcome, the District from expenses of and against all suits, action, claims, or costs, expenses, and attorney fees that may be incurred because of any injuries or damages received or sustained by any person, persons or property on account of the operations of the Contractor or their subcontractors; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in the work; or because of any act or omission, neglect, or misconduct of the Contractor or their subcontractors; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the Worker's Compensation Act or any other law, ordinance, order or decree.

2.19 ALCOHOL AND DRUG-FREE WORKPLACE
Along with its bid, the bidder shall submit the affidavit certifying compliance, requiring the Contractor and its subcontractors at the time of bid to provide a drug-free workplace program and to maintain such program throughout the duration of the Contract. *The affidavit form is attached*.

2.20 CONSIDERATION
After the bids are opened and read, they will be compared on the basis of the summation of the products of the approximate quantities shown in the bid form by the unit bid prices. The results of such comparisons will be available on the Purchasing page of www.gmsdk12.org. The District reserves the right to reject any or all bids, to waive technicalities, to advertise for new bids, or to proceed to do the work otherwise, if, in the judgment of the Purchasing Department, it is in the best interest of the District.

2.21 FAILURE TO EXECUTE CONTRACT
Failure to execute the contract, file acceptable bonds and submit acceptable evidence, if required by contract, of good faith efforts to obtain participation by disadvantaged businesses within 15 calendar days after the contract has been received by the bidder shall be just cause for the cancelation of the award of contract and the forfeiture of the cash or bid bond which shall become the property of the District, not as penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder or the work may be re-advertised and constructed under contract or otherwise, as the District may decide.

2.22 TERMINATION FOR CONVENIENCE
The performance of work under this contract may be terminated by the District in accordance with this subsection in whole, or from time to time in part, whenever it shall be determined that such termination is in the best interest of the District. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

2.23 NON-APPROPRIATION OF FUNDS
Notwithstanding any other provision of this contract, funds for this contract are payable from state, federal, and/or local appropriations. In the event that no funds or insufficient funds are appropriated and budgeted for monetary obligations which would otherwise be due and owing under the terms of this contract, this contract shall become null and void. After such termination of this contract, the Customer shall have no continuing obligation under the terms of this contract.
In the event of such termination, the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work performed to the termination date. Such termination by the District shall not be deemed a Breach of Contract by the District, and the Contractor shall have no right to any actual, general, specific, incidental, consequential, or any other damages whatsoever of any description or amount that have not been earned as of the date of termination.

2.24 BID PROTEST
Any protest concerning the award of this bid shall be addressed to the Procurement representative. Protest shall be made in writing to the Procurement representative and shall be filed within seven (7) days after the intended award is announced. A protest is considered filed when received by the Procurement representative. The written protest shall include the name and address of the protester, identification of the procurement, a statement of the specific reasons for the protest and supporting

exhibits. The submitted information will be reviewed with the appropriate Department Head and Superintendent to render a final decision and a formal response provided within seven days. This decision relative to the protest shall be considered final.

2.25 BID WITHDRAWAL
At any time up to the hour and date set for opening of bids, a bidder may withdraw his/her bid. Such withdrawal must be in writing and sent to the Procurement representative at the address set forth herein, and delivered in person. Such withdrawal shall be effective only upon receipt by the Procurement representative and will not preclude the submission of another bid by such bidder to the hour and date set for the opening of bids.

After the scheduled time for opening of bids, no bidder will be permitted to withdraw his/her bid.

2.26 ADDENDA
Any matter of this bid package that requires explanation or interpretation **must** be submitted **in writing** by **Wednesday, March 29, no later than 4p.m.—i.e. a minimum of three (3) business days (excluding weekends and holidays) prior to the time set for the Bid Opening. Email** all questions to Jacqueline.saunders@gmsdk12.org. All questions will be responded to in the form of written addenda to all Bidders and posted on the **District's Purchasing page.** ***It shall be the vendor's responsibility to check the website for published addenda. All addenda that a Bidder receives shall become part of the contract documents.***

No addenda will be issued later than three (3) business days prior to the date for receipt of bids except an addendum withdrawing the request for bids or one which includes a revised date for receipt of bids.

2.27 CONTRACT AWARD
Contract Award may be ALL OR NONE based on the "TOTAL BID AMOUNT" on the Bid Form, or the Contract Award may be awarded to multiple bidders if it is in the District's best interest.

2.28 PAYMENT REQUIREMENTS
The Contractor will be paid in accordance with the Bid Form. Payments otherwise due may be withheld on account of substandard or defective work not remedied.

2.29 CHANGES
The District reserves the right to revise the "Work Locations and Schedule" and to make other changes within the general Scope of Work as may be deemed necessary to best serve the interests of the District. Changes in compensation, which may result from such revisions, shall be documented by an Amendment to the contract and approved by the Deputy Superintendent of the Germantown Municipal School District.

2.30 FORCE MAJEURE
Neither party shall be liable or deemed to be in default for any Force Majeure delay in shipment or performance occasioned by unforeseeable causes beyond the control and without the fault or negligence of the parties, including, but not restricted to, acts of God or the public enemy, fires, floods, epidemics, quarantine, strikes, freight embargoes, or unusually severe weather, provided that in all cases the Contractor shall notify the District promptly in writing of any cause for delay and the District concurs that the delay was beyond the control and without the fault or negligence of the

Contractor. The period for the performance shall be extended for a period equivalent to the period of the Force Majeure delay. Matters of the Contractor's finances shall not be a Force Majeure.

2.31 COMPLIANCE

If a formal and written complaint is registered with the Contractor in respect to unsatisfactory work performance, the Contractor will have 72 hours in which to respond in person to the complaint and to remedy the problem(s). Failure to respond in the prescribed time to the complaint or to remedy the problem may result in termination of the contract as provided in the Termination section (2.32).

If the Contract Administrator is not satisfied with the results and remediation of the complaint, periodic and joint inspections with the Contractor may be required to discuss and point out Contractors violation. Failure of the Contractor to attend these inspections may result in termination of the contract.

2.32 DEFAULT AND TERMINATION OF CONTRACT

Upon thirty (30) days written notice, with or without cause, the District may terminate this Contract. Following such termination, the District and the Contractor shall agree upon an amount of payment for all Contract items properly performed or furnished prior to the effective date of termination.

2.33 ILLEGAL ALIENS

Contractor warrants that any contract resulting from this Bid:

- Does not knowingly hire or engage any illegal aliens or persons not authorized to work in the United States;
- Takes steps to verify that it does not hire or engage any illegal aliens or persons not authorized to work in the United States; and that any misrepresentation in this regard or any employment of persons not authorized to work in the United State constitutes a material breach and shall be cause for the imposition of up to five percent (5%) of the contract price, per violation, and/or termination of its contract.

2.34 IRAN DIVESTMENT ACT

By submission of a bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to T.C.A. § 12-12-106.

2.35 LIQUIDATED DAMAGES

Liquidated damages will be assessed at $500 per calendar day for every day substantial completion is not achieved past August 1, 2023.

2.36 NON-BOYCOTT OF ISRAEL- CERTIFICATION OF COMPLIANCE WITH T.C.A.12-2-119

This form must be completed by all contractors with ten (10) or more employees, that contract with GMSD to acquire or dispose of services, supplies, information technology, or construction, when the contract totals $250,000 or more. This document certifies, that the company is not currently engaged in, nor for the duration of any contract with Germantown Municipal School District Board of Education will the company engage in, a boycott of Israel.

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3. SPECIFICATIONS

3.1 GENERAL SPECIFICATIONS

The specifications provided are not intentionally written around any one manufacturer and are for the purpose of indicating general information needed. The District hereby reserves the right to approve as an equal, or to reject as not being equal, any item the bidder proposes to furnish which contains minor variations from specification requirements but may comply substantially therewith. Items exceeding specifications will be considered as meeting specifications. The bidder shall abide by and comply with the true intentions of the specifications and not take advantage of any unintentional error or omission but shall fully complete every part as the true intent and meaning of the specifications.

Changes to the bid specifications are not valid unless authorized in writing by the Germantown Municipal School District Purchasing Department by means of an addendum.

3.2 MATERIAL SPECIFICATIONS

Exceptions:_____

_____

_____

_____

_____

_____

When taking an exception(s) please return the specification page(s) and exception page with your submitted bid package.

3.3 QUESTIONS

Questions concerning specifications should be sent to Mr. John Truong, Operations Supervisor, Germantown Municipal School District, via e-mail to john.truong@gmsdk12.org. All inquiries concerning Purchasing should be directed to Jackie Saunders via email to Jacqueline.saunders@gmsdk12.org.

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
BID CERTIFICATION SIGNATURE PAGE
Germantown Municipal School District
3350 South Forest Hill Irene Rd.
Germantown, TN 38138

BID # GMSD FY2023-005

BID TITLE: Dogwood Elementary School Cafetorium Stage Expansion Project

This response is submitted in accordance with all documents and provisions of the specified Bid Number and Title detailed above. By my signature below, I accept the terms and conditions as incorporated into this bid. As the undersigned, I certify I am authorized to sign and submit this response for the Contractor.

Federal identification Number	Contractor's License No.	Addtl. License Nos. (if Required)	
Company Name		State of Domicile	
Mailing Address	City	State	Zip Code
Contractor or Authorized Representative's Printed Name		Phone Number (with Area Code)	
E-Mail Address		Fax Number (with Area Code)	

By signing, the contractor acknowledges his/her responsibility for this bid, and that he/she will comply with all the terms, conditions, and specifications of this bid.

Contractor or Authorized Representative's Signature	Date Signed

If **not domiciled** in the State of Tennessee, please provide an address where business is conducted in the State of Tennessee, if applicable:

By signing, the contractor acknowledges his/her responsibility for this bid, and that he/she will comply with all the terms, conditions, and specifications of this bid.	Contractor or Authorized Representative's Signature	Date Signed	If **not domiciled** in the State of Tennessee, please provide an address where business is conducted in the State of Tennessee, if applicable:
By signing, the contractor acknowledges his/her responsibility for this bid, and that he/she will comply with all the terms, conditions, and specifications of this bid.	Contractor or Authorized Representative's Signature	Date Signed	If **not domiciled** in the State of Tennessee, please provide an address where business is conducted in the State of Tennessee, if applicable:

This page must be signed with an original signature and returned with your BID documents.

BID FORM
BID # GMSD BID #FY2023-005

Dogwood Elementary School
Cafetorium Stage Expansion Project

Project can begin possibly sooner, but no later than May 25, 2023

***Project must be completed no later than July 30, 2023*. BIDDER:**
Bid shall be filled in completely, by the Contractor, in the bid schedule by indicating total dollars and cents. All costs, including hourly rates, will be included here and will be fully-burdened to include, but not limited to: wages, transportation, lodging, overhead, and per diem. All figures shall be written in ink or typed. Penciled entries will NOT be accepted, and will be considered irregular and rejected.

Bidders must indicate project completion time after receipt of order (A.R.O.). Project Completion Date is critical and will be a factor in the evaluation and award of this bid. *Dates of work and schedule must be coordinated with John Truong, Operations Supervisor Germantown Municipal School District, john.truong@gmsdk12.org, 901-752-7900.*

Project Completion Date:

State your cost per $1000.00 for Performance, Materials and Labor Bond (if required): $ _____

<table>
<tr><td colspan="4">Company Name:</td><td colspan="5">Address:</td></tr>
<tr><td colspan="2">Organized and existing under the laws of the State of :</td><td></td><td>and doing business as:</td><td>a corporation</td><td>a partnership</td><td>an individual</td><td>a limited liability company</td><td>other</td></tr>
<tr><td colspan="2">City:</td><td colspan="2">State:</td><td>Zip:</td><td colspan="2">Telephone (with Area Code):</td><td colspan="2">Fax (with Area Code):</td></tr>
<tr><td colspan="4">Name:</td><td colspan="5">Title:</td></tr>
<tr><td colspan="6">Authorized Signature:</td><td colspan="3">Date:</td></tr>
</table>

THIS PAGE MUST BE SIGNED (IN INK) & RETURNED WITH YOUR BID

SECTION 00310-BID FORM

The Bid includes all work shown on the plans and listed in the specifications.

A. Cafetorium Stage Expansion as per specifications
($_____)
State amount in both words and figures.

Contingency Allowance: Include the stipulated sum/price of $50,000 for use upon Owner's Instructions.

Allowance in addition to the base bid price should be added as the final
project amount.

GRAND TOTAL ($_____)
STATE AMOUNT IN BOTH WORDS AND FIGURES

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in bidding.

The bidder agrees that his bid shall be good and may not be withdrawn for a period of ONE HUNDRED TWENTY (120) days after the scheduled closing time for receiving bids.

Upon receipt of written notice of acceptance of this bid, Bidder will submit the following documents within ten (10) days:

1. Executed formal contract (attached as Section 00510)
2. Executed performance bond (attached as Section 00610)
3. Certificates of insurance coverage per Section 00710 Article 20

The bid security attached in the sum of five percent (5%) of the bid is to become the property of the Owner in the event the contract, bond and insurance certificates are not executed within the time limit set forth, as liquidated damages for the delay and additional expenses to the Owner caused thereby.

Bidder acknowledges receipt of Addendum(s) Nos. _____

State your cost per $1000.00 for Performance, Materials and Labor Bond (if required): $ _____

Respectfully submitted,

Contractor's Name: _____

Signature: _____

Printed or Typed Name and Title_____

Business Address_____

Seal Required - if bid is by a corporation

All bids must be received, and time stamped at Germantown Municipal School District Administrative Offices, 3350 South Forest Hill Irene Rd. Germantown, TN 38138, prior to stated bid opening date and time. Bids received after the specified date and time will be considered late and will not be opened.

All price quotations and related materials must be received in a sealed envelope. Time, date and nature of bid must be clearly marked on face of sealed envelope as well as appropriate Contractor's License information.

_____

_____

_____

License Number _____
Expiration Date_____
License Classification_____

Jackie Saunders
Procurement Services
Germantown Municipal School District
3350 Forest Hill Irene Rd.
Germantown, TN 38138

BID # GMSD FY2023-005
Dogwood Ele. School
Cafetorium Stage Expansion
Wed. April 5, 2023 @ 2:00 p.m. Central Time

CONTRACTOR'S QUALIFICATIONS & REFERENCES

All Contractors/vendors for these services must have adequate industry and professional qualifications. The District will confirm the below qualifications and references prior to awarding the Contract.

1. All contractors/vendors must be in business for a minimum of **at least three continuous years.**

2. Please note contractor license and qualifications(if applicable): _____

Legal Name of Company: _____

Street/Mailing Address: _____

Type of Entity (Corp., LLC,etc.): _____ **State Est:** _____

Main Telephone No.: _____ **Main Fax No.:** _____

Number of Continuous Years in Business: _____

Number of Employees Full-Time: _____ Part-Time: _____

Name of the main contact person and project superintendent (if applicable) planned for this project (including qualifications, experience and technical skills):

_____

_____

_____

_____

Largest similar construction project completed from 2014 to present (if applicable):

- Name of Customer and/or Project and Cost: _____

  _____

  _____

  _____

Project experience with renovations and/or building of similar projects:

- Name of Customer and/or Project and Cost: _____

  _____

  _____

  _____

CONTRACTOR'S QUALIFICATIONS & REFERENCES
(continued)

REFERENCES (Provide three (3) references.)

1. **Name:** _____
   Date of Project (if applicable): _____
   Specific Services Provided: _____
   _____
   Primary Contact Name: _____
   Address: _____
   Telephone: _____

2. **Name:** _____
   Date of Project (if applicable): _____
   Specific Services Provided: _____
   _____
   Primary Contact Name: _____
   Address: _____
   Telephone: _____

3. **Name:** _____
   Date of Project (if applicable): _____
   Specific Services Provided: _____
   _____
   Primary Contact Name: _____
   Address: _____
   Telephone: _____

DRUG AND ALCOHOL TESTING ACKNOWLEDGEMENT STATEMENT AND AFFIDAVIT

Comes_____, for and on behalf of
(Printed Name of Principal Officer of Company)
_____, the "Company" and makes oath that:

(i) the Company has received a copy of the relevant portions of Germantown Municipal School District Vendor Registration Packet and Policies; (ii) the Company understands that it must have a drug and alcohol policy in effect for its employees.

_____
Signature
Title:_____

Sworn to and subscribed before me, a Notary Public, this_____day of_____, 2023.

_____
Notary Public

My Commission Expires:

_____

STATEMENT OF NO BID

*Please take a few minutes to complete this form and return it to*jacqueline.saunders@gmsdk12.org *if you are submitting a "No Bid" response.*

We ask that you place an "X" on the appropriate blank that corresponds with your company's "No Bid" response.

1. _____ Specifications too "tight," i.e. geared toward one (1) brand or manufacturer only. (Briefly explain below.)

2. _____ Specifications are unclear. (Briefly explain below.)

3. _____ We are unable to meet specifications.

4. _____ Insufficient time to respond to Invitation to Bid (Briefly explain below, if fault of GMSD.)

5. _____ Our schedule would not permit us to perform within the required time.

6. _____ We are unable to meet bond requirements.

7. _____ We are unable to meet insurance requirement.

8. _____ We do not offer this product or service.

9. _____ Other (Specify below.)

Further remarks: _____
_____
_____
_____
_____
_____

Company Name: _____

Date:_____ **Time:**_____

Name:_____ **Title:** _____

Signature: _____

Germantown Municipal School District
Iran Divestment Act Compliance

The Iran Divestment Act of 2016, effective as of July 1, 2016, is codified at TCA § 12-12-101 *et seq.* The Iran Divestment Act, with certain exceptions, prohibits municipalities, including the DISTRICT, from entering into contracts with persons or entities engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in TCA § 12-12-105, a person engages in investment activities in the energy sector if:

(1) The person provides goods or services of twenty million dollars ($20,000,000) or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas, for the energy sector of Iran; or

(2) The person is a financial institution that extends twenty million dollars ($20,000,000) or more in credit to another person, for forty-five (45) days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list, created pursuant to §12-12-106, as a person engaging in investment activities in Iran as described in this section.

This Act requires the State of Tennessee's chief procurement officer to publish on the State's website a list of persons it determines engage in investment activities in Iran (the "Prohibited Entities List").[1]

Any BIDDER that is on the Prohibited Entities List will be ineligible to contract with the DISTRICT.

Pursuant to the Act, any BIDDER that attempt to contract with the DISTRICT must certify, at the time the bid is submitted, that the BIDDER is not identified on the Prohibited Entities List. A bid shall not be considered for award, nor shall any award be made where the BIDDER fails to submit a signed and verified Bidder's Certification.

[1] The State of Tennessee's list, published in July 2016, can be found on the following website: https://www.tn.gov/assets/entities/generalservices/cpo/attachments/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106,_Iran_Divestment_Act-July.pdf

Germantown Municipal School District
Bidder's Certification of Compliance with Iran Divestment Act
TCA § 12-12-101 *et seq.*

Comes_____, for and on behalf
(Printed name of Principal Office of Company)
_____, (the "Company") and, after being duly authorized by the Company so to do, makes oath that:

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to the Iran Divestment Act, TCA § 12-12-106.

_____
Signature

_____
Title

Sworn to and subscribed before me, a Notary Public, this_____day of_____, 2023.

_____
Notary Public

My Commission Expires:

_____

CERTIFICATION OF COMPLIANCE WITH T.C.A. § 12-4-119
IN REGARD TO BOYCOTTS OF ISRAEL

This form must be completed by all contractors with ten (10) or more employees, that contract with GMSD to acquire or dispose of services, supplies, information technology, or construction, when the contract totals $250,000 or more.

I, the undersigned, certify that my company is not currently engaged in, nor for the duration of any contract with Germantown Municipal School District Board of Education will my company engage in, a boycott of Israel.

NAME OF COMPANY_____

By: _____
Signature
Company Representative – _____
Title: _____

Date: _____

STATE OF TENNESSEE)
COUNTY OF _____)

Subscribed and sworn before me by _____, who represents

_____(Name of Company).

On this _____ Day of _____, 2023.

_____
NOTARY PUBLIC

My Commission Expires: _____

ITB # GMSD BID #FY2023-005

Dogwood Elementary School Cafetorium Stage Expansion

GMSD Department of Operations

Note: drawings are incorporated as part of this bid.

EVANS
TAYLOR
FOSTER
CHILDRESS
ARCHITECTS
343 North Main Street
Memphis TN 38103

PROJECT MANUAL

Dogwood Elementary Cafetorium Stage Expansion

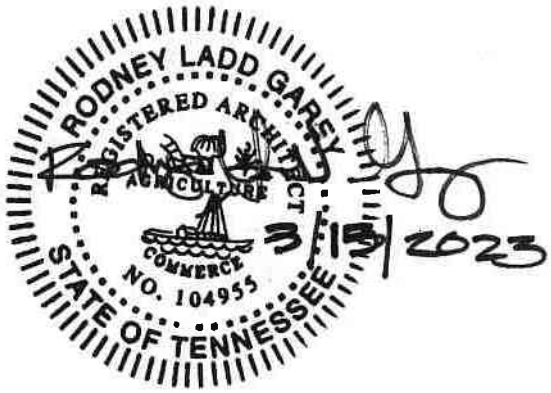
for

Germantown Municipal School District 6685 Poplar Avenue, Suite 202
Germantown, TN 38138

Architect's Project 22219

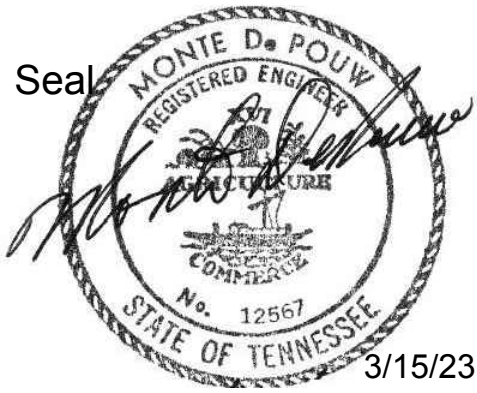
March 15, 2023

Architects:
Evans Taylor Foster Childress Architects, P.C.
343 North Main Street
Memphis, Tennessee 38103
Phone: (901) 525-5344
Fax: (901) 525-5420



Electrical Consultant:
DePouw Engineering, LLC
9056 South Corporate Edge Dr.
Germantown, Tennessee 38138
Phone: 901-754-2535
Fax: 901-754-2536

Seal



3/15/23

END OF SECTION

PROCUREMENT AND CONTRACTING REQUIREMENTS

1.01 DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS

A. 00 0107 - Seals Page
B. 00 0110 - Table of Contents
C. 00 0115 - List of Drawing Sheets
D. 00 2000 - Germantown Municipal School District Invitation to Bid, Forms, Supplements and Bid Information
E. 00 3100 - Available Project Information
F. 00 4110 - Bid Bond
G. 00 5000 - Construction Agreement
H. 00 6000 - Performance and Payment Bonds
I. 00 7000 - General Conditions
J. 00 8000 - Supplementary Conditions
K. 00 9350 - Requests for Information

SPECIFICATIONS

2.01 DIVISION 01 -- GENERAL REQUIREMENTS

A. 01 1000 - Summary
B. 01 1150 - Electronic Drawings
C. 01 1200 - Alteration Project Procedures
D. 01 2100 - Contract Considerations
E. 01 2620 - Weather Delays
F. 01 3000 - Submittals
G. 01 3900 - Coordination and Meetings
H. 01 4000 - Quality Control
I. 01 4325 - Testing Laboratory Services
J. 01 5000 - Temporary Facilities and Controls
K. 01 6000 - Material and Equipment
L. 01 7000 - Contract Closeout
M. 01 7200 - Project Record Documents
N. 01 7250 - Project Warranties, Operation and Maintenance Data
O. 01 7400 - Final Cleaning
P. 01 7900 - Demonstration and Training

2.02 DIVISION 02 -- EXISTING CONDITIONS

A. 02 4119 - Selective Demolition

2.03 DIVISION 03 -- CONCRETE - NOT USED

2.04 DIVISION 04 -- MASONRY - NOT USED

2.05 DIVISION 05 -- METALS

A. 05 5000 - Miscellaneous Metals and Metal Fabrication (Hand Rails)

2.06 DIVISION 06 -- WOOD, PLASTICS, AND COMPOSITES

A. 06 1000 - Rough Carpentry
B. 06 4100 - Cabinetwork
C. 06 6500 - Solid Polymer Fabrications

2.07 DIVISION 07 -- THERMAL AND MOISTURE PROTECTION – NOT USED

A. 07 2129 - K-13 Spray-On System

2.08 DIVISION 08 -- OPENINGS – NOT USED

2.09 DIVISION 09 -- FINISHES

A. 09 2500 - Gypsum Board Systems
B. 09 6600 - Resilient Flooring and Base (includes TV tiles, res. C. guards, treads/risers)
C. 09 6850 - Carpet Tile
D. 09 9000 - Painting

2.10 DIVISION 10 -- SPECIALTIES – NOT USED

2.11 DIVISION 11 -- EQUIPMENT – NOT USED

2.12 DIVISION 12 -- FURNISHINGS – NOT USED

2.13 DIVISION 13 -- SPECIAL CONSTRUCTION – NOT USED

2.14 DIVISION 14 -- CONVEYING EQUIPMENT – NOT USED

2.15 DIVISION 21 -- FIRE SUPPRESSION – NOT USED

2.16 DIVISION 22 -- PLUMBING – NOT USED

2.17 DIVISION 23 -- HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC) – NOT USED

2.18 DIVISION 26 -- ELECTRICAL

A. 26 0100 - Electrical General Provisions
B. 26 0500 - Basic Materials and Methods
C. 26 0526 - Grounding and Bonding
D. 26 2400 - Service and Distribution

2.19 DIVISION 27 -- COMMUNICATIONS – NOT USED

A. 27 4116 - Integrated Audio Visual Systems

2.20 DIVISION 28 -- ELECTRONIC SAFETY AND SECURITY – NOT USED

2.21 DIVISION 31 -- EARTHWORK – NOT USED

2.22 DIVISION 32 -- EXTERIOR IMPROVEMENTS – NOT USED

2.23 DIVISION 33 -- UTILITIES – NOT USED

END OF SECTION

INDEX TO DRAWINGS
Cover Drawing Index, Building Code and Regulatory Data

ARCHITECTURAL
A2.1 Orientation Plan
A2.2 Floor Plans
A2.3 Sections and Details

ELECTRICAL
E1.1 Floor Plans
E1.2 Floor Plan – Lighting
E1.3 Floor Plan - Power
E1.4 Electrical Details

AUDIO VISUAL
AV0.1 AV Legend & Notes
AV2.1 AV Device Plan
AV2.2 AV Device RCP
AV3.1 AV Single Line Diagram
AV3.2 AV Single Line Diagram
AV4.1 AV Rack Details
AV4.2 AV Panel Elevations
AV4.3 AV Rack Details

END OF SECTION

PART 1 - GENERAL

1.01 INVESTIGATION OF SITE BY BIDDERS:

A. Contract Drawings indicate certain existing site conditions and the proposed new construction. All Bidders are urged to review the existing site along with all Contract Documents, prior to bidding, to ascertain the existing and new conditions under which they will be required to complete their work under this Contract.

B. The Owner and Architect disclaim any responsibility for the interpretation, investigation, or accuracy of any on-site evaluations by the Bidder. Bidder is solely responsible for verifying all existing data, conditions, and/or work required to complete all work, in full, as required by his contract.

C. The Contractor is urged to verify all existing conditions prior to actually beginning his work to be certain that conditions shown as existing do actually exist. If inconsistencies are noted, the Architect is to be notified in writing immediately for resolution with the Owner and others prior to beginning work. Claims for delays in this regard will not be entertained by the Owner. Execution of work constitutes acceptance of existing conditions by the Contractor.

D. Site conditions and grades of the above work have been provided to the Architect based on electronic boundary and topographical information provided by Germantown Municipal School District. The Contractor is urged to verify existing grades prior to actually beginning his work to be certain that grades shown as existing do actually exist. If inconsistencies are noted, the Architect is to be notified in writing, immediately for resolution with the Owner and others prior to beginning work. Claims for delays in this regard will not be entertained by the Owner. Execution of work constitutes acceptance of existing grades, contours, and boundaries.

1.02 BIDDER'S RESPONSIBILITY

A. Bidders are urged to make their own investigation of the site before bidding. Bidder is solely responsible for verifying all existing data, conditions, and/or work required to complete all work, in full, as required by their Contract.

B. The Owner and Architect disclaim any responsibility for the interpretation or investigation of any Documents on on-site evaluations referenced above by the Bidder. The Bidder, by submittal of his Bid, acknowledges that he is solely responsible for verifying all existing data, conditions, and/or work required to complete all work in full as required by his Contract and he has investigated all buildings, drawings and data to his satisfaction. Claims to the contrary will not be entertained by the Owner after bids are received.

END OF SECTION

The Bid Bond shall be executed on AIA Document A310, Bid Bond, 2010 Edition, pages 1 through 2, a copy of which is included hereinafter.

END OF SECTION

DRAFT

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)

« »« »
« »

SURETY:
(Name, legal status and principal place of business)

« »« »
« »

OWNER:
(Name, legal status and address)

Germantown Municipal School District
6685 Poplar Avenue, Suite 202
Germantown, TN 38138

BOND AMOUNT: $ « »

PROJECT:
(Name, location or address, and Project number, if any)

Dogwood Elementary Cafetorium Stage Expansion

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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User Notes: (3B9ADA1B)

Signed and sealed this « » day of « » , « »

	« »
	(Contractor as Principal) *(Seal)*
« »	« »
(Witness)	*(Title)*
	« »
	(Surety) *(Seal)*
« »	« »
(Witness)	*(Title)*

DRAFT

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User Notes: (3B9ADA1B)

The “Construction Agreement” is hereby made a part of these specifications, and is bound herein as the remainder of Section 00 5000.

END OF SECTION

DRAFT

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Germantown Municipal School District
6685 Poplar Avenue, Suite 202
Germantown, TN 38138

and the Contractor:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

Dogwood Elementary Cafetorium Stage Expansion

The Architect:
(Name, legal status, address and other information)

Evans Taylor Foster Childress Architects, PC
343 North Main Street
Memphis, TN 38103

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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User Notes: (3B9ADA13)

TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

6 DISPUTE RESOLUTION

7 TERMINATION OR SUSPENSION

8 MISCELLANEOUS PROVISIONS

9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[« »] The date of this Agreement.

[« »] A date set forth in a notice to proceed issued by the Owner.

[« »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

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User Notes: (3B9ADA13)

[« »] Not later than « » (« ») calendar days from the date of commencement of the Work.

[« »] By the following date: « »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
« »	

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » ($ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
« »	

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
« »		

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
« »	

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)
« »		

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

« »

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

« »

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User Notes: (3B9ADA13)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than « » (« ») days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

.1 That portion of the Contract Sum properly allocable to completed Work;

.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and

.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« »

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§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

« »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

« »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

« »

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »
« »

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§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[« »] Litigation in a court of competent jurisdiction

[« »] Other *(Specify)*

« »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

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§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013 incorporated into this Agreement.)

« »

.5 Drawings

Number	Title	Date
« »		

.6 Specifications

Section	Title	Date	Pages
« »			

.7 Addenda, if any:

Number	Date	Pages
« »		

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[« »] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

« »

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[« »] The Sustainability Plan:

Title	Date	Pages
« »		

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
« »			

.9 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

This Agreement entered into as of the day and year first written above.

« »	« »
OWNER *(Signature)*	CONTRACTOR *(Signature)*
« »« »	« »« »
(Printed name and title)	*(Printed name and title)*

DRAFT

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The Performance and Payment Bonds shall be executed on AIA Document A312, Performance Bond and Payment Bond, 2010 Edition, pages 1 through 4, a copy of each which is included hereinafter.

END OF SECTION

DRAFT **AIA® Document A312™ – 2010**

Performance Bond

CONTRACTOR:
(Name, legal status and address)

« »« »
« »

SURETY:
(Name, legal status and principal place of business)

« »« »
« »

OWNER:
(Name, legal status and address)

Germantown Municipal School District
6685 Poplar Avenue, Suite 202
Germantown, TN 38138

CONSTRUCTION CONTRACT
Date: « »
Amount: $ « »
Description:
(Name and location)

Dogwood Elementary Cafetorium Stage Expansion

BOND
Date:
(Not earlier than Construction Contract Date)
« »
Amount: $ « »
Modifications to this Bond: | « » | None | « » | See Section 16

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*
Signature: « »

Name and Title: « »« »

SURETY
Company: *(Corporate Seal)*
Signature: « »

Name and Title: « »« »

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or BROKER:

« »
« »
« »

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

Evans Taylor Foster Childress Architects, P.C.
343 North Main Street
Memphis, TN 38103

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the

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User Notes: (3B9ADA1C)

Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

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§ 16 Modifications to this bond are as follows:

« »

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:	« »	Signature:	« »
Name and Title:	« »« »	Name and Title:	« »« »
Address:	« »	Address:	« »

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User Notes: (3B9ADA1C)

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AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

« »« »
« »

SURETY:
(Name, legal status and principal place of business)

« »« »
« »

OWNER:
(Name, legal status and address)

Germantown Municipal School District
6685 Poplar Avenue, Suite 202
Germantown, TN 38138

CONSTRUCTION CONTRACT
Date: « »
Amount: $ « »
Description:
(Name and location)

Dogwood Elementary Cafetorium Stage Expansion

BOND
Date:
(Not earlier than Construction Contract Date)
« »
Amount: $ « »
Modifications to this Bond: | « » | None | « » | See Section 18

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*
Signature: « »

Name and Title: « »« »

SURETY
Company: *(Corporate Seal)*
Signature: « »

Name and Title: « »« »

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or BROKER:

« »
« »
« »

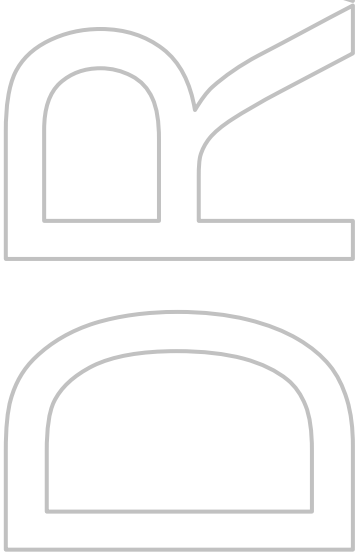
OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

Evans Taylor Foster Childress Architects, P.C.
343 North Main Street
Memphis, TN 38103

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.



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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

.2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

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§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

.1 the name of the Claimant;
.2 the name of the person for whom the labor was done, or materials or equipment furnished;
.3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
.4 a brief description of the labor, materials or equipment furnished;
.5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
.6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
.7 the total amount of previous payments received by the Claimant; and
.8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

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§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

« »

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:	« »	Signature:	« »
Name and Title:	« »« »	Name and Title:	« »« »
Address:	« »	Address:	« »

DRAFT

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A. AIA Document A201 - 2017, General Conditions of the Contract for Construction, Pages 1 through 38 inclusice, are hereby made a part of these specifications, and are bound herein as the remainder of Section 00 7000.

B. Division 0 and Division 1 apply to all division and sections indexed and bound herein together as fully as if repeated or specifically referred to in each section.

END OF SECTION

DRAFT

AIA® Document A201™ – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)
Dogwood Elementary Cafetorium Stage Expansion

THE OWNER:
(Name, legal status and address)
Germantown Municipal School District
6685 Poplar Avenue, Suite 202
Germantown, TN 38138

THE ARCHITECT:
(Name, legal status and address)
Evans Taylor Foster Childress Architects, P.C.
343 North Main Street
Memphis, TN 38103

TABLE OF ARTICLES

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12 UNCOVERING AND CORRECTION OF WORK

13 MISCELLANEOUS PROVISIONS

14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk

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and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

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§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These

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obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

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§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

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§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

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§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or

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certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for

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whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

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§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

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ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

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ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
.5 Costs of supervision and field office personnel directly attributable to the change.

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§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

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§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials

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and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.1 defective Work not remedied;
.2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
.3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a Separate Contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

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§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

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§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

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§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
.2 failure of the Work to comply with the requirements of the Contract Documents;
.3 terms of special warranties required by the Contract Documents; or
.4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

.1 employees on the Work and other persons who may be affected thereby;
.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings

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against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property

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(other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to

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provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner

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shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for

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correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

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§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or Suppliers;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

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.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

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§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker

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and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

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§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

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PART 1 – GENERAL

1.01 Conditions of the Contract: The Construction Agreement, a copy of which is bound herein, and these Supplementary Conditions govern all aspects of this Contract and all Technical Specification Sections within this Project Manual and are as binding as if repeated within each Section.

1.02 Forms and Documents: The Contract Documents shall include, by reference, the following sample forms and documents. The provisions of these forms and documents shall be as binding as if written herein. These forms and documents shall be used throughout the Construction phase for their respective purposes.

AIA G701	Change Order
AIA G702	Application and Certificate for Payment
AIA G703	Continuation Sheet for G702
AIA G704	Certificate of Substantial Completion
AIA G705	Certificate of Insurance
AIA G706	Contractor's Affidavit of Payment of Debts and Claims
AIA G706A	Contractor's Affidavit of Release of Liens
AIA G707	Consent of Surety to Final Payment
AIA G707A	Consent of Surety to Reduction in or Partial Releases of Retainage
AIA G714	Construction Change Directive

1.03 Contractor Responsibility: The Contractor acknowledges that additional detailing is necessary to convert the design information to shop fabrication and field construction information. The Contractor shall gather information, including detail dimensions, from his suppliers and Subcontractors, shall compare each to the other and to the design, and shall prepare his submittals accordingly, including all detail dimensioning that can be derived from that comparison. The Contractor shall prepare for his own use, but not for approval, coordination drawings to insure the proper installation of the Work and avoidance of conflicts between plumbing, fire protection, mechanical (HVAC), and electrical work.

1.04 Inconsistency of Documents: In the case of inconsistency between Drawings and Specifications or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

1.05 Protection of Work:

A. The Contractor shall continually maintain adequate protection of all of this work from injury due to weather, frost, accident or other cause, and shall protect the Owner's property from injury arising in connection with this Contract. All open trenches of a hazardous nature shall be covered at night and during non-working days.

B. The Contractor shall erect and maintain barricades and signs around work which presents danger to persons and as necessary for traffic routing.

1.06 Manufacturers Instructions:

A. When Contract Documents require that installation of work comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation. Maintain one set of complete instructions at the job site during installation and until completion.

B. Handle, install, connect, clean, condition, and adjust all products in strict accordance with such instructions and in conformity with specified requirements. Should job conditions or specified requirements conflict with the manufacturer's instructions, advise the Owner and the Architect upon submittal of product for approval.

C. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by the Contract Documents.

1.07 Delays: Contractor shall be held singularly responsible for delays or changes occurring as a result of his failure to order labor, materials, or services in a timely manner.

1.08 Payment Form and Procedure:

A. Contractor shall submit to the Architect a schedule of values allocated to various portions of the work within ten days after the award of the Contract.

B. Upon request of the Owner, values shall be supported with data which substantiate their correctness.

C. The schedule shall be listed on AIA form G703 Continuation Sheet. Line items shall follow the listings in the Project Manual Table of Contents including breakdowns of mechanical, electrical, and plumbing as directed by the Architect and shall separate material and labor costs for items where payment for materials will be requested prior to complete installation.

D. Beginning with the second Application for Payment, the Contractor shall furnish with his application certification that he has paid his subcontractors and major material suppliers the amounts drawn on the previous estimate for the respective items.

ARTICLE 8 – TIME

8.3 Delays and Extension of Time

Add the following subparagraph 8.3.1.1 to 8.3.1:

8.3.1.1 Failure to Complete the Work on Time. It is mutually agreed by and between the parties hereto that time shall be an essential part of this contract and if the Contractor fails to complete its contract within the time specified and agreed upon, the Owner will be damaged thereby; and because the amount of said damages, inclusive of expenses for inspection, superintendence, and necessary travel expenses, is difficult if not impossible to definitely ascertain and prove, it is hereby agreed that the amount of such damages shall be $500.00 per day for every working day’s delay in finishing the work in excess of the number of working days prescribed; and the Contractor hereby agrees that said sum shall be deducted from monies due the Contractor under the contract or, if no money is due the Contractor, the Contractor hereby agrees to pay to the Owner as liquidated damages, and not by way of penalty, such total sum as shall be due for such delay, computed aforesaid.

Delete Subparagraph 8.3.3 in its entirety and substitute the following:

8.3.3 The Contractor agrees to make no claim for damages for delay in the performance of this Contract occasioned by any act or omission of the Owner or any of his Representatives and agrees that any subject claim shall be fully compensated for by only an extension of time to complete the performance of the Work as provided herein.

ARTICLE 11 - INSURANCE AND BONDS

11.1.1 Supplement as follows: Workman's Compensation and Employer's Liability.
The Contractor agrees to comply with the provisions of the Workman's Compensation Laws of the State in which the work is performed and to require all subcontractors likewise to comply. The Contractor agrees that, prior to the beginning of any work by the Contractor or Subcontractors, as the case may be, the Contractor will furnish to the Owner for himself and for each subcontractor a certificate from insurance company showing issuance of workman's compensation coverage for the State, or a certificate from the State Workman's Board showing proof of liability to pay compensation directly.

Employer's Protective Liability: $100,000.00 per person - $300,000.00 each occurrence for Property Damage.

$300,000.00 per person - $500,000.00 each occurrence for Bodily Injury Liability.

Further, the Contractor shall maintain such other insurance (with limits as shown below) to protect the Contractor, the Owner, and the Architect from any claims for property damage or personal injury, including death, which may arise out of operations under the Contract. The Contractor shall furnish the Owner certificates and policies of such insurance (as specified below) before the work begins.

Below is listed the additional insurance coverage which shall be procured by the Contractor at his own expense.

1. The Contractor's General Liability Insurance shall be in an amount not less than $1, 000,000.00 combined single limits for injuries and property damage, for any one occurrence, with a $ 2,000,000.00 aggregate.

1B. There shall also be a $1,000,000.00 "umbrella".
1C. Vehicle - $1,000,000.00 Combined Single Limit occurrence, including Hired and Non-Owned Auto Liability.

ADD 11.1.5 as follows:

The Owner and Evans Taylor Foster Childress Architects shall be additional named insureds under the Contractor's insurance policy or policies and the Certificate of Insurance shall so state.

ADD 11.1.6 as follows:

The insurance as specified above shall contain a "per project endorsement" such that the above coverages shall apply to this specific project.

11.3 Property Insurance - Add the following: 11.3.1.6 Builder's Risk Insurance shall be provided by the General Contractor and shall cover fire, extended coverage, vandalism, and malicious mischief. Said insurance policy to be in the name of the Owner "as their interests may appear" and to cover the full value of the work in sufficient amount to cover fully the value of the work performed and material on the site only. This insurance will not be applicable to any tools or equipment when such tools and equipment are not part of the structure being constructed. The General Contractor will be responsible for the deductible amount for any claims. The Contractor shall be responsible for the securing and maintaining of Builder’s Risk Insurance and other insurance on any tools, equipment, or supplies which are to remain his property or materials/supplies dedicated for this project but not located on the Owner’s site.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

A. Requirements which govern the use of “Request for Information Form”.

1.02 REQUIREMENTS

A. Requests For Information (RFI) shall be submitted in writing.

B. All Requests For Information shall be submitted by the General Contractor.
   1. RFI’s directly from subcontractors are not acceptable.

C. RFI’s shall be numbered consecutively by the Contractor as submitted.

D. Submittal of an RFI constitutes representation that the Contractor requires additional information about the Contract Documents AFTER he has made careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior project correspondence or documentation.

E. If, upon evaluation of the RFI, the Architect finds that the requested information is contained in the Contract Documents or by other documents and/or methods as outlined in Paragraph “D”, the Owner has the option to obtain reimbursement from the Contractor for costs incurred by the Owner for the Architect’s services and expenses made necessary in answering such requests.

1.03 REQUESTS FOR INFORMATION

A. Each Request For Information Form shall be complete with data indicating the specific drawing(s) or specification(s) in need of clarification including the following:
   1. RFI number
   2. Date submitted
   3. Subject requiring clarification
   4. Discipline (Architectural, Structural, Mechanical, Electrical, etc.)
   5. Co-author, if applicable
   6. Detailed statement of the information requested
   7. Date information required

B. Requests For Information shall be made in a timely manner allowing the Architect a reasonable amount of time to review the request.
   1. If the date a response is required is not indicated, the assumed date the response is required shall be 15 working days from the date the Architect received the request.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The project consists of renovations of existing Cafetorium Stage at Dogwood Elementary.

1.02 SECTION INCLUDES

A. Contract Definitions

B. Contractor's and/or Subcontractor's General Duties

C. Contracts

D. Time of Substantial Completion

E. Contractor's Use of Adjacent Property

F. Owner Occupancy

G. Contractor's Use of Premises

H. Warranty

I. Owner Furnished and Installed Products

J. Owner Furnished and Contractor Installed Products

K. Sequence of Construction

1.03 RELATED REQUIREMENTS

A. Related Requirements in Other Parts of the Project Manual.
   1. Additional requirements of all parties to the Contract: General and Supplemental Conditions of the Contract.

1.04 CONTRACT DEFINITIONS

A. For the purposes of this document the following definitions of terms apply. These are treated as if singular in number and masculine in gender.
   1. OWNER: Germantown Municipal School District and legally authorized representatives thereof.
   2. OWNER’S REPRESENTATIVE: Mr. Josh Cathey, Chief of Operations, Germantown Municipal School District, 6685 Poplar Avenue, Suite 202, Germantown, TN 38138.
   3. ARCHITECT: The firm of Evans Taylor Foster Childress Architects, 343 North Main Street, Memphis, Tennessee 38103
   4. CONTRACTOR: The person or organization holding a direct contract with the "Owner" to execute any of the parts of work on this project and so identified in the Owner-Contractor Agreement covering that part of the Work and/or their authorized representative. Reference General Conditions Article 3.
   5. SUBCONTRACTOR: The person or organization holding a direct contract with a "Contractor" to perform work on that Contractor's portion of this work and/or their authorized

representative. A Subcontractor will have no direct contractual relationship with the Owner. Reference General Conditions Article 5.

6. VENDOR OR SUPPLIER: A person or organization furnishing standard items not manufactured to a specific shape, size or kind specifically for this project, to a "Contractor" or "Subcontractor" for their part of this work. A "Vendor" or "Supplier" will have no contractual relationship with the Owner. Reference General Conditions Article 5.

1.05 CONTRACTOR'S AND/OR SUBCONTRACTOR'S GENERAL DUTIES

A. Contractor and/or Subcontractors (as directly related to their portion of the work), except as specifically noted otherwise, shall provide and pay for:
   1. Labor, materials and equipment.
   2. Tools, construction equipment and machinery.
   3. Permanent water, heat and utilities required for this construction in addition to Temporary Utilities. (Reference Section 01 5000 and Division 22, 23 and 26.)
   4. Other facilities and services, permanent or temporary, necessary for proper execution and completion of Work.

B. Pay all legally required sales, use, social security, payroll consumer and/or other taxes.

C. Secure and pay for, as necessary, for proper execution and completion of his Work and as applicable at time of receipt of Bids:
   1. Permits
   2. Inspections
   3. Licenses

D. Give required notices.

E. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of Work.

F. Contractor, and/or Subcontractors through the Contractor, are to promptly submit written notice to Architect of observed variances of Contract Documents from legal requirements. The Building Codes used for this project are listed on the Drawings.

   Note: This project is to also comply with the Americans with Disabilities Act (ADA).

G. Enforce strict discipline and good order among employees. Do not employ on work:
   1. Unfit persons.
   2. Persons not skilled in assigned task.

1.06 CONTRACTS

A. Contracts for this project will be on the basis of a single "Lump Sum" General Construction Contract.

1.07 TIME OF SUBSTANTIAL COMPLETION

A. Construction of this project shall begin within ten (10) calendar days of the date of the written "Notice To Proceed" issued by the Architect upon written instructions by the Owner. Project construction can begin on May 24, 2019 and must be substantially complete by August 2, 2019 (sixty-six, 66, calendar days), including all work designated as either general, mechanical, and/or electrical as applicable.

1.08 CONTRACTOR'S USE OF ADJACENT PROPERTY

A. No Contractor and/or Subcontractor on any operation on this project, may enter upon, use or in any way encumber the legal use of adjacent property by the Owners or legal tenants or cause unreasonable inconvenience to their use thereof without the written consent of such Owner or tenant delivered through the Owner.

1.09 OWNER OCCUPANCY

A. Occupancy By Owner Of Existing Building Spaces During Construction:
   1. The Owner will occupy Existing Building Spaces within and/or around the existing building during the completion of the Work required under this Contract for the conduct of his normal operations. The Contractor shall note that the Owner must remain operable at all times on a 24 hour basis and his operations shall not be interrupted or interfered with to the point that his operations shall cease because of construction.
   2. Contractor shall not disconnect or remove utilities serving existing portions of the building without the coordination and approval of the Owner or his authorized representative.
   3. Contractor shall at all times conduct his operations to insure the least inconvenience to the general public transacting normal business within and/or around the Existing Building Spaces.
   4. The Owner may request, thru the Architect, that renovated areas of the existing building receive concentrated work to complete them for his early occupancy. This shall be done through the Architect with consideration of sequencing and scheduling of the Work by the Contractor and his Subcontractors.
   5. Early occupancy of areas and the moving in of equipment by the Owner shall not be deemed to be acceptance of any Work performed nor shall it be deemed to be the equivalent of the filing a Notice of Completion of Any Work.
   6. The Contractor shall be held harmless by the Owner for any damage done to the Work by any early occupancy of the Owner.
   7. The appropriate Contractor and/or his Subcontractors as applicable, shall make available, in the areas occupied, any utility services, heating and cooling as are in condition to be put in operation at the time of early occupancy. All responsibility for said equipment shall remain with the Contractor and/or applicable Subcontractors while it is so operated. However, an itemized list of each piece of equipment so operated, with the date their operation commences, shall be made by the Contractor and certified by the Architect. This list shall be the basis for the commencement of guarantee period on the equipment being operated for the benefit of the Owner's early occupancy.
   8. Normal hours of work allowed:
      a. Contractor may begin his work at 8:00 A.M. and terminate all work by 3:30 P.M. for each day Monday through Friday throughout the Contract Time. Extended working hours must be approved by the District.

1.10 CONTRACTOR'S USE OF PREMISES

A. The Contract Documents define the Work requirements of this Contract. Contractor and all Subcontractors shall note above that the Owner must remain operable within the existing building.

B. Access to and security of the Existing Building must be maintained during the extent of this Contract. Job conditions in coordination with Owner and Architect will determine the exact access routes, however, this Contractor and all Subcontractors are advised that all necessary precautions must be taken to prevent interference with the Owner’s operation and security requirements. Contractor shall coordinate all work in this Contract which affects the Owner’s operation and security requirements with the Owner.

C. Contractors, Subcontractors and Workmen shall not trespass into existing finished and completed areas of the building without permission of the Owner.

D. Contractor and all Subcontractors shall use and maintain in clean condition, site access roads and/or routes as designated by the Owner and Architect. No other access shall be used for materials, vehicles, or men. No other parking areas may be utilized by the Contractor. Parking by or for Contractor's workmen and/or their personal vehicles will only be permitted as indicated on the drawings. Parking within other areas of the site will be permitted only during material unloading and must be removed quickly as they are unloaded.

E. Confine operations at site to areas permitted by:
1. Law
2. Ordinances
3. Permits
4. Contract Documents with Contract "Work Limits"

F. Do not unreasonably encumber site with materials or equipment.
Contractor shall limit his use of the premises for his Subcontractors, work and for storage per Section 01 5000, to allow for:
1. Work By Other Contractors and/or Subcontractors
2. Owner Occupancy
3. Public Use

G. Do not load structure with weight that will endanger structure. Verify with Architect prior to placing materials and equipment.

H. Assume full responsibility for protection and safekeeping of products stored on premises.

I. Move any stored products under Contractor's and/or Subcontractors' control which interfere with the operations of the Owner as, if and when instructed by the Owner.

1.11 WARRANTY

A. All work under this Contract shall be warranted for a minimum of one (1) year from date set out below except where longer time period is specified elsewhere in this Project Manual and/or Specifications.

B. All warranties embraced in or required by any section of the Project Manual are subject to the terms of this heading "warranty", unless otherwise expressly agreed, in writing, by the parties of the appropriate Contract. When warranted work is found faulty, the Contractor, when notified by the Owner, must within 48 hours of notification:
1. Place in satisfactory condition in every particular, any of the warranted work including that of his Subcontractors.
2. Make good all damage to the work, grounds, equipment, the building or contents thereof when unsatisfactory condition or damage develops within the period stipulated by the warranty, and is due to the use of materials or workmanship which is inferior, defective, or not in accordance with the appropriate Contract.
3. If this Contractor disturbs any work under another contract, he must restore such disturbed work to a condition satisfactory to the Architect and warrant such restored work. Upon the Contractor's failure to so proceed promptly to comply with the terms of any guarantee under this Contract or still running upon work executed by other Contractors, the Owner/Architect will have such work performed as he deems necessary to fulfill such warranties, and the

Contractor shall promptly pay the Owner such sums as were expended so as to fulfill such warranty.

C. Upon a Contractor's failure to so proceed promptly to comply with the terms of any warranty under this Contract, the Owner may have such work performed as he deems necessary at the expense of the Contractor per Modifications to the General Conditions.

D. All warranties under this Contract, unless otherwise specifically agreed to in writing shall run from the date of the Certificate Of Substantial Completion as issued by the Architect for use by the Owner unless otherwise specifically identified on the Certificate aforementioned.

1.12 OWNER FURNISHED AND INSTALLED PRODUCTS (OFOI)

A. Owner Furnished and Owner Installed: (to include but not limited to the following):
1. Room numbers, name plates and interior directional signage unless denoted on the drawings.
2. Staff and Public Telephone systems
3. Televisions and Television systems
4. Loose furniture, desks, chairs, tables, carts, file cabinets and other items of a similar portable nature unless otherwise denoted on the Drawings.
5. Copy and fax machines
6. Computers, monitors, printers and wiring/cabling
7. Vending machines
8. Modular furniture systems
9. Entrance mats
10. Window blinds
11. Dedication Plaques
12. Janitorial equipment
13. Trash receptacles/dumpsters

B. Owner's Responsibilities:
1. Purchase, handle, deliver, store, set, secure or attach in place at his own expense all items listed herein.
2. Will not interfere with the Contractor's and/or Subcontractors' work, but the Contractor and/or Subcontractors must cooperate with this work.
3. May install this equipment before or after completion of the project by the Contractor. He will not, however, install equipment requiring connection to utilities or other contract items at such time as to require the Contractor and Subcontractor to expend overtime labor.
4. Installation or storage of these items, by the Owner in any area, does not necessarily constitute acceptance of this area.
5. Make final utility and/or vent connections to his equipment, test balance, etc. as required to put equipment into operation.
6. Provide shop drawings and other related literature for all equipment which will affect the Contractor's and Subcontractors' work.

C. Contractor's Responsibilities:
1. Contractor will provide space, access, electric power, water, lights, etc. to the installers of this equipment as shown on the Contract Drawings or Specifications including work as required by his appropriate Subcontractors.
2. Review Shop Drawings, Product Data, etc. as necessary with the Owner to identify discrepancies or problems anticipated in use of the Product.
3. Cooperate with Owner and/or his installer in the installation of his equipment.

4. Contractor and/or his Subcontractors as appropriate to the work required will furnish and install all electric, water, air, vacuum, waste, exhaust, vents, etc. as shown and/or specified in Contract Documents for final connection by the Owner.

1.13 OWNER FURNISHED AND CONTRACTOR INSTALLED PRODUCTS (OFCI)

A. Products furnished and paid for by Owner and installed by this Contractor and/or his Subcontractors as applicable are not designated at this time.

B. Owner's Responsibilities:
1. Arrange for and deliver necessary Shop Drawings, Product Data and Samples to the Contractor.
2. Arrange and pay for Product delivery to the site, in accordance with the Construction Schedule.
3. Deliver Supplier's bill of materials to Contractor.
4. Inspect deliveries jointly with Contractor.
5. Submit claims for transportation damage.
6. Arrange for replacement of damaged, defective or missing items.
7. Arrange for manufacturer's warranties, bonds, service, inspections, as required.
8. The Owner’s equipment supplier shall uncrate, assemble, erect and place into proper hook-up position all material under his contract. He shall also provide shop drawings for the hook-up of utilities by the Contractor.

C. Contractor's and/or his Subcontractors' (as applicable) Responsibilities:
1. Designate delivery date for each Product in the Construction Schedule.
2. Review Shop Drawings, Product Data and Samples for any discrepancies or problems anticipated in the use of the product.
3. Receive, unload and store at the site.
4. Promptly inspect products jointly with Owner, record shortages, damaged or defective items.
5. Handle products at the site, including uncrating and storage and disposing of crating.
6. Protect products from exposure to elements and from damage.
7. Assemble, install, connect, adjust and furnish electric, water, air, vacuum, waste, exhaust, vents, etc. as shown and/or specified in the Contract Documents. The Contractor shall furnish necessary traps, disconnect switches, isolation valves, conduit junction boxes, extensions of services necessary to make the equipment operational.
8. The Contractor shall include all OFCI work in the Building Permit.
9. Repair or replace items damaged by Contractor and/or Subcontractors.

1.14 SEQUENCE OF CONSTRUCTION

A. Contractor and/or Subcontractors as applicable are to construct the work in stages to accommodate the Owner’s use of the existing premises and to provide for public convenience during the construction period.

B. Coordinate the construction sequencing with the Owner’s representative. Do not close off public or operational use of the existing facility until completion of one stage of construction will provide alternative usage.

C. The following general sequencing is to be utilized and followed in the construction of this work:
1. Once the Contractor has received the Notice to Proceed from the Owner, the Contractor can then begin to mobilize on site and begin work.
2. Erect temporary construction fencing, storage areas for materials, and locate all construction trailers and sheds where designated on the Drawings. Workmen’s personal

vehicles will be permitted to park within this fenced area only. Only vehicles unloading materials will be allowed within other areas of the site perimeter. These vehicles must go directly to the material staging area for unloading and will be moved immediately upon unloading. Any and all temporary fencing erected for construction security and staging will be promptly removed and relocated sequentially to maintain a safe, protected and separate work area during the full construction period.

3. Confirm written construction sequence schedule with the Owner and Architect. Coordinate with the Owner prior to beginning the work and maintain sequence to permit the orderly rearrangement of the Owner's personnel.
4. The above is to be used as a general guideline by the Contractor since the Owner must be aware of the construction schedule constraints. Contractor is expected to maintain adequate forces and supervision to permit simultaneous work in different areas as necessary to complete the work within the total time schedule. Within ten (10) days after Notice to Proceed, the Contractor is to establish an agreed sequence of construction complete with appropriate time frames and area identity. The Contractor is responsible for sequencing all work with the Owner.

1.15 CONSTRUCTION SITE EMERGENCY PLAN

A. An emergency plan for the construction site shall be made between the Owner, the Contractor and a member of Shelby County Emergency Services. The plan is recommended to include but not limited to:
   1. Emergency contacts for the construction site for hours of operation and afterhours.
   2. Site plan of showing construction site and entrance for emergency vehicles to enter.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, applied to this Section.

1.02 SUMMARY

A. The Architect-Engineer, if requested, will provide the General Contractor with one (1) electronic copy of the Contract Document Drawings for distribution to subcontractors and suppliers as a convenience in the preparation of Shop Drawings. The cost for the electronic copy shall be as stated in Paragraph 1.2.B. The electronic copy will be provided electronically in Autocad 2016 format.

B. The Architect-Engineer shall be paid a service fee of fifty dollars ($50.00) for each sheet as requested by the General Contractor in accordance with the Agreement. This fee shall be paid by the General Contractor upon acceptance of the electronic copy.

1.03 REFERENCES

A. A copy of the Agreement is included at the end of this Section.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

Agreement Between Architect-Engineer of Record and Contractor for
Transfer of Computer Aided Drafting (CAD) Files on Electronic Media

*{Contractor's Name}*_____

At your request, Evans Taylor Foster Childress Architect, P.C. (ETFC) will provide electronic files for your convenience and use in the preparation of shop drawings related to Dogwood Elementary Cafetorium Stage Expansion subject to the following terms and conditions:

ETFC's electronic files are compatible with: AUTOCAD 2016. ETFC makes no representation as to the compatibility of these files with your hardware or your software beyond the specified release of the referenced specifications.

Data contained on these electronic files is part of ETFC's and the Owner's instruments of service and shall not be copied for distribution to others or used by you or anyone else receiving this data through or from your for any purpose other than as a convenience in the preparation of shop drawings for the specific referenced project. Any other use or reuse by you or by others, will be at your sole risk and without liability or legal exposure to the Owner or ETFC. You agree to make no claim and hereby waive, to the fullest extent permitted by law, any claim or cause of action of any nature against the Owner, ETFC, its officers, directors, employees, agents or subconsultants which may arise out of or in connection with your use of the electronic files.

Furthermore, you shall, to the fullest extent permitted by law, indemnify and hold harmless the Owner and ETFC from all claims, damages, losses and expenses, including attorney's fees arising out of or resulting from your use of these electronic files.

These electronic files are not contract documents. Significant differences may exist between these electronic files and corresponding hard copy contract documents due to addenda, change orders or other revisions, The Owner and ETFC makes no representation regarding the accuracy or completeness of the electronic files you receive. In the event that a conflict arises between the signed contract documents prepared by ETFC and electronic files, the signed contract documents shall govern. You are responsible for determining if any conflict exists. By your use of these electronic files, you are not relieved of your duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate all dimensions and details, take field measurements, verify field conditions and coordinate your work with that of other contractors for the project.

Because of the potential that the information presented on the electronic files could be modified, unintentionally or otherwise, ETFC and the Owner reserves the right to remove all indication of it's or the Owner's ownership and/or involvement from each electronic display.

As condition of sending you CAD electronic files, I would like you to sign this letter below, stating that as a representative of your firm, that you will abide by the same agreement.

ETFC will furnish you electronic files of the following drawing sheets: _____
_____
_____

A service fee of $50.00 (fifty dollars) per sheet shall be charged. The total cost for these files is $_____. The electronic files will be forwarded after the full payment and signed agreement is received.

Under no circumstances shall delivery of the electronic files for use by you be deemed a sale by ETFC and ETFC makes no warranties, either express or implies, of merchantability and fitness for any particular purpose. In no event shall ETFC be liable for any loss of profit or any consequential damages.

_____	_____
Michael Childress, AIA, Principal	[Contractor]
_____	_____
[Date]	[Date]

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Products and installation for patching and extending work

B. Transition and adjustments

C. Repair of damaged surfaces, finishes and cleaning

1.02 QUALITY ASSURANCE

A. Assign moving, removal, cutting and patching to trades qualified to perform work in a manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new work.

B. Patch and extend existing work using skilled mechanics who are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work.

PART 2 PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in product Sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspection and testing products where necessary, referring to existing work as a standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make work complete and consistent with existing quality.

C. Salvage sufficient quantities of cut or removed material to replace damaged work of existing construction when material is not readily obtainable on current market.

D. Do not incorporate salvaged or used material in new construction except with permission of Designer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that demolition is complete and areas are ready for installation of new work.

B. Beginning of restoration work means acceptance of existing conditions.

3.02 PREPARATION

A. Cut, move, or remove items as necessary for access to alterations and renovation work. Replace and restore at completion.

B. Remove unsuitable material not marked for salvage, such as abandoned furnishings, rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished work.

C. Remove debris and abandoned items and items serving no useful purpose, such as abandoned piping, conduit, and wiring from concealed and exposed spaces.

D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.

3.03 INSTALLATION

A. Coordinate work of alterations and renovations to expedite completion sequentially and to accommodate Owner occupancy.

B. Project: Complete in all respects including operational mechanical, plumbing, fire protection and electrical work.

C. Remove, cut, and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to specified condition.

D. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.

E. In addition to specified replacement of equipment and fixtures restore existing plumbing, heating, ventilation, air conditioning, and electrical systems to full operational condition.

F. Install products as specified in individual sections.

3.04 TRANSITIONS

A. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.

B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.

3.05 ADJUSTMENTS

A. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.

B. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Architect review.

C. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.

D. Fit work at penetrations of surfaces as specified in Section 01 3900.

3.06 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

B. Repair substrate prior to patching finish.

3.07 FINISHES

A. Finished surfaces as specified in individual product sections.

B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

C. Cut finish surfaces such as masonry, tile, plaster, or metals, by methods to terminate surfaces in a straight line at a natural point of division.

3.08 CLEANING

A. In addition to cleaning specified in Section 01 5000, clean Owner occupied areas of work.

B. Clean surfaces and remove surface finishes as needed to install new work and finishes.

C. Clean spillage, overspray and heavy collection of dust in Owner-occupied areas immediately.

D. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.

E. At completion of alterations work in each area, provide final cleaning and return space to a condition suitable for use by Owner.

3.09 PROTECTION

A. Protect existing finishes, equipment, and adjacent work which are scheduled to remain, from damage.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Cash Allowances

B. Unit Prices

C. Schedule of Values

D. Application for Payment

E. Change Procedures

1.02 RELATED REQUIREMENTS

A. Related Requirements in other parts of the Project Manual:
   1. Additional requirements of all parties to the Contract: General and Supplemental Conditions of the Contract.

1.03 CASH ALLOWANCES

A. To be included as a Lump Sum in Base Bid. Do not mark up Allowance in Base Bid. Contractor’s labor, materials, equipment, overhead, profit and mark-up are included as part of the Allowance if used, unless noted otherwise.

B. The amount of each allowance includes:
   1. The cost of the Product to the Contractor.
   2. Delivery to the site.
   3. Applicable taxes, if any.
   4. Handling at the site: including unloading, uncrating and storage.
   5. Protection from the elements and from damage.
   6. Labor for installation.
   7. Other expenses required to complete the installation.
   8. Contractor’s overhead and profit.

C. Architect's Duties:
   1. Consult with the Contractor in consideration of Products and Suppliers.
   2. Design and make selection in consultation with the Owner. Obtain Owner's written decision, designating:
      a. Product, model, finish and accessories.
      b. Supplier and installer as applicable.
      c. Cost to Contractor, delivered to the site or installed, as applicable.
   3. Transmit Owner's decision to the Contractor.

D. Contractor's Duties:
   1. Assist Architect and Owner in determining qualified suppliers or installers.
   2. Obtain proposals from suppliers and installers when requested by Architect.
   3. Make appropriate recommendations for consideration of Architect.
   4. Determine and advise Architect of any effect in the Construction Schedule anticipated by selections under consideration.
   5. On notification of selection, execute purchase agreement with designated supplier.
   6. Arrange for and process Shop Drawings, Product Data and Samples, as required.
   7. Make all arrangement for delivery and promptly inspect products for damage or defects.

8. Install product in compliance with requirements of referenced specification sections.

E. Funds will be drawn from Cash Allowances only by Change Order. Written Change Orders will be prepared, issued and signed before any money is allocated from the allowances. Any amount of remaining allowances shall be credited in its entirety to the Owner by Change Order at the completion of the project.

F. Base Bid Cash Allowances:
1. General Construction Contingency Allowance: The Contractor shall include in his Base Bid an amount of $50,000.00 (Fifty Thousand and no/100 dollars) shall be used by the Owner to cover the cost of Owner's Scope Changes or unforeseen conditions during this project. Written construction changes will be prepared, issued and signed before any is allocated from this allowance. Any amount of remaining allowance dollars shall be credited in its entirety to the Owner by change order at the completion of the project. Contractor's labor, material, equipment, overhead, profit and mark-up are included as part of the allowance if used.

1.04 SCHEDULE OF VALUES

A. Submit itemized Schedule of Values on Typed AIA Document G702 and Continuation Sheet G703. Use additional Continuation Sheets as required.

B. Identify schedule with:
1. Name of Project and location.
2. Architect name and project number.
3. Name and Address of General Contractor.
4. Date of submission.

C. General Contractor is to submit to the Architect four (4) copies of Schedule of Values allocated to the various portions of the Work within fifteen (15) days after award of contract in accordance with General and Supplemental Conditions. Architect will review with Owner for agreement and return one (1) copy to the General Contractor and transmit one (1) copy to the Owner.

D. Schedule of Values for each trade or operation shall have an identifiable relationship with Construction Progress Schedule: Section 01 3000.

E. Schedule shall list the installed value of the component parts of the works in sufficient detail to serve as a basis for computing values for Application For Payment (Article 1.06) during construction. Round off dollar values to nearest dollar.

F. Follow generally the table of contents of this Project Manual as the format for listing component items. Identify each line item with the number and title of the respective major section of the specifications.

G. For each major line item list sub-values of major projects or operations under each item. Provide a separate listing for:
1. Bonds
2. Insurance Premiums
3. Job Start-up or Mobilization
4. Field Supervision and Layout
5. General Contractor Profit/Overhead

H. For items on which progress payments will be requested for stored materials, break down the value into:

1. The cost of materials, delivered, and unloaded.
2. The total installed value.

I. The sum of all values listed in the Schedule shall equal the General Contractor's total Contract Sum.

1.05 APPLICATION FOR PAYMENT

A. Submit Applications For Payment To Architect in accord with the time frame established by General and Supplemental Conditions.

B. Submit each application typed on AIA Document G702, Application and Certificate For Payment and Continuation Sheets G703.

C. Provide itemized data on Continuation Sheet in format, schedule, line items and values as approved for Schedule of Values (Article 1.05 above).

D. Preparation of Application for each Progress Payment
   1. Application Form:
      a. Fill in all required information for identification of project as Schedule of Values.
      b. Complete all information, including that for Change Orders executed prior to the date of submittal of application.
      c. Fill in summary dollar values to agree with Continuation Sheet.
      d. Execute certification with a signature of contracting officer of the contract firm and notarization as indicated.
   2. Continuation Sheets:
      a. Fill in total list of all scheduled component items of work with appropriate scheduled dollar value in accord with Schedule of Values.
      b. Fill in the dollar value for each scheduled line item when work has been performed or products stored.
      c. List each Change Order executed prior to date of submission at the end of the Continuation Sheet as for an original component item. Identify Change Order Numbers and date.
   3. Application for Payment Attachments:
      a. To each Application For Payment copy attach the following:
         1) Revised Construction Progress Schedule: Section 01 3000 with applicable support data required.

E. Substantiating Data for Progress Payments
   1. The General Contractor, beginning with the second Application For Payment, shall verify that he has paid all Subcontractors and major material suppliers those respective amounts representing all Work and material which have formed the basis of previous progress payments.
   2. Submit suitable information with a cover letter identifying:
      a. Project name.
      b. Application number and date.
      c. Detailed list of enclosures.
      d. For stored products or materials:
         1) Item number and identification as shown on application.
         2) Description of specified material and its stored location with appropriate insurance data, etc. as required.
   3. Submit one copy of data and cover letter for each copy of application.

F. Preparation of Application for Final Payment
   1. Fill in Application Form as specified for progress payments.

2. Use Continuation Sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Close Out.

G. Submittal Procedure
1. Submit six (6) copies of Applications For Payment with all attachment data to Architect as stipulated in Supplemental Conditions.
2. Upon review and approval of Application For Payment, Architect will transmit two (2) copies to the Owner for payment with one copy to the General Contractor.

1.06 CHANGE ORDER PROCEDURES

A. The General Contractor shall prepare and submit to the Architect a letter identifying changes in the contract scope and material for each change complete with detailed material and labor breakdown, calculations or other data as necessary to support request for change approval.

B. On approval from the Owner, the Architect will prepare six (6) copies of Change Order typed on AIA Document G701 modified to project signature requirements.

C. Signature of party signing the original Owner/Contractor Agreement Form will be required to sign the Change Order in the following sequence:
1. Change Order will be forwarded to the Contractor for his signature and return six (6) copies to the Architect.
2. Upon receipt of signed Change Order from the Contractor, six (6) copies will be forwarded to the Owner for his signature. Owner will retain three copies and return three (3) signed copies to the Architect.
3. Architect will retain one copy and forward one copy to the Contractor.

D. Change Orders must be signed by the Owner and Architect prior to inclusion under monthly Application For Payment. See Article 1.06 of this Section.

E. Project Record Data:
1. All Change Orders are to become a part of the Project Record Data, Section 01720. One (l) copy shall be kept at the project site as a part of the permanent records.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 Extensions of Contract Time: In the event that progress of the work is delayed by adverse weather conditions, the Contractor shall notify the Architect at the end of each month in which delay occurs. Requests must be made at the end of the month in which the delays occur. Previous months delays will not be revisited. At such time as weather is no longer a factor in construction activity, if the accumulated number of bad weather days exceeds the number of days listed as the Standard Baseline, the Contractor may submit a claim for an extension of Contract Time.

1.02 Standard Baseline for Average Climatic Range: The Owner has reviewed weather data available from the National Oceanic and Atmospheric Administration and determined a Standard Baseline of average climatic range for the State of Tennessee.

Standard Baseline represents the normal and anticipatable number of calendar days for each month during which construction activity is expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

Standard Baseline is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8	5	9	7	5	5	6	3	4	5	5	7

1.03 Adverse Weather and Weather Delay Days

A. Adverse Weather is defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:

1. Precipitation (rain, snow, or ice) in excess of one-tenth inch (0.10") liquid measure.
2. Temperatures which do not rise above 32 degrees F. by 10:00 a.m.
3. Standing snow in excess of one inch (1.00").

B. Adverse Weather may include, if appropriate, "dry-out" or "mud" days when the following conditions are met:

1. Only if there is a hindrance to site access; work on the envelope of the building such as masonry or roofing; site work such as excavation, backfill, and footings; site improvements such as paving.
2. At a rate no greater than 1 make-up day for each day or consecutive days of rain beyond the standard baseline that total 1.0 inch or more, liquid measure.

C. A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the Contractor's scheduled work day.

1.04 Documentation and Submittals:

A. Submit daily job site work logs showing which and to what extent construction activities have been affected by weather on a monthly basis.

B. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather station or other independently verified source approved by Architect at beginning of project.

C. Use Standard Baseline data provided in this Section when documenting actual delays due to weather in excess of the average climatic range.

D. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods, and submit in accordance with the procedures for Claims established in paragraph 4.3 of the Conditions.

E. If an extension of the Contract Time is appropriate, it shall be effected in accordance with the provisions of Article 7 of the Conditions, and the applicable General Requirements.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Submittal Procedures

B. Construction Progress Schedules

C. Proposed Products List

D. Shop Drawings

E. Product Data

F. Samples

G. Manufacturers' Instructions

H. Manufacturers' Certificates

I. Applicator or Installer's Certification

1.02 RELATED REQUIREMENTS IN OTHER PARTS OF THE PROJECT MANUAL

A. General and Supplemental Conditions of the Contract

1.03 CONTRACTOR RESPONSIBILITIES

A. The Contractor, or any Subcontractor, as applicable to his submittals, shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data or Samples unless the Contractor and Subcontractor have specifically informed the Architect, in writing, of such deviation at the time of submission and the Architect has given written approval to the specific deviation. The Contractor or any Subcontractor, as applicable to his submittals, shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or samples by the Architect's approval thereof. The Architect's approval of a separate item shall not indicate approval of an assembly in which the item functions.

B. Provide originals or first generation copies for product data and "cut sheets".

1.05 SUBMITTAL PROCEDURES

A. Transmit each submittal with Architect accepted form.

B. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or Supplier; pertinent drawing sheet and detail number(s), and specification section number, as appropriate.

D. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.

E. Schedule submittals to expedite the project and deliver to Architect. Coordinate submission of related items.

F. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of the completed Work.

G. Provide 8 inch x 3 inch blank space for Contractor and Architect review stamps.

H. Contractor/Subcontractor resubmission requirements:
1. Make any corrections or changes in the submittals required by the Architect and resubmit until approved. "Field Copy" of Shop Drawings without Architect's stamp will be removed from the Project Site.
2. Shop Drawings and Product Data:
   a. Revise initial drawings or data, and resubmit as specified for the initial submittal.
   b. Indicate any changes which have been made other than those requested by the Architect.
3. Samples: Submit new samples as required for initial submittal if rejected by initial submittal.

I. Distribution:
1. The General Contractor shall distribute (without additional cost to the Owner) reproductions of Transparencies and copies of Product Data which carry the Architect's stamp of review and/or approval to:
   a. Job site file.
   b. Record Documents file.
   c. Other affected contractors.
   d. Subcontractors as applicable.
   e. Supplier or Fabricator as applicable.
2. Distribute samples which carry the Architect's stamp of approval as directed by the Architect.

1.06 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in triplicate within fifteen (15) days after date established in Notice to Proceed for Owner’s and Architect's review.

B. Owner and Architect will review schedules and return review copy within ten (10) days after receipt.

C. If required, resubmit within seven (7) days after return of review copy.

D. Submit revised schedules with each Application For Payment, identifying changes since previous version.

E. Submit schedules in the form of a horizontal bar chart.
1. Provide separate horizontal bar for each trade or operation with an identifiable relationship between each Progress Schedule and Schedule of Values (Section 01 2100).
2. Horizontal time scale: Identify the first work day of each week.
3. Scale and spacing: Suitable size and scale to allow space for notations.
4. All schedules shall indicate project name.

5. All schedules shall directly relate to Time of Substantial Completion as identified in Summary of Work (Section 01 1000).

F. Content of Schedules:
   1. Construction Progress Schedule:
      a. Show the complete sequence of construction by activity with trades and dates required to meet the Substantial Completion Schedule.
      b. Show the dates for the beginning and completion of each major element of construction.
      c. Show projected percentage of completion for each item as of the first day of each week for full construction period. Identify relationship with Schedule of Values.
      d. Indicate critical or important materials and length of time after award of the Construction Contract when such materials will be required at the site.
   2. Submittals schedule for Shop Drawings, Product Data and Samples. Show:
      a. The dates for Contractor's and Subcontractor's submittals.
      b. The dates products submittals will be required for Owner-furnished products.
   3. Products Delivery Schedule. Show the delivery dates for:
      a. Products furnished by the Owner, Section 01 1000.
      b. Products specified under Allowances, Section 01 2100.

G. Progress Revisions:
   1. Indicate progress of each activity to date of submission.
   2. Show changes occurring since previous submission of schedule:
      a. Major changes in scope.
      b. Activities modified since previous submission.
      c. Revised projections of progress within completion time frame.
      d. Other identifiable changes.
   3. Provide a narrative report as needed to define:
      a. Problem areas, anticipated delays, and the impact on the schedule.
      b. Corrective action initiated to complete the total project within completion time frame should progress revisions indicate a completion delay.

H. Distribute without additional cost to the Owner, copies of the reviewed schedules to:
   1. Job site file
   2. Subcontractors as applicable

I. Instruct recipients to report promptly to Contractor, in writing, any problems anticipated by the projections shown in the schedules.

1.07 PROPOSED PRODUCTS LIST

A. Within fifteen (15) days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.08 SHOP DRAWINGS

A. Definitions:
   1. Shop Drawings are drawings, diagrams, schedules and other data specifically prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor or illustrate some portion of the Work.

2. Drawings shall be presented in a clear and thorough manner in appropriate size and scale with details, identified by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.

B. Submit six (6) reproductions of required shop drawings. Architect/Engineer will retain two (2) reproductions and return three (3) copies to Contractor.

C. After review, distribute in accordance with article on Procedures (1.05) above and for Record Documents described in Section 01 7200 PROJECT RECORD DOCUMENTS.

1.09 PRODUCT DATA

A. Definitions:
1. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor or any Subcontractor to illustrate a material, product or system for some portion of the Work.
2. Preparation:
a. Clearly mark each copy to identify pertinent products or models.
b. Show performance characteristics and capacities.
c. Show dimensions and clearances required.
d. Show wiring or piping diagrams and controls.
3. Manufacturer's standard schematic drawings and diagrams:
a. Modify drawings and diagrams to delete information which is not applicable to the Work.
b. Supplement standard information to provide information specifically applicable to the Work.

B. Submit the number of copies which the Contractor requires, plus two (2) copies which will be retained by the Architect/Engineer.

C. After review, distribute in accordance with Article on Procedures (1.05) above and provide copies for Record Documents described in Section 01 7200 PROJECT RECORD DOCUMENTS.

1.10 SAMPLES

A. Definitions:
1. Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the work will be judged.

B. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

C. Submit samples of finishes from the full range of manufacturers' standard colors in custom colors selected, textures, and patterns for Architect's selection.

D. Include identification on each sample, with full project information.

E. Submit the number or samples specified in individual specification sections; two (2) of which will be retained by Architect/Engineer.

F. Reviewed samples which may be used in the Work are indicated in individual specification sections.

1.11 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification sections, retain at the project site one (1) copy of manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

B. Identify conflicts between manufacturers' instructions and Contract Documents, if any exist.

1.12 MANUFACTURER'S CERTIFICATES

A. When specified in individual specification sections, submit manufacturers' certificate to Architect for review, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

1.13 Applicator or Installer's Certification:

A. When specified in individual specification sections under Article entitled "Qualification" that the applicator or installer is certified approved by the manufacturer for the product specified.

1.14 Submittal Schedule:

A. All submittals, including shop drawings, product data, samples, manufacturer’s instructions, and manufacturer’s certificates must be delivered to the Architect for review within ninety (90) days after date of Owner-Contractor Agreement.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Contractor Project Coordinator

B. Contractor Coordination Schedule

C. Field Engineering and Layout

D. Alteration Project Procedures

E. Cutting and Patching

F. Project Meetings:
   1. Preconstruction Conference
   2. Progress Meetings
   3. Preinstallation Conference

1.02 RELATED REQUIREMENTS

A. Related Requirements in other parts of the Project Manual:
   1. Additional requirements of all parties to the Contract: General and Supplemental Conditions of the Contract.

1.03 CONTRACTOR PROJECT COORDINATOR

A. General Contractor is to employ the services of a qualified Coordinator at the project site for the duration of this Work with his sole duties allocated to this project only. Coordinator may be the non-working superintendent required by General Conditions and must coordinate all phases of the work. Subcontractors are required to provide a working foreman who will serve as his coordinator to the General Contractor.
   1. Qualifications: Must have prior construction experience on successful projects within the last five (5) years. A listing of projects with references will be required for review.
   2. Submit name, address and qualifications to the Architect.

B. Coordinator Duties:
   1. Coordinate his work with the Owner, all Subcontractors and all other Contractors:
      a. For temporary utilities.
      b. With the work of trades specified in Divisions 2 thru 33.
      c. Throughout this work, it will be required that the Contractor and/or Subcontractors apply their material to or over work, either existing or done by others, and which would affect his work. The coordination of all such work is the responsibility of this Coordinator. However, it is the responsibility of each Contractor, Subcontractor or Supplier to comply with this Section and 01 6000 whether or not it is specifically required, by repeating in his particular section of these specifications.
   2. Coordinate his schedule with the Owner, all Contractors and/or Subcontractors.
      a. Verify timely deliveries of products for installation by his forces or by other trades.
      b. Verify that labor and materials are adequate to maintain construction schedules.
   3. All Contractors and/or Subcontractors receiving items from other Contractors and/or Subcontractors for installation in his work, as specified or as required, shall at his expense, do the following:

a. Receive, unload, transport, store, protect and install.
b. Inspect all items, at time of receiving from carrier, for all damage, concealed or otherwise.
c. Record with the Contractor the receiving of all items and report any damage immediately after receiving. Failure to do so will make the receiving Contractor and/or Subcontractor responsible for damage, late shipment, short shipment, etc.

4. All Contractors and/or Subcontractors furnishing items to other Contractors and/or Subcontractors for installation shall:
   a. Properly schedule delivery with using Contractor and/or Subcontractor.
   b. Deliver at such time and sequence as necessary to not delay the work of the installing Contractor, other Subcontractors or the overall job schedule.
   c. Furnish at proper time to meet 4.b above, all instruction and/or drawings necessary for installation and if necessary, his personnel at the job site or installation point, for instruction or supervision.
   d. Periodically inspect the installation with his personnel at the job site or installation point for conformity to his needs. Report to Contractor any discrepancies.
   e. Deliver all items F.O.B. job site or point of installation.
5. Conduct conferences among his Subcontractors and other concerned parties as necessary to:
   a. Maintain coordination and schedules.
   b. Resolve matters in dispute.
   c. Contractor to record minutes of all meetings.
6. Participate in Project Meetings:
   a. Report his progress and his Subcontractors' progress.
   b. Recommend needed changes in schedules.
   c. Contractor to record minutes of all meetings.
7. Temporary Utilities:
   a. Coordinate installation, operation and maintenance, to verify compliance with Project requirements and with Contract Documents.
   b. Verify adequacy of service and maintenance at required locations.
8. Shop Drawings, Product Data and Samples:
   a. Prior to submittal, review for compliance with Contract Documents.
      1) Check field dimensions and clearance dimensions.
      2) Check relation to available space.
      3) Check anchor bolt settings.
      4) Review the effect of any changes on the work of other contracts or trades.
      5) Check compatibility and space requirements with equipment, materials and/or finishes and work of other trades.
      6) Check motor voltages, control characteristics, controls, interlocks, wiring and control diagrams.
9. Coordination Drawings:
   a. Prepare one (1) coordinated drawing, to assure coordination of work of, or affected by ceiling work, plumbing, sprinkler, mechanical and electrical, or to resolve conflicts.
   b. Reproduce and distribute reviewed copies of all concerned parties.
10. Verify that his Contractor and his Subcontractor maintain accurate Record Documents.
11. Substitutions and Changes:
    a. Review proposals and requests:
       1) Check for compliance with Contract Documents.
       2) Verify compatibility with work and equipment of other trades.
    b. Recommend action to Contractor, Architect and/or Owner as applicable.
12. Observe Work for compliance with requirements of Contract Documents.
    a. Maintain list of observed deficiencies and discrepancies.
    b. Promptly report deficiencies or discrepancies to Architect.

13. Assemble documentation for handling of claims or disputes involving the various work trades.
14. Equipment Startup:
    a. Check to assure that utilities and specified connections are complete and that equipment is in operable condition.
    b. Observe test, adjust and balance.
    c. Record results, including time and date of startup and promptly report same to Contractor and Architect.
15. Inspection of Materials and Equipment:
    a. Prior to inspection, check that equipment and materials are clean, repainted as required, tested and operational.
    b. Assist inspector; prepare list of items to be completed or corrected.
16. Assemble Record Documents and transmit to Architect in complete form. Do not send data that is not complete covering all items.
17. Verify and be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.
18. Coordinate scheduling, submittals, and work of the various sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
19. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
20. In finished areas, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

1.04 CONTRACTOR'S COORDINATION SCHEDULE

A. The Coordination Schedule designates areas of basic responsibility of Contractors and Subcontractors for items of work but does not define scope.

B. Refer to the respective sections of specifications for detailed descriptions of work required.

C. Coordinator:
    1. Maintain Coordination Schedule throughout construction period.
       Record changes in responsibilities due to:
       a. Modifications to Contract.
       b. Field Orders.
       c. Delays beyond control of Contractor.
    2. Reproduce and distribute revised Schedule promptly after each change to the Contractors, Subcontractors and one (1) copy to the Architect.

1.05 FIELD ENGINEERING AND LAYOUT

A. General Contractor is to provide and pay for field engineering layout services as required for this Work.
    1. Survey or layout work required in execution of the Project.
    2. Civil, structural or other professional services required to execute construction methods.

B. Qualifications of Layout Coordinator, Surveyor or Professional:
    1. Experienced in field layout work of the type required for this project.
    2. Submit name, address and qualifications to Architect.

C. Survey and Layout Reference Points:

1. The Contract Drawings indicate the principal exterior wall line and vertical control points for this project.

D. Project Survey and Layout Requirements:
   1. Establish a minimum of two permanent bench marks on the site. Record locations, with horizontal and vertical data, on Project Record Documents.
   2. Establish lines and levels, locate and lay out, by instrumentation and/or similar appropriate means:
      a. Site improvements:
         1) Stakes for grading, fill and topsoil placement.
         2) Utility slopes and invert elevations.
      b. Batter boards for structures.
      c. Building foundation and floor levels.
   3. Establish base column lines on all floors conforming to the requirements of the Contract Documents and maintaining same control lines throughout layout to execute construction methods.

E. Records:
   1. Maintain a complete, accurate log of all control, layout and survey work as it progresses with documentation of discrepancies and solutions.

1.06 ALTERATION PROJECT PROCEDURES

A. Materials: As specified in product Sections, match existing products and work for patching and extending work.

B. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.

C. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.

D. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.

E. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.

F. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.

G. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Architect's review.

H. Patch or replace portions of existing surfaces which are damaged, lifted, discolored or showing other imperfections.

I. Finish surfaces as specified in individual product Sections.

1.07 CUTTING AND PATCHING

A. Description:
   1. General Contractor and/or Subcontractors, applicable to their portion of the Work, shall be responsible for all cutting, fitting and patching, including excavation and backfill, required to complete the Work or to:
      a. Make its several parts fit together properly.
      b. Uncover portions of the Work to provide for installation of ill-timed work.
      c. Remove and replace defective Work.
      d. Remove and replace Work not conforming to requirements of Contract Documents.
      e. Remove samples of installed Work as specified for testing.
      f. Provide routing penetrations of non-structural surfaces for installation of piping and electrical conduit.

B. Submittals:
   1. Submit a written request to Architect thru the General Contractor well in advance of executing any cutting or alteration which affects:
      a. The work of the Owner or any separate Contractor or Subcontractor.
      b. The structural value or integrity of any element of the Project.
      c. The integrity or effectiveness of weather-exposed or moisture resistant elements or system.
      d. The efficiency, operational life, maintenance or safety of operational elements.
      e. The visual qualities of sight-exposed elements.
   2. The request shall include:
      a. Identification of the Project.
      b. Description of the affected work.
      c. The necessity for cutting, alteration or excavation.
      d. The effect on the work of the Owner or any separate Contractor or Subcontractor, or the structural or weatherproof integrity of the Project.
      e. Description of the proposed work:
         1) The scope of cutting, patching, alteration, or excavation.
         2) The trades who will execute the work.
         3) Products proposed to be used.
         4) The extent or refinishing to be done.
      f. Alternatives to cutting and patching.
      g. Cost proposal, when applicable.
      h. Written permission of any separate Subcontractor whose work will be affected.
   3. Submit a written notice to Architect designating the date and time the work will be uncovered.

C. Materials:
   1. Comply with specifications and standards for each specific product involved.

D. Execution:
   1. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.
   2. After uncovering work, inspect the conditions affecting the installation of Products, or performance of the Work.
   3. Report unsatisfactory or questionable conditions to the Architect in writing; do not proceed with the work until the Architect has provided further instructions.

E. Preparation:
   1. Provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the Work.

2. Provide devices and methods to protect other portions of the Project from damage.
3. Provide protection from the elements for that portion of the Project, which may be exposed by cutting and patching work, and maintain excavations free from water.

F. Performance:
1. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
2. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
3. Employ the original qualified Subcontractor, Installer or Fabricator to perform cutting and patching for:
   a. Weather-exposed moisture-resistant elements.
   b. Sight-exposed finished surfaces.
4. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
5. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
6. Restore work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
7. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
8. At penetration of fire rated wall, ceiling or floor construction, completely seal voids with fire rated material, full thickness of the construction element.
9. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
   a. For continuous surfaces, refinish to nearest intersection.
   b. For an assembly, refinish the entire unit.

1.08 PROJECT MEETINGS

A. Description:
1. The Owner will initiate the Preconstruction Conference, coordinating with the Architect and the Contractor. The General Contractor, thru his Project Coordinator, will schedule and administer progress meetings on a biweekly basis (or as required by progress of the work) and preinstallation meeting (where required by individual specification sections). Contractor is to:
   a. Prepare agenda and preside for meetings.
   b. Distribute written notice of each meeting in advance of meeting date with a copy to Architect.
   c. Make physical arrangements for meetings.
   d. Record the minutes.
   e. Reproduce and distribute copies of minutes within a reasonable time after each meeting:
      1) To all Contractors, Subcontractors and/or participants in the meeting.
      2) To all parties affected by decisions made at the meeting.
      3) Furnish one (1) copy each of minutes to Architect, Mechanical and Electrical Engineers and Owner.
      4) Submit under provisions of Section 01 7200.
2. Coordination representatives of the Contractor, Subcontractors and Suppliers are required to attend the meetings and shall be qualified and authorized to act on behalf of the entity each represents. Refer to Article 1.04.

B. Preconstruction Conference:
1. The Owner will initiate the Preconstruction Conference, coordinating with the Architect and the Contractor. This meeting will normally be held at the site of the project immediately after or concurrent with the award of the contract.

2. Record of attendance and identification of representatives:
   a. Owner Agency and Facility Representatives
   b. Architect Principal, Project Manager, Superintendent, Subcontractors, and Suppliers
3. Confirm status of contract
4. Communication:
   a. All communication between Owner and Contractor shall be through Architect.
   b. All correspondence to bear project name and Architect's Commission Number.
5. Check need for Contract Documents, including Record Documents set, and Fire Marshal's stamped set, when appropriate.
6. Construction Schedules:
   a. Notice to Proceed
   b. Contract time
   c. Critical work sequencing, initial progress schedule
   d. Major equipment deliveries and priorities
   e. Coordination
   f. Projected substantial and final completion
7. Builder's Risk Insurance
8. Contractor's use of premises
   a. Site
   b. Facility policies and procedures
   c. Security and housekeeping
9. Construction facilities and temporary utilities
10. Architect's and Owner’s field observation reports
11. Progress meetings and other meetings
12. Progress payments, Applications for Payment
   a. Form, content, and procedure
   b. Stored materials
   c. Retainage and Consent of Surety
   d. Schedule of Values
   e. Attachments
13. Submittals:
   a. Initial construction schedule
   b. Updated progress schedules
   c. Shop drawing log
   d. Shop drawings, product data and samples
14. Change Orders and written orders for minor changes:
   a. Itemization of costs
   b. Extensions of time
15. Weekly payroll reports and wage rate regulations, if applicable
16. Testing and laboratory reports
17. Contract Close Out
   a. Substantial Completion
   b. Final Inspection
   c. Project Record Documents
   d. Final Payment

C. Progress Meetings:
   1. Schedule regular biweekly Project meetings.
   2. Location of meetings: The project field office of the General Contractor unless otherwise notified.
   3. Attendance:
      a. Architect and/or Owner as needed.
      b. Contractor and/or his coordination representatives.
      c. Subcontractors as appropriate to the agenda.

d. Suppliers as appropriate to the agenda.
e. Others as needed appropriate to the agenda.

4. Suggested Agenda:
   a. Review and approval of minutes of previous meeting.
   b. Review of work progress.
   c. Field observations, problems, conflicts.
   d. Problems which impede Construction Schedule.
   e. Review of offsite fabrication, delivery schedules.
   f. Corrective measures and procedures to regain projected schedule.
   g. Coordination of schedules.
   h. Maintenance of quality standards.
   i. Other business as appropriate.

D. Preinstallation Conferences:
   1. When required in individual specification Section, convene a preinstallation conference at agreed location prior to commencing work of the Section.
   2. Require attendance of parties directly affecting, or affected by, work of the specific Section.
   3. Notify Architect four (4) days in advance of meeting date.
   4. Prepare agenda, preside at conference, record minutes, and distribute copies within two (2) days after conference to participants, with one (1) copy each to the Owner and to the Architect.
   5. Review conditions of installation, preparation and installation procedures, and coordination with related work.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Contractor Quality Assurance/Control of Installation

B. References

C. Schedule of References

D. Field Samples

E. Mockup

F. Manufacturers' Field Services and Reports

1.02 CONTRACTOR QUALITY ASSURANCE/CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.

B. Comply full with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.03 REFERENCES

A. Reference in the specifications to known standards, such as codes, specifications, etc. promulgated by professional or technical associations, institutes and societies, are intended to mean the latest edition of each such standard adopted and published as of the date of the Invitation To Bid on this project except where otherwise specifically indicated. Referenced portion of such standards shall be considered a part of these specifications as if reproduced in full.

B. Conform to reference standard by date of issue current on date of Invitation To Bid.

C. Maintain copy of standards at job site when required by Contract Documents.

D. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

E. The contractual relationship of the parties to the contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.04 SCHEDULE OF REFERENCES

A. The following is a representative, but not necessarily the total list of such associations, institutes and societies, together with the abbreviation by which each is identified.

AAMA Architectural Aluminum Manufacturer's Association
AASHTO American Association of State Highway and Transportation Officials
ACI American Concrete Institute
AIA American Institute of Architects
AIEE American Institute of Electrical Engineers
AISC American Institute of Steel Construction
ANSI American National Standards Institute
APA American Plywood Association
API American Petroleum Institute
ASA American Standards Association
ASHRAE American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME American Society of Mechanical Engineers
ASTM American Society of Testing and Materials
AWI Architectural Woodwork Institute
AWS American Welding Society
AWSC American Welding Society Code
AWWA American Water Works Association
BIA Brick Institute of America
CSI Construction Specifications Institute
DHI Door and Hardware Institute
EPA Environmental Protection Agency
FIA Factory Insurance Association
FS Federal Specifications
GA Gypsum Association
IEEE Institute of Electrical and Electronic Engineers
IES Illuminating Engineering Society
IGSS Insulating Glass Certification Council
NBFU National Board of Fire Underwriters
NEC National Electrical Code
NEMA National Electrical Manufacturers Association
NFPA National Fire Protection Association
NWMA National Woodwork Manufacturers Association
NWWDA National Wood Window and Door Association
OSHA Occupational Safety and Hazard Act
PCA Portland Cement Association
SDI Steel Door Institute
SIGMA Sealed Insulating Glass Manufacturer's Association
SJI Steel Joists Institute
SMACNA Sheet Metal and Air Conditioning Contractors National Association, Inc.
SPRI Single Ply Roofing Institute
SSPC Steel Structures Painting Council
TCA Tile Council of American, Inc.
UL Underwriters' Laboratories, Inc.
USASI United States of America Standards Institute
WWPA Western Wood Products Association

1.05 FIELD SAMPLES

A. Install field samples at the site as required by individual specification sections for review.

B. Acceptable samples represent a quality level for the Work.

C. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Architect.

1.06 MOCK-UP

A. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, and finishes.

B. Where mock-up is specified in individual sections to be removed, clear area after mock-up has been accepted by Architect.

1.07 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. Submit qualifications of observer to Architect fifteen (15) days in advance of required observations. Observer subject to approval of Architect.

B. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable, and to initiate instructions when necessary.

C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

D. Submit report in duplicate within ten (10) days of observation to Architect and Owner for review.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 WORK INCLUDES

A. Selection and Payment

B. Contractor Submittals

C. Laboratory Responsibilities

D. Laboratory Reports

E. Limits on Testing Laboratory Authority

F. Contractor Responsibilities

G. Schedule of Inspections and Tests

1.02 REFERENCES

A. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.

B. ASTM E329 - Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

1.03 SELECTION AND PAYMENT

A. Contractor shall employ and pay for the services of an approved Independent Testing Laboratory to perform specified services and testing.

B. Employment of the laboratory shall in no way relieve the General Contractor or any Subcontractor from their obligations to perform the Work of the Contract.

1.04 QUALITY ASSURANCE

A. Meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.
B. Meet basic requirements of ASTM E329, "Standards of Recommended Practice For Inspection and Testing Agencies For Concrete, Steel and Bituminous Material As Used In Construction".
C. Authorized to operate in the State of Tennessee.

D. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.

E. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.

1.05 LABORATORY RESPONSIBILITIES

A. Test samples of mixes submitted by Contractor.

B. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.

C. Perform specified inspection, sampling, and testing of products in accordance with specified standards.

D. Ascertain compliance of materials and mixes with requirements of Contract Documents.

E. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or Products.

F. Perform additional inspections and tests required by Architect.

G. Attend pre-construction, pre-installation conferences and progress meetings as applicable to work herein.

1.06 LABORATORY REPORTS

A. Promptly submit written report of each test and inspection; one (1) copy each to Architect, Structural Engineer (where applicable), Owner and Contractor, and one (1) copy for Project Record Documents File.

B. Include
1. Date issued.
2. Project name.
3. Testing laboratory name, address and telephone number.
4. Name and signature of Engineer registered in State and laboratory inspector or technician.
5. Date and time of sampling or inspection.
6. Record of temperature and weather conditions.
7. Date of test.
8. Location of sample or test in the Project.
9. Type of inspection, test or re-test.
10. Results of tests and compliance with Contract Documents.
11. Monetary accounting of tests by test type indicating test or re-test charges due and/or not due under this Contract.

C. Perform additional tests as required by the Architect and Owner. The Contractor shall at his expense, provide proper access, furnish necessary samples, and if required, deliver them to the testing agency when and where directed. Additional cost for the above will be paid as follows:
1. Tests for Owner's knowledge not relating to quality - paid by Owner.
2. Tests for quality of work:
   a. If tests confirms work to be as specified - paid by Owner.
   b. If test confirms work not as specified - paid by Contractor and/or Subcontractor at fault per Article 13.5 of the General Conditions.

1.07 LIMITS ON AUTHORITY OF TESTING LABORATORY

A. Laboratory may not release, revoke, alter or enlarge on requirements of Contract Documents.

B. Laboratory may not approve or accept any portion of the Work.

C. Laboratory may not perform any duties of the Contractor and/or his Subcontractors.

D. Laboratory has no authority to stop the Work.

1.08 CONTRACTOR AND/OR SUBCONTRACTORS' RESPONSIBILITIES

A. Cooperate with laboratory personnel, provide access to work.

B. Secure and deliver to the laboratory, when requested, adequate quantities of representational samples of materials proposed to be used and which require testing.

C. Provide to the laboratory thru the Architect the preliminary design mix proposed to be used for concrete, and other material mixes which require control by the testing laboratory.

D. Furnish copies of Product's test reports as required.

E. Furnish incidental labor and facilities:
   1. To provide access to Work to be tested.
   2. To obtain and handle samples at the Project Site or at the source of the product to be tested.
   3. To facilitate inspections and tests.
   4. For storage and curing of test samples.
   5. To repair test area, if sample is removed from materials requiring water-proof integrity.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
   1. When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's and/or Subcontractor's negligence.

G. Make arrangements with laboratory and pay of additional samples and tests required for Contractor's and/or his Subcontractor's convenience.

1.09 SCHEDULE OF INSPECTIONS AND TESTS (Reference individual sections for the required testing.)

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities: Electricity and Lighting, Heat and Ventilation, Water, Sanitary Facilities

B. Temporary Telecommunications Services

C. Temporary Fire Protection

D. Fencing

E. Water Control

F. Construction Aids

G. Noise and/or Vibrations During Construction

H. Exterior Enclosures

I. Interior Enclosures

J. Barriers and Barricades

K. Protection of Work

L. Field Offices and Sheds

M. Security

N. Vehicular Access and Parking

O. Progress Cleaning and Dust Control

1.02 TEMPORARY ELECTRICITY AND LIGHTING

A. Temporary electric power required for the performance of work under this Contract may be obtained from the Owner's present power source at the location and in quantities designated on the drawings and/or within Division 26 of these specifications.

B. The electrical subcontractor is to furnish and install at his expense and arrangement, all means of bringing electrical power, wiring, etc. from this Owner's point of source to the point of use or need including receptacle devices, wiring, etc. and their complete removal at completion as may be needed to provide adequate artificial lighting and power for all areas of the Work. Owner's electrical power source shall not be interrupted without specific approval and arrangement with the Owner.

C. If requirements for current/voltage exceed the Owner's capacity or type as described above, the needing Contractor and/or Subcontractor shall arrange for, pay and provide his own source at his total expense including removal of same at completion of the Work.

D. The electrical subcontractor must pay for and provide adequate protection and/or protection devices to protect the Owner's electrical source and supply including branch circuits,

panelboards, etc. as may be deemed necessary for a complete system in accord with all local and national codes.

E. The Owner will pay directly to the Power Company the cost of all electric power consumed.

1.03 TEMPORARY HEAT AND VENTILATION

A. The General Contractor is to provide temporary heat and ventilation as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified conditions for the installation of materials and to protect materials and finishes from damage due to temperature and/or humidity.

B. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.

C. Portable heaters shall be standard non-smoke producing approved units such as gas (natural of LP) or approved oil burners complete with controls. NO Salamanders or open fires will be permitted.

D. Pay all cost of installation, maintenance, operation, removal and for fuel consumed.

E. When permanent building Heating, Ventilating and Air Conditioning Systems, under this Contract are installed and operable, in the opinion of the Owner and Architect, after consultation with the HVAC Subcontractor and General Contractor, he will have them placed into operation for temporary heating, ventilating and air conditioning. Placing the permanent HVAC systems into temporary use will not affect the guarantees required under this specification and will not set the beginning date of guarantees.
   1. Provisions of filters, extra filters, additional cleaning and maintenance by the HVAC Subcontractor will be as specified under Division 23 of these Specifications.
   2. Owner will pay cost of all fuel consumed.
   3. The maximum time that permanent systems can be used under a temporary basis is sixty (60) days.

1.04 TEMPORARY TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:
   1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
   2. Telephone Lines: One line, minimum; cellular or mobile line is acceptable.
   3. Internet Connections: Minimum of one.
   4. Email: Account/address reserved for project use.
   5. Facsimile Service: Minimum of one dedicated fax machine/printer.

1.05 TEMPORARY WATER

A. Water required for the performance of work under this Contract may be obtained from the Owner’s present supply at the location and in quantity designated on the drawings and/or within Division 22 of these specifications.

B. The plumbing subcontractor is to furnish and install all valves, piping, hose, fittings, vacuum breakers, back flow preventers and/or devices required to connect and transmit water from the Owner’s point of source to the point of his need in adequate quantity for progress of the work at

his expense. All such shall be removed at the end of the work. Owner's piping and water supply shall not be interrupted without specific approval and arrangement with the Owner.

C. If requirements for water exceed the Owner's provided service as described above, the needing Contractor and/or subcontractor shall provide his own source at his total expense including removal of same at completion of the Work.

D. The Owner will pay directly to the utility company the cost of all temporary water consumed.

1.06 TEMPORARY SANITARY FACILITIES

A. The General Contractor is to provide adequate enclosed sanitary toilet facilities for each gender in compliance with local laws, and regulations including service, cleaning, maintenance, with privacy locking.

B. The Owner's Existing Toilet Facilities may not be used by construction personnel.

1.07 TEMPORARY FIRE PROTECTION

A. The General Contractor is to provide proper and adequate portable fire extinguishing equipment at his operation when work is in progress, including requirements for Field Offices and Storage Sheds.

1.08 CONSTRUCTION FENCING

A. Chain Link Fence:
1. 8'-0" tall temporary chain link fence

1.09 WATER CONTROL

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Contractor shall erect baled hay or straw erosion check for temporary measures to control erosion or water runoff where shown on drawings or as required. Bales shall be either hay or straw containing five cubic feet or more of material. Soil laden water shall not be permitted to drain on adjacent property, drives and/or public streets without adequate erosion check and periodic cleanup.

1.10 CONSTRUCTION AIDS

A. Provide construction aids and equipment required by personnel and to facilitate the execution of the Work: Scaffolds, staging, ladders, ramps, runways, platforms, lifts, railings, hoists, cranes, chutes, appliances, equipment and other facilities. Maintain all facilities and equipment in a first-class condition for the safety and use of this construction.

B. Prolonged parking or blocking of traffic at the site will not be permitted. Provide protection necessary to maintain traffic arteries in a first class condition.

C. The Owner's present loading dock facilities, compaction equipment, and trash containers may not be used for construction purposes.

1.11 NOISE AND/OR VIBRATIONS DURING CONSTRUCTION

A. Noise and/or vibrations generated by construction of this work may at times create a problem for the Owner. The Owner recognizes and can tolerate the normal level of noise created by a majority of construction activity and, therefore, does not feel any need to set certain hours of the day when noise will be restricted. The General Contractor and all Subcontractors as applicable to their work will, however, make every effort to keep noise to a minimum.

B. However, the Owner also recognizes that during certain construction work the noise and vibration level is unusually higher than normal. These higher levels of noise and vibration may conflict with a specific activity being simultaneously conducted by the Owner. It is required of the General Contractor that agreement be secured from the Owner prior to scheduling any such activity and that the Contractor and all subcontractors cooperate if an ongoing activity becomes objectionable by its longevity or overlapping into a program started later by the Owner. It is understood and agreed that both parties will cooperate to this end so that neither will be unduly inconvenienced by this requirement.

1.12 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather-tight enclosure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.13 INTERIOR ENCLOSURES

A. Provide temporary enclosures to separate work areas from the areas of existing building occupied by Owner, to prevent penetration of dust or moisture into occupied areas, to prevent damage to existing equipment, to protect Owner’s employees and operations from construction work and to protect the public from construction work.

B. Temporary partition and ceiling enclosures: Framing and sheet materials must comply with structural and fire rating requirements of applicable codes and standards. Close joints between sheet materials and seal edges and intersections with existing surfaces to prevent penetration of dust or moisture.

1.14 BARRIERS AND BARRICADES

A. Provide, install and maintain suitable barricades, partitions and/or barriers as required to prevent and protect public entry, personnel entry, safety and to protect the Work and existing facilities.

B. Provide protection of existing trees, plants and landscaping to remain within construction limit lines or areas as shown on drawings.

C. Remove barriers and barricades when no longer needed or at completion of work.

1.15 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

1.16 FIELD OFFICES AND SHEDS

A. General Contractor's Field Office and Facilities:
1. Size: As required for general use and to provide space for project meetings to accommodate a minimum of thirty (30) people.
2. Telephone: One (1) dedicated cellular or mobile line.
3. Furnishings:
a. One drafting table 36 inch x 72 inch
b. Racks and files for Project Record Documents
4. Other furnishings: Contractor's option
5. One 10 inch outdoor-type thermometer
6. Portable fire extinguisher

B. Storage Material and Work Sheds:
1. To requirements of the various trades
2. Dimensions: Adequate for storage and handling of products
3. Ventilation: Comply with specified and code requirements for the products stored.
4. Heating: Adequate to maintain temperatures specified in the respective sections

C. Construction:
1. Structurally sound, weathertight, with floors raised above ground
2. Temperature transmission resistance: Compatible with occupancy and storage requirements
3. At Contractor's option, portable or mobile buildings may be used.

1.17 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism or theft.

B. Coordinate with Owner's security program.

1.18 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Designated existing on-site roads may be used for construction traffic.

F. Parking by or for Contractor's workers and/or their personal vehicles will be permitted within existing paved areas adjacent to project site.

1.19 PROGRESS CLEANING AND DUST CONTROL

A. Execute periodic cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and wind blown debris, resulting from construction operations. Water sprinkle construction site as required to prevent free blowing of dust. Keep surrounding streets on property clean and free from dirt accumulations. Remove same periodically as required.

B. Provide on-site containers for the collection of waste materials, debris and rubbish.

C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

D. Remove debris and rubbish from pipes, chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

E. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.

F. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

A. Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

PART 3 - EXECUTION

3.01 PREPARATION

A. Consult with Owner, review site conditions and factors which affect this section of specifications.

B. Relocate construction aids, barriers and barricades as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of the Owner and other contractors and subcontractors employed at the site.

3.02 GENERAL

A. Comply with applicable requirements specified in sections of Division 2 thru 17.

B. Maintain and relocate barricades and barriers during construction period as appropriate.

C. Install facilities of a neat and reasonable uniform appearance, structurally adequate for the required purposes.

3.03 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

A. Remove temporary above grade or buried utilities, equipment, facilities and materials prior to Substantial Completion or no longer needed.

B. Remove underground installations to a minimum depth of two feet.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Products

B. Existing Material

C. Transportation and Handling

D. Storage and Protection

E. Product Options

F. Acceptance of Specified Material

G. Substitutions

H. Examination of Surfaces

I. Manufacturers' Instructions

J. Hazardous Material Certification

1.02 RELATED REQUIREMENTS IN OTHER PARTS OF THE PROJECT MANUAL

A. General and Supplemental Conditions of the Contract

1.03 PRODUCTS

A. Material and equipment incorporated into the Work:
   1. Conform to applicable specifications and standards.
   2. Comply with size, make, type and quality specified, or as specifically approved in writing by the Architect.
   3. Manufactured and fabricated products:
      a. Design, fabricate and assemble in accord with the best engineering and shop practices.
      b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
      c. Two or more items of the same kind shall be identical, by the same manufacturer.
      d. Products shall be suitable for service conditions.
      e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
   4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.04 EXISTING MATERIAL

A. Do not use material and equipment removed from existing premises except as specifically permitted by the Contract Documents.

B. Use special care in removal, handling, storage, and reinstallation to assure proper function in the completed work.

C. Arrange for transportation, storage and handling of products which require off-site storage, restorage, or renovation. Pay all costs for such work.

1.05 TRANSPORTATION AND HANDLING

A. Arrange deliveries of products in accord with the Construction Schedules, coordinate to avoid conflict with work and conditions at the site.

B. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

C. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

D. All materials and equipment for which U.L. labels are required or available, provide appropriate labels on containers or packaging.

E. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.06 STORAGE AND PROTECTION

A. Store and protect products in accord with manufacturer's instructions, with seals and labels intact and legible.
   1. Store products subject to damage by the elements in weather-tight enclosures.
   2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.

B. Exterior Storage
   1. Store fabricated products above the ground, on blocking or skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation and wind blow off.
   2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions and free from damage or deterioration.

D. Protection After Installation. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.07 PRODUCT OPTIONS

A. Products specified by reference standards or by description only: Any product meeting those standards or description.

B. Products specified by naming one or more manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products specified by naming one or more manufacturers with a provision for substitutions: Submit a request for substitution for any manufacturer not named. Reference Article 1.09.

D. Certain products are marked "No Substitution" and do not qualify under the above Para. 1.07C.

1.08 ACCEPTANCE OF SPECIFIED MATERIALS

A. Contractor and/or any Subcontractor, by entering into a contract to furnish material and/or furnish labor and material for any part of this work, agrees that the material and methods specified herein are suitable to achieve the end results required and to permit the guarantees required, unless stated otherwise in writing to the Architect prior to execution of his Contract.

B. Though the Architect generally specifies a result rather than a method, it is considered essential to the usefulness of this specification that methods be generally outlined. No departure from results or methods specified herein will be permitted unless such permission is granted by the Architect in writing. Such permission must be obtained prior to executing each appropriate contract. If the above is not complied with, no future claims for failure because of materials, methods, etc. specified will be valid or entertained.

1.09 SUBSTITUTIONS

A. Contractors desiring to use another brand, material or manufacturer of same quality, appearance and utility to that specified may request substitution as provided below:
   1. Substitutions prior to Bidding must be made in writing and must be received by the Architect a minimum of ten (10) days prior to bid. The burden of delivery to the Architect remains totally the responsibility of the Bidder. Architect will approve or disapprove the request for substitution, in writing, and his decision shall be final and will be recorded by appropriate Addenda issued to all bidders within three (3) days prior to bid.
   2. Substitutions After Bidding will not be allowed.
   3. Unless substitutions are requested within the time periods stated above and provided above, no deviation from the specifications will be allowed. Requests for substitutions will only be considered if the Contractor submits the following:
      a. Complete technical and cost data including drawings, literature, complete specifications, test data, and samples (if requested) and such additional information as may be required by the Architect on the proposed for substitution.
      b. Similar data to above for items, if any, to be deleted by proposed substitution.
      c. Statement by Contractor that the proposed substitution is in full compliance with the Contract Documents and written statements that he:
         1) represents that he has personally investigated the proposed substitute product and determined that is equal to or superior in all respects to that specified;
         2) represents that he will provide the same warranty for the substitute that he would for that specified;
         3) certifies that the cost data presented is complete and includes all related costs and waives all claims for additional costs related to the substitution which subsequently become apparent;
         4) will coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects and
         5) will disclose the existence and extent of financial interests, whether direct or indirect, he has in subcontractors and material suppliers which he may propose for the project. Include disclosure with submittal.

1.10 EXAMINATION OF SURFACES

A. Throughout this work, it will be required that certain contractors and/or subcontractors apply their material to or over work done by others, and which would affect his work. The general coordination of all such is the responsibility of the Contractor. However, it is the responsibility of each Contractor, Subcontractor or Supplier, to which it applies, to abide by the following whether or not it is specifically required, by repeating, in his particular section of these specifications.

B. Before commencing application of his Work, he shall thoroughly examine all surfaces to receive his Work and immediately notify the Architect in writing, of any imperfections in surfaces which would, in any way, affect satisfactory completion of Work. Absence of such notification shall be construed as acceptance of surfaces to receive Work. Later claims of defects in such Work will not, in any way affect guarantee of this contractor.

1.11 MANUFACTURER'S INSTRUCTIONS

A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation.
   1. Maintain one set of complete instructions at the job site during installation and until completion.

B. Handle, install, connect, clean, condition, prepare and adjust products in strict accord with such instructions and in conformity with specified requirements. Do not proceed with work without clear instructions.

1.12 HAZARDOUS MATERIAL CERTIFICATION

A. All materials and/or systems used for completion of this project are to be free of asbestos and/or other hazardous materials per requirements of OSHA, EPA and all other regulatory agencies. All certification letters are to be attached to each product and included in Section 01 7000 Close Out Documents as permanent record of same.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. General Requirements

B. Substantial Completion

C. Final Review

D. Re-inspection Fees

E. Final Application for Payment

F. Contractor Close Out Submittals to Architect

G. Volume Format

H. Format - Close Out Submittal - Volume 1

I. Final Cleaning

J. Spare Parts and Maintenance Material

1.02 GENERAL REQUIREMENTS

A. Comply with requirements stated in General and Supplemental Conditions of the Contract and in Specifications for administrative procedures in closing out the Work unless modified herein.

1.03 SUBSTANTIAL COMPLETION

A. When Contractor considers the Work is substantially complete, he shall submit to Architect:
   1. A written notice that the Work is sufficiently complete that the Owner may occupy the Work for the use for which it is intended and is therefore substantially complete.
   2. A list of items to be completed or corrected and dates scheduled for completion or correction of each item.

B. Within a reasonable time after receipt of such notice, the Architect will schedule a review with the Owner to determine the status of completion. Status of completion will be judged by the entire project completion without limitation to any one phase or part of the total construction.

C. Should Architect and the Owner determine that the Work is not substantially complete, the Architect will promptly notify the Contractor in writing, stating the reasons.

D. Contractor shall remedy the deficiencies in the Work and send a second written notice of substantial completion to the Architect.

E. Architect will review the Work again under the above Para. 1.03B.

F. When Architect and Owner concur that the Work is substantially complete, Architect will:

1. Prepare a Certificate of Substantial Completion on AIA Form G704 accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Architect.
2. Submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate of Substantial Completion.

1.04 FINAL REVIEW

A. When Contractor determines the Work is complete, he shall submit to the Architect written certification that:
   1. Contract Documents have been reviewed.
   2. Work has been inspected by a qualified person authorized by the Contractor for compliance with Contract Documents.
   3. Work has been completed in accordance with Contract Documents.
   4. Equipment and systems have been tested and demonstrated in the presence of the Owner's representative and are operational.
   5. Testing and Balancing of the air distribution system has been completed and 4 copies of the balancing and testing records have been submitted to the Architect for evaluation and approval. (Reference Section 01 7200, Article 1.04.)
   6. Inspections or letters of acceptance for items requiring approval from a governing authority.
   7. Materials and/or systems used for completion of this project are free of asbestos and/or other hazardous materials per requirements of OSHA, EPA and all other regulatory agencies. All certification letters are to be attached thereto for the permanent record. (Reference Section 01 6000, Article 1.12.)
   8. Work is complete and ready for final inspection.

B. Within a reasonable time after receipt of the Certification above, the Architect and Owner will schedule a review to determine the status of completion. Status of Completion will be judged by the entire project completion without limitation to any one phase or part of the total construction.

C. Should Architect and/or Owner consider that the Work is incomplete or defective:
   1. Architect will promptly notify the Contractor in writing, listing the incomplete or defective work.
   2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Architect that the Work is complete.
   3. Architect will review the Work again as Para. 1.04B above.

D. When the Architect and Owner find the Work acceptable under the Contract Documents, the Contractor will be asked to submit Close Out Submittals. Refer to Article 1.07.

1.05 RE-INSPECTION FEES

A. Should Architect perform additional reviews due to failure of the Work to comply with the claims of status of completion made by the Contractor:
   1. Owner will compensate Architect for such additional services.
   2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.06 FINAL APPLICATION FOR PAYMENT

A. Submit the Final Application For Payment accompanied by a final statement of accounting to the Architect.

B. Statement shall reflect all adjustments to the Contract Sum.

1. The original Contract Sum
2. Additions and deductions resulting from:
   a. Previous Change Orders
   b. Deductions for non-conforming work
   c. Other adjustments as appropriate.
3. Total Contract Sum as adjusted
4. Previous payments
5. Sum remaining due

C. When the Architect and owner determine that the Close Out Submittals are complete and correct and has received the Final Application For Payment with the Statement of Account, the Architect will prepare a Final Change Order reflecting the approved adjustments to the Contract Sum which were not previously made by Change Order subject to Owner's approval.

1.07 CONTRACTOR'S CLOSE OUT SUBMITTALS TO ARCHITECT

A. The close out submittal shall be complete and submitted to the Architect as a single package in three (3) separate volumes:
   1. Volume 1: Legal Close Out Data - Project Close Out Data as required by Section 01 7000, Article 1.09.
   2. Volume 2: Project Record Documents - Per requirements of Section 01 7200.
   3. Volume 3: Project Warranties, Operation and Maintenance Data - Operating and Maintenance Data, Warranties and Bonds, Instructions to Owner's Personnel - Per requirements of Section 01 7250.

B. Refer to Article 1.08 for Volume Format.

1.08 VOLUME FORMAT

A. Each volume shall consist of commercial quality three ring binder with durable plastic covers. Use ring size appropriate to the amount of material to be included.

B. On face and edge of binder covers, print title of project and subject matter of binder when multiple binders are required.

C. Internally subdivide the binder contents with permanent page dividers with tab titles clearly printed under reinforced plastic tabs.

D. Contents: Prepare a Table of Contents for each volume with each item, product or system identified on white paper.

E. Refer to Article 1.07 for Contractor Close Out submittal of each volume.

1.09 CLOSE OUT SUBMITTAL - VOLUME 1

A. Furnish two complete sets of Legal Close Out Data.

B. Volume 1 Format shall be prepared as per Article 1.08. If two or more binders are required, identify as Volume 1A, 1B, etc.

C. Contents of this volume to include the following:
   1. Table of Contents indicating complete contents related to tab dividers.

2. Cover sheet or sheets giving complete Project Name, Contractors and Subcontractors' Name, Address, and Telephone Number, Name of Project Superintendent, Project Manager and related general information.
3. Consent of Surety to Final Payment, AIA Form G707.
4. Releases of Liens from the Contractor, all Subcontractors and major material suppliers, AIA Form G706A.
5. Contractor Affidavit of Payment of Debts and Claims, AIA Form G706.
6. Final Application For Payment, AIA Form G702 with Continuation Sheet AIA Form G703
7. Final Statement of Accounting
8. Signed Change Orders (if any)
9. Certifications - Refer to Article 1.04.
10. Other documents related to fiscal provisions
11. Contractor letters of Substantial Completion
12. Architect Prepared Certificate of Substantial Completion (AIA Form G704) with Final Architectural Punch List with each item initialed by Contractor.
13. Occupancy Permit
14. Non-Lead, Asbestos Hazardous Material Certification Letter

D. Architect will transmit one (1) copy of Volume to Owner and retain one for his records.

1.10 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Clean equipment and fixtures to a sanitary condition.

D. Clean or replace filters as required of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean site; sweep paved areas; rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.11 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.

B. Deliver to project site and place in location as directed prior to final payment.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Record Documents

B. Reproducible "Record As-Built Drawings"

C. Close Out Submittal

1.02 RECORD DOCUMENTS

A. General:
   1. General Contractor is to maintain at the site in good condition, one complete record set of all Contract Documents for use as "Record Documents."
      a. Contract Drawings
      b. Project Manual and Specifications
      c. Addenda
      d. Supplemental Drawings
      e. Change Orders and other Modifications to the Contract
      f. Minutes of all project meetings
      g. Architect Field Orders or written instructions
      h. Construction Schedules including all revisions
      i. Approved Submittals:
         1) Shop Drawings
         2) Product Data
         3) Samples
         4) Design Data
         5) Test Reports
         6) Manufacturer's Instructions
         7) Manufacturer's Certificates
         8) Applicator or Installer's Certification
         9) Certifications
      j. Applicator certification of substrate
      k. Manufacturer's Field Reports
      l. Field Test Reports (as applicable)

B. Maintenance of Documents:
   1. Store Record Documents in General Contractor's field offices apart from documents used for construction. Provide secure storage space for files and racks for storage of Record Documents.
   2. Maintain Record Documents in a clean, dry, legible condition and in good order. Do not use Record Documents for reference or construction use.
   3. Make Record Documents available for inspection by the Architect or Owner, upon request.

C. Marking Devices:
   1. Provide felt tip marking pens for recording information in the color code identified and cross-referenced to the trade required by Contract Specifications.

D. Recording:
   1. Label each document "PROJECT RECORD" in neat large printed letters.

2. Record Information on a weekly basis, concurrently with construction progress. Do not "conceal" any work until required information is recorded.
   a. "Concealed" under this section is defined as not exposed after completion of construction. Concealed locations include the following: In walls (hollow or solid of all types), above ceilings (all ceilings), in floors, beneath earth, floors, etc. Record exact location, routing, and identification.
3. Drawings: Legibly mark to record actual construction:
   a. Depths of various elements of foundation in relation to finish first floor datum.
   b. Horizontal and vertical locations of underground utilities, (Plumbing, Sprinkler, Mechanical and Electric) and appurtenances, referenced by dimension to permanent surface improvements.
   c. Location of internal utilities (Plumbing, Sprinkler, Mechanical and Electric) and appurtenances concealed in or above the construction, referenced to visible and accessible features of the structure including valves, tap points, junction boxes, electric wiring, test points and other related features as appropriate.
   d. Field changes of dimension and detail.
   e. Changes made by Field Order or by Change Order.
4. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
   a. Manufacturer's name and product model and number.
   b. Product substitutions or alternates utilized.
   c. Changes made by Addenda and Modifications.
5. Submit Record Documents as part of Close Out Submittal - Volume 2.

1.03 REPRODUCIBLE "RECORD AS-BUILT DRAWINGS":

A. "Record As-Built Drawings" will be required by the following Subcontractors:
   1. Mechanical
   2. Plumbing
   3. Fire Protection/Sprinkler
   4. Electrical
   5. Civil
   6. General Contractor (Structural and Architectural Modifications)

B. Prepare reproducible permanent Mylar "Record As-Built Drawings" to show construction as actually accomplished as recorded on "Project Record Documents" in Para. 1.02D above. The drawings shall be prepared by the appropriate Subcontractor by using the Record Drawings. The drawings are to be on Mylar.

C. "As-Built Drawings" will be required of the above listed Subcontractors and shall show as record:
   1. All deviations from the sizes, locations and all other features of all installations shown by the Contract Documents.
   2. Where the Contract Documents show installations in diagrammatic or schematic form the actual location will be recorded.
   3. It shall be possible, using these drawings, to correctly and easily locate, identify and establish sizes of all piping, conduit, etc. and such other features of work which will be concealed per Article 1.02 above by the following means:
      a. Locations of underground Work shall be established by dimensions to column lines or walls, and by properly referenced centerline or invert elevations and rates of fall.
      b. For work concealed in the building sufficient information shall be given so it can be located with reasonable accuracy and ease. This shall be by dimension wherever possible. Where this is not reasonably practical, illustrate the Work on the drawings in relation to the spaces in the building near which it was actually installed.

c. Such other notes as required to designate size, service, etc.
4. Additional drawings shall be provided by the Subcontractor, as necessary for clarification.
5. All such drawings shall be done carefully and neatly by a competent draftsman and in a form approved by the Architect.
6. Submit "As-Built" Drawings as part of Close Out Submittal - Volume 2.

1.04 CLOSE OUT SUBMITTAL - VOLUME 2

A. Furnish one (1) complete set of Project Record Documents with additional required sets of Record “As-Built” Drawings.

B. Volume 2 of Close Out Submittal shall be submitted along with Volume 1 and 3 as defined in Section 01 7000, Article 1.07.

C. Volume 2 Format shall be prepared as per Section 01 7000, Article 1.08. If two or more binders are required, identify as Volume 2A, 2B, etc.

D. Contents of this volume to be in the following format:
1. Table of Contents indicating complete contents related to tab dividers and items separated from binders.
2. Cover sheet or sheets giving complete Project Name, Contractor and Subcontractor's Name, Address, Telephone Numbers, Name of Project, Superintendent, Project Manager and related general information.
3. Project Record Documents not required to be in binders. List in Table of Contents.
4. One (1) set of marked-up blueline “Record Drawings” from the project site.
5. One (1) set of Project Record Mylar reproducible “As-Built” drawings.
6. Four (4) sets of Project Record bond copies of “As-Built” drawings.
7. Four (4) sets of Project Manual marked to show in each Specification Section the actual manufacturer, trade names, catalog number, and supplier of each product.
8. Supplemental Drawings not required to be in binder. List in Table of Contents.
9. Shop Drawing Submittals:
   a. Submit one copy of each document bearing Architect's "Review for General Compliance" stamp denoted "No Exception Taken" or "Make Correction Noted."
   b. Include documents in binders where possible. List in Table of Contents those items not included in binder.
10. Minutes of all project meetings..
11. Paint color schedules.
12. Testing Laboratory "Product Test Reports".
13. Testing and Balancing Record of Air Distribution System.
14. Keying Schedule and Lock Pinning Code.
15. 100 blank keys with name, address and phone number of local supplier.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. General Requirements

B. Warranties and Bonds

C. Materials and Finishes

D. Equipment and Systems

E. Close Out Submittals

F. Instruction of Owner Personnel

1.02 GENERAL REQUIREMENTS

A. The General Contractor, his Subcontractors and Material Suppliers, as applicable to their portion of the work, shall compile and maintain accurate Project Record Documents, Submittals (Shop Drawings, Product Data, Manufacturer's Service), Maintenance and Operation Data, Internal Wiring Diagrams and related information that the Owner may need for his use in maintenance, operation, repair, renovation or future additions to the Project and/or its equipment. Manufacturers, Suppliers, Subcontractors, Representatives, bidding the work under this Contract are advised that proprietary information on their equipment is and will be required for submittal herein. Final payment will not be made until all data is submitted in quantity and form required herein.

B. Furnish all warranties, applicator/manufacturer certifications, letters of acceptance, maintenance agreements, bonds, operation data, maintenance service data, parts list, wiring diagrams and other documents as required by this Section of Specifications.

1.03 WARRANTIES AND BONDS

A. Assemble warranties and bonds, service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors, neatly typed, in orderly sequence. Provide complete information for each item.
   1. Product or work item
   2. Firm, with name of principal, address and telephone number
   3. Scope
   4. Date of beginning of warranty, bond, or service and maintenance contract
   5. Duration of warranty, bond, or service and maintenance contract
   6. Provide information for Owner's personnel:
      a. Proper procedure in case of failure
      b. Instances which might affect the validity of warranty or bond
   7. Contractor, name of responsible principal, address and telephone number

1.04 MATERIALS AND FINISHES

A. Content, for architectural products, applied materials and finishes:
   1. Manufacturer's data, giving full information on products
      a. Catalog number, size, composition

b. Color and texture designations
c. Information required for reordering special manufactured products
2. Instructions for care and maintenance
a. Manufacturer's recommendation for types of cleaning agents and methods
b. Cautions against cleaning agents and methods which are detrimental to the product
c. Recommended schedule for cleaning and maintenance

B. Content, for moisture protection and weather-exposed products:
1. Manufacturer's data, giving full information on products
a. Applicable standards
b. Chemical composition
c. Details of installation
2. Instructions for inspection, maintenance and repair

C. Additional requirements for maintenance data: The respective sections of Specifications

1.05 EQUIPMENT AND SYSTEMS

A. Each Item of Equipment and Each System: Include description of unit or system and component parts including all proprietary information. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data, wiring diagrams, and tests, and complete nomenclature and commercial number of replaceable parts.

B. Panelboard Circuit Directories: Provide electrical service characteristics, controls and communications.

C. Include color coded wiring diagrams as installed.

D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down and emergency instructions. Include summer, winter and any special operating instructions.

E. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and re-assembly instructions; and alignment, adjusting, balancing and checking instructions.

F. Provide servicing and lubrication schedule, and list of lubricants required.

G. Include manufacturer's printed operation and maintenance instructions.

H. Include sequence of operation by controls manufacturer.

I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance. Proprietary information to be included.
1. Predicted life of parts subject to wear.
2. Items recommended to be stocked as spare parts.

J. Provide control diagrams by controls manufacturer as installed.

K. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Additional Requirements: As specified in individual product specification sections.

O. Additional requirements for operating and maintenance data: Reference respective sections of Specifications.

1.06 CLOSE OUT SUBMITTAL - VOLUME 3

A. Furnish four (4) complete sets of Project Warranty, Operation and Maintenance Data.

B. Volume 3 of Close Out Submittal shall be submitted along with Volume 1 and 2 as defined in Section 01 7000, Article 1.07.

C. Volume 3 Format shall be prepared as per Section 01 7000, Article 1.08. If two or more binders are required, identify as Volume 3A, 3B, etc.

D. Contents of this volume to be in the following format:
1. Table of Contents indicating complete contents. Relate to tab dividers.
2. Cover sheet or sheets giving complete Project Name, Contractor's and Subcontractors' Name, Address, Phone Number, Name of Project Superintendent, Project Manager and related general information
3. Division 0: List Architect and Engineers complete with Name, Address, Telephone Number
4. Division 1A: General Warranties, Agreements and Bonds
   a. Contractor's Certification as described in Items 1 thru 6 under Final Inspection in Section 01 7000 Contract Close Out, Para. 1.04A
   b. Contractor's Warranty of Work
5. Division 1B: Certificates and Acceptance
   a. Certificate of Substantial Completion
6. Division 1C: Subcontractors and Materials Suppliers
   a. Provide a complete listing of subcontractors and materials suppliers including company name, address, phone number, contact person and local representative.
   b. Include complete product description with each subcontractor or material supplier.
7. Division 1D: Maintenance Materials
   a. List materials and parts furnished for the Owner's use under this contract.
8. Division 2 thru 32: Technical Data
   a. Provide warranties, agreements, maintenance service and operation manuals, and related data as required by each Section of Specifications. Furnish preprinted copies of each manufacturer's maintenance service and use instructions as required by the Specifications.
   b. Reference any oversize documents that cannot be neatly folded and bound in this binder and furnish separately with proper identification.
   c. When manufacturer's cut sheets are used for product identification, plainly mark the specific items included in this Project.

1.07 INSTRUCTION OF OWNER'S PERSONNEL

A. Prior to final inspection or acceptance, fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems.

B. Do not start-up or operate equipment without written consent of the Owner or his authorized agent.

C. For equipment requiring seasonal operation, perform instructions for other seasons within six months.

D. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

E. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Final cleaning of project.

1.02 RELATED REQUIREMENTS

A. Document – General Conditions: Cleaning up.

B. Section 01 7000 – Contract closeout: Closeout procedures.

C. Individual specification sections: Specific cleaning for product or work.

1.03 DESCRIPTION

A. Execute cleaning prior to inspection for substantial completion of each designated portion of the work.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS

A. Use materials which will not create hazards to health or property, and which will not damage surfaces.

B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 - EXECUTION

3.01 CLEANING

A. In addition to removal of debris and cleaning specified in other sections, clean interior and exterior exposed-to-view surfaces.

B. Remove temporary protection and labels not required to remain.

C. Clean finishes until free of dust, stains, films and other foreign substances.

D. Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

E. Broom clean all concrete and asphalt drives.

F. Clean and damp mop resilient and hard-surface floors as specified.

G. Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction. In addition, clean ducts, blowers and coils when units have been operated without filters during construction.

H. Clean light fixtures and lamps.

I. Maintain cleaning until substantial completion.

J. Remove waste, foreign matter and debris from roofs, gutters, areaways and drainage systems.

K. Remove waste, debris and surplus materials from site. Clean grounds; remove stains, spills and foreign substances from paved areas and sweep clean. Rake other exterior surfaces clean.

L. Owner will provide final cleaning of interiors after substantial completion. Provide access and coordinate with Owner's personnel at a time agreeable to both parties.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

A. Demonstration of products and systems to be commissioned and where indicated in specific specification sections.

B. Training of Owner personnel in operation and maintenance is required for:
   1. All software-operated systems.
   2. HVAC systems and equipment.
   3. Plumbing equipment.
   4. Electrical systems and equipment.
   5. Items specified in individual product Sections.

C. Training of Owner personnel in care, cleaning, maintenance, and repair is required for:
   1. Roofing, waterproofing, and other weather-exposed or moisture protection products.
   2. Finishes, including flooring, wall finishes, ceiling finishes.
   3. Fixtures and fittings.
   4. Items specified in individual product Sections.

1.02 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
   1. Submit to Architect for transmittal to Owner.
   2. Submit not less than four weeks prior to start of training.
   3. Revise and resubmit until acceptable.
   4. Provide an overall schedule showing all training sessions.
   5. Include at least the following for each training session:
      a. Identification, date, time, and duration.
      b. Description of products and/or systems to be covered.
      c. Name of firm and person conducting training; include qualifications.
      d. Intended audience, such as job description.
      e. Objectives of training and suggested methods of ensuring adequate training.
      f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
      g. Media to be used, such a slides, hand-outs, etc.
      h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.

C. Training Manuals: Provide training manual for each attendee; allow for minimum of two attendees per training session.
   1. Include applicable portion of O&M manuals.
   2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
   3. Provide one extra copy of each training manual to be included with operation and maintenance data.

D. Training Reports:
   1. Identification of each training session, date, time, and duration.
   2. Sign-in sheet showing names and job titles of attendees.
   3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.

E. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
   1. Format: DVD Disc.
   2. Label each disc and container with session identification and date.

1.03 QUALITY ASSURANCE

A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
   1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
   2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 DEMONSTRATION - GENERAL

A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.

B. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.

C. Demonstration may be combined with Owner personnel training if applicable.

D. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
   1. Perform demonstrations not less than two weeks prior to Substantial Completion.
   2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

E. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
   1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

A. Conduct training on-site unless otherwise indicated.

B. Owner will provide classroom and seating at no cost to Contractor.

C. Do not start training until Functional Testing is complete, unless otherwise specified or approved.

D. Provide training in minimum two hour segments.

E. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.

F. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
   1. The location of the O&M manuals and procedures for use and preservation; backup copies.
   2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
   3. Typical uses of the O&M manuals.

G. Product- and System-Specific Training:
   1. Review the applicable O&M manuals.
   2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
   3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
   4. Provide hands-on training on all operational modes possible and preventive maintenance.
   5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
   6. Discuss common troubleshooting problems and solutions.
   7. Discuss any peculiarities of equipment installation or operation.
   8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.

9. Review recommended tools and spare parts inventory suggestions of manufacturers.
10. Review spare parts and tools required to be furnished by Contractor.
11. Review spare parts suppliers and sources and procurement procedures.

H. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnishing of and paying for all labor, services, appliances, materials and equipment necessary for execution, installation and completion of all work specified herein and as shown on drawings.

B. Section Includes:
1. Interior and exterior demolition work required to protect, install, brace, support and adjoin the existing work with new work required by this contract.
2. Cutting and bracing required to provide new openings within existing work for new work required by this contract.
3. Erection, maintenance and removal of dust proof, sound resistant and protection partitions as required for the duration of this work under coordination with the Owner.
4. Removal and salvage of such debris and materials generated by the Work including complete disposal away from the project site.
5. Delivery of salvage materials to the location designated by the Owner for those materials defined herein to be salvaged to the benefit of the Owner.

1.02 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 01 7200.

B. Accurately record actual location of capped utilities.

1.03 REGULATORY REQUIREMENTS

A. Obtain required permits from authorities.

B. Notify affected utility companies before starting work and comply with their requirements.

C. Do not close or obstruct egress width to exit.

D. Do not disable or disrupt building fire or life safety system without prior written notice to the Owner.

E. Conform to procedures applicable when discovering hazardous or contaminated materials.

1.04 SEQUENCING

A. Sequence work under the provisions of Section 01 1000.

1.05 SCHEDULING

A. Schedule work under the provisions of Section 01 3000.

B. Schedule work to coincide with new construction.

C. Describe demolition removal procedures and schedule.

D. Perform work between the hours of 7:00 a.m. and 7:00 p.m.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that areas of the building to be demolished are unoccupied and discontinued in use by the Owner. Verify schedule of demolition with construction sequencing schedule.

B. Do not commence work until conditions are acceptable to Owner.

3.02 PREPARATION

A. Erect and maintain temporary partitions to prevent spread of dust, odors and noise to permit continued Owner occupancy, as specified in Section 01 5000.

B. Protect existing materials which are not to be demolished.

C. Arrange for, and verify termination of utility services, if any, to include removing and/or capping lines, etc., as applicable. Do not disconnect services to occupied areas; coordinate this work with the Owner.

3.03 PROTECTION

A. Execute all demolition work in an orderly and careful manner with due consideration for existing structure and the Owner's operation including any parts of the surrounding areas which are to remain. Barricade and cover as necessary to protect pedestrians, workmen and adjacent properties. Protect any existing active service lines, indicated or not. Repair and make good any damage to adjoining surfaces caused by these operations.

3.04 DISPOSITION OF REMOVED MATERIAL

A. All material removed under this contract, which is not to be salvaged or reused, shall become the property of the Contractor and be promptly removed from the site. At all times use movable debris boxes; convey the material through the building. Do not store or permit debris to accumulate on the site.

B. Do not burn or bury material on site. Periodically broom clean to allay dust.

3.05 DEMOLITION WORK

A. Floors:
   1. Remove, cut and/or brace concrete floors where or as required to permit installation of new work. Exercise care to avoid damage to the Owner's waterproofing systems and underground subsurface drainage systems.
   2. Remove resilient flooring, carpet and/or other finished floor materials as shown on Contract Documents, or as required, including adhesive to the extent that subsurfaces will present a smooth, even plane, ready for application of new materials.

3. Holes, as required in existing floor slabs for new pipe, ducts and conduit as shown on drawings or as required, shall be removed and repaired.
4. Removal of and/or patching of floor slabs above grade must be consistent with maintaining fire integrity of the Owner's structure and to match existing or as required by governing officials.

B. Walls:
1. Remove interior and/or exterior walls and/or partitions including concrete block, precast concrete, brick, gypsum, plaster, partitions, etc. as shown on the drawings or as required to install and align with new work required under this Contract. Maintain fire resistance integrity of all walls having such fire integrity.
2. Walls or sections of walls shall not be permitted to fall on floors of the building in masses to exceed safe carrying capacity of floors. Existing floors shall be properly protected with 1/2 inch plywood both sides of a partition to be demolished. Do all demolition work required to complete this work.

C. Ceilings:
1. Remove all ceilings as shown on drawings and as necessary to complete all work shown on the drawings and/or required.

D. Roofing and/or Waterproofing:
1. Remove only as required for new construction and maintain Owner's waterproofing integrity by temporary and/or permanent methods as dictated by construction sequencing. Reinstall flashing, roofing, and/or waterproofing as applicable in a manner to assure water-tightness.

E. New Openings in Existing Walls, Floors or Roof:
1. Cut new openings where required, of correct size to permit installation of frames, anchors, curbs, etc. as required for new work. Coordinate with others for installation of new work.

3.06 SALVAGE MATERIALS

A. Certain materials, as and if noted on the drawings, shall be carefully removed, protected, reused and/or delivered to the Owner for his future use as shown on drawings or specified herein. Extreme care shall be exercised to prevent chipping, breakage, bending and mishandling of all materials. All material not salvaged or to be reused by the Contractor shall become the property of the Contractor and shall be removed promptly from the site at no additional expense to the Owner. Coordination of salvaged material shall occur prior to beginning demolition so as to not hinder the progress of this work.
1. The following materials and/or equipment is to be salvaged by the Contractor and delivered to the Owner's storage area, as and where directed by the Owner.
a. no tiems to be salvaged for Owner’s use at this time.

3.07 CLEANING

A. On completion of demolition work, leave area and adjacent areas clean and satisfactory to local authorities and the Owner. Areas in use by the Owner shall have all debris caused by this Contractor removed at the end of each work day.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. Furnishing of and paying for all labor, materials, services, appliances and equipment necessary for the execution, installation and completion of all work specified herein and shown on the drawings.

B. Work included: All metal fabrication items listed, but not necessarily limited to the following:
   1. Shop fabricated steel and aluminum items.
   2. Hot-dipped galvanized miscellaneous steel lintel angles and plates which support brick veneer and/or other exposed veneer surfaces.
   3. Miscellaneous steel channels, angles, tubing, pipes, clips, plates, and/or other miscellaneous steel members shown on drawings. All exterior steel members to be galvanized.
   4. Shop Painting and Field Touch-up Painting.

1.02 REFERENCES

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2012.

B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2015.

C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2013.

D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.

E. ANSI A14.3 - American National Standard for Ladders -- Fixed -- Safety Requirements; 2008.

F. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.

G. ASTM A48/A48M - Standard Specification for Gray Iron Castings; 2003 (Reapproved 2012).

H. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.

I. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.

J. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

K. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless

Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2015b.

L. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2013.

M. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2014.

N. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.

O. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength (Metric); 2014.

P. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.

Q. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2014.

R. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

S. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2014.

T. ASTM B26/B26M - Standard Specification for Aluminum-Alloy Sand Castings; 2014.

U. ASTM B85/85M - Standard Specification for Aluminum-Alloy Die Castings; 2014.

V. ASTM B177/B177M - Standard Guide for Engineering Chromium Electroplating; 2011.

W. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.

X. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2014.

Y. ASTM B210 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes; 2012.

Z. ASTM B210M - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes (Metric); 2012.

AA. ASTM B211 - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished

Bar, Rod, and Wire; 2012.

AB. ASTM B211M - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold-Finished Bar, Rod, and Wire (Metric); 2012.

AC. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

AD. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.

AE. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2013. AF. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.

AG. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015.

AH. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; 2008.

AI. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel; International Accreditation Service, Inc; 2011.

AJ SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 1999 (Ed. 2004).

AK. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

1.03 SUBMITTALS

A. Submit under provisions of Section 013000.

B. Shop Drawings:
   1. Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners and accessories. Include erection drawings, elevations, and details where applicable.
   2. Indicate welded connections with AWS A2.0 welding symbols. Indicate net weld lengths.

C. Manufacturer's Installation: Provide setting drawings, templates and directions for the installation of such devices.

D. Welders Certificates: Submit as per Article 1.04.

1.04 QUALIFICATIONS

A. Welders' Certificates: Submit under provisions of Section 013000, certifying welders employed on the work, verifying AWS qualification within the previous 12 months.

1.05 DELIVERY, STORAGE AND HANDLING

A. Delivery, store, protect and handle products to site under provisions of Section 01 6000.

B. Delivery of materials to be installed under other sections:

1. Anchor bolts, embeds, inserts, sleeves, stair attachments steel security bar grating frames and other anchorage devices which are embedded in cast-in-place concrete or masonry construction shall be delivered to the project site in time to be installed before the start of concrete operations or masonry work.

C. Storage of materials:
1. Steel members which are stored at the project site shall be above ground on platforms, skids or other supports.
2. Steel shall be protected from corrosion.
3. Other materials shall be stored in a weathertight and dry place until ready for use in the work.
4. Packaged materials shall be stored in their original unbroken package or container.

1.06 FIELD MEASUREMENTS

A. Verify exact field measurements.

PART 2 PRODUCTS

2.01 MATERIALS

A. Structural steel shapes shall meet ASTM A 36. All surfaces of exterior members are to be galvanized.

B. Structural steel plates shall meet ASTM A 283, Grade C. All surfaces of exterior members are to be galvanized.

C. Steel bolts and fastenings shall meet ASTM A 307, Grade A. All surfaces of exterior members are to be galvanized.

D. Steel bars shall meet ASTM A 575. All surfaces of exterior members are to be galvanized.

E. Hollow structural tubing shall meet ASTM A 36, A 500 and A 501. All surfaces of exterior members are to be galvanized.

F. Steel pipe shall meet ASTM A 120 for standard weight (Schedule 40) pipe and ASTM A 53, Type E, Grade E. All surfaces of exterior members are to be galvanized.

G. Aluminum extrusions shall meet ASTM B 211, temper best suited for purpose.

H. Aluminum plates and sheets shall meet ASTM B209, temper best suited for purpose.

I. Fastenings shall be stainless steel for exterior. Match adjacent material for interior. Stainless steel shall meet AISI 300 series. Exposed screws shall be Phillips flat head, countersunk. Use bolts for field connections only. Provide washers under heads and nuts. Draw all nuts tight and nick threads of permanent connections. Use beveled washers where bearing is on sloped surfaces. Where screws must be used for permanent connections in ferrous metal, use flat head type, countersunk, with screw slots filled and finished smooth and flush.

J. Rough Hardware: Provide bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete and other structures. Manufacture or fabricate items of sizes, shapes and dimensions required. Provide malleable iron washers for heads and nuts which bear on wood structural connections; elsewhere furnish steel washers.

K. Loose Bearing and Leveling Plates: Provide loose bearing and leveling plates for steel items bearing on concrete construction, made flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive anchor bolts and for grouting as required. Galvanize after fabrication.

L. Miscellaneous Framing and Supports: Provide miscellaneous framing and supports which are not part of structural steel framework, as required to complete the Work. Fabricate miscellaneous units to sizes, shapes and profiles shown; or, if not shown, of required dimensions to receive adjacent other work to be retained by framing. Fabricate the miscellaneous units from structural steel shapes, plates and steel bars of welded construction with mitered joints for field connection, unless otherwise shown. Cut, drill and tap units to receive hardware. Equip units with integrally welded anchors for casting into concrete or building into masonry, and furnish inserts if units must be installed after concrete is placed. Galvanize miscellaneous frames and supports where indicated, including all exterior steel members. All steel lintel angles and plates supporting Brick Veneer shall be hot-dipped galvanized 1.2 mil thickness.

M. Pipe Sleeves: All metal posts and pipes set in concrete shall be inserted into galvanized pipe sleeves. Sleeves shall be length as required by 1-1/2 inches larger than the post or pipe they are to receive and the same shape (round, square or rectangular). Fabricate sleeves from 18 gauge galvanized steel. Provide two hairpin anchors per sleeve. All joints and connections shall be full welded, and the entire sleeve assembly shall be hot-dipped galvanized after fabrication.

N. Pipe Bollards: Fabricate bollards with a 6 inch diameter standard galvanized steel pipe. Post length shall be as detailed to project 4’ – 0” above grade or as shown. After fabrication bollards shall be chemically treated for paint adhesion and be given a shop coat of primer. Portion of bollard set in concrete below grade shall be coated with asphaltic paint. Fill with concrete and form crown on top to permit water run-off.

O. Primer used to touch up galvanized surfaces shall be manufacturer's standard or similar to ZRC Chemical Products Company of Quincy, Massachusetts, ZRC Cold Galvanizing Compound.

PART 3 EXECUTION

3.01 WORKMANSHIP

A. Metal work shall be well formed to shape and size with sharp lines, angles, and arises. Shearing and punching shall leave clean, true lines and surfaces. Thickness of metal, details of metal, details of assembly and support shall give ample strength and stiffness for the intended purpose.

B. Conceal fastenings where practicable. Form joints exposed to weather to exclude water. For permanent connections use welds where possible. Welds exposed to view shall be ground and dressed smooth. Provide lugs, clips, anchors and miscellaneous fastenings necessary for complete assembly and installation. Miter corners and angles of exposed moldings and frames.

C. Grout frames, plates, sills, bolts and similar items with non-shrink grout as specified in Section 04 2000. Set railings and similar items shown or required to set in sleeves or cans with molten lead or quick setting anchor cement.

D. Make trim in longest lengths possible, locate joints symmetrically. Fit adjacent pieces with hairline joints and aligned surfaces. Space exposed screws evenly and symmetrically.

3.02 PREPARATION FOR MISCELLANEOUS ITEMS

A. Furnish setting drawings, diagrams, templates, instructions and directions for installation of anchorages, such as concrete inserts, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete construction. Coordinate delivery of such items to project site.

3.03 SETTING LOOSE PLATES

A. Clean concrete bearing surfaces to any bond-reducing material and roughen to improve bond to surfaces. Clean the bottom surface of bearing plates. Set loose leveling and bearing plates on wedges or other adjustable devices. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shims; but if protruding, cut off flush with the edge of the bearing plate before packing with grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.04 FASTENING TO IN-PLACE CONSTRUCTION

A. Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction including threaded fasteners for concrete inserts, toggle bolts, through-bolts, lag bolts, wood screws and other connectors as required.

3.05 CUTTING, FITTING AND PLACEMENT

A. Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set work accurately in location, alignment and elevation, and make plumb, level, true and free from rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items which are to be built into concrete or similar construction. Fit exposed connections accurately together to form tight hairline joints Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.

3.06 FIELD WELDING

A. Comply with AWS code for procedures of manual shielded metal-arc welding, appearance and quality of weld made, and methods in correcting welding work.

3.07 PIPE BOLLARDS

A. Shall be set with 4’ – 0” projecting above grade or as shown on the Drawings. Set posts in round concrete filled postholes as shown on drawings.

3.08 SLEEVES

A. Shall be installed proper location prior to the placing of concrete. Set sleeves at proper elevations, spread hairpin anchors and tie into place. Sleeves are not to be elevated with any material foreign to that used in normal concrete placement. Prior to concrete placement pack all sleeves with paper or cloth wadding. Final installation shall leave sleeves flush with top of the concrete and in true vertical position. Wadding is to remain in the sleeves until posts are set.

3.09 PAINTING AND PROTECTIVE COATING

A. All ferrous metal, except stainless steel and galvanized surfaces, shall be properly cleaned and given one shop coat of Zinc Rich primer. Anchors that are built into masonry shall be coated with asphalt paint unless specified to be galvanized. Metal work to be encased in concrete shall be left unpainted unless specified or noted otherwise. Where hot-dip galvanized or zinc-coated metal is specified or shown, it shall not be shop-primed unless specifically required.

B. Hot-dip galvanizing or zinc coatings applied on products fabricated from rolled, pressed, and forged steel shapes, plates , bars and strips shall comply with ASTM Specification A 123. Hot-dip galvanizing or zinc coatings on assembled steel products shall comply with ASTM Specification A 386. Galvanized surfaces for which a coat of paint is specified shall be chemically treated to provide a bond for the paint. Except for bolts and nuts, all galvanizing shall be done after fabrication.

3.10 TOLERANCES FOR EXPOSED WORK

A. Machine filed and shop assembled mechanical joints shall fit within 1/32". Install free-standing items to 1/4" of correct position. Items enclosed or recessed in finished surfaces shall be centered in openings unless detailed otherwise. Sizes of each element of an assembly shall be correct within 1/8". Total size of an enclosed assembly shall be correct within 1/4" clear of opening and not more than 1/8" all around. Total size of a free-standing assembly shall be correct within 1/2". No part of the hole shall show around screws or bolts, and no extra or unused holes shall show on faces of item.

3.11 PROTECTION AND TOUCH-UP PAINTING

A. Protect miscellaneous metal items from damage until building is turned over to Owner. Immediately after erection, clean field welds, bolted connections and abraded areas of shop paint, and paint exposed areas with same material and thickness used for shop painting. Remove all rust before repriming. Where touch-up is required, sand or steel wool primer coat to feather edge and brush out touch-up to provide a smooth finish surface ready for job painting.

3.12 CLEANING

A. Before final inspection, remove all protective maskings and coverings and clean exposed surfaces of foreign matter. Clean to remove dirt, stains, soil marks and other matter. Aluminum shall be cleaned with plain water containing a mild soap or detergent, or white gasoline, kerosene or distillate. No abrasive agent shall be used on aluminum. At the completion of this work, remove from the site all excess materials and debris. Leave entire work area in a neat and workmanlike condition ready for final inspection.

END OF SECTION

PART 1 - GENERAL

1.01 Requirements: Applicable provisions of Division 0 and Division 1 govern all work specified in this Section.

1.02 Section Includes:

A. Non-structural dimension lumber framing.

B. Preservative treated wood materials.

C Fire retardant treated wood materials.

D. Miscellaneous framing and sheathing.

E. Communications and electrical room mounting boards.

F. Concealed wood blocking, nailers, and supports.

G. Miscellaneous wood nailers, furring, and grounds.

1.03 Reference Standards:

A. ANSI A208.1 - American National Standard for Particleboard; 2009.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

D. ASTM D2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010.

E. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.

F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

G. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2014.

H. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.

I. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers; ICC Evaluation Service, Inc; 2013.

J. PS 1 - Structural Plywood; 2009.

K. PS 20 - American Softwood Lumber Standard; 2010.

L. SPIB (GR) - Grading Rules; 2014.

PART 2 - PRODUCTS

2.01 Material:

A. Lumber Blocking: Southern Pine fire retardant, Utility Grade or better. The sizes of the lumber blocking shall be as indicated on the Drawings.

B. Interior Plywood: American Plywood Association, C-D Plugged Interior fire retardant. The thickness of the plywood shall be as indicated on the Drawings.

2.02 Wood Treatment:

A. Against Flammability: In accordance with ASTM D2898-81 and shall have a flame spread of 25 or less when tested in accordance with ASTM E84-84, Test Method for Surface Burning Characteristics of Building Materials. All fire retardant treated lumber and plywood shall bear a performance identification or certification label of Underwriters Laboratories or Nationwide

Consumer Testing Institute as required by national or regional standards for fire retardant treated lumber.

B. Moisture Content:

1. Lumber: Kiln dried to 19% maximum.
2. Plywood: Kiln dried to 15% maximum.

2.03 Furnish all rough hardware, such as specified in Section 055000 - Metal Fabrication, and as shown on the Drawings and as may be required for completed installations.

PART 3 - EXECUTION

3.01 All framing, blocking, grounds, screeds, etc., shall be cleanly cut and securely fastened by appropriate means and according to industry standards.

3.02 Install fire retardant wood blocking or plywood reinforcing in or upon all drywall partitions that will receive counter tops, cabinets, or other miscellaneous items supported from partitions such as toilet accessories, mirrors, etc., or as indicated on the Drawings.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shelving units

B. Countertops.

1.02 REFERENCE STANDARDS

A. ANSI A135.4 - American National Standard for Basic Hardboard; 2012.

B. ANSI A208.1 - American National Standard for Particleboard; 2009.

C. ANSI A208.2 - American National Standard for Medium Density Fiberboard for Interior Use; 2009.

D. AWI (QCP) - Quality Certification Program; current edition at www.awiqcp.org.

E. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

F. AWMAC (GIS) - Guarantee and Inspection Services Program; current edition at www.awmac.com/gis.php.

G. BHMA A156.9 - American National Standard for Cabinet Hardware; 2010.

H. GSA CID A-A-1936 - Adhesive, Contact, Neoprene Rubber; Revision A, 1996.

I. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; 2009.

J. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

K. NHLA G-101 - Rules for the Measurement & Inspection of Hardwood & Cypress; 2011.

L. PS 1 - Structural Plywood; 2009.

M. PS 20 - American Softwood Lumber Standard; 2010.

N. WI (CCP) - Certified Compliance Program (CCP); current edition at www.woodworkinstitute.com/certification.

O. WI (MCP) - Monitored Compliance Program (MCP); current edition at www.woodworkinstitute.com/certification.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's product data for each product and process specified as work of this section and incorporated into items of architectural woodwork during fabrication, finishing and installation.

B. Samples: Submit the following samples:
   1. Plastic laminate, for each type, color, pattern and surface finish.

C. Shop Drawings: Submit shop drawings for casework showing plans, elevations, ends cross-sections, service run spaces, location and type of service fixtures with lines thereto. Show details and locations of anchorage and fitting to floors, walls and base. Include layout of units with relation to surrounding walls, doors, windows and other building components. Coordinate shop drawings with other work involved.

D. Manufacturer shall field verify all dimensions.

1.04 QUALITY ASSURANCE

A. AWI Quality Standard: Comply with applicable requirements of “Architectural Woodwork Quality Standards” published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.

B. Installers Qualifications: Arrange for installation of architectural woodwork by a firm which can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this project

1.05 DELIVERY, STORAGE AND HANDLING

A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.

B. Do not deliver woodwork, until painting, wet work, grinding, and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, woodwork must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Laminates:
1. Formica
2. Or approved equal.

B. Hardware
1. Doug Mockett (grommets), Manhattan Beach, CA
2. US Futuba (countertop brackets)

2.02 FABRICATION, GENERAL

A. Wood Moisture Content Comply with requirements of referenced quality standard for moisture content of lumber at time of fabrication and for relative humidity conditions in the installation areas.

B. Fabricate woodwork to dimensions, profiles, and details indicated with openings and mortises precut, where possible, to receive hardware and other items and work.
1. Ease edges to a 1/16" radius, for corners of cabinets and edges of solid wood (lumber) members less that 1" in nominal thickness, 1/8" radius for edges of rails and similar members over 1" in nominal thickness.

C. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming and fitting.

D. Pre-Cut Openings: Fabricate architectural woodwork with pre-cut openings, where possible, to receive hardware, appliances, plumbing fixtures, electrical work and similar items. Locate openings accurately and use templates or roughing-in diagrams for proper size and shape. Smooth edges of cutouts and, where located in countertops and similar exposures seal edges of cutouts with a water-resistant coating.

E. Measurements: Before proceeding with fabrication of woodwork required to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit.
1. Where sequence of measuring substrates before fabrication would delay the project, proceed with fabrication (without field measurements) and provide ample borders and edges to allow for subsequent scribing and trimming of woodwork for accurate fit.

2.03 ARCHITECTURAL LAMINATE CLAD WALL PANELS AND COUNTERTOP

A. Quality Standard: Comply with AWI Section 400 and its Division 400B.

B. Laminate Clad Wall Panels: Comply with the following:
1. Component parts shall be manufactured from 3/4" MDF.
2. Laminate Cladding: High pressure decorative laminate complying with NEMA LD 3 and as follows:
a. Color and Finish Selection to be selected from manufacturer’s standard colors.

C. Laminate Clad Countertop: 1.25” MDF
1. Laminate Cladding: High Pressure Decorative Laminate complying with NEMA LD3.
a. Color Selection to be selected from manufacturer’s standard colors.
2. Edge Trim: Rubber tongue in groove.

D. Grade: Custom.

E. Style of Construction: As indicated.

F. Laminate Grade for Exposed Surfaces: Provide laminate cladding complying with the following requirements for type of surface and grade:
   1. Vertical Surfaces: GP-50 (0.050" nominal thickness).
   2. Edges: as indicated on drawings.

G. Quality Standard: Comply with AWI Section 500 and its Division 500A.

H. Exposed finish:
   1. All exposed edged and exterior surfaces shall be laminated with high-pressure plastic laminate, bonded with contact adhesive/cement, unless indicated otherwise.

I. Fasteners and Anchors:
   1. Screws: Select material, type, sizes and finish required for each use. Comply with FS FF-S111 for applicable requirement
   2. Anchors: Select material, type, sizes and finish required by each substrate for secure anchorage. Provide non-ferrous metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion-resistance.
   3. All fasteners shall be concealed except as noted on drawings.

J. Counter Top Supports:
   1. US Futuba, Inc., 24” x 18” with ¼” mounting holes, black in color.

PART 3 EXECUTION

3.01 PREPARATION

A. Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.

B. Prior to installation of architectural woodwork, examine shop-fabricated work for completion, and complete work as required, including back priming and removal of packing.

3.02 INSTALLATION

A. Install woodwork plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-O" for plumb and level (including tops); and with no variation in flushness of adjoining surfaces.

B. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

C. Anchor woodwork to anchors or blocking built-in or directly attached to substrates. Secure grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fastener heads are required, use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork, and matching final finish where transparent finish is indicated.

D. Cabinets: Install without distortion so that doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated. Maintain veneer sequence matching (if any) of cabinets with transparent finish.

E. Tops: Anchor securely to base units and other support systems as indicated.

F. Wall mounted shelf standards to anchor to blocking built-in or directly attached to substrate.

3.03 ADJUSTMENT, CLEANING AND PROTECTION

A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

B. Clean and adjust hardware.

C. Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

D. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing of concealed surfaces and similar preparations for finishing of architectural woodwork, as applicable to each unit of work.

E. Refer to Division-9 sections for finishing of installed architectural woodwork.

F. Provide final protection and maintain conditions, in a manner acceptable to Fabricator and Installer, which ensures architectural woodwork being without damage or deterioration at time of Substantial Completion.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Countertops for architectural cabinetwork.

1.02 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard; 2009.

B. ANSI A208.2 - American National Standard for Medium Density Fiberboard for Interior Use; 2009.

C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

D. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2014.

E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

F. AWI (QCP) - Quality Certification Program; current edition at www.awiqcp.org.

G. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

H. AWMAC (GIS) - Guarantee and Inspection Services Program; current edition at www.awmac.com/gis.php.

I. IAPMO Z124 - Plastic Plumbing Fixtures; 2012.

J. ISFA 2-01 - Classification and Standards for Solid Surfacing Material; 2013.

K. ISFA 3-01 - Classification and Standards for Quartz Surfacing Material; 2013.

L. MIA (DSDM) - Dimensional Stone Design Manual; VII, 2007.

M. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

N. PS 1 - Structural Plywood; 2009.

O. WI (CCP) - Certified Compliance Program (CCP); current edition at www.woodworkinstitute.com/certification.

P. WI (MCP) - Monitored Compliance Program (MCP); current edition at www.woodworkinstitute.com/certification.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

C. Shop Drawings: Complete details of materials and installation; combine with shop drawings of cabinets and casework specified in other sections. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, waste receptacles, and other items installed in solid surface.

D. Verification Samples: For each finish product specified, minimum size 6 inches square, representing actual product, color, and patterns.

E. Test Reports: Chemical resistance testing, showing compliance with specified requirements.

F. Installation Instructions: Manufacturer's installation instructions and recommendations.

G. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Same fabricator as for cabinets on which tops are to be installed.

B. Installer Qualifications: Fabricator.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver components to project site until areas are ready for installation.

B. Store products in manufacturer's unopened packaging until ready for installation.

C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.06 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.07 WARRANTY

A. Provide manufacturer's 10 year warranty against defects in solid surface materials.
   1. Warranty shall provide material to repair or replace defective materials.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Acceptable products: Durasein® by Relang International LLC, 7030 Quad Avenue, Suite 3, Rosedale, MD 21237.
Phone: +1 866 509 6494
Fax: +1 443 545 8500
Email: info@duraseinusa.com
Website: www.duraseinusa.com

2.02 MATERIALS

A. Acceptable products: Durasein® by Relang International LLC, Rosedale, Maryland or equal.

B. Material: Cast, mineral-filled, homogeneous, non-porous, decorative surface alloy, comprised of 100% acrylic resin components.

C. Physical Performance: Manufacturer shall certify that the solid surface material meets or exceeds the following properties in accordance with ISFA 2-01 (2013):

Performance Properties:

Performance Properties of Solid Surface	**All Types**	**Test Method**
Fungal Resistance*	No Growth	ASTM G 21-09
Consistency of Color*	Pass	ISFA SST 2.1-00
Cleanability/Stain Resistance*	≤ 52	ISFA SST 3.1-00
Visual Defects*	Pass	ISFA SST 5.1-00
Light Resistance *	No Effect	ISFA SST 7.1-00
Boiling Water Resistance**	No Effect	ISFA SST 8.1-00
High Temperature Resistance**	No Effect	ISFA SST 9.1-00

Engineering Properties:

Engineering Properties	Standard Type	Test Method
Radiant Heat Resistance	600+ Seconds	NEMA LD 3-3.10
Linear Thermal Expansion mm./mm./°C	≤ 5.40 x 10^{-5} mm./mm. °C (3.00 x 10^{-5} in./in.°F)	ASTM E 228-11 α_m -30 to 60 °C (-22 to 140 °F)
Flexural Strength	≥27.58 Mpa (4000 psi)	ASTM D 790-10
Flexural Modulus	≥ 6895 Mpa (1.00 Mpsi)	ASTM D 790-10
Hardness, Barcol	50 – 70	ASTM D 2583-13a
Flatness of Sheets	≤1.6 mm (0.063 in.)	ISFA SST 4.1-00
Impact Resistance	Pass at 1525 mm. (60 in.)	ISFA SST 6.1-00

D. Repairability: The solid surface material shall be able to be repaired after incidental damage from cigarette burns, scratches, minor cuts and other similar damage, restoring the surface to its original appearance.

E. Surface Burning Characteristics: Flame spread and smoke developed shall be classified according to ASTM E84 (UL 723), Test for Surface Burning Characteristics of Building Materials, as Class I rated.

F. Stain Resistance: The solid surface material shall exhibit no lasting effect (except as noted), when tested by NEMA LD3-3.09, from the following:

Solvents: Methanol, Carbon Tetrachloride, Ethanol, Gasoline.
Acids: Acetic (99.5%), Hydrochloric (37%)[1], Phosphoric (85%), Sulfuric (77%)[2].
Alkalies: Sodium Hydroxide (40%)[1], Ammonium Hydroxide.
Other: Ammonia (1%), Lye (1%), Urea (5%), Vinegar, Lipstick, Coffee, Nail Polish Remover.

[1] May cause slight lightening.
[2] May cause slight darkening.

G. Finish: Surface finish shall be manufacturer's standard matte finish gloss level 5-18 for solid colors and 15-20 for patterns when measured in accordance with NEMA LD3-3.15.

2.03 ACCESSORY PRODUCTS

A. Adhesives:
1. Flexible adhesive shall be 100% silicone and shall be matched to DURASEIN® sheet color.
2. Solid surface seam adhesive shall be matched to DURASEIN® sheet color and shall be specified by the fabricator.

B. Hot melt glue for temporarily adhering solid surface fabrications to substrate shall be as approved by primary solid surface manufacturer.

2.04 FACTORY FABRICATION

A. Horizontal Fabrications:
1. Wall Cap: 3/4" thick, Durasein® by Relang International LLC, to size and shape, and with edge details as indicated on the drawings. Provide wall caps with inconspicuous joints using appropriate seam adhesive. Surfaces shall not be affected by Class I reagents.

Color: as selected from manufacturer standard colors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.02 PREPARATION

A. Observe all recommended and required safety precautions including, but not limited to, hard hat, safety shoes, eye protection, hearing protection, skin protection and adequate ventilation.

B. Maintain clean work surfaces during seaming and other joint work. Clean sheet edges to be seamed with denatured alcohol prior to seaming.

C. Fabricate and install work at temperatures above sixty-five (65o) degrees F.

D. Examine site conditions & substrates to assure that they comply with manufacturer's recommendations

3.03 INSTALLATION

A. Prepare substrate plane, plumb and level, secure in place with all fasteners set flush. Shim supporting structure as required to provide an acceptable surface for attaching finish materials.

B. Follow all manufacturer's recommendations for fabrication and installation of solid surface.

C. Install components plane, plumb and level, in accordance with approved shop drawings and product data.

D. Pre-fit finish material in place. Scribe material as required to provide proper fit with adjacent materials.

E. Provide additional support for material seams in both horizontal and vertical locations.

F. Form field joints using manufacturer's recommended adhesive, with inconspicuous joints in finished work.

G. Prior to installing solid surface fabrication, make sure that substrate is clean and dry. Place silicone "dabs" on substrate in accordance with manufacturer's recommendations.

H. Provide backsplashes and sidesplashes as indicated on the drawings. Adhere backsplashes and sidesplashes to countertops using manufacturer's recommended color matched flexible adhesive.

I. Keep components and hands clean during installation. Remove adhesives, sealants and other stains from the work as they occur.

J. During installation, protect surfaces of solid surface fabrications from damage until all components have been installed.

3.04 TOLERANCES

A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.

B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.

C. Field Joints: 1/8 inch wide, maximum.

3.05 REPAIRS

A. Repair or replace damaged work which cannot be repaired to architect's satisfaction.

B. Promptly remove from the job site damaged work which cannot be repaired to architect's satisfaction.

3.06 CLEANING AND PROTECTION

A. After installation, all surfaces shall be cleaned to remove adhesives, sealants, paint and other contaminants.

B. After cleaning, all work shall be protected against damage until it is accepted by the General Contractor until the Date of Substantial Completion. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Sprayed cellulose thermal insulation.

B. Sprayed cellulose acoustical insulation.

1.02 RELATED ITEMS

A. Clips, hangers, supports, sleeves and other attachments to spray bases are to be placed by other trades prior to the application of sprayed insulation.

B. Ducts, piping, conduit or other suspended equipment shall not be positioned until after the application of sprayed insulation.

C. Roof penetrations to be installed prior to application.

1.03 QUALITY ASSURANCE

A. Manufacturer must have a current Underwriters Laboratories (UL) Code Evaluation Report.

B. Manufacturer must be in compliance with the 2009 and 2012 International Building Code.

C. Manufacturer must be ISO 9001:2015 Certified.

D. Applicator: Licensed by manufacturer.

E. Manufacturer must subscribe to independent laboratory follow-up inspection services of Underwriters Laboratories and Factory Mutual. Each bag shall be labeled accordingly.

F. Mock-up: Apply a 100 square foot representative sample to be reviewed by the Architect and/or Owner prior to proceeding.

1.04 SUBMITTALS

A. Submit product data that the product meets or exceeds the following specified requirements.
   1. Bond strength shall be greater than 100 psf per ASTM E 736.
   2. Product shall be Class 1 Class A per ASTM E 84/ UL 723.
   3. Non-corrosive per ASTM C 739.
   4. Bond Deflection per ASTM E 759: 6” Deflection in 10’ Span – No Spalling or Delamination.
   5. R-Value to be 3.75 per inch per ASTM C 518.
   6. Comply with 2009 IBC Section 803.10 stability requirements for interior finishes.
   7. Meet ASTM C 1149

B. Manufacturer's written certification that product contains no asbestos, fiberglass or other man-made mineral fibers.

C. Copy of manufacturer’s ISO 9001:2015 Certification.

D. Minimum Fiber Recycled Content to be 75%.

E. Cannot contain any added Urea-Formaldehyde Resins.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver in original, unopened containers bearing name of manufacturer, product identification and reference to U.L. testing.

B. Store materials dry, off ground, and under cover.

C. Protect liquid adhesive from freezing.

D. Water to be potable.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. International Cellulose Corporation
12315 Robin Boulevard
Houston, Texas 77045
(713) 433-6701 or (800) 444-1252
FAX: (713) 433-2029
www.spray-on.com icc@spray-on.com

B. For approved applicators contact ICC at 800-444-1252.

2.02 MATERIALS

A. K-13 Spray-On-Systems.
1. Color shall be from Manufacturer's standard color chart.
2. Comply with local Building Code requirements.
3. Material to have been tested in accordance with ASTM E 1042. Testing laboratory must be NVLAP accredited.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine surfaces and report unsatisfactory conditions in writing. Do not proceed until unsatisfactory conditions are corrected.

B. Verify surfaces to receive spray insulation to determine if priming/sealing is required to insure bonding and/or to prevent discoloration caused by migratory stains.

3.02 PREPARATION

A. Provide masking, drop cloths or other satisfactory coverings for materials/surfaces that are not to receive insulation to protect from over-spray.

B. Coordinate installation of the sprayed cellulose fiber with work of other trades.

C. Prime surfaces as required by manufacturer's instructions or as determined by examination.

3.03 INSTALLATION

A. Install spray applied insulation according to manufacturer's recommendations.

B. Install spray applied insulation to achieve an average NRC of 0.90.

K-13 Sprayed Thermal and Acoustical Insulation ASTM C-423 on Solid Backing							
Inches	125 HZ	250 HZ	500 HZ	1000 HZ	2000 HZ	4000 HZ	NRC
1"	0.11	0.32	0.84	0.99	1.01	0.98	0.80
1.75"	0.30	0.74	1.14	1.06	0.99	0.98	1.00
2"	0.47	0.90	1.06	1.06	1.08	1.07	1.00
3"	0.57	0.99	1.04	1.03	1.00	0.98	1.00
4"	0.84	1.06	1.01	1.03	1.00	0.98	1.05
5"	0.99	0.89	1.05	1.03	1.00	1.00	1.00

D. Cure insulation with continuous natural or mechanical ventilation.

E. Remove and dispose of over-spray.

3.04 PROTECTION

A. Protect finished installation under provision of Division 1.

END OF SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnishing of and paying for all labor, services, appliances, materials and equipment necessary for execution, installation and completing of all work specified herein and as shown on drawings.

B. Section includes:
   1. Framing system.
   2. Metal furring channels, clips, angles, etc. as required to complete this work.
   3. Gypsum wallboard.
   4. Installation of various devices required within this work for use of others. Devices shall be furnished and accurately located with erection drawings by using section. Install as required for maximum rigidity.
   5. Complete installation of access panels furnished by other sections, as required for access to their work.
   6. Taping, mudding, sanding and finishing of all gypsum board ceilings.
   7. Trim accessories, polyurethane foam tape gaskets and caulking used within these systems.
   8. Anchors, nails, devices and accessories required to install complete all gypsum materials specified herein.
   9. Repair, replacement and patching of existing gypsum board walls, ceilings, etc. where existing is disturbed by this contract.

1.02 REFERENCES

A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2012.

B. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 2010 (Revised).

C. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2010).

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

E. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

F. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2012.

G. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

H. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2014).

I. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 2003 (Reapproved 2009).

J. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.

K. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

L. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.

M. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

N. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.

O. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.

P. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.

Q. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2013.

R. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2013.

S. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel; 2007a (Reapproved 2011).

T. ASTM C1280 - Standard Specification for Application of Gypsum Sheathing Board; 2013.

U. ASTM C1288 - Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets; 2014.

V. ASTM C1325 - Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units; 2014.

W. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

X. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2015.

Y. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2013.

Z. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.

AA. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

AB. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.

AC. ASTM E413 - Classification for Rating Sound Insulation; 2010. AD. GA-216 - Application and Finishing of Gypsum Board; 2013.

AE. GA-224 - Installation of Predecorated Gypsum Board; Gypsum Association; 2008.

AF. GA-226 - Application of Gypsum Board to Form Curved Surfaces; Gypsum Association; 2008.

AG. GA-600 - Fire Resistance Design Manual; 2015.

AH. ICC (IBC) - International Building Code; 2015.

AI. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers; ICC Evaluation Service, Inc; 2013. AJ. UL 752 - Standard for Bullet-Resisting Equipment; Current Edition, Including All Revisions.

AK. UL (FRD) - Fire Resistance Directory; current edition.

1.03 SUBMITTALS

A. Submit under provisions of Section 013000.

B. Product Data:
   1. Framing: Provide data describing standard framing member material and finish, product criteria, load charts and limitations.
   2. Gypsum Board System: Product data on gypsum board, joint material, sound attenuation and fire blankets, firesafing insulation, acoustical sealant, joint material, gypsum finishing accessories, gaskets.

1.04 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 017200.

B. Submittals

1.05 QUALITY ASSURANCE

A. Work under this section will be done in accord with the recommendation of USG "Drywall" Construction Handbook, latest edition, unless otherwise specified herein,

1.06 QUALIFICATIONS

A. Applicator shall have a minimum of three years experience in the installation of gypsum board systems.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle product to site under provisions of Section 016000.

B. Delivery and Handling:
   1. Deliver materials to the project site with manufacturer's labels intact and legible.
   2. Handle materials with care to prevent damage.
   3. Deliver fire rated materials bearing testing agency label and required fire classification numbers.

C. Storage:
1. Store materials inside under cover; stack flat, off floor.
2. Stack wallboard so that long lengths are not over short lengths.
3. Avoid overloading floor system.
4. Store adhesives in dry area, provide protection against freezing at all times.

1.08 ENVIRONMENTAL CONDITIONS

A. Temperature: During cold weather, in areas receiving wallboard installation, maintain temperature range between 55 degrees F to 70 degrees F for 24 hours before, during and after gypsum wallboard and joint treatment application.

B. Ventilation:
1. Provide ventilation during and following adhesives and joint treatment applications.
2. Use temporary air circulators in enclosed areas lacking natural ventilation.
3. Under slow drying conditions, allow additional drying time between coats of joint treatment.
4. Protect installed materials from drafts during hot, dry weather.

C. Protection: Protect adjacent surfaces against damage and stains.

1.09 COORDINATION

A. Coordinate work under provisions of Section 013900.

PART 2 PRODUCTS

2.01 MANUFACTURERS - FRAMING MATERIAL

A. United States Gypsum Company

B. Other acceptable manufacturers:
1. Southwest Metals, Inc., Carrollton, Texas
2. Dietrich Industries, Inc., Pittsburgh, Pennsylvania
3. Harrison Manufacturing Company, Memphis, Tennessee

C. Substitution: Under provisions of Section 016000.

2.02 FRAMING MATERIAL (INTERIOR WALLS)

A. Interior Drywall Studs and Accessories:
Galavanized with sizes and type as indicated on drawings.

B. Interior Stage, Platform and Stair Framing:
Galvanized with sizes and type as indicated on the drawings.

2.03 FRAMING ACCESSORIES

A. Furring and Bracing Members: Of same material as studs, thickness to suit purpose.

B. Screws and Fasteners:
1. USG 5/8 inch Super Tite II pan head screws for attaching metal studs to metal runners.
2. All others per manufacturer's instructions and as indicated on drawings.
3. Powder actuated fastener, such as nails, eye pin hangers, etc. as indicated on drawings.

C. Miscellaneous angles, expansion bellows, channels, attachment devices, girders, braces, etc. to be standard USG galvanized or as recommended or required for secure rigid attachment of condition encountered in strict accord with the latest USG Drywall installation manual.

D. Primer: FSTT-P-645, for touchup of galvanized surfaces.

2.04 FINISHES - FRAMING MATERIAL

A. Studs and Runners: Galvanize to G-60 coating class meeting the requirements of ASTM A446.

B. Accessories: Same finish as framing members or meeting ASTM A123 Hot-Dip Galvanized to 1.25 oz/sq. ft.

2.05 MANUFACTURER - GYPSUM BOARD MATERIAL

A. United States Gypsum Company

B. Other acceptable manufacturer: Georgia Pacific Corporation

C. Substitution: Under provisions of Section 016000.

2.06 GYPSUM BOARD MATERIAL

A. Standard Gypsum Board: 5/8 inch USG “Sheetrock” meeting, ASTM C36, maximum permissible length, ends square cut, tapered edges. (Used in all wall construction requiring non-labeled construction as shown on the drawings.)

2.07 ACCESSORIES

A. Acoustical Sealant: USG Sheetrock Acoustical Sealant meeting requirements of ASTM C557, complies with ASTM C919. Provide W.R. Sealant where mold resistant gypsum board occurs.

B. Joint Material:
1. Joint Compounds: USG brand, type as recommended for the intended use.
   a. Sheetrock Setting-Type or Lightweight Setting-Type Joint Compound (20, 45, 90, 210, 300).
   b. Sheetrock Joint Compound (Taping, Topping, All Purpose).
   c. Sheetrock Ready-Mixed Joint Compound (Taping, Topping, All Purpose).
   d. Sheetrock Lightweight All Purpose Joint Compound Ready-Mixed (Plus 3).
2. Joint Tape: USG Sheetrock Joint Tape
3. All material for fire rated assembly shall conform to UL Design requirements.

C. All adhesives: As recommended by the manufacturer.

D. Finishing Accessories:
1. Casing Bead: No. 200A Steel Series.
2. Corner Beads: No. 101 Steel Dur-A-Bead.
3. Taping: USG Perf-A-Tape System.
4. Expansion Control: USG 093 in strict accord with manufacturer's instructions.
5. Miscellaneous closure members, wall molds, edge strips, where as shown on drawings or required to be equivalent to "Fry Reglet Corp."

E. Fasteners: Conforming to ASTM C1002. USG 1 inch Super-Tite Drillers for one layer of 5/8 inch gypsum board. 1-5/8 inch Super-Tite Drillers for two layers.

F. Gaskets:
1. To be polyurethane foam tape 1/8 inch thick x 2 inches wide continuous at all ceilings where gypsum partitions abut the ceiling or other materials as may be encountered.
2. To be polyurethane foam tape 1/4 inch thick x 3/4 inch wide continuous where gypsum partitions abut exterior wall.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that site conditions are ready to receive work.

B. Verify that rough-in utilities are in proper location.

C. Verify that building components are ready to receive work.

D. Beginning of installation means acceptance of substrate.

3.02 GYPSUM BOARD INSTALLATION

A. Position all ends and edges of all gypsum panels over framing members, except when joints are at right angles to framing members as in perpendicular application or when end joints are back-blocked.

B. Apply gypsum panels first to the ceiling (where scheduled) and then to the vertical walls. Extend ceiling board into corners and make firm contact with top plate. To minimize end joints, use panels of maximum practical lengths. Fit ends and edges closely, but not forced together. Stagger end joints in successive courses with joints on opposite sides of a partition placed on different studs.

C. Install gypsum board vertically in full sheets where possible. No short patch or scrap pieces will be permitted. Keep joints to a minimum. All joints must occur over a support. Avoid screw heads projecting outward thereby forcing misalignment or waves in gypsum surface.

D. Cut gypsum panels a minimum 1/4 inch shorter than the height required with 1/4 inch gap at floor for acoustical caulking. Use 1/4 inch thick shims at the floor to support panels until all screws are installed.

E. Attach panels to framing supports (Power Driven USG Screws). Space fasteners not less than 3/8 inch from edges and ends of panels and drive as recommended for specified fastening method. Drive fasteners in field of panels first, working toward ends and edges. Hold panel in firm contact with framing while driving fasteners. Drive fastener heads slightly below surface of gypsum panels in a uniform dimple without breaking face paper.

F. Cut ends, edges, scribe or make cutouts within field of panels in a workmanlike manner.

G. Trim Members:
1. Install casing beads where gypsum board abuts dissimilar materials.
2. Install corner beads on all exterior corners.
3. Tape all interior corners.

4. Tape joints and finish where new gypsum partitions abut or appear as a continuation of existing gypsum partitions.
5. Install expansion joints in accord with manufacturer's instructions.

H. Bind all edges abutting material other than gypsum board with casing bead.

I. Install double layers of gypsum board where required and shown on the drawings for the walls indicated in full accord with the manufacturer's instructions.

J. Caulk floor, wall and ceiling perimeter as required to fire and acoustical requirements with acoustical caulking.

3.05 JOINT TREATMENT APPLICATION (INTERIOR)

A. Align all partitions accurately as shown on the drawings. Shape floor and ceiling runners as detailed on the drawings.

B. Install J-Runners to structural members with the short leg toward finish side of wall with power driven fasteners at 16 inches o.c. maximum. Embed runner in a continuous bead of caulking.

C. Cut liner panels 1 inch less than floor-to-ceiling height and erect vertically between J-Runners. Where shaft walls exceed minimum available panel height, position liner panel end joints with upper and lower third points of wall. Stagger joints top and bottom in adjacent panels and reinforce end joints with horizontal C-H stud. Screw attach studs to runners on walls over 16 ft. high.

D. Use steel C-H studs 3/8 inch to not more than ½ less than floor-to-ceiling height, and install between liner panels with liner inserted in the groove. Install full-length steel E-Studs or J-Runners vertically at T-intersections, corners, door jambs, and columns. Install full-length E-Studs over gypsum liner panels both sides of closure panels. Frame openings cut within a liner panel with J-Runner around perimeter. For openings, frame with vertical E-Stud or J-Runner at edges, horizontal J-Runner at head and sill, and reinforcing as shown on the drawings. Suitably frame all openings to maintain structural support for wall.

3.06 JOINT TREATMENT APPLICATION (INTERIOR)

A. Mix joint compound in strict accordance with manufacturer's instructions.

B. Apply taping and embedding compound in a thin uniform layer to all joints and angles to be reinforced. Immediately apply sheetrock joint tape centered over joint and seated into compound. Follow immediately with a thin skim coat to embed tape, but not to function as a second coat. Fold and embed tape properly in all interior angles to provide a true angle. The tape or embedding coat must be thoroughly dry prior to application of second coat.

C. Apply second coat of joint compound over embedding coat filling panel taper flush with surface cover tape and feather out at least 2 inches beyond first coat. On joints with no taper, cover tape and feather out at least 4 inches on either side of tape. Allow second coat to dry thoroughly prior to application of finish coat.

D. Sand thoroughly and spread finish coat evenly over and extend at least 2 inches beyond second coat on all joints and feather to a smooth uniform finish. Over tapered edges, do not allow finished joint to protrude beyond plane of the surface. Apply a finish coat to cover tape. Apply taping compound at all taped angles and provide a true angle. Sand between coats and following the final application of compound, to provide a smooth surface ready for decoration.

E. Gypsum board material above ceilings are finished and taped, fastener depressions filled however final sanding is not required.

F. Finishing Fasteners: Apply a taping, all-purpose type compound to fastener depressions as the first coat. Follow with a minimum of two additional coats of topping or all-purpose compound, leaving all depressions level with the plane of the surface.

G. Finishing Beads and Trims:
1. Apply first coat to all bead and trim and properly feather out from ground to plane of surface. Compound must be thoroughly dry prior to application of second coat.
2. Apply second coat in same manner as first coat, extending compound slightly beyond onto face of panel. Compound must be thoroughly dry prior to application of finish coat.
3. Apply finish coat to all bead and trim, extending compound slightly beyond the second coat and properly feathering from ground to plane of surface. Sand finish coat as necessary to provide a flat smooth surface ready for decoration.

H. Apply "Surface Sealer" equal to that manufactured by USG to all gypsum surfaces within toilet room and/or wet locations. Apply sealer in accord with manufacturer's direction, after taping and finishing of all joints.

3.07 EXISTING GYPBOARD WALLS AND CEILINGS

A. Walls: Patch and repair all interior gypsum board walls as noted on drawings or disturbed by this contract to match existing construction.

B. Ceiling: Patch and repair all existing interior and/or exterior gypsum board ceilings noted on drawings or disturbed by this contract. To match existing construction using 5/8 inch gypsum board. Use USG Exterior gypsum board for exterior or moisture related applications.

3.08 TOLERANCES

A. Maximum variation from true flatness 1/8 inch in 10 feet in any direction.

B. Maximum variation of any member from plane: 1/8 inch.

3.09 CLEANING

A. Clean soiled or discolored surfaces after installation.

B. Touch up scratches, abrasions, voids and other defects in gypsum surfaces.

C. Remove and replace damaged or improperly installed material and protect for painting. Reference Section 099000.

D. Remove all debris from work site and clean up all residue from this work.

END OF SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The furnishing of and paying for all labor, materials, services, appliances and equipment necessary for execution, installation and completion of all work specified herein and as shown on drawings.

B. Section includes:
   1. Resilient finished floor tile and rubber base.
   2. Installation materials and adhesives required to complete installation of floor and base specified herein.

1.02 REFERENCES

A. ASTM D6329 - Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers; 1998 (Reapproved 2015).

B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.

C. ASTM E492 - Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine; 2009.

D. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2014c.

E. ASTM F150 - Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring; 2006 (Reapproved 2013).

F. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.

G. ASTM F970 - Standard Test Method for Static Load Limit; 2007 (Reapproved 2011).

H. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile; 2004 (Reapproved 2014).

I. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing; 2004 (Reapproved 2014).

J. ASTM F1344 - Standard Specification for Rubber Floor Tile; 2015.

K. ASTM F1700 - Standard Specification for Solid Vinyl Tile; 2013a.

L. ASTM F1859 - Standard Specification for Rubber Sheet Floor Covering Without Backing; 2014.

M. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012).

N. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing; 2004 (Reapproved 2014).

O. ASTM F2034 - Standard Specification for Sheet Linoleum Floor Covering; 2008 (Reapproved 2013).

P. ASTM F2169 - Standard Specification for Resilient Stair Treads; 2015.

Q. ASTM F2195 - Standard Specification for Linoleum Floor Tile; 2013.

R. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2015.

S. NSF 332 - Sustainability Assessment for Resilient Floor Coverings; 2012.

T. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; Resilient Floor Covering Institute; October 2011.

1.03 SUBMITTALS

A. Submit under provisions of Section 013000.

B. Product Data: Provide data on specified products describing physical and performance characteristics and sizes.

C. Samples: Submit two samples illustrating color and pattern for each material specified for color selection by Architect.

1.04 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 017200.

B. Submittals

1.05 PROJECT WARRANTIES, OPERATION AND MAINTENANCE DATA

A. Submit cleaning and maintenance data under provisions of Section 017250.

B. Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section 016000.

B. Deliver materials in original, unopened, protective packaging, with manufacturer's labels indicating brand name, pattern, size and thickness as applicable, legible and intact.

C. Do not begin installation until sufficient materials to complete a room are received.

D. Store material in a heated space and protected from the weather as recommended by the manufacturer.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Maintain the temperature of the space to receive the flooring and the materials to be installed at a minimum of 65 degrees F and maximum of 100 degrees F for at least 48 hours prior to, during, and 48 hours after installation. Maintain a minimum temperature of 55 degrees F thereafter.

1.08 EXTRA MATERIAL

A. Furnish under provisions of Section 017000.

PART 2 - PRODUCTS

2.01 MANUFACTURER AND MATERIAL - VINYL COMPOSITION TILE (VCT)

A. Basis of Design – Harlequin Floors, TV Tiles

B. Acceptable Manufacturers:
   1. Harlequin Floors
   2. Or approved equivalent

C. To be 36 inch x 36 inch x 1/8 inch thick in color and pattern through entire thickness conforming to ASTM F1066, Class 2.

D. Colors: Color to be Black

2.02 MANUFACTURER AND MATERIAL – BASE AND STAIR TREADS & RISERS

A. Basis of Design – to be Johnsonite Traditional 4” coved Rubber Wall Base, 0.125” thickness in 120’ coiled lengths meeting the requirements of ASTM F1861, Type TV and TP, Group 1, Style A and B, Standard Specification for Resilient Wall Base. Johnsonite Angle Fit Rubber Stair treads with integral riser, bamboo texture, and contrasting rubber insert.

B. Acceptable Manufacturers:
   1. Armstrong World Industries
   2. Roppe Corporation
   3. Tarkett, Inc.
   4. Or approved equivalent

C. Color: Color to be selected from manufacturer’s standard colors.

2.03 ACCESSORIES

A. Reducer Strips: 1 inch wide, rubber, tapered to meet abutting materials.

B. Subfloor Filler: White pre-mixed latex type recommended by floor material manufacturer.

C. Primers and Adhesives: As recommended by manufacturer of flooring material, for surface and use conditions required and to comply with manufacturer warranty requirements.

D. Sealer and Wax: NONE.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Surfaces to receive resilient flooring to be free from irregularities and level to within 1/8 inch in 10 feet. Reference Section 033000.

B. Allowable tolerance of finished flooring system: Level within 1/8 inch in 10 ft (non-accumulating).

C. Examine surfaces scheduled to receive flooring, stair treads and base for unevenness, irregularities and dampness that would affect quality and execution of work.

D. Areas to which floor and base units will be cemented must be free of oils, form residue or materials that will affect bond capabilities of adhesive.

E. Beginning of installation means acceptance of substrate and site conditions.

3.02 PREPARATION

A. Fill all cracks, etc., in sub-floor where required with vinyl floor patch and trowel smooth. Apply vinyl as recommended by manufacturer.

B. Existing tongue & groove wood floor shall be sanded smooth to remove existing paint finish and level as required by new flooring manufacturer.

C. Existing sanded wood floor and new tongue & groove wood floor are to be sealed with two coats of clear stain-polyurethane floor finish prior to installing new vinyl TV tiles.

3.03 INSTALLATION - FLOOR TILE

A. Install tile and base in accordance with instructions of the manufacturer.

B. Cut tile to fit accurately at joining with other material. Lay tile symmetrically about center line of rooms or spaces with tile against walls not less than 6 inches wide. Lay tile with joints tight and in true alignment. Tile against wall should be same width on each side of room and shall project through door openings for pattern continuation. TV tiles are to be loose laid in a brick pattern with perimeter tiles set with double stick tape.

C. Install rubber reducer strip at all points where resilient tile stops without abutting other material and not covered by metal edge trim.

D. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.

E. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 INSTALLATION - BASE MATERIALS

A. Install base securely, completely around walls of all space specified and around bases of permanently installed casework, millwork and equipment, making a continuous base.

B. Miter internal corners. At external corners, use premolded units. At exposed ends use premolded units.

C. Install base on solid backing. Bond tight to wall and floor surfaces.

D. Scribe and fit to door frames and other interruptions.

3.05 CLEANING AND ADJUSTING FLOOR

A. Adjusting: as recommended by the manufacturer.

B. Cleaning: Upon completion (allow 5 days after) of the installation of floor covering, adjacent work, and after materials have set, clean all surfaces thoroughly with a neutral cleaner as recommended by the manufacturer for the type of floor covering material installed, rinse thoroughly and let dry.

3.06 PROTECTION OF WORK

A. Protect finished work under provisions of Section 015000.

B. Prohibit traffic on floor finish for 48 hours after installation.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

B. Accessories.

C. Preparation of existing and new surfaces to receive flooring in strict accord with the manufacturer's written instructions. Removal of all existing floor finish material in areas to receive new flooring. See drawings for preparation requirements of existing concrete floor.

1.02 REFERENCE STANDARDS

A. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2006.

B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2008.

C. CRI (CIS) - Carpet Installation Standard; Carpet and Rug Institute; 2009.

D. CRI (GLA) - Green Label Testing Program - Approved Adhesive Products; Carpet and Rug Institute; Current Edition.

E. CRI (GLC) - Green Label Testing Program - Approved Product Categories for Carpet; Carpet and Rug Institute; Current Edition.

1.03 SUBMITTALS

A. See Section 01300 - Administrative Requirements, for submittal procedures.

B. Test Reports: Before the first delivery of carpet, submit certified copies of the test reports furnished by an independent testing laboratory, covering the minimum requirements, including flammability and static control and tuft bind as specified. Accompanying the test reports, submit a certificate of compliance, stating that future deliveries of this same quality carpet will conform to the specifications and test reports as submitted, signed by an officer of the carpet manufacturer's company. Submit and change in materials or manufacturing processes affecting the appearance of changes in specifications for approval before any change is made to the purchased product.

C. Shop Drawings: Indicate layout of joints, direction of carpet pile, and location of edge moldings.

D. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

E. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

F. Submit two, 12 inch long samples of edge strip.

G. Certification: Prior to installation of flooring, submit written certification by flooring subcontractor that condition of the sub-floor is acceptable.

H. Substrate Requirements: Submit certification signed by the flooring subcontractor that concrete substrates do not exceed manufacturer's maximum range for moisture emission and alkalinity.

I. Submit data documenting VOC content of carpet tile and adhesives; copy of current CRI Approved Products Listing is acceptable.

J. Manufacturer's Installation Instructions: Indicate special procedures.

K. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

L. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01600 - Product Requirements, for additional provisions.
   2. Additional Material:
      a. Attic Stock: Provide attic stock in the amount of 10% minimum of the total carpet quantity required for each carpet color and pattern, from the same production run, clearly labeled and marked as to carpet number (Finish Schedule), manufacturer, color and pattern. Provide attic stock in unopened cartons only. Store attic stock in an orderly manner in areas designated by the Owner.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in installing carpet with minimum three years' experience.

1.05 FIELD CONDITIONS

A. Protect materials from damage during handling, delivery and storage at the jobsite.

B. Deliver materials to Project in manufacturer's original, unopened containers, clearly marked to size, dye lot and material.

C. Store materials free of ground and cover completely to prevent intrusion of moisture or other damage.

D. Store materials in area of installation for minimum period of 24 hours prior to installation.

E. Maintain minimum 70 degrees F ambient temperature 24 hours prior to, during and 24 hours after installation.

F. Ventilate installation area during installation and for 72 hours after installation.

G. Carpet installation will occur on a floor after general construction is substantially complete, which means that the areas, except for carpet and vinyl base, are complete to the extent that the floor may be occupied or used by the Owner for the purpose for which it is intended.

1.06 WARRANTY

A. Warrant carpet materials to be free from undue wear (less than 10% during the warranty period), and for control of static electricity as specified herein in writing for a period of 10 years after completion of installation.

B. Warrant carpet installation to be free from wrinkles, bubbles, puckering or other conditions due to faulty installation for a period of 2 years after completion of installation.

C. During the warranty period, replace any carpet that does not provide an attractive appearance due to the above conditions.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Carpet Tile: Basis of Design.
   1. Product: Mannington Commercial
      Style: Scaffold
      Color: Metro 14215
      Size: 18" x 36" plank
      Backing: Infinity Modular
      Pattern: Brick Ashlar

2.02 ACCESSORIES

A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Edge Strips: Rubber, color as selected.

C. Resilient Base: As specified in Section 09660.

D. Adhesives: Acceptable to carpet tile manufacturer, compatible with materials being adhered; maximum VOC of 50 g/L; CRI Green Label certified.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive base.

C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

D. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for flooring installation by testing for moisture and pH.
   1. Test in accordance with ASTM F710.
   2. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

B. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler.

C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

D. Vacuum clean substrate.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install carpet tile in accordance with manufacturer's instructions and CRI Carpet Installation Standard.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.

F. Locate change of color or pattern between rooms under door centerline.

G. Fully adhere carpet tile to substrate.

H. Trim carpet tile neatly at walls and around interruptions.

I. Complete installation of edge strips, concealing exposed edges.

J. Apply wall base to walls, columns, pilasters, casework and cabinets in toe spaces and other permanent fixtures in rooms and areas where base is required using manufacturer's recommended adhesive.

K. Miter cut interior and exterior corners of stainless steel base. Lightly grind exterior corners to

remove burrs and sharp edges.

L. Provide finished surfaces free from defects affecting appearance and serviceability of the carpet and base.

3.04 CLEANING

A. After installation in an area is complete, remove waste and excess materials, tools and equipment, dirt and debris from the building.

B. Remove excess adhesive without damage, from floor, base and wall surfaces.

C. Clean and vacuum carpet surfaces with an upright, beater bar type vacuum cleaner and clean soiled areas of carpeting.

D. Replace carpeting that cannot be cleaned satisfactorily for acceptance by the Architect.

E. Clean stainless steel base. Remove and replace base that is damaged or scratched if required by the Architect.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The furnishing of and paying for all labor, materials, services, appliances and equipment necessary for the execution, installation, and completion of all work as specified herein and as shown on drawings.

B. Section includes:
   1. Surface preparation, painting, staining, and varnishing of all items noted herein or as shown on drawings to be painted and all items normally painted including generally, but not limited to the following:
      a. New exterior metal work. Do not paint aluminum or stainless steel, unless specifically noted to paint.
      b. New mill, galvanized, and bonderized metal.
      c. New ferrous metal work such as grilles, rails, stair rails, door frames, doors, borrowed light frames, etc. Do not paint aluminum or stainless steel unless so noted.
      d. Exposed mechanical equipment (not factory finished painted) including duct, conduit, etc., except that located in mechanical rooms or that painted under Division 23 and 26 of these specifications.
      e. New concrete and concrete block work.
      f. New gypsum board.
      g. New metal doors and frames.
      h. Other work shown, specified or normally painted.
      i. Repainting or refinishing of existing surfaces as noted on drawings and specified herein including all surfaces new or existing, damaged or soiled by work under this contract.
      j. Protection of adjacent and surrounding materials and finishes over or adjacent to which this contractor shall apply his materials. This shall include covering, cleaning, etc., as may be required to assure no damage, disfiguration or staining of adjacent or existing finishes or materials.

1.02 REFERENCES

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2014.

C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2012).

D. ASTM D4259 - Standard Practice for Abrading Concrete; 1988 (Reapproved 2012).

E. ASTM D4260 - Standard Practice for Liquid and Gelled Acid Etching of Concrete; 2005 (Reapproved 2012).

F. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

G. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition, www.paintinfo.com.

H. SSPC V1 (PM1) - Good Painting Practice: Painting Manual, Volume 1; Fourth Edition.

I. SSPC V2 (PM2) - Systems and Specifications: Steel Structures Painting Manual, Volume 2; Fourth Edition.

J. SSPC-SP 13 - Surface Preparation of Concrete; (Reaffirmed 2015); 2003.

1.03 SUBMITTALS

A. Submit under provisions of Section 013000.

B. Finish Schedule:
   1. All schedules shall be typewritten
   2. Provide Finish Schedule listing each finish by Finish Type in reference to Article 3.09 herein giving the following information:
      a. Manufacturer and type of product used
      b. Number of coats of material
      c. Luster
      d. Type of application

C. Product Data: Provide data on all finishing products and special coatings.

D. Samples: Submit paint manufacturer's "paint fan" illustrating range of colors available for each surface finishing product schedule for color selection.

1.04 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Section 017200.

B. Submittals

1.05 QUALIFICATIONS (APPLICATOR)

A. Applicator: Company specializing in performing the work of this section with minimum 5 years documented experience.

B. Superintendence: This Applicator shall keep a qualified foreman (may be a working foreman), satisfactory to the Owner and Architect, on this work at all times while painting is in progress with this work as his sole duty.

C. Employees: Employ skilled mechanics to ensure the very best workmanship. Quality workmanship is required. Material to be applied by craftsmen experienced in the use of the specific product involved.

1.06 MOCKUPS

A. Provide mockup under provisions of Section 014000.

B. Before proceeding with any painting prepare and finish a sample room, complete or in part, as directed by the Owner and Architect. Finish all areas or items in accordance with the specification and in colors selected by the Owner and Architect. When approved by the Owner and Architect, they shall serve as a standard for workmanship, appearance and materials approved for similar areas or items throughout this project.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provision of Section 016000.

B. All materials used on the project shall be stored in a single place as designated. Such storage space shall be kept clean and all damage thereto or to its surroundings shall be made good by the subcontractor.

C. Store materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well ventilated area, and as required by manufacturer's instructions.

D. All soiled or used rags, waste and trash must be removed from the building every night and every precaution taken to avoid the danger of fire.

E. Restrict storage to paint and related equipment. Comply with health and fire regulations.

F. Paint Material:
   1. Deliver paints and enamels ready-mixed to job site. All material must be delivered in their original containers with labels intact.
   2. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 60 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 80 percent, unless required otherwise by manufacturer's instructions.

C. Contractor is to provide forced ventilation when painting within occupied spaces as necessary to prevent hazardous accumulations of dust, fumes, vapors or gases.

1.09 EXTRA MATERIAL

A. Furnish under provisions of Section 017000.

B. Provide a one gallon container of each color per building and surface texture to Owner.

C. Label each container with color, texture, and room locations in addition to the manufacturer's label.

PART 2 - PRODUCTS

2.01 MANUFACTURER - PAINT AND VARNISH

A. Sherwin-Williams

B. Farrell-Calhoun

C. Pratt and Lambert

D. ICI / Glidden

E. Substitution: Under provision of Section 016000

2.02 MANUFACTURER - ACCESSORIES MATERIAL

A. Thinners, Metal Surface Cleaners, Galvanized Treatment, Filling compounds, Turpentine and Primers - As recommended by paint manufacturer.

2.03 MATERIALS

A. Standards and Manufacturers (Painting)
   1. All paint materials must be equal or exceed Federal Specifications or other standards herein under "Materials" in applicable categories.
   2. Claims by the Contractor as to the unsuitability or unavailability of any materials specified or his inability to produce first-class results with same, will not be entertained unless such claims are made in writing prior to bidding.
   3. All paint materials shall be applied in accord with manufacturer's directions or as specified herein. As there is a slight variation in the recommended procedures of different manufacturers, such minor variations shall be taken into account in considering or making any proposal of material change.

2.04 FINISHES

A. Refer to Schedule, Article 3.09.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop applied primer for compatibility with subsequent cover materials.

D. Examination includes bond, moisture, and alkali testing as required or recommended by manufacturer. Moisture meter readings of back surfaces shall be less than 4 percent.

E. Beginning of installation means acceptance of surfaces.

3.02 PREPARATION - NEW SURFACES

A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces for finishing.

B. Correct minor defects and clean surfaces which affect work of this section.

C. Shellac and seal marks which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair.

F. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

G. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

H. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

I. Shop Primed Steel Surfaces:
   1. Several items to receive a painter's finish under this specification will be furnished with a prime coat of paint. It is this contractor's responsibility to determine this by a study of all sections of this specification. As an aid, however, these items are generally as follows:
      a. All structural and miscellaneous steel
      b. Stair handrails, railings, etc.
      c. Steel doors, frames and borrowed light frames
      d. Steel access doors
      e. Heating grilles and diffusers in wall surfaces to be painted
   2. All primed surfaces shall be cleaned, sanded, touched up, and washed with turpentine prior to painting.
   3. If primer has become badly abraded, damaged, or rust formed, sand smooth and apply one coat of primer specified herein before proceeding with paint application specified.
   4. Galvanizing or bonderizing is not considered a primer.

3.03 PREPARATION - EXISTING SURFACES

A. Masonry, Concrete Floors:
   1. Scaling and peeling paint should be removed by scraping and sanding.
   2. Surface to be washed thoroughly with strong detergent solution to remove all grease, oil and soap residue. Rinse thoroughly and allow to dry completely before painting.
   3. Oil, unpainted, steel-troweled floors should be etched with a 10 percent solution of muriatic acid, then thoroughly rinsed. Surface must be completely dry before painting. Floors that have been subjected to long term oil and grease must be aggressively scrubbed with proprietary grease-dissolving compounds, then rinsed thoroughly and allowed to dry completely before etching. CAUTION: Always wear rubber gloves and boots, and work goggles when using muriatic acid. Follow label directions.

B. Masonry, Poured/Precast Concrete, Block Construction Surfaces:
   1. Remove all peeling and scaling paint to a sound substrate by hand scraping, use of mechanical grinders or with high pressure spray equipment.
   2. If mildew is present remove with a commercial mildewcide solution. CAUTION: Use rubber gloves, work goggles and protective clothing.
   3. Multiple coats of paint that are in an advanced state of deterioration and prior applications of paints must be removed by sandblasting or by use of mechanical grinder.

4. All structural cracks and crevices are to be filled with appropriate patching compounds. Old cracked and loose caulking is to be removed and replaces with a high quality caulking compound.
5. Prime surfaces as specified under Finish Types.
6. Weathered, unpainted masonry surfaces must be free of dirt, grease and oil. Badly weathered concrete, brick or other masonry should be power washed.
7. Where rust staining is evident, apply one coat of Rust Inhibiting Primer.
8. All surfaces that have been defaced with marking pens, crayons or lipsticks are to be solvent washed, then spot primed with primer to control residual "bleeding."
9. Glossy surfaces should be dulled by sanding lightly with #00 sandpaper.

C. Metal, Galvanized Iron:
1. All surfaces must be free of grease and oil and shall be cleaned in accordance with SSPC-SP1-63 "Solvent Cleaning."
2. Peeling and scaling paint and chalk must be removed by scraping, sanding and wirebrushing. Rusted surfaces must be cleaned by scraping, sanding and wirebrushing, then primed with rust inhibitive paints.
3. Weathered, unpainted galvanized iron surfaces must be wirebrushed or power washed to remove deposits of "white rust," then primed with galvanized metal latex primer. Rusted areas must be sanded clean, and spot primed with rust inhibitive paints, then coated overall with galvanized metal latex primer.

D. Metal, Structural or Plate Steel:
1. All surfaces must be free of grease and oil, and cleaned in accordance with SSPC-SP1-63 "Solvent Cleaning" followed by removal of all loose, scaling paint by hand scraping, or by use of power tools. Rusted surfaces to be cleaned in accordance with SSPC-SP2-63 "Hand Tool Cleaning" or SSPC-SP3-63 "Power Tool Cleaning."
2. Glossy surfaces should be dulled by sanding. Where heavy rust, corrosion and deteriorated coatings exist, the surface should be abrasive blast cleaned in accordance with SSPC-SP6-63 "Commercial Blast Cleaning." The surface should be blown off with compressed air to remove traces of blast products, and must be primed within 24 hours with rust inhibitive paints.

E. Drywall, Walls and Ceilings - Interior:
1. Remove all peeling or scaling paint by scraping. Sand areas thoroughly to feather edges smooth with adjacent surface.
2. Cracks, holes and blemished areas are to be filled and sanded flush with adjacent surfaces, then spot primed with finish coating.
3. Surfaces that have been defaced with marking pens, crayons or lipsticks are to be solvent washed, then spot primed with primer to control residual "bleeding."
4. Walls and ceilings in kitchens and bathrooms are to be thoroughly washed with a detergent solution. Glossy surfaces are to be dulled by sanding lightly with #00 sandpaper.
5. Ceilings or walls that exhibit water stains are to be sealed with primer.

3.04 PROTECTION

A. This contractor is advised that he shall be totally responsible for protection of surfaces and finishes adjacent to or beneath his work to the extent that he shall totally clean or pay to have cleaned all surfaces, new or existing, damaged by his materials.

B. Concrete floors are finished floors and shall be totally covered and protected by this contractor during application of his materials within these areas. Extra care must be taken during this work, particularly during spray operation, to provide complete finished floor surfaces without splotches, stains, etc.

C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.

3.05 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. All applications to be with brush or roller unless noted otherwise. Use proper roller or brush for application. Brush apply only all varnish. Reference paint finish specifications for more detail.

C. All material shall be evenly applied so as to be free from sags, runs, crawls, or other defects. All coats shall be of proper consistency and well brushed to show the minimum of brush marks, except lacquer and enamel which shall be uniformly flowed, or sprayed. All brushes shall be clean and in good condition.

D. The word "exposed" as used herein means exposed to normal view after completion of total construction. Does not include mechanical equipment ducts, etc. in equipment or mechanical rooms.

E. No work shall be done under conditions that are unsuitable for the production of good results.

F. All coats shall be thoroughly dry before the succeeding coat is applied. Allow at least 24 hrs. between coats, unless special paint is used that requires more or less time for drying.

G. Painting coats as specified are intended to cover surface perfectly. If surfaces are not covered, further coats shall be applied without cost to the Owner.

H. While the painting is being done, the building shall be closed and broom cleaned. Do not paint any area while dust conditions exist in that area, or under conditions of inadequate light.

I. The undercoats of paint and enamel shall be tinted to approximate shade of the final coat.

J. All finishes shall be uniform as to sheen, color and texture.

K. All materials shall be evenly spread and smooth flowed on without runs or sags.

L. All surfaces to be painted shall be cleaned free of loose dirt by brushing or wiping and wiping with a cloth after each sanding before painting.

M. Sand and wool all surfaces prior to painting and lightly sand and wool between all coats to produce smooth surface.

N. Do not paint damp, moist or uncured surfaces, use moisture meter to determine suitability.

O. This contractor shall furnish and place drop cloths for protection of finished floor and other finished work from damage during progress of the work. The contractor shall be responsible for damage caused by him. Reference Article 3.03 Protection above herein.

P. Where fluid unavoidably contacts glass, hardware, or other finished surfaces, it shall be immediately removed while moist.

Q. Where fluid solder flux has been used on metal work, clean thoroughly with benzene before further application.

R. Unprimed steel shall be primed immediately upon delivery to the site.

3.06 CLEANING

A. As work proceeds, promptly remove paint where spilled, splashed or spattered.

B. During progress of work, maintain premises free of unnecessary accumulation of tools, equipment, surplus materials and debris.

C. Collect cotton waste, cloths and material which may constitute a fire hazard; place in closed metal containers and remove daily from site.

D. Inspect all surfaces for skips, blemishes or imperfections. Repaint or repair as required to first class appearance.

E. Clean all adjacent surfaces, hardware, and accessory items damaged by this work. Replace if damage cannot be repaired.

F. Remove all debris from the work site.

3.07 PROTECTION OF FINISH WORK

A. Protect finished work under provisions of Section 015000.

3.08 DETERMINATION OF FINISHES

A. To determine the required types of painter's finish for various areas and surfaces, this contractor shall review the following:
   1. Paint finish or specified numbers on the Room Finish Schedule.
   2. Paint finish or specified numbers on the Door schedule.
   3. The general title designation of material covered under each paint finish description herein.
   4. Example: Paint Finish No. I-1 (interior gypsum board)
      1 coat, etc.
      1 coat etc.
      Indicates that all interior gypsum board receives this finish unless schedules are noted otherwise. If the room finish schedule carries the notation "NONE", this area or surface receives no painter's finish.

3.09 PAINT FINISH TYPES

A. Interior:
   1. Paint Finish I-1 - New Interior Gypsum Board:
      Sherwin-Williams:
      1st Coat – S-W: ProMar 200 Zero VOC Interior Latex Primer B28-2600
      2nd Coat – S-W: ProMar 200 Zero VOC Interior Latex Enamel flat, B30-2600
      3rd Coat – S-W: ProMar 200 Zero VOC Interior Latex Enamel flat, B30-2600

      PPG:
      1st Coat – PPG Paints 6-4900XI Speedhide Zero Interior Zero VOC Latex Sealer
      2nd Coat – PPG Paints 6-4110XI Speedhide Zero Interior Zero VOC Latex Flat
      3rd Coat – PPG Paints 6-4110XI Speedhide Zero Interior Zero VOC Latex Flat

END OF SECTION

PART 1 GENERAL

1.01 REQUIREMENTS

A. The work under this section of the work is subject to the provisions of the General Conditions, Supplementary Conditions and Division 1 - General Requirements, all of which are hereby incorporated herein and by this reference made a part thereof.

B. The Contractor shall be governed by all of the provisions of the aforementioned Contract Documents and all other Contract Documents of which in any way affect the work herein specified.

1.02 WORK INCLUDED

A. Examine all drawings and specifications, including the General and Specific Conditions which are a part of this Contract.

B. All labor, materials, equipment transportation, construction plant and facilities necessary for the proper execution and completion of the work as defined and required by the Contract Documents. Also, all work not specifically included in the Contract Documents which is reasonably and properly inferable therefrom or accepted trade practice necessary for the proper completion of this work.

C. The electrical scope of work shall include, but is not limited to the following major components, products and complete operable systems:

1. Relocation of movie projector and motorized projection screen.
2. Install stage lighting strip with production lighting and controls.
3. Install new lighting and outlet panelboard and step down transformer.
4. New branch circuits to power new equipment and controls.

1.03 REFERENCES

A. The Construction Agreement, instructions to bidders and all other general requirements of these specifications shall be considered a components part of this Division of the specifications.

B. The Contractor shall be governed by all of the aforementioned Contract Documents and all other Contract Documents of which in any way affect the work herein specified.

1.04 ELECTRIC SERVICE

A. The electric service as existing by MLG&W is 480Y/277 volts, 3 phase, 4 wire (wye), 60 Hertz.

B. Existing electrical service shall be reused with distribution system modification as noted.

1.05 PERMITS, CODE REQUIREMENTS AND FEES

A. All work shall conform to the rules and regulations of the latest edition of the National Electrical Code, including all subsequently published addenda thereto. Include all items of labor and materials required to meet such Code regulations regardless of the failure to mention in the specifications or show on the drawings each individual item.

B. The work shall also conform to the latest established standards of the Institute of Electrical Electronic Engineers (IEEE), National Electric Manufacturer's Association (NEMA); and State, and Local County electrical codes, and other authorities having jurisdiction.

C. The foregoing standards shall be followed by the Contractor as minimum requirements. They shall not relieve the Contractor from furnishing and installing higher grades of materials and workmanship that may be specified herein or indicated on the drawings.

D. Take out all necessary permits and pay all fees in connection with work under this Division.

E. At the completion of the project, secure and turn over to Owner certificates of inspection, properly signed by the controlling building department which shall state that all rules have been complied with and that the work is approved as installed. Provide copies of certificates with operating and maintenance manuals. Acceptance by local building officials shall not relieve Contractor from furnishing materials specified in contract documents.

1.06 ACCURACY OF DATA, DRAWINGS AND INTERFERENCES

A. Electrical drawings are intended to indicate only the extent diagrammatically, general character and location of the work included. Work intended, but having minor details obviously omitted or not shown shall be furnished and installed complete to perform the functions intended.

B. Examine carefully all contract drawings as well as the electrical drawings. Install equipment as nearly as possible to the locations and arrangements as indicated. Provide minor adjustments as necessary to coordinate the electrical work with the Architectural and audio/visual systems and to avoid all interferences therewith. All offsets, rises, pull boxes and fittings are not necessarily shown on the drawings; however, these shall be provided as required.

C. All building dimensions, elevations, etc., shall be taken from the Architectural Drawings or by site measurements.

1.07 RECORD AS-BUILT DRAWINGS

A. Upon completion of the project, deliver to the Owner, one set of reproducible "As-Built" vellums and one set of electronic Auto-Cad drawing files. As-Built drawings shall show the actual installation locations, and sizes of all electrical work.

1.08 INSPECTION OF SITE

A. Prior to bidding work under this Division, visit the site of the proposed work and thoroughly observe conditions to be encountered. Failure to make such preliminary observation and inspection shall in no manner relieve the Contractor in the complete and proper execution of work described herein and/or as may be necessary to meet all requirements of the job.

B. Refer to General Conditions and Division 1 specifications for pre-bid meeting requirements that may affect bidding work for this project.

1.09 PRODUCTS

A. Materials and workmanship in the installation shall be of the best for the purpose intended and shall meet with the approval of the Engineer. The Engineer reserves the right to reject any materials and workmanship not in accordance with those specified or not meeting the Engineer approval, either before or after installation.

B. All materials shall be new, with UL label where available. If UL label is not available, material shall be manufactured in accordance with applicable NEMA, IEEE and Federal Standards.

Labeled products shall be utilized and installed per manufacturer's instructions so that labeling is not violated.

C. Materials and/or equipment specified herein to be of a certain manufacture or brand are used to establish minimum quality standards. Materials and/or equipment of other manufacture will be considered only where noted in the bid form alternates.

1.10 SUBMITTALS

A. Prior to ordering any equipment, the electrical contractor shall furnish for the Architect's approval submittal brochures. Submittals shall include the following:

1. Panelboard and transformer
2. Wiring devices
3. Wire and conduit

B. Submittals shall include Contractor's name and telephone number, Distributors name and telephone number, Manufacturer's name and product, catalog cut-sheets complete with product descriptions, weights, dimensions and all applicable device ratings (volts, amps, watts, interrupting ratings, etc.)

C. All equipment shall be submitted in an indexed bound hard back 3 ring binder for the electrical division. All items shall be submitted at one time, partial submittals will not be considered.

D. Re-Submittal of products changing manufacturer after similar products have been submitted and approved will result in engineering charges for re-review of electrical shop drawings. An engineering fee will be quoted and approved before any re-approval of drawings.

E. Catalog cut-sheets including multiple products or multiple product options and accessories shall be clearly marked to indicate products and options being furnished. Failure to identify products will result in submittals being rejected.

1.11 OPERATING AND MAINTENANCE MANUALS

A. Three sets of approved submittal brochures shall be prepared as "Operating and Maintenance Manuals". Operating and Maintenance Manuals shall include in addition to the submittal data, all equipment operating instruction books, parts list, wiring diagrams, product warranties and certifications.

B. O & M Manuals shall be bound and indexed. Covers shall be labeled with project name, data, Contractor, Architect and all responsible vendors.

C. Provide detailed warranty information for all products furnished with extended warranties. This information shall include name of manufacturer, telephone number for in warranty repair and service and proof of purchase date. Products that may include extended warranty are lighting fixtures, dimming system and battery operated exit signs.

1.12 SAFETY DEVICES

A. Provide suitable guards when not furnished by manufacturer to enclose all wire connection, electrical contacts, etc. Guards shall be sheet metal or rigid electrical insulating material rigidly secured so as to be readily accessible and shall meet OSHA standards.

B. Provide warning signs to caution people of possible dangers to high voltage and energized live parts, and or special operating procedures.

1.13 TEMPORARY UTILITIES

A. Refer to Section 01500.

B. All temporary wiring for construction power shall conform to Article 590 of NEC and all applicable rules and regulations of OSHA.

1.14 PROTECTION OF WORK

A. The Contractor shall protect his work at all times from the danger of freezing, breakage, dirt, foreign materials, etc., and shall replace all work so damaged. Make every precaution to protect the work of others, and be responsible for all damage to other work.

1.15 STORAGE OF MATERIALS

A. Make provisions for the delivery and safe storage of all materials and arrange with other Contractors on the job for the introduction of materials to expedite the work as a whole. Mark and store all materials in such a manner as to be easily checked and inspected. Where materials are indicated to be furnished by others to the Contractor for installation, make a complete and careful check of all materials received and furnish a receipt acknowledging acceptance of the delivery and condition of the materials received. After such acceptance, assume full responsibility for the safe keeping of same until such a time as the completed installation has been approved and accepted.

1.16 OPENINGS THROUGH WALLS, FLOORS AND ROOF

A. Verify that all openings through walls, floors, ceilings, roofs and through any other parts of the structure shall be properly sized and located.

B. Reinforced concrete beams and pre-stressed and/or post-tensioned slabs shall not be cut without structural engineering approval.

1.17 DRILLING, CUTTING, AND PATCHING

A. Furnish all cutting, chipping, drilling, etc., as may be necessary for the proper installation of Division 26 work. Care shall be taken in such cutting and chipping so as not to cause excessive repair work.

1.18 PAINTING

A. Provide a prime coat of paint for all supports, hangers, frames, etc., furnished and installed under this section of the specifications.

B. Touch-up equipment finishes where factory finish is damaged.

C. Contractor shall be responsible to touch up painting of all finished surfaces that are damaged during construction.

1.19 IDENTIFICATION OF EQUIPMENT AND SYSTEMS

A. Identify all items of equipment and circuitry throughout building.

B. Equipment shall be identified with engraved laminated plastic permanently attached by screws to apparatus. Identification nomenclature shall be same as that on Contract Drawings except where specifically requested otherwise by Owner.

C. All wiring shall be color coded and identified by tags in order to facilitate checking of work by those so authorized. Provide engraved nameplates or stencil identification, as appropriate, data on the starters, disconnect switches, etc., for all motors under Division 23 of the Specifications. This data shall be in accordance with the designation given the motors on the Mechanical Drawings.

D. Each junction box cover shall be labeled to indicate circuit numbers contained in that box. Use black indelible pen to label boxes.

1.20 TESTING AND ADJUSTMENTS

A. Insulation Test: Prior to energizing equipment or circuits, all panelboard, and all feeder and branch circuit conductors, all motors, transformers, etc., shall be insulation tested with a direct current Megohm Meter similar to Biddle Co., “Megger”.

B. All wiring shall be so installed that when completed, the system will be free from short circuits and grounds except as allowed by Article 250 of National Electrical Code.

C. Correct all short-circuit and unintentional grounds and all low reading circuits. Notify equipment suppliers of all questionable test results and remedy same as directed by equipment manufacturer.

D. Check and adjust all equipment to operate smoothly, quietly and in accordance with manufacturer’s installation, maintenance and start-up instructions.

E. All auxiliary and cable systems shall be tested for proper operation. Owner’s personnel shall be thoroughly familiarized with the proper operating procedures for each system.

1.21 OBSERVATION OF WORK AND DEMONSTRATION OF OPERATION

A. At final inspection, open panel and switchboard covers, junction box covers, pull boxes, device covers, and other equipment with removable plates for inspection. Provide sufficient personnel to expedite cover removal and placement.

B. Contractor shall assist Manufacturer in demonstration and operation of new systems to satisfaction of Owner.

1.22 WORKMANSHIP, GUARANTEE (QUALITY ASSURANCE)

A. Work under this Division shall be first class with emphasis on neatness and workmanship.

B. Install work using competent mechanics, under supervision of foreman, all duly certified by local authorities. Installation is subject to Architect/Engineer periodic observation, final approval, and acceptance. All unsuitable work will be rejected!

1.23 CLEAN-UP

A. Maintain premises free from accumulation of scrap material, shipping materials, etc., caused by work herein, so as to provide a safe and orderly work place.

B. At completion of work, remove all surplus materials, tools, etc., and leave premises “broomclean”. Clean all lighting fixtures, lamps and lenses, remove all construction debris from panelboards, switchboards and similar equipment.

1.24 SWITCH AND RECEPTACLE LOCATIONS

A. The right is reserved to change the location of any electrical device a maximum distance of ten feet from the location indicated, without charge, provided that the change in location is made prior to device rough-in.

1.25 ALTERNATES

A. The Contractor is referred to the Bid Form for alternates that will affect pricing of Division 26 work.

1.26 ALTERATIONS AND ADDITIONS TO ELECTRICAL SYSTEMS

A. Make all necessary alterations and additions to the existing electrical system as indicated and as required to accommodate the new construction and to clear all interferences therewith. This shall include disconnecting, removing, relocating, rerouting, extending, reworking, reconnecting or otherwise altering the existing electrical work as required whether indicated on the drawings or not. Remove all existing wire, conduits, outlets, etc., which are accessible and are not required for the operation of the completed electrical system.

1.27 DEMOLITION – SALVAGED MATERIALS

A. Do all necessary demolition of existing electrical system as noted on the drawings and as required by new construction. All salvaged materials not required for the complete project shall remain the property of the Owner, unless noted otherwise. Salvaged materials designated to remain property of Owner will be stored on site by Contractor where directed by Owner. If Owner elects not to keep any of the salvaged materials, contractor shall remove materials from site and properly dispose of same. Dispose of all fluorescent lamps and other hazardous materials per local, state and federal guidelines. Include cost for disposal of all products.

1.28 EXISTING BUILDING – CONTINUITY OF SERVICE

A. Work to interfere as little as possible with Owner’s normal operations. Do not interrupt existing service without prior approval of the Owner. After an interruption, make all necessary connections and alterations as quickly as possible.

END OF SECTION

PART 1 GENERAL

1.01 REQUIREMENTS

A. The General Documents form a part of this section.

B. Section 260100, Electrical General Provisions, shall be a part of this section.

1.02 WORK INCLUDED

A. Work included under this section shall consist of furnishing and installing raceway and wiring systems with associated junction and outlet boxes, devices and equipment as indicated on the drawings and described herein.

PART 2 PRODUCTS

2.01 CONDUITS

A. The last 36” of conduit to motors and transformers and other vibrating equipment shall be liquid-tight, flexible electrical conduit with internal grounding conductor as sized by Code.

B. All conduit shall be 3/4” minimum diameter except for switch legs which may be 1/2” diameter.

C. Couplings and connectors for all EMT conduit systems shall be set screw type of galvanized or sherardized steel (Die cast fittings, will not be acceptable). Fittings shall be concrete tight. Fitting installed in wet locations shall be rain tight.

D. Type MC cable will be an acceptable wiring method for this project, in concealed locations and where approved by local code. MC cable shall be furnished with a green insulated grounding conductor. Ground conductor shall be bonded to each box, lighting fixture, wiring device, etc. as required by code. MC cable that uses only the metal jacket for equipment grounding will not be acceptable. All homeruns shall be in conduit.

2.02 WIRE AND CABLE

A. All feeders and branch circuit wiring shall be type THWN suitable for 75 degree C normal conductor operation and shall be rated 600 volts of not less than 12 gauge except where noted differently.

B. All wire and cable shall be stranded, all conductor sizes.

C. Wire and cable color coding shall be as follows:

PHASE	120/208 V	277/480V
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
NEUTRAL	WHITE	WHITE/STRIPED
GROUND	GREEN	GREEN

D. Grounded conductors #6 and smaller shall be identified by a continuous white or natural gray outer finish. Conductors larger than #6 shall be continuous white color or by three bands of white tape on any color insulation other than green per Article 200-6 (a) and (b) of NEC.

E. Grounded conductors of different systems shall have a white covering with readily distinguishable and different colored strip (not green) running along the insulation per Article 200-6 (d) of NEC.

F. Use factory color coded wire for No. 12 and No. 10 gauge. Use two bands of color tape for No. 8 and larger conductors.

G. All wire and cable furnished under this section shall be “Copper”. No aluminum cable will be allowed.

2.03 WIREWAYS

A. Wireways or wiring troughs, if used to facilitate wiring, shall be Square “D” Hinge Cover Lay-in Duct or General Electric Type HW with necessary connections and fittings.

2.04 WIRING DEVICES

A. Devices where possible shall be of the same manufacturer and shall be as manufactured by Hubbell, Cooper, Leviton or Pass & Seymour. Unless noted otherwise, wiring device and cover plate colors shall be selected by Architect.

B. Wall Switches: Wall switches in general shall be installed 48" above the floor on the strike side of the door. Switches shall be quiet operating, heavy duty specification grade, rated 20 amps, 120/277 volts, A.C. Switches shall be designed for back wiring with stranded wire. Switch mounting straps shall be brass with grounding screw terminal. Switches shall be Leviton as follows:

SPST	LEVITON	#1221-2
SPDT	LEVITON	#1222-2

C. Duplex Outlets: Receptacles shall be heavy duty specification grade tamper resistant of the polarized grounding type. Devices shall be designed for back wiring with stranded wire. Device mounting straps shall be brass with grounding screw terminal. Devices shall be Leviton Catalog #5362 SG rated 20 amps, 125 volts.

D. GFCI Outlets: Ground fault circuit interrupting outlets shall be heavy duty specification grade tamper resistant, 20 amp, 125 volt. Devices shall be designed for back wiring with stranded wire and shall have brass mounting straps and grounds screw terminal. Outlets shall have UL lockout feature that prevents a device from being reset if improperly wired and when device malfunctions. Devices shall be Leviton #X7899 series with LED indicator.

2.05 PULL BOXES, OUTLET BOXES AND FITTINGS

A. Pull boxes or junction boxes, where shown on the drawings or where required to facilitate pulling of wires or cables, shall be of proper size and shape as required by Section 370 of NEC. Large pull boxes and junction boxes shall be 12 gauge steel, with 2 coats of shop applied light gray rustproof enamel paint over phosphatized primer. Covers shall be of the same gauge as the boxes, and secured to boxes with proper number of screws.

B. All metallic conduit fittings shall be galvanized or cadmium plated, adapted to type of conduit system installed. All plastic fittings shall be Schedule 40 of the same manufacturer as conduit.

Fittings shall meet all requirements for the Underwriter's Laboratories, Inc., and the National Electrical Code.

C. Each switch, light, receptacle, and other miscellaneous device shall be provided with an outlet box.

D. Boxes shall have only the holes necessary to accommodate the conduit at point of installation. All boxes shall have ears to secure covers.

E. Ceiling outlet boxes, where used with conduit that is concealed, shall be not less than 4" in diameter by 1-1/2" deep.

F. Outlet boxes where used with conduit that is concealed shall be not less than 4" in diameter to provide a seat for fixture canopy.

G. All boxes shall be rigidly secured in position. All concealed boxes for fixtures, switches, receptacles, telephone, etc., shall be so set that the front edge of box shall be flush with finished wall or ceiling line. When located near doors or windows, they shall be close to trim.

H. Wall switch outlets shown at the door locations shall be installed on lock side of the door.

I. Plaster flanges and masonry trim rings for outlet and switch boxes shall be of proper depth to match face of finished wall or within 1/8" maximum setback. Where boxes or covers do not match the face of finished wall and set back is 3/16 or more, install Bridgeport "Receptxtenders" between box and device. In all cases the device yoke shall be securely supported by the box face without the support of the surrounding sheet rock.

2.06 EXPANSION FITTINGS

A. Where construction expansion joints are encountered in conduit runs, the Contractor shall furnish and install conduit expansion joints as manufactured by O.Z. type "AX" with jumper cables for rigid conduit and type "TX" with bonding jumpers for EMT conduit, T&B, Rayco or approved equal.

2.07 CONDUIT FIRE STOPS

A. Furnish and install on all conduit penetrations of fire walls, fire stops as manufactured by 3M or equal with UL rating equal to rating of wall penetrated.

PART 3 EXECUTION

3.01 GENERAL

A. All the conductors in this installation shall be run in conduits, except where noted differently. Equipment and devices installed by the Contractor and not constructed with enclosures especially suited for mounting and enclosing all live parts shall be installed in metal cabinets furnished by the Contractor. It is intended that complete raceways or enclosures be provided for all circuiting throughout the extent of all the systems specified.

B. All conduit shall be reamed after threads are cut. All ends shall be cut square and shall butt solidly into couplings.

C. All exposed conduit shall run parallel to walls in the most direct manner and shall be securely attached with Minerallac conduit mounting straps. When anchoring straps to masonry surfaces, use metal expansion anchors or Phillips steel inserts or approved equal. Metallic conduits exposed to damp or wet locations shall have a ¼" air space between conduit and supporting

surface. Use a 1 hole galvanized conduit strap and clamp back or approved equals. Horizontal runs shall be run with slight incline without forming low spots, in order that they may drain properly.

D. Conduits shall be run with smooth, easy bends. They shall be held in boxes with locknuts and shall have bushings for protection of the wires.

E. Additional pull boxes, junction boxes, or conduits, where required to facilitate pulling of wires, shall be of the proper size and shape for the conduits and wires entering them.

F. Where conduits enter switchboards and motor control centers, etc., locknuts and grounding bushings shall be provided. Bushings shall be insulated where the wires are 6 gauge or larger. Grounding bushings will be required on feeder conduits to all panelboards and transformers. Branch circuit conduits feeding isolated ground outlets shall also have grounding bushing.

G. All conduit openings shall be temporarily plugged to exclude water, concrete and other foreign substances during construction. All conduits shall be cleaned before the wires are installed.

H. A lubricating compound such as Ideal Yellow 77, or approved equal may be used to facilitate wire pulling.

I. The contractor shall be responsible for all wall openings and sleeves necessary to complete the electrical conduit system within the building. Coordinate the installation of all openings with the General Contractor.

J. Consult the General Contract Drawings for height and location of all brackets, receptacles and switch outlets not specified herein. Unless noted otherwise, device mounting heights shall be as follows:

DUPLEX CONVENIENCE OUTLETS	18” ABOVE THE FLOOR
DUPLEX CONVENIENCE OUTLETS ABOVE COUNTERS	CENTER 7” ABOVE BACK-SPLASH
TELEPHONE, OUTLET	18” ABOVE THE FLOOR
WALL SWITCHES AND FIRE ALARM MANUAL STATIONS	48” ABOVE THE FLOOR
FIRE ALARM/LIGHT COMBINATION	80” ABOVE THE FLOOR

K. Carefully lay out all outlets and coordinate with other trades so that the outlets are not blocked, hidden or inaccessible for use or maintenance.

L. Lighting and receptacle wiring circuits shall be installed in accordance with the layout shown on the drawings and shall be balanced to 5 percent about the neutral in branch circuit panels.

M. Branch circuit wire sizes shall be as noted on drawings. Where wire sizes are not shown wiring shall be as follows:

20 Amp 120 Volt Branch Circuits	
Distance from panel to 1st device	60 Ft use #12
Distance from panel to 1st device	61 Ft to 120 Ft use #10
Distance from panel to 1st device	121 Ft to 160 Ft use #8
20 Amp 277 Volt Branch Circuits	
Distance from panel to 1st device	140 Ft use #12
Distance from panel to 1st device	141 Ft to 250 Ft use #10
Distance from panel to 1st device	251 Ft to 350 Ft use #8

N. Multi-wire branch circuits (circuits that share a neutral) shall not be allowed. Each branch circuit shall be furnished with an individual neutral. Where multi-circuit homeruns are shown, the neutral conductor shall be identified with a colored stripe to match the associated phase conductor color.

O. No grouping of 3 phase circuits will be allowed except where noted on drawings.

P. All conduit shall be supported independently from ceiling system with approved supports. Tie wire is not an approved support.

Q. All empty conduit systems installed for wiring by others, shall be provided with pull lines. Pull boxes shall be installed as required so that there is not more than 150 feet between access points to the conduit system (s).

3.02 ELECTRICAL SUPPORTING DEVICES

A. Furnish and install all necessary hangers, supports, fasteners, platforms, frames and all other similar construction materials necessary for the proper and safe support of all conduit and equipment furnished under this Division of the Specifications.

B. Supports for lighting fixtures, panelboards, exposed feeders, etc., shall be UL approved. Lighting fixtures shall not be supported from the ceiling framing system. See seismic specifications for additional support requirements.

C. Conduit shall be securely supported, strapped, or otherwise attached to the building structure in an approved manner. Conduit shall be firmly fastened within 3 feet of each outlet box, junction box, cabinet or fitting. Conduit shall be supported at intervals not to exceed those specified in Chapter 3 of National Electric Code. Conduits shall not be supported by ceiling or grid wire of lay-in ceiling.

3.03 WIRE AND CABLE CONNECTIONS

A. Branch circuit wiring 10 gauge and smaller shall be terminated with solderless, screw-on pressure type terminators and insulators similar to Ideal wirenuts. Connectors shall be UL listed and color coded for wire sizes and quantities involved. Connectors used in below grade boxes shall be water tight.

B. Terminators to electrical equipment, i.e. circuit breakers, switches, panelboard busses etc., shall be made with a suitable hex or screw head box lug as provided by the equipment manufacturer. When no suitable box type lug is provided the Contractor shall finish and install a box type lug similar to T&B Reddy Lug, or Burndy Universal terminal type KA or K2.

C. Set screw pressure connectors shall be tightened to the manufacturer torque values included in the instructions listing or labeling. When such values are not available, the torque values listed in NEC 99 tables 1.3 through 1.6 shall be used as a guide.

D. Terminations requiring a bolted connection to NEMA type blades or pads shall be made with a Crimp Joint connector. The connector shall be a one piece tubular construction made of pure electrolytic copper, tin plated for corrosion resistance. The connector shall be so designed that indents may be made on any portion of the barrel circumference. Terminations shall be type YAV for #8 AWG, Type YA-1 for #6 through 4/0 AWG, Type YA for 250 MCM and larger or approved equal. Indents shall be made with a hydraulic compression tool designed to lock the connector into the tool until a complete positive connection has been made. Terminations shall be Burndy HYLUG or approved equal.

E. Butt type terminations for wire #8 gauge and larger shall be made with inline compression connectors and thick wall heat shrink insulation. Splices shall be similar to Burndy Insulated HILINK or approved equal.

END OF SECTION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. The General Documents form a part of this section.

B. Section 260100, General Provisions and Section 260500, Basic Materials and Methods shall be a part of this section.

1.02 WORK INCLUDED

A. Work required under this section consists of grounding and bonding of electrical service, equipment and building.

1.03 REFERENCES

A. All grounding and bonding shall be installed per Article 250 of the National Electric Code.

PART 2 PRODUCTS

2.01 GROUND RODS

A. Ground rods shall be U.L listed, 5/8" by 10ft copper bonded ground rods with minimum 10mil copper plating thickness. Ground rods shall comply with NEC 250.52. Where additional ground rod length is required, rods shall have threaded ends and couplings.

2.02 GROUND CONNECTIONS

A. Ground connections shall be compression type or exothermic welded. Connections shall be UL467 listed and meet all IEEE 837 requirements. Connections below grade shall be listed for direct burial.

B. Compression connections shall be irreversible type as manufactured by Burndy or approved equal. Compression tool shall be hydraulic type that can not be opened until a complete compression has been made. Compression tool die shall permanently label the connector with die type and number.

PART 3 EXECUTION

3.01 GROUNDING

A. The Utility service and each separately derived electric system (step down transformers and generators) shall be grounded in accordance with Article 250 of National Electric Code and all local code requirements.

B. The service grounding electrode system as required by Article 250-50 of National Electric Code must include all of the following connections where available:

1. Underground metal water pipe connection within 5 ft. of entrance to building.
2. Effectively grounded building steel structure or metal frame.
3. A 20 foot length of ½” diameter non-coated steel re-bar encased in 2” of concrete located near bottom of footing or foundation.
4. Ground counterpoise when shown on drawings.

C. Grounding of separately derived systems shall be the made to the nearest effectively grounded building steel column or metallic water pipe.

3.02 EQUIPMENT GROUNDING

A. All circuits shall have insulated green grounding conductor sized per Article 250 of the NEC. Isolated ground conductors shall be green with orange stripe.

B. All flexible wiring systems shall be furnished with an internal insulated green grounding conductor.

C. Ground connections to painted or similar coated metals shall have all paint or coating removed between connector and metal. Use hex head machine bolts and nuts with flat and split ring lock washer or lug. Stove bolts are not acceptable.

D. Provide grounding bushing for all circuits over 240 volts, all circuits over 100 amps, all conduits entering eccentric or concentric knockouts, all conduits entering plastic or non-metallic enclosures, and all circuit serving isolated ground receptacles.

E. Equipment grounding conductors in branch circuits, feeders and service conduits shall be bonded together and to the metallic enclosures of all junction and pull boxes. This bonding shall include all switches and outlet boxes.

F. Sheet metal screws, “Tec” screws, and equipment mounting bolts shall not be used for grounding or bonding. All grounding screws shall be green and shall be UL listed for equipment grounding.

END OF SECTION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. The General Documents form a part of this section.

B. Section 260100, Electrical - General Provisions, Section 260500, Basic Materials and Methods, shall be a part of this section.

1.02 WORK INCLUDED

A. Work to be provided shall include furnishing and installing panelboards, disconnects, transformers and associated distribution equipment.

PART 2 PRODUCTS

2.01 PREFABRICATED LIGHTING AND OUTLET PANELBOARDS

A. Furnish and install Square "D", Siemens or Eaton panelboards of the size and type scheduled on the drawings. Panelboards shall be designed for 208Y/120 volt, 3 phase, 4 wire service as scheduled on drawings.

B. All panelboards shall be furnished complete with full height locking door with padlock hasp and interior dead front trim. Panel front shall be hinged to panel can. Multi section panels shall be furnished with identical size cans for all sections.

C. All panelboards shall be fully rated for interrupting rating listed on drawings.

D. Panelboard circuit breakers shall bolt to panel bus and shall be of the quantity and rating listed on drawings. All circuit breakers shall be UL listed for 75 degree C. wiring systems.

E. All panelboards shall be furnished with copper bus including neutral and ground bus. Provide oversized neutral and isolated ground busses as noted on drawings.

F. Provide "On- Position" handle locks on all circuit breakers serving fire alarm panels, lighting control panels, telephone, security and battery operated emergency lighting circuits.

G. Panelboards shall be furnished with engraved nameplates indicating type of service, i.e. (Black with white lettering for normal service, red with white lettering for emergency service). Nameplates shall be attached to panel trim with screws. Nameplates shall indicate panelboard name, voltage, phase, and minimum interrupting rating as shipped from factory.

H. Panelboards shall be provided with typewritten circuit directories. Directories shall indicate room number and load served by each circuit. Room numbers shall match room numbering system installed by Owner, not room numbers indicated on drawings. Panels shall have permanent readily visible numbers for all breakers and spaces.

I. Circuit breakers shall be installed in panels in locations shown on panel schedules. In addition to typewritten circuit directory listed above, install copy of the drawing panel schedule in a clear pocket inside each panelboard door.

J. Provide surge protective device (SPD) Type 2 (transient voltage surge protection /surge arrestor) integral to panelboard direct connected to the panel bus. SPD shall have a short circuit rating equal to or greater than the interrupting rating of the main breaker. Protection shall

be nominally rated 160 kA per phase and 80 kA neutral to ground. Units shall be UL 1283 and UL 1449 (3rd Edition) labeled. Protectors shall have a nominal discharge current of 10kA. Protection shall be provided with integral overcurrent protection and surge counter.

2.02 SAFETY SWITCHES

A. Safety switches shall be heavy duty, NEMA type "HD" fusible or nonfusible as indicated. Switch mechanism shall be quick-make, quick-break. Cover shall be interlocked with mechanism to prevent opening unless switch is on the "OFF" position. Switches mounted outdoors shall have NEMA 3R enclosures. All switches shall be furnished with rejection type fuse clips for Class RK fuses, ground lug and engraved Micarta nameplates. Switches shall be Square "D" or approved equal.

2.03 DRY TYPE TRANSFORMERS

A. Transformers shall be ventilated dry type with Class H insulation. Transformer shall be rated 480 volt to 208Y/120 volts, 3 phase, 4 wire as indicated on drawings. Transformer KVA ratings shall be as detailed on drawings. Transformers 15 KVA and larger shall be furnished with taps two (2) 2-1/2% F.C.A.B. and four (4) 2-1/2% F.C.B.N.

B. Transformers shall be mounted on vibration isolators. Conduit connections to transformers shall be made with neoprene jacketed flexible conduit.

C. Transformers shall be energy efficient type compliant with DOE Final Rule U.S. 10 CFR Part 431/APR 2013.

D. All transformers shall be floor mounted and shall be set on 4" high concrete pads.

E. Secondary neutrals of all transformers shall be grounded per Article #250 of NEC. Grounding electrode conductor shall be installed in conduit for its entire length.

F. Transformers shall be as manufactured by Square “D”, Siemens, Eaton or approved equal.

2.04 CONTACTORS AND RELAYS

A. Furnish and install contactors, relays and remote control switches as specified and indicated on drawings for control of lighting systems. Contactors shall be furnished in NEMA 1 enclosures with H-O-A switch on front cover and have sufficient contact quantities and ratings as required. Contactors shall be 600 volt electrically held, fully rated or mechanically held with clearing contacts as indicated on the drawings.

PART 3 EXECUTION

3.01 INSTALLATION

A. Switchgear shall be installed as per switchgear manufacturer's recommendations and as required by the National Electrical Code.

B. All electrical equipment shall be installed with vertical and horizontal clearance per NEC Articles 110 and 408. Plumbing, ductwork and other non-electrical equipment shall not be installed within the spaces dedicated to electrical equipment.

C. All circuit breakers and similar disconnect devices shall be installed so that operating handle is not more than 6’-7” above floor.

D. Internal parts of electrical equipment, including busbars, wiring terminals, insulators and other surfaces, shall not be damaged or contaminated by foreign materials such as paint, plaster, cleaners or corrosive residues.

3.02 EQUIPMENT SUPPORT

A. All electrical equipment shall be properly attached to building structure with seismically designed attachment as detailed in specification section 260548.

3.03 EXISTING DISTRIBUTION EQUIPMENT MODIFICATIONS

A. Add circuit breakers in existing panelboards as indicated and as required matching manufacturer, frame and AIC ratings. Breakers shall be of the same type presently installed in equipment. Modifications shall be made as directed by equipment manufacturer.

B. All panelboards modified by new construction shall be put in like new condition. All bolted connections shall be tightened on cable lugs and buss work.

C. Modify existing building power panels, gutters, and panelboards where noted on the drawings and as required. All modifications and additions to equipment shall be performed in accordance with manufacturer's directives.

D. Modify existing feeder system as indicated on the drawings.

E. Furnish and install new panelboard labels, indicating panel designation with voltage and phase.

END OF SECTION

SECTION 27 41 16 – INTEGRATED AUDIO-VISUAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Architectural, structural, mechanical, electrical and other applicable documents and drawings are considered a part of the A/V and/or Sound Reinforcement System (hereafter referred to as AV Systems or Systems) documents.

B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Divisions 00, 01 & 02, apply to this Section.

C. Architectural, structural, mechanical, electrical and other applicable documents and drawings are considered a part of the A/V and/or Sound Reinforcement System (hereafter referred to as AV Systems or Systems) documents.

1.2 WORK IN THIS SECTION

A. Sound Reinforcement

B. Digital Signal Processing

C. IP networks & Integration with networks by others

D. Visual Display

E. Integrated Control

F. Software Configuration

G. Coordination, termination and installation of Owner-Furnished services and equipment.

H. Cable, wiring, digital transport, connection and termination devices for wiring systems for all signal pathways for applicable systems.

1.3 RELATED SECTIONS

A. Division 26
   1. Electrical service entrance and related materials.
   2. Raceway, conduit, backboxes, pull strings, pull boxes, etc.
   3. Electrical Backboxes.
   4. Installation of specialty backboxes specified herein.
   5. Power distribution systems including, but not limited to, power conductors, distribution panels, conduits, breakers, etc., to be furnished and installed under the electrical section of Division 26.
   6. Insulated THW stranded copper ground conductor, per NEC shall be installed under the electrical section of Division 26.

7. Contractor shall notify the owner of any conditions related to the existing power distribution system that may prevent, delay or constrain the implementation of new systems in any way.
8. Owner provided cabling, network backbone and related equipment.

B. Division 01 (coordinated with the owner and/or General Contractor)
1. Applicable millwork.
2. Cutting, patching & finishes.

1.4 MEASUREMENT & QUANTITY CONVENTION

A. Product quantity is as required and/or as shown on the drawings.

B. When a specific quantity is noted, Contractor shall provide at least the given amount.

C. Cabling shall be installed with 20% redundancy in all cases permitted by conduit fill.

D. Some products listed under this section may not be required to fulfill the obligations of the work.

E. When a conflict exists between the specification and the drawings, the higher number shall prevail.

F. Contractor shall estimate the system in its entirety and provide quantities as required for a full, complete working system.

G. Contractor is responsible for providing material quantities required to complete the work, regardless of if such items are not specifically shown or not.

1.5 DEFINITIONS

A. ASA: Acoustical Society of America.

B. NCAC: National Council of Acoustical Consultants.

C. AES: Audio Engineering Society.

D. ANSI: American National Standards Institute.

E. ICIA (InfoComm): International Communications Industries Association.

F. NAB: Nation Association of Broadcasters.

G. SMPTE: Society of Motion Picture and Television Engineers.

H. EMI: Electromagnetic interference.

I. Fabricator’s Shop: The address listed on the Business License of the entity responsible for fabricating the Work specified in this Section, hereafter referred to as the “Contractor”.

J. Fully Operational: A system that meets or exceeds all of the requirements set forth in the Contract Documents and is ready for the Final Inspection as described in Part 3 of this Section.

K. OFE: Owner Furnished Equipment. Unless otherwise noted herein or on the drawings, the AV Contractor shall integrate, terminate and test all OFE equipment shown on the drawings.

1.6 SCOPE

A. Description of the work.
1. These specifications, the related drawings and General Conditions of the Contract comprise the requirements for the systems.
2. Furnish, deliver, erect, install, program, develop, configure, interface and connect completely all material, equipment, appliances and devices described herein and shown on the Drawings, and supply all other incidental materials, appliances, tools, transportation, devices, connections, etc., required for a complete, working system.
3. The systems shall be completed and commissioned for the owner in first class working order and operating condition, excluding those items listed as Related Work.
4. All material, equipment, appliances, connections, cabling, devices, etc. required for a complete, working system shall be supplied and installed as part of this work, whether or not it is listed or described herein or shown on the drawings.
5. It is the sole responsibility of the contractor to provide a working system to the satisfaction of the Owner and the Consultant.
6. Perform assembly and fabrication of equipment, sub-assemblies, racks, interconnections, soldering, connection to user panels, terminals, devices or other equipment using industry-accepted standards and qualified technical personnel only. Such personnel shall be experienced in the installation of sound, communications, integrated AV systems, equipment and supporting devices, software and controls.
7. Coordinate service entrances, raceway and rough-in locations with actual equipment furnished, working as required with supporting disciplines as specified herein as Work by Others.
8. Verify jobsite conditions, dimensions and environmental conditions prior to installation, fabrication or supply of materials.
9. Perform all jobsite work, installation and fabrication in accordance with these Specifications, manufacturer’s recommendations and all/any applicable code requirements.
10. This work is an integration of multiple components, coordination work, subsystems, software and supporting interface with other disciplines.

B. Infrastructure
1. Coordination, verification and installed conditions for/of all cabling, terminations, junctions, splices, grounding and power distribution.
2. Provide detailed coordination with Division 26.
3. Testing and documentation of all conductors.

C. Field Panels
1. Provide custom, fabricated and commercially manufactured field panels, plug plates, rack panels and specialty panels.
2. Extract panel configurations from plans and single line drawings and reference applicable panel elevations.
3. Create fabrication drawings from Consultant's drawings to prepare manufacture of all panels.
4. Field-terminate all connectors to system cabling as specified herein and on the drawings.
5. Mount finish panels and integrate with raceway system.
6. Coordinate with Div. 26 for physical integration with raceway system.
7. Verify site conditions for all field panels, coordinate with General Contractor and/or Electrical Contractor.

D. Field Equipment

1. Mount, configure, test and operate all field devices in accordance with the design drawings.
2. Verify and coordinate final coordinates, locations and configuration of all field devices with the Consultant or from the Submittal process.
3. Harness all cabling from field devices to plug plates, terminal boxes or pull boxes as necessary.
4. Integrate third-party and owner-furnished equipment as shown on the drawings.
5. Obtain approval for mounting systems and mounting configurations from the General Contractor or procurement authority for all exposed device mounting configurations.

E. Distribution Frames
1. Prepare equipment rooms and rack locations for rack frames, related cabling and service entrances.
2. Coordinate with Div. 26, service providers, IT and other applicable trades to incorporate third-party service entrances.
3. Ensure that all cabling is harnessed from the raceway system into the racks as specified herein and/or as shown on the drawings.
4. Ensure that the power feeders are in place and coordinate with Div. 26 for installation of power conductors into rack power distribution systems.
5. Coordinate, configure and install applicable AV-supplied, supplemental raceway systems, including, but not limited to, cable ladders, trough systems, wire hook systems and cable trays as necessary.
6. Verify that all raceway entrances are properly configured and reflect the raceway drawings.

F. DSP Configuration & Programming
1. Coordinate signal flow for all DSP processors with the Consultant. Include the following audio processing and control functions:
   a. All microphone inputs shall include HPF 125Hz UON.
   b. All loudspeaker outputs shall include compression dynamics, -3.0dBFS, >10:1 compression ratio UON.
   c. Do not use summing circuits for outputs where a single audio signal is required.
   d. Band pass loudspeaker outputs per loudspeaker manufacturer’s recommendation.
   e. Prepare external control access for all input and output levels and mutes.
   f. Prepare and submit DSP configuration files to consultant for comment and approval.
2. Integrate DSP configuration files in the field and prepare systems for testing as specified herein.
3. Configure, develop and coordinate end-user control UI's as specified herein.
4. Configure, develop and coordinate interface with master control system, if applicable.
5. Interface with third party systems, including, but not limited to, LAN, Fire Alarm, content sources and owner-furnished equipment.

G. Direct View Video Displays
1. Provide scaling electronics as required to ensure support for source content, coordinate with the end-user and consultant.
2. Ensure that all displays, regardless of product noted, is shielded against EMF, static magnetic interference and high voltage.
3. Provide and install appropriate mounting bracket, related rigging and structure support components required to mount the display in accordance with the manufacturer’s recommendation.
4. Remove desk stands for all desktop-type displays shown in wall-mount configurations. Provide and install compatible VESA brackets in accordance with the display and mount manufacturer’s recommendation. Provide adapters, mounting hardware as required.
5. Provide transport accessories as shown on the single lines, including, but not limited to signal transport, HID interface extension systems, serial, IR and GPIO control circuits, LAN and supervision systems.
6. Confirm mounting heights for all displays with the end-user or consultant.

7. Locations and elevations shown on the plans are conceptual and/or typical. Verify all mounting configurations with the end-user or consultant.
8. Mount, configure, test and operate all field devices in accordance with the design drawings.
9. Ensure that all mounting and rigging systems, hardware and brackets are installed in accordance with the display manufacturer.
10. Verify and coordinate final coordinates, locations and configuration of all field devices with the Consultant or from the Submittal process.
11. Harness all cabling from field devices to plug plates, terminal boxes or pull boxes as necessary.
12. Integrate third-party and owner-furnished equipment as shown on the drawings.
13. Obtain approval for mounting systems and mounting configurations from the General Contractor or procurement authority for all exposed device mounting configurations.
14. Ensure that installation and configuration is compliant with the manufacturer's recommendations.

H. Interface with Site LAN
1. Provide, install, configure and test all cabling, network switches, bridging modules and other components required to ensure that the AV system is connected to the site LAN.
2. Coordinate with the owner's IT staff to manage connections to primary switches.
3. Extend all AV LAN cabling to the owner's IT closet locations, IDF's and MDF as required to establish network connectivity.
4. Provide and install optical media, related format converters and other components as required to extend LAN circuits to site IT backbone drops.
5. Ensure that all cabling and related transport components are compliant with the latest BICSI standards.
6. Requirements to extend AV systems to the site LAN are part of this work, regardless of if such connectivity is shown on the drawings or not.

I. Testing, Troubleshooting and Certification of Performance Requirements
1. Ensure that all systems are installed as required by the contract documents.
2. Ensure that all systems are installed as required by the manufacturer for applicable components, equipment and accessories.
3. Test as required herein.
4. Certify all cabling, termination and connections for the distance, bandwidth and performance requirements of the systems as shown on the drawings.

1.7 Systems Summary

A. The description as noted herein provides a summary of the systems as designed herein and as required by the owner.

B. The descriptions, in accordance with the specifications and the contract drawings constitute the basis of the work.

C. The design, as shown on the consultant's drawings, represent the required functionality, performance and integration with the infrastructure, however, the AV Contractor is responsible for ensuring that the design is implemented as shown.

D. It is the sole responsibility of the AV contractor to meet these requirements to the complete satisfaction of the owner and the Consultant regardless of whether specific components, programming, configuration, fabrication, etc. is specifically shown on the drawings or noted herein.

E. Any revision to the design, as determined by the AV Contractor, will be considered. The AV Contractor shall contact the consultant with recommendations.

1.8 Systems Descriptions

1. General
   a. The system components are installed in a renovated facility.
   b. The system is designed to provide audio and video display to areas as shown on the plans.
   c. Sound Reinforcement shall provide seamless audio coverage to entire areas with the use of distributed loudspeaker systems.
   d. Visual display systems provide viewing of content from OFE content sources.
   e. Controls are provided for access to source switching, audio control and other system functions.
   f. Equipment racks (MDF/IDF) shall be distributed as shown on the plans and house AV components and all terminated cabling.
   g. Interface with the site LAN is integral to ensure delivery of OFE content sources.
2. Sound Reinforcement
   a. Sound reinforcement is provided by multiple loudspeaker systems.
3. Video Display
   a. Video is provided by an OFE projection system. The AV Contractor shall relocated the existing projector and terminated it as shown on the drawings.
4. Controls
   a. The AV Contractor shall fully integrate controls for the system, including dedicated touch panel controllers, user interfaces to be loaded on OFE computers and additional interfaces for use with OFE iOS devices.
   b. Controls shall include the following minimal requirements; however, the AV Contractor shall carefully coordinate exact requirements with the end-user during commissioning and provide the UI as directed.
      1) Audio Master Mute.
      2) Audio Master Level.
      3) Individual audio levels and mutes (separate page or pages as needed).
      4) Audio levels and mute for video sources.
      5) Individual Audio Zone mutes.
      6) Master audio mute scenes (as directed).
      7) Audio follow video source. Configure audio inputs and related logic to follow camera shot, coordinate with the owner.
      8) Audio recording stop/play/pause/record.
      9) Video input switching.
      10) Video input enabling/disabling (mute).
      11) System on/off.
      12) System status.

1.9 Quality Assurance

1. The intent of these specifications and the accompanying drawings (hereafter referred to as Contract Documents) is to describe and present the concept of the system design for the project.
2. The Contract Documents represent a complete system provided and installed with high quality, professional reliability and performance. Professional performance standards by the Contractor and the equipment will be required at all phases of the Work.
3. The Owner and Consultant (hereafter referred to as consultant), shall have exclusive jurisdiction of the acceptability of the work. This acceptance shall include, but shall not be limited to, shop visits to Contractor’s fabrication shop if applicable, site visits, general observations and written reports from the Consultant.

1.10 Regulatory Requirements

1. Comply with the latest version of ANSI, OSHA, IEC, IEEE, FCC, NEC and NFPA requirements.
2. Listed and labeled as defined in National Electrical Code by a testing agency acceptable to authorities having jurisdiction and marked for intended use.
3. All equipment and materials shall be UL listed unless otherwise noted herein or on the drawings.
4. Comply with all local codes as they apply to the work as specified herein and as shown on the drawings.

1.11 Manufacturer Qualifications

1. Major products shall be supplied by manufacturers involved in the design, manufacture and service of products specifically for systems integration.
2. All manufacturers shall maintain a factory-based service center capable of providing training, parts, maintenance and repairs.
3. Manufacturers of DSP based audio products shall provide factory, or factory-authorized programming and implementation services.
4. Minimum of 10 years continuous experience in the design and manufacture of audiovisual equipment as specified herein.

1.12 Source Limitations

1. Obtain each category of audiovisual systems through one source from a single manufacturer when possible or practical.
2. Obtain each component or item of equipment as a complete unit, including necessary mounting hardware and accessories.

1.13 Electrical, Electronic & Optical Equipment

1. Products of firms regularly engaged in the manufacture of electrical, electronic or optical equipment.
2. Provide latest model or type offered which meets the requirements shown on the drawings at the time of the submittal.

1.14 Materials

1. Provide only new materials and products.
2. Discontinued products or products that are known to be discontinued within 6 months of the bid date are not acceptable.
3. Supply the latest variation, version or revision of all hardware and software products.
4. All materials and equipment shall be of first-run manufacture. Items classified as “B-Stock” shall not be acceptable without prior approval from the Consultant.
5. If an item specified in Part 2 of this section, or is shown on the drawings, and has been discontinued, or is soon to be discontinued, submit the manufacturer’s direct replacement for review and approval by the Consultant. If a direct replacement is not available, submit a proposal for an alternate product that meets the requirements as specified herein and/or as shown on the drawings.

1.15 Delivery Storage & Handling

1. Deliver portable components, equipment, materials, and accessories to project site in original, unopened packages and store them in a fully enclosed, air-conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

2. Handle components, equipment, materials and accessories carefully to avoid damaging units in any way.
3. Do not deliver system assemblies, sub-assemblies, portable components, equipment, materials or accessories until the building is enclosed and other construction within spaces where the audiovisual system assemblies will be installed is complete and ready for installation.
4. Fabricated equipment racks shall not be delivered to the jobsite until the noted equipment rooms have been finished and are operating with permanent building power.
5. Do not operate electronic systems on “temp” power under any circumstances without prior approval from the Electrical Engineer.
6. The Contractor shall be liable for all fabricated equipment racks installed on the jobsite until accepted by the Consultant during acceptance testing. Racks installed on the jobsite are not subject to warranty coverage until Final Acceptance.
7. The spaces where audiovisual system assemblies are installed shall meet the following requirements:
    a. Free from dust generated from construction.
    b. The room temperature shall be within the specified operating temperature recommended by the manufacturer.
    c. The floors and ceiling shall be finished per the Architectural drawings.
    d. All power distribution systems shall be complete and operating under final acceptance by the Electrical Engineer.

1.16 Substitutions

1. Equipment, materials and other required products designated as “design-basis” shall be the preferred products.
2. Items listed herein, and/or shown on the drawings may not include detailed performance specifications; in this case, the manufacturer’s specifications indicate the performance requirements.
3. The Contractor should provide design-basis products whenever possible. In this case, no substitution shall be accepted without a written request from the Contractor and with written approval from the Consultant.
4. Equipment, materials and other required products designated with the designation “no known equal” shall be the required products.
5. Where the specified product is designated “or approved equal”, the product specified shall determine the standard of performance required, regardless of any additional language referring to features, performance or other specifications.
6. In all cases where a specific manufacturer's model number is specified or shown on the drawings, the manufacturer’s published specifications for noted item shall establish the performance requirement.
7. When products are specified without specific manufacturer or model requirements, the performance requirements, connectivity, functionality or mechanical requirements listed herein, or as shown on the drawings, shall establish the requirements for the product or item.
8. Requests for substitution shall be received by the Consultant as a request by the Contractor upon award of contract, to provide an equal or superior product without change to the design, the design intent or to the “spirit” of the design. Such requests assume that the Contractor has verified by a level of experience, documentation or other data that the proposed substitute product is in fact, equal to, or superior to the specified product and that the Contractor shall coordinate the configuration, installation and orientation of such product, amending or modifying the system design and its associated documentation as required for the work to be complete in all respects.
9. Substitutions shall not be considered valid when such substitutions are included as part of submittal drawings, shop drawings or other construction documents without prior approval from a formal request as specified above.

10. Substitutions shall not be considered when such substitution requires a substantial revision of the Contract Documents in order accommodate the substitution.
11. Substitutions shall not be considered when the substitution fundamentally changes, modifies or otherwise compromises the system design, the intent of the design or the "spirit" of the design.
12. Project infrastructure including, but not limited to, space planning, mechanical infrastructure, raceway systems, outlet and control boxes, etc. has been designed with design-basis products. Any substitution or product implementation that requires changes to infrastructure, mechanical requirements, electrical requirements, etc. shall require detailed shop drawings showing the proposed change. Such request shall not be considered if a substantial impact to other trades or the project site is required to accommodate such request. The Contractor shall verify and coordinate all raceway or rough-in locations with actual equipment installed, regardless of change status.
13. When approved substitute equipment or products require changes to other system components, configurations, connections or infrastructure or system design as indicated by the drawings, the equipment shall operate properly in harmony with the design intent as indicated by the Contract Documents. Incidental changes, equipment, items or devices required to implement the approved change shall be provided by the Contractor without change to the Contract amount. Contractor shall assume all costs associated or incurred by approved changes, including, but not limited to, changes incurred by adjoining or supporting trades.
14. Requests for substitutions shall be submitted no less than 15 business days prior to bid date. Substitution requests shall be requested and approved in writing only, based on the criteria specified herein, and/or the General Conditions.

1.17 Contractor Qualifications

A. The work performed under this Section shall be performed by an experienced Systems Integration Contractor specializing in the design, installation and service of high-performance AV and control systems.

B. The Contractor shall be normally engaged in the business of integrating advanced AV and control systems in construction projects and shall provide evidence with the bid that such business operation has continued as such, continuously for no less than five (5) consecutive, prior years.

C. The work specified in this Section shall be performed by a single Contractor experienced in the design, fabrication, installation, testing and warranty contract management of systems such as those specified herein.

D. The Contractor shall provide evidence with the bid of no less than three (3) prior projects of similar scope, completed within the previous 12 months from the bid date. In this context, "scope" shall be defined as work that includes similar design, installation, operational requirements and cost.

E. The Contractor shall be authorized in good standing for all major product lines specified herein. If factory training or certification is required for specific product lines, the Contractor shall provide evidence that such training has been completed by current staff members and that such training is directly applicable to the products specified herein.

F. The Owner reserves the right to reject any bids from firms without sufficient experience of projects of similar size, scope and cost.

G. The Contractor shall employ a qualified project engineer, as full-time employee and shall conform to at least four of the following requirements:
   1. Be a university graduate engineer in electrical or electronic engineering.

2. The engineer shall have at least 5 years' experience in design, implementation, troubleshooting and management of large scale, integrated electronic systems at the component and device level.
3. The engineer shall have an active CTS-D or CTS-I certification in good standing as issued by the International Communications Industries Association (InfoComm).
4. The engineer shall have direct experience in the implementation of at least 5 systems of similar scope within the last 7 years.
5. The engineer shall have factory training or certification for all products that integrate hardware and software configuration tools.
6. The Owner reserves the right to reject any bids from firms that cannot demonstrate compliance with staffing requirements as specified herein.

1.18 Coordination

1. Cooperate and coordinate as required with other contractors, tradesmen and supporting disciplines responsible for work not included in this Section.
2. Provide any and all information, documentation, samples, etc. as required or requested by the Owner or Consultant or General Contractor to ensure this work is completed to the satisfaction of the Owner, and in best interests of the Project, and for the efficiency of the construction process. Such assistance or information shall be transmitted in writing to the applicable party in all cases. All correspondence of any type shall be written and shall be copied directly to the Consultant.
3. The contractor shall participate in meetings and conferences as required.
4. The contractor's project engineer shall be responsible for supervision of all technical work that is part of this Section, including, but not limited to, the following:
   a. Supervise preparation of shop drawings and submittals. Such engineer shall sign all submittals and shop drawings.
   b. Supervise shop fabrication and field installation work to assure conformance with the Contract Drawings, the Specifications, and the reviewed Shop Drawings to assure workmanship of the specified quality.
   c. Supervise the testing of all assemblies and sub-assemblies prior to delivery to the Project Site.
   d. Lead in the specified testing of the completed installation to assure the Owner that all Contract Requirements are met. Work with and assist the Consultant in the final testing for approval and acceptance of the system for the Owner.
5. The contractor's project engineer, as defined herein, shall be present at the Project site for Substantial Completion Inspection, Final Inspection, approve the operating and maintenance manuals, and provide any additional instruction as needed to designated members of the Owner's staff.
6. Coordinate arrangement of the audiovisual system assemblies with adjacent construction, and with components occupying ceiling space, including structural members, pipes, air-distribution components, raceways, cable trays, recessed lighting fixtures, ceiling framing, light fixtures, HVAC equipment, fire-suppression system, and partitions.
7. Refer to Electrical Drawings for service voltage and power distribution systems. Coordinate the installation of system power distribution and grounding systems with Division 26.
8. Refer to Category AV Drawings for control and interface cabling to third party systems for equipment specified under this Section.
9. Coordinate layout and installation of system components with adjacent construction, including ceiling framing, light fixtures, HVAC equipment, fire-suppression system, and partitions.
10. Coordinate the installation, configuration and operational interface for all Owner-furnished equipment (OFE) as shown on the drawings.
11. Ensure that Owner-furnished equipment not specifically noted herein or on the drawings is accommodated within the context of a complete, working system.
12. Provide assistance to the Owner as required to ensure that all equipment is implemented for maximum performance.

13. Coordinate installation of power distribution to A/V racks with Division 26.
14. Termination of ground conductor inside A/V racks. Coordinate with Division 26.

1.19 Warranty & Guarantee

A. The warranty specified in this Section shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty to the Owner shall be an inclusive warranty for the complete, integrated system without regard to specific products, materials or components.

C. Manufacturer's Warranties shall be executed by each manufacturer agreeing to repair or replace components of audiovisual system that fail in materials or workmanship within specified warranty period.

D. The Contractor shall coordinate all manufacturers' warranty during the system warranty period. This includes, but is not limited to travel, technical service time, installation, replacement, loaner equipment, etc.

E. Warranty Period shall start at the date of Final Acceptance as defined herein, regardless of the status of manufacturer warranties on individual equipment or components and shall be in force for a period of one calendar year.

F. Completion of the Warranty Period shall be one year from date of Final Acceptance and constitutes 100% Progress as it related to project invoicing.

G. Contractor shall provide verbal response within four (4) hours via landline telephone during the warranty period.

H. Contractor shall provide physical on-site response within forty-eight (48) hours of notification by the end user within the warranty period.

I. Contractor shall maintain technical staff for any inquiry during normal business hours within the time zone of the project site.

J. Contractor shall provide alternate access to technical assistance from 7 a.m. to 9 p.m., 7 days a week during the warranty period. Such access may be provided via cellular telephone access, SMS/text messaging, video chat or web conference, provided that all requests are responded to within 30 minutes of the inquiry.

K. Guarantee all parts, materials, equipment, devices, labor and workmanship furnished under this Contract for the warranty period.

L. During the warranty period the Contractor shall visit the project site at least once during the midterm of the warranty period (between the fourth and eighth month of the warranty period) and perform a detailed survey to ensure that the system is operating as designed and installed. Any defective materials or workmanship shall be repaired or replaced on-site without cost to the Owner.

M. The Contractor shall provide temporary equivalent, advanced replacement equipment when immediate on-site repairs cannot be performed, or it is impractical to do so.

N. The system shall be completely operational, as designed and installed, without delay or “down time” during the warranty period.

O. If specific components within the system are provided with manufacturer’s warranty exceeding 12 months, the Contractor shall extend the total system warranty for such parts of the completed, integrated system as designed and installed to meet the warranty of such components.

P. The Contractor shall provide a complete and working system and shall provide maximum, cooperative assistance to the Owner during the warranty period to ensure continued, maximum Owner satisfaction.

Q. Upon completion of the work, the Contractor shall submit a Certificate of Warranty. Such Certificate shall include language that specifically indicates the warranty period, conditions of the warranty and signatures of authorized representatives of the Contractor and Owner.

R. At the discretion of the Owner, partial or incremental warranties may be negotiated for completed portions, sub-systems or assemblies of the system if jobsite conditions prevent the Contractor from completing the work, performing the final commissioning and training, thereby initiating the warranty period.

S. The warranty period shall not begin until the final testing and all post-test requirements have been satisfied and accepted by the Consultant and Owner.

1.20 Maintenance Service

A. Contractor shall offer an optional, post-warranty maintenance plan directly to the Owner. Such proposals shall include provisions for the following:
1. Site visits for routine maintenance.
2. Annual or semi-annual site visits for confirming and adjusting system controls for proper operation.
3. The offer for a Maintenance Service Plan shall be included in the close-out documents.

1.21 Shop Drawings & Submittals

A. General
1. Submittals shall be prepared, submitted and approved by the Consultant prior to the procurement or fabrication of equipment and materials and prior to the commencement of any work.
2. Submittals shall include detailed, complete and thorough shop drawings and product data as specified herein.
3. Submit quantity of books and drawing sets as required in Division 1, General Requirements. If permissible, all Submittals should be submitted electronically in PDF format.
4. Ensure that all electronic Submittals are configured for cross-platform PDF viewers. Do not embed proprietary, or Adobe-specific functionality that would prevent generic PDF viewers from operating properly with the files.
5. All PDFs shall be viewable, with full functionality on MacOS, Windows, iOS and Android operating systems.

B. Installer qualifications submittal
1. Provide documentation indicating compliance with the Contractor Qualification requirements specified herein.
2. Product Data

a. For each item specified herein, or shown on the drawings, submit a Manufacturer's Equipment Specification Sheet listing the product features, specification and physical characteristics.
b. If more than one product or model option is listed, clarify which product is being submitted by identification.
c. Provide data sheets and supporting documents in a bound specification manual or indexed PDF document per the requirements noted herein.
d. Include equipment lists, data sheets, specification or "cut" sheets for all products, components and conductors for the complete system as specified herein.
e. Use only 8.5" x 11" sheets.
f. Use indexes, URL (hyperlinks) or other means to separate sections into clear, logical sections. Use multiple volumes as necessary.
g. If manuals are printed, use dividers and a master index or Table of Contents to organize sections.
h. Provide a Bill of Quantity for each item specified herein, or shown on the drawings, and all incidental material supplied necessary to complete the Work as specified herein and shown on the Drawings.
i. All schedules and bill of quantities shall include the manufacturer, model, description, quantity supplied and estimated replacement cost.

3. Shop Drawings
a. Shop Drawings shall be clear and legible.
b. Drawings shall be prepared and submitted on drawing sheets in the same size and format as the project drawings.
c. Title blocks for all shop drawings shall be the contractor's with references to the project information.
d. Character height shall be 1/8-inch high when plotted at full scale.
e. Title character height shall be ¼-inch when plotted at fill scale.
f. Include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation, if applicable.
g. Drawings shall be 1/4-inch, 3/4-inch, 1-inch, 1-1/2-inch, 3-inch and 1-inch = 1-inch scale.
h. Do not rely on Consultant's CAD drawings as a basis for this requirement. Consultant's drawings constitute proprietary copyrighted intellectual property and such, all or some of the original electronic drawing files may not be available. Contractor is free, however, to use plotted versions, either paper plots or portable documents (PDF) of the Consultant's drawings as a reference in preparing shop drawings.
i. Contractor shall not "cut and paste" Consultants drawings in any part as part of any submittal, shop drawing or as-built drawings.

4. Single Line Drawings
a. All signal flow, cabling and termination drawings shall be in Single Line format as specified herein.
b. Single Line Diagrams shall be separated by systems, location, signal transport (audio, video, control, LAN, etc.) as applicable for the project scope.
c. Single Line Drawings shall indicate final terminations and interconnection of all devices in the signal path for each system.
d. Single Line Drawings shall clearly indicate manufacturer, model, applicable SKU number, physical connections and related circuit type, physical location by rack and/or room number.
e. Use only clear English designators, drawing codes shall not be permitted.
f. Drawings shall be consistent with the submitted bill of materials. Use clear, constant designators throughout.
g. Include a schedule or master legend indicating all cable types. Include cable manufacturer, wire model or SKU number, cable designator/wire number, termination type, source and destination devices and any notes applicable to the termination.

h. Clearly note applicable terminal cabinets, pull boxes or backbones by physical location, panel designator or number, reconciled with architectural plans and/or AV Raceway plans.

5. Plans
   a. Plans shall show physical locations of all devices with proper scale and notes to indicate mounting type, termination, etc.
   b. If plans reference sections or elevations, use architectural section markers with references to sheet and detail.
   c. Include room numbers, dimensions and relevant annotations for all AV-specific devices, coordination items, etc.
   d. Where applicable, show physical equipment configurations in section and/or elevation view.
6. Risers
   a. Riser diagrams are optional, except in cases where comprehensive raceway plans, reflected ceiling plans and related details are not in use.
   b. Provide riser drawings for the system infrastructure. Indicate box type, location, conduit types, location, termination and locations.
   c. Indicate where cable trays, thoughts and multi-barrier raceway systems are used by location, size, type, function and cable fill.
   d. Indicate applicable intermediate pull box location, size, type, quantity and number.
   e. Indicate terminal back box locations, size, type, quantity and number.
7. Equipment Rooms
   a. Provide details for each AV Equipment enclosure location, size, type, quantity and number.
   b. Show racks in plan, section and elevation views. Contact the AV Consultant for architectural and rack backgrounds, if applicable or permitted.
   c. Plans shall show physical locations of all racks, related raceway systems with proper scale and notes to indicate mounting type, termination, etc.
   d. If plans reference sections or elevations, use architectural section markers with references to sheet and detail.
   e. Include room numbers, dimensions and relevant annotations for all rack areas.
   f. Indicate points of demarcation for related trades, power feeders, content sources, etc.
   g. Where applicable, show physical equipment configurations in section and/or elevation view.
   h. Section views are mandatory for rack rooms with cable ladder systems and rack configurations with more than 2 rack bays.
   i. Rack or frame details shall include callouts for rack type, manufacturer, model, frame type, function and designator.
   j. Equipment elevations shall not be used for termination or wiring details. Do not show connections as part of rear-panel rack elevations.
   k. Provide elevations for all jack fields, patch bays and terminal panels. All elevations shall include panel type, manufacturer, model, configuration, connector type and quantity and designator, reconciled with the single line drawings.
8. Panel Elevations
   a. All patch bay designators shall match a corresponding designator on the single line drawings.
   b. Single line drawings are the basis for all panel designs. Panel elevations, if provided, are for reference only.
   c. For each contractor-fabricated item, indicate all components and devices, including manufacturer and models, dimensions, connector types and manufacture and mounting locations.
   d. Panel elevations shall reflect the metal fabrication process.
9. Rigging & Mounting

a. For all devices attached to the building indicate loads, location of attachment point, method of load calculation, hardware details, rigging parts schedule by manufacturer and model, design calculations.
b. Ensure that drawings include architectural and structural elements and demarcations to indicate related trades.
c. Callout, annotate and dimension all elements, fastening devices, hand/pick points, mounting hardware, supporting hardware, cabling and terminations.
d. Indicate if a Structural Engineer was consulted and the name and contact information, if applicable.

10. Samples
    a. Submit a sample for each device installed in visible public space.
    b. Samples shall include, but shall not be limited to, flush-mounted loudspeaker grilles, control finish plates, field I/O panels, J-Box cover plates and rigging attachment plates.
11. Qualification Data
    a. Submit documentation supporting compliance for engineers and project managers as specified herein.
    b. Indicate methods of compliance, if applicable for the demonstration of qualification of any additional personnel, and to demonstrate their capabilities and experience.
    c. Include reference documents, lists or promotional materials for completed projects as specified in the requirements herein. Include project names and addresses, contact names and addresses of architects and owners, and other information specified.
12. Test Reports
    a. Shop Test Reports. Prior to requesting Shop Testing, document that each system has been tested, is complete and fully operational.
    b. Submit indexed test results for each device and cable run.
    c. Audio system tests shall include electronic frequency response, acoustic frequency response, total harmonic distortion, phase, signal I/O, polarity and gain structure.
    d. Video system tests shall include black levels, polarity, signal levels and gain/loss through I/O.
    e. Data transport systems shall be certified for the applicable bandwidth in accordance with the requirements of the manufacturer of the connected devices. Submit reports from test equipment where applicable.
    f. Digital video transports shall clearly note the requirements of the end points published by the manufacturer of the connected devices.
    g. The resultant performance of each physical media shall be documented in comparison with the performance requirements.
    h. Submit via flash media a copy of the final software configuration file for all audio processing systems.

1.22 Closeout Submittal

A. Provide a comprehensive Service Manual with individual, manufacturer's operations and instruction manuals for all equipment, components and accessories.

B. Contractor shall prepare a system-level operation manual that reflects the end-user training.

C. The systems manuals shall be composed using a single, consistent visual format and writing style.
    1. Text shall be derived from component equipment manufacturer's instruction manuals and may include reproductions of artwork and other materials.
    2. Manuals, drawings, charts and graphs shall be submitted in PDF format on flash media or accessible on an internet address. Any web site or FTP location shall not expire during the warranty period.

3. A detailed index at the front of each manual shall indicate the project name, specification section reference, manufacturer, model, part number, description and operations and service information.
4. Provide complete, comprehensive instructions for the operations of all contractor-fabricated devices and equipment items provided as part of the Work of this Section.
5. Provide comprehensive specifications for all material, devices, components and equipment selected for use in this Section, whether modified or not.
6. Provide complete bills of quantities of all material as delivered, including a separate schedule of portable equipment.
7. Provide a final schedule of equipment and devices provided in each room, by room number and name.
8. Include serial numbers for all unique components, equipment or other items where applicable.
9. Provide a comprehensive tabulation of equipment, devices, miscellaneous parts and maintenance items, including manufacturer's name, address, model number, systems use and miscellaneous information.
10. Provide comprehensive documentation of all performance verification tests and procedures described herein.
11. Provide copies of all software-based programs, including, but not limited to, Control System code, DSP programming configurations, video switching configurations, network switch configurations, security access, digital transport configurations on flash media.
12. The Record Drawings shall be developed from the final "as-built" condition of the systems.
13. Provide the “as-built” condition of the Shop Drawings.
14. Provide all training materials for review prior to scheduling training sessions.
15. Provide copies of all manufacturer warranties.
16. Provide a statement of system warranty as specified herein.

1.23 Sequencing

A. Coordinate schedules with General Contractor for all work.

B. Ensure that work is closely coordinated with related trades to maintain project schedule.

C. Notify Consultant at least 30 days prior to any site inspection or field request.

D. Notify the General Contractor of any site condition that impact work progress, constraints caused by related trades or any other condition.

E. Submit all testing documentation to the Consultant, via the General Contractor or procurement authority, for review prior to requesting any Inspection.

F. Allow adequate time for corrections to be made after inspections to maintain the Project Schedule.

PART 2 - PRODUCTS

2.1 General

A. Equipment, components and materials shall be new, factory-supplied, factory-sealed and unused condition.
1. All items shall be provided under full factory warranty.
2. Acceptable equipment, components and related items are shown on the drawings.
3. The drawings take precedence over any conflicts, unless otherwise noted.

4. Quantities shall be taken-off from the drawings, unless specifically noted herein.
5. When quantities conflict, the greater quantity shall be furnished unless specifically clarified in a written response from the Consultant to a Contractor RFI.
6. All equipment, components, materials or other devices required for a complete working system shall be included, even if such equipment, components, materials or devices are not specifically noted herein, or indicated on the drawings. Any such item shall be specifically noted in the bid submittal.
7. Provide all required components shown on the drawings.
8. The manufacturers' data, specifications and installation requirements, including, but not limited to, supplementary components, accessories, required software, maintenance plans or other additional items required to fully implement the systems as documented on the project drawings shall constitute the requirements for all system components.
9. Manufacturer’s product data shall supersede any specific performance specifications provided herein or shown on the drawings.
10. Specific product specifications, features, operational or functional requirements noted herein shall be considered performance requirements for all system components unless they conflict with the manufacturer's published data for the specific product.

2.2 Basis of Design

A. Design basis products constitute the preferred products for the integration of all systems.

B. Alternate products may be considered, see Substitutions, herein.

C. The design basis products are indicated on the drawings and represent minimum performance requirements.

D. If a specific product requires additional accessories, optional components or other items, provide the complete product configuration to meet the requirements of the system drawings or system description provided herein.

E. All products shall include all required components as recommended by the manufacturer for the application shown on the drawings and as summarized herein.

2.3 Wire & Cable

A. Wire, cable and signal conductors shall be new and unused.

B. All wiring shall be plenum rated except for wire installed in equipment racks, portable cables and wire installed in conduit or raceway systems.

C. All plenum wire shall meet applicable local codes.

D. Other equipment and/or component cables and conductors shall be constructed with stranded wire, shielded as required with the number of conductors and gauge required by the manufacturer for proper operation of the item supplied.

E. Wire and cable for any device, whether specifically listed herein, shown on the drawings or not, shall be supplied in accordance with the requirements of the device manufacturer and the National Electrical Code.

F. Specific wire and cable types, products and functions are indicated on the drawings.

G. Portable cable assemblies shall be provided as shown on the drawings, or as recommended by the intended device of use.

H. Provide all and any proprietary cables and interconnects if required by the specified equipment.

2.4 Field Panels & Plates

A. Panel or plate mounted connectors shall be mechanically and electrically isolated or insulated from the signal/shield terminal.

B. Floor mounted connectors shall be installed in secure floor pockets or protected enclosures, unless clearly noted otherwise on the drawings.

C. Interior plates shall be painted or anodized with a black finish.

D. Connector labels shall be engraved with .125” engraved lettering with white paint fill.

E. Custom panels and connectors shall be installed on .125” anodized brushed aluminum or CRS.

F. Panel elevation drawings are shown for layout and conceptual design. Provide connector complement as shown on the single line drawings.

G. Submit details and samples of all custom finish plates prior to fabrication.

H. Standard finish plates shall be constructed of brushed 302 stainless steel.

I. Logical, sequential and consecutive numbering shall be provided as shown on the drawings or as implied by the logical layout of the panel locations. Submit detail.

J. All panels and plates shall be supplied as shown on the drawings or as specified herein.

K. The single line drawings shall have precedence for all panel and plate requirements. Where a panel elevation is not shown, the contractor shall configure the panel based on the single line drawing and the backbox or rack indicated on the plans.

L. The contractor shall refer to the plans and AV raceway drawings to confirm panel sizes for all backbox locations.

M. The contractor shall carefully configure plate construction based on the mounting configuration of the related backbox.

2.5 Cable & Wire Labels

A. Provide wire numbers for all cable assemblies, conductors, optical media and data cables.

B. Refer to single line drawings for suggested cable and wire numbering schemes.

C. The contractor is free to use their preferred "shop standard" for wire and cable numbers. All numbers shall be included on the as-built drawings and reconciled with the cable schedule.

D. All labels exposed to field conditions shall be laminate type, vinyl construction with protection for the printing.

E. Labels shall be laminated or sealed with clear shrink wrap or other method to protect the printing.

F. All labels shall be resistant to weather and corrosion.

G. All labels shall be white with black numbering.

H. Each physical cable or optical media shall be labeled at each end.

I. If a physical cable or optical media has been spliced or otherwise coupled, each end of the break shall be labeled.

J. All labels shall be configured with Thomas & Betts WES Series systems or equal. Dymo labels or similar office-grade labeling systems shall not be acceptable.

2.6 Equipment Mounting

A. Loudspeaker rigging, suspension and mounting shall be performed with ATM Flyware or similar assemblies.

B. Omnimount brackets are acceptable with approval where applicable.

C. AV drawings are for information only. The Audio-Visual Contractor shall supply Shop Drawings of mounting details stamped by a registered structural engineer prior to installation.

D. All flush-mounted assemblies shall be secured to the structure.

E. Loudspeakers assemblies mounted flush into LAT ceilings shall be secured to the structure.

F. In all cases, the contractor shall secure the approval of a licensed structural engineer for all mounting configurations.

G. Submit details for all mounting assemblies.

H. Custom fabricated mounting systems are not acceptable without approval from a structural engineer.

2.7 Wireless Microphone Systems

A. The drawings indicate the performance requirements, audio and RF connectivity, microphone type and signal flow.

B. The AV Contractor shall complete the design by ensuring RF conditions are suitable for site conditions.

C. The systems shall be implemented as the result of a site survey.

D. The AV Contractor shall perform a comprehensive site survey, in accordance with the recommendations of the specified (Basis of Design) manufacturer.

E. The site survey shall support the channel quantity indicated on the drawings, plus a 20% contingency for expansion.

F. Ensure that all RF conditions are suitable for the systems specified.

G. Include the results or RF site survey in the Submittal, prior to procurement of RF components, equipment or related equipment.

2.8 DSP

A. Provide the DSP configuration as shown on the drawings.

B. Integrated DSP shall be included to support signal processing, routing, distribution, summing, switching and control.

C. DSP shall support audio and video transport across standard Ethernet networks.

D. Analog audio I/O shall be included as shown on the drawings.

E. The DSP shall support integrated control via a system of control panels, touch screens and UI software.

F. All network audio shall support AES67 standards.

2.9 Supplemental Components

A. The AV drawings may not indicate supplemental components or components that may be "implied" by the system design or by a specific component.

B. The contractor shall provide all required supplemental components required to meet the intent of the design.

C. If prior notice is not provided via an RFI or other pre-bid request, the contractor shall be liable to provide any supplemental component required to interface the documented systems.

D. Provide the following in all cases:
1. Microphone quick-disconnect stand adapter, equal to Atlas LO-2B, or equal by K&M or AKG for all portable microphone stands.
2. Low level audio balancing transformer to terminate unbalanced circuits. Provide, mount and terminate transformer, equal to Jensen ISO-MAX PC-2XR.
3. Audio isolation transformer (1:1). Provide as required to isolate audio circuits from noise, hum or other spurious noise. Provide, mount and terminate transformer, equal to Jensen ISO-MAX DM2-2XX.
4. Provide active buffer amplifier for all consumer audio circuits with amplifier, equal to Aphex 124 or equal.
5. All passive control, GPIO, relay, logic and other custom circuits shall include a power supply with 100% current rating for applicable circuit. Supply, mount and terminate power supply equal to B&K, Condor or approved equal.

2.10 Equipment Enclosures & Racks (Distribution Frames)

A. Provide racks as shown on the drawings.

B. Single line drawings shall constitute the requirement for racks in all cases. If rack elevations are provided on the drawings, they should be considered conceptual.

C. All equipment with EIA mounting rails shall be mounted in an equipment rack.

D. All racks shall include a power sequencing system with a 2:1 ratio of sequenced circuits to power amplifiers.

E. Four non-switched circuits shall be provided. All circuits shall be rated for the loads and feeders noted on the plans.

F. All racks shall include fans and exhaust vents in accordance the recommendation of the equipment manufacturers for racked equipment and/or the rack manufacturer.

G. All racks shall include a system of vents and blank panels to ensure that all racks are sealed.

H. The contractor shall use a system of punch or terminal blocks for internal rack circuits where applicable. Use only rear-rack panel or DIN assemblies.

I. All equipment shall be labeled by function and drawing designator, front and rear.

J. A system of horizontal and vertical cable management shall be employed to secure cabling systems.

2.11 LAN Switches

A. Switches labelled “OFE” are provided by others. Coordination is required in all cases, see notes on drawings related to networks required for AV systems.

B. Specific switch products are shown, but not specified on the drawings.

C. Switches shall be provided, installed, configured and tested by the AV Contractor, unless otherwise noted as OFE (see notes on AV drawings).

D. AV Contractor shall supply LAN switches to accommodate the AV systems as shown on the single line drawings in all cases.

E. The AV Contractor shall verify that all switches will support the systems as shown on the drawings.

F. Verify that all LAN switches meet the requirements of the connected components and comply with the manufacturer’s requirements for all such components.

G. Provide any required power supplies, bridging equipment, media converters, cabling, terminations, mounts and other components required to fully implement the systems as shown on the drawings.

H. Supply all components, regardless of if such components are specifically shown on the drawings, if such components are required to support the systems as shown.

I. It is the sole responsibility of the AV contractor to configure networks to fully support the AV Systems as shown on the drawings.

2.12 Encoded Distribution

A. The requirements of this section apply to the AV Contractor, regardless if LAN switches are provided by the AV Contractor, or if the systems are integrated with LAN switches provided by the IT authority.

B. Coordinate the requirements of the network, as shown on the drawings, for full performance on the LAN.

C. In systems where encoding and decoding is used, the AV Contractor shall ensure the system is implemented in compliance with manufacturer's published design recommendations.

D. Use stand-alone, or segmented (vLAN or MPLS) network switches for AV streaming distribution.

E. Use nonblocking Layer 3 switches with port based QoS such as 802.1P with 802.1Q at all stages of the design.

F. Ensure that LAN switches are compliant with the manufacturer of the connected endpoints to meet the performance reflected by the drawings.

G. Consider the source bandwidth requirement under typical use when configuring the network.

H. Configure network bandwidth to accommodate 20% spare endpoint capacity, UON.

I. Coordinate implementation of OFE servers with the owner's IT staff at all Distribution Racks (DF).

J. Consider bi-directional configurations when calculating network port bandwidth requirements.

K. Configure networks for maximum performance based on the manufacturer's recommendation. This includes, but is not limited to QoS, IGMP, USB routing, integrated security (802.1X using TLS or MS-CHAP v2 authentication, Active Directory® service support for endpoint management, audio and video stream encryption, secure IP device control, and secure device console access), CEC Control, POE, DNS, DHCP, PIM, SSL,

L. Implement SFP linking where applicable.

M. Ensure network access to any related/required cloud services as recommended and/or provided by the manufacturer of the streaming endpoints, related accessories and components.

N. Provide and/or coordinate with the owner's IT staff, that all network media (copper and/or optical) is compliant with the streaming products manufacturer.

O. Provide related network appliances for configuration, management, supervision, etc. as recommended by the streaming systems manufacturer, regardless if such appliances are shown on the drawings.

P. Provide any server required to configure, operate and maintain the system to meet the requirements reflected on the drawings, regardless of specifically shown on the drawings or specified herein, if applicable, or not provided by the owner's IT group.

Q. Coordinate all network design parameters with the owner's IT staff and network engineer.

R. Ensure that all LAN ports are configured to operate within the bandwidth limits of the endpoints and related video, audio, COM, IR, USB and Ethernet connections at the endpoint.

S. Refer to the plans for physical endpoint locations.

T. Refer to the single line drawings for connection configurations and other requirements.

2.13 Codecs & Related Equipment, Components & Accessories

A. Transports are shown on the single line drawings; however, the AV Contractor shall verify that all transports for codec-supported cameras shall be configured per the codec manufacturer's recommendations.

B. Codecs shall be configured for full operation. Configure as shown on the single drawings and include all supplemental components, software, licensing, etc.

C. Codecs shall be supplied with all and/or any applicable options, software licenses, RTU (Right to Use) options, accessories, components and supplemental hardware and software to provide the function shown on the drawings.

2.14 Lecterns & Portable Racks

A. Configure as shown on the single-line drawings and referenced elevations and/or details.

B. Provide integral mounts for video displays, microphones, cable "cubbies" as required to facilitate the equipment shown on the single-line drawing.

C. Provide moveable side shelf for document cameras, if applicable.

D. Provide rack space to accommodate all equipment shown on the drawings or specified herein.

E. All rack space shall have front and rear EIA rails.

F. Coordinate functional requirements with the end-user.

G. Ensure that all owner-provided equipment is accommodated, including, but not limited to, computers, interactive displays, keyboard and pointing devices, etc.

H. Provide all required cabling harnesses to connection plates at Presentation Positions.

I. Provide integral casters for all lecterns specified for portable use.

J. Verify finish with General Contractor and/or owner.

K. Provide vents, blanks, fan and power distribution system as required.

L. Verify cooling requirements with lectern manufacturer, provide forced air, intake and exhaust as required by the manufacturer.

2.15 Jack Fields, Patch Bays & Terminal Panels

A. Refer to the single-line drawings for specific circuiting for all jack fields.

B. Low Level audio patch bays shall be configured as shown on the drawings with 1/4", TRS jack fields.

C. Data level terminal panels shall be configured as shown on the drawings.

D. Loudspeaker patch panels shall be fabricated per the drawings.

E. Video patch bays, jack fields and terminal panels shall include integral terminators.

F. For all patch bays, jack fields and terminal panels, provide patch cables, suitable for the connector type, to support 50% of usable configurations.

G. Provide patch cables in 12", 18" & 24" length, in various colors. Coordinate with the Consultant.

PART 3 - EXECUTION

3.1 Examination

A. Examine rough-in work and verify actual locations of terminations, connections and applicable junctions prior to installation.

B. Verify that raceway systems, installed by Div. 26, are installed per the raceway drawings.

C. Notify the General Contractor of any discrepancy in field conditions.

D. Examine raceway systems, cable trays, and other elements for compliance with space allocations, installation tolerances, hazards to cable installation, and other conditions affecting installation.

E. Examine walls, floors, roofs, equipment bases, and roof supports for suitable conditions where audiovisual systems are to be installed.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 General Installation

A. Furnish and install components, equipment, devices, accessories, wire, cabinetry, materials, parts, incidental items and other items necessary for a full, complete working system, whether specified herein or on the drawings or not.

B. Installation of all items, whether specified herein or not, shall be installed in accordance with the manufacturer’s recommendations.

C. Install all items, etc. in accordance with the system drawings unless otherwise directed by the Consultant in writing.

D. Installation shall be performed in accordance with accepted practices of the broadcast, communications and electronics industries, including, but not limited to, AES, NAB, IEC, ANSI and NEC. Wiring and termination work shall meet or exceed such standards in all phases of the work.

E. Equipment shall be held firmly in place with proper mounting hardware, suspension or rigging materials.

F. Equipment attached to any building structure, sub-structure or other load-bearing member shall be self-supporting.

G. All mounting or rigging hardware shall be installed with a safety factor of at least four times the required load.

H. Equipment shall be installed to provide reasonable and normal safety to the operator or end user.

I. Adequate ventilation shall be provided for any heat-producing component, group of components or integrated equipment enclosure.

J. Furnish all systems to accommodate future additions, expansion and service using modular, solid-state components when possible.

K. All equipment shall be designed and rated for continuous operations and shall bear the mark of any applicable agency for jurisdiction of such, including, but not limited to UL, CUL or CE.

L. The installation requirements specified herein and shown on the drawings shall govern the design, fabrication and installation of the system.

M. In case of a discrepancy between the project documents and any individual manufacturer's equipment specifications, the most stringent shall govern.

N. Furnish all test equipment and the services of the project engineer and the project manager to assist the Consultant in the acceptance testing.

O. Make any adjustments to any part of the system, including any supplemental or additional physical alignment of transducers as required during the acceptance testing.

P. Maintain a logical installation schedule to maximize efficiency with other jobsite conditions and trades.

Q. Store all materials as required to ensure quality and condition for integration into the work.

R. Store materials in physical locations that facilitate prompt inspection and/or testing as required by the Consultant.

S. Materials shall not be accepted into the work without prior inspection and approval by the Consultant.

T. All materials shall be new and shall be manufactured, handled, and installed in a professional manner.

U. Coordinate installation of different components, owner-furnished items and other items as necessary to ensure maximum service and maintenance access.

V. Coordinate the installation of applicable specialty sub-contracting for related work, including, but not limited to installation of telecommunications circuits, fire alarm connections, interface with third party or owner-supplied systems, centralized LAN circuits and other connections as required, and as shown on the Contract Documents.

W. Verify compatibility of all components, equipment and other items to ensure that all dependencies are provided for proper operation.

X. Incidental items, including, but not limited to, hardware components, software, wiring, termination or fabrication shall be provided and installed by the Contractor.

3.3 Installed Cable

A. General

1. Install cable without damage to the insulation, conductors, deformation or compromise to the cable.
2. Install all cable in raceway system as shown on the drawings.

B. Signal Isolation
1. Maintain 3” minimum distance between low voltage circuit cabling.
2. Maintain 3’ minimum distance between any low voltage circuits running parallel to any circuit exceeding 100VAC.
3. Maintain 6’ minimum distance between any low voltage circuits running parallel to any circuit exceeding 200VAC.
4. Low voltage circuits shall not pass any adjacent high-level circuit exceeding 100VAC at less than 90 degrees (perpendicular).

C. Terminations
1. Do not splice system cabling unless specifically directed by consultant or the system drawings.
2. All cable shall be pulled directly from the source connector to the equipment enclosure without any junctions.
3. Pull all cable through J-boxes and pull-boxes with adequate service loops in accordance with industry-standard practices.
4. All terminations shall be performed using terminal blocks and/or punch blocks as indicated on the drawings and specified herein.
5. Circuits terminating to terminal blocks shall be terminated using appropriate spade lugs. All spade lug terminations shall be crimped and soldered.
6. In lieu of manufacturer’s recommendation, tin-solder all bare wire connections prior to termination.
7. Un-terminated signal shields or drain conductors shall be individually insulated with clear heat-shrink insulation tubing and attached to the cable with an additional section of heat-shrink tubing.
8. Maintain 8” of service loop at all connectors.

D. Cable Labels
1. All terminating circuits shall be labeled on both ends with a logical, consecutive, sequential numbering scheme.
2. Document all wire labels on as-built drawings and within any/all software-based audio processing systems where such circuits are terminated.
3. Use only specified labels.
4. Labels shall be installed no less than 4” from the connector, terminal block or punch point, and no more than 8” from connector, terminal or punch point.

E. Cable Management
1. Cables shall be bundled or grouped by circuit type.
2. All circuit types shall be routed from source to destination in a clear, logical and consistent manner throughout the project.
3. Protect all wire, cable, harnesses and conductors from edges of pull boxes, J-boxes, conduits, ducts, equipment enclosures or other boundaries using industry-standard edge-insulating devices, such as “cat track” or rubber grommets.

F. Documentation
1. Maintain a thorough, carefully planned log of all circuit runs. Such logs shall document cable route, source location and destination terminations, min.
2. As-built drawings and wiring logs shall be furnished with clear, concise cabling documentation.
3. All wire numbers and logical numbering schemes shall be consistent between cable logs, drawings and software circuits.

3.4 Grounding

A. Maintain ground integrity throughout system. Follow the grounding and signal termination schematics shown on the drawings. Any deviation to these drawings shall require prior approval from the Consultant. Such approval shall be in response to a written request from the Contractor with specific details documenting the proposed request.

B. The system shall be free from hum, noise, oscillation and other artifacts throughout the facility and at all system racks. This performance requirement shall be maintained even if the earth ground is temporarily disconnected.

C. Earth ground shall be terminated at a single point in accordance with National Electric Code 1996 paragraphs 250-74 Exception No. 4, 250-75 Exception and 384-20 Exception.

D. All wireways, trays and cable ladder assemblies shall be grounded to the raceway and conduit system, unless otherwise noted herein, or on the drawings.

E. The equipment racks and system enclosures shall be electrically and mechanically isolated from all grounded systems, including, but not limited to the following:
1. Building ground.
2. Raceway and conduit system.
3. J-Boxes, pull boxes or outlet boxes.
4. Building structural steel.
5. Other electrical system grounds.

F. Equipment enclosures shall be electrically connected at a single point to the isolated grounding system as shown on the A/V drawings.

G. Avoid ground loops at all points in the system.

3.5 Jack Fields, Patch Bays & Terminal Panels

A. Label all patch bays with clear, neat and logical labels. Labels shall be consistent with field panel connector designators or as shown on the single-line drawings.

B. Use sequential numbering unless otherwise indicated.

C. Assemble patch bays with tools, hardware and cable harnessing in accordance with manufacturer’s recommendation.

D. Patch bay cable harnessing shall be installed cleanly, with neat bundles and clear labeling as specified herein.

E. Patch bay terminations shall allow for troubleshooting and signal tracing from points to punch downs or terminal blocks without disassembling the harness or support hardware.

F. Use rear rack rails to support cable harness hardware when necessary.

G. All patch bays shall be black anodized, steel or aluminum unless specifically noted otherwise.

3.6 Equipment

A. Mounting

1. Secure all hanging and/or free-standing equipment to building structure to resist seismic acceleration of 1G in any direction.
2. Required equipment support and mounting conventions may not specifically be shown on the Contract Drawings. Contractor shall design all required support and mounting systems as required by the specification and local codes.
3. Submit detailed shop drawings with proposed design and that reflect actual field conditions and support, mounting and restraint requirements.
4. Comply with all local codes as they apply to the work.
5. Comply with the U.B.C.
6. Submit calculations, drawings and details for all support, mounting and restraint systems with the stamp of a licensed Structural Engineer when required by local codes, the Owner, or as specified herein.

B. Equipment Enclosures & Racks
1. Equipment racks and enclosures shall be installed at the locations shown on the drawings or as coordinated with jobsite conditions. Coordinate final locations with the General Contractor, Owner and Consultant as required.
2. Install all racks as shown on the drawings when practical. Include detailed drawings for actual rack configuration as part of the shop drawing Submittals.
3. Maintain clear access to all free-standing MDF or IDF rack locations. Such clearance shall include a minimum of 36” of clear space in any direction between the walls and the racks, unless indicated otherwise on the drawings.
4. Cabling within racks shall closely follow the conventions shown on the drawings. Include detailed drawings for actual rack configuration as part of the shop drawing Submittals.
5. Isolate all signal cabling from high voltage power feeders and power distribution circuits (>100VAC) at all times.
6. Do not use multi-channel “snake” type cable unless specifically noted herein or on the drawings. When such cabling is approved, take care when dressing off cable. Avoid bend radius of more than 45 degrees at any point. Use metal spiral type strain relief at all corners. Use cable clamps with non-conducting soft couplers at entry points to all racks, boxes or other enclosures or sub enclosures.
7. All field circuits shall be terminated to terminal blocks or punch blocks as noted herein or as shown on the drawings, except for circuits specifically noted to land directly to equipment within racks, or other equipment mounted externally.
8. Patch bay terminals, specifically those with E Series (E3, E90, etc.) connectors may serve as terminal locations if applicable, unless specifically noted otherwise herein, or on the drawings.

C. Equipment Rooms
1. The preferred room layout and space configuration is shown on the drawings. Submit shop drawings of proposed layout for each equipment room, MDF or IDF. Drawings shall include but shall not be limited to the proposed position of equipment racks, user control positions, consoles, monitoring locations, computer locations and access to the lighting control and fire suppression systems. Final layout shall be approved by the Consultant.
2. Maintain access to all equipment racks as noted herein and as shown on the drawings. In the event that circumstances prevent such orientation, the racks shall be mounted on bases with 3” casters to allow access to both front and rear rack panels or to allow full swing of rack doors. If casters are required, contractor shall secure all cable harnessing to avoid reconfiguration of cable entry points, conduits or power distribution systems. Submit shop drawings where applicable.
3. Maintain egress in all equipment rooms.
4. Coordinate final layout with related disciplines including, but not limited to, electrical, mechanical, structural and finish trades.

3.7 Floor Boxes & Pockets

A. All floor boxes shall be set for finish trim.

B. Submit details for all floor pocket connector panels.

C. Coordinate installation of backboxes to ensure insert pieces will finish correctly when applicable.

D. Supply inserts, finish plates and finish covers as required, coordinate with Div. 26 when applicable.

E. Coordinate with Div. 26 for installation of power receptacles in AV floor pockets.

3.8 Control System Function

A. The system specified herein requires the use of Master Control System or integrated with the audio DSP, if supported, to provide seamless function of integrated components.

B. The system shall be configured to provide simple, intuitive operation for the end user.

C. The contractor shall closely coordinate required operational control with the owner and the Consultant prior to programming.

D. The system shall not be accepted until all functionality is operational and de-bugged.

E. Components under control are shown on the drawings, however, the contractor should configure the integrated systems to support control of any additional component or sub-component as required to complete the system and to meet the owner's control requirements.

F. If the control system requires multiple master controllers operating in tandem, the contractor shall configure the system to ensure that there is full duplex communications between control servers or between any device that includes a control server.

G. Provide power as required for interface devices under control at device end points.

H. The operational functions listed below provides the minimum control requirements but is not inclusive of all required controls or operations and does not relieve the contractor from providing comprehensive control code as required by the owner.
1. Power On/Off
2. Source/Input Select
3. Channel Select
4. Audio Level Up/Down
5. Audio Mute (Toggle)
6. Transport (Start, Stop, FF, FFW, RW, FRW, Pause)

I. The contractor shall design additional UI elements for service access, advanced users and troubleshooting, minimum.

J. All control UI elements shall be coordinated with the end-user. The contractor shall provide mockups for all UI elements as required.

K. The contractor shall provide two (2) additional site visits to modify the control system programming as part of this work. All visits and supplemental programming work shall be

coordinated with the end-user. In addition, additional visits shall be scheduled after 90 continuous days of use by the end-user and a second visit after 6 months of continuous use by the end-user.

L. The contractor shall instruct the end-user to document desired changes, use impact, notes and comments on daily operations.

M. The contractor shall maintain open communications with the end user to assist in the final configuration of the control software. This information should be used to modify the control system as the end-user develops a workflow.

3.9 DSP Programming

A. The system specified herein requires the use of software products for audio signal flow configuration, control interface and remote client design.

B. Provide interface to the primary control system as required.

C. Functionality that is configured for baseline audio performance, as approved the Consultant during commissioning, shall not be accessible from the control system or primary DSP UI.

D. Provide limited zone levels, mute and source-select functionality via the DSP UI, if required.

E. Signal flow configuration shall be performed by the DSP audio processing system manufacturer, unless the contractor is fully authorized by such manufacturer to develop, program and create UI elements necessary to implement the work document herein and as shown on the drawings.

F. If required, the contractor shall procure such services directly from the manufacturer.

G. Primary user interface UI shall be designed and implemented by the DSP audio processing system manufacturer, unless the contractor is fully authorized by such manufacturer to develop, program and create UI elements necessary to implement the work document herein and as shown on the drawings.

H. Remote interface client design shall be performed by the DSP audio processing system manufacturer, unless the contractor is fully authorized by such manufacturer to develop, program and create UI elements necessary to implement the work document herein and as shown on the drawings.

I. System adjustments shall be performed on site in the presence of the Consultant during commissioning.

J. An authorized manufacturer’s contractor, capable of providing on-site changes to the controls, configuration, signal flow and graphical functions of the software shall be present.

K. Provide copies of all software files to the owner and the Consultant upon final completion. Copies shall be provided on flash media suitable for use with the manufacturer's native software and compatible operating system.

3.10 Software

A. For all equipment that includes software-based configuration, controls or operation, ensure that all related UI's, configuration files and service tools are developed with the latest version of the manufacturer's software.

B. Ensure that all components have been updated with the latest firmware.

C. Do not install or configure any software-based component with beta software or firmware.

D. Ensure that all software is compatible with interconnected transport systems and device end points.

E. Ensure that all computers, mobile devices and appliances are operable with the latest software and firmware.

F. Ensure that subsequent software and firmware updates will not disable any component, transport system, UI or device from operating as required by the system drawings.

G. Inspect all software and firmware versions during post-contract site visits and upgrade as required and has summarized herein.

H. Provide one year licensing for all applicable software functionality required to meet the operation of the systems as documented.

I. Coordinate exact license requirements recommended by the manufacturer with the owner and end-user.

3.11 Quality Control

A. Engage the services of a factory-authorized Applications Engineer or Technical Specialist to assist in the programming, configuration and implementation of all systems where software and hardware are integrated.
1. DSP based signal processing systems.
2. Lighting control systems.
3. Control systems.
4. High-resolution LED/LCD display panel systems (video walls).
5. Video projection systems.
6. Signal transport systems.
7. Video cameras.
8. Digital signage and related appliances.

B. Schedule site visits for inspection of rough-in, mechanical, electrical and job progress at least 7 days in advance.

C. Schedule final implementation testing, alignment, configuration and programming with consultant at least 30 days prior.

D. Ensure that all networks are properly configured and properly interfaced with the owner's LAN.

E. For systems configured network redundancy, ensure that self-healing functionality is properly configured by testing with "failed node" tests at the end-point and switch level.

F. Coordinate with the owner's IT authority to ensure that applicable ports are open for access to external networks, content providers, controls, etc.

G. Inspect components for physical damage, defects or freight damage and confirm certification marks for safety, nameplate compliance or agency approval as per the Contract Documents.

H. Confirm conditions of electrical connections throughout the system.

I. Use torque tools calibrated within the prior 6 months to use when required. Use manufacturer's recommended tolerance and/or torque values.

3.12 Shop Testing

A. General Electrical Performance Testing
   1. Use caution when testing devices containing solid state or digital circuits by ensuring a static-free, ESD compliant environment.
   2. Ring out all circuits in passive configuration by ensuring continuity and the absence of any short circuit between adjacent conductors.
   3. Ensure proper current draw from all components under normal operating conditions.
   4. Ensure that all circuits are in phase and will pass the required bandwidth.

B. Component Operational Testing
   1. Configure and operate all system controls to ensure proper operation and functional requirements.
   2. Simulate actual operating conditions for all control tests.
   3. When configuration and testing work involving equipment provided and/or installed under other Sections is indicated, combine testing required by this Section with that required by Sections specifying other equipment.
   4. Test programmable controls related to light balancing, occupancy sensing, and other controls under conditions that simulate actual operational conditions.
   5. Record control settings, operations, cues, and functional observations.

C. Correct all deficiencies and make necessary adjustments for all tests. Re-test as required and verify that operation is compliant with the drawings, specifications or manufacturer's recommendation.

D. Apply labels to all tested equipment indicating test result, date, and responsible agency.

E. Prepare written reports of all tests and observations.

F. Record any defects in materials and/or workmanship or unsatisfactory test results. Record repairs and subsequent performance certification.

G. Record operation control adjustments and final settings.

3.13 Inspection

A. All racks shall be inspected by the Consultant at the Contractor's shop prior to delivery to the jobsite, unless otherwise directed.

B. The Contractor shall demonstrate to the Consultant that the racks meet the operational and fabrication requirements as specified herein.

C. In lieu of shop testing, Contractor may request fabrication testing at an alternate site, bonded warehouse or staging site. Such requests shall be made in writing at least 60 days prior to testing date and shall require approval from the Consultant.

D. Shop tests shall include, but shall not be limited to the following:
   1. Verify that all equipment is operating per manufacturer's specifications within the context of the integrated system.

2. Signal flow testing of all output circuits including, but not limited to phase, noise, oscillation and signal integrity.
3. Subjective listening tests.
4. Time alignment and operational latency.
5. Usability of configured controls and interfaces.

3.14 Substantial Completion

A. Substantial Completion shall constitute 90% Progress as it related to project invoicing.

B. The Contractor shall notify the General Contractor, or procurement authority in writing of Substantial Completion.

C. Substantial Completion is determined by the Contractor at such time when the system implementation has been completed successfully, meeting all requirements specified herein and on the drawings.

D. Within 14 business days following the receipt of the Notice of Substantial Completion the Owner and/or Consultant shall schedule time to witness operation of the systems. At this time, the system shall be demonstrated to the Owner and/or Consultant that the system meets all installation, performance and operational requirements specified herein and as shown on the drawings.

E. Substantial Completion includes, but is not limited to, the following progress milestones:
1. All equipment, related components, accessories and other physical goods are on site on operational.
2. All loose items have been delivered to the end-user and accepted.
3. The system operation is at a state that is operable by the end user without intervention.
4. The end-user has been trained and is equipped to operate the systems under normal use, defined by the system drawings.
5. Interface with the site LAN is complete and operational. The AV Contractor has coordinated network requirements with the owner’s IT staff.

F. The Contractor shall be prepared to demonstrate the system performance and operational benefits including, but not limited to the following functional system components:
1. Control interface usability.
2. Audio and video performance.
3. DSP audio processing operation and configuration.
4. Subjective listening tests.

G. In the event that the testing indicates that the system is not Substantially Complete, the Contractor shall bear all costs associated with the jobsite test. This includes the travel and lodging costs of the Consultant or other personnel required for attendance by the Owner.

H. Final testing shall be scheduled by the Contactor at least 30 days prior to the test period. Such notice shall be in writing to the Consultant and Owner.

3.15 Acceptance Testing

A. General
1. At the time of Acceptance Testing, the Consultant shall conduct a series of tests and adjustments to ensure that the system meets all requirements as specified herein and as shown on the drawings. These tests shall also confirm that the system is installed correctly and configured for proper operation.

2. The tests shall confirm that the installation meets the design intent as indicated within the Contract Documents.
3. The Contractor shall perform comprehensive testing prior to Consultant's visit to ensure that the system is ready for testing on any level.
4. Contractor shall document all tests as they are performed in the presence of the Consultant and submit the results to the General Contractor, procurement authority, owner and Consultant as required. The approved document shall become part of the final system documentation as specified herein.
5. The Contractor shall assist the Consultant in performing final system tests, adjustments and configuration modifications as necessary.
6. Contractor shall provide all labor, materials and tools necessary for these tests and adjustments and all necessary test equipment to complete the tests.
7. Contractor shall contact the Consultant prior to the scheduled testing date to verify the test equipment, labor and materials requirements for the testing procedure.

B. Verification
1. Prior to energizing the system and prior to the Consultant's arrival, the Contractor shall ensure that the system is ready for inspection and in compliance with the Contract Documents.
2. All products are installed in a proper and safe manner in accordance with the manufacturer's instructions.
3. Insulation and shrink tubing are present where required.
4. Dust, debris, solder splatter, etc. is removed.
5. Cable is dressed, routed, and labeled.
6. Connections are properly installed with correct polarity.
7. All labeling has been installed.
8. Temporary facilities and utilities have been properly disconnected and removed from the site.
9. All products are neat, clean, without blemish and supplied with applicable accessories and parts securely attached.
10. Jobsite debris including glass, flooring and supports, ceiling tiles and supports, walls, doors, etc. have been removed.
11. Electronic devices are properly grounded.

C. General Performance
1. All products are neat, clean, without blemish and supplied with applicable accessories and parts securely attached.
2. Using a passive circuit test device, test each AC power receptacle for proper operation.
3. Measure DC resistance between the technical ground at any equipment rack and the main building ground. Resistance shall be 0.15 Ohms or less.
4. Temporarily lift the technical ground from the main electrical ground and measure DC resistance. Resistance should be 1000 Ohms or greater.
5. Measure impedance at 100 Hz and at 1 kHz for all full range loudspeaker output circuits at the rack distribution point. Results should be within manufacturer's published specification.
6. Measure impedance at a frequency appropriate for band limited output circuits at the rack distribution point.
7. When documenting the results of these tests, include the calculated impedances based on number of units on a line and the size and distance of the run.
8. Correct any field readings that differ more than 15% from the calculated impedances.

D. Loudspeaker Circuits
1. Prior to energizing the system and the Consultant's arrival, perform tests in compliance with applicable EIA standards. Record the results of each test in the Project Acceptance & Test Manual.
2. Ensure that the audio DSP system includes components, including, but not limited to, limiters, band-pass filters, leveling controls, as required to ensure that loudspeaker circuits

are protected from excessive audio levels, distortion, transients and noise to the fullest extent possible.
3. Provide a low level, band limited test signal at each amplifier input.
4. Energize one channel of the first amplifier and verify that the correct loudspeaker or loudspeaker zone is operating. Correct any wiring, distribution or other problems as necessary to ensure that zone allocations match the as-built and system drawings. Continue this test until all output circuits are verified in the same manner.

E. Constant Voltage Circuits
1. Prior to energizing the system and the Consultant's arrival, perform tests in compliance with applicable EIA standards. Record the results of each test in the Project Acceptance & Test Manual.
2. Use music, pink noise or other distinctive audio signal as a source for each constant voltage loudspeaker zone. Energize only one amplifier channel at a time.
3. Walk the loudspeaker zone to confirm audio is operational.
4. Verify that each loudspeaker in the zone is operational and that there are no significant changes in sound pressure level from one loudspeaker to the next.
5. Verify that loudspeaker coverage is consistent with the areas indicated on the drawings.
6. Repeat the test for each loudspeaker zone, one at a time as noted.

F. Loudspeaker Polarity
1. Prior to energizing the system and the Consultant's arrival, perform tests in compliance with applicable EIA standards. Record the results of each test in the Project Acceptance & Test Manual.
2. Use a stand-alone polarity tester or other audio test equipment to measure the polarity of all loudspeakers in the system.
3. Inject the test signal at the loudspeaker circuit termination point. Do not use active electronics for this test. Use a "known-good" test amplifier if necessary.
4. All loudspeakers shall maintain correct polarity throughout the system.
5. Follow manufacturer's recommendations in conducting the tests.

G. Gain Structure
1. Assist the Consultant in the performance of this work.
2. Consultant shall perform tests and adjustments at the jobsite in cooperation with the Contractor.
3. Adjustment of each active device for proper gain.
4. Verification of unity gain through each active signal processing device using a calibrated signal source.
5. Adjustment of power amplifiers for required electro-acoustical level.
6. Contractor shall record the results of all tests and adjustments for each device in the Project Record Manual.
7. Additional tests may be required. The contractor should verify test equipment and materials requirements prior to the testing visit.

H. Dynamics
1. Ensure that the audio DSP system includes components, including, but not limited to, limiters, band-pass filters, leveling controls, as required to ensure that loudspeaker circuits are protected from excessive audio levels, distortion, transients and noise to the fullest extent possible.
2. Assist the Consultant in determining the configuration of additional dynamics processing to facilitate specific input, output and summing circuits.

I. Delay
1. Assist the Consultant in the performance of this work.
2. Consultant shall perform tests and adjustments at the jobsite in cooperation with the Contractor.

3. Adjustment of delay outputs to each subsystem to ensure proper synchronization between the loudspeaker zones.
4. Verification of coherence to zero time base to ensure maximum imaging and intelligibility.
5. Measurement of time arrival for adjacent loudspeaker zones.
6. Adjustment of delay circuits to synchronize adjacent loudspeaker circuits for proper operation as required for the space.
7. Contractor shall document this process and provide printed reports of each delay adjustment. Indicate the delay time for each zone, or each loudspeaker before and after applying delay.
8. Additional tests may be required. The contractor should verify test equipment and materials requirements prior to the testing visit.

J. Zone Level Adjustment
1. Assist the Consultant in the performance of this work.
2. Consultant shall perform tests and adjustments at the jobsite in cooperation with the Contractor.
3. Verification of zone level adjustments.
4. Adjustment of zone amplifiers to provide consistent and appropriate volume levels throughout the facility.
5. Verification that systems will provide nominal sound pressure levels at least 12 dB above the ambient noise level under normal operating conditions.
6. Ensure that adjacent zone levels with similar system components are operating within 1.5 dB from the average.
7. Contractor shall record the setting of each amplifier in the Project Record Manual and keep backup copies of applicable data files.
8. Additional tests may be required. The contractor should verify test equipment and materials requirements prior to the testing visit.

K. Headroom
1. Assist the Consultant in the performance of this work.
2. Consultant shall perform tests and adjustments at the jobsite in cooperation with the Contractor.
3. Confirm that the digital signal processing system will perform at required levels with at least 12 dB of headroom.
4. All power amplifiers are driven correctly with full scale output from the signal processing system.
5. Adjust the gain structure as necessary to ensure proper headroom.
6. Contractor shall record the results of all adjustments and control sets in the Project Record Manual and keep backup copies.
7. Additional tests may be required. The contractor should verify test equipment and materials requirements prior to the testing visit.

L. Field I/O
1. Assist the Consultant in the performance of this work.
2. Consultant shall perform tests and adjustments at the jobsite in cooperation with the Contractor.
3. Verify that each receptacle under test appears at the correct position on the patch bay and within the digital signal processing system.
4. Verify polarity and phase for each circuit.
5. Confirm that signal ground is properly grounded in accordance with the drawings.
6. Verify all circuits for correct wire numbers and labeling.
7. Contractor shall record the results of all adjustments and control sets in the Project Record Manual and keep backup copies.
8. Additional tests may be required. The contractor should verify test equipment and materials requirements prior to the testing visit.

M. Linear Response Equalization
1. Assist the Consultant in the performance of this work.
2. Consultant shall perform tests and adjustments at the jobsite in cooperation with the Contractor.
3. Configure the digital signal processing system to provide the required filters for all adjustments.
4. Adjust filters in the digital domain for linear performance.
5. Adjust the digital signal processing gain structure in combination with filter attenuation adjustments to achieve linear response.
6. Ensure that no filter exceeds +3 dB amplitude, unless otherwise directed by the Consultant.
7. Contractor shall record the results of all adjustments and control sets in the Project Record Manual and keep backup copies.
8. Additional tests may be required. The contractor should verify test equipment and materials requirements prior to the testing visit.
9. Secure all settings in software, hardware and backup media.

N. Tone Control Equalization
1. Assist the Consultant in the performance of this work.
2. Consultant shall perform tests and adjustments at the jobsite in cooperation with the Contractor.
3. Use additional filters to provide adjustment of subjective tonal response.
4. In cooperation with the Owner’s staff, adjust the filters to achieve a pleasant, comfortable sound response.
5. Contractor shall provide follow-up refinements to the equalization based on requests from the Owner within 90 days of final adjustment.
6. Following the Consultant’s adjustments, Contractor shall use a portable RTA, FFT or SPL meter to document the sound pressure level and frequency response of each zone using normal operating sources.
7. Contractor shall record the results of all adjustments and control sets in the Project Record Manual and keep backup copies.
8. Additional tests may be required. The contractor should verify test equipment and materials requirements prior to the testing visit.

O. Visual Systems
1. In the presence of the Consultant, demonstrate that the complete video system has been tested in the following manner and that all performance requirements have been satisfied accordingly.
2. All video outputs of the system shall conform to EIA RS-170A when typical inputs to the system are fed with a "known good signal" from a video signal generator.
3. Projected images shall properly fill their respective screens to full size without "cropping".
4. Projection lenses shall provide distortion free images without color fringing or aberration.
5. Flat Panel Displays have been properly configured for optimum image.
6. Display controls and internal switching, resolution and cropping modes are properly configured for use under control and upon power-up.

P. Video Signal Transport
1. In the presence of the Consultant, demonstrate that the complete video system has been tested in the following manner and that all performance requirements have been satisfied.
2. All equipment and video signal chains shall operate according to manufacturer's specifications and/or to the EIA RS-170A standard.
3. Transport systems are properly configured with all display and projection devices. Ensure that signal, LAN and control circuits are properly configured and functional across UTP transport systems.
4. All video displays shall be configured as recommended by the Consultant or per the manufacturer's guidelines.

5. When applicable, the contractor shall ensure that black levels, white levels and hue is properly configured to meet the standards noted herein.

Q. Video Cameras
1. All video cameras shall be configured per the manufacturer's recommendation or as directed by the Consultant.
2. Where applicable, the cameras shall be configured for default operation with proper black balance, white balance, zoom and iris function.
3. Camera transport systems shall be properly configured and tested with camera, lens and transport in place.
4. Camera accessories shall be configured and mounted for typical operation.
5. Camera harness shall be supplied as directed by the Consultant. All harness cabling shall be built with SJ type cabling, heavy duty hastening systems or spiral wrap and industrial connectors.

R. Data (UTP)
1. In the presence of the Consultant, demonstrate that the complete video transport system has been tested and that all performance requirements have been satisfied.
2. Test UTP cable in accordance with the referenced standards noted herein.
3. Certify all circuits for bandwidth performance requirements dictated by the transport media or as required by the manufacturers of the connected end points, unless otherwise specified on the drawings.
4. Provide two hard copies of all settings, test results and configuration details in the backup file.

S. Data (Multi-Mode Fiber)
1. In the presence of the Consultant, demonstrate that the complete transport system has been tested and that all performance requirements have been satisfied.
2. Perform tests at both 850nm and 1300nm.
3. Test procedure to be ANSI/EAI-526-14A-Test Method B any applicable amendments.
4. Tests are to be performed with optical source and power meter.
5. Signature Trace Measurements are to be performed and record using OTDR at both 850nm and 1300nm.
6. Identify and resolve any discrepancies.
7. Provide records of the test results, including wavelength, pulse width, index refraction, media number and designator, test location, segment length, end to end loss. Retain results in the project backup.

T. Data (Single-Mode Fiber)
1. In the presence of the Consultant, demonstrate that the complete video system has been tested and that all performance requirements have been satisfied.
2. Perform tests at 1310nm and 1550nm.
3. Test procedure to be ANSI/EAI-526-7-Test Method A.1 and any applicable amendments.
4. Tests are to be performed with optical source and power meter.
5. Signature Trace Measurements are to be performed and record using OTDR at both 850nm and 1300nm.
6. Identify and resolve any discrepancies.
7. Provide records of the test results, including wavelength, pulse width, index refraction, media number and designator, test location, segment length, end to end loss. Retain results in the project backup.

U. Field Audio Circuits
1. In the presence of the Consultant, demonstrate that the complete video system has been tested and that all performance requirements have been satisfied.
2. Test all field audio circuits and record results of tests results.

3. Provide records of the test results, including conductivity, polarity, resistance to ground, noise and bandwidth. Retain results in the project backup.

V. Test Equipment
1. Furnish the following equipment as requested. Verify exact requirements with consultant at least 14 days prior to Consultant's visit.
2. All equipment shall be available for the entire test period through final system testing:
a. Sound Level Meter: ANSI S1.4-1971 Type SEA with digital or analog dis-play. Meter to provide ranges of 40 to 120 dBA.
b. Impedance Meter - Capable of testing audio lines at three frequencies, mini-mum, between 250 Hz and 4k Hz. Measurement Range: 1 ohm to 100 k Ohms.
c. Oscilloscope, suitable for all system circuits, dual trace, 200Mhz bandwidth minimum for audio work.
d. Multimeter-Measurement range, DC to 20kHz, 100 mV to 300V, 10 ma to 10 A.
e. Audio Oscillator: bandwidth 20 Hz to 20k Hz ±1 dB at 0 dBm output. Output to be balanced. Oscillator to include adjustable output level.
f. Noise generator, pink type, ANSI filters.
g. Ladders and scaffolding necessary to inspect all speakers.
h. Temporary 100 foot microphone cables for testing purposes.
i. Provide three portable VHF or UHF business band radios for use during acceptance testing with transmission range sufficient to cover entire project. Include rechargeable batteries and charger along with holster for

3.16 Final Acceptance

A. Final Acceptance shall constitute 100% Progress as it related to project invoicing.

B. Final acceptance of the system shall be granted by the Owner when it is clear to the Own-er and Consultant that the system has be integrated in accordance with the contract documents.

C. All equipment has been provided and installed per the Contract Documents.

D. Portable items or equipment not installed has been delivered and accepted by the Owner.

E. All testing has been completed and accepted by the Consultant.

F. Punch list items, resulting from Substantial Completion Inspection, have been performed to the satisfaction of the Consultant.

G. All signage or mounted system documentation has been installed per the specifications.

H. Final system documentation, including manuals, as-built drawings, software configuration and control files has been assembled as per the specifications and has been de-livered and accepted by the Owner.

I. Cleaning
1. Clean all provided equipment, components and devices internally and externally using methods and materials recommended by manufacturers.
2. Repair damaged finishes.

J. Training
1. The contractor shall provide training to the end-user all facets of system operation, control, configuration and maintenance.

2. For specialty sub-systems, including, but not limited to, audio control consoles, lighting control consoles, loudspeaker processing systems, control systems, projection systems, signage systems, content sources, switchers, etc., the contractor shall engage a factory-authorized service representative to train Owner's operations, end-users, technical and/or maintenance personnel as required to perform training on system level components.
3. Subject matter shall include fundamental troubleshooting, servicing, adjusting, and equipment maintenance.
4. Provide a minimum of eight hours' training.
5. Use the final version of the Project manuals as part of the training session. Refer to drawings and operations manuals as training aids.
6. Schedule training with Owner at least fourteen (14) days' advance notice.
7. Submit all training materials to the Consultant, via the General Contractor or procurement authority, for review prior to scheduling training sessions, if applicable.
8. Provide 24 hours of hands-on training in the practical operation of the systems to the Owner’s operations staff. Training topics shall include at a minimum:
    a. General sound and control system operation and theory.
    b. The signal topology for each system provided.
    c. DSP equipment software configuration and operation.
    d. Control system operation.
    e. Basic functionality.
    f. Correct operation procedures.
    g. Basic troubleshooting techniques.
    h. Provide 4 hours of follow-up training within 3 months of the initial training to review aspects of the original training and provide instruction on specific trouble-shooting issues.
    i. Record video and audio of all training sessions. Provide three (3) copies to the Owner’s Representative on flash media, suitable for playback on MacOS, iOS, Windows or Android devices.

K. Protection
1. After installation, protect the audiovisual systems from damage during construction. If damage occurs despite such protection, remove and replace damaged components or entire unit as re-quired to provide units in their original, undamaged condition.
2. Provide temporary covering for all components until time of Final Acceptance.
3. Use covering materials that will effectively protect the audiovisual system components from spills, scratches, abrasion, breakage, or other damage.

3.17 Post Completion

A. Within one year of date of Substantial Completion, provide two site vis-its, one at 90 days, the second as directed by the owner, to adjust audiovisual system, make program changes, and adjust controls to suit post-construction/normal operating conditions.
1. Coordinate all site visits with Owner.
2. Document all adjustments, software configuration changes and any change to system hardware, cabling, mounting, terminations or operations.

END OF SECTION 012500

Cafetorium Stage Expansion at Dogwood Elementary

8945 Dogwood Road
Germantown, Tennessee 38139

for

GERMANTOWN MUNICIPAL SCHOOL DISTRICT

Building Code and Regulatory Data

A. GENERAL INFORMATION

1. Project Description:
   a. Project consists of Cafetorium stage renovations.

2. Authority Having Jurisdiction:
   a. Tennessee State Fire Marshal's Office, Department of Commerce and Insurance, Division of Fire Prevention, Code Enforcement Section, 500 James Robertson Parkway, Davy Crockett Tower, 10th Floor, Nashville, Tennessee 31243-1162
      1) Applicable Codes Currently Enforced by TSFM:
         a. 2012 International Building Code excluding Chapters 11 & 34
         b. 2012 International Fire Code
         c. 2012 International Existing Building Code
         d. 2012 NFPA 101, Life Safety Code
         e. 2017 NFPA 70 National Electric Code
         f. 2012 International Mechanical Code
         g. 20012 International Fuel Gas Code
         h. 2012 International Plumbing Code
         i. 2012 International Energy Conservation Code
         j. Tennessee Public Building Accessibility Act, 2010 ADA Standards for Accessible Design

   b. Memphis & Shelby County Code Enforcement
      6465 Mullins Station Road
      Memphis, Tennessee 38134
      1) Applicable Codes Currently Enforced:
         a. 2015 International Building Code with Local Amendments
         b. 2015 International Existing Building Code with Local Amendments
         c. 2015 International Residential Code with Local Amendments
         d. 2014 National Electric Code
         e. 2018 Joint Electrical Code
         f. 2015 International Mechanical Code with Local Amendments
         g. 2015 International Fuel Gas Code with Local Amendments
         h. 2015 International Plumbing Code with Local Amendments
         i. 2015 International Energy Conservation Code with Local Amendments
         j. 2009 American National Standard ICC A 117
         k. 2013 ANSI / ASME Elevator Code A17.1

3. Notes a. This project is to also comply with the 2010 ADA Standards for Accessible Design
   b. When conflicts occur between any of the above referenced codes, the more stringent requirement is to be followed.

B. BUILDING CODE CRITERIA

1. Classification of Work: (IEBC Section 504) Level 2 Alterations -
   a. Level 2 Alterations which shall comply with the provisions of Chapters 7 and 8 for Level 2 Alterations.

2. Occupancy:
   a. Educational Group E (IBC 308.4)

3. Type of Construction:
   a. Existing Type II, Non-combustable, Unprotected

4. Height
   a. Allowable height: Existing

5. Area
   a. Allowable area: Existing

6. Fire Protection:
   a. Dogwood Elementary School is not equiped with a sprinkler system.

Index to Drawings

Cover Drawing Index, Building Code and Regulatory Data

Architectural

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A2.2 Floor Plans
A2.3 Sections and Details

Electrical

E1.1 FLOOR PLANS
E1.2 FLOOR PLAN - LIGHTING
E1.3 FLOOR PLAN - POWER
E1.4 ELECTRICAL DETAILS

Audio Visual (Owner provided for reference only)

AV0.1 AV LEGEND & NOTES
AV2.1 AV DEVICE PLAN
AV2.2 AV DEVICE RCP
AV3.1 AV SINGLE LINE DIAGRAM
AV3.2 AV SINGLE LINE DIAGRAM
AV4.1 AV RACK DETAILS
AV4.2 AV PANEL ELEVATIONS
AV4.3 AV RACK DETAILS

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RODNEY LADD GARY REGISTERED ARCHITECT NO. 104955 STATE OF TENNESSEE 3/15/2023

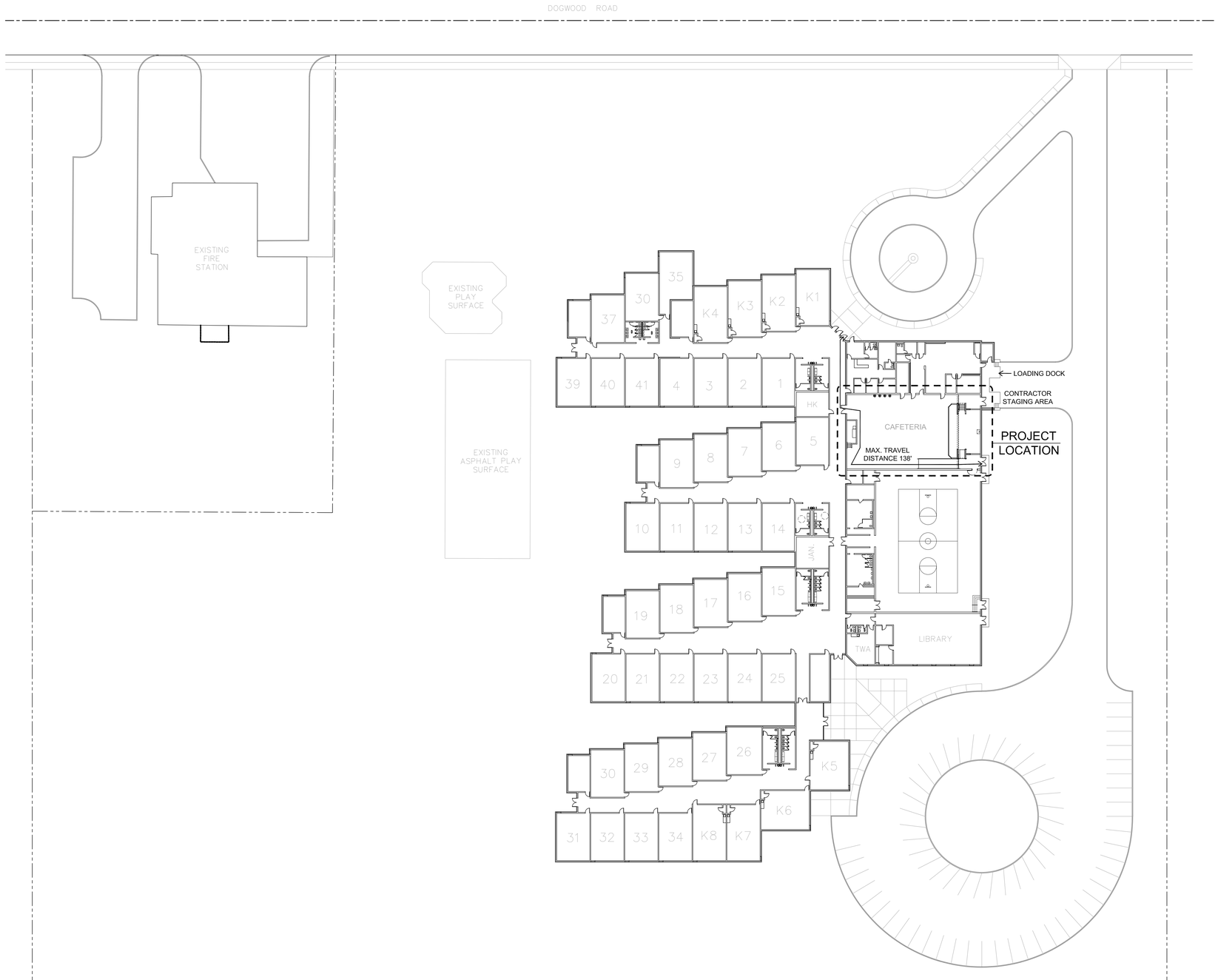
SEAL

Architects

15 March 2023
Architect's Project Number: 22219

EXIT CAPACITY NOTES:

1. CAFETORIUM MAXIMUM OCCUPANCY WITH UNFIXED CHAIRS IS 520 PERSONS (3,640 SQ.FT / 7).
2. AUDITORIUM SEATING LAYOUT SHOWN ON A2.2 IS 355 CHAIRS
3. EXIT CAPACITY THROUGH THE TWO PAIR OF EXISTING 36"W x 84"H DOORS IS 680 PERSONS.



1	DOGWOOD ELEMENTARY SCHOOL ORIENTATION AND LIFE SAFETY PLAN
1/32" = 1'-0"	

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for
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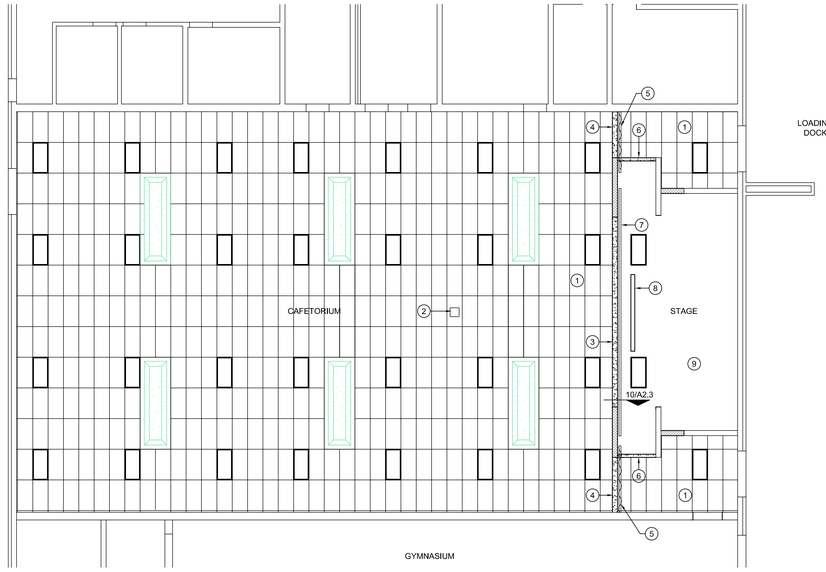
ORIENTATION AND LIFE SAFETY PLAN
Drawing Number:
A2.1

Date:	Project Number:
15 March 2023	22219

CEILING PLAN KEYED NOTES

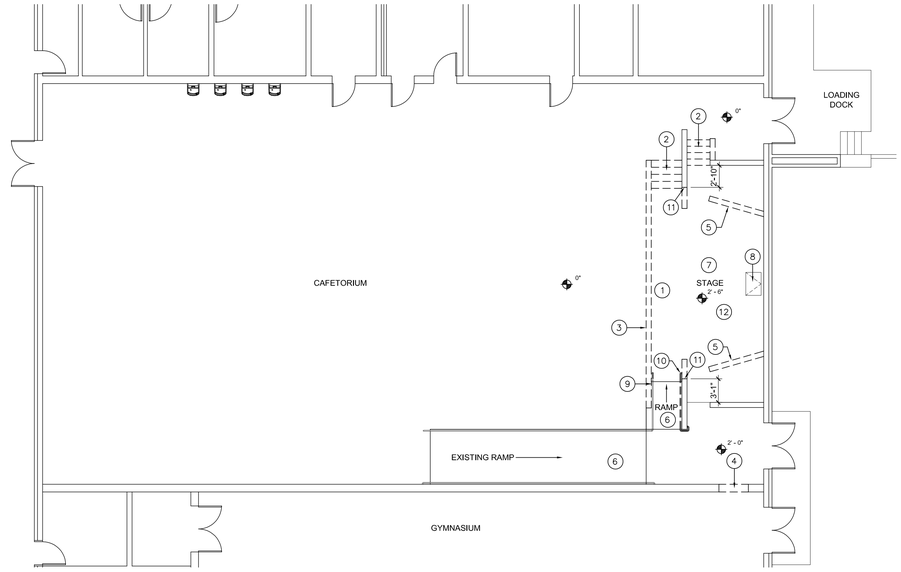
1. 12'-7 1/4" HIGH EXISTING CEILING TO REMAIN.
2. RELOCATED PROJECTOR. VERIFY LOCATION.
3. EL. 12'-7 1/4" GYP. FURRDOWN
4. GYP. FURRDOWN EL. 9'-0" (3'-7 1/4" BELOW EXISTING CEILING)
5. BLACK SCREENING CURTAIN TRACK MOUNTED TO BACK OF GYP. FURRDOWN.
6. GYP. FURRDOWN EL. 12'-7 1/4" (MATCH EXISTING CEILING HEIGHT)
7. RELOCATED STAGE CURTAIN AND TRACK EXTENDED TO COVER NEW PROSCENIUM OPENING. SEE DETAIL 10/A2.5
8. RELOCATED PROJECTOR SCREEN
9. SPRAY EXISTING CONCRETE STRUCTURE ABOVE STAGE WITH 1.5" BLACK K-13 ACOUSTIC INSULATION (WWW.SPRAY-ON.COM) WITH NRC90 (ASTM C423).



4 CAFETORIUM CEILING PLAN
1/8" = 1'-0"

DEMOLITION PLAN KEYED NOTES

1. DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED (TYPICAL).
2. REMOVE EXISTING STAIR AND HANDRAIL
3. REMOVE BRICK VENEER & CMU BACKER
4. CUT OPENING FOR NEW DOOR
5. REMOVE PARTITION
6. EXISTING RAMPS TO REMAIN.
7. REMOVE EXISTING CARPET AND FLOOR ADHESIVE. SAND WOOD STAGE FLOOR, AND APPLY TWO COATS POLYURETHANE.
8. EXISTING ACCESS DOOR TO REMAIN
9. EXISTING GUARD RAIL TO REMAIN. REMOVE EXISTING HANDRAIL EXTENSIONS AT TOP OF RAMP.
10. MODIFY EXISTING HANDRAIL TO WRAP END OF SHORTENED CMU WALL.
11. SHORTEN EXISTING CMU WALL. TOOTH IN END BLOCKS AND RADIUS CORNERS.
12. EXISTING CEILING GRID AND CEILING BEHIND PROSCENIUM OPENING ABOVE STAGE TO BE REMOVED.



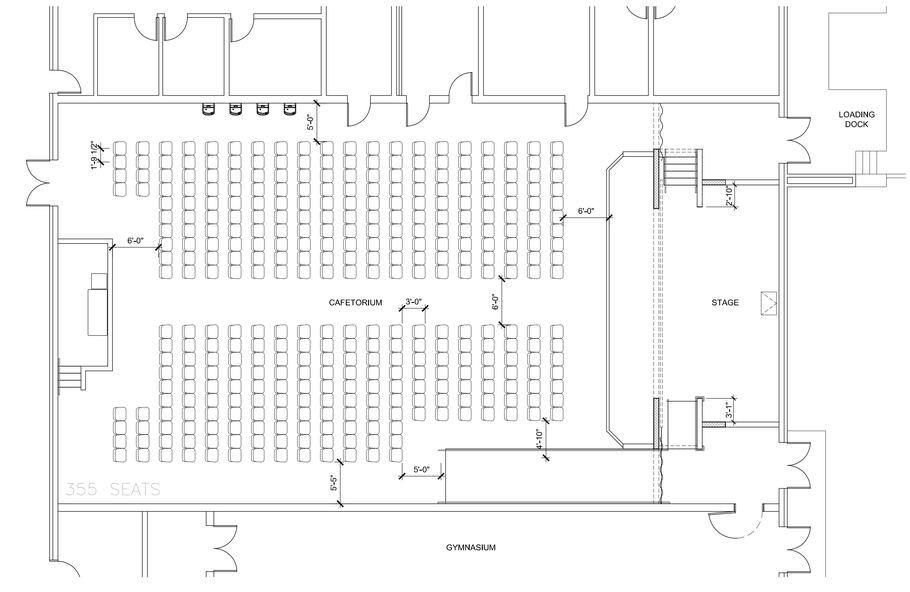
3 CAFETORIUM DEMOLITION PLAN
1/8" = 1'-0"

GENERAL NOTES

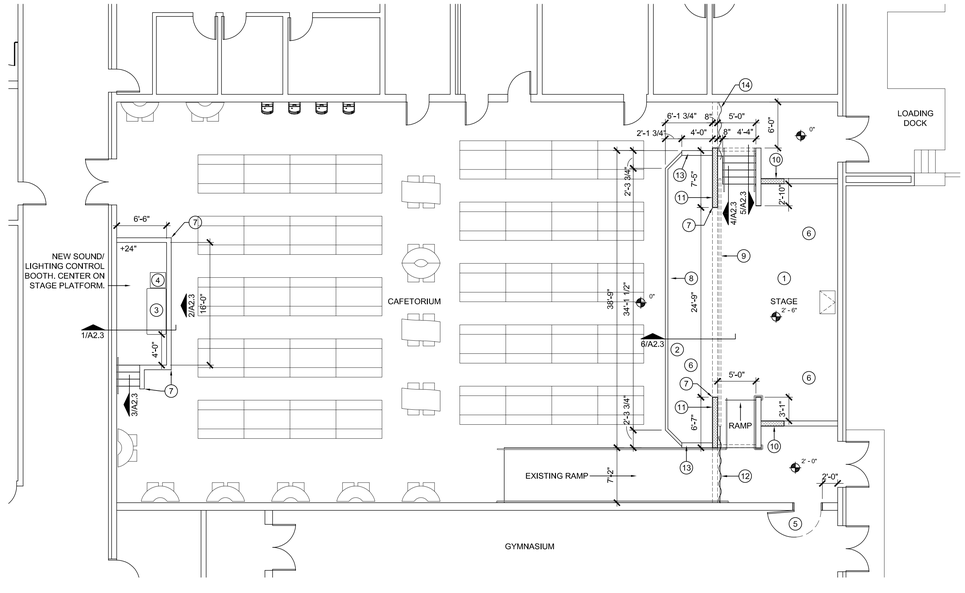
1. CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE PROJECT ARCHITECT OF ANY VARIATIONS PRIOR TO COMMENCEMENT OF WORK.
2. THE LOCATION OF ALL EXISTING UTILITIES SHALL BE VERIFIED PRIOR TO DEMOLITION. ALL WORK SHALL BE PERFORMED IN A MANNER TO INSURE THAT EXISTING UTILITIES THAT ARE TO REMAIN IN SERVICE ARE NOT INTERFERED WITH OR DISRUPTED.
3. COORDINATE ALL WORK WITH OWNER'S DAILY SCHEDULE TO MINIMIZE CONFLICTS.
4. CONTRACTOR SHALL FOLLOW ALL OWNER ESTABLISHED PROTOCOLS FOR SITE ACCESS, CONSTRUCTION OPERATIONS, MATERIAL DELIVERY AND CONSTRUCTION DEBRIS REMOVAL.
5. PROTECT EXISTING FLOOR AND WALL FINISHES FROM DAMAGE BETWEEN CONSTRUCTION AREAS AND THE BUILDING'S DESIGNATED CONSTRUCTION ENTRANCE.
6. WORK AFFECTING EXISTING WALLS, FLOOR AND CEILING TO REMAIN ARE TO BE RESTORED TO MATCH EXISTING.
7. REFER TO ALL DRAWINGS TO DETERMINE THE EXTENT OF WORK REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE PLANS.
8. ALL EXISTING STRUCTURAL ELEMENTS TO REMAIN.

FLOOR PLAN KEYED NOTES

1. PREPARE EXISTING CARPETED WOOD STAGE PLATFORM FLOOR TO RECEIVE NEW FLOORING BY SANDING SMOOTH TO BARE WOOD AND APPLYING TWO COATS OF CLEAR SATIN POLYURETHANE.
2. NEW STAGE PLATFORM EXTENSION FLOOR IS TO BE FLUSH WITH THE EXISTING PLATFORM FLOOR. SEE SECTION 6/A2.3. FINISH FLOOR SURFACE WITH TWO COATS OF CLEAR SATIN POLYURETHANE PRIOR TO INSTALLING THE NEW FLOOR TILE.
3. 31" x 72" x 1.25" PLASTIC LAMINATE COVERED COUNTER. SEE SECTION 1/A2.3.
4. CONTROL CABINET. SEE AV DRAWINGS.
5. NEW 3'-6" x 7'-0" HOLLOW METAL DOOR & FRAME. PROVIDE SET OF HINGES, MAGNETIC HOLD OPEN (GYM SIDE), SILENCERS AND KEYED DEAD BOLT LOCK. PAINT DOOR & FRAME TO MATCH EXISTING WALL COLOR. SEE 8 & 9/A2.3.
6. INSTALL 36" x 36" x .125" "TV TILE" VINYL FLOORING AS MANUFACTURED BY "HARLEQUIN FLOORS" (harlequinfloors.com). INSTALL THE FLOOR TILES IN A BRICK PATTERN. TILES ARE TO BE LOOSE LAID AND PERIMETER TILES SET WITH DOUBLE STICK TAPE AS RECOMMENDED BY THE MANUFACTURER.
7. 1.5" x 1.5" RUBBER CORNER GUARD TYPICAL ON ALL OUTSIDE CORNERS OF NEW WALLS AND MILLWORK.
8. LED TAPE LIGHT FIXTURE AT FRONT EDGE OF PLATFORM ONLY. SEE ELECTRICAL.
9. NEW STAGE CURTAIN/ VALANCE LOCATION. PROVIDE ADDITIONAL STAGE CURTAIN AND VALANCE AS REQUIRED TO COVER NEW PROSCENIUM OPENING WIDTH. MATCH EXISTING 21 OZ. BLACK FABRIC. EXTEND EXISTING H&H 100 SERIES STRAIGHT TRACK AS REQUIRED. PROVIDE & INSTALL NEW OPERATING LINE FOR THE ENTIRE SYSTEM ALONG WITH ADDITIONAL HARDWARE NECESSARY FOR THE EXTENSION. THE EXISTING PROSCENIUM OPENING WIDTH IS 19'-8", AND THE NEW WIDTH IS 24'-9". EXISTING CURTAIN PANELS ARE 13'-0" WIDE x 9'-6" HIGH. EXISTING VALANCE IS 21'-0" x 2'-2" HIGH.
10. INFILL EXISTING CMU OPENING WITH 5/8" GYP. BOARD EACH SIDE OF 6" METAL STUDS AT 16" O.C.
11. NEW PROSCENIUM OPENING WALLS. 600S162-43 STEEL STUDS AT 16" O.C. WITH 5/8" GYP. STAGE SIDE, AND 3/4" PLYWOOD & 5/8" GYP. BOARD ON CAFETERIA SIDE. PAINT BLACK EACH SIDE. WALL FRAMING EXTENDS FROM STAGE FLOOR TO DECK ABOVE. WALL FINISHES EXTEND TO 6" ABOVE CEILING.
12. FLAT BLACKOUT CURTAIN (21 OZ. BLACK MARVEL) WITH TOP WEBBING, GROMMETS, AND S-HOOKS ON WALL MOUNTED TRACK. CURTAIN AND TRACK TO BE 18" WIDER THAN 7'-2" WIDE x 7'-0" HIGH OPENING.
13. LOW WALL TO 42" ABOVE STAGE. 6" METAL STUD FRAMING AT 16" O.C. WITH PLASTIC LAMINATE COVERED 3/4" MDF. PROVIDE 4/4 x 7 1/2" STAINED AND SEALED WOOD CAP.
14. FLAT BLACKOUT CURTAIN (21 OZ. BLACK MARVEL) WITH TOP WEBBING, GROMMETS AND S-HOOKS ON WALL MOUNTED TRACK. CURTAIN AND TRACK TO BE 18" WIDER THAN 6'-0" WIDE x 9'-0" HIGH OPENING.



2 CAFETORIUM PLAN - AUDITORIUM SEATING LAYOUT
1/8" = 1'-0"



1 CAFETORIUM PLAN - LUNCH TABLE LAYOUT
1/8" = 1'-0"

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for
Germantown Municipal School District

Seal
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REGISTERED ARCHITECT
NO. 16495
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3/15/2023

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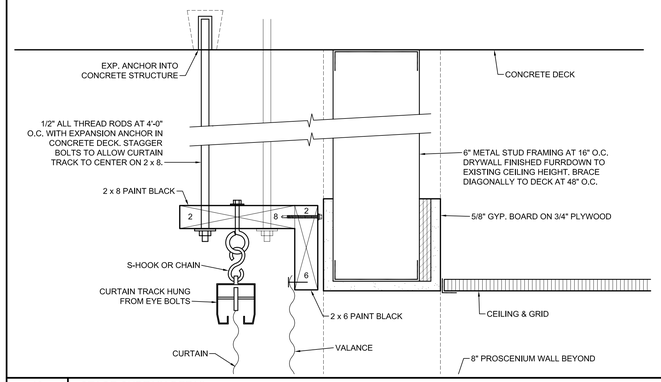
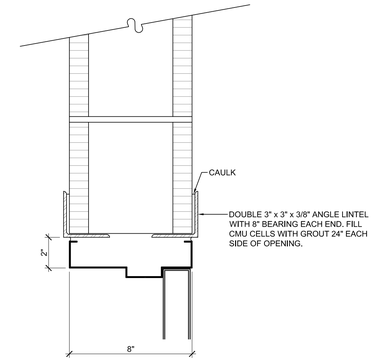
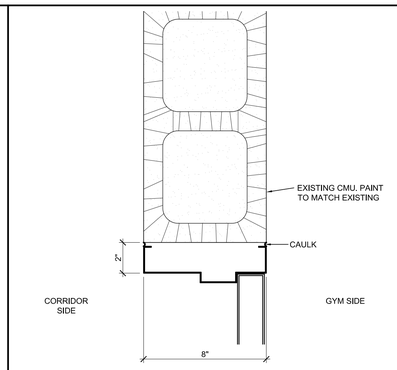
PLANS
Drawing Number:
A2.2
Date: 15 March 2023
Project Number: 22219



10	STAGE CURTAIN DETAIL
3" = 1'-0"	.

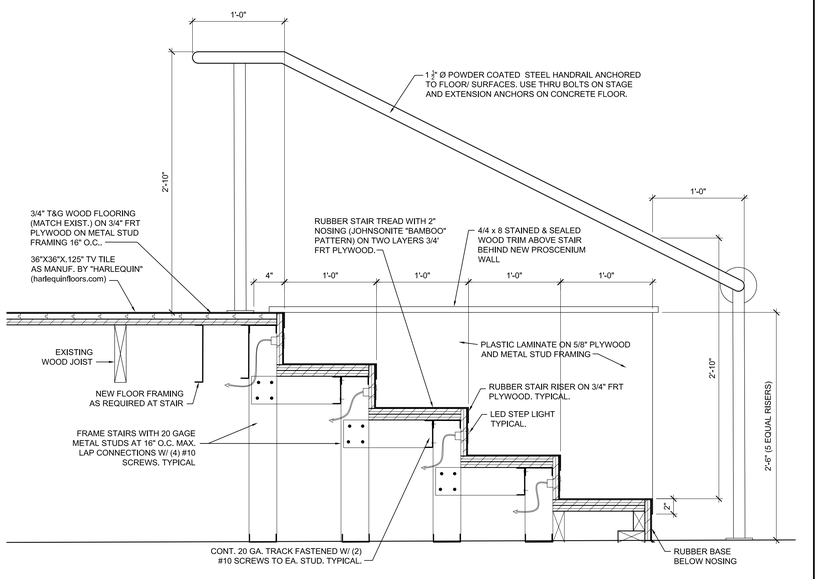


9	DOOR HEAD DETAIL
3" = 1'-0"	.

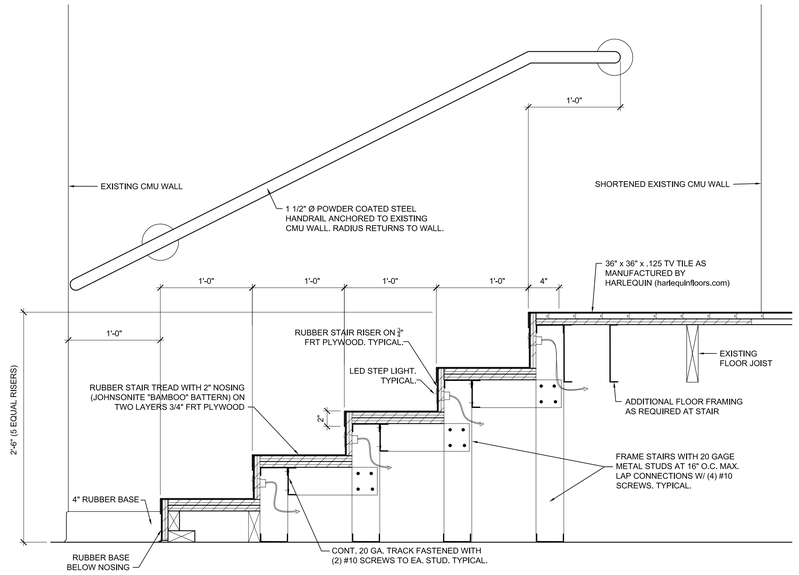


8	DOOR JAMB DETAIL
3" = 1'-0"	.

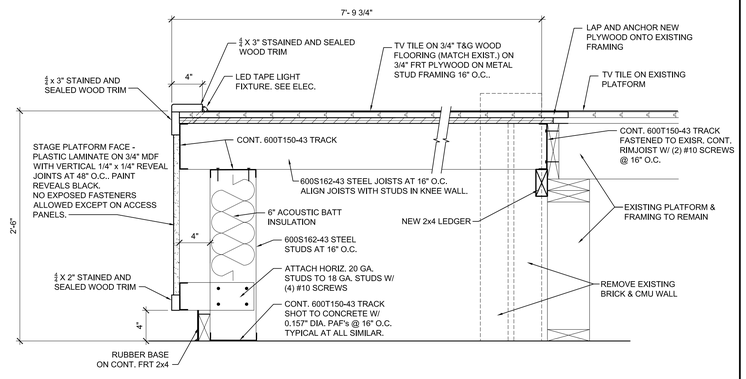
7	NOT USED
	.



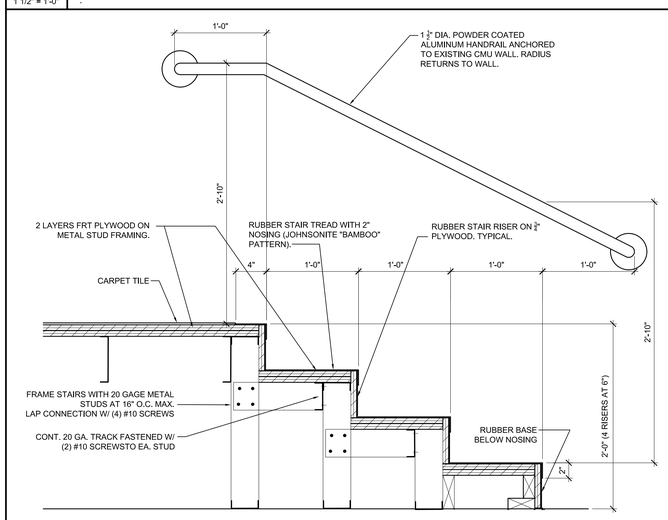
4	STAGE / PLATFORM STAIR SECTION
1 1/2" = 1'-0"	.



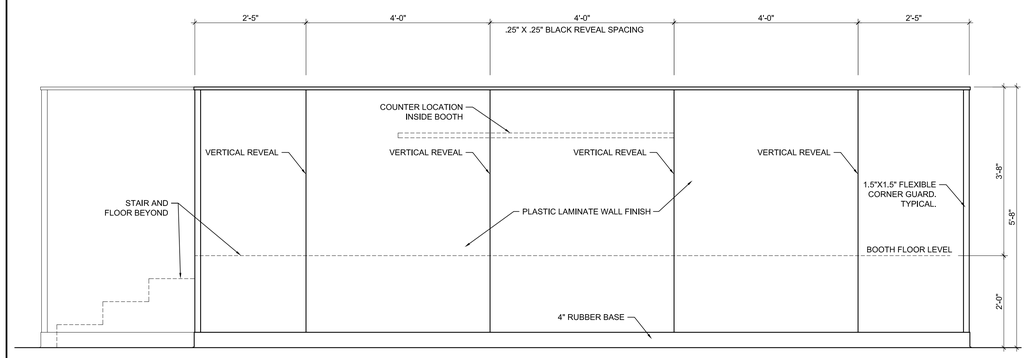
5	STAGE PLATFORM STAIR SECTION
1 1/2" = 1'-0"	.



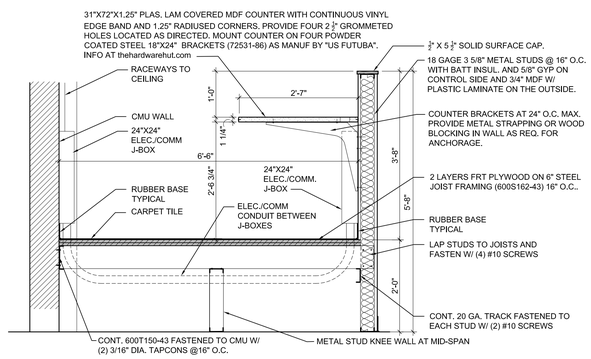
6	STAGE PLATFORM EDGE DETAIL
1 1/2" = 1'-0"	.



3	LIGHTING/SOUND CONTROL BOOTH STAIR DETAIL
1 1/2" = 1'-0"	.



2	LIGHTING/SOUND CONTROL BOOTH ELEVATION
1 1/2" = 1'-0"	.



1	LIGHTING/SOUND CONTROL BOOTH SECTION
3/4" = 1'-0"	.

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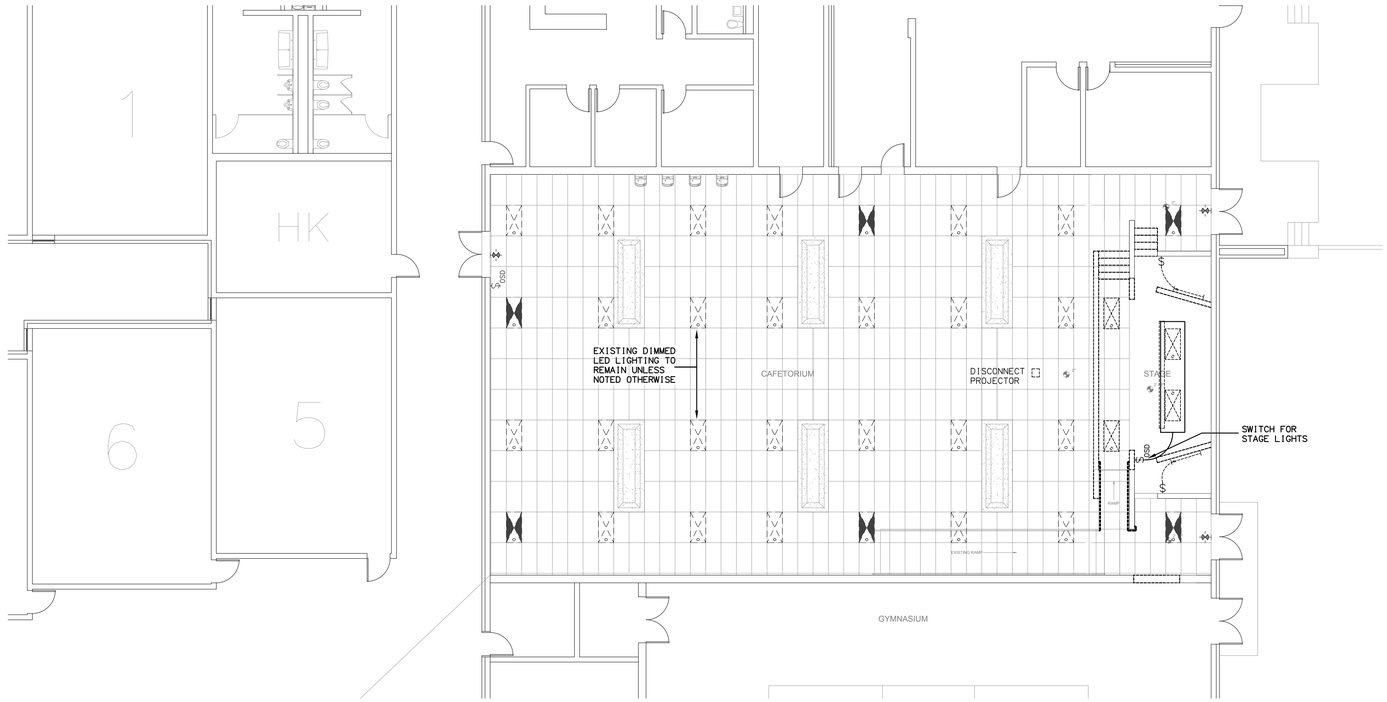
SECTIONS AND DETAILS

Drawing Number:
A2.3

Date: 15 March 2023

Project Number: 22219

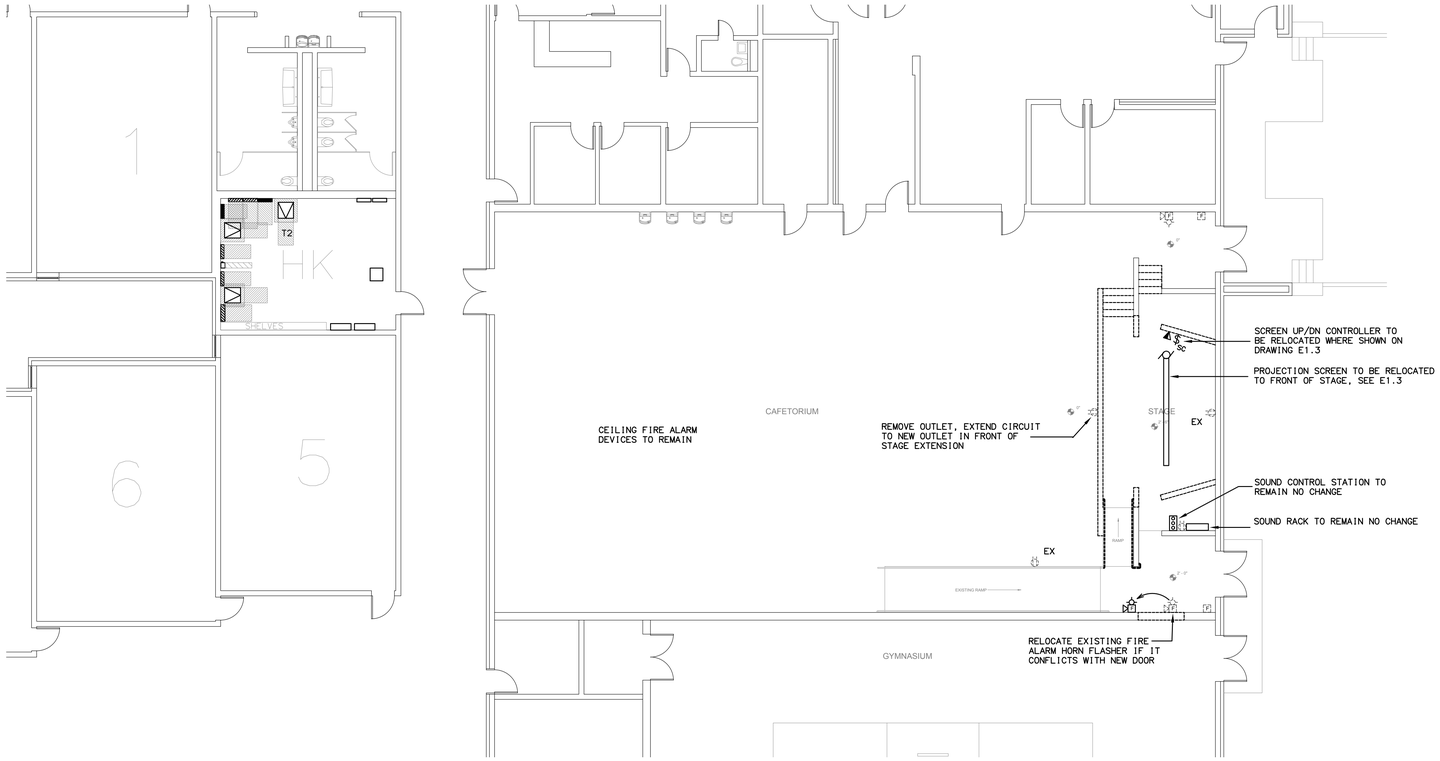


LIGHTING NOTES:

1. ALL EXISTING 2'X4' LIGHTS IN CAFETORIUM ARE LITHONIA 2BLT4 WITH nLIGHT AIR WIRELESS CONTROL. ZONE #1 IS TWO LIGHT FIXTURES ON REAR OF STAGE. ZONE #2 IS ALL OTHER LIGHT FIXTURES IN THE SPACE.

1 CAFETORIUM DEMOLITION PLAN - LIGHTING

1/8" = 1'-0"



2 CAFETORIUM DEMOLITION PLAN - POWER

1/8" = 1'-0"

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for
Germantown Municipal School District

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FLOOR PLANS

Drawing Number: E1.1

Date: 15 March 2023

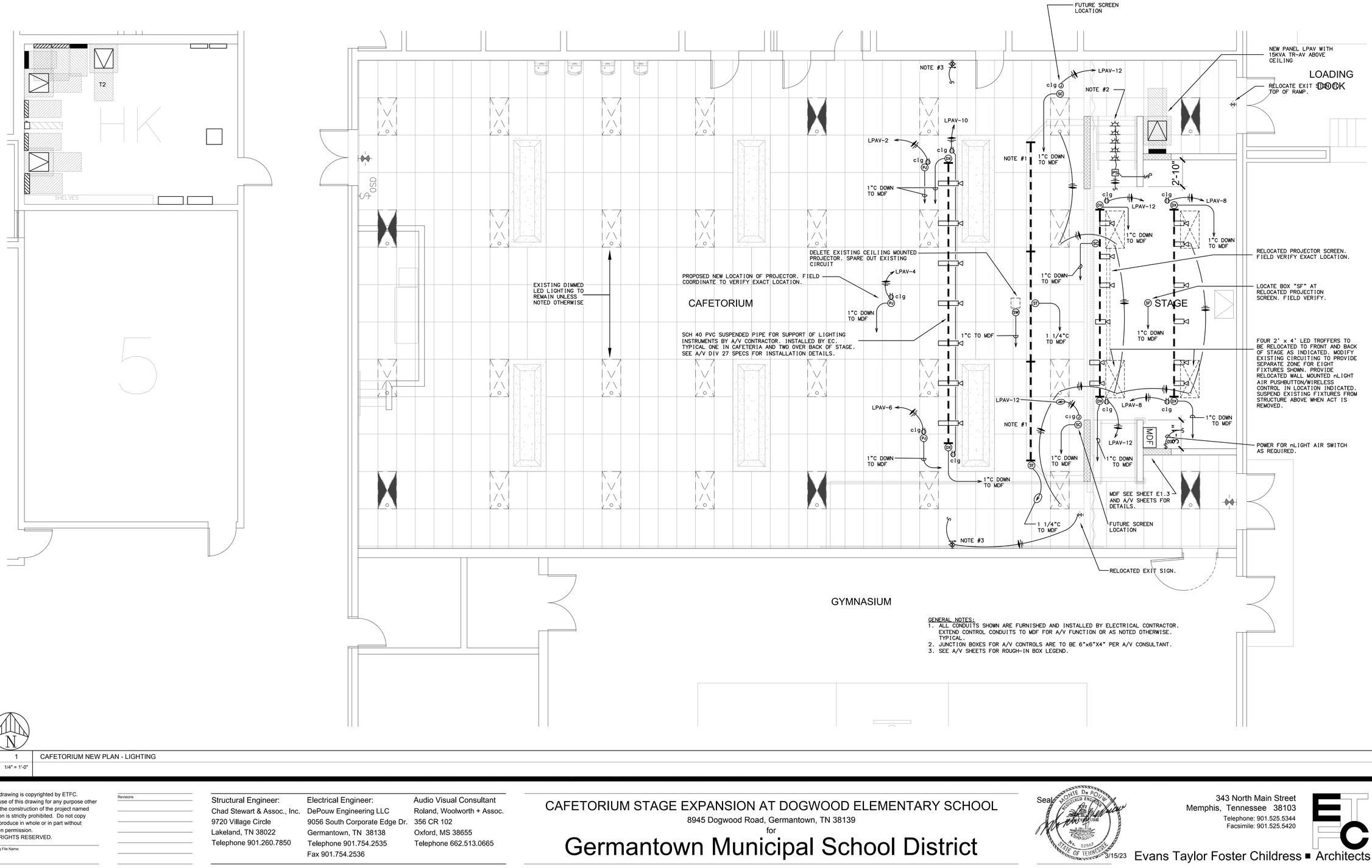
Project Number: 22219

LIGHTING NOTES:

1. LED FOOTLIGHT PROVIDED BY A/V CONTRACTOR. ROUGH-IN HOMERUN IN CONDUIT TO MDF BY ELECTRICAL. 1 - 1 1/4" OPEN CONDUIT WITH PULL STRING UNDER PLATFORM FLOOR TO FRONT OF PLATFORM FOR CONNECTION TO TAPE LIGHT FOOTLIGHTS ALONG FRONT OF PLATFROM. ROUTE CONDUITS AS DIRECTED IN FIELD TO MDF. COORDINATE STUB OUT LOCATIONS ALONG FRONT OF PLATFORM WITH A/V CONTRACTOR. CONNECTION TO FOOTLIGHTS SHALL BE MADE BENEATH THE PLAFORM FLOOR.

2. RECESSED 3 1/8" SQUARE LED STEP LIGHT, SIMILAR TO ACDC LIGHTING MONDO SMALL 3000°K, 73 LUMEN DELIVERED, WITH INSTALLATION SLEEVE, COLOR SELECTED BY ARCHITECT. FIXTURE #MONDO S36 830 0-10 VOLT, WITH 1% DIMMING DRIVER #DR-LEDR-070-030-UNV-D010. INSTALL DRIVER UNDER STAIR. INSTALL 0-10V DIMMER ON WING WALL OF STAGE WHERE SHOWN. LIGHTS WILL BE NORMALLY OFF AND MANUALLY TURNED ON FOR PERFORMANCES WHERE THE TEMPORARY CURTAIN IS IN USE. CONNECT TO NEAREST UNSWITCHED 120V CIRCUIT.

3. INSTALL NEW LED EXIT SIGN WITH WHITE FACE GREEN LETTERS AND BATTERY BACKUP TO MATCH EXISTING EXIT SIGNS. LOCATE SIGNS IN FRONT OF THE TEMPORARY CURTAINS TO IDENTIFY EXIT LOCATIONS WHEN CURTAINS ARE IN USE. CONNECT TO EXISTING UNSWITCHED EXIT SIGN CIRCUITS.



GENERAL NOTES:
1. ALL CONDUITS SHOWN ARE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. EXTEND CONTROL CONDUITS TO MDF FOR A/V FUNCTION OR AS NOTED OTHERWISE. TYPICAL.
2. JUNCTION BOXES FOR A/V CONTROLS ARE TO BE 6"x6"X4" PER A/V CONSULTANT.
3. SEE A/V SHEETS FOR ROUGH-IN BOX LEGEND.

1 CAFETORIUM NEW PLAN - LIGHTING
1/4" = 1'-0"

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Germantown Municipal School District

Seal: Monte De Pouw, Registered Engineer, No. 12587, State of Tennessee, Composite. 3/15/23

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FLOOR PLAN LIGHTING

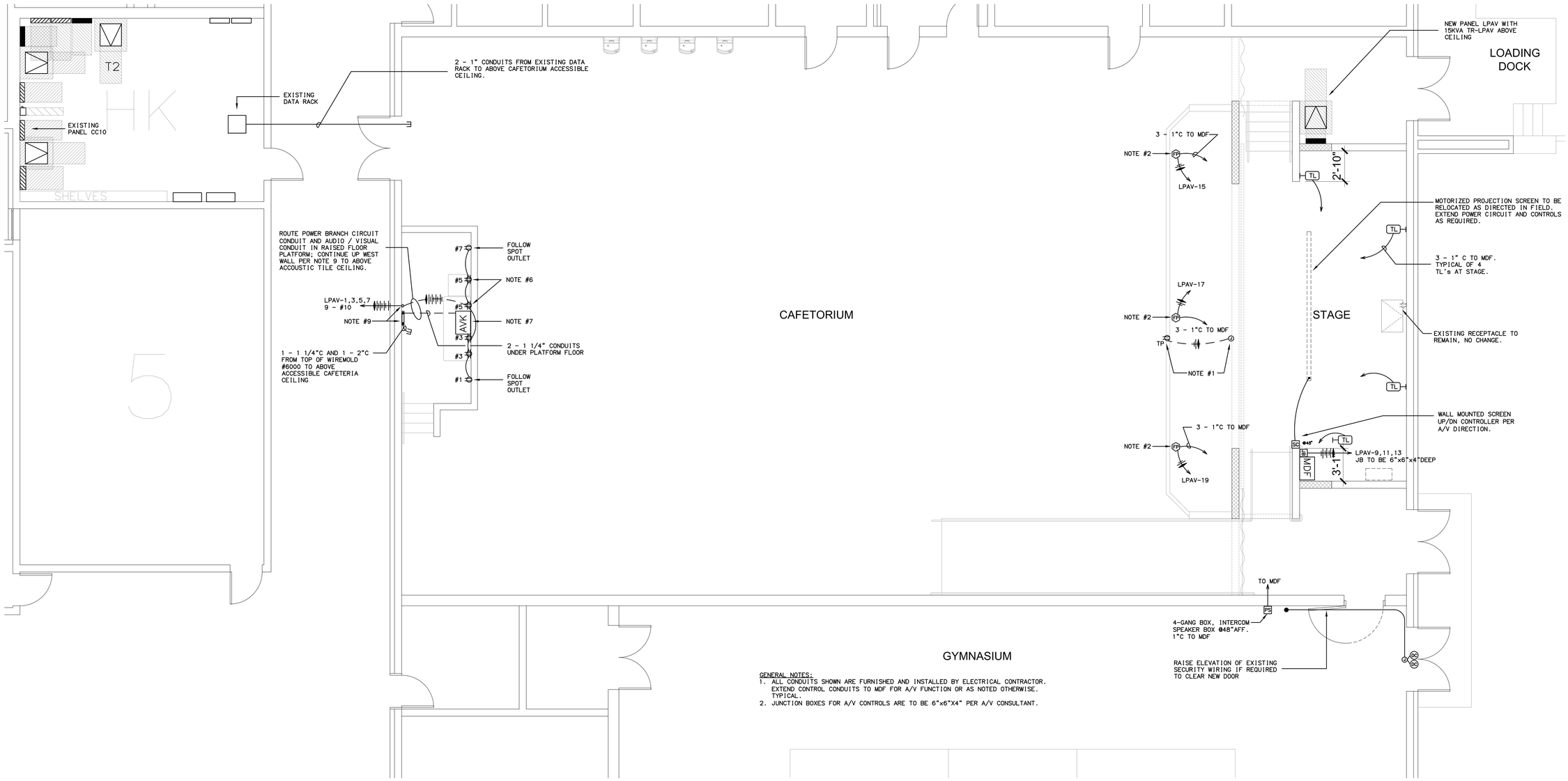
Drawing Number: E1.2

Date: 15 March 2023

Project Number: 22219

CONSTRUCTION NOTES:

1. BLANK OFF EXISTING OUTLET IN FACE OF PLATFORM AND EXTEND EXISTING CIRCUITS TO NEW TAMPER PROOF OUTLETS IN FACE OF NEW PLATFORM EXTENSION. COORDINATE DEVICE COLOR WITH ARCHITECT, PROBABLY BLACK.
2. FLOOR POCKET FURNISHED BY A/V CONTRACTOR, INSTALLATION AND CONDUIT BY ELECTRICAL. EACH BOX TO CONTAIN 120V DUPLEX OUTLET AND A/V CONNECTORS/CABLING, ETC. AS DIRECTED BY A/V. PROVIDE PULL STRINGS IN EACH OPEN CONDUIT.
3. INSTALL 2 - 1" OPEN CONDUITS WITH PULL STRINGS FROM EACH FLOOR POCKET TO A/V CABINET MDF. THE CONDUITS SHALL ENTER THE 4 GANG SIDE OF THE FLOOR POCKET. ORIENT THE FLOOR POCKET WITH THE 4 GANG SIDE TOWARD THE BACK STAGE.
4. NOT USED.
5. NOT USED.
6. DUPLEX AND QUAD ELECTRICAL OUTLETS FLUSH IN WALL. ROUTE ELECTRICAL CIRCUIT HOMERUN UNDER FLOOR OF PLATFORM AND RISE UP ON WEST WALL IN WIREMOLD #3000.
7. 12" X 12" X 4"D JUNCTION BOX SURFACE MOUNTED BELOW COUNTER. PROVIDE 2 - 1 1/4" ROUND BUSHED OPENINGS IN EACH SIDE OF BOX FOR A/V CABLING TO COUNTER AND TO MDF RACK. PROVIDE 2 - 1 1/4" CONDUITS OUT BOTTOM OF BOX UNDER FLOOR TO JUNCTION BOX AT WALL, SEE NOTE #8. PROVIDE PULL STRING IN EACH CONDUIT.
8. SURFACE MOUNT JUNCTION BOX 12" X 12" X 4" LOCATED ABOVE FLOOR OF PLATFORM FOR CONNECTION TO WIREMOLD #6000 THAT WILL RISE UP ON WEST WALL TO ABOVE CEILING.
9. WIREMOLD #3000 FOR POWER CIRCUITS AND WIREMOLD #6000 FOR COMMUNICATIONS CIRCUITS, RISE UP ON WALL TO ABOVE CEILING. COLOR BY ARCHITECT.
10. 4 - 2" CONDUITS OUT TOP OF MDF BOX TO A HEIGHT ABOVE CAFETERIA CEILING. INSTALL BUSHINGS ON CONDUIT ENDS. A/V CONTRACTOR TO EXTEND COMMUNICATION WIRING (MICROPHONE, AUDIO AND DMX) ABOVE CAFETERIA CEILING IN J-HOOKS TO COMMUNICATION WIREMOLD AT SOUND BOOTH.
11. PROVIDE SUPPORT STRUCTURE AS REQUIRED FOR THE ABOVE CEILING TRANSFORMER.



GENERAL NOTES:
1. ALL CONDUITS SHOWN ARE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. EXTEND CONTROL CONDUITS TO MDF FOR A/V FUNCTION OR AS NOTED OTHERWISE. TYPICAL.
2. JUNCTION BOXES FOR A/V CONTROLS ARE TO BE 6"x6"X4" PER A/V CONSULTANT.

N

1	CAFETORIUM NEW PLAN - POWER
1/4" = 1'-0"	

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FLOOR PLAN
POWER

Drawing Number: E1.3

Date: 15 March 2023

Project Number: 22219

LIGHTING FIXTURES

WALL MOUNTED DOUBLE FACE EXIT LIGHT WITH ARROWS

RECESSED STEP LIGHT

BASIC CONDUIT SYSTEMS

BRANCH CIRCUIT WIRING (SOLID DIAMOND = EQUIPMENT GROUND, OPEN DIAMOND = ISOLATED GND, LONG = NEUTRAL, SHORT = PHASE, SHORT Z = LOW VOLTAGE)

BRANCH CIRCUIT CONDUIT RUN CONCEALED IN WALL OR CEILING CONSTRUCTION (CONTINUOUS LINE)

BRANCH CIRCUIT CONDUIT RUN CONCEALED IN FLOOR SLAB OR UNDERGROUND (DASHED LINE)

BRANCH CIRCUIT CONDUIT RUN EXPOSED

OPEN CONDUIT WITH FISH WIRE

BRANCH CIRCUIT HOME RUN

FLEXIBLE CONDUIT CONNECTION

CONDUIT STUBBED UP OR DOWN IN WALL AS NOTED

PWM — POWER WIREMOLD

CWM — COMMUNICATION WIREMOLD

POWER AND CONTROL DEVICES

SURFACE MOUNTED PANELBOARD 208Y/120 VOLT (HATCHED AREA = CODE REQUIRED WORKING CLEARANCE)

DRY TYPE TRANSFORMER

PS — LED POWER SUPPLY/DRIVER

FP — FLOOR POCKET

DP — DIMMER PACK

WIRING DEVICES

$_{D}$ — DIMMER SWITCH (RATING AS NOTED)

$_{OSD}$ — OCCUPANCY SENSOR DIMMER SWITCH

DUPLEX CONVENIENCE OUTLET (BL = BLANK OFF)

DOUBLE DUPLEX CONVENIENCE OUTLET MOUNTED ABOVE COUNTER

$_{TP}$ — TAMPER PROOF SAFETY OUTLET

JUNCTION BOX

COMMUNICATIONS:

VOICE /DATA OUTLET

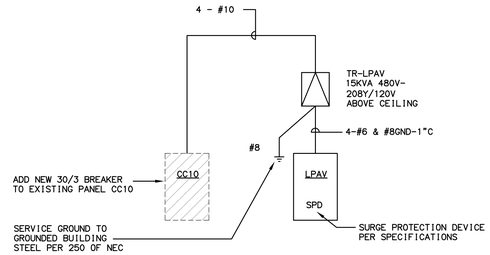
A/V DATA OUTLET OPENING

LEGEND AND GENERAL NOTES

SCALE: = NONE

GENERAL NOTES:

1. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL NATIONAL AND LOCAL ELECTRICAL CODES. CONTRACTOR SHALL TAKE OUT ALL PERMITS AND PAY ALL FEES ASSOCIATED WITH ELECTRICAL WORK.
2. ALL WIRING SHALL BE STRANDED COPPER FOR ALL WIRE SIZES AND SHALL BE INSTALLED IN CONTINUOUS CONDUIT SYSTEMS UNLESS NOTED OTHERWISE. SEE SPECIFICATIONS FOR WIRE COLOR CODING.
3. ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE INSULATED GREEN GROUNDING CONDUCTOR SIZED PER NEC, #12 MINIMUM.
4. ALL CONDUIT SHALL BE ROUTED PARALLEL TO BUILDING WALLS. BRANCH CIRCUIT HOME RUN GROUPING SHALL BE LIMITED TO 1" CONDUIT SIZE. WHEN MORE THAN 4 CURRENT CARRYING CONDUCTORS ARE INSTALLED IN A SINGLE CONDUIT, CONDUCTOR AMPACITY SHALL BE DERATED PER ARTICLE 310 TABLE NOTES #8 THRU #10 OF N.E.C.
5. ALL OPEN CONDUIT SYSTEMS SHALL BE PROVIDED WITH PULL STRINGS.
6. ALL WIRING DEVICES AND DEVICE PLATE COLORS SHALL BE SELECTED BY ARCHITECT.
7. THE CONTRACTOR SHALL, IN ROUTING CONDUIT, COORDINATE HIS WORK CLOSELY WITH THE WORK TO BE PROVIDED UNDER THE STRUCTURAL, MECHANICAL, PLUMBING AND ARCHITECTURAL SECTIONS.
9. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ALL BUILDING DIMENSIONS, DETAILS, ELEVATIONS, ETC.
10. CATALOG NUMBERS FURNISHED HEREIN ARE PROVIDED TO SUPPLEMENT PRODUCT DESCRIPTIONS. CONTRACTOR AND SUPPLIER SHALL BE RESPONSIBLE FOR VERIFYING COMPLETENESS AND ACCURACY OF ALL PRODUCT CATALOG NUMBERS.



PARTIAL ONELINE DIAGRAM

SCALE: = NONE

CC10 (EXISTING)

ROOM — VOLTS 480Y/277V 3P 4W — AIC 14,000
MOUNTING SURFACE — BUS AMPS 125 — MAIN BKR MLO
FED FROM UTILITY — NEUTRAL 100% — LUGS STANDARD
NOTE SIEMENS S2 WITH BQD BREAKERS

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	15/3	RTU CLASSROOM 34A	3.33			2	15/3	RTU CLASSROOM 4A	3.33		
3	|			3.33		4	|			3.33	
5	|				3.33	6	|				3.33
7	15/3	RTU CLASSROOM 2A	3.33			8	15/3	RTU CLASSROOM 5A	3.33		
9	|			3.33		10	|			3.33	
11	|				3.33	12	|				3.33
13	15/3	RTU CLASSROOM 1A	3.33			14	15/3	RTU CLASSROOM 6A	3.33		
15	|			3.33		16	|			3.33	
17	|				3.33	18	|				3.33
19	20/1	ELECTRIC HEATER	2.5			20	20/1	SPACE	0		
21	20/1	SPACE		0		22	20/1	SPACE		0	
23	20/1	A&B HALLWAY LIGHTS			2	24	20/1	SPACE			0
25	20/1	SPACE	0			26	30/3	XFMR TR-LPAV (NEW BREAKER)	4.78		
27	20/1	SPACE		0		28	|			4.78	
29	20/1	SPACE			0	30	|				4.28
								TOTAL CONNECTED KVA BY PHASE	27.3	24.8	26.3
								TOTAL CONNECTED AMPS BY PHASE	98.4	89.4	94.8

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	6	7.5	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(125%)	HEATING	2.5	2.5	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	9.84	9.84	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
HVAC	60	60	(100%)	NONCOIN/DIVERSE	0	0	(N/A)
BATTERY CHARGE	0	0	(100%)	TOTAL KVA		78.3	79.8

BALANCED THREE PHASE AMPS 96

LPAV (NEW)

ROOM — VOLTS 208Y/120V 3P 4W — AIC 10,000
MOUNTING SURFACE — BUS AMPS 60 — MAIN BKR 60
FED FROM TR-LPAV — NEUTRAL 100% — LUGS STANDARD
NOTE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	KVA LOAD A	B	C
1	20/1	FOLLOW SPOT	1			2	20/1	PROJECTOR	1.1		
3	20/1	AV EQUIPMENT		1		4	20/1	PROJECTOR		1.1	
5	20/1	AV EQUIPMENT			1	6	20/1	PROJECTOR			1.1
7	20/1	FOLLOW SPOT	1			8	20/1	LIGHT STRIP AT STAGE	0.8		
9	20/1	MDF A/V RACK		1		10	20/1	LIGHT STRIP AT CAFETERIA		0.8	
11	20/1	MDF A/V RACK			1	12	20/1	LIGHT STRIP AT STAGE			0.8
13	20/1	MDF A/V RACK	1			14	20/1	FUTURE SCREEN	0		
15	20/1	STAGE FLOOR POCKET		0.18		16	20/1	SPARE CB		0	
17	20/1	STAGE FLOOR POCKET			0.18	18	20/1	SPARE CB			0
19	20/1	STAGE FLOOR POCKET	0.18			20	20/1	SPARE CB	0		
								TOTAL CONNECTED KVA BY PHASE	5.08	4.08	4.08
								TOTAL CONNECTED AMPS BY PHASE	42.3	34	34

	CONN. KVA	CALC. KVA			CONN. KVA	CALC. KVA	
LIGHTING	4.4	5.5	(125%)	CONTINUOUS	0	0	(125%)
LARGEST MOTOR	0	0	(125%)	HEATING	0	0	(100%)
OTHER MOTORS	0	0	(100%)	NONCONTINUOUS	0	0	(100%)
RECEPTACLES	8.84	8.84	(50%>10)	KITCHEN EQUIP	0	0	(N/A)
HVAC	0	0	(100%)	NONCOIN/DIVERSE	0	0	(N/A)
BATTERY CHARGE	0	0	(100%)	TOTAL KVA		13.2	14.3

BALANCED THREE PHASE AMPS 39.8

N

1 CAFETORIUM NEW PLAN - POWER

1/4" = 1'-0"

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ELECTRICAL DETAILS

Drawing Number: E1.4

Date: 15 March 2023

Project Number: 22219

CABLE & WIRE REFERENCE			
TYPE DESIGNATOR	**FUNCTION**	**BASIS OF DESIGN**	**NOTES**
ML	Audio, Low Level	West Penn 452	OK for racks, conduit only. Do not expose.
S	Audio, High Level	West Penn 225	Audio power as recommended by equipment manufacturer. See plans for estimated cable distance.
S	Audio, High Level	West Penn 226	Audio power as recommended by equipment manufacturer. See plans for estimated cable distance.
S	Audio, High Level	West Penn 227	Audio power as recommended by equipment manufacturer. See plans for estimated cable distance.
S	Audio, High Level	THHN, #10-#12 AWG	>1000W Audio Power RMS or as recommended by equipment manufacturer.
COM, 232, SERIAL	Control	West Penn 452	OK for racks, conduit only. Do not expose.
GPIO	Control	As Required	As Recommended by the equipment manufacturer.
LAN_D	Data	West Penn 4246F	Ethernet and similar networks, <50 meters.
LAN_D	Data	West Penn 4246AF	Ethernet and similar networks, >50, <100 meters.
DTP	UTP, Proprietary	As Required	AV Transport, as recommended by Extron
DM	UTP, Proprietary	As Required	AV Transport, as recommended by Crestron
FX_OPT	Optical Fiber	As Required	As recommended by the manufacturer of connected endpoints.
AES	AES3 (EBU)	Belden 1696A	All uses within the limits of the AES specification.
AES50	AES50 Audio	West Penn 4246AF	All uses within the limits of the AES specification.
SDI	HD-SDI	Belden 1855A	In racks, risers, conduit installation, 250' max.
SDI	HD-SDI	Belden 1505A	In racks, risers, conduit installation, 300' max.
SDI	HD-SDI	Belden 1694A	Conduit installation, 400' max.
SDI	HD-SDI	Belden 1695A	Plenum or exposed installation, 300' max.
RGB	RGB/VGA	West Penn 3CRGB	OK for racks, conduit only, do not expose
NTSC	NTSC Video	West Penn 819	OK for racks, conduit only, do not expose
PCOM	Production Com	West Penn 452	OK for racks, conduit only, do not expose, use similar for 2-channel systems.
DMX	DMX Control, XLR Type	Belden 9842	OK for racks, conduit only, do not expose.
RF	RF	RG6 or As Required	As recommended by the manufacturer of connected endpoints.

RACK & DISTRIBUTION FRAME NOTES

1. Clearance dimensions shown are minimum requirements.
2. Coordinate all power distribution landings with Division 16/26.
3. Dimensions are conceptual, actual dimensions are dependant on rack manufacturer and requirements, see details.
4. Do not install front doors UON.
5. Do not use rack base for signal cabling, for power distribution only.
6. Ensure that all requirment is accommodated, see signal flow drawings.
7. Equipment not suitable for rack mounting or equipment may not be shown on rack elevations.
8. Mount non-EIA equipment on rear rack rails or DIN rail. Submit details.
9. Isolate raceway and power distribution systems from A/V conductors and racks.
10. Ground conductor shall be isolated from all mechanical systems.
11. Mount all devices securely. Back of rack devices shall be securely mounted to rack panels, DIN rail or other rigid device, typ.
12. Provide blanks or vents in all spaces. Do not allow open spaces.
13. Provide casters as recommended by the manufacturer for all portable and ATA style racks, UON.
14. Provide conduit stubs and fittings OR open rack space on top of racks for cable access.
15. Provide exhaust fan for each rack/bay as required by the heat load, coordinate with consultant.
16. Provide full height EIA rails for front and rear.
17. Provide incandescent work light in all racks.
18. Provide passive and switched 120VAC power distribution for all rack bays.
19. Provide passive power circuits for DSP, control and source equipment and switched circuits for each power amplifier.
20. Provide end-user controls at rack location and the primary control location, coordinate with AV Consultant.
21. Provide solid rear doors with vents.
22. Rack details applicable for all locations.
23. Rack illustrations shown throughout these drawings do not represent specific manufacturers.
24. Rack layouts are suggested.
25. Provide rack space to accommodate all equipment, regardless of elevations.
26. Submit details for all rack layouts prior to construction.
27. See details for cabling and power configurations.
28. See specifications for rack products information.
29. Separate cable bundles by signal type as much as possible.
30. Use only black 6-32 Phillips head screws for all rack mounts.
31. Use only black racks, black anodized vents, blanks and accessories, UON.

PANEL & PLATE NOTES

1. All exterior panel mounts shall be rivets or tamper proof screws UON, submit detail.
2. All panels shall be brushed, black anodized 1/8" aluminum UON.
3. All text shall be at least 1/8" high bold characters. Engrave and fill in white ink.
4. Bevel all panel edges by 1/16".
5. Connector borders shall be engraved 1/8" thick, filled in white ink.
6. Connector compliment is typical, see single line drawings and specifations for details, submit for approval.
7. Each character shall have a unique number corresponding to the conductor number, see single lines.
8. Panel elevations are conceptual, refer to single line drawings for connection requirements.
9. Submit shop drawings for all panels.
10. Coordinate field panel installation with electrical contractor.
11. Isolate panel metal from backboxes where necessary.
12. Verify backboxes with electrical drawings and/or AV Raceway drawings for all panel locations.
13. Verify field conditions for all panel locations, adjust panel sizes or finish configuration as required.
14. Verify that all conduit is isolated from backbox metal.
15. Do not couple signal ground to raceway system UON.
16. Where panels include 120VAC, coordinate with electrical contractor.
17. Do not install high voltage circuits, coordinate with electrical contractor.
18. All BNC connectors shall be as shown, isolated from chassis metal or Neutrik D Series UON.
19. All connectors shall be as shown UON.
20. All high-level audio connectors shall be Neutrik NL Type UON.
21. All RCA type connectors shall be Neutrik NF type.
22. All UTP data connectors shall be equal to CAT6 compliant, Neutrik etherCON Series UON.
23. All XLR type connectors shall be Neutrik DLX Series, solder cup type.
24. Match connector finish with panel color, verify all colors UON.
25. Provide optical connectors as shown, equal to Neutrik opticalCON Serieis.
26. Verify circuiting requirements for all optical connectors with connected manufacturer's recommendation.

ABBREVIATIONS

A	Antenna or Antenna Connection Point
AC	Alternating Current (Power Distribution)
AFF	Above Finished Floor
AIC	Audio Input Card
AL	Assited Listening
AM	Amplitude Modulation (AM Radio)
AOC	Audio Output Card
AT	Constant Voltage Attenuator
ATK	Constant Voltage Attenuator Rack Panel
AVI	Audio Video Interface
BOB	Breakout Box
CL	Center Line
CM	Camera
CRT	Cathode Ray Tube Display
CU	Control Unit, Control Panels
D	Data
DA	Distribution Amplifier
DC	Direct Current (Circuit Designator)
DSP	DSP Signal Processor
DT	Data Terminal
DV	Digital Video
DVD	Digital Video or Versatile Disc Player
EQ	Equalizer
FA	Fire Alarm
FB	Foldback, Floor Box
FC	Format Converter
FM	Frequency Modulation (FM Radio)
FP	Floor Pocket
FPD	Flat Panel Display
FS	Filter Set
GPIO	General Purpose Input/Output
I/O	Input/Output Interface
IDF	Intermediate Distribution Frame
IR	Infrared
INT	Interface
J	Junction or Junction Box
K	Relay
LINE	Line Level (+4dBm)
LAN	Local Area Network
LCD	Liquid Crystal Display
LIM	Limiter
M	Microphone Level (<-20dBm)
MCS	Master Control Server/Controller
MDF	Master Distribution Frame
ML	Mic or Line Level
MLK	Mic, Line on Rack Panel
MLS	Mic, Line, Speaker
MOD	Modulator
MON	Monitor
NC	Normally Closed or No Connection
NO	Normally Open
OFE	Owner Furnished Equipment
PA	Power Amplifier
PTZ	Pan/Tilt/Zoom
PC	Computer (Mac, Windows, Linux)
PRJ	Projector
PS	Power Supply
REC	Record or recorder
RF	Radio Frequency
RK	Rack Mounted device
RX	Receiver
S	Loudspeaker, Speaker
SUM	Audio Mixer
TB	Thunderbolt
TP	Touch Panel
TX	Transmitter
UON	Unless Otherwise Noted
V	Volume
VC	Volume Control
VD	Visual or Video Display
X	Switch
XO	Crossover
Z	Impedence

TERMINAL PANELS & FIELD PANELS

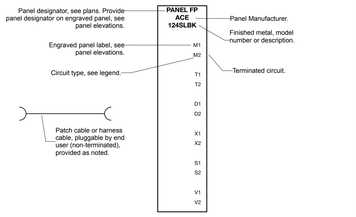
Field and/or Terminal panels shall be configured to provide circuit access to the end-user at the finish side of the panel metal. The interior shall be terminated per the standards noted in the specification, or as recommended by the equipment manufacturer of the terminated equipment.

Panel Legend applies to field panels, rack panels and custom millwork panels.

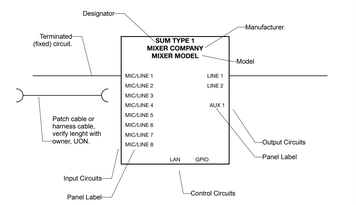
Provide connector types typical for circuit (see wire & cable schedule) and/or the terminated end point.

Note that panel elevations may not always be provided. The single line takes precedence over any panel elevation for connector types, quantities, terminations and circuiting. Contractor shall submit shop drawings for all custom panel assemblies.

Signal flow/direction is not literal, the symbol indicates a panel at source location or destination location, regardless of signal types. Symbol configuration is based on physical orientation.

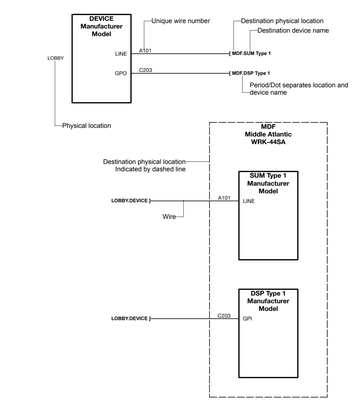


SINGLE FLOW & COMPONENT TERMINATION CONVENTIONS



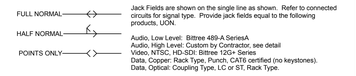
Note that connections for field devices are shown "in context". Connections and terminations for some devices may not be shown. Verify correct terminations with the manufacturer in all cases.

Terminated circuits are shown as lines, "terminated" to "sockets", attached to Device blocks. To simplify wiring in complex systems, wiring "tags" are used to "break" wires between two points.



Note that in some cases, physical locations are shown on the plans and NOT on the single lines. This is usually the case where the device location is often repeated, such as a flat panel display or a connection plate that is used in multiple location. In this case, the location as shown on the plan is referred to a detail which includes applicable direction for that location. The corresponding connection is also included as shown above.

AUDIO JACK FIELD CONVENTION



Jack Fields are shown on the single line as shown. Refer to connected circuits for signal type. Provide jack fields equal to the following products, UON.

Audio, Low Level: Bittree 489-A SeriesA
Audio, High Level: Custom by Contractor, see detail
Video, NTSC, HD-SDI: Bittree 12G+ Series
Data, Copper: Rack Type, Punch, CAT6 certified (no keystones).
Data, Optical: Coupling Type, LC or ST, Rack Type.

Refer to termination and grounding detail. Configure terminations and grounding accordingly or as recommended by the manufacturer.

Configure isolated or bussed grounds as required by the frame configuration, circuit type, circuit mix, etc. IE: Isolate grounds from frames when frames share circuit types (M/L, Production Interfom, etc.).

Include details on all shop drawings and as-built drawings, see specifications.

IP NETWORKS CONVENTIONS

All network switches indicated by the AV single line drawings shall be provided by the AV Contractor as stand-alone networks, fully independant of all site LAN, UON.

Network switches chassis/frame units may not shown on the single line drawings. Indication of a terminated LAN port indicates a switch is required at each physical location (MDF, FOH, IDF, etc.)

Provide and configure switches as recommended by the manufacturer of the connected systems. Include switch configuration in submittals. All switches shall be gigabit type (10/100/1000) and shall support AES67, and shall be compliant with the requirements of the connected equipment's manufacturer's recommendations.

Provide port quantity as shown on the single lines for terminated ports.

Interface AV switches to site LAN via "tie line" port if shown on the single line drawings. In this case, coordinate with the owner's IT staff for filtering, DHCP configuration, administrative access and and internet access. In cases where AV switches are connected to the site LAN, the AV Contractor shall enable security features required by the owner. Access to the primary site network shall be limited to internet access, administration, control UI access and service access. Do not stream content to primary site network unless specifically noted on the drawings and/or specification.

Network switch requirements are indicated by the port type and/or logical network, dictated by the connected client equipment. Networks may not represented on the single line drawings unless specific configurations are required. Indication of a terminated LAN port to a client device indicates that a switch is required at each physical location.

Provide and configure switches as recommended by the manufacturer of the connected systems. Include switch configuration in submittals. All switches shall be gigabit type (10/100/1000), and shall provide the following minimum features:

Managed, Layer 3 functionality.
Configurable multicast.
AES67 Supportshall support AES67, and shall be compliant with the requirements of the connected equipment's manufacturer's recommendations.
The ability to disable EEE / Green Ethernet.
Full IGMP support.
IGMP query support, enable on one switch per network, UON (recommended query interval is 30 seconds).
Enable filtering for unregistered multicast traffic.

Provide port quantity as shown on the single lines for terminated ports or as recommended by the manufacturer of the connected equipment.

Configure a single physical switch with vLAN segements as shown on the single line drawings and prepare Port Schedules for as-built drawings (see specification). Each network segment shall be configured as a separate (virtual or physical) network with a separate physical switch OR vLAN segments. Standard network types are shown below:

Network ID (Typical, Subject to Change):
A: (Network Segment) AV Controls, administration and configuration
Q: (Network Segment) IP Audio (AES67, Q-Lan, AVB, Dante)
V: (Network Segment)IP Video Streaming
U: (Network Segment) Other Proprietary/Non-IP Distribution Systems
L: (Port "tie-line") Interface to site LAN.

Port Schedule example. AV Contractor shall provide schedules for each physical system, see single line drawings.

Physical network, refers to a rack location.

Basis of Design switch, indicated for reference only. AV Contractor is responsible for providing switches per the notes in this section (see above).

NETWORK: AES67 Audio, Control — NETWORK ID: Q

SWITCH: QSC Q-SYS NS-1124P

PORT	FUNCTION	CLIENT DEVICE	NOTES
1	DSP Transport	QSC 100F	Configure for redundant operation.
2	Field Panel	AttenTech unDX2IO+	
3	Audio Amplifier	CX-Q 2K4	
4			
5			

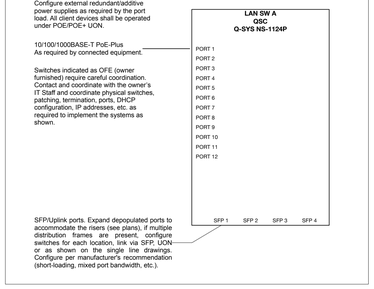
Provide switches and/or routers as required by the manufacturers of the connected equipment. Manufacturer's recommendations shall take precedence in all cases.

All switches shall be compliant with the requirements of the connected equipment's manufacturer's recommendation.

Basis of Design switch configurations, if shown on the single line drawings, are for reference, provide switches as recommended by the manufacturer of the connected equipment, and that reflect the latest technology.

Provide and install updated and/or specific versions of firmware to accommodate the documented systems.

Provide RTU Licenses as required to complete the functional requirements of the documented systems. This includes stacking options, media options, configuration software licensing, protocol options and applicable bandwidth expansion options.



EQUIPMENT ROOM & CONTROL ROOM NOTES

1. Coordinate with consultant and end-user for configuration of all control areas. Assist the end-user with OFE equipment and integrate with system components as required to complete the systems.
2. Contact consultant for coordination drawings related to room layouts.
3. Provide cable harnessing, j-hook systems or cable trays as required to secure cablign from conduit and raceway exits to equipment.
4. Coordinate final configuration of equipment space requirements with millwork and/or furniture contractor.

AV CABLING RACEWAYS & BOXES

1. The plans Indicate physical pull boxes, junctions and plug boxes.
2. Refer to the AV Raceway plans or related electrical drawings.
3. Conduit and boxes provided and installed by others, UON 4.
4. Coordinate with Electrical Contractor in all cases, verify box type and mounting conditions.
5. Do not use pull boxes as splice points, pull all cabling through box, UON.
6. Boxes may not be shown on single lines, refer to plans for locations, plans have precedence over single lines.

WIRELESS MICROPHONE & IEM SYSTEMS

1. Provide all rack kits, remote antennas, cabling, terminators, etc. required to support the systems as shown.
2. Provide rechargeable battery systems to accommodate each body pack or handheld device.
3. Provide charding station to support the total number of battery-operated devices.
4. Provide remote antenna and related distribution to support the systems as shown, regardless if such systems are shown on the single line drawings.
5. Provide LAN access for supported receivers and transmitters in all cases, configure software per manufacturer's recommendation for end-user use. Configure software UI as needed, coordinate with the end-user.

AV CABLING & TERMINATION NOTES

GENERAL

1. All plenum wire shall meet applicable local codes.
2. Cable callouts shown on the single line drawings are for reference to the Basis of Design, UON.
3. All wire and cable shall be provided in accordance with the recommendations of the manufacturer for the connected equipment, UON.
4. All exposed wire and cable shall be plenum rated per NEC and NFPA.
5. Verify all cable types during submittal with the AV Consultant.
6. Verify cable lengths with manufacturer of connected equipment for all cable types.
7. Wire and cable for any device shall be supplied in accordance with the requirements of the device manufacturer
8. Wire and cable shall be installed in compliance with the National Electrical Code.
10. Wire, cable and signal conductors shall be new and unused.
11. All low level field cabling shall enter racks at punch points or directly soldered to equipment connectors.
12. Buss punch block ground points to single rack ground, see jack field detail.
13. Mechanically isolate all panel connectors from raceway system and finish plate.
14. Mechanically isolate audio connector chassis from rack panel.
15. Mechanically isolate service entrance conduits from equipment rack.
16. Use #10AWG solid wire min. for all ground jumpers.
17. Isolate equipment rack from conduit, raceway and power distribution system.
18. Maintain proper twist ratio for all pairs (Category 6 patching and interconnect).
19. Terminate all pins and conductors (Category 6 patching and interconnect).
20. There shall be no ground loops, regardless of equipment configuration.
21. Use 3-wire grounded devices when possible.
22. Use only balanced audio terminations throughout system, U.O.N. Use only ratchet type crimp tools.
23. All wire and cable shall have a unique numering designator at each end of the physical media.
24. Contractor shall supply the cable in accordance with the recommendations of the connected equipment manufacturer, the cable types shown are for reference only.
25. Install and terminate cabling per AES, ANSI, IEC or BICSI standards, UON.
26. Contractor shall supply the optimum cable for the application.
27. All cabling shall be subject to the circuit type.
28. All cabling shall be subject to environmental conditions.
29. All cabling shall be provided and installed for bandwidth requirements.
30. Wiring designators are shown to indicate the requirements and to denote circuiting.
31. Contractor is free to use their own numbering scheme.
32. Contractor shall document all wire numbers on their shop drawings and as-built drawings.
33. Provide cable schedules for all cables UON. See specifications for additional requirements.
34. Cable types are specified based on terminated end points. See single lines, provide as required to provide the system as shown. Provide cables as recommended by the manufacturer of the terminated equipment, UON.
35. Provide cable as mandated by site conditions, including, but not limited to, conditions that require cable type to support return air plenums, fire ratings, adjacent cable paths that could impact performance, physical obstructions and federal, state and local building codes.

AUDIO CABLING

1. All low level field cabling shall enter rack at punch points or directly soldered to terminating connector at equipment or terminal panel.
2. Buss punch block ground points to single rack ground, see jack field detail.
3. If power supply includes ground to AC connector, do not terminate signal ground.
4. Mechanically isolate all panel connectors from raceway system and finish plate.
5. Mechanically isolate connector chassis from rack panel. Pin 1 shall not be at the same potential as connector chassis or panel.
6. Mechanically isolate service entrance conduits from equipment rack.
7. Use #10AWG solid wire min. for all ground jumpers.
8. There shall be no ground loops, regardless of equipment configuration.
9. Use 3-wire grounded devices when possible.
10. Use only balanced audio terminations throughout system, U.O.N.
11. Provide cabling for loudspeaker circuits per the recommendations of the amplifier and loudspeaker manufacturer.
12. Consider estimated distance (see plans) and power loss for all loudspeaker cabling runs.
13. Ensure that loudspeaker cabling will accommodate the power and connected load shown on the drawings, or as implied by the specified components.

DATA CABLING

1. Use only ratchet type crimp tools.
2. The presence of a non-ratchet crimp tool on the job site shall render all connections suspect.
2. Use only standard wiring and active devices, do not use crossover cables unless specifically noted on the drawings.
3. Use pre-made (manufactured) cables wherever possible.
4. Certify all Ethernet cable runs for Gigabit operation, min., per specifications.
5. Certify all proprietary cable runs per the manufacturer's recommendation.
6. All cabling transporting data shall be provided and installed in compliance with the connected endpoints.
7. For this section, "connected endpoints" indicates manufacturer requirements of devices connected to data cabling plants.

WIRE NUMBERS

1. All wire and cable shall have a unique numering designator at each end of the physical media.
2. Contractor shall supply the cable in accordance with the recommendations of the connected equipment manufacturer, per AV best practice or AES, ANSI, IEC or BICSI standards.
3. Contractor shall supply the optimum cable for the application, considering the circuit type, environmental conditions, bandwidth requirements, termination type, cable construction and performance requirements.
4. Wiring designators are shown to indicate the requirements and to denote circuiting. Contractor is free to use their own numbering scheme.
5. Contractor shall document all wire numbers on their shop drawings and as-built drawings. Provide cable schedules for all cables UON.
6. See specifications for additional requirements.

AV INTEGRATION NOTES

GENERAL

1. All details are for reference, illustration of applicable device coordinates and mounting configurations and general device orientation.
2. Obtain final loudspeaker coordinates, aiming data and dimensional details from the consultant prior to integration.
3. Refer to the architectural drawings for details and dimensions, architectural details provided herein are for reference only.
4. Refer to electrical drawings for power service, grounding and raceway systems.

LOUDSPEAKERS

1. Provide cabling as reflected by single line drawings.
2. Pull cable through pull box, do not splice or use panel connectors.
3. Amplifier circuit shall terminate directly to transducer UON.
4. Final adjustment of loudspeaker aiming and mounting configuration will be determined on-site during commissioning.
5. Obtain aiming coordinates from consultant, UON.
6. Provide rigging hardware that supports adjustment of all loudspeakers for 360 degrees of adjustment.
7. Provide lift, scaffolding and rigging kits required for loudspeaker mounting and adjustment.
8. Ensure that all equipment is adjustable as to not impede loudspeaker dispersion during commissioning.
9. Refer to single line drawings for component callouts, circuiting and related signal processing requirements.
10. Attached to structure only, coordinate and/or obtain approval from Structural Engineer, see specifications.
11. Equipment shall be held firmly in place with proper mounting hardware, suspension or rigging materials.
12. Equipment attached to any building structure, sub-structure or other load-bearing member shall be self-supporting.
13. All mounting or rigging hardware shall be installed with a safety factor of at least three times the required load.
14. Provide 100% redundancy for all rigging attachment points, verify with Structural Engineer.
15. Provide bumpers, array brackets, dead-hang hardware, fasteners, safety equipment as required by the loudspeaker manufacturer.
14. Use manufacturer's rigging hardware if available.
15. The AV Contractor shall verify, coordinate and obtain color preferences for all loudspeaker enclosures, related rigging, mounting hardware and accessories with the architect and/or owner.

SIGNAL FLOW

1. Single line drawings, reconciled with the plans, constitute the design.
2. Wire numbers are shown for reference only.
3. All cables shall be numbered. Contractor is free to use their own cable numbering scheme.
4. Single line drawings may not include minor supplemental items, accessories and cabling.
5. Provide all required items to support the systems as drawn as recommended by the manufacturer or per AV best practice.
6. Configure LAN switches to support the ports shown on the single lines and applicable port schedules.
7. Refer to legends, abbreviations and callouts for specific direction.
8. See specifications for more information.
9. Provide local, POE or remote power supplies for all signal transport systems.

CONTROLS

1. Configure control server to accommodate all control ports shown, see control port schedule.
2. Provide applicable wireless gateway or other interfaces as required for wireless controls.
3. Provide local power for all devices under control, control clients and dedicated control panels/touch panels.
4. Where possible, power control panels and devices interface and transport units with Power Over Ethernet (POE).
5. Provide additional power supply to support POE or power to end-points where required.
6. All control cabling shall be provided as recommended by the specified or approved control system manufacturer.
7. Provide UI clients for all systems, duplicate primary control interface for each client.
8. UI clients shall be provided for Mac OS, Windows, Linux, iOS and Android devices. Verify and coordinate with owner.

PROJECTION

1. Coordinate installation of projection screen with General Contractor.
2. Provide and install any/all bracket system, related poles, clamps, rigging and projector mounting brackets required to support the configuration shown on the drawings.
3. Verify that structural attachment points are provided, refer to the architectural drawings and coordinate with the General Contractor.
4. Provide projection geometry as shown on the drawings, verify all parameters with the consultant.
5. Extend low voltage serial or GPIO control circuits to AV Control System, coordinate with consultant.
6. Provide lens as required by the projection geometry shown on the plans. Verify with projector manufacturer.
8. Provide low-voltage controls for all projections screens, locate as directed by owner and/or consultant.

SURFACE-MOUNTED & SUSPENDED DISPLAYS

1. Refer to the architectural drawings for elevations for applicable display locations.
2. Elevations and/or sections included in the AV drawings are for reference only, refer to the architectural drawings.
3. Verify mounting heights for all displays with end-user, coordinate with consultant.
4. Ensure that raceway and power distribution components are properly roughed-in to support the display position.
5. Verify structural support for mounting systems with the General Contractor.
6. Provide and install all rigging, brackets and mounting hardware required to support the configuration shown on the drawings.
7. Coordinate penetration of finished walls with General Contractor as necessary.
8. Ensure that electronics components are mounted to facilitate proper cooling.
9. Ensure that supplemental electronics, cabling and mounting systems are hidden from view.
10. Verify that display positions are compliant with egress requirements, verify with architect.

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Germantown Municipal School District

Seal

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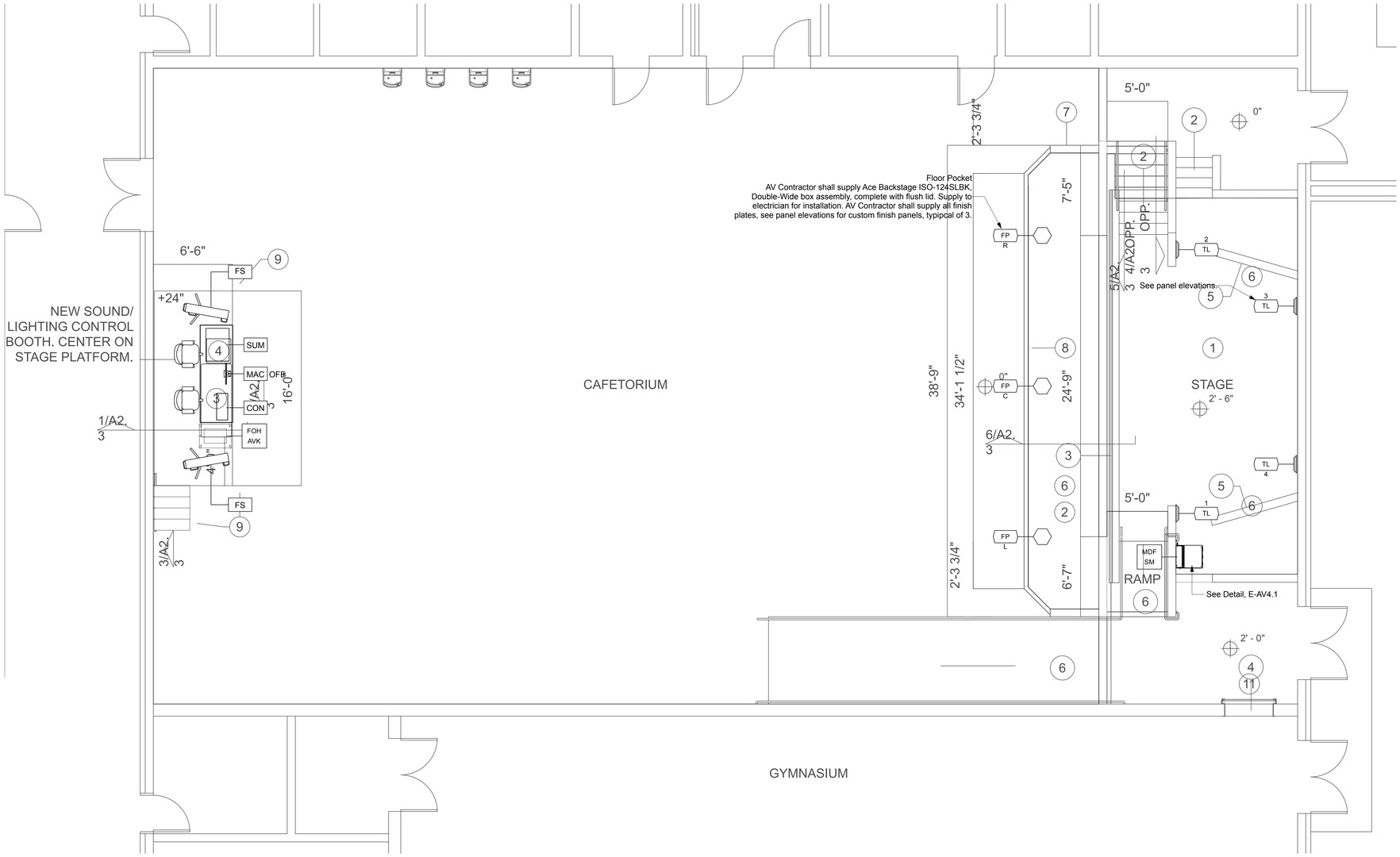
Evans Taylor Foster Childress □ Architects

AV Legends & Notes

Drawing Number:
AV0.1

Date: 15 March 202

Project Number: 22219



1 AV Device Plan
Scale: 1/4" = 1'-0"

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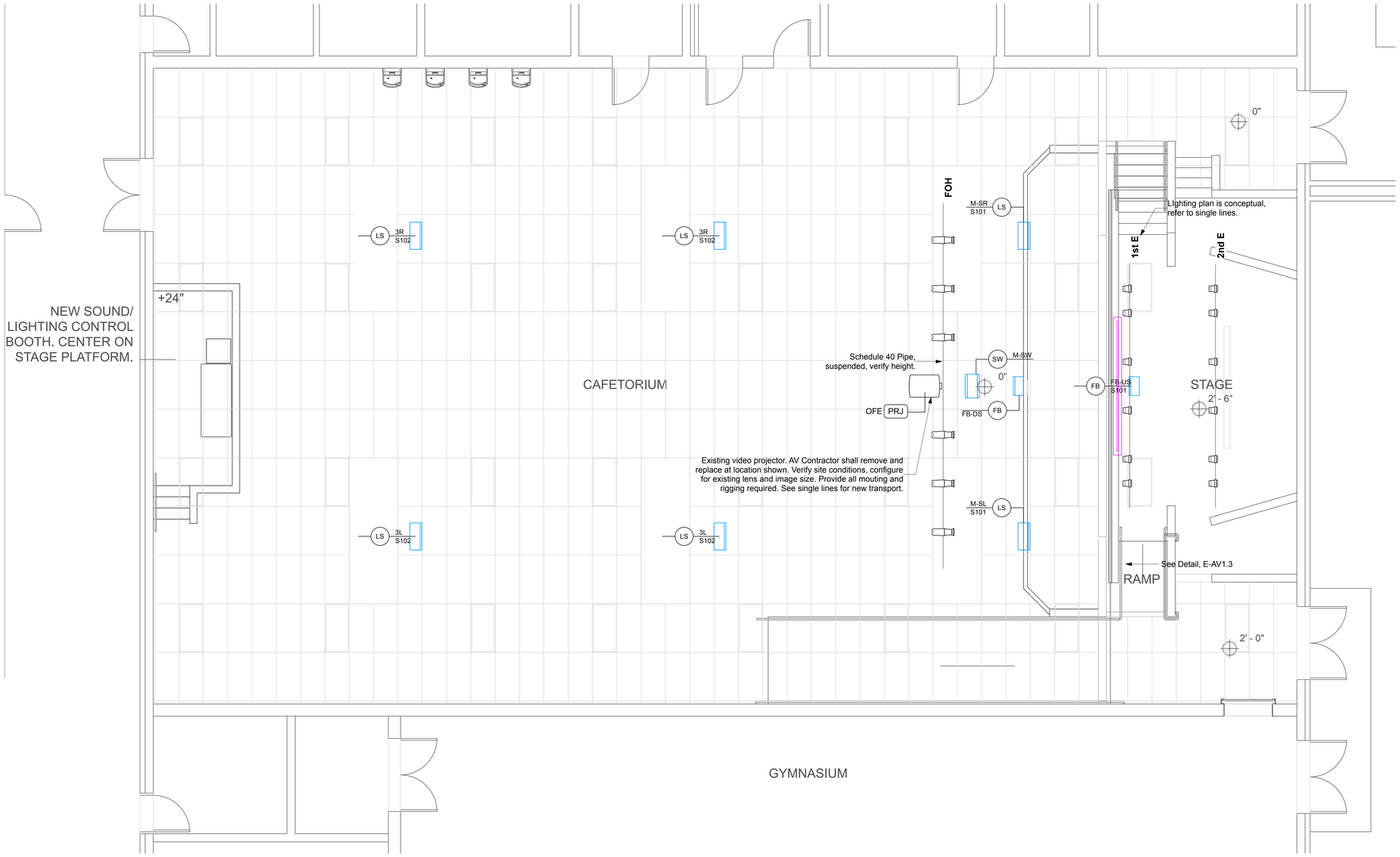
AV Device Plan
Drawing Number:
AV2.1
Date: 15 March 202
Project Number: 22219



1 AV Device Reflected Ceiling Plan
Scale: 1/4" = 1'-0"

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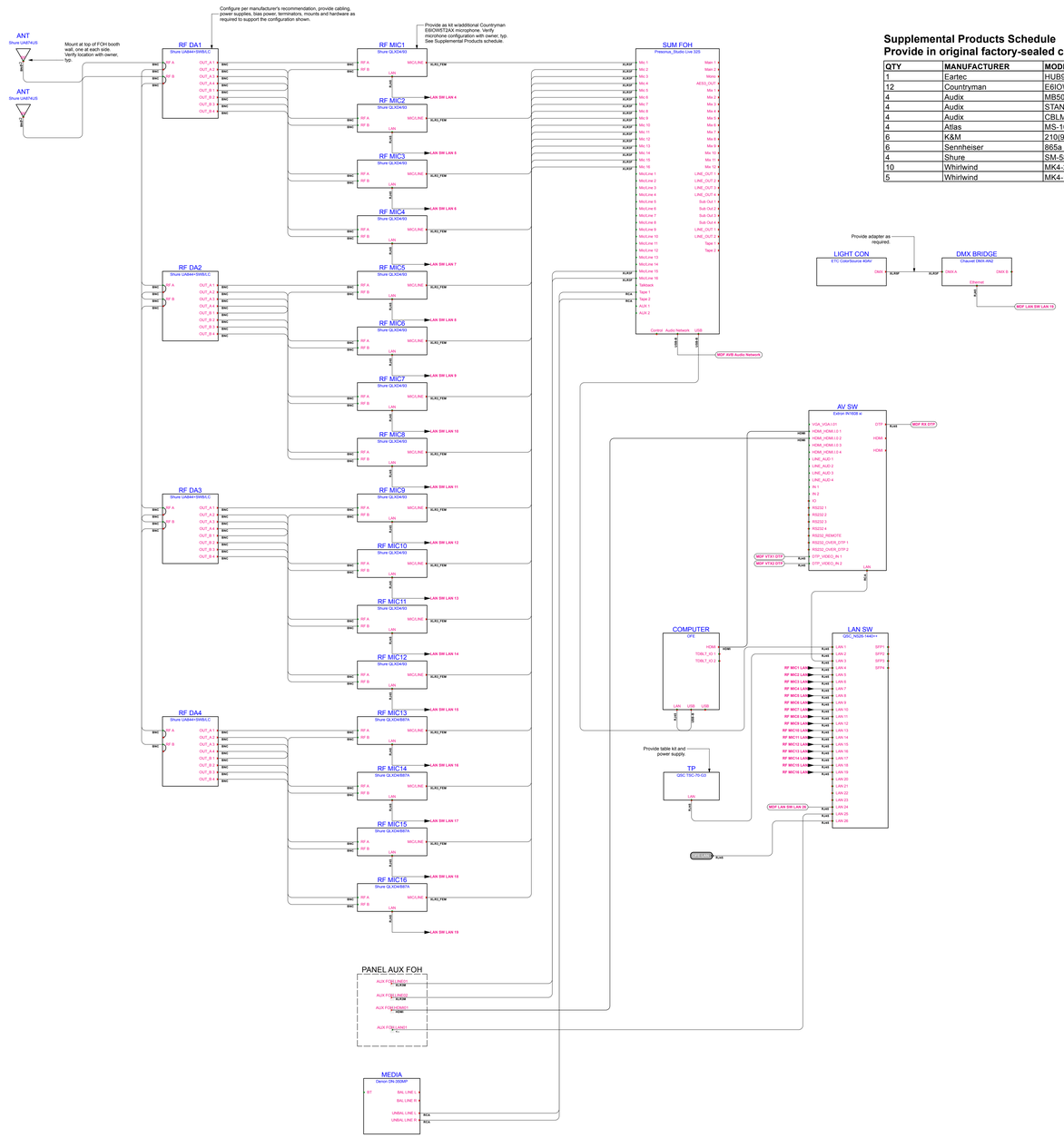
AV Device RCP
Drawing Number:
AV2.2
Date: 15 March 202
Project Number: 22219


Configure per manufacturer's recommendation, provide cabling, power supplies, bias power, terminators, mounts and hardware as required to support the configuration shown.
Provide as kit w/additional Countryman E6IOWST2AX microphone. Verify microphone configuration with owner, typ. See Supplemental Products schedule.
ANT
Shure UA874US
Mount at top of FOH booth wall, one at each side. Verify location with owner, typ.
RF DA1
Shure UA844+SWB/LC
RF DA2
Shure UA844+SWB/LC
RF DA3
Shure UA844+SWB/LC
RF DA4
Shure UA844+SWB/LC
RF MIC1
Shure QLXD4/93
RF MIC2
Shure QLXD4/93
RF MIC3
Shure QLXD4/93
RF MIC4
Shure QLXD4/93
RF MIC5
Shure QLXD4/93
RF MIC6
Shure QLXD4/93
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RF MIC10
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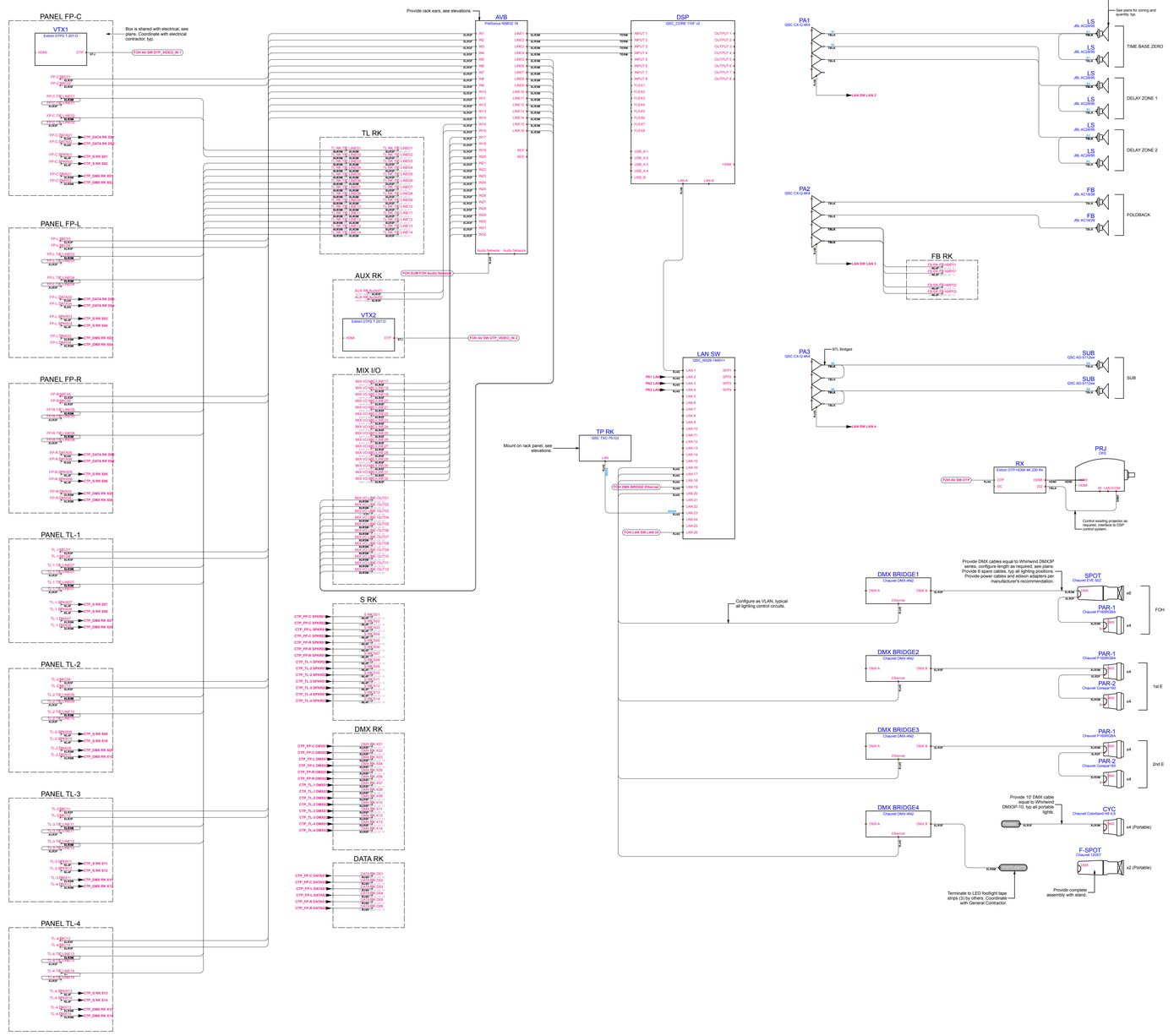
RF MIC11
Shure QLXD4/93
RF MIC12
Shure QLXD4/93
RF MIC13
Shure QLXD4/B87A
RF MIC14
Shure QLXD4/B87A
RF MIC15
Shure QLXD4/B87A
RF MIC16
Shure QLXD4/B87A
SUM FOH
Presonus_Studio Live 32S
Control Audio Network USB
LIGHT CON
ETC ColorSource 40AV
DMX BRIDGE
Chauvet DMX-AN2
Provide adapter as required.
AV SW
Extron IN1608 xi
COMPUTER
OFE
LAN SW
QSC_NS26-1440++
TP
QSC TSC-7b-G3
Provide table kit and power supply.
PANEL AUX FOH
MEDIA
Denon DN-350MP
MEDIA
MEDIA
MEDIA



MDF/Room Equipment Legend

Name	Make	Model
AVB		
CTP_AUX RK	Custom	By Contractor
CTP_DATA RK	Custom	By Contractor
CTP_DMX RK	Custom	By Contractor
CTP_FB RK	Custom	By Contractor
CTP_FP-C	Custom	By Contractor
CTP_FP-L	Custom	By Contractor
CTP_FP-R	Custom	By Contractor
CTP_MIX I/O	Custom	By Contractor
CTP_S RK	Custom	By Contractor
CTP_TL RK	Custom	By Contractor
CTP_TL-1	Custom	By Contractor
CTP_TL-2	Custom	By Contractor
CTP_TL-3	Custom	By Contractor
CTP_TL-4	Custom	By Contractor
CYC	Chauvet	Colorband H9 ILS
DMX BRIDGE1	Chauvet	Chauvet DMX-AN2
DMX BRIDGE2	Chauvet	Chauvet DMX-AN2
DMX BRIDGE3	Chauvet	Chauvet DMX-AN2
DMX BRIDGE4	Chauvet	Chauvet DMX-AN2
DSP	QSC	CORE 110F
F-SPOT	Chauvet	120ST
FB	JBL	AC18/26
LAN SW	QSC	NS26-1440++
LS	JBL	AC28/95
LS Type 1	JBL	AC28/95
PA1	QSC	CX-Q 2K4
PA2	QSC	CX-Q 2K4
PA3	QSC	CX-Q 2K4
PAR-1	Chauvet	P160RGBA
PAR-2	Chauvet	Corepar160
PRJ	OFE	
RX	Extron	DTP HDMI 4K 230 Rx
SPOT	Chauvet	EVE 502
SW	QSC	AD-S112sw
TP CONTROL	QSC	TSC-7i
VTX1	Extron	DTP2 T 201 D
VTX2	Extron	DTP2 T 201 D

2 MDF/Room Single Line Diagram
Scale: Half Actual Size

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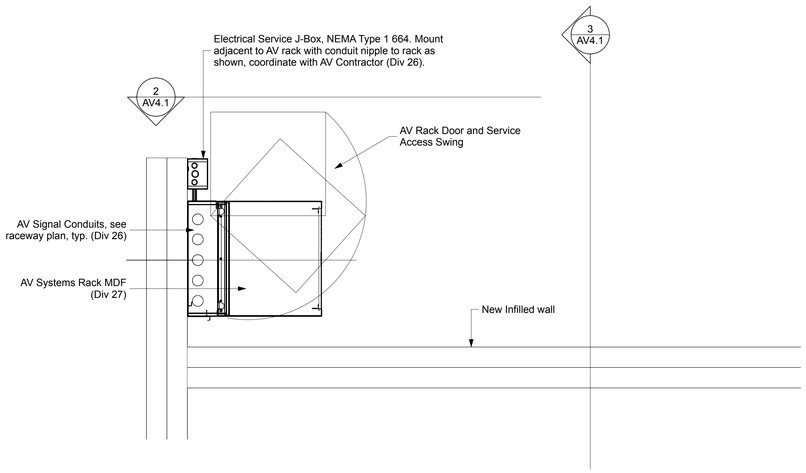
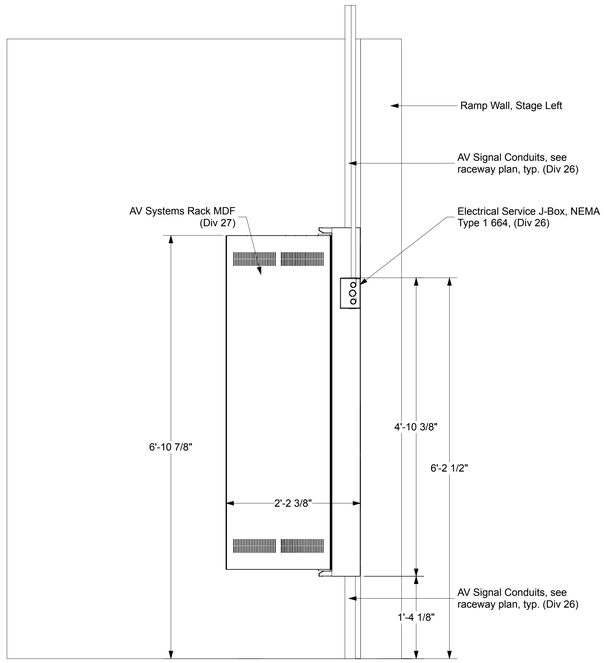
AV Single Line Diagram
Drawing Number:
AV3.2
Date: 15 March 202
Project Number: 22219



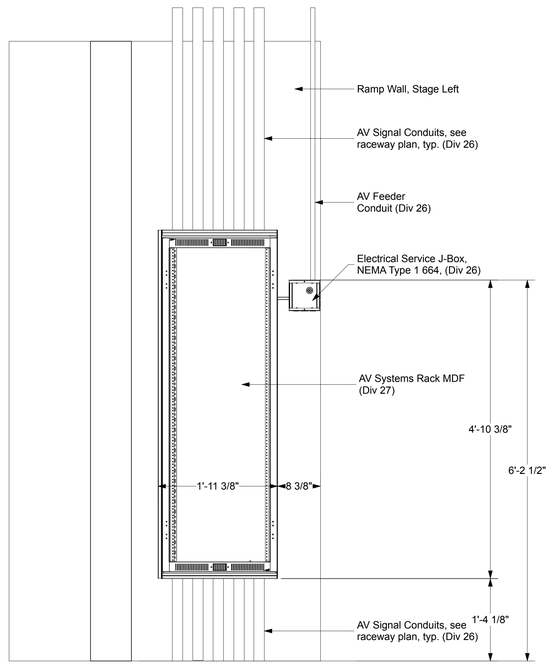
1 MDF Stage Manager Plan
Scale: 1" = 1'-0"

RACK & DISTRIBUTION FRAME NOTES (FOR DIV 27 - AV CONTRACTOR)

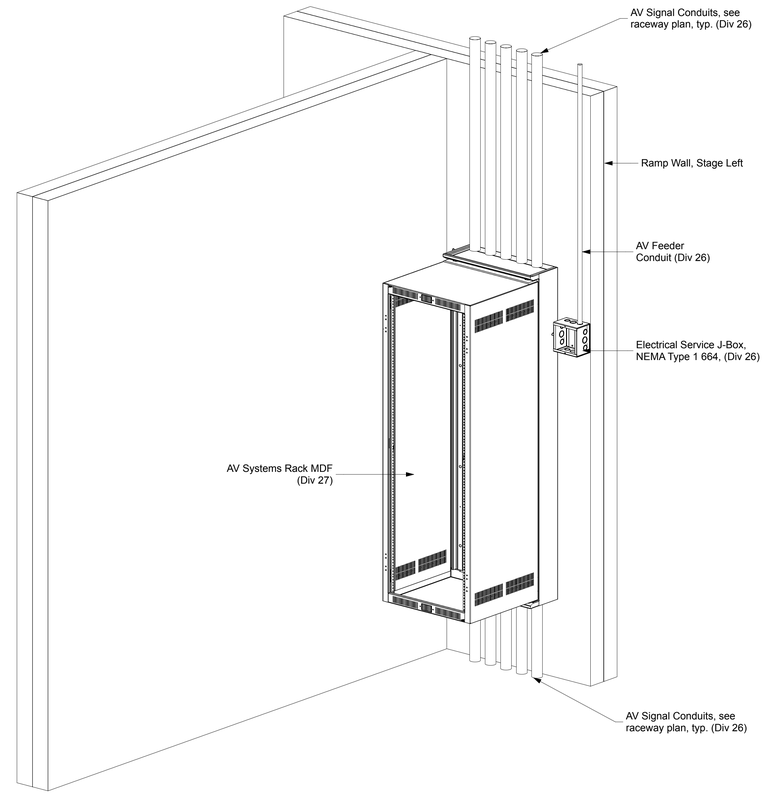
1. Clearance dimensions shown are minimum requirements.
2. Coordinate all power distribution landings with Division 16/26.
3. Dimensions are conceptual, actual dimensions are dependant on rack manufacturer and requirements, see details.
4. Do not install front doors UON.
5. Do not use rack base for signal cabling, for power distribution only.
6. Ensure that all requipment is accoommodated, see signal flow drawings.
7. Equipment not suitable for rack mounting or equipment may not be shown on rack elevations.
8. Mount non-EIA equipment on rear rack rails or DIN rail. Submit details.
9. Isolate raceway and power distribution systems from A/V conductors and racks.
10. Ground conductor shall be isolated from all mechanical systems.
11. Mount all devices securely. Back of rack devices shall be securely mounted to rack panels, DIN rail or other rigid device, typ.
12. Provide blanks or vents in all spaces. Do not allow open spaces.
13. Provide casters as recommended by the manufacturer for all portable and ATA style racks, UON.
14. Provide conduit stubs and fittings OR open rack space on top of racks for cable access.
15. Provide exhaust fan for each rack/bay as required by the heat load, coordinate with consultant.
16. Provide full height EIA rails for front and rear.
17. Provide incandescent work light in all racks.
18. Provide passive and switched 120VAC power distribution for all rack bays.
19. Provide passive power circuits for DSP, control and source equipment and switched circuits for each power amplifier.
20. Provide end-user controls at rack location and the primary control location, coordinate with AV Consultant.
21. Provide solid rear doors with vents.
22. Rack details applicable for all locations.
23. Rack illustrations shown throughout these drawings do not represent specific manufacturers.
24. Rack layouts are suggested.
25. Provide rack space to accommodate all equipment, regardless of elevations.
26. Submit details for all rack layouts prior to construction.
27. See details for cabling and power configurations.
28. See specifications for rack products information.
29. Separate cable bundles by signal type as much as possible.
30. Use only black 6-32 Phillips head screws for all rack mounts.
31. Use only black racks, black anodized vents, blanks and accessories, UON.
32. Provide active fan-based system for controlling dust intake and exhaust.
33. Provide and install vertical and horizontal ladder systems for AV and IT cable management. Coordinate with Data/IT. Provide as required for rack configuration



2 Section
Scale: 1" = 1'-0"



3 Elevation
Scale: 1" = 1'-0"



4 Isometric
Scale: 1" = 1'-0"

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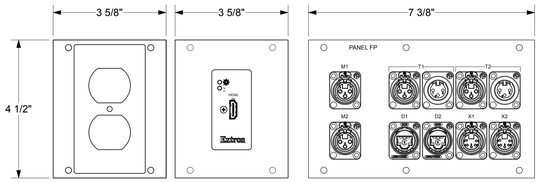
8945 Dogwood Road, Germantown, TN 38139
for
Germantown Municipal School District

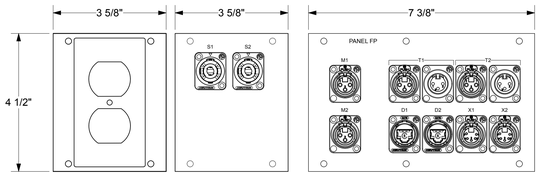
Seal

343 North Main Street
Memphis, Tennessee 38103
Telephone: 901.525.5344
Facsimile: 901.525.5420
Evans Taylor Foster Childress □ Architects

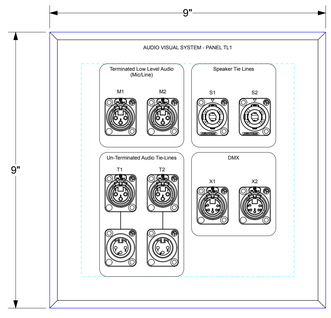
AV Rack Details
Drawing Number:
AV4.1
Date: 15 March 202
Project Number: 22219



1 Floor Pocket Stage Center Panel Elevation
Scale: Half Actual Size



2 Floor Pocket Stage L/R Panel Elevation (Typical of 2)
Scale: Half Actual Size



3 Tie Line Panel Elevation (Typical of 4)
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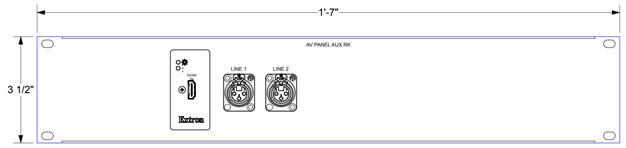
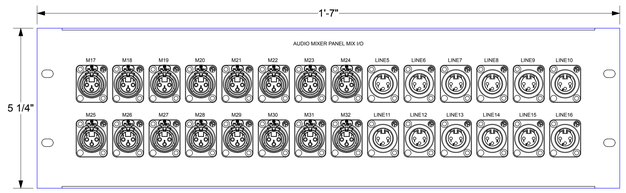
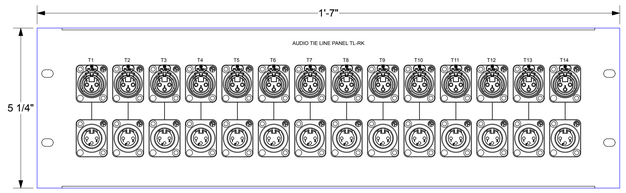


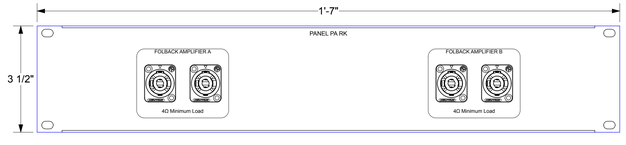
4 Auxiliary AV Panel AUX RK Elevation (MDF)
Scale: Half Actual Size



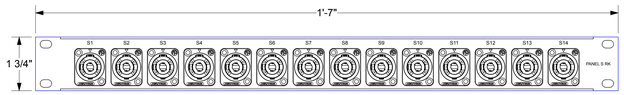
5 Audio Mixer Panel Mix I/O Elevation (MDF)
Scale: Half Actual Size



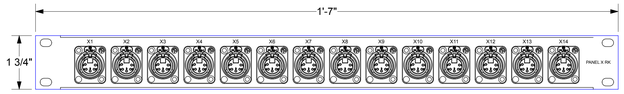
6 Audio Tie Line Panel TL-RK Elevation (MDF)
Scale: Half Actual Size



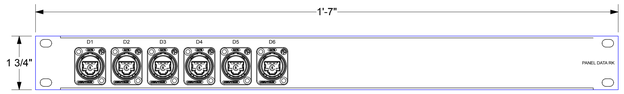
7 Foldback Amplifier Panel PA RK Elevation (MDF)
Scale: Half Actual Size



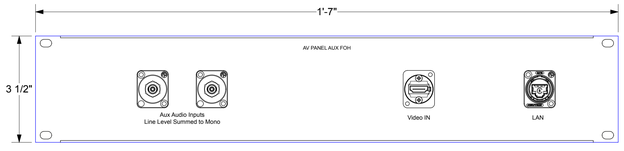
8 Loudspeaker Patch Panel S RK Elevation (MDF)
Scale: Half Actual Size



9 DMX Tie Line Panel X RK (MDF)
Scale: Half Actual Size



10 DMX Tie Line Panel X RK (MDF)
Scale: Half Actual Size



11 Auliliary AV Panel AUX FOH Elevation (FOH)
Scale: Half Actual Size

PANEL & PLATE NOTES

1. All exterior panel mounts shall be rivets or tamper proof screws UON, submit detail.
2. All panels shall be brushed, black anodized 1/8" aluminum UON.
3. All text shall be at least 1/8" high bold characters. Engrave and fill in white ink.
4. Bevel all panel edges by 1/16".
5. Connector borders shall be engraved 1/8" thick, filled in white ink.
6. Connector compliment is typical, see single line drawings and specifications for details, submit for approval.
7. Each character shall have a unique number corresponding to the conductor number, see single lines.
8. Panel elevations are conceptual, refer to single line drawings for connection requirements.
9. Submit shop drawings for all panels.
10. Coordinate field panel installation with electrical contractor.
11. Isolate panel metal from backboxes where necessary.
12. Verify backboxes with electrical drawings and/or AV Raceway drawings for all panel locations.
13. Verify field conditions for all panel locations, adjust panel sizes or finish configuration as required.
14. Verify that all conduit is isolated from backbox metal.
15. Do not couple signal ground to raceway system UON.
16. Where panels include 120VAC, coordinate with electrical contractor.
17. Do not install high voltage circuits, coordinate with electrical contractor.
18. All BNC connectors shall be as shown, isolated from chassis metal or Neutrik D Series UON.
19. All connectors shall be as shown UON.
20. All high-level audio connectors shall be Neutrik NL Type UON.
21. All RCA type connectors shall be Neutrik NF type.
22. All UTP data connectors shall be equal to CAT6 compliant, Neutrik etherCON (NL Type) Series UON.
23. All XLR type connectors shall be Neutrik DLX Series, solder cup type.
24. Match connector finish with panel color, verify all colors UON.
25. Provide optical connectors as shown, equal to Neutrik opticalCON Serieis.
26. Verify circuiting requirements for all optical connectors with connected manufacturer's recommendation.

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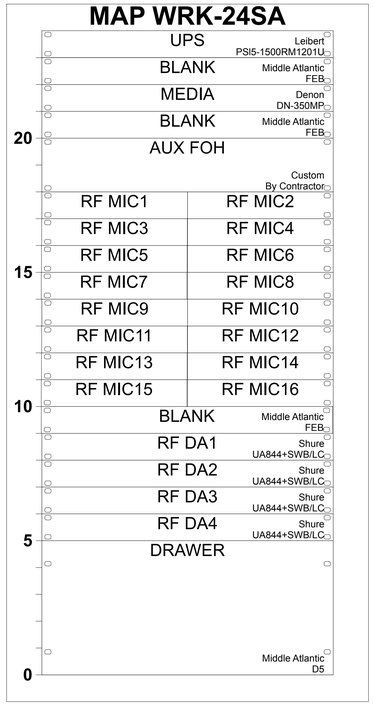
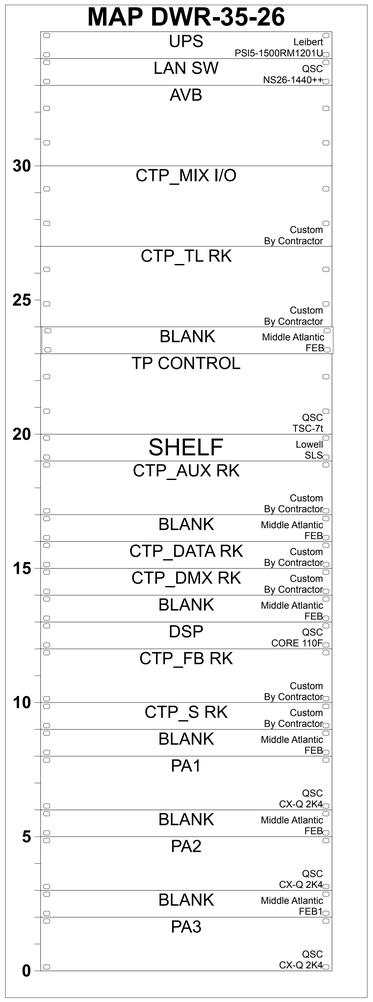
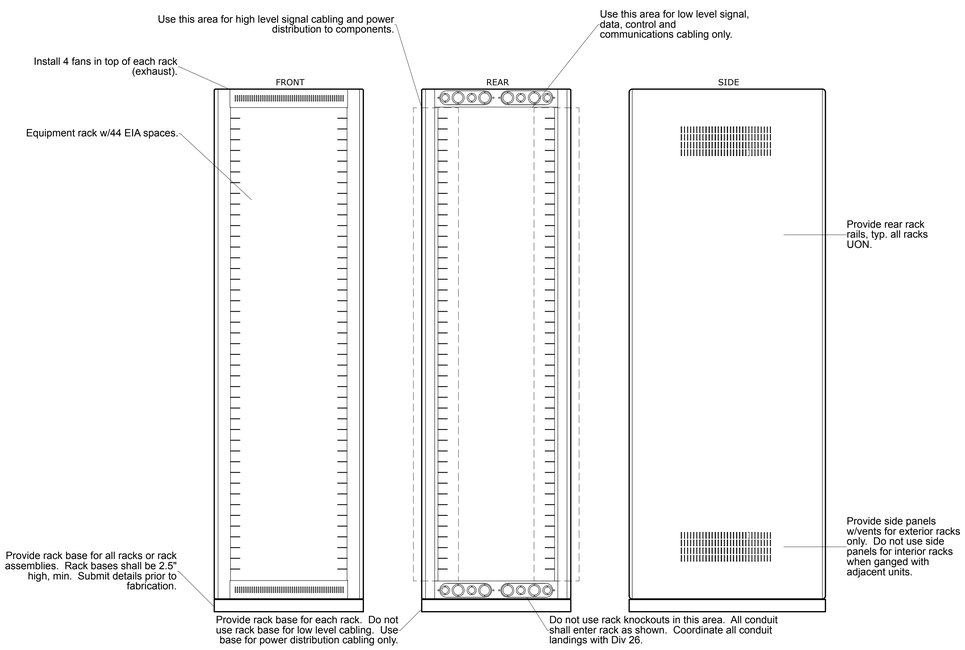
AV Panel Elevations
Drawing Number:
AV4.2
Date: 15 March 202
Project Number: 22219





RACK & DISTRIBUTION FRAME NOTES

1. Clearance dimensions shown are minimum requirements.
2. Coordinate all power distribution landings with Division 16/26.
3. Dimensions are conceptual, actual dimensions are dependant on rack manufacturer and requirements, see details.
4. Do not install front doors UON.
5. Do not use rack base for signal cabling, for power distribution only.
6. Ensure that all requipment is accoommodated, see signal flow drawings.
7. Equipment not suitable for rack mounting or equipment may not be shown on rack elevations.
8. Mount non-EIA equipment on rear rack rails or DIN rail. Submit details.
9. Isolate raceway and power distribution systems from A/V conductors and racks.
10. Ground conductor shall be isolated from all mechanical systems.
11. Mount all devices securely. Back of rack devices shall be securely mounted to rack panels, DIN rail or other rigid device, typ.
12. Provide blanks or vents in all spaces. Do not allow open spaces.
13. Provide casters as recommended by the manufacturer for all portable and ATA style racks, UON.
14. Provide conduit stubs and fittings OR open rack space on top of racks for cable access.
15. Provide exhaust fan for each rack/bay as required by the heat load, coordinate with consultant.
16. Provide full height EIA rails for front and rear.
17. Provide incandescent work light in all racks.
18. Provide passive and switched 120VAC power distribution for all rack bays.
19. Provide passive power circuits for DSP, control and source equipment and switched circuits for each power amplifier.
20. Provide end-user controls at rack location and the primary control location, coordinate with AV Consultant.
21. Provide solid rear doors with vents.
22. Rack details applicable for all locations.
23. Rack illustrations shown throughout these drawings do not represent specific manufacturers.
24. Rack layouts are suggested.
25. Provide rack space to accommodate all equipment, regardless of elevations.
26. Submit details for all rack layouts prior to construction.
27. See details for cabling and power configurations.
28. See specifications for rack products information.
29. Separate cable bundles by signal type as much as possible.
30. Use only black 6-32 Phillips head screws for all rack mounts.
31. Use only black racks, black anodized vents, blanks and accessories, UON.
32. Provide active fan-based system for controlling dust intake and exhaust.
33. Provide and install vertical and horizontal ladder systems for AV and IT cable management. Coordinate with Data/IT. Provide as required for rack configuration



1 FOH Rack Elevation
Scale: 3" = 1'-0"

2 MDF Rack Elevation
Scale: 3" = 1'-0"

3 Rack Convention Detail
Scale: 1:10

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Evans Taylor Foster Childress □ Architects

AV Rack Details
Drawing Number:
AV4.3
Date: 15 March 202
Project Number: 22219

Germantown Municipal School District

6685 Poplar Avenue, Suite 202

Germantown TN 38138

901-752-7900

Jacqueline Saunders, Purchasing Analyst

Jacqueline.Saunders@gmsdk12.org

FAX (901)757-6479

GMSD Vendor/Contractor Application and Information Packet

This packet should be submitted via mail, fax or email. Unless otherwise noted, each section should be completed. If a section is to be omitted, it will be designated with the signature on page 7 (or at the end of the document) of a GMSD District Office employee.

VENDOR/CONTRACTOR INFORMATION

Date of Application:_____ **Business Location(County & State):**_____

Business Name (as listed on W-9):_____

Federal Employer ID Number (as listed on W-9):_____

Mailing Address (as listed on W-9):

_____

_____

_____

Telephone:_____

Fax:_____

Email:_____

Type of Business (Check One) Manufacturer___ Construction___ Distributor___ Agent/Rep___ Other___ (*please specify*_____)

Organization (Check One) Individual___ Partnership___ Corporation___ Non-Profit Org.___

Business Certification Yes___ No___

Uniform Certification Agency Number:_____

(***Please Select Only Those Categories That Apply***)

SMALL BUSINESS ENTERPRISE_____
WOMEN-OWNED BUSINESS_____
MINORITY BUSINESS ENTERPRISE:

Asian/Pacific Female___
Asian/Pacific Male_____
Asian/Indian Female___
Asian/Indian Male_____

Black-Non Hispanic Female___
Black-Non Hispanic Male_____
Black _____
Hispanic Female _____
Hispanic Male _____

Native American Indian/Alaskan Female___
Native American Indian/Alaskan Male_____
White American Female _____
White American Male _____

How Long in Present Business _____
Average Number of Employees_____
Average Annual Sales $_____

LIST OTHER TN CUSTOMERS YOU HAVE SOLD / SERVICED TO:
_____Phone #_____
_____Phone #_____
_____Phone #_____
Approximate Inventory Normally Stocked $_____ (if applicable)

Location of Warehouse Facility:_____ and/or Location of Service Facility:_____

NAMES OF OFFICERS, MEMBERS OR OWNERS, PARTNERSHIP, ETC.:
PRESIDENT:_____
VICE-PRESIDENT:_____
SECRETARY:_____
TREASURER:_____

PERSONS AUTHORIZED TO SIGN BIDS & CONTRACTS:
NAME:_____
OFFICIAL CAPACITY:_____

Note: Each manufacturer, supplier and vendor is responsible for notifying GMSD Purchasing of any change to any/all information listed above.

By requesting to be placed on GMSD's Vendor/Contractor/Bidder's List, each manufacturer, supplier and vendor is agreeing to do business with GMSD. Each manufacturer, supplier, vendor also agrees to extend credit to GMSD without requiring a credit application and to fulfill any Purchase Orders and/or contractual obligation that may occur. If a credit application is required, a submitted bid may be rejected.

DRUG AND ALCOHOL TESTING

Due to the safety-sensitive nature of education, GMSD employees, without limitation, are subject to reasonable suspicion and post-accident drug and alcohol testing. All COMPANIES attest that such COMPANY operates a drug-free workplace program or other drug and alcohol testing program with requirements at least as stringent as that of GMSD. **The COMPANY will attach a copy of their drug and alcohol testing policy.**

BACKGROUND CHECK

By agreeing to provide services to any school within GMSD, the COMPANY attests that it is aware of its obligations under T.C.A. 49-5-413(D) to ensure that all of its employees who have direct contact with students of GMSD or students in GMSD's child care program or who have access to the grounds of GMSD when children are present have completed the following:

(1) Supplied a fingerprint sample and submitted to a criminal history records check conducted by the Tennessee Bureau of Investigation and the Federal Bureau of Investigation prior to having any contact with GMSD's children or entering the grounds of GMSD. T.C.A. 49-5-413(d)(2)(A)

(2) Successfully passed the aforementioned criminal history records check. An employer or employee may not come in direct contact with GMSD's children or children in GMSD's child care program and may not enter the grounds of GMSD when children are present if the criminal history records check indicates that the employee has ever been convicted of any of the following offenses, or the same or similar offense in any jurisdiction, including convictions for the solicitation of, attempt to commit, conspiracy, or acting as an accessory to:

(i) A sexual offense or a violent sexual offense as defined in § 40-39-202;
(ii) Any offense in title 39, chapter 13;
(iii) §§ 39-14-301 and 39-14-302;
(iv) §§ 39-14-401 -- 39-14-404;
(v) §§ 39-15-401 and 39-15-402;
(vi) § 39-17-417;
(vii) § 39-17-1320; or
(viii) Any other offense in title 39, chapter 17, part 13.

In addition, the COMPANY also agrees that if one of its employees commits such an offense after it has conducted its initial criminal history check on such employee, said employee will notify the COMPANY of the offense within seven (7) days from the date of conviction and the COMPANY will subsequently not permit that employee to have contact with students of GMSD or to children in GMSD's child care program or to enter the grounds of GMSD.

The COMPANY shall ensure that subcontractors comply with the statutory requirements described in this background check policy. The COMPANY will attach a copy of their background check policy, including what COMPANY they utilize for background checks.

CODE OF ETHICS

All employees representing the COMPANY are expected to abide by a Code of Ethics for COMPANIES established by GMSD:

1. Any employee representing the COMPANY shall not be in physical, verbal or any other type of contact or communication with any students on GMSD property except as required by the scope of contracted services.

2. The use of tobacco products, drugs or alcohol by any employee representing the COMPANY on GMSD property or during GMSD meetings or events is strictly forbidden.

3. All employees representing the COMPANY shall treat all representatives of GMSD with the utmost respect. Employees will not engage in any conduct that could reasonably be construed as exploitative, physically intimidating, discriminatory, harassing on the basis of gender, race, ethnicity, religion, national origin, sexual orientation, age, or any other protected category. No profanity of any kind will be tolerated on GMSD property.

   The Germantown Municipal School District ("GMSD") conducts its programs, services and activities consistent with applicable federal, state and local laws and regulations. GMSD provides equal employment and educational opportunities to all qualified persons without discrimination on the basis of race, color, national origin (including ancestry, or any other subcategory of national origin recognized by applicable law), religion, sex (including any subcategory of sex recognized by applicable law), age, disability, veteran status, genetic information, or any other basis protected by applicable law in employment and in any program or activity offered or sponsored by GMSD or GMSD schools. Sex discrimination includes sexual harassment and is strictly prohibited.

   The Contractor agrees to conduct its business and to provide services to GMSD in accordance with GMSD policy and all applicable federal, state and local laws and regulations governing discrimination and harassment. The Contractor certifies that it does not discriminate against its employees or applicants on grounds of race, color, religion, national origin, sex, disability, veteran's status, or age with regard to persons forty (40) years of age and older.

4. All employees representing the COMPANY shall abide by all guidelines set at the school level, including, but not limited to parking, checking in and out at the front office, any time an employee of the COMPANY is on campus, and working within the framework of the school and administration of the school to provide services that are least disruptive to the education environment of the school.

5. All employees representing the COMPANY are forbidden from using any technology available at the schools unless they have express written permission from the school administration.

6. In the event that an employee representing the COMPANY is required to take a cell phone call for personal or business reasons, the employee must do so in a manner and setting that causes the least disruption to the educational environment.

7. All employees representing the COMPANY are forbidden from taking photographs, video or footage of any kind on GMSD property without written consent of a School Administrator or the District Office.

8. All employees representing the COMPANY understand that unauthorized removal of any kind will not be tolerated on GMSD property and will be grounds for a request by the District to remove that employee from the property.

9. All employees representing the COMPANY shall represent GMSD in a positive ethical, legal and moral manner.

CONFLICTS OF INTEREST

The employees of the COMPANY shall avoid any conflict of interest that could interfere with the duties and responsibilities designated by the Germantown Municipal School Board or could reflect in a manner detrimental to the system. The following is prohibited:

- Any pecuniary transaction, indirectly or directly, by a professional employee or school board member concerned with supplying books, maps, school furniture, and/or other apparatus to the school system of employment or to act as agent for anyone is expressly forbidden by statute (T.C.A. 49-6-2003).
- Selling items or soliciting money for personal gain or profit during school hours or at an off-campus event attended by students and staff.
- Soliciting, referring, or encouraging students into programs, schools, or universities for personal compensatory gain.

Transactions with parties with whom a conflicting interest exists may be undertaken only if all of the following are observed:

1. The conflicting interest is fully disclosed;
2. The person with the conflict of interest is excluded from the discussion and approval of such transaction;
3. A competitive bid or comparable valuation exists; and
4. The [board or a duly constituted committee thereof] has determined that the transaction is in the best interest of the organization.

Disclosure in the organization should be made to the Superintendent (or if he/she is the one with the conflict, then to the GMSD Board of Education Chair), who shall bring the matter to the attention of the Board or Ethics Committee established in accordance with Policy 1.106 . Disclosure involving Board Members should be made to the GMSD Board of Education Chair, (or if he/she is the one who shall bring these matters to the Board or Ethics Committee. The Board or Ethics Committee shall determine whether a conflict exists and in the case of an existing conflict, whether the contemplated transaction may be authorized. The decision of the Board or Ethics Committee on these matters will rest in their sole discretion, and their concern must be the welfare of Germantown Municipal School District and the advancement of its purpose.

Germantown Municipal School District Policy References

1. Professional Employment HR 5.102
2. Drug-Free Schools SP 6.307
3. Drug and Alcohol Testing for Employees
4. Drug-Free Workplace SBO 1.804
5. Code of Ethics SBO 1.106
6. Tobacco Free Schools SBO 1.803
7. Conflict of Interest HR 5.601

Tennessee State Code Policy References

1. TCA 49-5-413(d)
2. TCA 40-39-202

CONFIDENTIALITY AND NON-DISCLOSURE

All records, documents, files, data and/or information maintained by GMSD shall, at all times remain the sole and exclusive property of GMSD.

The COMPANY agrees that its employees, agents, successors, assigns, legal representatives or subcontractors will not access, use, divulge or disclose, either directly or indirectly, any records, documents, files, data and/or information maintained by GMSD, specifically including but not limited to, student records and information about employees made confidential by law (the "Non-Public Information"), unless and except as required by the COMPANY's scope of services for GMSD or as otherwise required by law. The COMPANY further agrees to take all necessary steps to safeguard private information from accidental or intentional disclosure.

The COMPANY agrees to return to GMSD all records, documents, files, data and/or information; and, all copies thereof in any format in which they may exist, that are in the possession of the COMPANY when the contract terminates and/or the scope of services is complete. Where return is not possible or practical, the PARTIES may agree that such records, documents, files, data and/or information will be destroyed if permitted by law.

The COMPANY shall not assign or transfer any of its contract rights or obligations unless expressly provided by the contract or agreed by prior written consent of Germantown Municipal School District.

HOLD HARMLESS

As a condition precedent to Contractor being awarded contract with GMSD, Contractor hereby agrees to indemnify and hold harmless the Germantown Municipal School District, its board members, administrators, employees, and agents (individually an "Indemnitees") from and against any and all claims, demands, actions, suits, losses, costs, charges, expenses, damages and liabilities whatsoever, whether under federal or state law, which the Indemnitee(s) may pay, sustain, suffer, or incur by reason of or in connection with the services, equipment or products provided by Contractor pursuant to the contract, including, without limiting the generality of the foregoing, all costs and expenses (including legal expenses) incurred in connection with any such loss or damage.

INSURANCE REQUIREMENTS
WITH
GERMANTOWN MUNICIPAL SCHOOL DISTRICT

The COMPANY shall purchase and maintain the insurance outlined below to provide protection from the COMPANY's negligent acts. The COMPANY shall provide this insurance as required by the Contract documents. All Certificates should be issued with an Insurance Company (or Companies) maintaining an AM Best Rating of A- or better and a Financial Size of IX or greater. All Insurance Companies shall be authorized to conduct business in the State of Tennessee. The negligence by any subcontractor, by anyone directly or indirectly employed by any of them, shall be considered a negligent act of the COMPANY.

- Commercial General Liability Insurance in the amount of $1,000,000 per occurrence. This must include Products/Completed Operations, Explosion/Collapse/Underground Coverage and Contractual Liability. The Germantown Municipal School District must be named Additional Insured using a CG 2010 (11/85) endorsement (or equivalent) and this must be noted on the Certificate of Insurance. The Insurance Company agrees to waive their Right of Subrogation against the Germantown Municipal School District and this must be noted on the Certificate of Insurance.
- Auto Liability Insurance in the amount of $1,000,000 Combined Single Limit. The Germantown Municipal School District must be named Additional Insured and the Insurance Company agrees to waive their Right of Subrogation against the Germantown Municipal School District and this must be noted on the Certificate of Insurance.
- Statutory Workers Compensation with Employers Liability- the Insurance Company agrees to waive their Right of Subrogation against the Germantown Municipal School District and this must be noted on the Certificate of Insurance.
- Umbrella Liability in the amount of $2,000,000 per occurrence- the terms and conditions of the Umbrella must conform to the primary insurance.

The Cancellation Clause on the Certificate of Insurance is amended to read: Should any of the described policies on the attached Certificate of Insurance be cancelled, non-renewed or reduced in coverage- the issuing Insurance Company will mail 30 days written notice by registered mail, return receipt requested, or email to:

Germantown Municipal School District
ATTN: Jacqueline Saunders
6685 Poplar Avenue
Suite 202
Germantown TN 38138

The Company agrees that it shall maintain the above insurance through both final acceptance and any Warranty Period defined by the contract documents.

I have read the aforementioned terms set forth by GMSD and attest I have reviewed the TCA statutes and Board policies referenced in this document. My signature below indicates my company and its representatives agree to abide by all the terms set forth in this agreement.

If any provision of this Agreement shall be held by a court of competent jurisdiction to be unenforceable, the remaining provisions shall remain in full force and effect.

I understand that for this application to be complete, my company must also submit:

_____ *Completed W-9*
_____ *Certificate of Insurance (listing GMSD—6685 Poplar Avenue, Suite 202, Germantown TN 38138-- as Additional Insured)*
_____ *Copy of Drug and Alcohol Policy*
_____ *Copy of Background Check Policy and Company Utilizing*

_____
Signature

_____
Name (Please Print)

_____
Title

District Office Signature: _____

Raptor may be used in lieu of Background Check Requirements _____
No COI required for this submission _____

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

Give Form to the requester. Do not send to the IRS.

Print or type. See **Specific Instructions** on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–		–				

or

Employer identification number

		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person** ▶ **Date** ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),

2. Certify that you are not subject to backup withholding, or

3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and

4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting,* later, for further information.

Note: If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.

2. The treaty article addressing the income.

3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.

4. The type and amount of income that qualifies for the exemption from tax.

5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,

2. You do not certify your TIN when required (see the instructions for Part II for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code,* later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships,* earlier.

What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code,* later, and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of $50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a $500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note: ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over $600 required to be reported and direct sales over $5,000[1]	Generally, exempt payees 1 through 5[2]
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

[1] See Form 1099-MISC, Miscellaneous Income, and its instructions.

[2] However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note: You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See *What Name and Number To Give the Requester,* later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at *www.SSA.gov*. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at *www.irs.gov/Businesses* and clicking on Employer Identification Number (EIN) under Starting a Business. Go to *www.irs.gov/Forms* to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to *www.irs.gov/OrderForms* to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note: Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code,* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account[1]
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor[2]
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee[1] The actual owner[1]
6. Sole proprietorship or disregarded entity owned by an individual	The owner[3]
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	**Give name and EIN of:**
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity[4]
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

[1] List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

[2] Circle the minor's name and furnish the minor's SSN.

[3] You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

[4] List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships,* earlier.

***Note:** The grantor also must provide a Form W-9 to trustee of trust.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to *phishing@irs.gov.* You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at *spam@uce.gov* or report them at *www.ftc.gov/complaint.* You can contact the FTC at *www.ftc.gov/idtheft* or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see *www.IdentityTheft.gov* and Pub. 5027.

Visit *www.irs.gov/IdentityTheft* to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

PLEASE INDICATE WHICH PRODUCTS AND/OR SERVICES YOUR COMPANY CAN SUPPLY.

- [ ] CLASS: 005-00 - ABRASIVES
- [ ] CLASS: 010-00 - ACOUSTICAL TILE, INSULATING MATERIALS, AND SUPPLIES
- [ ] CLASS: 015-00 - ADDRESSING, COPYING, MIMEOGRAPH, AND SPIRIT DUPLICATING MACHINE SUPPLIES: CHEMICALS, INKS, PAPER, ETC.
- [ ] CLASS: 025-00 - AIR COMPRESSORS AND ACCESSORIES
- [ ] CLASS: 031-00 - AIR CONDITIONING, HEATING AND VENTILATING EQUIPMENT: PARTS AND ACCESSORIES (SEE CLASS 740)
- [ ] CLASS: 045-00 - APPLIANCES AND EQUIPMENT, HOUSEHOLD TYPE
- [ ] CLASS: 050-00 - ART EQUIPMENT AND SUPPLIES
- [ ] CLASS: 055-00 - AUTOMOTIVE ACCESSORIES FOR AUTOMOBILES, BUSES, TRUCKS, ETC.
- [ ] CLASS: 060-00 - AUTOMOTIVE AND TRAILER EQUIPMENT AND PARTS
- [ ] CLASS: 065-00 - AUTOMOTIVE BODIES, ACCESSORIES, AND PARTS
- [ ] CLASS: 070-00 - AUTOMOTIVE AND RELATED TRANSPORTATION EQUIPMENT
- [ ] CLASS: 071-00 - AUTOMOBILES, SCHOOL BUSES, SUVS, AND VANS
- [ ] CLASS: 072-00 - TRUCKS
- [ ] CLASS: 073-00 - TRAILERS
- [ ] CLASS: 075-00 - AUTOMOTIVE SHOP EQUIPMENT AND SUPPLIES
- [ ] CLASS: 080-00 - BADGES, EMBLEMS, NAME TAGS AND PLATES, JEWELRY, ETC.
- [ ] CLASS: 085-00 - BAGS, BAGGING, TIES, AND EROSION CONTROL EQUIPMENT
- [ ] CLASS: 090-00 - BAKERY EQUIPMENT, COMMERCIAL
- [ ] CLASS: 095-00 - BARBER AND BEAUTY SHOP EQUIPMENT AND SUPPLIES
- [ ] CLASS: 100-00 - BARRELS, DRUMS, KEGS, AND CONTAINERS
- [ ] CLASS: 105-00 - BEARINGS
- [ ] CLASS: 110-00 - BELTS AND BELTING: AUTOMOTIVE AND INDUSTRIAL
- [ ] CLASS: 125-00 - BOOKBINDING SUPPLIES
- [ ] CLASS: 150-00 - BUILDER'S SUPPLIES
- [ ] CLASS: 155-00 - BUILDINGS AND STRUCTURES: FABRICATED AND PREFABRICATED
- [ ] CLASS: 165-00 - CAFETERIA AND KITCHEN EQUIPMENT, COMMERCIAL
- [ ] CLASS: 175-00 - CHEMICAL LABORATORY EQUIPMENT AND SUPPLIES
- [ ] CLASS: 190-00 - CHEMICALS AND SOLVENTS, COMMERCIAL (IN BULK)
- [ ] CLASS: 192-00 - CLEANING COMPOSITIONS, DETERGENTS, SOLVENTS, AND STRIPPERS-PREPACKAGED
- [ ] CLASS: 193-00 - CLINICAL LABORATORY REAGENTS AND TESTS
- [ ] CLASS: 195-00 - CLOCKS, TIMERS, WATCHES, AND JEWELERS' AND WATCHMAKERS TOOLS AND EQUIPMENT
- [ ] CLASS: 200-00 - CLOTHING, ATHLETIC, CASUAL, DRESS, UNIFORM, WEATHER RELATED, WORK
- [ ] CLASS: 201-00 - CLOTHING ACCESSORIES (SEE CLASS 800 FOR SHOES AND BOOTS)
- [ ] CLASS: 204-00 - COMPUTER HARDWARE AND PERIPHERALS AND MICROCOMPUTERS
- [ ] CLASS: 206-00 - COMPUTER HARDWARE AND PERIPHERALS FOR MINI AND MAIN FRAME COMPUTERS
- [ ] CLASS: 207-00 - COMPUTER ACCESSORIES AND SUPPLIES
- [ ] CLASS: 208-00 - COMPUTER SOFTWARE AND MICROCOMPUTERS (PREPROGRAMMED)
- [ ] CLASS: 209-00 - COMPUTER SOFTWARE FOR MINI AND MAINFRAME COMPUTERS (PREPROGRAMMED)
- [ ] CLASS: 220-00 - CONTROLLING, INDICATING, MEASURING, MONITORING, & RECORDING

- [ ] CLASS: 225-00 - COOLERS, DRINKING WATER, (WATER FOUNTAINS)
- [ ] CLASS: 232-00 - CRAFTS, GENERAL
- [ ] CLASS: 233-00 - CRAFTS, SPECIALIZED
- [ ] CLASS: 240-00 - CUTLERY, COOKWARE, DISHES, GLASSWARE, SILVERWARE, UTENSILS, SUPPLIES
- [ ] CLASS: 250-00 - DATA PROCESSING CARDS AND PAPER
- [ ] CLASS: 255-00 - DECALS AND STAMPS
- [ ] CLASS: 265-00 - DRAPERIES, CURTAINS, AND UPHOLSTERY MATERIAL (INCLUDING AUTO)
- [ ] CLASS: 280-00 - ELECTRICAL CABLES AND WIRES (NOT ELECTRONIC)
- [ ] CLASS: 285-00 - ELECTRICAL EQUIPMENT AND SUPPLIES (EXCEPT CABLE AND WIRE)
- [ ] CLASS: 287-00 - ELECTRONIC COMPONENTS, REPLACEMENT PARTS, AND ACCESSORIES
- [ ] CLASS: 310-00 - ENVELOPES, PLAIN
- [ ] CLASS: 315-00 - EPOXY BASED FORMULATIONS FOR ADHESIVES, COATINGS, AND RELATED AGENTS
- [ ] CLASS: 318-00 - FARE COLLECTION EQUIPMENT AND SUPPLIES
- [ ] CLASS: 330-00 - FENCING
- [ ] CLASS: 335-00 - FERTILIZERS AND SOIL CONDITIONERS
- [ ] CLASS: 340-00 - FIRE PROTECTION EQUIPMENT AND SUPPLIES
- [ ] CLASS: 345-00 - FIRST AID AND SAFETY EQUIPMENT AND SUPPLIES
- [ ] CLASS: 350-00 - FLAGS, FLAG POLES, BANNERS, AND ACCESSORIES
- [ ] CLASS: 360-00 - FLOOR COVERING, FLOOR COVERING INSTALLATION AND REMOVAL EQUIPMENT AND SUPPLIES
- [ ] CLASS: 365-00 - FLOOR MAINTENANCE MACHINES, PARTS, AND ACCESSORIES
- [ ] CLASS: 375-00 - FOODS: BAKERY PRODUCTS (FRESH)
- [ ] CLASS: 380-00 - FOODS: DAIRY PRODUCTS (FRESH)
- [ ] CLASS: 385-00 - FOODS, FROZEN
- [ ] CLASS: 390-00 - FOODS: PERISHABLE
- [ ] CLASS: 393-00 - FOODS: STAPLE GROCERY AND GROCER'S MISCELLANEOUS ITEMS
- [ ] CLASS: 395-00 - FORMS, CONTINUOUS, COMPUTER PAPER, FORM LABELS, SNAP-OUT FORMS, AND FOLDERS AND FORMS
- [ ] CLASS: 405-00 - FUEL, OIL, GREASE AND LUBRICANTS
- [ ] CLASS: 410-00 - FURNITURE: HEALTH CARE AND HOSPITAL FACILITY
- [ ] CLASS: 415-00 - FURNITURE: LABORATORY
- [ ] CLASS: 420-00 - FURNITURE: CAFETERIA, CHAPEL, DORMITORY, HOUSEHOLD, LIBRARY, LOUNGE, SCHOOL
- [ ] CLASS: 425-00 - FURNITURE: OFFICE
- [ ] CLASS: 440-00 - GLASS AND GLAZING SUPPLIES
- [ ] CLASS: 445-00 - HAND TOOLS (POWERED AND NON-POWERED), ACCESSORIES & SUPPLIES
- [ ] CLASS: 450-00 - HARDWARE AND RELATED ITEMS
- [ ] CLASS: 460-00 - HOSE, ACCESSORIES, AND SUPPLIES: INDUSTRIAL, COMMERCIAL, AND GARDEN
- [ ] CLASS: 470-00 - HOSPITAL AND RELATED SPECIALIZED EQUIPMENT AND SUPPLIES: MOBILITY, SPEECH IMPAIRED, AND RESTRAINT ITEMS
- [ ] CLASS: 475-00 - HOSPITAL, SURGICAL, AND RELATED MEDICAL ACCESSORIES AND SUNDRY ITEMS
- [ ] CLASS: 485-00 - JANITORIAL SUPPLIES, GENERAL LINE
- [ ] CLASS: 490-00 - LABORATORY EQUIPMENT AND ACCESSORIES

☐ CLASS: 493-00 - LABORATORY EQUIPMENT AND ACCESSORIES: BIOCHEMISTRY, CHEMISTRY, ENVIRONMENTAL SCIENCE, ETC

☐ CLASS: 495-00 - LABORATORY AND FIELD EQUIPMENT AND SUPPLIES: BIOLOGY, BOTANY, GEOLOGY, MICROBIOLOGY, ZOOLOGY, ETC

☐ CLASS: 500-00 - LAUNDRY AND DRY CLEANING EQUIPMENT, ACCESSORIES, PARTS, AND SUPPLIES-COMMERCIAL

☐ CLASS: 515-00 - LAWN MAINTENANCE EQUIPMENT, ACCESSORIES

☐ CLASS: 525-00 - LIBRARY AND ARCHIVAL EQUIPMENT, MACHINES, AND SUPPLIES

☐ CLASS: 530-00 - LUGGAGE, BRIEF CASES, PURSES AND RELATED ITEMS

☐ CLASS: 545-00 - MACHINERY AND HARDWARE, INDUSTRIAL

☐ CLASS: 550-00 - MARKERS, PLAQUES AND TRAFFIC DEVICES

☐ CLASS: 555-00 - MARKING AND STENCILING DEVICES

☐ CLASS: 556-00 - MASS TRANSPORTATION-TRANSIT BUS

☐ CLASS: 557-00 - MASS TRANSPORTATION-TRANSIT BUS ACCESSORIES AND PARTS

☐ CLASS: 560-00 - MATERIAL HANDLING AND STORAGE EQUIPMENT AND ALLIED ITEMS

☐ CLASS: 575-00 - MICROFICHE AND MICROFILM EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 580-00 - MUSICAL INSTRUMENTS, ACCESSORIES, AND SUPPLIES

☐ CLASS: 590-00 - NOTIONS AND RELATED SEWING ACCESSORIES AND SUPPLIES

☐ CLASS: 595-00 - NURSERY STOCK, EQUIPMENT, AND SUPPLIES

☐ CLASS: 600-00 - OFFICE MACHINES, EQUIPMENT, AND ACCESSORIES

☐ CLASS: 605-00 - OFFICE MECHANICAL AIDS, SMALL MACHINES, AND APPARATUSES

☐ CLASS: 610-00 - OFFICE SUPPLIES: CARBON PAPER AND RIBBONS, ALL TYPES

☐ CLASS: 615-00 - OFFICE SUPPLIES, GENERAL

☐ CLASS: 620-00 - OFFICE SUPPLIES: ERASERS, INKS, LEADS, PENS, PENCILS, ETC

☐ CLASS: 630-00 - PAINT, PROTECTIVE COATINGS, VARNISH, WALLPAPER, AND RELATED PRODUCTS

☐ CLASS: 635-00 - PAINTING EQUIPMENT AND ACCESSORIES

☐ CLASS: 640-00 - PAPER AND PLASTIC PRODUCTS, DISPOSABLE

☐ CLASS: 645-00 - PAPER, FOR OFFICE AND PRINT SHOP USE

☐ CLASS: 650-00 - PARK, PLAYGROUND, RECREATION AREA AND SWIMMING POOL EQUIP

☐ CLASS: 652-00 - PERSONAL HYGIENE AND GROOMING EQUIPMENT AND SUPPLIES

☐ CLASS: 655-00 - PHOTOGRAPHIC EQUIPMENT AND SUPPLIES (NOT INCLUDING GRAPHIC ARTS, AND MICROFILM, AND X-RAY)

☐ CLASS: 658-00 - PIPE, TUBING, AND ACCESSORIES

☐ CLASS: 659-00 - PIPE AND TUBING FITTINGS

☐ CLASS: 665-00 - PLASTICS, RESINS, FIBERGLASS: CONSTRUCTION, FORMING, LAMINATING AND MOLDING EQUIPMENT

☐ CLASS: 670-00 - PLUMBING EQUIPMENT, FIXTURES, AND SUPPLIES

☐ CLASS: 680-00 - POLICE EQUIPMENT AND SUPPLIES

☐ CLASS: 690-00 - POWER GENERATION EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 691-00 - POWER TRANSMISSION EQUIPMENT (ELECTRICAL, MECHANICAL, AIR AND HYDRAULIC)

☐ CLASS: 700-00 - PRINTING PLANT EQUIPMENT AND SUPPLIES (EXCEPT PAPER)

☐ CLASS: 710-00 - PROSTHETIC DEVICES, HEARING AIDS, AUDITORY TESTING EQUIPMENT, ELECTRONIC READING DEVICES, ETC

☐ CLASS: 715-00 - PUBLICATIONS, AUDIOVISUAL MATERIALS, BOOKS, TEXTBOOKS

☐ CLASS: 720-00 - PUMPING EQUIPMENT AND ACCESSORIES

☐ CLASS: 725-00 - RADIO COMMUNICATION, TELEPHONE, AND TELECOMMUNICATION EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 730-00 - RADIO COMMUNICATION AND TELECOMMUNICATION TESTING, MEASURING, AND ANALYZING EQUIPMENT, ACCESSORIES AND SUPPLIES

☐ CLASS: 740-00 - REFRIGERATION EQUIPMENT AND ACCESSORIES

☐ CLASS: 745-00 - ROAD AND HIGHWAY BUILDING MATERIALS

☐ CLASS: 770-00 - ROOFING

☐ CLASS: 780-00 - SCALES AND WEIGHING APPARATUS

☐ CLASS: 785-00 - SCHOOL EQUIPMENT AND SUPPLIES

☐ CLASS: 795-00 - SEWING AND TEXTILE MACHINERY, AND ACCESSORIES

☐ CLASS: 801-00 - SIGNS, SIGN MATERIALS, SIGN MAKING EQUIPMENT, AND RELATED SUPPLIES

☐ CLASS: 803-00 - SOUND SYSTEMS, COMPONENTS, AND ACCESSORIES: GROUP INTERCOM, MUSIC, PUBLIC ADDRESS, ETC

☐ CLASS: 805-00 - SPORTING GOODS, ATHLETIC EQUIPMENT AND ATHLETIC FACILITY EQUIPMENT

☐ CLASS: 810-00 - SPRAYING EQUIPMENT

☐ CLASS: 815-00 - STEAM AND HOT WATER FITTINGS, ACCESSORIES, AND SUPPLIES

☐ CLASS: 820-00 - STEAM AND HOT WATER BOILERS AND STEAM HEATING EQUIPMENT

☐ CLASS: 830-00 - TANKS (METAL, WOOD, AND SYNTHETIC MATERIALS)

☐ CLASS: 832-00 - TAPE

☐ CLASS: 838-00 - TELECOMMUNICATIONS EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 839-00 - TELEPHONE EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 840-00 - TELEVISION EQUIPMENT AND ACCESSORIES

☐ CLASS: 845-00 - TESTING APPARATUS AND INSTRUMENTS

☐ CLASS: 855-00 - THEATRICAL EQUIPMENT AND SUPPLIES

☐ CLASS: 863-00 - TIRES AND TUBES

☐ CLASS: 870-00 - VENETIAN BLINDS, AWNINGS, AND SHADES

☐ CLASS: 880-00 - VISUAL EDUCATION EQUIPMENT AND SUPPLIES

☐ CLASS: 883-00 - VOICE RESPONSE SYSTEMS

☐ CLASS: 895-00 - WELDING EQUIPMENT AND SUPPLIES

☐ CLASS: 906-00 - ARCHITECTURAL SERVICES, PROFESSIONAL

☐ CLASS: 907-00 - ARCHITECTURAL AND ENGINEERING SERVICES, NON-PROFESSIONAL

☐ CLASS: 908-00 - REBINDING AND REPAIRING SERVICES

☐ CLASS: 909-00 - BUILDING CONTSTRUCTION SERVICES, NEW

☐ CLASS 910-00 - BUILDING MAINTENANCE, INSTALLATION, AND REPAIR SERVICES

☐ CLASS: 912-00 - CONSTRUCTION SERVICES, GENERAL

☐ CLASS: 913-00 - CONSTRUCTION SERVICES, HEAVY

☐ CLASS: 914-00 - CONSTRUCTION SERVICES, TRADE

☐ CLASS: 915-00 - COMMUNICATIONS AND MEDIA RELATED SERVICES

☐ CLASS: 918-00 - CONSULTING SERVICES

☐ CLASS: 920-00 - DATA PROCESSING, COMPUTER, AND SOFTWARE SERVICES

☐ CLASS: 924-00 - EDUCATIONAL SERVICES

☐ CLASS: 925-00 - ENGINEERING SERVICES, PROFESSIONAL

☐ CLASS: 926-00 - ENVIRONMENTAL AND ECOLOGICAL SERVICES

☐ CLASS: 928-00 - EQUIP. MAINT., AND REPAIR SERVICES FOR AUTOMOBILES, TRUCKS, TRAILERS, TRANSIT BUS AND OTHER

	CLASS: 931-00 - EQUIP. MAINT., AND REPAIR SERVICES-APPLIANCE, ATHLETIC, CAFETERIA, FURNITURE, MUSICAL INSTRUMENTS, & SEWING EQUIP.
	CLASS: 936-00 - EQUIP. MAINT., AND REPAIR SERVICES-GENERAL
	CLASS: 939-00 - EQUIP. MAINT., AND REPAIR SERVICES-COMPUTERS, OFFICE, PHOTOGRAPHIC, RADIO/TELEVISION EQUIPMENT
	CLASS: 941-00 - EQUIP. MAINT., REPAIR, AND RELATED SERVICES-POWER GENERATION
	CLASS: 946-00 - FINANCIAL SERVICES
	CLASS: 948-00 - HEALTH RELATED SERVICES
	CLASS: 952-00 - HUMAN SERVICES
	CLASS: 953-00 - INSURANCE, AND INSURANCE SERVICES ALL TYPES
	CLASS: 956-00 - LIBRARY AND SUBSCRIPTION SERVICES
	CLASS: 958-00 - MANAGEMENT SERVICES
	CLASS: 962-00 - MISCELLANEOUS SERVICES, NO. 2
	CLASS: 965-00 - PRINTING PREPARATIONS
	CLASS: 966-00 - PRINTING
	CLASS: 971-00 - REAL PROPERTY RENTAL OR LEASE
	CLASS: 975-00 - RENTAL OR LEASE SERVICES
	CLASS: 977-00 - RENTAL OR LEASE SERVICES OF APPLIANCES
	CLASS: 981-00 - RENTAL OR LEASE OF EQUIPMENT-GENERAL EQUIPMENT
	CLASS: 984-00 - RENTAL OR LEASE OF SERVICES OF COMPUTERS, DATA PROCESSING, AND WORD PROCESSING EQUIPMENT
	CLASS: 985-00 - RENTAL OR LEASE SERVICES OF EQUIPMENT-OFFICE
	CLASS: 988-00 - ROADSIDE, GROUNDS, RECREATIONAL AND PARK AREA SERVICES
	CLASS: 990-00 - SECURITY, FIRE, SAFETY, AND EMERGENCY SERVICES
	CLASS: 992-00 - TESTING AND CALIBRATION SERVICES
	CLASS: 998-00 - SALE OF SURPLUS & OBSOLETE ITEMS

Dogwood Kitchen Improvements 4-4-23				
Bidder	**Grinder Taber Grinder**	**Barnes & Brower**		
	$ 259,000.00	$ 263,952.00		
Allowance	$ 50,000.00	$ 50,000.00		
Total	$ 309,000.00	$ 313,952.00		
Checklist:				
Addendum Acknowledgement	x	x		
Prime Contractor's License	x	x		
References	x	x		
Drug and Alcohol Testing Form	x	x		
Boycott of Israel Act	x	x		
Iran Divestment Act	x	x		
Certification of Understanding	x	x		
Bid certification page	x	x		
Certificate of Liability Insurance	x	x		
Bond Information per $1000	$ 9.00	$ 12.70		
Bid bond	x	x		

Issuance Date: Tuesday, March 14, 2023
Mandatory Pre-Bid Meeting: March 21 @10 a.m.
Deadline for Questions: Tuesday March 28 by 4:00 p.m.
Bid Opening Date: Tuesday, April 4 at 2:00 p.m.

Germantown Municipal School District Invitation to Bid
Dogwood Elementary Kitchen Improvement Project

GMSD BID #FY2023-004

Germantown Municipal School District
3350 South Forest Hill Irene Road
Germantown, TN 38138
(901) 752-7900

3350 South Forest Hill Irene Road. Germantown, Tennessee 38138 (901)752-7900

INVITATION TO BID

March 14, 2023

Germantown Municipal School District (GMSD) will accept Bids on:

Dogwood Elementary School Kitchen Improvement Project
8945 Dogwood Rd., Germantown, TN. 38139

Bid shall be mailed or hand-delivered in a **sealed envelope marked "Dogwood Elementary School Kitchen Improvement Project - GMSD BID #FY2023-004"** in the lower left-hand corner of the envelope and addressed to: Jackie Saunders, 3350 South Forest Hill Irene Road., Germantown, TN 38138. If using express mail (FedEx, UPS, Priority Mail, etc.), please place in a sealed enveloped inside the express mail packaging. *Bid must be received by GMSD prior to the time indicated below.*

BID DATE: Bid shall be opened at the Germantown Municipal School District Office at 3350 South Forest Hill Irene Road at 2:00 p.m. on April 4, 2023, at 2 pm. Central Standard Time.

All bid responses must be received and time-stamped on or before the required bid-opening time (local time), soon thereafter all bids will be publicly opened and read aloud. **Bids received after the specified date and time will be considered late and will not be opened.**

All purchases are F.O.B. Germantown, Tennessee per attached specifications.

Germantown Municipal School District reserves the right to accept bids in part or whole, reject any or all Bids, or to accept a Bid containing variations from these specifications if the Bid so merits. The Executive Committee or their designee(s) are the final authority and shall have the authority to reject any single Bid or all Bids submitted and to make awards, as deemed, to be in its best interest. If awarded, awards will be made to the lowest and/or best vendor.

Bids must be submitted on the Bid Schedule Document that the District issues and ***the Document must be signed by an authorized party.***

See attached Specifications, Bid Form, Drug and Alcohol Testing Acknowledgment Statement and Affidavit along with Company's Drug Testing Policy, Iran Divestment Act and Vendor's Qualifications and Reference Form that ***must be returned*** as part of the Bid.

The standard Germantown Municipal School District Services and/or Products Contract and Required Insurance Certifications are included and ***will be required*** from the selected Bidder.

During the competitive bid process, Bidders are instructed to contact only those employees of the associated departments specifically designated in this Invitation to Bid.

Sincerely,

Jackie Saunders
Procurement Services
Germantown Municipal School District

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD BID #FY2023-004
Dogwood Elementary School
Kitchen Improvement Project
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GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD FY2023-004 Dogwood Elementary School Kitchen Improvement Project
IMPORTANT DATES

DATE	EVENT
March 14, 2023	**INVITATION TO BID PUBLISHED**
March 21, 2023	**MANDATORY PRE-BID MEETING, 10:00 A.M.** *Meet at the front office of Dogwood Elementary School, 8945 Dogwood Rd., Germantown, TN. 38139*
March 28, 2023	**4:00 P.M. QUESTIONS DEADLINE** All questions must be submitted in writing to Jacqueline.saunders@gmsdK12.org
April 4, 2023	**BIDS DUE BEFORE 2:00 P.M.** **BID OPENING AT 2:00 P.M. GMSD DISTRICT OFFICE** **3350 S. Forest Hill Irene Road 38138**
May 25, 2023	**START OF JOB**
July 30, 2023	**COMPLETION OF JOB**

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD BID #FY2023-004
Dogwood Elementary School- Kitchen
Improvement Project
CERTIFICATION OF UNDERSTANDING AND AGREEMENT

In compliance with this Invitation to Bid, in consideration of the detailed description attached hereto; and subject to all conditions thereof, the undersigned agrees, if this bid be accepted to furnish any or all the items upon which prices have been quoted in accordance with the specifications applying at the price set opposite each item.

The undersigned further agrees, if awarded an order or contract, to indemnify, protect, defend, and hold harmless Germantown Municipal School District, its Board Members, agents and employees from all judgments, claims, suits or demands for payment that may be brought against Germantown Municipal School District, its agents and employees arising out of the use of any product or article that is provided pursuant to the bid.

The bidder further agrees to indemnify, protect, defend and hold harmless Germantown Municipal School District, its Board Members, agents and employees from all judgments, claims, demands for payments, or suits or actions of every nature and description brought against the aforementioned alleging injuries or damages sustained by any person arising out of or in the course of the bidder performing or failing to perform the service and/or providing or failing to provide the goods related to this Bid.

I further attest and agree to immediately notify the Procurement Analyst, Germantown Municipal School District, if either I or the entity I represent can no longer make the foregoing certification. I understand that failure to notify the district may invalidate any and all agreements I have with the District.

I agree and certify my understanding of the requirements of the below:
The Contractor Licensing Act of 1994 of the General Assembly of the State of Tennessee and Amendments thereto, Tennessee Code Annotated (T.C.A.), Title 62, Chapter 6, Section 62-6-119 requires that all contractors must be licensed contractors in the State of Tennessee. Companies responding to this bid shall provide, in accordance to TCA, Title 62, Chapter 6, Section 62-6-119, Paragraph (b), **"…name, license number, expiration date thereof, and license classification of the contractors applying to bid or the prime contract and for the masonry contract where the total cost of the masonry portion of the construction project exceeds one hundred thousand dollars ($100,000), materials and labor, electrical, plumbing, heating, ventilation, and air conditioning contracts, appear on the outside of the envelope containing the bid or in the submission of an electronic bid except when the bid is in an amount less than twenty-five thousand dollars ($25,000). Only one (1) contractor in such classification may be listed. Prime contractor bidders who are to perform the masonry portion of the construction project which exceeds one hundred thousand dollars ($100,000), material and labor, the electrical, plumbing, heating, ventilation and air conditioning must be so designated upon the outside of the envelope or in the electronic bid. Failure of any bidder to comply therewith shall void such bid and such bid shall not be considered. It is the duty and responsibility of the awarding person or entity who received the envelope containing the bid or the electronic bid to verify only the completeness of the required licensure information. Prior to the opening of the envelope or acceptance of an electronic bid, the names of all contractors listed thereon or therein shall be read aloud at the official bid opening and incorporated into the bid. Prior to awarding a contract, the awarding person or entity and its authorized representatives shall verify the accuracy, correctness and completeness of the information required hereby. The failure of any bidder to comply with all of the provisions hereof shall automatically disqualify such bid. However, bids administered by the Tennessee Department of General Services shall require that the information be furnished within the bid or bid document only. When the bid is less than twenty-five thousand dollars, ($25,000), the name of the contractor only may appear on the outside of the envelope containing the bid or in the electronic bid document, and upon opening the envelope or review of the electronic bid, if such bid is in excess of twenty-five thousand ($25,000), the same shall automatically be disqualified.**

Germantown Municipal School District reserves the right to require a Performance, Materials and Labor Bond from the successful proposer. In such an event the document cost for the Performance, Materials and Labor Bond will be reimbursed to the successful proposer. If a notarized Performance, Materials, and labor Bond is required by the Owner the notarized Performance, Materials and Labor Bond must be from an insurance company licensed in the State of Tennessee for 100% of the contract amount awarded. If required, the notarized Performance, Materials and Labor Bond must be provided to:

Mr. John Truong, Operations Supervisor
Germantown Municipal School District
3350 S. Forest Hill Irene Road

Germantown, TN 38138

State the cost per $1000.00 for Performance, Materials and Labor Bond, if required: $_____

The successful Bidder shall be prohibited from discriminating against any individual on the basis of race, color, national origin (including ancestry, or any other subcategory or national origin recognized by applicable law), religion, sex (including any subcategory of sex recognized by applicable law), age, disability, veteran status, genetic information, or any other basis protected by applicable law.

Germantown Municipal School District encourages qualified minority and/or women-owned businesses to submit bids.

Germantown Municipal School District offers educational and employment opportunities without regard to race, color, national origin (including ancestry, or any other subcategory or national origin recognized by applicable law), religion, sex (including any subcategory of sex recognized by applicable law), age, disability, veteran status, genetic information, or any other basis protected by applicable law.

_____ TERMS:_____DELIVERY: Days A.R.O._____
COMPANY NAME

_____ _____
ADDRESS PHONE FAX

_____ _____
CITY STATE ZIP EMAIL ADDRESS

Name and Signature below certifies that you understand and agree to all information contained in this bid.

_____ _____
AUTHORIZED REPRESENTATIVE (PRINT) SIGNATURE DATE

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
INVITATION TO BID
GMSD BID #FY2023-004
Dogwood Elementary School Kitchen Improvement Project

Important Documents to Return to GERMANTOWN MUNICIPAL SCHOOL DISTRICT

Included	Name of Document
	GMSD Vendor Registration Packet, Including COI (SEPARATE ATTACHMENT) (**WITH BID**)
	NIGP Coding Sheets (SEPARATE ATTACHMENT) (**WITH BID**)
	W9 (SEPARATE ATTACHMENT) (**WITH BID**)
	Certification of Understanding and Agreement (**WITH BID**)
	Bid Certification Signature Page (**WITH BID**)
	Bid Form (**WITH BID**)
	Bid Label (**ON BID SUBMISSION**)
	Contractor's Qualifications and References (**WITH BID**)
	Drug and Alcohol Testing Acknowledgement & Affidavit (**WITH BID**)
	Iran Divestment Act- Attachment B- Signed & Notarized (**WITH BID**)
	Non-Boycott of Israel Certification (**WITH BID)**
	Bid Bond (If Applicable) (**WITH BID**)
	Addenda (ALL SIGNED) (**WITH BID**)
	Statement of No Bid (IF you choose not to respond to this bid, please fill out and return)

GERMANTOWN MUNICIPAL SCHOOL DISTRICT INVITATION TO
BID GMSD BID #FY2023-004
Dogwood Elementary School Kitchen Improvement Project

1. SCOPE OF WORK

1.1 PURPOSE

This bid should include all labor, materials, and all other considerations in the Kitchen Improvement Project for Dogwood Elementary School in accordance with the specifications.

Detailed specifications and scope of work are attached. The above description is not intended to be exhaustive and all details pertaining to scope of work and specifications are contained in the attached document.

1.2 SUPPLY REQUIREMENTS

Detailed specifications and scope of work are attached.

1.3 INVOICE TO

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
C/O JOHN TRUONG, OPERATIONS
SUPERVISOR
3350 South Forest Hill Irene Road
GERMANTOWN, TN 38138

1.4 VENDOR'S RESPONSIBILITIES

FOR SEALED BIDS:

ALL DOCUMENTS APPLICABLE AT TIME OF BID **must be signed in ink, dated, and returned with your bid documents** to allow your bid to be considered. Documents not returned **will** result in a non-responsive bid.

Disclaimer: *All required documents may or may not be listed. It is the Contractor's responsibility to review all documents and return as specified. All information shall be entered in ink or typewritten. Mistakes may be crossed out and correction inserted before submissions of bid. The person signing the bid shall initial the correction in ink. Corrections and/or modifications received after the designated bid opening time will NOT be accepted.*

FOR SEALED BIDS: (continued)

1) **Vendor Registration Packet, Including Certificate of Liability Insurance Naming the Germantown Municipal School District as Additional Insured-** Please double check checklist on signature page.
2) **NIGP Coding Sheets-** Please check all categories that apply.
3) **W9-** Please complete, sign and date.
4) **Certification of Understanding and Agreement Page-** Page must be completed and signed with an original signature in ink.
5) **Bid Certification Signature Page-** Contractor's License Number(s) must be inserted.

Page must be signed with an original signature in ink by an authorized officer, employee or agent of the bidder.

6) **Bid Form-**Page must be completed and signed with an original signature in ink.
7) **Contractor's Qualifications and References**
8) **Drug and Alcohol Testing Acknowledgement & Affidavit-** Document must be completed and signed with an original signature in ink.
9) **Iran Divestment Act- Attachment B-** Document must be completed, signed **and notarized** with an original signature in ink.
10) **Non Boycott of Israel Certification-**Signed and notarized with original signature in ink.
11) **Bid Bond-** (5%)
12) **Addenda (ALL)**
    All must be signed in ink and returned with your bid documents. It is the Bidder's responsibility to verify if an addendum was issued.

13) **All BIDS must be submitted in a sealed envelope with the *Vendor's Name, Bid Number, Bid Open Date, and Project Name* clearly marked on the outside of the envelope.**

14) **Bid Label-** Please place on bid package or carton.

NO BID ADJUSTMENTS WILL BE ACCEPTED.

2. TERMS AND CONDITIONS

The terms, conditions and specifications listed in this bid constitute the total terms and conditions that will be acceptable. Germantown Municipal School District will not be bound by conditions other than those stated.

Specifics on start of work must be coordinated with John Truong, Operations Supervisor, Germantown Municipal School District, john.truong@gmsdk12.org, 901-752-7900.

2.1 INFORMATION GIVEN PRIOR TO AWARD

- Oral explanations, instructions and interpretations given to bidders prior to award of contract will not be binding. It is the District's intent to provide all bidders equal opportunity to access and acquire all available pertinent information necessary to formulate a responsive bid. Any information, specifications, plans, data or interpretations which the District discovers is lacking and may be important to all bidders, will be furnished to all bidders in the form of an addendum.

- **Any and all revisions made to this bid prior to the due date will be posted on http://www.gmsdk12.org/BidRFPOpportunities.aspx under Purchasing and will be the responsibility of the Bidder to check for any and all revisions.**

2.2 METHOD OF AWARD

The District reserves the right to award to the lowest responsive, responsible bidder; to award multiple contracts; and, to award the bid/contract that is deemed to be in the best value (most advantageous to the District) as determined by some, or all, of the following:

- Prices offered
- Quality of product/service offered
- General reputation and performance capabilities of the bidder
- Conformity with specifications herein
- Delivery and/or installation schedule

- Location and availability of service and/or repair facilities, personnel and parts
- Suitability for intended use
- Responses to provided references
- Payment terms/discounts offered
- Demonstrations provided, if required
- Ability to meet contract requirements such as warranty provisions, insurance requirements, bonding requirements, etc.

Germantown Municipal School District reserves the right to award this bid by line item, groups of items or the entire list of items (Lump Sum Total), whichever is deemed to be in the best interest of Germantown Municipal School District. Lump sum totals will be determined by the sum total of the extended unit cost of each item in a lump sum grouping. In all cases, the unit cost multiplied by the quantity bid will determine the extended cost of a line item.

2.3 PRICING

- All pricing must be completed on the bid sheets provided.
- Successful bidder shall furnish all labor, materials, tools and equipment for the installation.
- As deemed necessary, Germantown Municipal School District reserves the right to seek competitive pricing or bid items listed during the duration of the awarded contract.
- Costs not delineated in the bid response will not be negotiated in the contract.

2.4 PERFORMANCE

- All work is to be performed during normal working hours—7:00 a.m. to 3:30 p.m., Monday-Friday. Extended working hours must be approved by the District.
- Completion date must be no later than **July 30, 2023**. Bidders must indicate the date for completion of the project. Completion date may be a factor in the bid award.
- All work should be performed in a neat and workman-like manner. Any and all cleanup of debris is the responsibility of the Contractor.
- If at any time Germantown Municipal School District is dissatisfied with the quality of service provided, a written notice of the specific problem(s) will be furnished to the vendor by certified letter. If the problem is not corrected to the satisfaction of GMSD within 5 days of the written notice, this entire contract may be unilaterally terminated by GMSD with no further obligation on the part of the District.

2.5 SPECIFICATIONS

- The specifications given are not intentionally written around any one manufacturer and are for the purpose of indicating general size and description of the job.
- The District hereby reserves the right to approve as an equal, or to reject as not being equal, any item the bidder proposes to furnish which contains minor variations from specification requirements but may comply substantially therewith. Items exceeding specifications will be considered as meeting specifications.
- The bidder shall abide by and comply with the true intent of the specifications and not take advantage of any unintentional error or omission but shall fully complete every part as the true intent and meaning of the specifications.
- All bids must meet or exceed the enclosed specifications. Bidder must indicate manufacturer's name and model number offered. If bidder fails to provide this information, and an award is made, then the bidder shall supply the item(s) as specified. All items supplied

by the successful bidder(s) shall be: 1) as per manufacturer's name (or approved equal), model number and description quoted; and 2) new and unused. Remanufactured and/or reconditioned items will be unacceptable. Items delivered not meeting these requirements shall be subject to return and replaced at no additional cost to the Germantown Municipal School District. Any exceptions to the specifications must be clearly noted and documented, literature to be included with bid for items quoted. Bid will be considered incomplete for failing to include required product literature along with bid and will be rejected.

- Changes to the bid specifications are not valid unless authorized in writing by the District Purchasing Department by means of an Addendum.
- Germantown Municipal School District reserves the right to request any additional information deemed necessary in the evaluation of this bid. Requested information shall be submitted within five (5) business days from date of request.
- Germantown Municipal School District has the right, at its discretion, to terminate or renegotiate this Agreement due to occurrence, event or action beyond its control.
- The District reserves the right to extend the terms, conditions and prices of this contract to other Institutions (such as State, Local and/or Public Agencies and/or School Districts) who express an interest in participating in any contract that results from the bid. Each of the piggyback institutions will issue their own purchasing documents for purchasing of the goods/services by bidding of this service. Bidder agrees that Germantown Municipal School District shall bear no responsibility or liability for any agreements between bidder and the other Institution(s) who desire to exercise this option.

2.6 BIDDING REQUIREMENTS AND CONDITIONS

- Sealed Bids will be received at the GMSD District Office—3350 South Forest Hill Irene Road, Germantown, TN 38138—***before*** **Tuesday, April 4, 2023 at 2:00 p.m**. Timely receipt of bids will be determined by this date and time at the address specified. Hand delivery is encouraged to ensure timely receipt. **No bid will be accepted *after* 2:00 p.m. on April 4, 2023.**
- Questions regarding bid specifications should be directed via email to **John Truong**, Operations Supervisor, Germantown Municipal School District, john.truong@gmsdk12.org, by no later than 4:00 p.m. Central time on Tuesday, March 28 by 4:00 p.m. ***All questions must be submitted by email; no oral questions will be accepted.***

Purchasing questions related to this bid must be submitted electronically to Jackie Saunders, at Jacqueline.saunders@gmsdk12.org, no later than 4:00 p.m. Central time on **Tuesday, March 28, 2023.** ***All questions must be submitted by email; no oral questions will be accepted.***

- **All price quotations and related materials must be received in a sealed envelope and marked with label provided to clearly display time, date, and nature of bid.**
- All material that is submitted in accordance with this solicitation becomes the property of Germantown Municipal School District and will not be returned.
- The bidder shall submit their bid upon the forms furnished by the Purchasing Department of Germantown Municipal School District. **On the bid form**, the bidder shall specify **a unit price** in figures for each pay item for which a quantity is given. The bidder must also show the **products of the respective unit prices and quantities** written in figures in the column "Amount Bid," and the **total amount of the bid** obtained by adding the amounts of the several items. All figures should be written in blue ink or typed. *Penciled entries will not be accepted and the bid will be rejected.*

- The bid as well as the **Certification Agreement** and **Hold Harmless Agreement (included in Vendor's Packet)** shall be signed in ink by the individual or agency authorized to sign and submit this bid for the bidder.
- Mistakes may be crossed out and correction inserted before submission of the bid. The person signing the bid shall initial correction in ink. Any other type of alteration to this bid document by a vendor will deem that vendor's response null and void.
- The bid signature page must include the bidder name and address and the state and address in which the business is domiciled.
- The successful vendor shall be a licensed contractor in the State of Tennessee and shall meet all necessary legal requirements of conducting business with Germantown Municipal School District.
- Bidder must submit a list of three (3) references for projects completed. References shall be for projects of similar size and scope. References shall include: company name, address, telephone number, contact name, email address and date project was completed.
- The successful bidder shall meet the necessary legal requirements for conducting business with the Germantown Municipal School District.
- No bid may be withdrawn for a period thirty (30) days after the bid opening without written approval of the Procurement Analyst.
- Bidder's recommendation must be compliant with local, state and federal laws and regulations including but not limited to seismic. The successful bidder shall perform its obligations hereunder in compliance with any and all applicable federal, state and local laws, rules and regulations, including applicable licensing requirements, according to sound engineering, management and safety practices and in compliance with any and all reasonable rules of the school districts relative to the premises.

2.7 LIABILITIES

- It is understood that the bidder, if awarded an order or contract pursuant to this bid, agrees to protect, defend and save harmless, Germantown Municipal School District from any suits or demands for payment that may be brought against it as a result of the contract.
- The successful bidder agrees that it will function as an independent contractor and agrees to indemnify and hold harmless Germantown Municipal School District, its Board Members, employees, and agents for any and all claims that may arise out of its duties contracted for pursuant to this bid.
- Successful bidders and their employees must adhere to all applicable school policies and procedures.
- The successful bidder will be responsible for obtaining and furnishing any/all permits with local and/or state code enforcement agencies to complete the project as described in this bid.
- The bidder shall hold the District, its officers, agents, servants, and employees harmless from liability of any nature or kind because of use of any copyrighted, or uncopy righted composition, secret process, patented or unpatented invention under this bid, and agrees to defend, at its own expense, any and all action brought against the District because of the unauthorized use of such articles.
- The District, by execution of this Agreement, assumes no liability for damages caused to persons or property by reason of Contractor providing services herein or for injury to any employee, agent or subcontractor of the Contractor performing under this Agreement.

2.8 IRREGULAR BIDS

Bids will be considered non-responsive and shall be rejected for the following reasons:

- If the Bid Form(s) are on a form other than that furnished by the District or if the form is altered or any part thereof is detached.
- If there are unauthorized additions, conditional or alternate bids, omission of addenda, or irregularities of any kind, which tend to make the bid incomplete, indefinite, or ambiguous as to its meaning.
- If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- If the Bid Form does not contain a unit price for each pay item listed except in the case of alternate pay items.
- If the Bid Documents are not sealed when received by the District.
- If the Signature Page or other documents requiring a signature are not signed in ink.
- If Addenda are not signed, in ink, and returned with the Bid Documents.

2.9 SAMPLES

Requirements for samples are as follows:

- Samples of items, when required, shall be furnished free of cost to the District.
- Samples of items selected may be retained for future comparison.
- Samples that are not destroyed by testing, or that are not retained for future comparison will be returned upon request at the bidder's expense.

2.10 DOCUMENTS INCLUDED IN CONTRACT

The specifications, terms/conditions and detailed requirements shall become a part of any contract agreement and/or purchase order that result from this bid.

2.11 DEFAULT

In case of default by the bidder, the District may procure the articles or services from other sources and may deduct from any monies due, or that may thereafter become due to the bidder, the difference between the price named in the contract or purchase order and actual cost thereof to the District. Prices paid by the District shall be considered the prevailing market prices at the time such purchase is made. Periods of performance may be extended if the facts as to the case of delay justify such extension in the opinion of the District.

2.12 DISQUALIFICATION OF BIDDERS

Any of the following reasons may be considered as being sufficient for the disqualification of a bidder and the rejection of their bid or bids:

- More than one bid, for the same work from an individual, partnership or corporation under the same name or a different name.
- Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for future work with the District until any such participant shall have been reinstated as a qualified bidder.
- Bidder, or its principals or affiliates, is disbarred, suspended, or ineligible from federal contracting.

2.13 BID BOND

When required, bid will be accompanied by a 5% Bid Bond or a Cashier's Check in an amount not less than the amount indicated on the Bid. Bid Bonds shall be signed by the bidder and their surety

company. Power of Attorney for the person who executes the bond on behalf of the surety as Attorney-In-Fact must accompany the bid bond. When required, bidders must supply certificate of insurance or bonds through a company that is authorized to do business in the State of Tennessee.

2.14 PUBLIC RECORDS

Notwithstanding anything to the contrary contained herein or within the other document supplied to Germantown Municipal School District by the Contractor, the Contractor understands and acknowledges that the District is a governmental entity subject to the State of Tennessee Public Records Act and that any reports, data or other information supplied to the District regarding services performed hereunder may be subject to disclosure as a public record in accordance with the laws of the State of Tennessee.

2.15 WARRANTY

The Contractor warrants to the District that all goods/work shall be free from defects in design and faulty or improper materials and/or workmanship, shall be in strict compliance with the terms of this Agreement and shall be fit and sufficient for the purpose intended. This warranty- labor and material-(Manufacturer's Standard) shall be effective for one year from the date of acceptance by the District of such goods and/or services as satisfactorily complete, and shall be in addition to all other warranties, express, implied or statutory. The warranty shall survive the termination or expiration of this Agreement.

2.16 COLLUSION

Bidders, by submitting a signed bid or proposal, certify that the accompanying bid or proposal is not the result of, or affected by, any unlawful act of collusion with any other person or company engaged in the same line of business or commerce, or any other fraudulent act punishable under Tennessee or United States law.

2.17 CONFLICTS OF INTEREST

By submitting a proposal, the Bidder certifies that no amount shall be paid directly or indirectly to an employee or official of Germantown Municipal School District as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Bidder in connection with the procurement under this Bid.

Any individual, company or other entity involved in assisting the District in the development, formulation, or drafting of this Bid or its scope of services which shall be considered to have been given information that would afford an unfair advantage over other Bidders and said individual, company or entity may not submit a proposal in response to this Bid.

2.18 INDEMNIFICATION

The Contractor shall indemnify, hold harmless and defend regardless of outcome, the District from expenses of and against all suits, action, claims, or costs, expenses, and attorney fees that may be incurred because of any injuries or damages received or sustained by any person, persons or property on account of the operations of the Contractor or their subcontractors; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in the work; or because of any act or omission, neglect, or misconduct of the Contractor or their subcontractors; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the Worker's Compensation Act or any other law, ordinance, order or decree.

2.19 ALCOHOL AND DRUG-FREE WORKPLACE
Along with its bid, the bidder shall submit the affidavit certifying compliance, requiring the Contractor and its subcontractors at the time of bid to provide a drug-free workplace program and to maintain such program throughout the duration of the Contract. *The affidavit form is attached*.

2.20 CONSIDERATION
After the bids are opened and read, they will be compared on the basis of the summation of the products of the approximate quantities shown in the bid form by the unit bid prices. The results of such comparisons will be available on the Purchasing page of www.gmsdk12.org. The District reserves the right to reject any or all bids, to waive technicalities, to advertise for new bids, or to proceed to do the work otherwise, if, in the judgment of the Purchasing Department, it is in the best interest of the District.

2.21 FAILURE TO EXECUTE CONTRACT
Failure to execute the contract, file acceptable bonds and submit acceptable evidence, if required by contract, of good faith efforts to obtain participation by disadvantaged businesses within 15 calendar days after the contract has been received by the bidder shall be just cause for the cancelation of the award of contract and the forfeiture of the cash or bid bond which shall become the property of the District, not as penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder or the work may be re-advertised and constructed under contract or otherwise, as the District may decide.

2.22 TERMINATION FOR CONVENIENCE
The performance of work under this contract may be terminated by the District in accordance with this subsection in whole, or from time to time in part, whenever it shall be determined that such termination is in the best interest of the District. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

2.23 NON-APPROPRIATION OF FUNDS
Notwithstanding any other provision of this contract, funds for this contract are payable from state, federal, and/or local appropriations. In the event that no funds or insufficient funds are appropriated and budgeted for monetary obligations which would otherwise be due and owing under the terms of this contract, this contract shall become null and void. After such termination of this contract, the Customer shall have no continuing obligation under the terms of this contract.
In the event of such termination, the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work performed to the termination date. Such termination by the District shall not be deemed a Breach of Contract by the District, and the Contractor shall have no right to any actual, general, specific, incidental, consequential, or any other damages whatsoever of any description or amount that have not been earned as of the date of termination.

2.24 BID PROTEST
Any protest concerning the award of this bid shall be addressed to the Procurement representative. Protest shall be made in writing to the Procurement representative and shall be filed within seven (7) days after the intended award is announced. A protest is considered filed when received by the Procurement representative. The written protest shall include the name and address of the protester, identification of the procurement, a statement of the specific reasons for the protest and supporting

exhibits. The submitted information will be reviewed with the appropriate Department Head and Superintendent to render a final decision and a formal response provided within seven days. This decision relative to the protest shall be considered final.

2.25 BID WITHDRAWAL
At any time up to the hour and date set for opening of bids, a bidder may withdraw his/her bid. Such withdrawal must be in writing and sent to the Procurement representative at the address set forth herein, and delivered in person. Such withdrawal shall be effective only upon receipt by the Procurement representative and will not preclude the submission of another bid by such bidder to the hour and date set for the opening of bids.

After the scheduled time for opening of bids, no bidder will be permitted to withdraw his/her bid.

2.26 ADDENDA
Any matter of this bid package that requires explanation or interpretation **must** be submitted **in writing** by **Tuesday, March 28, no later than 4p.m.—i.e. a minimum of three (3) business days (excluding weekends and holidays) prior to the time set for the Bid Opening. Email** all questions to Jacqueline.saunders@gmsdk12.org. All questions will be responded to in the form of written addenda to all Bidders and posted on the **District's Purchasing page.** ***It shall be the vendor's responsibility to check the website for published addenda. All addenda that a Bidder receives shall become part of the contract documents.***

No addenda will be issued later than three (3) business days prior to the date for receipt of bids except an addendum withdrawing the request for bids or one which includes a revised date for receipt of bids.

2.27 CONTRACT AWARD
Contract Award may be ALL OR NONE based on the "TOTAL BID AMOUNT" on the Bid Form, or the Contract Award may be awarded to multiple bidders if it is in the District's best interest.

2.28 PAYMENT REQUIREMENTS
The Contractor will be paid in accordance with the Bid Form. Payments otherwise due may be withheld on account of substandard or defective work not remedied.

2.29 CHANGES
The District reserves the right to revise the "Work Locations and Schedule" and to make other changes within the general Scope of Work as may be deemed necessary to best serve the interests of the District. Changes in compensation, which may result from such revisions, shall be documented by an Amendment to the contract and approved by the Deputy Superintendent of the Germantown Municipal School District.

2.30 FORCE MAJEURE
Neither party shall be liable or deemed to be in default for any Force Majeure delay in shipment or performance occasioned by unforeseeable causes beyond the control and without the fault or negligence of the parties, including, but not restricted to, acts of God or the public enemy, fires, floods, epidemics, quarantine, strikes, freight embargoes, or unusually severe weather, provided that in all cases the Contractor shall notify the District promptly in writing of any cause for delay and the District concurs that the delay was beyond the control and without the fault or negligence of the

Contractor. The period for the performance shall be extended for a period equivalent to the period of the Force Majeure delay. Matters of the Contractor's finances shall not be a Force Majeure.

2.31 COMPLIANCE

If a formal and written complaint is registered with the Contractor in respect to unsatisfactory work performance, the Contractor will have 72 hours in which to respond in person to the complaint and to remedy the problem(s). Failure to respond in the prescribed time to the complaint or to remedy the problem may result in termination of the contract as provided in the Termination section (2.32).

If the Contract Administrator is not satisfied with the results and remediation of the complaint, periodic and joint inspections with the Contractor may be required to discuss and point out Contractors violation. Failure of the Contractor to attend these inspections may result in termination of the contract.

2.32 DEFAULT AND TERMINATION OF CONTRACT

Upon thirty (30) days written notice, with or without cause, the District may terminate this Contract. Following such termination, the District and the Contractor shall agree upon an amount of payment for all Contract items properly performed or furnished prior to the effective date of termination.

2.33 ILLEGAL ALIENS

Contractor warrants that any contract resulting from this Bid:

- Does not knowingly hire or engage any illegal aliens or persons not authorized to work in the United States;
- Takes steps to verify that it does not hire or engage any illegal aliens or persons not authorized to work in the United States; and that any misrepresentation in this regard or any employment of persons not authorized to work in the United State constitutes a material breach and shall be cause for the imposition of up to five percent (5%) of the contract price, per violation, and/or termination of its contract.

2.34 IRAN DIVESTMENT ACT

By submission of a bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to T.C.A. § 12-12-106.

2.35 LIQUIDATED DAMAGES

Liquidated damages will be assessed at $500 per calendar day for every day substantial completion is not achieved past August 1, 2023.

2.36 NON-BOYCOTT OF ISRAEL- CERTIFICATION OF COMPLIANCE WITH T.C.A.12-2-119

This form must be completed by all contractors with ten (10) or more employees, that contract with GMSD to acquire or dispose of services, supplies, information technology, or construction, when the contract totals $250,000 or more. This document certifies, that the company is not currently engaged in, nor for the duration of any contract with Germantown Municipal School District Board of Education will the company engage in, a boycott of Israel.

9

3. SPECIFICATIONS

3.1 GENERAL SPECIFICATIONS

The specifications provided are not intentionally written around any one manufacturer and are for the purpose of indicating general information needed. The District hereby reserves the right to approve as an equal, or to reject as not being equal, any item the bidder proposes to furnish which contains minor variations from specification requirements but may comply substantially therewith. Items exceeding specifications will be considered as meeting specifications. The bidder shall abide by and comply with the true intentions of the specifications and not take advantage of any unintentional error or omission but shall fully complete every part as the true intent and meaning of the specifications.

Changes to the bid specifications are not valid unless authorized in writing by the Germantown Municipal School District Purchasing Department by means of an addendum.

3.2 MATERIAL SPECIFICATIONS

Exceptions:_____

_____

_____

_____

_____

_____

When taking an exception(s) please return the specification page(s) and exception page with your submitted bid package.

3.3 QUESTIONS

Questions concerning specifications should be sent to Mr. John Truong, Operations Supervisor, Germantown Municipal School District, via e-mail to john.truong@gmsdk12.org. All inquiries concerning Purchasing should be directed to Jackie Saunders via email to Jacqueline.saunders@gmsdk12.org.

GERMANTOWN MUNICIPAL SCHOOL DISTRICT
BID CERTIFICATION SIGNATURE PAGE
Germantown Municipal School District
3350 South Forest Hill Irene Rd.
Germantown, TN 38138

BID # GMSD FY2023-004

BID TITLE: Dogwood Elementary Kitchen Improvement Project

This response is submitted in accordance with all documents and provisions of the specified Bid Number and Title detailed above. By my signature below, I accept the terms and conditions as incorporated into this bid. As the undersigned, I certify I am authorized to sign and submit this response for the Contractor.

Federal identification Number	Contractor's License No.	Addtl. License Nos. (if Required)	
Company Name		State of Domicile	
Mailing Address	City	State	Zip Code
Contractor or Authorized Representative's Printed Name		Phone Number (with Area Code)	
E-Mail Address		Fax Number (with Area Code)	

By signing, the contractor acknowledges his/her responsibility for this bid, and that he/she will comply with all the terms, conditions, and specifications of this bid.

Contractor or Authorized Representative's Signature	Date Signed

If **not domiciled** in the State of Tennessee, please provide an address where business is conducted in the State of Tennessee, if applicable:

By signing, the contractor acknowledges his/her responsibility for this bid, and that he/she will comply with all the terms, conditions, and specifications of this bid.	Contractor or Authorized Representative's Signature	Date Signed	If **not domiciled** in the State of Tennessee, please provide an address where business is conducted in the State of Tennessee, if applicable:
By signing, the contractor acknowledges his/her responsibility for this bid, and that he/she will comply with all the terms, conditions, and specifications of this bid.	Contractor or Authorized Representative's Signature	Date Signed	If **not domiciled** in the State of Tennessee, please provide an address where business is conducted in the State of Tennessee, if applicable:

This page must be signed with an original signature and returned with your BID documents.

BID FORM
BID # GMSD BID #FY2023-004

Dogwood Elementary School Kitchen Improvement Project

Project can begin possibly sooner, but no later than May 25, 2023

***Project must be completed no later than July 30, 2023*. BIDDER:**
Bid shall be filled in completely, by the Contractor, in the bid schedule by indicating total dollars and cents. All costs, including hourly rates, will be included here and will be fully-burdened to include, but not limited to: wages, transportation, lodging, overhead, and per diem. All figures shall be written in ink or typed. Penciled entries will NOT be accepted, and will be considered irregular and rejected.

Bidders must indicate project completion time after receipt of order (A.R.O.). Project Completion Date is critical and will be a factor in the evaluation and award of this bid. *Dates of work and schedule must be coordinated with John Truong, Operations Supervisor Germantown Municipal School District, john.truong@gmsdk12.org, 901-752-7900.*

Project Completion Date:

State your cost per $1000.00 for Performance, Materials and Labor Bond (if required): $ _____

<table>
<tr><td colspan="4">Company Name:</td><td colspan="5">Address:</td></tr>
<tr><td colspan="2">Organized and existing under the laws of the State of :</td><td></td><td>and doing business as:</td><td>a corporation</td><td>a partnership</td><td>an individual</td><td>a limited liability company</td><td>other</td></tr>
<tr><td colspan="2">City:</td><td colspan="2">State:</td><td>Zip:</td><td colspan="2">Telephone (with Area Code):</td><td colspan="2">Fax (with Area Code):</td></tr>
<tr><td colspan="4">Name:</td><td colspan="5">Title:</td></tr>
<tr><td colspan="6">Authorized Signature:</td><td colspan="3">Date:</td></tr>
</table>

THIS PAGE MUST BE SIGNED (IN INK) & RETURNED WITH YOUR BID

SECTION 00310-BID FORM

The Bid includes all work shown on the plans and listed in the specifications.

A. Kitchen as per specifications ($_____)
State amount in both words and figures.

Contingency Allowance: Include the stipulated sum/price of $50,000 for use upon Owner's Instructions.

Allowance in addition to the base bid price should be added as the final
project amount.

GRAND TOTAL ($_____)
STATE AMOUNT IN BOTH WORDS AND FIGURES

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in bidding.

The bidder agrees that his bid shall be good and may not be withdrawn for a period of ONE HUNDRED TWENTY (120) days after the scheduled closing time for receiving bids.

Upon receipt of written notice of acceptance of this bid, Bidder will submit the following documents within ten (10) days:

1. Executed formal contract (attached as Section 00510)
2. Executed performance bond (attached as Section 00610)
3. Certificates of insurance coverage per Section 00710 Article 20

The bid security attached in the sum of five percent (5%) of the bid is to become the property of the Owner in the event the contract, bond and insurance certificates are not executed within the time limit set forth, as liquidated damages for the delay and additional expenses to the Owner caused thereby.

Bidder acknowledges receipt of Addendum(s) Nos. _____

State your cost per $1000.00 for Performance, Materials and Labor Bond (if required): $ _____

Respectfully submitted,

Contractor's Name: _____

Signature: _____

Printed or Typed Name and Title_____

Business Address_____

Seal Required - if bid is by a corporation

All bids must be received, and time stamped at Germantown Municipal School District Administrative Offices, 3350 South Forest Hill Irene Rd. Germantown, TN 38138, prior to stated bid opening date and time. Bids received after the specified date and time will be considered late and will not be opened.

All price quotations and related materials must be received in a sealed envelope. Time, date and nature of bid must be clearly marked on face of sealed envelope as well as appropriate Contractor's License information.

_____

_____

_____

License Number _____
Expiration Date_____
License Classification_____

Jackie Saunders
Procurement Services
Germantown Municipal School District
3350 Forest Hill Irene Rd.
Germantown, TN 38138

BID # GMSD FY2023-004
Dogwood Ele. School Kitchen Improvement Project
Tues. April 4, 2023 @ 2:00 p.m. Central Time

CONTRACTOR'S QUALIFICATIONS & REFERENCES

All Contractors/vendors for these services must have adequate industry and professional qualifications. The District will confirm the below qualifications and references prior to awarding the Contract.

1. All contractors/vendors must be in business for a minimum of **at least three continuous years.**

2. Please note contractor license and qualifications(if applicable): _____

Legal Name of Company: _____

Street/Mailing Address: _____

Type of Entity (Corp., LLC,etc.): _____ **State Est:** _____

Main Telephone No.: _____ **Main Fax No.:** _____

Number of Continuous Years in Business: _____

Number of Employees Full-Time: _____ Part-Time: _____

Name of the main contact person and project superintendent (if applicable) planned for this project (including qualifications, experience and technical skills):

_____

_____

_____

_____

Largest similar construction project completed from 2014 to present (if applicable):

- Name of Customer and/or Project and Cost: _____

  _____

  _____

  _____

Project experience with renovations and/or building of similar projects:

- Name of Customer and/or Project and Cost: _____

  _____

  _____

  _____

CONTRACTOR'S QUALIFICATIONS & REFERENCES
(continued)

REFERENCES (Provide three (3) references.)

1. **Name:** _____
   Date of Project (if applicable): _____
   Specific Services Provided: _____
   _____
   Primary Contact Name: _____
   Address: _____
   Telephone: _____

2. **Name:** _____
   Date of Project (if applicable): _____
   Specific Services Provided: _____
   _____
   Primary Contact Name: _____
   Address: _____
   Telephone: _____

3. **Name:** _____
   Date of Project (if applicable): _____
   Specific Services Provided: _____
   _____
   Primary Contact Name: _____
   Address: _____
   Telephone: _____

DRUG AND ALCOHOL TESTING ACKNOWLEDGEMENT STATEMENT AND AFFIDAVIT

Comes_____, for and on behalf of
(Printed Name of Principal Officer of Company)
_____, the "Company" and makes oath that:

(i) the Company has received a copy of the relevant portions of Germantown Municipal School District Vendor Registration Packet and Policies; (ii) the Company understands that it must have a drug and alcohol policy in effect for its employees.

_____
Signature
Title:_____

Sworn to and subscribed before me, a Notary Public, this_____day of_____, 2023.

_____
Notary Public

My Commission Expires:

_____

STATEMENT OF NO BID

*Please take a few minutes to complete this form and return it to*jacqueline.saunders@gmsdk12.org *if you are submitting a "No Bid" response.*

We ask that you place an "X" on the appropriate blank that corresponds with your company's "No Bid" response.

1. _____ Specifications too "tight," i.e. geared toward one (1) brand or manufacturer only. (Briefly explain below.)

2. _____ Specifications are unclear. (Briefly explain below.)

3. _____ We are unable to meet specifications.

4. _____ Insufficient time to respond to Invitation to Bid (Briefly explain below, if fault of GMSD.)

5. _____ Our schedule would not permit us to perform within the required time.

6. _____ We are unable to meet bond requirements.

7. _____ We are unable to meet insurance requirement.

8. _____ We do not offer this product or service.

9. _____ Other (Specify below.)

Further remarks: _____
_____
_____
_____
_____
_____

Company Name: _____

Date:_____ **Time:**_____

Name:_____ **Title:** _____

Signature: _____

Germantown Municipal School District
Iran Divestment Act Compliance

The Iran Divestment Act of 2016, effective as of July 1, 2016, is codified at TCA § 12-12-101 *et seq.* The Iran Divestment Act, with certain exceptions, prohibits municipalities, including the DISTRICT, from entering into contracts with persons or entities engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in TCA § 12-12-105, a person engages in investment activities in the energy sector if:

(1) The person provides goods or services of twenty million dollars ($20,000,000) or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas, for the energy sector of Iran; or

(2) The person is a financial institution that extends twenty million dollars ($20,000,000) or more in credit to another person, for forty-five (45) days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list, created pursuant to §12-12-106, as a person engaging in investment activities in Iran as described in this section.

This Act requires the State of Tennessee's chief procurement officer to publish on the State's website a list of persons it determines engage in investment activities in Iran (the "Prohibited Entities List").[1]

Any BIDDER that is on the Prohibited Entities List will be ineligible to contract with the DISTRICT.

Pursuant to the Act, any BIDDER that attempt to contract with the DISTRICT must certify, at the time the bid is submitted, that the BIDDER is not identified on the Prohibited Entities List. A bid shall not be considered for award, nor shall any award be made where the BIDDER fails to submit a signed and verified Bidder's Certification.

[1] The State of Tennessee's list, published in July 2016, can be found on the following website: https://www.tn.gov/assets/entities/generalservices/cpo/attachments/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106,_Iran_Divestment_Act-July.pdf

Germantown Municipal School District
Bidder's Certification of Compliance with Iran Divestment Act
TCA § 12-12-101 *et seq.*

Comes_____, for and on behalf
(Printed name of Principal Office of Company)
_____, (the "Company") and, after being duly authorized by the Company so to do, makes oath that:

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to the Iran Divestment Act, TCA § 12-12-106.

_____
Signature

_____
Title

Sworn to and subscribed before me, a Notary Public, this_____day of_____, 2023.

_____
Notary Public

My Commission Expires:

_____

CERTIFICATION OF COMPLIANCE WITH T.C.A. § 12-4-119
IN REGARD TO BOYCOTTS OF ISRAEL

This form must be completed by all contractors with ten (10) or more employees, that contract with GMSD to acquire or dispose of services, supplies, information technology, or construction, when the contract totals $250,000 or more.

I, the undersigned, certify that my company is not currently engaged in, nor for the duration of any contract with Germantown Municipal School District Board of Education will my company engage in, a boycott of Israel.

NAME OF COMPANY_____

By: _____
Signature
Company Representative – _____
Title: _____

Date: _____

STATE OF TENNESSEE)
COUNTY OF _____)

Subscribed and sworn before me by _____, who represents

_____(Name of Company).

On this _____ Day of _____, 2023.

_____
NOTARY PUBLIC

My Commission Expires: _____

ITB # GMSD BID #FY2023-004

Dogwood Elementary School Kitchen Improvement Project

GMSD Department of Operations

Note: drawings are incorporated as part of this bid.

GMSD BID #FY2023-004

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

8945 Dogwood Road,
Germantown, Tennessee 38018

GENERAL SPECIFICATIONS & TECHNICAL SPECIFICATIONS

PREPARED BY

Renaissance Group
www.rgroup.biz

9700 Village Circle, Suite 100
Lakeland, TN 38002

March 13, 2023

Set No. _____
Architect Project No. 22129_

ARCHITECT

END OF SECTION

SECTION 00 0110
TABLE OF CONTENTS

RECIPIENTS OF BIDDING DOCUMENTS MUST CONSULT THE TABLE OF CONTENTS TO DETERMINE THE FULL SCOPE OF THE WORK INVOLVED AND TO ENSURE THAT ALL PAGES OF THE PROJECT MANUAL AND DRAWINGS HAVE BEEN INCLUDED. NEITHER THE OWNER NOR THE A/E WILL BE RESPONSIBLE FOR BIDS SUBMITTED THAT ARE BASED ON INCOMPLETE BIDDING DOCUMENTS.

GENERAL SPECIFICATIONS

DIVISION 01 -- GENERAL REQUIREMENTS

- **01 1000 - SUMMARY**
- **01 2000 - PRICE AND PAYMENT PROCEDURES**
- **01 2100 - ALLOWANCE**
- **01 2620 - WEATHER DELAYS**
- **01 3000 - ADMINISTRATIVE REQUIREMENTS**
- **01 4100 - REGULATORY REQUIREMENTS**
- **01 4216 - DEFINITIONS**
- **01 5000 - TEMPORARY FACILITIES AND CONTROLS**
- **01 6000 - PRODUCT REQUIREMENTS**
- **01 7000 - EXECUTION AND CLOSEOUT REQUIREMENTS**
- **01 7800 - CLOSEOUT SUBMITTAL**

DIVISION 02 -- EXISTING CONDITIONS

- **02 4100 - DEMOLITION**

DIVISION 04 -- MASONRY

- **03 0511 - MASONRY MORTARING AND GROUTING**
- **04 2000 - UNIT MASONRY**

DIVISION 06 -- WOOD, PLASTICS, AND COMPOSITES

- **06 1000 - ROUGH CARPENTRY**

DIVISION 07 -- THERMAL AND MOISTURE PROTECTION

07 7200 - ROOF ACCESSORIES

DIVISION 08 -- OPENINGS

08 2113 - HOLLOW METAL FRAMES

08 8000 - GLAZING

DIVISION 09 -- FINISHES

09 2216 - NON-STRUCTURAL METAL FRAMING

09 5100 - ACOUSTICAL CEILINGS

09 2116 - GYPSUM BOARD ASSEMBLIES

09 6723 -RESINOUS FLOORING SYSTEM

09 9000 - PAINTING AND COATING

DIVISION 21 -- FIRE SUPPRESSION SEE FP DRAWING

DIVISION 22 -- PLUMBING SEE P DRAWING

DIVISION 23 -- HEATING, VENTILATING, AND AIR-CONDITIONING SEE M DRAWING

DIVISION 26 -- ELECTRICAL SEE E DRAWING

END OF SECTION

PART 1 GENERAL

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

EXISTING REPORTS AND SURVEYS

4.01 EXISTING DRAWING

A. Archived Drawing of the Original Construction of the school can be provided for reference for contractor.

END OF SECTION

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Dogwood Elementary School Kitchen Improvement

B. Owner's Name: Germantown Municipal School District.

C. Architect's Name: Renaissance Group Inc.

D. The Project consists of miscellaneous improvement inside kitchen area.

E. Scope of work includes but not limited to

- Removal of non load-bearing wall
- New floor finish at affected area
- New ceiling grid and ceiling tiles
- New food service equipment by owner
- Relocation of manager 's office
- Sprinkler line, lighting fixture and mechanical modification
- Window and door replacement
- Update fire protection sprinkler head
- Update fire alarm panel
- New power to roof top units.
- Plumbing fixture relocation
- Roof opening repair

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Contracting Forms and Supplements.

1.03 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings.

B. Scope of alterations work is indicated on drawings.

C. Fire Alarm: Alter existing system and add new construction, keeping existing in operation.

1.04 WORK BY OWNER

A. Items noted NIC (Not in Contract) will be supplied and installed by Owner after Substantial Completion.
   1. Food Serving equipment.

1.05 OWNER OCCUPANCY

A. Owner does not intend to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Owner intends to occupy the Project upon Substantial Completion.

C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

D. Schedule the Work to accommodate Owner occupancy.

1.06 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
   4. Use of site and premises by the public.

C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the site is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

1.07 WORK SEQUENCE

A. Construct Work in stages during the construction period:
   1. Stage 1: abatement of hazardous material.
   2. Stage 2: HVAC & Misc. System Modernization.

B. Coordinate construction schedule and operations with Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Correlation of Contractor submittals based on changes.

E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. GENERAL TERMS AND CONDITIONS FOR CONSTRUCTION CONTRACTS

1.03 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.

D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Present required information in typewritten form.

E. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.
   1. Show work in progress for each separate schedule of values (Shell and Interior)

F. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

G. Execute certification by signature of authorized officer.

H. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

I. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

J. Submit one electronic and three hard-copies of each Application for Payment.

K. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 3000.

2. Construction progress schedule, revised and current as specified in Section 013000.
3. Current construction photographs specified in Section 01 3000.
4. Partial release of liens from major subcontractors and vendors.
5. Affidavits attesting to off-site stored products.

L. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.

B. Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on AIA Form G710.

C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
2. Promptly execute the change.

D. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 7 days.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
1. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
2. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.

F. Substantiation of Costs: Provide full information required for evaluation.
1. On request, provide the following data:
a. Quantities of products, labor, and equipment.
b. Taxes, insurance, and bonds.
c. Overhead and profit.
d. Justification for any change in Contract Time.
e. Credit for deletions from Contract, similarly documented.
2. Support each claim for additional costs with additional information:
a. Origin and date of claim.
b. Dates and times work was performed, and by whom.
c. Time records and wage rates paid.
d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

G. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

H. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:

1. All closeout procedures specified in Section 01 7000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 21 00
ALLOWANCES

PART 1 GENERAL

1d1 SECTION INCLUDES

A. Contingency allowance.

B. Payment and modification procedures relating to allowances.

1.02 RELATED REQUIREMENTS

A. Section 01 20 00 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 CASH ALLOWANCES

A. Costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, less applicable trade discounts, less cost of delivery to site, less applicabletaxes.

B. Costs Not Included in Cash Allowances: Product delivery to site and handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing.

C. Architect Responsibilities:
   1. Consult with Contractor for consideration and selection of products, suppliers, and installers.
   2. Select products in consultation with Owner and transmit decision to Contractor.
   3. Prepare Change Order.

D. Contractor Responsibilities:
   1. Assist Architect in selection of products, suppliers, and installers.
   2. Obtain proposals from suppliers and installers and offer recommendations.
   3. On notification of which products have been selected, execute purchase agreement with designated supplier and installer.
   4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
   5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

E. Differences in costs will be adjusted by Change Order.

F. At closeout of Contract, funds remaining in Allowance will be credited to Owner by Change Order.

1g4 CONTINGENCY ALLOWANCE

A. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.

B. Funds will be drawn from the Contingency Allowance only by Construction Change.

C. At closeout of Contract, funds remaining in Allowance will be credited to Owner by Change Order.

1.05 INSPECTING AND TESTING ALLOWANCES

A. Costs Included in Inspecting and Testing Allowances: Cost of engaging and inspecting or testing agency; execution of inspecting and tests; and reporting results.

B. Costs Not Included in the Inspecting and Testing Allowances:
   1. Costs of incidental labor and facilities required to assist inspecting or testing agency.
   2. Costs of retesting upon failure of previous tests as determined by Architect.

C. Payment Procedures:

1. Submit one copy of the inspecting or testing firm's invoice with next application for payment.
2. Pay invoice on approval by Architect.

D. Differences in cost will be adjusted by Change Order.

E. At closeout of Contract, funds remaining in Allowance will be credited to Owner by Change Order.

1.IB ALLOWANCES SCHEDULE

A. Contingency Allowance: Include the stipulated sum/price of $50,000 for use upon Owner's instructions. Allowance in addition to the base bid price should be added as the final project amount .

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2620
WEATHER DELAYS

PART 1 - GENERAL

1.01 EXTENSIONS OF CONTRACT TIME

A. If the basis exists for an extension of time in accordance with General Terms and Conditions, an extension of time on the basis of severe weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for that month.

1.02 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

A. The Owner has reviewed weather data available from the National Oceanic and Atmospheric Administration (NOAA) and determined a Standard Baseline of average climatic range for the State of Tennessee.

B. Standard Baseline is defined as the normal number of calendar days for each month during which construction activity exposed to weather conditions is expected to be prevented and suspended by cause of severe weather. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

C. Standard Baseline is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12	11	8	7	7	6	7	5	4	5	6	11

1.03 SEVERE WEATHER AND WEATHER DELAY DAYS

A. Severe Weather is defined as the occurrence of one or more of the following conditions within a twenty-four (24) hour day that prevents construction activity exposed to weather conditions or access to the site:
   1. Precipitation (rain, snow, or ice) in excess of one-tenth inch (0.10") liquid measure;
   2. Temperatures that do not rise above that required for the day's construction activity, if such temperature requirement is specified or accepted as standard industry practice; and/or,
   3. Sustained wind in excess of twenty-five (25) m.p.h.

B. Severe Weather may include, if appropriate, "dry-out" or "mud" days:
   1. Resulting from precipitation days that occur beyond the standard baseline;
   2. Only if there is a hindrance to site access or sitework and Contractor has taken all reasonable accommodations to avoid such hindrance; and,
   3. At a rate no greater than one (1) make-up day for each day or consecutive days of precipitation beyond the standard baseline that total one (1) inch or more, liquid measure, unless specifically recommended otherwise by the Designer.

C. A Weather Delay Day may be counted if severe weather prevents work on the project for fifty percent (50%) or more of the contractor's scheduled work day and critical path construction activities were included in the day’s schedule, including a weekend day or holiday if Contractor has scheduled construction activity that day.

D. Contractor shall take into account that certain construction activities are more affected by severe weather and seasonal conditions than other activities, and that “dry-out” or “mud” days are not eligible to be counted as a Weather Delay Day until the standard baseline is exceeded.

   Hence, Contractor should allow for an appropriate number of additional days associated with the Standard Baseline days in which such applicable construction activities are expected to be prevented and suspended.

1.04 DOCUMENTATION AND SUBMITTALS

A. Submit daily jobsite work logs showing which and to what extent critical path construction activities have been affected by weather on a monthly basis.

B. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather station or other independently verified source approved by Designer at beginning of project.

C. Use Standard Baseline data provided in this Section when documenting actual delays due to weather in excess of the average climatic range.

D. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods, and submit in accordance with the procedures for Claims established in General Terms and Conditions.

E. If an extension of the Contract Time is appropriate, such extension shall be made in accordance with the provisions of section 45 of the General Terms and Conditions, and the applicable General Requirements.

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.
B. Site mobilization meeting.
C. Progress meetings.
D. Construction progress schedule.
E. Progress photographs.
F. Coordination drawings.
G. Submittals for review, information, and project closeout.
H. Number of copies of submittals.
I. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 00 7200 - General Conditions: Dates for applications for payment.
B. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 PROJECT COORDINATOR

A. Project Coordinator: Construction Project Manager and Owners Representative.
B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for construction access, traffic, and parking facilities.
C. During construction, coordinate use of site and facilities through the Project Coordinator.
D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 1000 - Summary.
F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
G. Make the following types of submittals to Architect through the Project Coordinator:
    1. Design data.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Owner will schedule a meeting after bid approval by the school board.
B. Attendance Required:
    1. Owner.
    2. Architect.
    3. Contractor.
C. Agenda:
    1. Execution of Owner-Contractor Agreement.
    2. Submission of executed bonds and insurance certificates.
    3. Distribution of Contract Documents.
    4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
    5. Designation of personnel representing the parties to Contract and Architect.
    6. Designation of personnel representing the parties to Contract, and Architect.

7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
8. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 SITE MOBILIZATION MEETING

A. Owner will schedule meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

C. Agenda:
1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities provided by Owner.
5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

A. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, as appropriate to agenda topics for each meeting.
1. Contractor.
2. Owner.
3. Architect.

C. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.
10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to work.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 CONSTRUCTION PROGRESS SCHEDULE

A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

C. Within 10 days after joint review, submit complete schedule.

D. Submit updated schedule with each Application for Payment.

3.05 PROGRESS PHOTOGRAPHS

A. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: Via email.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.

B. Deliver prints with each Application for Payment with transmittal letter specified in this Section.

3.06 COORDINATION DRAWINGS

A. Provide information required by Project Coordinator for preparation of coordination drawings.

3.07 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.08 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.09 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.

4. Bonds.
5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.10 NUMBER OF COPIES OF SUBMITTALS

A. Documents for Information: Submit two copies.

B. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.

C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
1. After review, produce duplicates.
2. Retained samples will not be returned to Contractor unless specifically sostated.

3.11 SUBMITTAL PROCEDURES

A. General Requirements:

B. Transmit each submittal with AIA Form G810.

END OF SECTION

SECTION 01 4100
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project are the following:

B. 28 CFR 35 - Nondiscrimination on the Basis of Disability in State and Local Government Services; Final Rule; Department of Justice; current edition.

C. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.

D. 29 CFR 1910 - Occupational Safety and Health Standards; current edition.

E. ICC (IFC) - International Fire Code; 2012.

F. ICC (IBC) - International Building Code; 2015.

G. ICC (IPC) - International Plumbing Code; 2012.

H. ICC (IMC) - International Mechanical Code; 2012.

I. ICC (IFGC) - International Fuel Gas Code; 2012.

J. ICC (IECC) - International Energy Conservation Code; 2012.

1.02 RELATED REQUIREMENTS

A. Section 01 4000 - Quality Requirements.

1.03 QUALITY ASSURANCE

A. Contractor's Designer Qualifications: Refer to Section - 01 4000 - Quality Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 4216
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

A. This section supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

A. Furnish: To supply, deliver, unload, and inspect for damage.

B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.

C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.

E. Provide: To furnish and install.

F. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary telephone service.

D. Temporary sanitary facilities.

E. Temporary Controls: Barriers, enclosures, and fencing.

F. Security requirements.

G. Vehicular access and parking.

H. Waste removal facilities and services.

I. Field offices.

1.02 RELATED REQUIREMENTS

A. Section 01 5813 - Temporary Project Signage.

1.03 TEMPORARY UTILITIES

A. Owner will provide the following:
   1. Electrical power and metering, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.04 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:
   1. Telephone Land Lines: One line, minimum; one handset per line.
   2. Internet Connections: Minimum of one; DSL modem or faster.
   3. Email: Account/address reserved for project use.

1.05 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

1.06 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.07 FENCING

A. Construction: Commercial grade chain link fence.

B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.08 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections,

and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.09 INTERIOR ENCLOSURES

A. Provide temporary partitions as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and plywood sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1.10 SECURITY

A. Provide security and facilities to protect Work, and Owner's operations from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner's security program.

1.11 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Designated existing on-site roads may be used for construction traffic.

F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

G. Existing parking areas located at temporary designated area may be used for construction parking.

1.12 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 PROJECT SIGNS - SEE SECTION 01 5813

1.14 VERMIN CONTROL

A. Provide necessary treatment to prevent an infestation of vermin. Maintain sanitary conditions to eliminate an environment which attracts and breeds vermin.

1.15 CONTROL OF DUST AND MUD

A. Establish One Entry Point: Control construction vehicle traffic by establishing only one entry/exit point.

B. Watering to Control Dust: Use watering trucks to apply water on exposed dirt which can could become airborne dust. Use as often as necessary to control dust on the site.

C. Cleaning Mud Off Construction Vehicles: Develop cleaning point with water hoses and catchment basin to pressure-wash vehicles before they leave the site with mud on their wheels. Develop plan showing use of a filtering device at each storm drain inlet on adjacent streets to prevent clogging the storm sewer pipes with mud. If the adjacent road(s) becomes muddy, the Contractor shall wash down the road(s) to the satisfaction of the Owner. This cleaning shall

extend as far as necessary to remove all mud and dirt generated by this project. Use water trucks and sweeping trucks as necessary to provide water for washing roads.

1.16 FIELD OFFICES

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet from existing and new structures.

1.17 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations.

F. Procedures for Owner-supplied products.

G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

D. Indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

C. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Made using or containing CFC's or HCFC's.
   2. Containing lead, cadmium, or asbestos.

C. Where other criteria are met, Contractor shall give preference to products that:
   1. If used on interior, have lower emissions, as defined in Section 01 6116.

2. If wet-applied, have lower VOC content, as defined in Section 01 6116.

D. Provide interchangeable components of the same manufacture for components being replaced.

E. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box. Unless otherwise specified in another section.

F. Cord and Plug: Provide minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections. Unless otherwise specified in another section.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. Refer to Section 10 of the ACS General Terms and Conditions for Construction Contracts.

B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

3.02 OWNER-SUPPLIED PRODUCTS

A. See Section 01 1000 - Summary for identification of Owner-supplied products.

B. Owner's Responsibilities:
1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
2. Arrange and pay for product delivery to site.
3. On delivery, inspect products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

C. Contractor's Responsibilities:
1. Review Owner reviewed shop drawings, product data, and samples.
2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 7419.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide off-site storage and protection when site does not permit on-site storage or protection.

G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

H. Comply with manufacturer's warranty conditions, if any.

I. Do not store products directly on the ground.

J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

L. Prevent contact with material that may cause corrosion, discoloration, or staining.

M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Pre-installation meetings.

C. Cutting and patching.

D. Cleaning and protection.

E. Starting of systems and equipment.

F. Demonstration and instruction of Owner personnel.

G. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

H. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

D. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.

E. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

F. Section 02 4100 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.

G. Section 07 8400 - Firestopping.

H. Individual Product Specification Sections:
   1. Advance notification to other sections of openings required in work of those sections.
   2. Limitations on cutting structural members.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Effect on work of Owner or separate Contractor.
      f. Written permission of affected separate Contractor.
      g. Date and time work will be executed.

C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

D. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

G. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

H. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.05 COORDINATION

A. See Section 01 1000 for occupancy-related requirements.

B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

C. Notify affected utility companies and comply with their requirements.

D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of work of separate sections.

H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.

6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

C. Execute cutting and patching including excavation and fill to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

J. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

K. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

L. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

M. Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.

E. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

3.10 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.
   1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

B. Use cleaning materials that are nonhazardous.

C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

F. Clean filters of operating equipment.

G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, and_____.

H. Clean site; sweep paved areas, rake clean landscaped surfaces.

I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.12 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.
   1. Provide copies to Architect and Owner.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.13 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Furnish service and maintenance of components indicated in specification sections during the warranty period.

D. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

E. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

F. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.

C. Individual Product Sections: Specific requirements for operation and maintenance data.

D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
   2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   4. Submit two sets of revised final documents in final form within 10 days after final inspection.
   5. Submit one set of revised final drawings on cd-rom in PDF format.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

F. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Provide servicing and lubrication schedule, and list of lubricants required.

H. Include manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by controls manufacturer.

J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Provide control diagrams by controls manufacturer as installed.

L. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.

M. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

N. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

O. Include test and balancing reports.

P. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

D. Prepare data in the form of an instructional manual.

E. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

L. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

M. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
   2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.
      f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
   3. Part 3: Project documents and certificates, including the following:
      a. Shop drawings and product data.
      b. Air and water balance reports.
      c. Certificates.
      d. Photocopies of warranties and bonds.

N. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

O. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION

SECTION 02 4100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

B. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.

C. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

D. Section 01 7419 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

1.03 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Site Plan: Showing:
   1. Areas for temporary construction and field offices.

C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
   1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
   2. Identify demolition firm and submit qualifications.

D. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

1.05 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.

1.06 PROJECT CONDITIONS

A. Comply with other requirements specified in Section 01 7000.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill Material: As specified in Section 31 2323 - Fill.

PART 3 EXECUTION

3.01 SCOPE

A. Remove paving and curbs as required to accomplish new work.

B. Remove other items indicated, for salvage, relocation, and recycling.

C. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 31 2200.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with other requirements specified in Section 01 7000.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Comply with applicable requirements of NFPA 241.

3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
7. Do not close or obstruct roadways or sidewalks without permit.
8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Protect existing structures and other elements that are not to be removed.
1. Provide bracing and shoring.
2. Prevent movement or settlement of adjacent structures.
3. Stop work immediately if adjacent structures appear to be in danger.

F. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

G. Perform demolition in a manner that maximizes salvage and recycling of materials.
1. Comply with requirements of Section 01 7419 - Waste Management.
2. Dismantle existing construction and separate materials.
3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
1. Verify that construction and utility arrangements are as indicated.

2. Report discrepancies to Architect before disturbing existing installation.
3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.
1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

D. Remove existing work as indicated and as required to accomplish new work.
1. Remove items indicated on drawings.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
3. Verify that abandoned services serve only abandoned facilities before removal.
4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 04 0511
MORTAR AND MASONRY GROUT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Mortar for masonry.

B. Grout for masonry.

1.02 RELATED REQUIREMENTS

A. Section 04 2000 - Unit Masonry: Installation of mortar.

B. Section 04 2900 - Engineered Unit Masonry: Installation of mortar and grout.

C. Section 33 0513 - Drainage Manholes and Structures: Installation of mortar and grout.

1.03 REFERENCE STANDARDS

A. ACI 530/530.1/ERTA - Building Code Requirements and Specification for Masonry Structures and Related Commentaries; 2011.

B. ASTM C5 - Standard Specification for Quicklime for Structural Purposes; 2010.

C. ASTM C91/C91M - Standard Specification for Masonry Cement; 2012.

D. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2011.

E. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.

F. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006 (Reapproved 2011).

G. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.

H. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar; 2011b.

I. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2011.

J. ASTM C476 - Standard Specification for Grout for Masonry; 2010.

K. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2012.

L. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2010.

M. ASTM C1019 - Standard Test Method for Sampling and Testing Grout; 2013.

N. ASTM C1072 - Standard Test Method for Measurement of Masonry Flexural Bond Strength; 2013.

O. ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms; 2014.

P. ASTM E518/E518M - Standard Test Methods for Flexural Bond Strength of Masonry; 2010.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Include design mix and indicate whether the Proportion or Property specification of ASTM C270 is to be used. Also include required environmental conditions and admixture limitations.

C. Reports: Submit reports on mortar indicating compliance of mortar to property requirements of ASTM C270 and test and evaluation reports per ASTM C780.

D. Reports: Submit reports on grout indicating compliance of component grout materials to requirements of ASTM C476 and test and evaluation reports to requirements of ASTM C1019.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Manufacturer's Installation Instructions: Submit packaged dry mortar manufacturer's installation instructions.

1.05 QUALITY ASSURANCE

A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents.
   1. Maintain one copy of each document on project site.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

1.07 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 MORTAR AND GROUT APPLICATIONS

A. Mortar Mixes:
   1. Project includes Types M, S, and N mortar.
   2. Mortar mixes shall have the following minimum compressive strengths:
      a. 750 psi for Type N.
      b. 1800 psi for Type S.
      c. 2500 psi for Type M.
   3. Mortar mixes shall be used as follows:
      a. Type N for brick veneer.
      b. Type S unless noted otherwise.
      c. Type M for walls in contact with earth.
   4. Mortar color to be approved by the Architect during Submittal Review.

B. Grout Mix Designs:
   1. 3,000 psi strength at 28 days; 8-10 inches slump; provide premixed type in accordance with ASTM C 94/C 94M.
      a. Fine grout for spaces with smallest horizontal dimension of 2 inches or less.
      b. Coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

2.02 MATERIALS

A. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C387/C387M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
   1. Type: Type N.
   2. Color: Mineral pigments added as required to produce approved color sample.

B. Portland Cement: ASTM C150/C150M.
   1. Type: Type I - Normal; ASTM C150/C150M.
   2. Color: Standard gray.

C. Masonry Cement: ASTM C91/C91M.
   1. Type: Type N; ASTM C91/C91M.
   2. Colored Mortar: Premixed cement as required to match Architect's color sample.

D. Hydrated Lime: ASTM C207, Type S.

E. Quicklime: ASTM C5, non-hydraulic type.

F. Mortar Aggregate: ASTM C144.

G. Grout Aggregate: ASTM C404.

H. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M.
   1. Color(s): As selected by Architect from manufacturer's full range.
   2. Manufacturers:

a. Solomon Colors; Solomon Colors Concentrated A, H, and X Series: www.solomoncolors.com/#sle.
b. Substitutions: See Section 01 6000 - Product Requirements.

I. Water: Clean and potable.

J. Accelerating Admixture: Nonchloride type for use in cold weather.

K. Moisture-Resistant Admixture: Water repellent compound designed to reduce capillarity.

L. Bonding Agent: Latex type.

M. Integral Water Repellent Admixture: Polymeric liquid admixture added to mortar at the time of manufacture.
1. Performance of Mortar with Integral Water Repellent:
a. Water Permeance: When tested per ASTM E514/E514M and for a minimum of 72 hours:
1) No water visible on back of wall above flashing at the end of 24 hours.
2) No flow of water from flashing equal to or greater than 0.032 gallons per hour at the end of 24 hours.
3) No more than 25 percent of wall area above flashing visibly damp at end of test.
b. Flexural Bond Strength: ASTM C1072; minimum 10 percent increase.
c. Compressive Strength: ASTM C1314; maximum 5 percent decrease.
d. Drying Shrinkage: ASTM C1148; maximum 5 percent increase in shrinkage.
2. Use only in combination with masonry units produced with integral water repellent admixture.

2.03 MORTAR MIXING

A. Ready Mixed Mortar: ASTM C1142, Type equivalent to that specified according to ASTM C270.

B. Thoroughly mix mortar ingredients using mechanical batch mixer, in accordance with ASTM C270 and in quantities needed for immediate use.

C. Maintain sand uniformly damp immediately before the mixing process.

D. Add admixtures in accordance with manufacturer's instructions; mix uniformly.

E. Do not use anti-freeze compounds to lower the freezing point of mortar.

F. If water is lost by evaporation, re-temper only within two hours of mixing.

2.04 GROUT MIXING

A. Mix grout in accordance with ASTM C94/C94M.

B. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 for fine and coarse grout.

C. Add admixtures in accordance with manufacturer's instructions; mix uniformly.

D. Do not use anti-freeze compounds to lower the freezing point of grout.

2.05 PRECONSTRUCTION TESTING

A. Testing will be conducted by an independent test agency, in accordance with provisions of Section 01 4000 - Quality Requirements.

B. Mortar Mixes: Test mortars prebatched by weight in accordance with ASTM C780 recommendations for preconstruction testing.
1. Test results will be used to establish optimum mortar proportions and establish quality control values for construction testing.

C. Grout Mixes: Test grout batches in accordance with ASTM C1019 procedures.
1. Test results will be used to establish optimum grout proportions and establish quality control values for construction testing.

PART 3 EXECUTION

3.01 PREPARATION

A. Apply bonding agent to existing concrete surfaces.

B. Plug clean-out holes for grouted masonry with brick masonry units. Brace masonry to resist wet grout pressure.

3.02 INSTALLATION

A. Work grout into masonry cores and cavities to eliminate voids.

B. Do not install grout in lifts greater than 16 inches without consolidating grout by rodding.

C. Do not displace reinforcement while placing grout.

D. Remove excess mortar from grout spaces.

3.03 GROUTING

A. Perform all grouting by means of low-lift technique. Do not employ high-lift grouting.

B. Low-Lift Grouting:
   1. Limit height of pours to 48 inches.
   2. Limit height of masonry to 16 inches above each pour.
   3. Pour grout only after vertical reinforcing is in place; place horizontal reinforcing as grout is poured. Prevent displacement of bars as grout is poured.
   4. Place grout for each pour continuously and consolidate immediately; do not interrupt pours for more than 1-1/2 hours.

3.04 FIELD QUALITY CONTROL

A. An independent testing agency will perform field tests, in accordance with provisions of Section 01 4000 - Quality Requirements.

B. Test and evaluate mortar in accordance with ASTM C780 procedures.
   1. Test with same frequency as specified for masonry units.

C. Test and evaluate grout in accordance with ASTM C1019 procedures.
   1. Test with same frequency as specified for masonry units.

D. Prism Tests: Test masonry and mortar panels for compressive strength in accordance with ASTM C1314, and for flexural bond strength in accordance with ASTM C1072 or ASTM E518/E518M; perform tests and evaluate results as specified in individual masonry sections.

END OF SECTION

SECTION 04 2900
ENGINEERED UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete block.
B. Concrete building brick.
C. Reinforcement and anchorage.
D. Flashings.
E. Accessories.

1.02 RELATED REQUIREMENTS

A. Section 04 0511 - Mortar and Masonry Grout.
B. Section 05 5000 - METAL FABRICATIONS: Loose steel lintels.
C. Section 07 1113 - Bituminous Dampproofing: Dampproofing parged masonry surfaces.
D. Section 07 6200 - Sheet Metal Flashing and Trim: Through-wall masonry flashings.
E. Section 07 8400 - Firestopping: Firestopping at penetrations of masonry work.
F. Section 07 9005 - Joint Sealers: Backing rod and sealant at control and expansion joints.

1.03 REFERENCE STANDARDS

A. ACI 530/530.1/ERTA - Building Code Requirements and Specification for Masonry Structures and Related Commentaries; 2011.
B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
C. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.
D. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
E. ASTM C55 - Standard Specification for Concrete Building Brick; 2011.
F. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units; 2014.
G. ASTM C140/C140M - Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units; 2014.
H. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2012.
I. ASTM C1019 - Standard Test Method for Sampling and Testing Grout; 2013.
J. ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms; 2014.
K. ASTM C1634 - Standard Specification for Concrete Facing Brick; 2011.
L. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009.
M. ASTM D3963/D3963M - Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Reinforcing Steel Bars; 2001 (Reapproved 2007).
N. ASTM D4637/D4637M - Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane; 2013.
O. ASTM E518/E518M - Standard Test Methods for Flexural Bond Strength of Masonry; 2010.
P. BIA Technical Notes No. 7 - Water Penetration Resistance – Design and Detailing; 2005.
Q. BIA Techical Notes No. 28B - Brick Veneer/Steel Stud Walls; 2005.
R. BIA Technical Notes No. 46 - Maintenance of Brick Masonry; 2005.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data for masonry units, fabricated wire reinforcement, and mortar and grout.

C. Shop Drawings: Indicate bar sizes, spacings, reinforcement quantities, bending and cutting schedules, reinforcement supporting and spacing devices, and accessories.

D. Samples: Submit three samples of exposed facing brick units to illustrate color, texture, and extremes of color range. Engineer's review will be for color and texture only. Compliance with other requirements is the exclusive responsibility of the Contractor.

E. Design Data: Indicate required mortar strength, unit assembly strength in each plane, and supporting test data.

F. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.06 QUALITY ASSURANCE

A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents.
   1. Maintain one copy of each document on project site.

1.07 MOCK-UP

A. Construct a masonry wall as a mock-up panel sized 8 feet long by 6 feet high; include mortar and accessories, structural backup, reinforcement, and grout in mock-up.

B. Locate where directed.

C. Mock-up may remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

B. Handle and store ceramic glazed masonry units and pre-faced concrete block units in protective cartons or trays. Do not remove from protective packaging until ready for installation. During freezing weather, protect masonry units with tarpaulins or other suitable materials.

1.09 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

B. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.

C. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.01 UNIT MASONRY - GENERAL

A. Conform to applicable code for UL Assembly No. as indicated on drawings..

2.02 CONCRETE MASONRY UNITS

A. Concrete Block: Comply with referenced standards and as follows:
   1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depth of 8 inches.
   2. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.
   3. Special Shapes: Provide non-standard blocks configured for corners.
   4. Load-Bearing Units: ASTM C90, light weight.
      a. Hollow block, as indicated.

B. Concrete Brick:

1. For architectural and paver use, ASTM C1634 (or ASTM C55 Grade N), non-cored (solid), normal weight.
2. For below grade use, ASTM C1634 (or ASTM C55 Grade N), normal weight.
3. For other uses, ASTM C55, normal weight.
4. Size: As indicated on drawings.
5. Special Shapes: Provide non-standard brick configured for corners.

203 MORTAR AND GROUT MATERIALS

A. Mortar and Grout: As specified in Section 04 0511.

204 REINFORCEMENT AND ANCHORAGE

A. Manufacturers:
   1. Hohmann & Barnard, Inc (including Dur-O-Wal brand): www.h-b.com.
   2. WIRE-BOND: www.wirebond.com/#sle.

B. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) yield strength.
   1. Deformed billet-steel bars.

C. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved unless otherwise indicated.

D. Single Wythe Joint Reinforcement: Truss type; 1 steel wire, hot dip galvanized after fabrication to 2, Class B; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.

E. Multiple Wythe Joint Reinforcement: Truss type; 1 steel wire, hot dip galvanized after fabrication to 2, Class B; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.

F. Adjustable Multiple Wythe Joint Reinforcement: Truss type with adjustable ties or tabs spaced at 16 in on center 1 steel wire, hot dip galvanized after fabrication to 2, Class B; 0.1875 inch side rods with 0.1483 inch cross rods and adjustable components of 0.1875 inch wire; width of components as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from each masonry face.
   1. Vertical adjustment: Not less than 2 inches.

G. Strap Anchors: Bent steel shapes configured as required for specific situations, 1-1/4 in width, 0.105 in thick, lengths as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face, corrugated for embedment in masonry joint, hot dip galvanized to ASTM A153/A153M, Class B.

H. Two-Piece Wall Ties: Formed steel wire, 0.1875 inch thick, adjustable, eye and pintle type, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to provide not less than 5/8 inch of mortar coverage from masonry face and to allow vertical adjustment of up to 1-1/4 in.

205 FLASHINGS

A. Metal Flashing Materials: Copper, as specified in Section 07 6200.

B. Plastic Flashings: Sheet polyolefin laminated to polypropylene; 40 mil thick.
   1. Manufacturers:
      a. Hohmann & Barnard, Inc;_____: www.h-b.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

C. Copper/Kraft Paper Flashings: 3 oz/sq ft sheet copper bonded to fiber reinforced asphalt treated Kraft paper. .
   1. Manufacturers:
      a. Hohmann & Barnard, Inc;_____: www.h-b.com/#sle.
      b. Substitutions: See Section 01 6000 - Product Requirements.

D. Flexible Flashing with Elvaloy KEE: Solid-phase flexibilizer added to membrane flashing.
   1. Manufacturers:
      a. Hohmann & Barnard, Inc;_____: www.h-b.com/#sle.

b. Substitutions: See Section 01 6000 - Product Requirements.

E. EPDM Flashing: ASTM D4637/D4637M, Type I, 0.040 inch thick.
1. Manufacturers:
a. Hohmann & Barnard, Inc;_____: www.h-b.com/#sle.
b. Substitutions: See Section 01 6000 - Product Requirements.

F. Rubberized Asphalt Flashing: Self-adhering polymer-modified asphalt sheet; 0.040 inch total thickness; with cross-linked polyethylene top and bottom surfaces.
1. Manufacturers:
a. Substitutions: See Section 01 6000 - Product Requirements.

G. Flashing Sealant/Adhesives: Silicone, polyurethane, or silyl-terminated polyether/polyurethane, or other type required or recommended by flashing manufacturer; type capable of adhering to type of flashing used.

2.06 ACCESSORIES

A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.
1. Manufacturers:
a. Hohmann & Barnard, Inc (including Dur-O-Wal brand): www.h-b.com.
b. WIRE-BOND: www.wirebond.com.
c. Masonry Reinforcing Corporation of America.

B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding.
1. Manufacturers:
a. Hohmann & Barnard, Inc (including Dur-O-Wal brand): www.h-b.com.
b. WIRE-BOND: www.wirebond.com.

C. Building Paper: ASTM D226/D226M, Type I ("No. 15") asphalt felt.

D. Nailing Strips: Softwood, preservative treated for moisture resistance, dovetail shape, sized to masonry joints.

E. Weeps: At all open head joint weeps, provide Model D/A 1006 as manufactured by Hohmann & Barnard, Inc., Model 3601 as manufactured by Masonry Reinforcing of America, or approved equal.

F. Cavity Drainage Material: One inch thick, reticulated, nonabsorbent mesh, made from polyethylene strands and shaped to maintain drainage at weep holes without being clogged by mortar droppings. Provide "Mortar Net" manufactured by Mortar Net, or approved equal.

G. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials. Cleaning agent for exposed masonry surfaces shall be as recommended by the masonry manufacturer.

2.07 PRECONSTRUCTION TESTING

A. Testing will be conducted by an independent test agency, in accordance with provisions of Section 01 4000 - Quality Requirements.

B. Concrete Masonry: Test each type, class, and grade of concrete masonry unit in accordance with ASTM C140/C140M for conformance to requirements of this specification.

C. Mortar Mixes: Test mortars prebatched by weight in accordance with ASTM C780 recommendations for preconstruction testing.

D. Grout Mixes: Test grout batches in accordance with ASTM C1019 procedures.

E. Compressive Strength: Where indicated, test masonry prisms in accordance with ASTM C1314.
1. Prepare two sets of prisms; test one set at 7 days and the other at 28 days.
2. Concrete masonry prisms: Height-to-thickness ratio of not less than 1.33 and not more than 5.0; apply correction factor per ACI 530/530.1/ERTA for ratio other than 2.0.

F. Flexural Bond Strength: Where indicated, test masonry prisms in accordance with ASTM E518/E518M, with tooled joints downward.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

B. Verify that related items provided under other sections are properly sized and located.

C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION

A. Direct and coordinate placement of metal anchors supplied for installation under other sections.

B. Clean reinforcement of loose rust.

C. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

3.04 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.

B. Lay hollow masonry units with face shell bedding on head and bed joints.

C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.

D. Remove excess mortar as work progresses.

E. Interlock intersections and external corners, except for units laid in stack bond.

F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

H. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.

I. Lay masonry plumb and true to line. Lay with courses level and spaced accurately.

J. Break each course joint with course below, unless shown otherwise. Keep bond plumb throughout.

K. Lay corners and reveals plumb and true.

3.05 REINFORCEMENT AND ANCHORAGE

A. Reinforcement Bars: Secure at locations indicated and to avoid displacement during grouting. Minimum spacing between bars or to masonry surfaces shall be one bar diameter.
   1. Fabricate and handle epoxy-coated reinforcing bars in accordance with ASTM D3963/D3963M.
   2. Welding of splices is not permitted.

B. Joint Reinforcement: Install horizontal joint reinforcement 16 inches on center.
   1. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
   2. Place continuous joint reinforcement in first and second joint below top of walls.
   3. Lap joint reinforcement ends minimum 6 inches.

C. Anchors: Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches on center.

D. Brick Ties: Install brick ties at locations indicated, spaced at not more than 16 inches on center horizontally and 16 inches on center vertically, unless otherwise indicated on drawings.

E. Reinforced Hollow Unit Masonry: Keep vertical cores to be grouted clear of mortar, including bed area of first course.
   1. Bond Beams: At bond beams or other locations for horizontally reinforced masonry, provide special masonry units or saw to accommodate reinforcement.

3.06 MASONRY FLASHINGS

A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
   1. Extend flashings full width at such interruptions and at least 6 inches, minimum, into adjacent masonry or turn up at least 1 inch, minimum, to form watertight pan at non-masonry construction.
   2. Remove or cover protrusions or sharp edges that could puncture flashings.
   3. Seal lapped ends and penetrations of flashing before covering with mortar.

B. Extend metal flashings through exterior face of masonry and turn down to form drip.

C. Extend metal flashings to within 1/4 inch of exterior face of masonry.

D. Extend plastic and EPDM flashings to within 1/4 inch of exterior face of masonry.

E. Lap end joints of flashings at least 6 inches, minimum, and seal watertight with flashing sealant/adhesive.

3.07 GROUTING

A. Perform all grouting by means of low-lift technique. Do not employ high-lift grouting.

B. Low-Lift Grouting:
   1. Limit height of pours to 48 inches.
   2. Limit height of masonry to 16 inches above each pour.
   3. Pour grout only after vertical reinforcing is in place; place horizontal reinforcing as grout is poured. Prevent displacement of bars as grout is poured.
   4. Place grout for each pour continuously and consolidate immediately; do not interrupt pours for more than 1-1/2 hours.

3.08 CONTROL AND EXPANSION JOINTS

A. Do not continue horizontal joint reinforcement through control or expansion joints.

B. Form control joint with a sheet building paper bond breaker fitted to one side of the hollow contour end of the block unit. Fill the resultant core with grout fill. Rake joint at exposed unit faces for placement of backer rod and sealant.

C. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

D. Size control joints as indicated on drawings; if not indicated, 3/4 inch wide and deep.

E. Size control joint in accordance with Section 07 9005 for sealant performance.

F. Form expansion joint as detailed on drawings.

3.09 BUILT-IN WORK

A. As work progresses, install built-in metal door frames and other items to be built into the work and furnished under other sections.

B. Install built-in items plumb, level, and true to line.

C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
   1. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.

D. Do not build into masonry construction organic materials that are subject to deterioration.

3.10 TOLERANCES

A. Maximum Variation from Alignment of Columns: 1/4 inch.

B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.

C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.

D. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.

E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.

F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.

G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.11 CUTTING AND FITTING

A. Cut and fit for chases. Coordinate with other sections of work to provide correct size, shape, and location.

B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.12 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - Quality Requirements.

B. See Structural General Notes and Drawings for required Testing.

C. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M for compliance with requirements of this specification.

D. Mortar Tests: Test each type of mortar in accordance with recommended procedures in ASTM C780, testing with same frequency as masonry samples.

E. Test and evaluate grout in accordance with ASTM C1019 procedures.

3.13 CLEANING

A. Methods and materials used to clean masonry shall be approved by Manufacturer of masonry unit to be cleaned.

B. Before applying any cleaning agent to entire wall, apply agent to a sample wall area approximately 20 sq. ft. Apply in a location approved by the Engineer. After approval by Engineer, clean remaining wall area with same cleaning materials and methods used on sample area.

C. Clean masonry from top down.

D. Remove excess mortar and mortar smears as work progresses.

E. Replace defective mortar. Match adjacent work.

F. Clean soiled surfaces with cleaning solution.

G. Use non-metallic tools in cleaning operations.

3.14 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Roofing nailers.
B. Preservative treated wood materials.
C. Fire retardant treated wood materials.
D. Miscellaneous framing and sheathing.
E. Communications and electrical room mounting boards.
F. Concealed wood blocking, nailers, and supports.
G. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

A. Section 07 6200 - Sheet Metal Flashing and Trim: Sill flashings.
B. Section 08410-Metal-Framed Storefronts: Window openings to receive wood blocking.

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
B. ASTM D2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010.
C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
D. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.
E. PS 1 - Structural Plywood; 2009.
F. PS 20 - American Softwood Lumber Standard; 2010.
G. SPIB (GR) - Grading Rules; 2014.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide technical data on wood preservative materials and application instructions.

1.05 QUALITY ASSURANCE

A. Lumber: Comply with PS 20 and approved grading rules and inspection agencies.
B. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
C. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

1.06 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

C. Provide sustainably harvested wood; see Section 01 6000 - Product Requirements for requirements.

D. Provide wood harvested within a 500 mile radius of the project site; see Section 01 6000 for requirements for locally-sourced products.

2.02 DIMENSION LUMBER

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No. 2 or Standard Grade.
2. Boards: Standard or No. 3.

E. Miscellaneous Blocking, Furring, and Nailers:

2.03 CONSTRUCTION PANELS

A. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

B. Other Applications:
1. Plywood Concealed From View But Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
2. Plywood Exposed to View But Not Exposed to Weather: PS 1, A-D, or better.
3. Other Locations: PS 1, C-D Plugged or better.

2.04 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Fire Retardant Treatment:
1. Manufacturers:
a. Arch Wood Protection, Inc: www.wolmanizedwood.com.
b. Hoover Treated Wood Products, Inc: www.frtw.com.
c. Substitutions: See Section 01 6000 - Product Requirements.
2. Exterior Type: AWPA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion

when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D2898.
   a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
   b. Do not use treated wood in direct contact with the ground.
3. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
   a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
   b. Treat rough carpentry items as indicated .
   c. Do not use treated wood in applications exposed to weather or where the wood may become wet.

C. Preservative Treatment:
1. Manufacturers:
   a. Arch Wood Protection, Inc: www.wolmanizedwood.com.
   b. Viance, LLC: www.treatedwood.com.

D. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
2. Treat lumber in contact with masonry or concrete.
3. Treat lumber less than 18 inches above grade.
   a. Treat lumber in other locations as indicated.
4. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
   a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
   b. Treat plywood in contact with masonry or concrete.
   c. Treat plywood less than 18 inches above grade.
   d. Treat plywood in other locations as indicated.

E. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4A, Commodity Specification A using waterborne preservative.
1. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.
2. Restrictions: Do not use lumber or plywood treated with chromated copper arsenate (CCA) in exposed exterior applications subject to leaching.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. Provide the following specific non-structural framing and blocking:
1. Cabinets and shelf supports.
2. Wall brackets.
3. Handrails.

4. Grab bars.
5. Towel and bath accessories.
6. Wall-mounted door stops.
7. Chalkboards and marker boards.
8. Wall paneling and trim.
9. Joints of rigid wall coverings that occur between studs.

3.03 INSTALLATION OF CONSTRUCTION PANELS

A. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.
   4. Size: 48 by 96 inches, installed horizontally at ceiling height.

3.04 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.

B. Allow preservative to dry prior to erecting members.

3.05 CLEANING

A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 07 7200
ROOF ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Roof curbs.

1.02 RELATED REQUIREMENTS

A. Section 05 3100 - Steel Decking.

B. Section 07 7100 - Roof Specialties: Other manufactured roof items.

1.03 REFERENCE STANDARDS

A. 29 CFR 1910.23 - Guarding floor and wall openings and holes; current edition.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used.
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Maintenance requirements.

C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.

D. Warranty Documentation:
   1. Submit manufacturer warranty.
   2. Ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store products under cover and elevated above grade.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 ROOF CURBS

A. Roof Curbs Mounting Assemblies: Factory fabricated hollow sheet metal construction, internally reinforced, and capable of supporting superimposed live and dead loads and designated equipment load with fully mitered and sealed corner joints welded or mechanically fastened, and integral counterflashing with top and edges formed to shed water.
   1. Roof Curb Mounting Substrate: Curb substrate consists of standing seam metal roof panel system.
   2. Sheet Metal Material:
   3. Galvanized Steel: Hot-dip zinc coated steel sheet complying with ASTM A653/A653M, SS Grade 33; G60 coating designation; 18 gage, 0.048 inch thick.
   4. Roofing Cants: Provide integral sheet metal roofing cants dimensioned to begin slope at top of roofing system at 1:1 slope; minimum cant height 4 inches.
   5. Fabricate curb bottom and mounting flanges for installation directly on metal roof panel system to match slope and configuration of system.
      a. Extend side flange to next adjacent roof panel seam and comply with seam configurations and seal connection, providing at least 6 inch clearance between curb and metal roof panel flange allowing water to properly flow past curb.

b. Where side of curb aligns with metal roof panel flange, attach fasteners on upper slope of flange to curb connection allowing water to flow past below fasteners, and seal connection.
c. Maintain at least 12 inch clearance from curb, and lap upper curb flange on underside of down sloping metal roof panel, and seal connection.
d. Lap lower curb flange overtop of down sloping metal roof panel and seal connection.

6. Provide layouts and configurations indicated on drawings.

B. Curbs Adjacent to Roof Openings: Provide curb on each side of opening, with top of curb horizontal for equipment mounting.
1. Provide preservative treated wood nailers along top of curb.
2. Insulate inside curbs with 1-1/2 inch thick fiberglass insulation.
3. Height Above Finished Roof Surface: 8 inches, minimum.
4. Height Above Roof Deck: 14 inches, minimum.

2.02 ROOF HATCHES

1. Not used.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using methods recommended by manufacturer for achieving acceptable results for applicable substrate under project conditions.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions, in manner that maintains roofing system weather-tight integrity.

3.04 CLEANING

A. Clean installed work to like-new condition.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

PART 2 PRODUCTS

1.01 DESIGN CRITERIA

A. Door Frame Type: Provide hollow metal window frames

B. Steel used for fabrication of frames shall comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.

C. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.

D. Hardware Preparations, Selections and Locations: Comply with BHMA A156.115, NAAMM HMMA 830, NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

1.02 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

1.03 ACCESSORIES

A. Not used

END OF SECTION

SECTION 08 8000
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glass.

B. Glazing compounds and accessories.

1.02 RELATED REQUIREMENTS

A. Section 08 1113 - Hollow Metal Doors and Frames: Glazed lites in doors and borrowed lites.

B. Section 08 4313 - Aluminum-Framed Storefronts: Glazing furnished by storefront manufacturer.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.

B. ASTM C1036 - Standard Specification for Flat Glass; 2011.

C. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.

D. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2014.

E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.

F. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.

G. GANA (GM) - GANA Glazing Manual; 2009.

H. GANA (SM) - GANA Sealant Manual; 2008.

I. ICC (IBC) - International Building Code; 2015.

1.04 PERFORMANCE REQUIREMENTS

A. Provide glass and glazing materials for continuity of building enclosure vapor retarder and air barrier:

1. In conjunction with vapor retarder and joint sealer materials described in other sections.
2. To maintain a continuous air barrier and vapor retarder throughout the glazed assembly from glass pane to heel bead of glazing sealant.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data on Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.

C. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.

D. Samples: Submit two1 samples 6 by 6 inch in size of glass units, showing coloration and design.

E. Samples: Submit 12 inch long bead of glazing sealant, of each color.

F. Certificates: Certify that products meet or exceed specified requirements.

1.06 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual and FGMA Sealant Manual for glazing installation methods.

B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.07 PRE-INSTALLATION MEETING

A. Convene one week before starting work of this section.

1.08 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Sealed Insulating Glass Units: Provide a ten (10) year warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

C. Laminated Glass: Provide a ten (10) year warranty to include coverage for delamination, including replacement of failed units.

PART 2 PRODUCTS

2.01 GLASS MATERIALS

A. Float Glass Manufacturers:
1. AGC Flat Glass North America, Inc: www.na.agc-flatglass.com.
2. Guardian Industries Corp: www.sunguardglass.com.
3. Pilkington North America Inc: www.pilkington.com/na.
4. PPG Industries, Inc: www.ppgideascapes.com.
5. Substitutions: Refer to Section 01 6000 - Product Requirements.

B. Float Glass: Provide float glass based glazing unless noted otherwise.
1. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and Kind FT.
2. Thicknesses: As indicated; for exterior glazing comply with requirements indicated for wind load design regardless of thickness indicated

2.02 SEALED INSULATING GLASS UNITS

A. Not used.

2.03 GLAZING COMPOUNDS

A. Manufacturers:
1. Bostik Inc: www.bostik-us.com.
2. GE Plastics: www.geplastics.com.
3. Pecora Corporation: www.pecora.com.
4. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
5. Substitutions: Refer to Section 01 6000 - Product Requirements.

2.04 GLAZING ACCESSORIES

A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.

C. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.

D. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; as selected color.

E. Glazing Clips: Manufacturer's standard type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings for glazing are correctly sized and within tolerance.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

3.02 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

D. Install sealants in accordance with ASTM C1193 and GANA Sealant Manual.

E. Install sealants in accordance with manufacturer's instructions.

3.03 INSTALLATION - EXTERIOR/INTERIOR DRY METHOD (GASKET GLAZING)

A. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.04 FIELD QUALITY CONTROL

A. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.

B. Monitor and report installation procedures and unacceptable conditions.

3.05 CLEANING

A. Remove glazing materials from finish surfaces.

B. Remove labels after Work is complete.

C. Clean glass and adjacent surfaces.

3.06 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

END OF SECTION

SECTION 09 2216
NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Metal partition, ceiling, and soffit framing.

B. Framing accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 2100 - THERMAL INSULATION: Acoustic insulation.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data describing framing member materials and finish, product criteria, load charts, and limitations.

C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing the work of this section with minimum five years documented experience and approved by manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Metal Framing, Connectors, and Accessories:
   1. CEMCO: www.cemcosteel.com.
   2. Clarkwestern Dietrich Building Systems LLC: www.clarkdeitrich.com.
   3. Marino: www.marinoware.com.
   4. Simpson Strong Tie: www.strongtie.com.
   5. The Steel Network, Inc: www.SteelNetwork.com.
   6. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FRAMING MATERIALS

A. Fire Rated Assemblies: Comply with applicable code and as follows:

B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
   1. Studs: C shaped with flat or formed webs with knurled faces.
   2. Runners: U shaped, sized to match studs.
   3. Ceiling Channels: C shaped.
   4. Furring: Hat-shaped sections, minimum depth of 7/8 inch.

C. Loadbearing Studs: As specified in Section 05 4000.

D. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

E. Partition Head to Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and braced with continuous bridging on both sides.

F. Tracks and Runners: Same material and thickness as studs, bent leg retainer notched to receive studs with provision for crimp locking to stud.

G. Furring and Bracing Members: Of same material as studs; thickness to suit purpose; complying with applicable requirements of ASTM C754.

H. Fasteners: ASTM C1002 self-piercing tapping screws.

I. Anchorage Devices: Powder actuated.

J. Acoustic Insulation: As specified in Section 07 2100.

2.03 FABRICATION

A. Fabricate assemblies of framed sections to sizes and profiles required.

B. Fit, reinforce, and brace framing members to suit design requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that rough-in utilities are in proper location.

3.02 INSTALLATION OF STUD FRAMING

A. Comply with requirements of ASTM C754.

B. Extend partition framing to structure where indicated and to ceiling in other locations.

C. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

D. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

E. Align and secure top and bottom runners at 24 inches on center.

F. Fit runners under and above openings; secure intermediate studs to same spacing as wall studs.

G. Install studs vertically at spacing indicated on drawings.

H. Align stud web openings horizontally.

I. Secure studs to tracks using crimping method. Do not weld.

J. Stud splicing is not permissible.

K. Fabricate corners using a minimum of three studs.

L. Double stud at wall openings, door and window jambs, not more than 2 inches from each side of openings.

M. Coordinate installation of bucks, anchors, and blocking with electrical, mechanical, and other work to be placed within or behind stud framing.

N. Blocking: Use fire treated wood blocking secured to studs. Provide blocking for support of plumbing fixtures, toilet partitions, wall cabinets, toilet accessories, hardware, and opening frames.

O. Furring: Install at spacing and locations shown on drawings. Lap splices a minimum of 6 inches.

3.03 CEILING AND SOFFIT FRAMING

A. Comply with requirements of ASTM C754.

B. Install furring after work above ceiling or soffit is complete. Coordinate the location of hangers with other work.

C. Install furring independent of walls, columns, and above-ceiling work.

D. Securely anchor hangers to structural members or embed in structural slab. Space hangers as required to limit deflection to criteria indicated. Use rigid hangers at exterior soffits.

E. Space main carrying channels at maximum 72 inch on center, and not more than 6 inches from wall surfaces. Lap splice securely.

F. Securely fix carrying channels to hangers to prevent turning or twisting and to transmit full load to hangers.

G. Place furring channels perpendicular to carrying channels, not more than 2 inches from perimeter walls, and rigidly secure. Lap splices securely.

H. Reinforce openings in suspension system that interrupt main carrying channels or furring channels with lateral channel bracing. Extend bracing minimum 24 inches past each opening.

3.04 TOLERANCES

A. Maximum Variation From True Position: 1/8 inch in 10 feet.

B. Maximum Variation From Plumb: 1/8 inch in 10 feet.

END OF SECTION

SECTION 09 5100
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Acoustical units.

RELATED REQUIREMENTS

1.02 ADMINISTRATIVE REQUIREMENTS

A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

B. Do not install acoustical units until after interior wet work is dry.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on suspension system components.

C. Samples: Submit two full size samples illustrating material and finish of acoustical units.

D. Samples: Submit two samples each, 12 inches long, of suspension system main runner.

E. Manufacturer's Installation Instructions: Indicate special procedures.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.04 QUALITY ASSURANCE

A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.05 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

1.06 PROJECT CONDITIONS

A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

B. Install acoustical units after interior wet work is dry.

1.07 EXTRA MATERIALS

A. See Section 01 6000 - Product Requirements, for additional provisions.

B. Provide 500 sq ft of each type of acoustical unit for Owner's use in maintenance of project.

PART 2 PRODUCTS

2.01 ACOUSTICAL UNITS

A. Manufacturers:
   1. Rockfon
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Acoustical Units - General: ASTM E1264, Class A.

C. Acoustical Tile: Rockfon Hygienics plus 2’x4’

1. Size: 24 by 48 inches.
2. Surface Color: black

2.02 SUSPENSION SYSTEM(S)

A. Manufacturers:
   1. Chicago Metallic 1200 Seismic 15/16" Exposed
   2. Substitutions: See Section 01 6000 - Product Requirements.

B. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

C. Exposed Steel Suspension System: Formed hot dipped galvanized steel, commercial quality cold rolled; heavy-duty.
   1. Finish: As indicated on drawings.
   2. Color: White.
   3. Finish: Baked polyester paint
   4. 15 year systems warranty.
   5. Conforms to Seismic requirements.
   6. Products:
      a. Refer to drawings finish schedule.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.03 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Perimeter Moldings: Same material and finish as grid.
   1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.

C. Acoustical Sealant For Perimeter Moldings: Non-hardening, non-skinning, for use in conjunction with suspended ceiling system.

D. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C 636, ASTM E 580, and manufacturer's instructions and as supplemented in this section.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Locate system on room axis according to reflected plan.

D. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

E. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

H. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

I. Do not eccentrically load system or induce rotation of runners.

J. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

K. Form expansion joints as detailed. Form to accommodate plus or minus 1 1/2 inch movement. Maintain visual closure.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install units after above-ceiling work is complete.

E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

F. Cutting Acoustical Units:
   1. Cut to fit irregular grid and perimeter edge trim.
   2. Make field cut edges of same profile as factory edges.

G. Where round obstructions and bullnose concrete block corners occur, provide preformed closures to match perimeter molding.

H. Install hold-down clips on panels within 20 ft of an exterior door.

3.04 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

C. Light fixtures and sprinkler head locations shall be centered in ceiling tiles in all locations unless otherwise directed or approved by Architect.

END OF SECTION

SECTION 09 6723
RESINOUS FLOORING SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Coating systems for concrete floors.

1.02 RELATED SECTIONS

A. Section 09 67 00 - Fluid-Applied Flooring.

1.03 REFERENCES

A. ASTM D 16 - Terminology Relating to Paint, Varnish, Lacquer, and Related Products.

B. ASTM D 4259 – Standard Practice for Abrading Concrete.

C. ASTM D 4263 - Indicating Moisture in Concrete by the Plastic Sheet Method.

D. ASTM F 1869 - Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

E. International Concrete Repair Institute (ICRI) Guideline No. 03732 - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.

F. SSPC-SP 13/NACE 6 - Surface Preparation of Concrete.

1.04 DEFINITIONS

A. Definitions of Painting Terms: ASTM D 16, unless otherwise specified.

B. Dry Film Thickness (DFT): Thickness of a coat of paint in fully cured state measured in mils (1/1000 inch).

1.05 SUBMITTALS

A. Submit under provisions of Section 01 30 00.

B. Product Data: Submit manufacturer's product data for each coating, including generic description, complete technical data, surface preparation, and application instructions.

C. Color Samples: Submit manufacturer’s color samples showing full range of standard colors.

D. Applicator’s Qualifications Assurance: Submit list of a minimum of 5 completed projects of similar size and complexity to this Work within 50 miles of site. Include for each project:
   1. Project name and location.
   2. Name of owner.
   3. Name of contractor.
   4. Name of architect.
   5. Name of coating manufacturer.
   6. Approximate area of coatings applied.
   7. Date of completion.

E. All materials specified herein are manufactured by the TNEMEC Co., Inc., North Kansas City, Missouri (Local Contact 615-333-1000) and are approved for use on this project.

F. Equivalent materials of other manufacturers may be substituted on approval of the Architect. Requests for substitution shall include Manufacturer's literature for each product giving the name, generic type, descriptive information and evidence of satisfactory past performance on flooring projects. Submittals shall include the following performance data as certified by a qualified testing Laboratory:
   1. ASTM D 4060, (CS-17 Wheel, 1,000 grams load, 1,000 cycles)
   2. ASTM D 4541
   3. ASTM D 2047
   4. ASTM C 579
   5. ASTM C 531
   6. ASTM D 790
   7. ASTM D 2240
   8. ASTM D 2794
   9. ASTM C 413

10. ASTM D 635
11. ASTM D 638
12. ASTM D 3363
13. ASTM D 2047

G. Chemical Resistance
1. TTM-071 Spot Test
2. TTM-59 Covered Spot Test
3. ASTM D 1308 Covered Spot Test

H. Bidders desiring to use coatings other than those specified shall submit their proposal in writing to the Architect at least ten (10) days prior to the bid opening. Substitutions which decrease the film thickness, the number of coats applied, change the generic type of coating, or fail to meet the performance criteria of the specified materials will not be approved. Prime and finish coats of all surfaces shall be furnished by the same manufacturer.

I. Materials supplied by other manufacturers may be considered for substitution if the following prevailing conditions exist:
1. Performance criteria of the specified materials are exceeded by the submitted alternate materials as listed in paragraph 2.1 and detailed on the technical data sheets of each specified product.
2. The submittal must compare the performance criteria of the specified material with that of the submitted material and be documented in a side by side manner for the Architectto review.
3. Substitute materials must be for complete systems and not individual products combined with the specified materials and the performance criteria for all products within a system must meet or exceed the specified materials.
4. Only one alternate submittal will be received for this specification and must be accompanied by a detailed statement of the sum to be added or deducted from the base bid should alternate materials be accepted.

1.06 QUALITY ASSURANCE

A. Manufacturer’s Qualifications:
1. Specialize in manufacture of coatings with a minimum of 5 years successful experience.
2. Able to demonstrate successful performance on comparable projects.
3. Single Source Responsibility: Coatings and coating application accessories shall be products of a single manufacturer.

B. Applicator’s Qualifications:
1. Experienced in application of specified coatings for a minimum of 5 years on projects of similar size and complexity to this Work.
2. Applicator's Personnel: Employ persons trained for application of specified coatings.

C. Mock-Ups: Prepare 10 foot x 10 foot mock-up for each coating system specified using same materials, tools, equipment, and procedures intended for actual surface preparation and application. Obtain Architect’s approval of mock-ups. Retain mock-ups to establish intended standards by which coating systems will be judged. If possible, leave mock-up in place as part of the completed project.

D. Preapplication Meeting: Convene a preapplication meeting 2 weeks before start of application of coating systems. Require attendance of parties directly affecting work of this section, including Contractor, Architect, applicator, and manufacturer’s representative. Review the following:
1. Environmental requirements.
2. Protection of surfaces not scheduled to be coated.
3. Surface preparation.
4. Application.
5. Repair.
6. Field quality control.
7. Cleaning.

8. Protection of coating systems.
9. One-year inspection.
10. Coordination with other work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying:
   1. Coating or material name.
   2. Manufacturer.
   3. Color name and number.
   4. Batch or lot number.
   5. Date of manufacture.
   6. Mixing and thinning instructions.

B. Storage:
   1. Store materials in a clean dry area and within temperature range in accordance with manufacturer's instructions.
   2. Keep containers sealed until ready for use.
   3. Do not use materials beyond manufacturer's shelf life limits.

C. Handling: Protect materials during handling and application to prevent damage or contamination.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Weather:
   1. Air and Surface Temperatures: Prepare surfaces and apply and cure coatings within air and surface temperature range in accordance with manufacturer's instructions.
   2. Surface Temperature: Minimum of 5 degrees F (3 degrees C) above dew point.
   3. Relative Humidity: Prepare surfaces and apply and cure coatings within relative humidity range in accordance with manufacturer's instructions.

B. Ventilation: Provide ventilation during coating evaporation stage in confined or enclosed areas in accordance with manufacturer's instructions.

C. Dust and Contaminants:
   1. Schedule coating work to avoid excessive dust and airborne contaminants.
   2. Protect work areas from excessive dust and airborne contaminants during coating application and curing.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Tnemec Company Incorporated, 6800 Corporate Drive, Kansas City, Missouri 64120-1372.

Local Representative: Justin Taute, CSI, 615-333-1000.

   1. The following special coating products are manufactured by Tnemec Company, Inc. Manufacturers of products of equal substance, function and performance subject to the review and approval of the Architect will be considered.
   2. Provide the best quality of coating materials as regularly manufactured by approved materials manufacturer. Materials not displaying manufacturer's product identification as a standard, best grade product will not be acceptable. Manufacturer must have five years experience in manufacturing special coatings as specified herein.
   3. Certified test data must be furnished with proposed substitution request. The Contractor at his own expense will be required to hire an independent testing laboratory to run comparative tests as requested by the Architect. Approval from the Architect will be submitted in writing if proposed substitution is accepted. Materials selected for coating systems for each type surface shall be the product of a single manufacturer.

2.02 INTERIOR SYSTEMS SCHEDULE

A. Kitchen Floor Tile

SECTION 09 6723
RESINOUS FLOORING SYSTEM

System Type: Aggregate Filled/Urethane

Surface Preparation: Remove all unsound tile and grout. Abrasive blast, shot-blast, or Mechanically abrade remaining sound tile surfaces to degloss and provide tooth and anchor;provide a surface profile similar to ICRI CSP 3-5. Fill all voids where tiles were removed withand grout lines with Tnemec Series 215 Surfacing Epoxy or Series 233 Power-Tread blended with fumed silica or fine aggregate. All surfaces shall be clean dry and free of contaminants.

1. Repairs: Fill voids or surface imperfections with Tnemec Series 215 Surfacing epoxy.
2. Base Coat: Tnemec Series 237 Ultra-Tread MVT applied at 1/8th inch nominal thickness including broadcast aggregate.
3. Cove Base: Tnemec Series 237-Color Power-Tread blended with aggregate to produce a trowelable mortar and create a 4” rolled radius cove.
4. Grout Coat: Tnemec Series 237 Power-Tread applied at 6.0 to 12.0 mils DFT.*
5. Intermediate Coat: Tnemec Series 237 Power-Tread applied at 6.0 to 12.0 mils DFT.
6. Finish Coat: Tnemec Series 248 Everthane at 2.0 to 3.0 mils DFT
7. Finish Color: As selected by Architect from manufacturer’s standard colors.

* Final thickness and texture to be determined by mock-ups.

2.02 ACCESSORIES

A. Coating Application Accessories:
   1. Accessories required for application of specified coatings in accordance with manufacturer’s instructions, including thinners.
   2. Products of coating manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions under which coating systems are to be applied. Notify Architect of areas or conditions not acceptable. Do not begin surface preparation or application until unacceptable areas or conditions have been corrected.

3.02 PROTECTION OF SURFACES NOT SCHEDULED TO BE COATED

A. Protect surrounding areas and surfaces not scheduled to be coated from damage during surface preparation and application of coatings.

B. Immediately remove coatings that fall on surrounding areas and surfaces not scheduled to be coated.

3.03 SURFACE PREPARATION OF CONCRETE FLOORS

A. Prepare concrete surfaces in accordance with manufacturer’s instructions, SSPC-SP 13/NACE 6 and ICRI 310.2R-2013.

B. Ensure surfaces are clean, dry, and free of oil, grease, dirt, dust, and other contaminants.

C. Test concrete for moisture in accordance with ASTM D 4263 and F 1869.

D. Allow concrete to cure for a minimum of 10 days before coating.

E. Level protrusions and mortar spatter.

3.04 APPLICATION

A. Apply coatings in accordance with manufacturer's instructions.

B. Mix and thin coatings, including multi-component materials, in accordance with manufacturer’s instructions.

C. Keep containers closed when not in use to avoid contamination.

D. Do not use mixed coatings beyond pot life limits.

E. Use application equipment, tools, pressure settings, and techniques in accordance with manufacturer’s instructions.

F. Uniformly apply coatings at spreading rate required to achieve specified DFT.

G. Apply coatings to be free of film characteristics or defects that would adversely affect performance or appearance of coating systems.

3.05 EXPOSED PERIMETERS: (SELF-LEVELING AND LAMINATE FLOORING SYSTEMS)

A. All exposed perimeter edges of the broadcast overlay, including doorways, traffic aisle sides, drains, etc must be saw cut. Areas that cannot be reached with the saw, or are difficult to saw cut shall be chipped.

B. Saw cut shall be a minimum of ¼" deep and ¼" wide.

C. Install flooring so that it folds into saw cut.

3.06 JOINTS:

A. Expansion Joints:
   1. Install flooring so that it covers the expansion joint.
   2. After the floor system is installed, honor existing expansion joint by saw cutting a new ¼" x ¼" joint over the existing. Install closed cell polyethylene backer rod into saw cut approximately ½" to ¾" down into expansion joint, as required.
   3. Fill saw cut with flexible polyurethane joint sealant designed for expansion joints.

B. Fill all other recessed joints with Tnemec Series 241, 243, or 245 filled with additional aggregate. When filled, joint should be flush with floor surface.

C. All cracks must be identified as either moving or non-moving. All non-moving cracks 1/16" wide or greater filled flush by using Series 215 Surfacing Epoxy, as required for the particular filling installations. Treat moving cracks as expansion joints as described above.

D. All control joints with potential movement should be treated as expansion joints as described above.

3.07 ROLLED RADIUS COVING (TYPICALLY USED IN CONJUNCTION WITH LAMINATE AND MORTAR SYSTEMS)

A. Install coves prior to the installation of special flooring.

B. Apply prime coat of Tnemec Series 201 to all surfaces scheduled to receive coving.

C. Install cove flush with the outer edge of the J-Strip or terminating strip.

D. Apply coving sealant bead to top of J-Strip or terminating strip and tool flush to provide a smooth and uniform appearance, as indicated on the Drawings.

E. Cut coves as required for joints.

3.08 REPAIR

A. Materials and Surfaces Not Scheduled To Be Coated: Repair or replace damaged materials and surfaces not scheduled to be coated.

B. Damaged Coatings: Touch-up or repair damaged coatings. Touch-up of minor damage shall be acceptable where result is not visibly different from adjacent surfaces. Recoat entire surface where touch-up result is visibly different, either in sheen, texture, or color.

C. Coating Defects: Repair in accordance with manufacturer's instructions coatings that exhibit film characteristics or defects that would adversely affect performance or appearance of coating systems.

3.09 FIELD QUALITY CONTROL

A. Inspector's Services:
   1. Verify coatings and other materials are as specified.
   2. Verify surface preparation and application are as specified.
   3. Verify DFT of each coat and total DFT of each coating system are as specified using wet film and dry film gauges.
   4. Coating Defects: Check coatings for film characteristics or defects that would adversely affect performance or appearance of coating systems.
   5. Report:

a. Submit written reports describing inspections made and actions taken to correct nonconforming work.
b. Report nonconforming work not corrected.
c. Submit copies of report to Architect and Contractor.

B. Manufacturer's Field Services: Manufacturer's representative shall provide technical assistance and guidance for surface preparation and application of coating systems.

3.10 CLEANING

A. Remove temporary coverings and protection of surrounding areas and surfaces.

3.11 PROTECTION OF COATING SYSTEMS

A. Protect surfaces of coating systems from damage during construction.

B. Repair deficiencies in coating systems as determined by Architect in accordance with manufacturers instructions.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Gypsum wallboard.

C. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

A. Section 05 4000 - Cold-Formed Metal Framing: Exterior wind-load-bearing metal stud framing.

B. Section 06 1000 - Rough Carpentry: Wood blocking product and execution requirements.

C. Section 09 22 26 - Metal Suspension Systems.

D. Section 09 2216 - Non-Structural Metal Framing.

1.03 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

B. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2014).

C. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

D. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.

E. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

F. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.

G. GA-216 - Application and Finishing of Gypsum Board; 2013.

H. UL (FRD) - Fire Resistance Directory; current edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

A. Perform in accordance with ASTM C 840. Comply with requirements of GA-600 for fire-rated assemblies.

B. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum 3 years of experience.

1.06 REGULATORY REQUIREMENTS

A. Conform to applicable code for fire rated assemblies as indicated on drawings.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Fire Rated Assemblies: Provide completed assemblies with the following characteristics:
   1. Fire Rated Partitions: UL listed assembly No. U465; 1 hour rating.
   2. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. CertainTeed Corporation: www.certainteed.com.
   2. Georgia-Pacific Gypsum: www.gpgypsum.com.
   3. National Gypsum Company: www.nationalgypsum.com.
   4. USG Corporation: www.usg.com.
   5. Substitutions: See Section 01 6000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
      a. Mold-resistant board is required whenever board is being installed before the building is enclosed and conditioned.
   3. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   4. Thickness:
      a. Vertical Surfaces: 5/8 inch.
      b. Ceilings: 5/8 inch.
      c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
   5. Mold Resistant Paper Faced Products:

C. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Ceilings, unless otherwise indicated.
   2. Thickness: 5/8 inch.
   3. Edges: Tapered.

2.03 ACCESSORIES

A. Acoustic Insulation: As specified in Section 07 2100.

B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

C. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
   1. Types: As detailed or required for finished appearance.
   2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.

D. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
   1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
   2. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
   3. Ready-mixed vinyl-based joint compound.
   4. Powder-type vinyl-based joint compound.
   5. Chemical hardening type compound.

E. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.

F. Screws: ASTM C 1002; self-piercing tapping type; cadmium-plated for exterior locations.

G. Nails for Attachment to Wood Members: ASTM C514.

H. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
   1. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.03 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board parallel to framing, with ends and edges occurring over firm bearing.

C. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as follows:
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.05 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
   2. Level 4: Walls and ceilings to receive paint finish, unless otherwise indicated.
   3. Level 1: Wall areas above finished ceilings, whether or not accessible in the completed construction.

C. Finish all gypsum board in accordance with ASTM C840 Level 4.

D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.

E. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface

after joints have been properly treated; achieve a flat and tool mark-free finish.

3.06 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 9000
PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints, stains, varnishes, and other coatings.

C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Exposed surfaces of steel lintels and ledge angles.
   3. Mechanical and Electrical:
      a. In finished areas, paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
      c. Paint dampers exposed behind louvers, grilles, to match face panels.

D. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Non-metallic roofing and flashing.
   6. Stainless steel, anodized aluminum, bronze, terne, and lead items.
   7. Floors, unless specifically so indicated.
   8. Ceramic and other tiles.
   9. Brick, architectural concrete, cast stone, integrally colored plaster and stucco.
   10. Glass.
   11. Acoustical materials, unless specifically so indicated.
   12. Concealed pipes, ducts, and conduits.

E. See Schedule - Surfaces to be Finished, at end of Section.

1.02 RELATED REQUIREMENTS

A. Section 05 5000 - METAL FABRICATIONS: Shop-primed items.

B. Section 09 97 00 - Coating Systems for Exposed Steel

C. Section 09 97 23 - Concrete and Masonry Coatings

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

C. GreenSeal GS-11 - Paints and Coatings; 2013.

1.04 DEFINITIONS

A. Conform to ASTM D 16 for interpretation of terms used in this section.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on all finishing products, including VOC content.

C. Samples: Submit two paper color fan decks illustrating range of colors and textures available for each surface finishing product scheduled.

D. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on tempered hardboard, 6x6 inch in size.

E. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.

F. Certification: By manufacturer that all paints and coatings do not contain any of the prohibited chemicals specified; GreenSeal GS-11 certification is not required but if provided shall constitute acceptable certification.

G. Manufacturer's Instructions: Indicate special surface preparation procedures.

H. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Paint and Coatings: 1 gallon of each color; store where directed.
   3. Label each container with color in addition to the manufacturer's label.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 5 years experience.

1.07 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame and smoke rating requirements for products and finishes.

1.08 MOCK-UP

A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.

B. Provide panel, 4 feet long by 4 feet wide, illustrating special coating color, texture, and finish.

C. Locate where directed.

D. Mock-up may remain as part of the work.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.10 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

1.11 EXTRA MATERIALS

A. See Section 01 6000 - Product Requirements, for additional provisions.

B. Supply 1 gallon of each color; store where directed.

C. Label each container with color in addition to the manufacturer's label.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

B. Paints:
1. Behr Process Corporation: www.behr.com/#sle.
2. Benjamin Moore & Co: www.benjaminmoore.com/#sle.
3. PPG Paints: www.ppgpaints.com/#sle.
4. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
5. Farrell Calhoun Paints. www.farrellcalhoun.com

C. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
4. Supply each coating material in quantity required to complete entire project's work from a single production run.
5. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: As follows unless other primer is required or recommended by manufacturer of top coats; where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Volatile Organic Compound (VOC) Content:
1. Provide coatings that comply with the most stringent requirements specified in the following:
a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

D. Colors: As indicated on drawings
1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
2. Extend colors to surface edges; colors may change at any edge as directed by Architect.
3. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - EXTERIOR

A. Paint CE-OP-3L - Masonry/Concrete, Opaque, Latex, 3 Coat:
1. Two coats exterior acrylic block filler.
2. Semi-gloss: Two coats of latex enamel.

B. Paint GE-OP-3L - Gypsum Board and Plaster, Opaque, Latex, 3 Coat:
   1. One coat of latex primer sealer.
   2. Flat: Two coats of latex.

C. Paint ME-OP-3A - Ferrous Metals, Unprimed, Alkyd, 3 Coat:
   1. One coat of alkyd primer.
   2. Semi-gloss: Two coats of alkyd enamel.

D. Paint ME-OP-2A - Ferrous Metals, Primed, Alkyd, 2 Coat:
   1. Touch-up with rust-inhibitive primer recommended by top coat manufacturer.
   2. Semi-gloss: Two coats of alkyd enamel.

E. Paint MgE-OP-3A - Galvanized Metals, Alkyd, 3 Coat:
   1. One coat galvanize primer.
   2. Semi-gloss: Two coats of alkyd enamel.

2.04 PAINT SYSTEMS - INTERIOR

A. Paint WI-TR-V - Wood, Transparent, Varnish, No Stain:
   1. One coat sealer.
   2. Gloss: Two coats of varnish.

B. Paint WI-TR-VS - Wood, Transparent, Varnish, Stain:
   1. One coat of stain.
   2. One coat sealer .
   3. Satin: Two coats of varnish.

C. Paint CI-OP-3L - Concrete/Masonry, Opaque, Latex, 3 Coat:
   1. One coat of block filler.
   2. Semi-gloss: Two coats of latex enamel.

D. Paint CI-OP-3E - Concrete/Masonry, Opaque, Epoxy, 3 Coat:
   1. One coat of block filler.
   2. Semi-gloss: Two coats of epoxy.

E. Paint MI-OP-3A - Ferrous Metals, Unprimed, Alkyd, 3 Coat:
   1. Refer to Section 09 97 00 - Coating Systems for Exposed Steel.

F. Paint MI-OP-2A - Ferrous Metals, Primed, Alkyd, 2 Coat:
   1. Refer to Section 09 97 00 - Coating Systems for Exposed Steel.

G. Paint MgI-OP-3A - Galvanized Metals, Alkyd, 3 Coat:
   1. Refer to Section 09 97 00 - Coating Systems for Exposed Steel.

H. Paint GI-OP-3LA - Gypsum Board/Plaster, Latex-Acrylic, 3 Coat:
   1. One coat of acrylic latex primer sealer.
   2. Eggshell: Two coats of latex-acrylic enamel.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
   3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
   4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Surfaces: Correct defects and clean surfaces which affect work of this section. Remove or repair existing coatings that exhibit surface defects.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

H. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

I. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

J. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-SP 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).

K. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

L. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

M. Interior Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

N. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

O. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.

C. Apply products in accordance with manufacturer's instructions.

D. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

E. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

F. Apply each coat to uniform appearance.

G. Sand wood and metal surfaces lightly between coats to achieve required finish.

H. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

I. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

J. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

A. Refer to Section 22 0553 and Section 26 0553 for schedule of color coding of equipment, duct work, piping, and conduit.

B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

C. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.05 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

B. Inspect and test questionable coated areas in accordance with Coating Thickness Gauge.

3.06 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.07 PROTECTION

A. Touch-up damaged coatings after Substantial Completion.

3.08 SCHEDULE - SURFACES TO BE FINISHED

A. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically noted.
   2. Fire rating labels, equipment serial number and capacity labels.

B. Paint the surfaces described below under Schedule - Paint Systems.

C. Mechanical and Electrical: Use paint systems defined for the substrates to be finished.
   1. Paint all insulated and exposed pipes occurring in finished areas to match background surfaces, unless otherwise indicated.
   2. Paint shop-primed items occurring in finished areas.
   3. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
   4. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

D. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.

3.09 SCHEDULE - COLORS

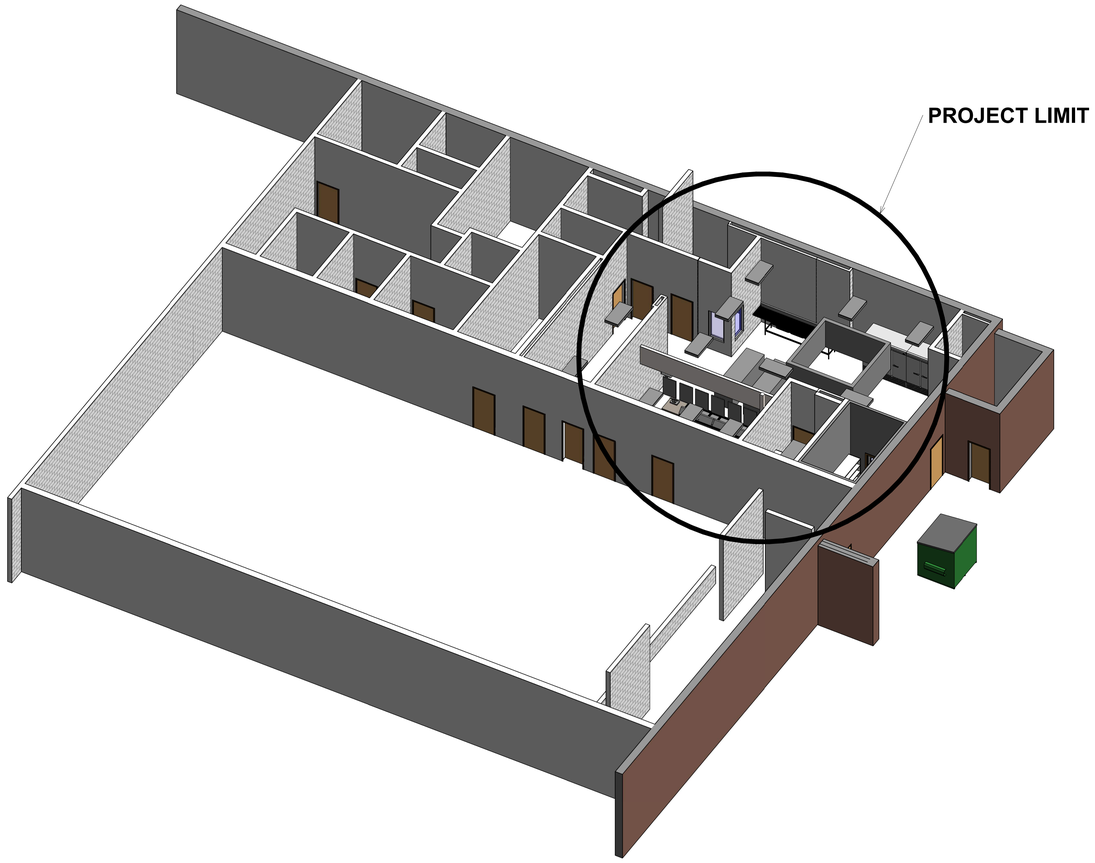
A. Colors to be selected and approved by owner.

END OF SECTION

CONSTRUCTION DRAWINGS FOR

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

8945 DOGWOOD ROAD
GERMANTOWN TN 38018



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GENERAL NOTES

1. CONTRACTOR 'S FIELD SUPERINTENDENT MUST BE PRESENT AND RESPONSIBLE FOR OVERSEEING THE WORK PROGRESS WHEN ANY NEW WORK IS PERFORMED, FOR THE DURATION OF THE PROJECT, CONTRACTOR MUST MAINTAIN AND FURNISH ELECTRONIC DAILY LOG TO PROJECT TEAM AND OWNER DESIGNATED PERSONNEL DAILY. THE LOG DOCUMENTATION SHALL INCLUDE INFORMATION SUCH AS WORK CONDITION, WORK COMPLETED, PROGRESS PICTURES, FIELD CHANGES, CONCEALED CONDITIONS, TRANSITION OF MATERIAL, UNFORESEEN DAMAGES, INCIDENTS ETC. THESE INFORMATION SHALL BE INCLUDED AS PART OF THE CLOSEOUT DOCUMENT AT THE END OF THE PROJECT.
2. PROVIDE THE LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PREPARE THE DESIGNATED AREA INDICATED FOR THE NEW WORK. REMOVE EXISTING CONSTRUCTION AS INDICATED TO BE REMOVED.RECEIVE NEW WORK.
3. CONTRACTOR SHALL PLAN AND SCHEDULE THE PROGRESSION OF THE WORK SO THAT FINISHED AREAS DO NOT HAVE TO BE WALKED ON OR OTHERWISE USED AS HAUL ROUTES FOR MATERIAL TRANSPORTATION IN ORDER TO REACH REMAINING WORK. SCHEDULE ANY PREPARATION WORK TO MINIMIZE THE RISK OF DAMAGE. COORDINATE WITH OWNER THE SEQUENCE OF DEMOLITION AND CONSTRUCTION PRIOR TO STARTING OF WORK.
4. CONTRACTOR SHALL SCHEDULE THE WORK PER MANUFACTURER RECOMMENDATION AND SPECIFICATION. DO NOT START WORK IF EXISTING CONDITIONS DO NOT ALLOW TIME FOR PROPER INSTALLATION. CONTRACTOR WILL BE FULLY RESPONSIBLE FOR DAMAGE TO THE PROPERTY DUE TO UNFINISHED OPEN WORK. BUILDING MUST BE SECURED AT THE END OF EACH WORKING DAY.
5. COORDINATE THE COMPATIBILITY OF THE PREPARATION WORK WITH THE REQUIREMENTS OF THE MATERIALS AND PROCEDURES SPECIFIED FOR THE NEW WORK. SCHEDULE ALL PREPARATION WORK TO COINCIDE AS CLOSELY AS PRACTICABLE WITH THE INSTALLATION OF NEW MATERIALS.
6. ANY DAMAGE TO EXISTING FINISHES USED AS HAUL ROUTES OR ACCESS ROUTES SHALL BE CONSIDERED THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PROMPTLY REPAIRED TO ITS ORIGINAL CONDITION, TO THE SATISFACTION OF THE OWNER AND ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.
7. VERIFY JOB CONDITIONS PRIOR TO BEGINNING WORK. REPORT TO A/E ANY DISCREPANCIES OR OMISSIONS WHICH MAY INTERFERE WITH SATISFACTORY COMPLETION OF WORK. RESOLVE ANY DISCREPANCIES PRIOR TO BEGINNING WORK. VERIFY ALL FIELD MEASUREMENTS, FIELD CONSTRUCTION, INSTALLATION CRITERIA. COORDINATE ALL TRADES AND THE METHODS OF CONSTRUCTION. ALL WORK IS TO CONFORM WITH DRAWINGS AND SPECS. DRAWINGS ARE NOT TO BE SCALED FOR INFORMATION. CONTRACTOR TO VERIFY THE ACTUAL SIZE FOR PROPER INSTALLATION.
8. PRIOR TO STARTING WORK, DOCUMENT ANY EXISTING DAMAGE TO THE EXISTING SURFACE IN AREA OF CONSTRUCTION WHICH ARE TO REMAIN. CONTRACTOR MAY BE HELD RESPONSIBLE FOR REPAIR AND REPLACEMENT OF UNDOCUMENTED DAMAGES.
9. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, APPROVALS, LICENSES, ETC., FOR ALL TRADES, CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL CODES, ORDINANCES, AND REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR FILING AND SECURING ALL NECESSARY PERMITS, APPROVALS, ETC., FOR ALL TRADES.
10. ENSURE THE PREMISES ARE MAINTAINED CLEAN AND FREE OF DEBRIS DURING REMODELING. COORDINATE THE FREQUENCY OF REMOVAL WITH OWNER. FINAL CLEANUP IS THE RESPONSIBILITY OF THE CONTRACTOR. REPAIR, PATCH, TOUCH-UP AND MAINTAIN CLEANING THROUGHOUT THE PROJECT. REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIAL AND OTHER CONSTRUCTION DEBRIS. OWNER'S DUMPSTER(S) OR TRASH CAN(S) SHALL NOT BE USED FOR DISPOSAL OF ANY CONSTRUCTION WASTE. REPAIR GROUND DAMAGE CAUSED BY TRUCK TRAFFIC
11. CONTRACTOR TO OVERSEE CLEANING AND ENSURE THAT THE PREMISES ARE MAINTAINED AND SECURED DURING CONSTRUCTION. DAILY CLEANUP AND FINAL CLEANUP IS THE RESPONSIBILITY OF THE CONTRACTOR. REPAIR, PATCH,TOUCH-UP AND MAINTAIN CLEANING UNTIL ACCEPTANCE BY OWNER.
12. IF ACCESS IS NEEDED INSIDE THE BUILDING, COORDINATE WITH OWNER AT LEAST 48 HOURS IN ADVANCE. FLOORING WHERE CONSTRUCTION TRAFFIC OCCURS MUST BE PROTECTED. CONTRACTOR WILL BE RESPONSIBLE FOR ANY CONSTRUCTION DAMAGE. ESTABLISH A CONSTRUCTION ENTRANCE WITH THE USER'S DIRECTION IN ORDER TO MINIMIZE SECURITY AND TRAFFIC CONFLICTS.
13. LOCATION OF ROOF PENETRATION SHALL BE KEPT TO MINIMAL.
14. COORDINATE AND OBTAIN APPROVAL FROM OWNER BEFORE REMOVE ANY SWITCHES, DEVICES, CABLES, OR EQUIPMENT THAT WERE ON THE WALL TO BE DEMOLISHED.
15. COORDINATE AND OBTAIN APPROVAL FROM OWNER FOR LOCATION OF DUMPSTER, MATERIAL STAGING, ETC.
16. ALL MATERIAL STORED ON SITE SHALL BE PROPERLY STACKED AND PROTECTED TO PREVENT WEATHER OR OTHER PHYSICAL DAMAGE AND DETERIORATION UNTIL USE. FAILURE TO PROTECT MATERIAL MAY BE CAUSE FOR REJECTION OF WORK.
17. REMOVE CONSTRUCTION AND GENERAL DEBRIS FROM THE PROJECT. DISCARD ANY NAILS, METAL SCRAPS, FOOD, WATER BOTTLES AND MISCELLANEOUS GARBAGE.
18. IF CORE TEST IS NEEDED, CONTRACTOR MUST OBTAIN PRIOR APPROVAL FROM THE SCHOOL, THE OPENING MUST BE REPAIRED BEFORE RENEW STARTED.
19. ALL WORK IS TO CONFORM WITH DRAWINGS AND SPECS. DRAWINGS ARE APPROXIMATE ONLY AND NOT TO BE SCALED FOR INFORMATION. PAYMENT WILL NOT BE MADE TO GENERAL CONTRACTOR ON CHANGES OR EXTRAS UNLESS THEY ARE VERIFIED AND APPROVED BY OWNER.
20. SEE MECH AND ELECTRICAL DRAWINGS FOR ADDITIONAL MECHANICAL, PLUMBING LINES OR ELECTRICAL INFORMATION .
21. SHOULD CONFLICT OCCUR IN OR BETWEEN DRAWINGS AND SPECIFICATIONS OR WHERE DETAIL REFERENCES OR CONTRACT DRAWINGS HAVE BEEN OMITTED, CONTRACTOR IS DEEMED TO HAVE ESTIMATED THE MOST EXPENSIVE MATERIALS AND CONSTRUCTION INVOLVED UNLESS THEY HAVE ASKED FOR AND OBTAINED WRITTEN PERMISSION FROM ARCHITECT AS TO WHICH MATERIAL OR METHOD WILL BE REQUIRED.
22. SHOULD AN ERROR APPEAR IN THE SPECIFICATIONS OR DRAWINGS NOTIFY THE ARCHITECT AT ONCE FOR INSTRUCTIONS AS TO PROCEDURE. IF CONTRACTOR PROCEEDS WITH WORK AFFECTED WITHOUT INSTRUCTIONS FROM THE ARCHITECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RESULTING DAMAGE OR DEFECT.
23. NO PORTION OF THE WORK REQUIRING A SHOP DRAWING OR SAMPLE SUBMISSION SHALL BE COMMENCED UNTIL THE SUBMISSION HAS BEEN APPROVED BY THE ARCHITECT. ALL SUCH PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS AND SAMPLES.
24. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING JOB CONDITIONS AND SHALL REPORT TO ARCHITECT ANY DISCREPANCIES OR OMISSIONS WHICH WOULD INTERFERE WITH SATISFACTORY COMPLETION OF WORK. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL FIELD MEASUREMENTS, FIELD CONSTRUCTION, INSTALLATION CRITERIA, COORDINATION OF ALL TRADES AND THE METHODS OF CONSTRUCTION.
25. CONTRACTOR SHALL PROVIDE A SCHEDULE OF SHOP DRAWINGS, SAMPLES AND CUT SHEETS TO A/E FOR APPROVAL PRIOR TO ORDERING OR FABRICATION. CONTRACTOR'S RESPONSIBILITY FOR ERROR OR OMISSIONS IN SUBMITTAL IS NOT RELIEVED BY A/E REVIEW OF SUBMITTAL. DISRUPTION SHALL BE MINIMAL OUTSIDE PROJECT LIMIT AT ALL TIMES DURING CONSTRUCTION.
26. THE EXACT LIMITS OF THE CONTRACTOR'S STAGING AND STORAGE AREA SHALL BE ESTABLISHED BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER AND OWNER.
27. CONTRACT TIME FOR THE WORK IS FROM MAY 25, 2023 TO JULY 30, 2023 (66 CALENDAR DAYS) .
28. IN ADDITION TO THE BASE BID AMOUNT, CONTRACTOR SHALL ADD A PROJECT CONINGENCY IN THE AMOUNT OF $50,000 TO THE BASE BID AS THE TOTAL CONTACT AMOUNT.
29. COORDINATE ALL MATERIAL, WORKMEN ACCESS, WITH THE OWNER'S REPRESENTATIVE TO MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITY AND TO MINIMIZE THE THREAT OF LOSS OR DAMAGE TO THE EXISTING FACILITY, ITS CONTENTS, AND OCCUPANTS.
30. THE CONSTRUCTION SHALL NOT COMPROMISE SECURITY, LIFE SAFETY OR FIRE SAFETY REQUIREMENTS. ANY WORK AFFECTING CODE REQUIREMENTS SHALL BE COMPLETED IN THE SAME WORK DAY OR TEMPORARY MEASURES SHALL BE TAKEN TO ASSURE CODE COMPLIANCE AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLISHED MATERIAL AND OTHER CONSTRUCTION DEBRIS.
31. WHILE ALL STUDENT ACTIVITIES ARE SCHEDULED AWAY FROM THE BUILDING DURING THE SUMMER, THERE MAY BE OTHER MAINTENANCE ACTIVITIES TAKING PLACE. CONTRACTOR TO COORDINATE WITH OWNER THE APPROVED AREAS FOR MATERIAL STAGING AND PARKING AS NEEDED.
32. EMERGENCY CONTACTS SHALL BE AS FOLLOWS:
    PAUL PHILIPS , PLANT MANAGER (901-268-2482)
    JOHN TRUONG, OPERATION SUPERVISOR (901 -752-7909)

SET NO._____

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fax: 901.332.5534
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MICHAEL E. TERRY
REGISTERED ARCHITECT
NO. 101065
STATE OF TENNESSEE
3/13/23

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
8945 DOGWOOD ROAD
GERMANTOWN TN 38018

Sheet Title: COVER SHEET
Project No.: 22129
Drawn by: RGI
Date: 12-30-2022

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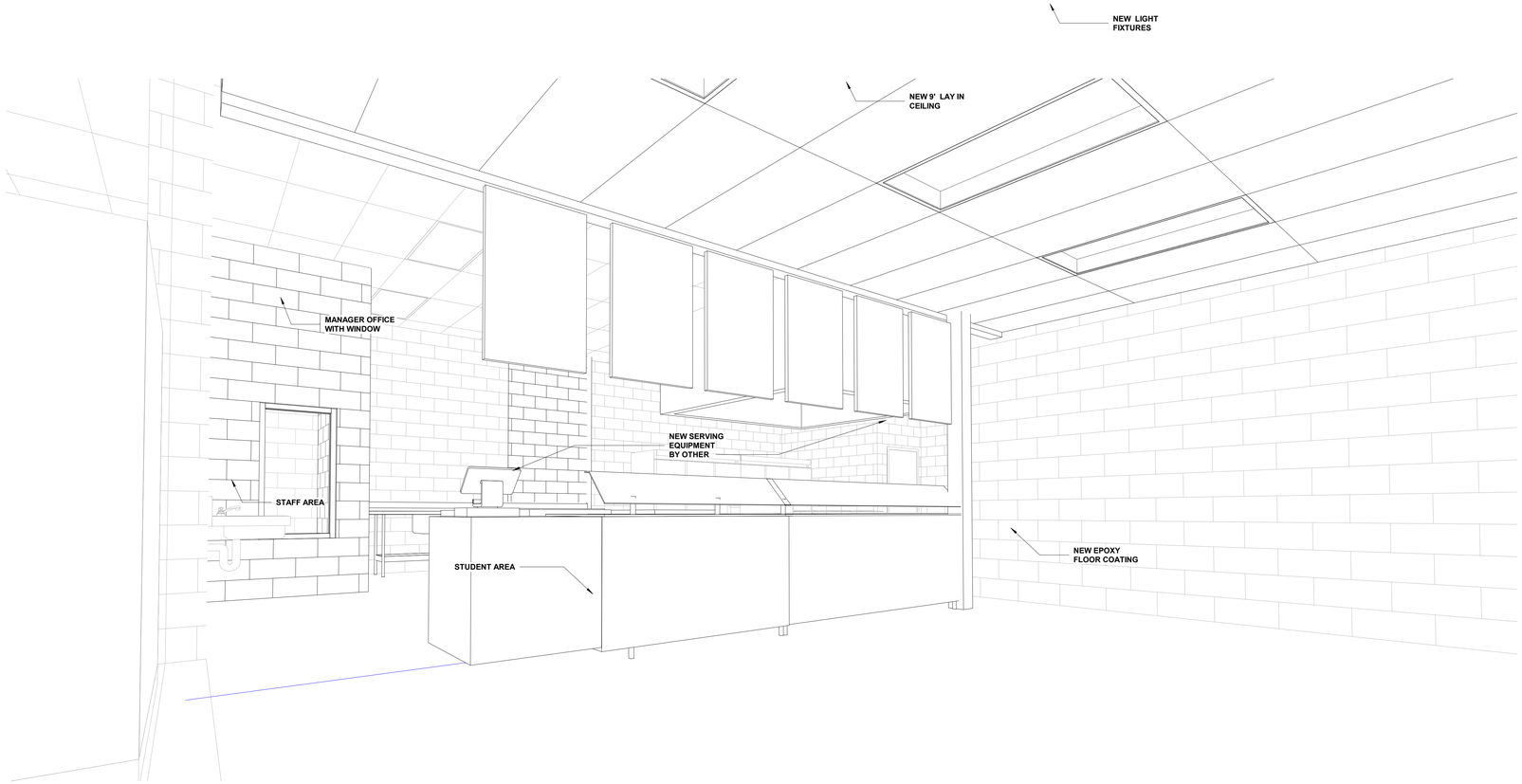
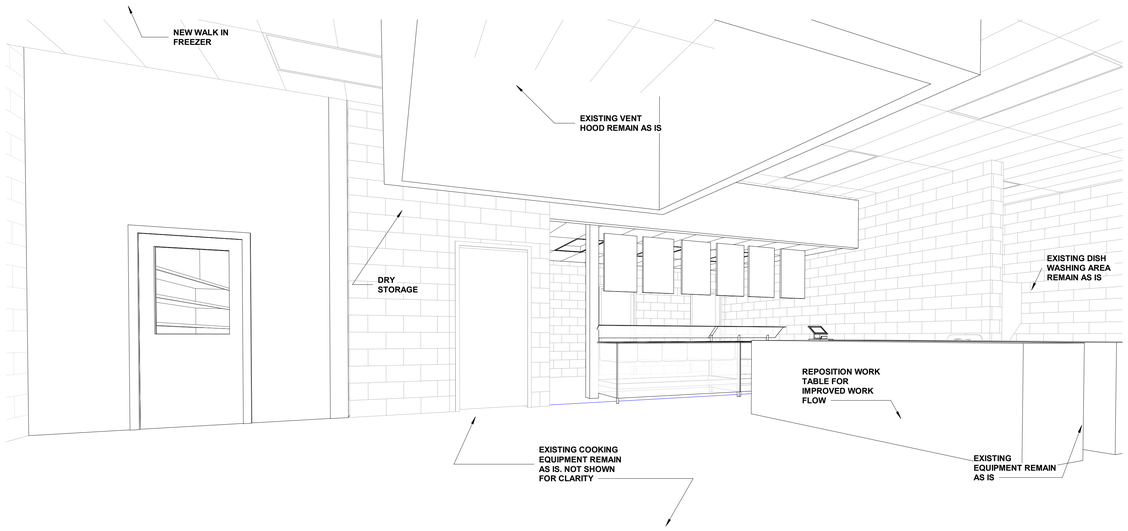
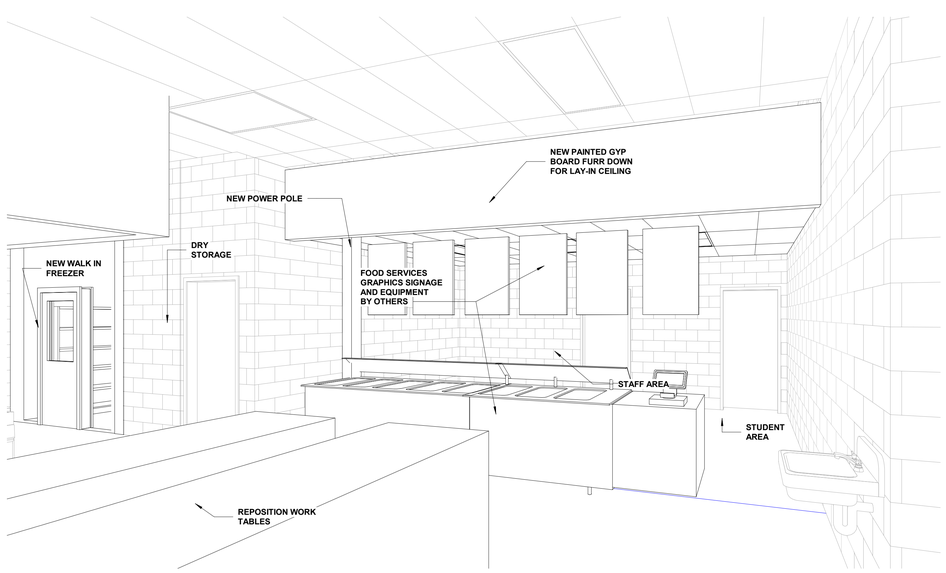
Sheet No.



1 NEW SERVING AREA



4 NEW FREEZER



5 MANAGER VIEW

SCOPE OF WORK FOR INTERIOR IMPROVEMENT:

1. SERVING AREA REMODELING
2. NEW SEAMLESS EPOXY FLOORING
3. RELOCATE MANAGER OFFICE
4. NEW WALK IN FREEZER
5. NEW FOOD SERVING EQUIPMENT
6. NEW DRY STORAGE SHELVING
7. UTILITIES REROUTING

(NO CHANGE IN OCCUPANCY OR EGRESS)

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MICHAEL E. TERRY
REGISTERED ARCHITECT
NO. 101063
STATE OF TENNESSEE
3/10/23

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

8945 DOGWOOD ROAD
GERMANTOWN TN 38018

Sheet Title: SCOPE OF WORK
Project No.: 22129
Drawn by: RGI
Date: 12-30-2022

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Sheet No.

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Thermo-Kool®
The Commercial Refrigeration Specialist

Mid-South Industries Inc. P.O. Box 989
Laurel, Mississippi 39441 Phone 601 – 649-4600
FAX 601-649-0558

Job Reference:
DOGWOOD-GERMANTOWN MUNICIPAL SCHOOL D..
GERMANTOWN TN

Quantity	Item Description
1	THERMO-KOOL Walk-in Freezer 8' 8" x 13' 8" x 8' 6" High Insulation: 4" DURATHANE, all-urethane foamed-in-place (Class 1) Exterior: Stucco Galvanized Interior: Stucco Galvanized Interior Floors: Smooth aluminum *FLOOR PANELS NOT DESIGNED FOR ROLLING TRAFFIC OR PALLET JACK USE* Freezer with Floor (1) 34" x 76" Flush Mounted Entrance Door(s), with hardware, Pilot light & switch assembly, vapor proof light & dial thermometer. NSF LISTED (1) Interior Ramp (1) Door(s) with (2) Hinges per door (1) Kason # 1806 LED light fixture at door(s) (1) vinyl strip curtain (1) Pressure relief vent(s) (2) 48" LED light fixture(s) w/ bulbs Enclosure panels Trim
1	4 HP, Remote Pre Assembled Refrig. System Model RFO400L4SEB 208-230/60/3 Low Temperature, base, weather hood, winter controls, Scroll, Air-cooled, R448A, Std. Defrost Kit (32.2 MCA, 40 MOPD, 11.9 Compressor RLA) with RL6E105DDASC 208-230/60/1 coil (1.0 fan amps, 9.8 heater amps) with Dual Speed EC motor.
1	Compressor warranty

Customer Notes:

Estimated shipping weight: 2602 lbs
Freight not included

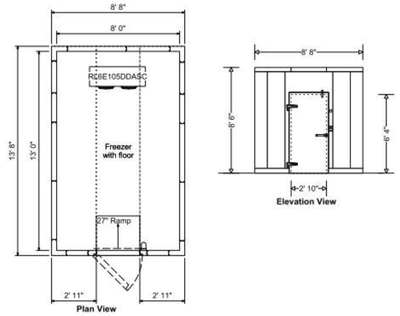
DEVIATIONS & NOTES:

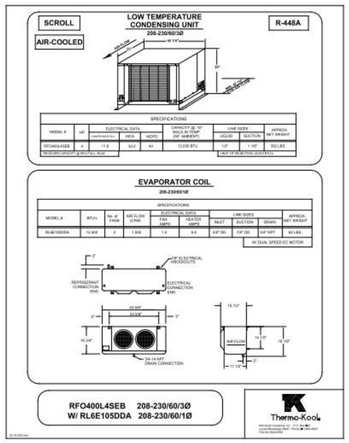
1. THERMO-KOOL floor panels are designed to withstand a uniformly distributed stationary load of 600 lbs. per square foot. THERMO-KOOL's warranty does not cover damage due to pallet jacks, mobile carts, mobile shelving, fork lifts or any other form of rolling traffic. A concrete wearing floor must be installed on top of the floor panels in this application.
2. Standard THERMO-KOOL 10 year panel warranty provided.
3. Standard THERMO-KOOL 5 year compressor & 1 year parts refrigeration warranty provided. Labor warranty by others.
4. Quotation provided meeting 2021 International Energy Conservation Code (IECC), section C403.10.2
5. Delivery & installation by others.
6. Penetrations, sleeves, & escutcheon plates by others.
7. Refrigerant lines, drain lines & heat tape by others.
8. Shelving by others.
9. No quantity of extra lights was specified. If additional lights are required, contact factory for revised pricing.
10. PRICING FOR BUDGET PURPOSES ONLY.
11. Extra lights are shipped loose for field installation.

THERMO-KOOL walk-ins are preassembled prior to shipment for a thorough quality control inspection to ensure a quick and trouble-free installation. Upon completion of inspection the unit is disassembled and packaged for shipment to the job site. A digital photograph of the walk-in preassembled at the THERMO-KOOL factory is provided with the warranty paperwork for the KEC's permanent record.

This quotation is based on information supplied to THERMO-KOOL which may or may not have been complete. Please verify all items for compliance with written specifications. THERMO-KOOL will not be responsible for any items in the specifications not included on this quotation if we did not receive the entire specifications.

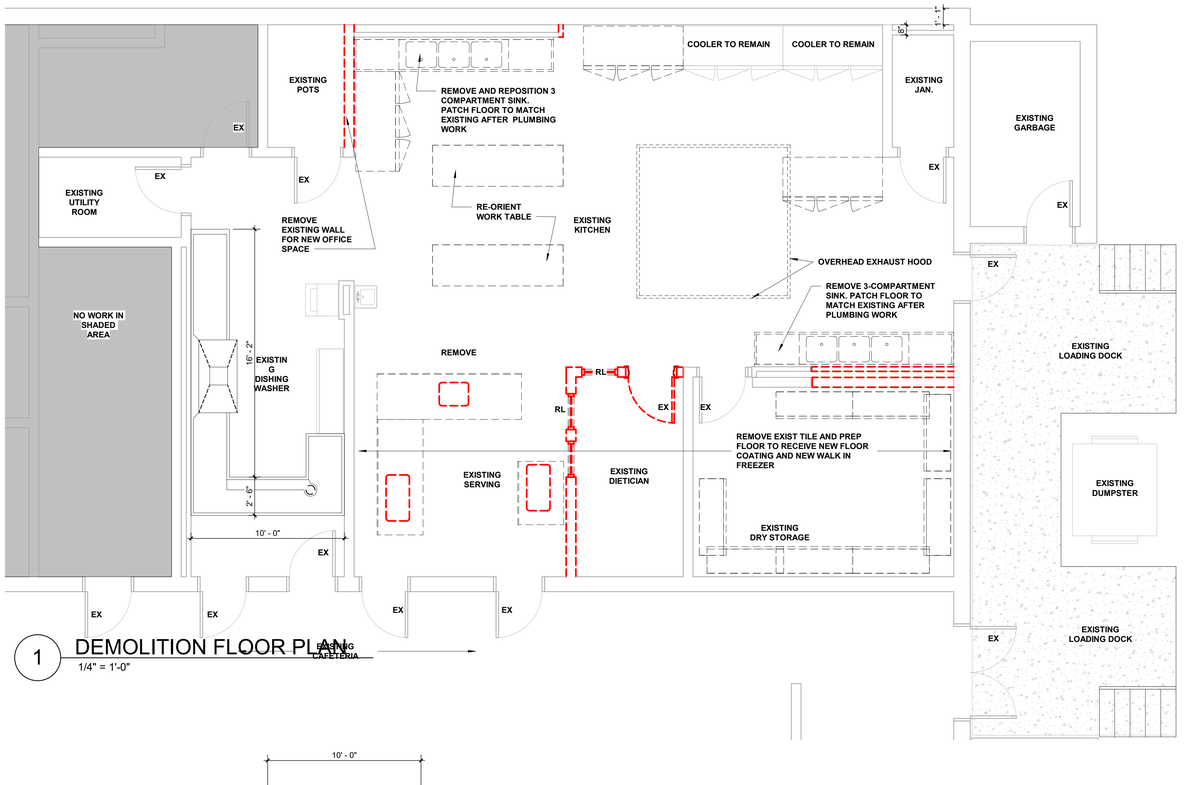
All buyout items and refrigeration systems not shipped with walk-in panels but drop shipped to job site are subject to applicable sales tax and/or freight charges. Sales taxes and freight charges are the responsibility of the customer.





BASIS OF DESIGN FOR NEW WALK IN FREEZER

THE INFORMATION ABOVE IS PROVIDED BY OWNER AS THE BASIS OF DESIGN ONLY FOR THE WALKIN FREEZER CONTRACTOR SHALL FURNISHED AND INSTALLED THE NEW WALKIN FREEZER AND ALL NECESSARY ASSOCIATED COMPONENTS AS A COMPLETE TURN KEY SYSTEM INSTALLATION. SEE MECHANICAL, PLUMBING , FIRE PROTECTION AND ELECTRICAL DRAWINGS FOR ADDITIONAL UTILITY REQUIREMENT.



1 DEMOLITION FLOOR PLAN
1/4" = 1'-0"

5 NEW FLOOR PLAN
1/4" = 1'-0"

SYMBOL LEGEND

- REMOVE EXISTING QUARRY TILE IN THESE AREAS AND SHADING INDICATES EXTENT OF NEW EPOXY FLOOR COATING, COLOR TO BE SELECTED BY OWNER
- NEW 8" CMU WALL CONSTRUCTION WALL TO BE REINFORCED W/ #4 VERTICALS AT 48" O.C. #4 DOWEL MATCHING 48" O.C. SPACING INTO EXISTING SLAB, DRILL and EPOXY 2.5" EMBED. PROVIDE CONT. BOND BEAM AT TOP OF WALL AND BRACE TO ROOF STRUCTURE ABOVE W/ 45 DEGREE LG BRACING AT 48" O.C. MAX
- NEW CUSTOM BUILT INSULATED WALK IN FREEZER CONSTRUCTION
- RL RELOCATED ITEM
- EX EXISTING CONSTRUCTION
- NEXEL NSF CERTIFIED STORAGE SHELVING 21" DEEP BY 86" HIGH

DEMOLITION GENERAL NOTES

1. DEMOLISH AS REQUIRED TO ACCOMPLISH THE WORK INDICATED IN THESE DOCUMENTS. ALL REQUIRED DEMOLITION WORK SHALL BE INCLUDED IN THE BASE BID PACKAGE SUBMITTED BY THE CONTRACTOR.
2. DO NOT ALLOW MATERIALS AND DEBRIS GENERATED BY DEMOLITION TO ACCUMULATE ON THE JOB SITE. REMOVE DAILY AND DISPOSE OF IN A LEGAL MANNER.
3. THIS PLAN IS TO BE USED IN CONJUNCTION WITH THE ENTIRE SET OF CONSTRUCTION DRAWINGS. DO NOT REMOVE ANY ITEMS WITHOUT VERIFYING AND COORDINATING WALL ALL GENERAL TRADES AS TO HOW THEY RELATE TO THE OVERALL PROJECT.
4. THE CONTRACTOR MUST TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE PUBLIC AND/OR WORKMEN ON THE SITE TO PREVENT ACCIDENTS OR INJURY TO ANY PERSON ON , ABOUT, OR ADJACENT TO THE PREMISES. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, CODES, AND REGULATIONS PERTAINING TO SAFETY AND THE PREVENTION OF ACCIDENTS.
5. THE CONTRACTOR MUST MAINTAIN ADEQUATE SUPPORT, INSULATION, WATERPROOFING, EMERGENCY LIGHTING, SECURITY, ALARMS, ETC. FOR ALL OR PART OF THE ITEMS WHICH ARE TO REMAIN.
6. COORDINATE WITH OWNER REGARDING CONSTRUCTION DUMPSTER.
7. REMOVE CAREFULLY ONLY PORTION OF THE FLOOR THAT WILL RECEIVE NEW FLOOR COATING.
8. SALVAGE EXISTING WINDOW, GLAZING, HOLLOW METAL DOOR AND FRAME OF THE EXISTING DICTIAN OFFICE TO BE REUSED AT THE NEW MANAGER OFFICE.
9. MINIMIZE ANY PENETRATION NEEDED THRU THE ROOF DECK FOR REFRIGERANT LINE MUST BE REPAIRED AND MAKE WEATHER TIGHT.
10. PROTECT ALL EXISTING KITCHEN EQUIPMENT, FIXTURE AND DEVICES IN THE EXISTING KITCHEN FROM CONSTRUCTION DEBRIS. PROTECT AND REINSTALL ALL CEILING SENSOR, SPEAKER, AND DEVICE AFFECTED BY THE DEMOLITION.
11. BEFORE REMOVAL OF ANY WALL PARTITION, COORDINATE WITH THE SCHOOL IF THERE IS ANY UNFORESEEN NETWORK OR ENERGY MANAGEMENT CABLING AFFECTED BY THE DEMOLITION WORK.

PROJECT DATA

PROJECT LOCATION: GERMANTOWN, TENNESSEE
OCCUPANCY CLASSIFICATION: EDUCATION (E)

APPLICABLE CODE:

MEMPHIS AND SHELBY COUNTY OFFICE OF CONSTRUCTION CODE ENFORCEMENT

2021 INTERNATIONAL BUILDING CODE W/ LOCAL AMENDMENTS
2021 INTERNATIONAL EXISTING BUILDING CODE W/ LOCAL AMENDMENTS
2021 NATIONAL ELECTRICAL CODE W/ LOCAL AMENDMENTS
2021 INTERNATIONAL MECHANICAL CODE W/ LOCAL AMENDMENTS
2021 INTERNATIONAL GAS CODE W/ LOCAL AMENDMENTS
2021 INTERNATIONAL PLUMBING CODE W/ LOCAL AMENDMENTS
2021 INTERNATIONAL ENERGY CONSERVATION CODE W/ LOCAL AMENDMENTS

TENNESSEE STATE FIRE MARSHAL'S OFFICE
2012 INTERNATIONAL BUILDING CODE
2012 INTERNATIONAL EXISTING BUILDING CODE
2017 NATIONAL ELECTRICAL CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL GAS CODE
2012 INTERNATIONAL PLUMBING CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE
2012 NFPA 101 LIFE SAFETY CODE
2012 INTERNATIONAL FIRE CODE

2010 NFPA 13

SCOPE OF WORK

INTERIOR REMODELING OF THE FOOD SERVING AREA AT THE EXISTING KITCHEN

SCOPE OF WORKS INCLUDE

A. REMOVAL OF NON LOAD BEARING WALL
B. NEW FLOOR FINISH AT AFFECTED AREA
C. NEW CEILING GRID AND CEILING TILES
D. NEW FOOD SERVICE EQUIPMENT BY OWNER
E. RELOCATION OF MANAGER 'S OFFICE
F. SPRINKLER LINE, LIGHTING FIXTURE AND MECHANICAL MODIFICATION
G. WINDOW AND DOOR REPLACEMENT
H. UPDATE FIRE PROTECTION SPRINKLER HEAD
I. UPDATE FIRE ALARM PANEL
J. NEW POWER TO ROOF TOP UNITS.
K. PLUMBING FIXTURE RELOCATION
L. ROOF OPENING REPAIR

BUILDING DATA
1. OCCUPANCY TYPE: (IBC - SECTION 508.3) GROUP E
2. AREA: NO CHANGE IN BUILDING FOOTPRINT
3. HEIGHT: 1 STORY - 12' - 0" HEIGHT - NO CHANGE IN BUILDING HEIGHT
4. TYPE OF CONSTRUCTION: TYPE 2B - SPRINKLERED
5. MAX. TRAVEL DISTANCE TO AN EXIT; NO CHANGE IN EGRESS
6. EARTHQUAKE RESISTANCE : NO CHANGE
7. OCCUPANT LOAD FOR DETERMINING MEANS OF EGRESS: NO CHANGE
8. MEANS OF EGRESS WIDTH PER OCCUPANT: NO CHANGE IN EGRESS WIDTH. PLUMBING FIXTURES: KITCHEN 3 COMPARTMENT SINK RELOCATION
9. RATING FOR CORRIDORS : NO CHANGE
10. FIRE EXTINGUISHER : EXISTING. NO CHANGE.
11. ALARM SYSTEM : SYSTEM TO BE UPDATED BY OWNER WITH THE HVAC DUCTWORK RELOCATION
12. CLIMATE ZONE 3

PROJECT LIMIT

Renaissance Group
9700 Village Circle, ste.100
Lakeland, TN 38002
901.332.5533
fax: 901.332.5534
www.rgroup.biz

MICHAEL E. TERRY
REGISTERED ARCHITECT
No. 101065
STATE OF TENNESSEE
3/10/23

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

8945 DOGWOOD ROAD
GERMANTOWN TN 38018

Sheet Title: ARCHITECTURAL PLANS
Project No.: 22129
Drawn by: RGI
Date: 12-30-2022
Sheet No.: A2.01

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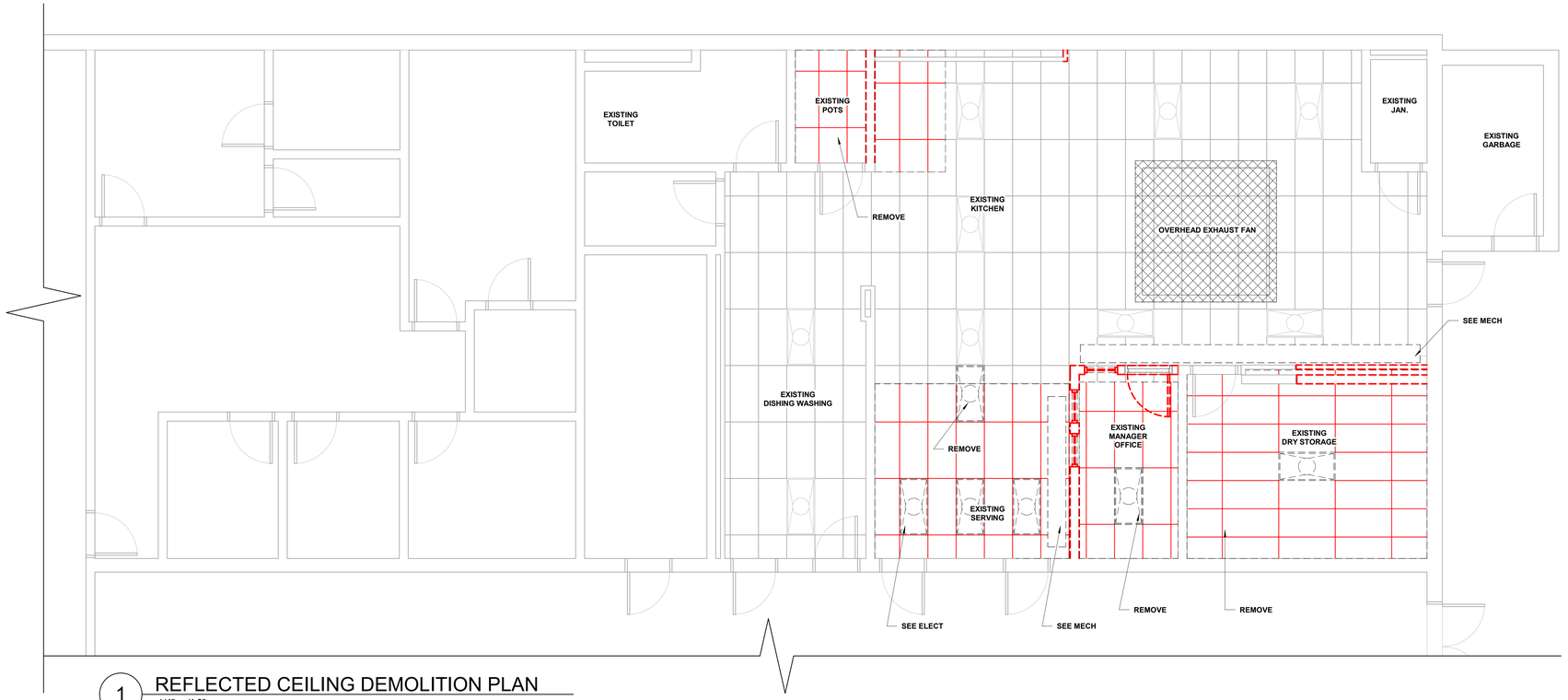
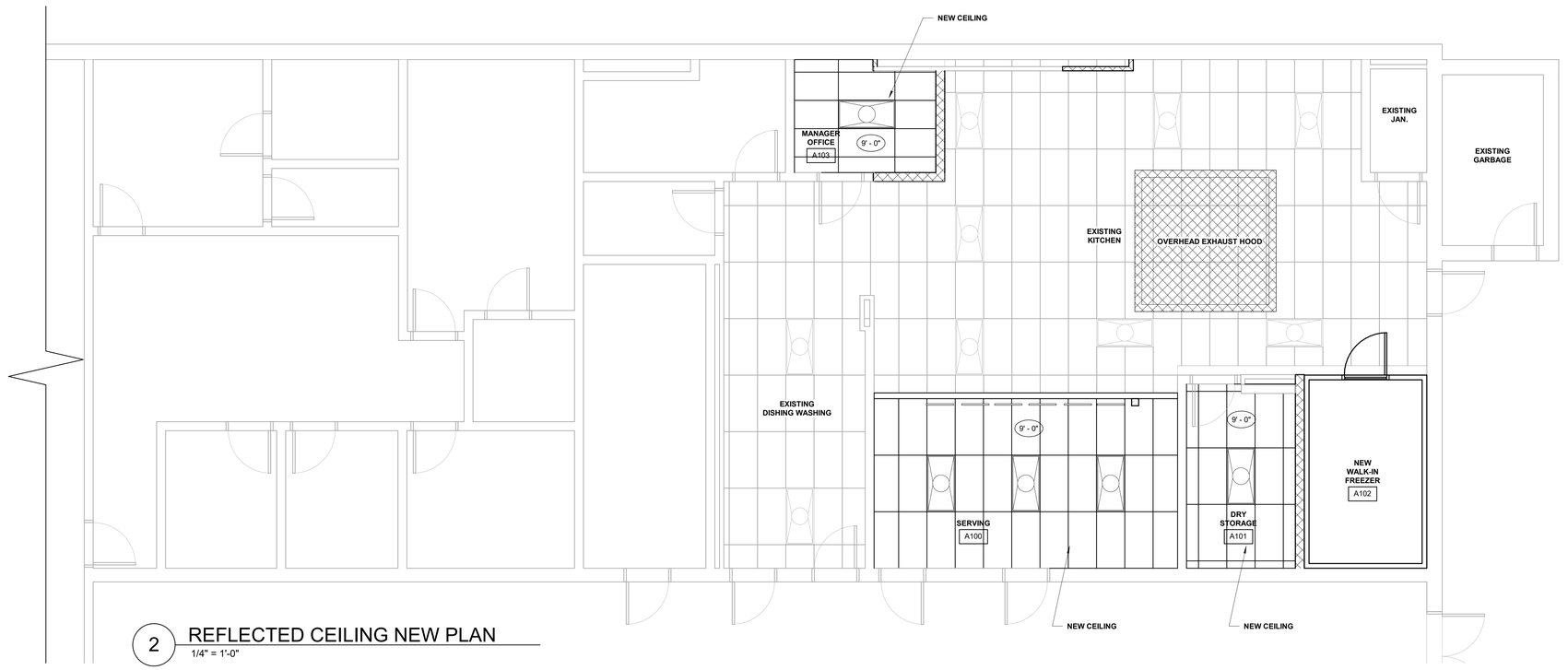


1 REFLECTED CEILING DEMOLITION PLAN

1/4" = 1'-0"



2 REFLECTED CEILING NEW PLAN

1/4" = 1'-0"

REFLECTED CEILING LEGEND

- EXISTING OVERHEAD ITEMS TO BE REMOVED
- EXISTING PORTION OF CEILING GRID AND TILES TO BE REMOVED
- EXISTING CEILING GRID AND TILES TO REMAIN AS IS
- NEW LAY-IN ACOUSTICAL TILE CEILING GRID
- SUPPLY DIFFUSER
- RETURN AIR VENT
- EXISTING LIGHT FIXTURE TO REMAIN AS IS
- 2x4 LED LIGHT FIXTURE TO MATCH EXISTING
- 9' - 0" CEILING HEIGHT RELATIVE TO FINISH FLOOR

GENERAL NOTES

ALL CEILINGS ARE TO MATCH EXISTING ADJACENT UNLESS NOTED OTHERWISE.

CONTRACTOR TO PROTECT AND REINSTALL ALL CEILING MOUNTED DEVICES AND SENSORS.

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fax: 901.332.5534
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MICHAEL E. TERRY REGISTERED ARCHITECT No. 101065 STATE OF TENNESSEE 3/10/23

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

8945 DOGWOOD ROAD
GERMANTOWN TN 38018

Sheet Title: REFLECTED CEILING PLAN

Project No.: 22129

Drawn by: Author

Date: 12-30-2022

A2.02

Sheet No.

renaissance group

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REPOSITION EXISTING 3 COMPARTMENT SINK TO MAKE ROOM FOR NEW OFFICE. WORK TABLE TO BE REPOSITIONED AS NEEDED FOR EFFICIENT WORK FLOW. PRESERVE FLOOR FINISH IN KITCHEN THAT IS NOT AFFECTED BY CONSTRUCTION. EXTEND PLUMBING CHASEWALL.

EXISTING THREE COMPARTMENT SINK TO BE REMOVED. CAP EXISTING UTILITIES CONNECTION. RECONFIGURE THE EXISTING DRY STORAGE ROOM BEHIND TO MAKE ROOM FOR NEW WALK IN FREEZER. NEW COMPRESSOR TO BE PLACED ON ROOF.

NO CHANGE WITH THE DISHWASHING EQUIPMENT. NEW CLEAN PLATE AND TRAY STORAGE TO BE CONSIDERED.

GRAPHICS SIGNAGE TO BE PROVIDED BY OTHERS. CEILING TO BE LOWERED TO 9'-0" AT SERVING LINE AREA TO ACCOMMODATE REROUTE HVAC DUCTWORK . FINAL NEW INTERIOR COLOR SCHEME AT THE SERVING AREA TO BE DETERMINED BY THE SCHOOL.

EXISTING SERVING EQUIPMENT TO BE REMOVED AND NEW SERVING LINE EQUIPMENT TO BE PROVIDED BY THE SCHOOL. ELECTRICAL CONNECTION FOR NEW EQUIPMENT TO BE FEED OVERHEAD FROM POWER POLE WITH NEW CIRCUIT. FLOOR OUTLETS TO BE REMOVED.

EXISTING SUPPLIES STORAGE TO BE ENLARGED AND TRANSFORMED INTO NEW MANAGER OFFICE WITH VIEW WINDOWS.

EXISTING OFFICE TO BE REMOVED AND RELOCATED TO MAKE ROOM FOR THE ENLARGED SERVING AREA.

PRESERVE THE EXISTING COOLERS. THREE EXISTING FREEZER TO BE REMOVED. A NEW WALK-IN FREEZER TO BE INSTALLED.

NEW NSF CERTIFIED METAL WIRE SHELVING TO BE PROVIDED AND INSTALLED BY CONTRACTOR.

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MICHAEL E. TERRY
REGISTERED ARCHITECT
No. 101065
STATE OF TENNESSEE
3/10/23

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

8945 DOGWOOD ROAD
GERMANTOWN TN 38018

Sheet Title: PHOTO REFERENCE
Project No.: 22129
Drawn by: RGI
Date: 12-30-2022
Sheet No.: A2.03

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MECHANICAL LEGEND

NOT ALL SYMBOLS MAY BE USED

SYMBOL	DESCRIPTION
	RECTANGULAR SUPPLY DUCT - UP / DOWN
	RECTANGULAR RETURN DUCT - UP / DOWN
	RECTANGULAR EXHAUST DUCT - UP / DOWN
	ROUND SUPPLY DUCT - UP / DOWN
	ROUND RETURN DUCT - UP / DOWN
	ROUND EXHAUST DUCT - UP / DOWN
	DUCT TO BE DEMOLISHED
	FLEXIBLE DUCTWORK
	TRANSITION
	SQUARE THROAT ELBOW WITH TURNING VANES
R/D R/D	RISE/DROP IN ELEVATION
	RADIUS ELBOW
	BRANCH DUCT CONNECTION RECTANGULAR OR ROUND BRANCH. RECTANGULAR TRUNK. MVD REQUIRED TO AIR DEVICES
	BRANCH DUCT CONNECTION CONICAL TEE AND TAP ROUND TRUNK.
MVD MVD	MANUAL VOLUME DAMPER
M M	MOTORIZED DAMPER
Ⓩ Ⓩ	DUCT SMOKE DETECTOR
CO CO	DUCT-MOUNTED SENSOR

SYMBOL	DESCRIPTION
FD	FIRE DAMPER (HORIZONTAL DUCT)
SD	SMOKE DAMPER (HORIZONTAL DUCT)
FSD	FIRE/SMOKE DAMPER (HORIZONTAL DUCT)
FD	FIRE DAMPER (VERTICAL DUCT)
SD	SMOKE DAMPER (VERTICAL DUCT)
FSD	FIRE/SMOKE DAMPER (VERTICAL DUCT)
SX SX	SUPPLY DIFFUSER AND AIR QUANTITY. BLANK OUTS INDICATE NO THROW IN THIS DIRECTION. (SX DENOTES TYPE)
RX	RETURN GRILLE AND AIR QUANTITY (X DENOTES TYPE)
EX	EXHAUST GRILLE AND AIR QUANTITY (X DENOTES TYPE)
CFM[a]	AIR FLOW RATE AT DOOR UNDERCUT
MX	REFER TO KEYNOTE #MX
	POINT OF CONNECTION
	POINT OF DEMOLITION

WALL MOUNTED CONTROL DEVICES

T	THERMOSTAT OR TEMP SENSOR

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AP	ACCESS PANEL
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
BD	BACKDRAFT DAMPER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BFP	BACKFLOW PREVENTER
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
CD	CEILING DIFFUSER
CFCI	CONTRACTOR FURNISH/INSTALL
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CONN	CONNECTION
CONT	CONTINUATION
CONTR	CONTRACTOR
CORR	CORRIDOR
CT	COOLING TOWER
CTE	CONNECT TO EXISTING
DB	DRY BULB TEMPERATURE
DIFF	DIFFUSER
DIA	DIAMETER
ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DWG	DRAWING
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ELEC	ELECTRICAL
ELEV	ELEVATOR
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EXIST	EXISTING
EXT	EXTERNAL
F	FAHRENHEIT
F	FAN
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FPM	FEET PER MINUTE
FT	FEET
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
HP	HORSEPOWER
HR	HOUR
HZ	HERTZ
IN	INCH
KEF	KITCHEN EXHAUST FAN
KH	KITCHEN EXHAUST HOOD
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LB	POUND
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MCA	MINIMUM CURRENT AMPACITY
MFR	MANUFACTURER
MECH	MECHANICAL
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NC	NOISE CRITERIA
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
PD	PRESSURE DROP
PH	PHASE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
REQD	REQUIRED
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RM	ROOM
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SD	SMOKE DAMPER
SF	SQUARE FOOT
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
SQ	SQUARE
SQFT	SQUARE FEET
SR	SUPPLY REGISTER
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VAC	VOLTS ALTERNATING CURRENT
W	WATTS
WB	WET BULB
WG	WATER GAUGE
W/	WITH
W/O	WITHOUT
(A)	ABANDONED
(D)	DEMO
(E)	EXISTING
@	AT
°	DEGREE

MECHANICAL GENERAL NOTES

A. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE PROJECT SCOPE, UTILITY CONNECTIONS, AND ALL BUILDING SERVICES.

B. STANDARD DETAILS ILLUSTRATED ON THE DRAWINGS SHALL BE APPLIED IN ALL CASES WHERE THE FEATURE OCCURS IN THE SYSTEM DESIGN.

C. ALL DUCTWORK SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS IN INCHES. REFER TO SPECIFICATIONS FOR DUCT INSULATION REQUIREMENTS.

D. MAJOR EQUIPMENT SHOWN ON THE PLANS AND ELEVATIONS ILLUSTRATE THE GENERAL ARRANGEMENT AND SPACE ALLOCATIONS. THE CONTRACTOR SHALL VERIFY THE SPACE REQUIREMENTS FOR EACH SYSTEM COMPONENT USING MANUFACTURER CERTIFIED SHOP DRAWINGS AND MAKE THE NECESSARY ADJUSTMENTS IN EQUIPMENT PLACEMENT AND CONNECTION IN ORDER TO ACCOMMODATE THE EXACT EQUIPMENT TO BE INSTALLED.

E. SUPPORTS, ANCHOR BOLTS, AND HANGERS FOR ALL EQUIPMENT SPECIFIED IN DIVISION 23 SHALL CONFORM TO THE SPECIFICATIONS. MISCELLANEOUS STEEL BRACING SUPPORTS AND REINFORCING STEEL NEEDED TO SUPPORT EQUIPMENT SPECIFIED IN DIVISION 23 SHALL BE PART OF THE SCOPE OF WORK OF DIVISION 23.

F. DIFFUSERS, REGISTERS, AND GRILLES SHOWN ON THE MECHANICAL DRAWINGS SHALL BE IN ACCORDANCE WITH THE AIR DISTRIBUTION DEVICE SCHEDULE AND SPECIFICATIONS. BRANCH DUCTS TO AIR DEVICES SHALL BE IN ACCORDANCE WITH THE SCHEDULE UNLESS NOTED OTHERWISE.

G. DUCTWORK STORED ON-SITE AWAITING INSTALLATION SHALL REMAIN PROPERLY SEALED AND PROTECTED. OPEN ENDS OF DUCTWORK SHALL BE CAPPED AND SEALED AFTER INSTALLATION.

H. CEILING DIFFUSER LOCATIONS SHALL BE AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

I. CEILING DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED WITH MOUNTING FRAMES AND FEATURES IN ACCORDANCE WITH THE CEILING TYPE.

J. PROVIDE MANUAL BALANCING/VOLUME DAMPERS AT ALL LOW PRESSURE BRANCH TAKE-OFFS TO DIFFUSERS AND GRILLES FROM SUPPLY, RETURN AND EXHAUST MAINS AND SUB-MAINS, AND AT ALL LOW PRESSURE DUCT SPLITS OR SUB-MAIN TAKE-OFFS. DAMPERS SHALL BE INSTALLED ABOVE AN ACCESSIBLE CEILING OR ACCESS PANEL.

K. DRAWINGS ARE SCHEMATIC IN NATURE AND SHALL NOT BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT ROUTING OF ALL SERVICES WITH EXISTING CONDITIONS AND WITH ALL OTHER TRADES. REFER TO SPECIFICATIONS FOR COORDINATION DRAWING REQUIREMENTS.

L. MAINTAIN ACCESSIBILITY OF ALL EQUIPMENT, DAMPERS, CONTROL PANELS, VALVES, AND OTHER DEVICES. PROVIDE ACCESS PANELS AS REQUIRED. COORDINATE PLACEMENT WITH THE ARCHITECT PRIOR TO INSTALLATION.

M. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT PRIOR TO CUTTING ANY OPENING IN THE STRUCTURE

N. CONTROLS: PROVIDE STANDALONE MANUFACTURER CONTROLS WITH EQUIPMENT. PROVIDE INTERCONNECTIONS WITH EXHAUST FANS AND LOUVERS. PROVIDE ANY NECESSARY TRANSFORMERS AND RELAYS FOR A FULLY FUNCTIONING SYSTEM.

O. SEISMIC RESTRAINT IS REQUIRED ON ALL MECHANICAL EQUIPMENT, APPLIANCES AND SYSTEMS INSTALLED IN SHELBY COUNTY. A SIGNED AND SEALED LETTER FROM THE DESIGNING ENGINEER VERIFYING THE INSTALLED SEISMIC RESTRAINTS MEET WITH THEIR DESIGN INTENT AND HAS THEIR APPROVAL MUST BE SUBMITTED PRIOR TO CONCEALMENT OF ANY PORTION OF A MECHANICAL SYSTEM OR THE FINAL INSPECTION. LOCAL AMEND IMC/IFCG 301.15.1.

P. ANY CONTRACTOR WHO DESIRES TO INSTALL, ENLARGE, ALTER, REPAIR, MOVE OR REPLACE ANY MECHANICAL SYSTEM, THE INSTALLATION OF WHICH IS REGULATED BY THIS CODE, SHALL FIRST MAKE APPLICATION AND OBTAIN THE REQUIRED PERMIT FOR THE WORK PER LOCAL AMENDMENTS, SECTION 106. ALL MECHANICAL IS SUBJECT TO THE FIELD INSPECTOR'S APPROVAL.

Q. EXISITING SYSTEMS SHOWN ARE BASED ON AVALABLE AS-BUILT DRAWINGS, FIELD OBSERVATION AND MANUFACTURER'S PRODUCT DATA AND MAY NOT REFLECT ENTIRE EXTENT OF EXISTING CONDITIONS. CONTRACTOR SHALL VERIFY PROPER OPERATION OF EXISTING EQUIPMENT TO BE REUSED PRIOR TO BEGINNING DEMOLITION. CONTRACTOR SHALL VERIFY EXACT ORIENTATION AND LOCATION OF ALL DUCTWORK AND EXISTING SYSTEMS TO BE REUSED IN NEW WORK PRIOR TO DEMOLITION. CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES DISCOVERED PRIOR TO BEGINNING DEMOLITION.

MECHANICAL SPECIFICATIONS

SCOPE OF WORK

THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM. HVAC SYSTEM INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:
- HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) UNITS.
- SUPPLY AND RETURN DUCTWORK SYSTEM WITH GRILLES, DIFFUSERS, FILTERS, AND DAMPERS.
- TEMPERATURE CONTROL SYSTEM INCLUDING LOW VOLTAGE WIRING AND CONDUIT
- DUCT, PIPING, AND EQUIPMENT INSULATION, WHERE INDICATED HEREIN

ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND OTHER REGULATION GOVERNING WORK. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

EQUIPMENT INDICATED ON THE DRAWINGS OR AS REQUIRED FOR A COMPLETE INSTALLATION, SUCH AS DUCTWORK, FANS, HOODS, SUPPLY AND RETURN DIFFUSERS, ETC., SHALL BE PROVIDED WITHIN THE SCOPE OF WORK OF THIS SECTION. CONTRACTOR SHALL FIELD COORDINATE THE EXACT LOCATION OF EQUIPMENT WITH THE OWNER.

PERMITS

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS WORK. RETAIN CERTIFICATES OF INSPECTIONS AND SUBMIT WHEN WORK IS COMPLETE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES ENFORCED BY CITY, COUNTY, STATE, AND/OR FEDERAL AUTHORITIES.

SHOP DRAWINGS

SUBMIT SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ENGINEER FOR APPROVAL.

MISCELLANEOUS
COORDINATE THE INSTALLATION OF ALL ROOF FLASHINGS AT ROOF PENETRATION, ROOF PENETRATIONS SHALL COMPLY WITH SMACNA AND NRCA STANDARDS. PROVIDE FLASHING FOR ALL ROOF PENETRATIONS IN ACCORDANCE WITH ROOF MANUFACTURER'S RECOMMENDATIONS. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.
THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REQUIRED SIZES, WEIGHTS ELECTRICAL CONNECTIONS, AND CLEARANCES ARE COMPATIBLE WITH THE DESIGN CONCEPT SHOWN ON THE DRAWING. THESE CHANGES SHALL BE ACCOMPLISHED BY THE CONTRACTOR. THE PLANS ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.

CONTROLS

CONTROL WIRING
THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING FOR THE COMPLETE AND PROPER OPERATING TEMPERATURE CONTROL SYSTEM. THE SYSTEM SHALL INCLUDE ALL INTERLOCKS FOR EQUIPMENT.

TEMPERATURE & HUMIDITY SENSORS
TEMPERATURE & HUMIDITY SENSORS SHALL BE PROGRAMMABLE TO BE PROVIDED WITH THE HVAC UNIT. MULTISTAGE SEVEN DAY PROGRAMMABLE THERMOSTAT. MECHANICAL CONTRACTOR TO PROVIDE THERMOSTAT IDENTIFICATION WITH 1/8" HIGH WHITE LETTERS ON BLACK PHENOLIC LABELS BACKGROUND, I.E. "AC-1 : CUSTOMER AREA" AND "AC-2 : WORK AREA".

TESTING & BALANCING

TEST AND ADJUST EACH PIECE OF EQUIPMENT AND EACH SYSTEM AS REQUIRED TO ASSURE PROPER BALANCE AND OPERATION. TEST SHALL BE PER NEBB OR AABC, AND ASHRAE STANDARDS. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURE, AND OPERATION. BALANCE MECHANICAL SYSTEM AND SUBMIT COMPLETED TEST REPORT TO CONSTRUCTION MANAGER, PRIOR TO THE REQUEST FOR FINAL PAYMENT. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT CERTIFIED TEST AND BALANCE CONTRACTOR, NEBB OR AABC. ALL SYSTEMS SHALL BE BALANCED TO WITHIN 5% OF AIR VOLUMES INDICATED. ANY DISCREPANCY SHALL BE REPORTED TO HVAC INSTALLER FOR DUCT CORRECTION, PRIOR TO FINAL REPORT. IN ADDITION, THE BALANCING CONTRACTOR SHALL VERIFY THAT THE BUILDING PRESSURE IS BETWEEN 0.02" AND 0.05" W.G. POSITIVE WITH RESPECT TO THE OUTDOORS. AFTER FINAL DUCT ADJUSTMENTS HAVE BEEN MADE, FINAL BALANCING SHALL BE PERFORMED AND THE RESULTS REPORTED IN A CERTIFIED BALANCE REPORT. FINAL BALANCED POSITIONS SHALL BE MARKED ON THE DAMPER WITH A PERMANENT MARKER. NOTE ALL AIR QUANTITIES OUTSIDE OF TOLERANCE IN REPORT.

AT PROJECT COMPLETION, A COPY OF THE FINAL BALANCE REPORT MUST BE SUBMITTED TO THE BUILDING OFFICIAL FOR REVIEW, COMMENT, AND ACCEPTANCE PRIOR TO ISSUE OF CERTIFICATE OF OCCUPANCY.

DUCTWORK & ACCESSORIES

SHEETMETAL DUCTWORK
ALL DUCTWORK TO BE RIGID SHEET METAL CONSTRUCTED FROM GALVANIZED SHEET STEEL IN ACCORDANCE WITH SMACNA LOW VELOCITY DUCT CONSTRUCTION STANDARDS. FIBERGLASS DUCTBOARD IS NOT ALLOWED. ASSEMBLE AND INSTALL DUCTWORK IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICE FOR ACHIEVING AIR TIGHT (5% LEAKAGE) AND NOISELESS (NO OBJECTIONABLE NOISE SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE. FURNISH ALL REQUIRED DAMPERS, TRANSITIONS, CONNECTIONS TO AIR TERMINALS, AND OTHER ACCESSORIES NECESSARY FOR A COMPLETE OPERATING SYSTEM. NO VARIATION OF DUCT CONFIGURATION OR SIZES WILL BE PERMITTED EXCEPT BY PERMISSION FROM THE ENGINEER. MOUNT DUCTWORK AS HIGH AS POSSIBLE TO UNDERSIDE OF STRUCTURE. (NO SQUARE THROAT ELBOWS SHALL BE INSTALLED WITHOUT DOUBLE THICKNESS TURNING VANES.) ALL DUCT CONNECTIONS TO EQUIPMENT SHALL BE LOADED TYPE VINYL, VIBRATION ELIMINATION CONNECTIONS, (F.C.) FLEXIBLE CONNECTIONS. DUCTWORK TRANSITIONS SHALL BE (FOT) "FLAT ON TOP" UNLESS OTHERWISE SPECIFIED ON PLAN. ALL BRANCH SUPPLY DUCTS SHALL HAVE (MVD) MANUAL VOLUME DAMPERS INSTALLED FOR BALANCING, SEE SYMBOL LIST. ALL CONTRACTOR FABRICATED AND MANUFACTURER FABRICATED COMPONENTS OF THE OUTSIDE AIR, SUPPLY AIR, RETURN AIR AND EXHAUST SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED AIR-TIGHT. THE INSTALLED SYSTEMS SHALL BE PRESSURE TESTED AS SPECIFIED, PIPE OPENINGS IN SYSTEM COMPONENTS SHALL HAVE SHEET METAL BAFFLES, SET IN SEALANT, TO PREVENT LEAKAGE. ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

DUCT SEALANT
SEAL ALL LONGITUDINAL AND TRANSVERSE JOINTS WITH A NON-HARDENING, NONMIGRATING MASTIC OR LIQUID ELASTIC SEALANT OF A TYPE RECOMMENDED BY THE MANUFACTURER FOR SEALING JOINTS AND SEAMS IN SHEET METAL DUCTWORK. COVER ALL FIELD JOINTS, JOINTS AROUND SPIN-IN FITTINGS AND FASTENING SCREWS WITH MASTIC.

SUPPORTS
PROVIDE HOT-DIPPED GALVANIZED STEEL, FASTENERS, ANCHORS. RODS, STRAPS, TRIM, AND ANGLES FOR SUPPORT OF DUCTWORK.

DAMPERS
PROVIDE OPPOSED-BLADE, MULTI-LEAF VOLUME CONTROL DAMPERS AT SUPPLY AND RETURN TAKEOFFS (AT BRANCH DUCT) WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS.

GRILLES, REGISTERS & DIFFUSERS
DIFFUSERS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS AND SCHEDULES. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS ITEMS NECESSARY FOR A COMPLETE AND PROPER INSTALLATION IN THE TYPE OF EXISTING CEILINGS USED IN THIS PROJECT.

THERMAL INSULATION
PROVIDE EXTERNAL THERMAL INSULATION WITH AN INTEGRAL VAPOR BARRIER FACING OF SUFFICIENT THICKNESS TO MEET LOCAL ENERGY CODE REQUIREMENTS. PROVIDE INSULATION ON EXHAUST AND OUTSIDE AIR DUCTS, AND ON CONCEALED PORTIONS OF SUPPLY AND RETURN AIR DUCTS. DO NOT INSULATE EXPOSED DUCTWORK AND PORTIONS OF DUCTWORK THAT ARE INTERNALLY LINED. THERMAL INSULATION TO COMPLY WITH AN NFPA FLAME SPREAD OF 25 OR LESS, AND SMOKE DEVELOPED NO GREATER THAN 50.

ACOUSTICAL DUCT LINER
UNLESS OTHERWISE INDICATED ON THE PLANS, PROVIDE MINIMUM OF R-5.6 GLASS FIBER ACOUSTICAL DUCT LINER ON SUPPLY AND RETURN DUCTWORK WITHIN 10 FEET OF THE DISCHARGE AND INTAKE OF AIR HANDLING UNITS. INCREASE DUCT SIZED INDICATED ON PLANS AS NEEDED IN EACH DIMENSION TO ACCOMMODATE LINER. LINER SHALL BE FASTENED TO DUCT WITH MECHANICAL LINER FASTENERS IN ACCORDANCE WITH SMACNA.

DAMPER CONTROL
CONTRACTOR TO ENSURE THAT ALL ELECTRICAL CONNECTIONS TO MECHANICAL DAMPERS ARE CONNECTED.

FLEXIBLE TYPE DUCT
FLEXIBLE DUCT SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.

USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 10 LINEAR FEET PER RUN WHERE POSSIBLE. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.

PIPING

PIPE SUPPORTS
ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACE OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

SEISMIC RESTRAINT OF PIPING
THE MECHANICAL SYSTEM SHALL BE CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH IBC 1613 AND LOCAL CODES. PROVIDE RESTRAINTS ON DUCTWORK, PIPING AND EQUIPMENT.

MECHANICAL SHEET INDEX

NUMBER	SHEET NAME
M0.1	GENERAL NOTES AND LEGEND
M1.1	FLOOR PLAN
M2.1	EQUIPMENT SCHEDULES, SECTIONS AND DETAILS

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GARY E. WHITAM
REGISTERED ENGINEER
No. 091073
STATE OF TENNESSEE
03/13/2023

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

CSA ENGINEERING PROJECT NO: 23173
Chad Stewart & Associates, Inc.
9720 Village Circle Lakeland, TN 38002
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Sheet Title: GENERAL NOTES AND LEGEND
Project No.: 22129
Drawn by: ETC
Date: 03-13-2023
Sheet No.: M0.1

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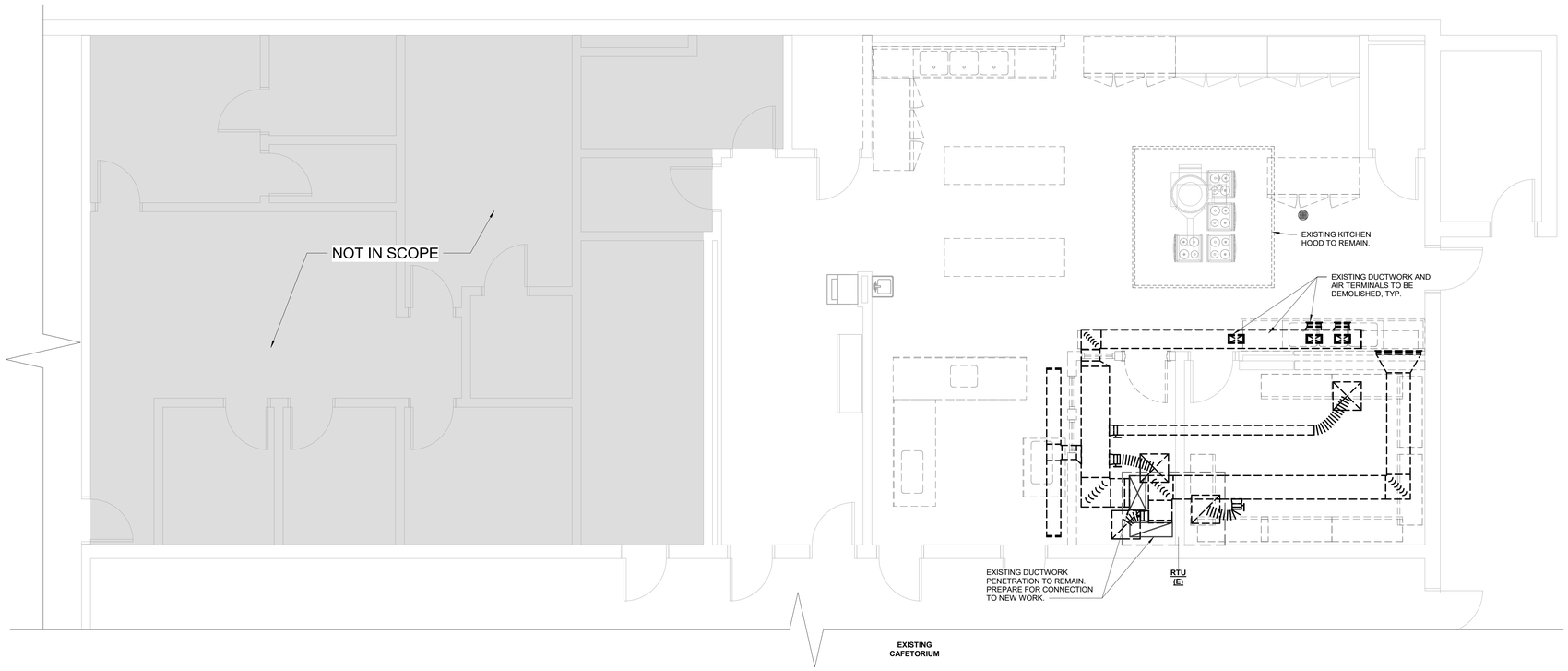
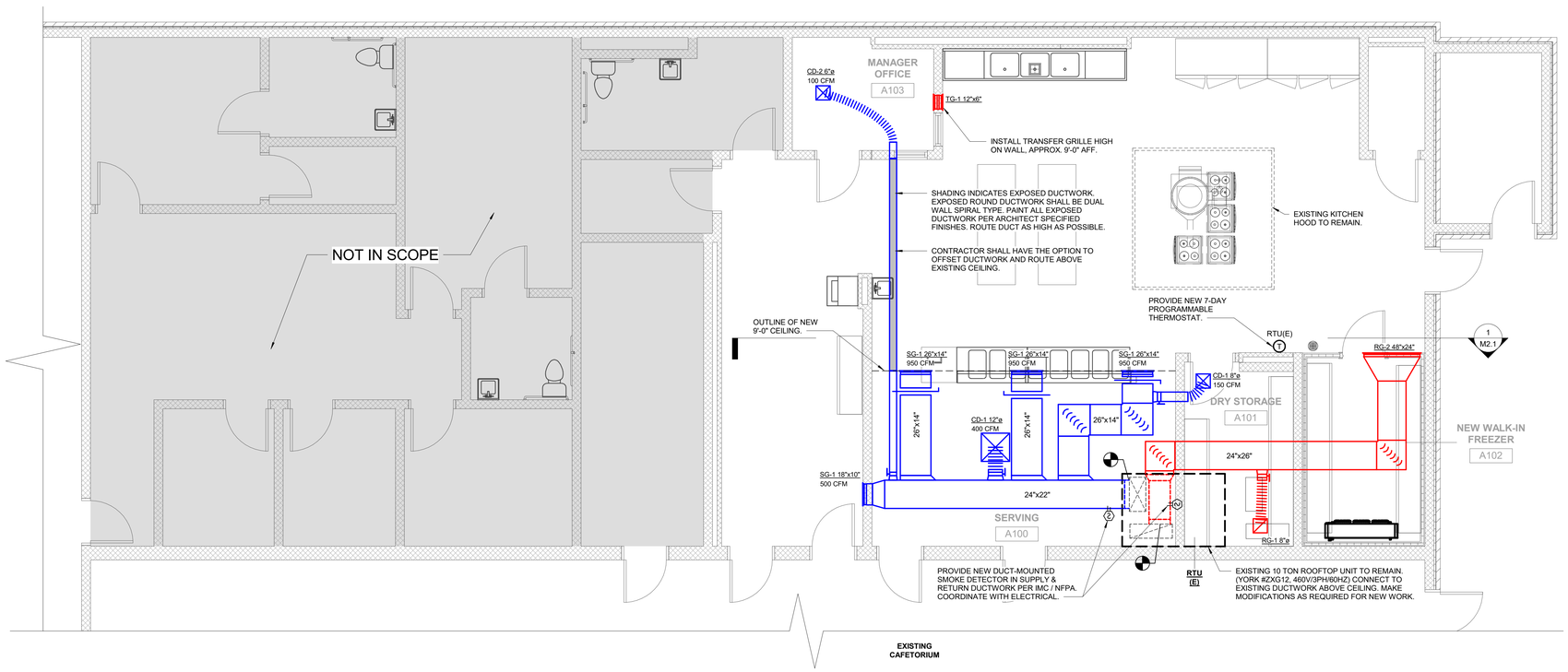


2 FLOOR PLAN - HVAC DEMO

1/4" = 1'-0"



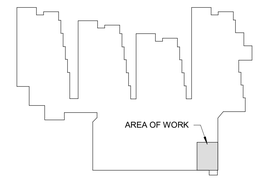
1 FLOOR PLAN - HVAC

1/4" = 1'-0"

LIFE SAFETY LEGEND

THERE ARE NO RATED WALLS AFFECTED IN THE SCOPE OF THIS PROJECT

NOTES:
1. HVAC SYSTEMS GREATER THAN 2,000 CFM SERVING MORE THAN ONE ROOM MUST HAVE A DUCT MOUNTED SMOKE DETECTOR MOUNTED IN THE RETURN AIR STREAM (IMC 606.2.1, 606.2.2). THESE SMOKE DETECTORS MUST BE WIRED TO A FIRE ALARM SYSTEM WHEN ONE IS PROVIDED IN A CONSTANTLY ATTENDED LOCATION FOR SUPERVISORY SIGNALS. IBC 907.3.1
2. MATERIALS EXPOSED TO PLENUM AIRFLOW MUST BE NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE AND HAVE A MAXIMUM SMOKE DEVELOPED INDEX OF 50. IBC 718.5 AND IMC 602.2.1.
3. NO DUCT OR PIPE PENETRATIONS OF RATED ASSEMBLIES IN SCOPE OF WORK.



KEY PLAN

N.T.S.

SCALE: 1/4" = 1'-0"

0' 2' 4' 8'

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REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

GERMANTOWN TN 38018

CSA ENGINEERING PROJECT NO: 23173
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Sheet Title: FLOOR PLAN

Project No.: 22129

Drawn by: ETC

Date: 03-13-2023

Sheet No.: M1.1

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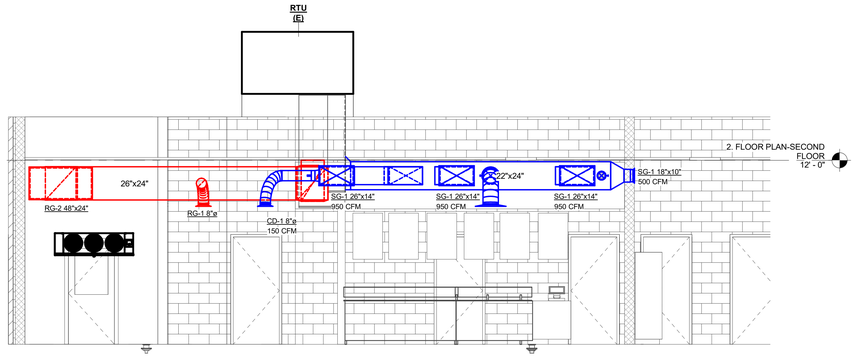
GRILLE, REGISTER, & DIFFUSER SCHEDULE

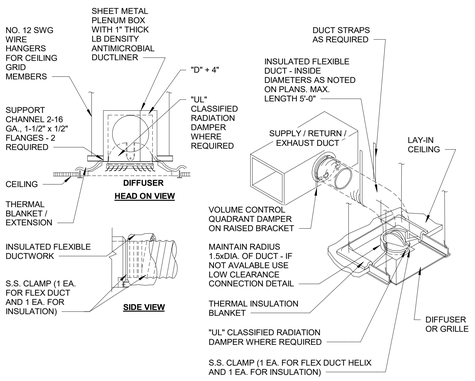
MARK	DESCRIPTION	APPLICATION	MFR.	MODEL	MATERIAL	FINISH	DAMPER	N.C. MAX	REMARKS
RG-1	FLUSH PERFORATED FACE WITH ROUND NECK FOR DUCTED RETURN, MOUNTING FRAME AND BALANCING DAMPER.	RETURN	NAILOR	4360A	ALUMINUM	COORD. W/ ARCH.	OPPOSED BLADE	35	SEE NOTES.
RG-2	SIDEWALL RETURN GRILLE, REVERSIBLE CORE, HORIZONTAL BLADES ON 1/4" CENTERS, MOUNTING FRAME AND OPPOSED BLADE DAMPER	RETURN	NAILOR	51RC	ALUMINUM	COORD. W/ ARCH.	OPPOSED BLADE	35	SEE NOTES.
TG-1	HEAVY GAUGE EXTRUDED ALUMINUM DOOR/TRANSFER GRILLE WITH DOUBLE FLANGE. SIGHTPROOF DESIGN, INVERTED "Y" BLADES ON 2/3" CENTERS.	RETURN	NAILOR	51DGD	ALUMINUM	COORD. W/ ARCH.	OPPOSED BLADE	35	SEE NOTES.
CD-1	ADJUSTABLE LOUVERED FACE, STEEL CONSTRUCTION WITH 4 CONES, LAY-IN T-BAR MOUNTING FRAME AND BALANCING DAMPER.	SUPPLY	NAILOR	ARNSA	ALUMINUM	COORD. W/ ARCH.	OPPOSED BLADE	35	SEE NOTES.
SG-1	SIDEWALL SUPPLY REGISTER, ALUMINUM CONSTRUCTION, 3/4" BLADE SPACING WITH SURFACE MOUNTING FRAME.	SUPPLY	NAILOR	51DH	ALUMINUM	COORD. W/ ARCH.	OPPOSED BLADE	35	SEE NOTES.

NOTES:
1. COORDINATE AIR DISTRIBUTION DEVICE LOCATION WITH LIGHTS AND REFLECTED CEILING PLANS.
2. CEILING DEVICES SHALL BE COMPATIBLE WITH CEILINGS SPECIFIED BY ARCHITECT.
3. UNLESS NOTED OTHERWISE, DIFFUSER NECK SIZE INDICATES DUCT RUNOUT SIZE.



1 MECHANICAL SECTION
1/4" = 1'-0"

SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



2 DIFFUSER & GRILLE DETAIL
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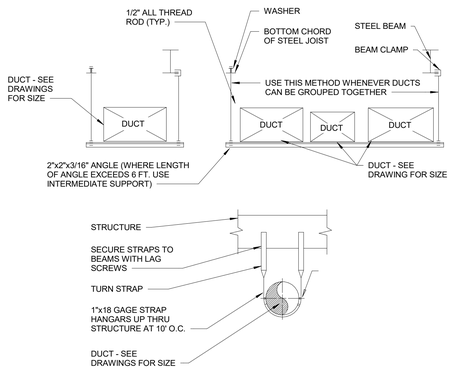
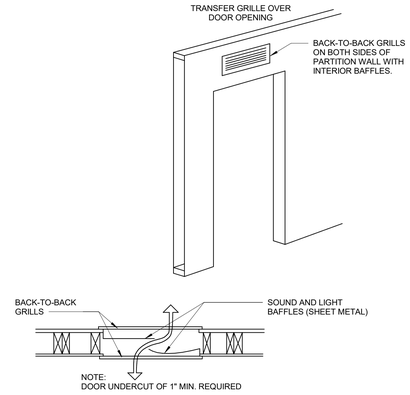
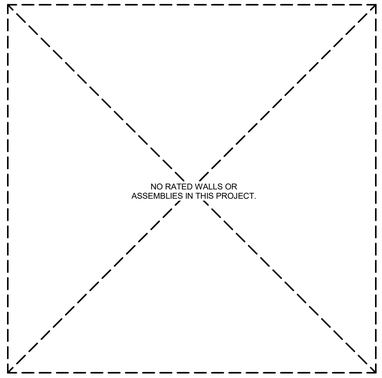


3 LOW PRESS. DUCT SUPPORT DETAIL
N.T.S.



4 RETURN AIR TRANSFER GRILLE DETAIL
N.T.S.



5 UL PENETRATION DETAILS
N.T.S.

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03/13/2023

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CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

Sheet Title: EQUIPMENT SCHEDULES, SECTIONS AND DETAILS
Project No.: 22129
Drawn by: ETC
Date: 03-13-2023
Sheet No.: M2.1

CSA ENGINEERING PROJECT NO: 23173
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SCOPE OF WORK

SCOPE OF WORK

THIS DOES NOT REPRESENT A FIRE PROTECTION SHOP DRAWING DESIGN. THIS DOCUMENT IS TO SHOW DESIGN INTENT. FINAL HYDRAULIC CALCULATIONS, HEAD LAYOUTS, AND PIPE SIZES, COMPLYING WITH ALL CODES, FOR A COMPLETE AND OPERATIONAL SYSTEM ARE TO BE SUPPLIED BY THE FIRE PROTECTION CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM. FIRE PROTECTION SYSTEM INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- MODIFICATIONS TO EXISTING SPRINKLER SYSTEM (UNLESS NOTED OTHERWISE). REVIEW ALL PLANS INCLUDING ARCHITECTURAL ELEVATIONS, SECTIONS, AND DETAILS TO INSURE ADEQUATE COVERAGE.
- PROVIDE HYDRAULICALLY DESIGNED SYSTEM TO NFPA 13 OCCUPANCY REQUIREMENTS.
- DETERMINE VOLUME AND PRESSURE OF INCOMING WATER SUPPLY FROM WATER FLOW TEST DATA.
- INTERFACE SYSTEM WITH BUILDING FIRE AND SMOKE ALARM SYSTEM.
- EXISTING BUILDING TO BE MODIFIED IS A "WET" TYPE SPRINKLER SYSTEM.
- THE SPRINKLER DESIGN SHALL BE ORDINARY HAZARD GROUP 1 (STORAGE SPACES 50FT² OR LARGER, COMMERCIAL KITCHENS AND JANITOR CLOSETS) USING UPRIGHT, PENDANT, CONCEALED OR SEMI-RECESSED SPRINKLER HEADS.
- SPRINKLER PIPING SHOWN ABOVE FLOOR OR GRADE SHALL BE INSTALLED ABOVE THE CEILING WHERE CEILINGS ARE PROVIDED. COORDINATE ROUTING WITH OTHER TRADES.
- PROVIDE UL LISTED FIRE STOPPING SYSTEM AND TESTED ASSEMBLY IN ALL RATED WALL AND FLOOR PIPE PENETRATIONS. FIRESTOP SEALANTS AND MATERIALS 3M FIRE PROTECTION PRODUCTS, OR EQUIVALENT.
- INSTALL THE FIRE PROTECTION SYSTEM IN COMPLIANCE WITH NFPA 13, LOCAL CODES, AND LOCAL FIRE OFFICIAL REQUIREMENTS.
- PROVIDE FLEXIBLE ARMOVERS ON ALL HEADS TO CENTER HEADS IN CEILING GRID (2 DIRECTIONS).
- COORDINATE ALL WORK WITH ARCHITECT'S REFLECTED CEILING PLAN.
- COORDINATE WITH HVAC, ELECTRICAL, PLUMBING, AND STRUCTURAL ELEMENTS AS REQUIRED FOR PROPER INSTALLATION OF SPRINKLER SYSTEM.
- PROVIDE COMPLETE SHOP DRAWINGS PER SPECS INDICATING ALL HVAC, ELECTRICAL, PLUMBING, AND STRUCTURAL ELEMENTS ON SAME. ALL PLANS SHALL BE FULLY DIMENSIONED AS TO LOCATION OF SPRINKLER PIPING.
- PROVIDE BRASS TAGS ON ALL VALVES
- OBTAIN STAMPED AND WRITTEN APPROVAL OF SYSTEM FROM ALL GOVERNING AUTHORITIES PRIOR TO SUBMITTING SAME FOR APPROVAL TO THE ARCHITECT.
- HANG ALL ARMOVERS LONGER THAN 12" CC.
- INSTALL CHROME, METAL SPLIT TYPE PIPE ESCUTCHEON AT EXPOSED WALL PENETRATIONS.
- SEAL ALL PENETRATIONS THRU FIRE RATED WALLS AND FLOORS WITH CAULK.
- ALL SYSTEM GAUGES AND VALVES MUST BE ACCESSIBLE FOR INSPECTION AND MAINTENANCE.
- COORDINATE SPRINKLER DISTRIBUTION PIPING ELEVATIONS WITH NEW CEILING HEIGHT. REFER TO ARCHITECTURAL PLANS AND SECTIONS.
- CONTRACTOR SHALL PROVIDE FIRE FLOW TEST PRIOR TO CONSTRUCTION. COORDINATE WITH LOCAL UTILITY AND AHJ AS REQUIRED PER IFC AND PAY ALL COSTS.

ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE ALL LOCAL CODES AND OTHER REGULATION GOVERNING WORK. THE CONTRACTOR SHALL BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

EQUIPMENT INDICATED ON THE DRAWINGS OR AS REQUIRED FOR A COMPLETE INSTALLATION, SUCH AS SHOPUNITS, DUCTWORK, WELDING EXHAUST DUCTWORK, FANS, HOODS, SUPPLY AND RETURN DIFFUSERS, ETC., SHALL BE PROVIDED WITHIN THE SCOPE OF WORK OF THIS SECTION. CONTRACTOR SHALL FIELD COORDINATE THE EXACT LOCATION OF EQUIPMENT WITH THE OWNER.

PERMITS

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS WORK. RETAIN CERTIFICATES OF INSPECTIONS AND SUBMIT WHEN WORK IS COMPLETE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES ENFORCED BY CITY, COUNTY, STATE, AND/OR FEDERAL AUTHORITIES.

SHOP DRAWINGS

SUBMIT SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT ELECTRONIC SHOP DRAWINGS IN PDF FORMAT AND THEY SHALL BE CLEARLY LABELED AS FOLLOWS:

- SHOP DRAWINGS: INDICATE LAYOUT OF FINISHED CEILING AREAS INDICATING SPRINKLER LOCATIONS COORDINATED WITH CEILING INSTALLATION. INDICATE DETAILED PIPE LAYOUT, HANGERS AND SUPPORTS, SPRINKLERS, COMPONENTS AND ACCESSORIES. INDICATE SYSTEM CONTROLS.
- PRODUCT DATA: SUBMIT DATA ON SPRINKLERS, VALVES, AND SPECIALTIES, INCLUDING MANUFACTURERS CATALOG INFORMATION. SUBMIT PERFORMANCE RATINGS, ROUGH-IN DETAILS, WEIGHTS, SUPPORT REQUIREMENTS, AND PIPING CONNECTIONS.
- DESIGN DATA: SUBMIT DESIGN CALCULATIONS; SIGNED AND SEALED BY A NICET LEVEL III CERTIFIED TECHNICIAN.
- MANUFACTURER'S CERTIFICATE: CERTIFY PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.

CLOSEOUT SUBMITTALS

- PROJECT RECORD DOCUMENTS: RECORD ACTUAL LOCATIONS OF SPRINKLERS AND DEVIATIONS OF PIPING FROM DRAWINGS. INDICATE DRAIN AND TEST LOCATIONS.
- OPERATION AND MAINTENANCE DATA: SUBMIT COMPONENTS OF SYSTEM, SERVICING REQUIREMENTS, RECORD DRAWINGS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY.

PIPING

ABOVE GROUND PIPING

PIPE SIZE 2" AND SMALLER: ASTM A53; OR ASTM A795; SCHEDULE 40 BLACK, GALVANIZED FOR WET PIPE SYSTEM.

- STEEL FITTINGS: ASME B16.9, WROUGHT STEEL, BUTT WELDED; ASME B16.25, BUTT WELD ENDS; OR ASME B16.11, FORGED STEEL SOCKET WELDED AND THREADED.
- CAST IRON FITTINGS: ASME B16.4, THREADED FITTINGS.
- MALLEABLE IRON FITTINGS: ASME B16.3, THREADED FITTINGS.
- MECHANICAL GROOVED COUPLINGS: MALLEABLE IRON HOUSING CLAMPS TO ENGAGE AND LOCK, "C" SHAPED ELASTOMERIC SEALING GASKET, STEEL BOLTS, NUTS, AND WASHERS; GALVANIZED FOR GALVANIZED PIPE.
- BLACK STEEL PIPE SHALL BE ACCEPTABLE FOR ALL WET SYSTEMS.

PIPE SIZE 2-1/2" AND LARGER: ASTM A135; OR ASTM A795; SCHEDULE 10 OR 40, BLACK, GALVANIZED FOR WET PIPE SYSTEM.

- MECHANICAL GROOVED COUPLINGS: MALLEABLE IRON HOUSING CLAMPS TO ENGAGE AND LOCK, "C" SHAPED ELASTOMERIC SEALING GASKET, STEEL BOLTS, NUTS, AND WASHERS; GALVANIZED FOR GALVANIZED PIPE.
- SCHEDULE 10 PIPE: ROLLED GROOVE.
- CAST IRON PIPE: AWWA C151.
- FITTINGS: AWWA C110, STANDARD THICKNESS.
- JOINTS: AWWA C111, RUBBER GASKET.
- MECHANICAL GROOVED COUPLINGS: MALLEABLE IRON HOUSING CLAMPS TO ENGAGE AND LOCK, "C" SHAPED COMPOSITION SEALING GASKET, STEEL BOLTS, NUTS, AND WASHERS; GALVANIZED FOR GALVANIZED PIPE.
- BLACK STEEL PIPE SHALL BE ACCEPTABLE FOR ALL WET SYSTEMS.

PIPE HANGERS AND SUPPORTS

ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USER OF WIRE OF METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACE OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.

- INSTALL IN ACCORDANCE WITH NFPA 13 AND NFPA 14.
- INSTALL HANGERS TO WITH MINIMUM 1/2 INCH SPACE BETWEEN FINISHED COVERING AND ADJACENT WORK.
- PLACE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW.
- USE HANGERS WITH 1-1/2 INCH MINIMUM VERTICAL ADJUSTMENT. DESIGN HANGERS FOR PIPE MOVEMENT WITHOUT DISENGAGEMENT OF SUPPORTED PIPE.
- SUPPORT VERTICAL PIPING AT EVERY FLOOR. SUPPORT RISER PIPING INDEPENDENTLY OF CONNECTED HORIZONTAL PIPING.
- WHERE INSTALLING SEVERAL PIPES IN PARALLEL AND AT SAME ELEVATION, PROVIDE MULTIPLE OR TRAPEZE HANGERS.
- PRIME COAT EXPOSED STEEL HANGERS AND SUPPORTS. HANGERS AND SUPPORTS LOCATED IN CRAWL SPACES, PIPE SHAFTS, AND SUSPENDED CEILING SPACES ARE NOT CONSIDERED EXPOSED.
- HANGERS FOR PIPE SIZES 1/2 TO 1-1/2 INCH: CARBON STEEL, ADJUSTABLE SWIVEL, SPLIT RING.
- HANGERS FOR PIPE SIZES 2 INCH AND OVER: CARBON STEEL, ADJUSTABLE, CLEVIS.
- MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS.
- WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
- WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP.
- VERTICAL SUPPORT: STEEL RISER CLAMP.
- FLOOR SUPPORT: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT.
- COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.

INSTALLATION

- INSTALL PIPING IN ACCORDANCE WITH NFPA 13 FOR SPRINKLER SYSTEMS.
- ROUTE PIPING IN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT.
- INSTALL PIPING TO CONSERVE BUILDING SPACE, TO NOT INTERFERE WITH USE OF SPACE AND OTHER WORK.
- GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
- INSTALL PIPE SLEEVE AT PIPING PENETRATIONS THROUGH PARTITIONS, WALLS, AND FLOORS. SEAL PIPE AND SLEEVE PENETRATIONS TO MAINTAIN FIRE RESISTANCE EQUIVALENT TO FIRE SEPARATION.
- INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
- SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN AT LOW POINTS. INSTALL ECCENTRIC REDUCERS TO MAINTAIN TOP OF PIPE LEVEL.
- PREPARE PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES FOR FINISH PAINTING, WHERE PIPE SUPPORT MEMBERS ARE WELDED TO STRUCTURAL BUILDING FRAMING, SCRAPE, BRUSH CLEAN, AND APPLY ONE COAT OF ZINC RICH PRIMER TO WELDING.
- DO NOT PENETRATE BUILDING STRUCTURAL MEMBERS UNLESS INDICATED.
- WHERE MORE THAN ONE PIPING SYSTEM MATERIAL IS SPECIFIED, INSTALL COMPATIBLE SYSTEM COMPONENTS AND JOINTS. INSTALL FLANGES, UNION, AND COUPLINGS AT LOCATIONS REQUIRING SERVICING.
- DIE CUT THREADED JOINTS WITH FULL CUT STANDARD TAPER PIPE THREADS WITH RED LEAD AND LINSEED OIL OR OTHER NON-TOXIC JOINT COMPOUND APPLIED TO MALE THREADS ONLY.
- INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED. REMOVE PROTECTIVE COATINGS AFTER INSTALLATION.
- INSTALL GATE OR BALL VALVES FOR SHUT-OFF OR ISOLATING SERVICE.
- INSTALL DRAIN VALVES AT MAIN SHUT-OFF VALVES, LOW POINTS OF PIPING AND APPARATUS.
- WHERE INSERTS ARE OMITTED, DRILL THROUGH CONCRETE SLAB FROM BELOW AND INSTALL THROUGH-BOLT WITH RECESSED SQUARE STEEL PLATE AND NUT FLUSH WITH TOP OF SLAB.

INTERFACE WITH OTHER PRODUCTS

- INSTALL INSERTS FOR PLACEMENT IN CONCRETE FORMS.
- INSTALL INSERTS FOR SUSPENDING HANGERS FROM REINFORCED CONCRETE SLABS AND SIDES OF REINFORCED CONCRETE BEAMS.
- INSTALL HOOKED ROD TO CONCRETE REINFORCEMENT SECTION FOR INSERTS CARRYING PIPE OVER 4 INCHES.
- WHERE CONCRETE SLABS FORM FINISHED CEILING, LOCATE INSERTS FLUSH WITH SLAB SURFACE.
- INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.

CLEANING
EXECUTION REQUIREMENTS: CLEAN ENTIRE SYSTEM AFTER OTHER CONSTRUCTION IS COMPLETE.

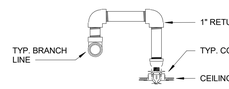
FIRE PROTECTION LEGEND

NOT ALL SYMBOLS MAY BE USED

SYMBOL	ABB.	DESCRIPTION
F F	F	FIRE MAIN
		PIPE TURN DOWN
		PIPE TURN UP
		CAP/PLUG
		UNION
	I.E.	INVERT ELEVATION
	AFF	ABOVE FINISHED FLOOR
		CEILING SPRINKLER - UPRIGHT
		CEILING SPRINKLER - CONCEALED
		CEILING SPRINKLER - RECESSED PENDANT
		SIDEWALL SPRINKLER
		SIDEWALL EXTENDED COVERAGE SPRINKLER
		SIDEWALL SPRINKLER, NON-FREEZE
		NEW UNDERGROUND PIPE
		EXISTING UNDERGROUND PIPE

FIRE PROTECTION SHEET INDEX

NUMBER	SHEET NAME
FP0.1	GENERAL NOTES AND LEGEND
FP1.1	FLOOR PLAN



1 RETURN BEND DETAIL
N.T.S.

FLOW TEST DATA:
STATIC: 88 PSI
RESIDUAL: 82 PSI
FLOW: 1,420 GPM
DATE/TIME: 3/10/2023 @ 10:00 AM
PERFORMED BY: ACTION FIRE PROTECTION

STANDARD OF CARE FOR FIRE PROTECTION SYSTEM DESIGN:

BUILDING INFORMATION:

A. NAME OF OWNER:
DOGWOOD ELEMENTARY
8945 DOGWOOD ROAD, GERMANTOWN, TN 38139
(901)756-2310

B. FIRE DEPARTMENT INFORMATION:
ERIC GRIZZARD, FIRE CHIEF
(901)757-7266
8925 DOGWOOD ROAD, GERMANTOWN, TN 38139

C. LOCATION (INCLUDING B. STREET ADDRESS):
8945 DOGWOOD ROAD, GERMANTOWN, TN 38139

D. ADOPTED CODES
1. *(1) INTERNATIONAL BUILDING CODE (IBC), 2012 EDITION, EXCEPT FOR:*
2. *(A) CHAPTER 11 ACCESSIBILITY, AND*
3. *(B) CHAPTER 34, SECTION 3411 ACCESSIBILITY FOR EXISTING BUILDINGS;*
4. *(2) INTERNATIONAL FUEL GAS CODE 2012 EDITION;*
5. *(3) INTERNATIONAL MECHANICAL CODE, 2012 EDITION;*
6. *(4) NATIONAL ELECTRIC CODE, NFPA 70, 2008 EDITION;*
7. *(5) INTERNATIONAL ENERGY CONSERVATION CODE, 2012 EDITION, OR*
8. *(6) INTERNATIONAL ENERGY CONSERVATION CODE, 2012 EDITION (GROUP F-1, F-2, S-1, & S-2 ONLY)*
9. *(7) INTERNATIONAL FIRE CODE, 2012 EDITION.*
10. *(8) INTERNATIONAL EXISTING BUILDING CODE, 2012 EDITION, EXCEPT THAT THE PROVISIONS OF THE INTERNATIONAL*
11. *ENERGY CONSERVATION CODE, 2006 EDITION, SHALL APPLY TO THE FOLLOWING OCCUPANCY CLASSIFICATIONS AS*
12. *DEFINED BY THE IBC, 2012 EDITION:*
13. *(A) MODERATE-HAZARD FACTORY INDUSTRIAL, GROUP F-1;*
14. *(B) LOW-HAZARD FACTORY INDUSTRIAL, GROUP F-2;*
15. *(C) MODERATE-HAZARD STORAGE, GROUP S-1; AND,*
16. *(D) LOW-HAZARD STORAGE, GROUP S-2; (SCOPE OF WORK RELATED TO EXISTING BUILDINGS).*
17. *(9) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (FOR BUILDINGS REQUIRED TO COMPLY WITH TENNESSEE*
18. *PUBLIC BUILDING ACCESSIBILITY ACT).*
19. *(10) NFPA 101 LIFE SAFETY CODE, 2012 EDITION (STATE BUILDINGS, EDUCATIONAL OCCUPANCIES AND ANY*
20. *OCCUPANCY REQUIRING AN INSPECTION BY THE TSFMO FOR INITIAL LICENSURE)*

E. POINT OF COMPASS:
SHOWN ON ALL FIRE PROTECTION FLOOR PLANS

F. *SCOPE OF WORK:*
RENOVATION TO EXISTING KITCHEN

G. PLAN OF EACH FLOOR:
REFER TO SHEET FP1.1

H. DESCRIPTION OF OCCUPANCY AND COMMODITY CLASSIFICATION AS DEFINED IN CHAPTER 5 OF NFPA 13:
ORDINARY HAZARD GROUP I OCCUPANCY

I. TYPE OF CONSTRUCTION, NUMBER OF STORIES AND BUILDING HEIGHT IN FEET OF NFPA 13:
EDUCATIONAL GROUP E OCCUPANCY
1 STORY
17'-0" BUILDING HEIGHT

J. *IECC CLIMATE ZONE:* 3A

K. FULL HEIGHT BUILDING CROSS SECTION:
REFER TO ARCHITECTURAL PLANS

A. LOCATIONS OF FIRE WALLS, LARGE UN-PROTECTED FLOOR OPENINGS, UN-PROTECTED WINDOW OPENINGS, FIRE DOORS:
REFER TO SHEET FP1.1.

B. DISTANCES TO AND CONSTRUCTION AND OCCUPANCY OF ADJACENT OR NEARBY EXPOSED BUILDINGS OR STRUCTURES WHERE ADDITIONAL PROTECTION MAY BE REQUIRED:
NOT APPLICABLE

C. TYPE, TEMPERATURE RATING AND LOCATIONS OF ALL SPRINKLER HEADS IN FINISHED AREAS:
REFER TO FLOOR PLANS AND FIRE PROTECTION LEGEND ON FP0.1

D. IF THE PROJECT IS IN A SEISMIC AREA INFORMATION ATTESTING TO THIS SHALL BE INCLUDED.
SEISMIC BRACING IS REQUIRED ON THE SPRINKLER PIPING AND RISER.

E. THE LOCATION AND THE LOCATION AND SIZE OF THE HYDRAULICALLY REMOTE AREA OF COVERAGE.
HYDRAULICALLY REMOTE AREA OF COVERAGE IS NOT AFFECTED IN SCOPE OF WORK.

F. FIRE PUMP DESIGN, SPECIFICATIONS AND ROOM LAYOUT (IF REQ'D)
NOT APPLICABLE

G. STANDPIPE DESIGN (IF REQUIRED) MUST BE COMPLETELY DELINEATED ON DRAWING.
NOTE APPLICABLE

H. IF EXTENSIONS ARE MADE TO EXISTING SYSTEM, THE SAME INFORMATION SHALL BE PROVIDED FOR THE EXISTING AS WELL AS FOR THE EXTENSION, INCLUDING POINT OF CONNECTION TO EXISTING MAIN.
NOT APPLICABLE

I. THE DESIGN DRAWINGS SHALL FULLY IDENTIFY THE INTENT OF THE TYPE OF SYSTEM (DRY, WET, PRE-ACTION, ETC.):
WET SPRINKLER SYSTEMS: ABOVE GROUND PIPING AND FITTINGS: SPRINKLER MAINS LARGER THAN 2" SHALL BE SCHEDULE 10 BLACK STEEL. MAINS SMALLER THAN 2" SHALL BE SCHEDULE 40 BLACK STEEL. THREADED LINES SHALL BE SCHEDULE 40 BLACK STEEL. ALL FITTINGS SHALL BE UL APPROVED.

SITE PLAN INFORMATION

K. SIZE AND LOCATION OF ALL WATER SUPPLIES:
REFER TO SHEET FP1.1

L. SIZE AND LOCATION OF ALL PIPING, INDICATING, WHERE POSSIBILE, THE CLASS AND TYPE OF NEW PIPE TO BE INSTALLED AND THE DEPTH TO WHICH IT IS TO BE BURIED:
NOT APPLICABLE.

M. INDICATE SIZE, TYPE AND LOCATION OF VALVES. INDICATE IF LOCATED IN PIT OR IF OPERATION IS BY POST INDICATOR OR KEY WRENCH THROUGH A CURB BOX.
REFER TO SHEET FP1.1.

N. INDICATE THE SIZE, TYPE AND LOCATION OF METERS AND BACKFLOW DEVICES.
REFER TO SHEET FP1.1.

O. SIZE AND LOCATION OF HYDRANTS, SHOWING SIZE AND NUMBER OF OUTLETS AND IF OUTLETS ARE TO BE EQUIPPED WITH INDEPENDENT GATE VALVES. INDICATE IF HOSE HOUSES AND EQUIPMENT ARE TO BE PROVIDED AND BY WHOM.
REFER TO SHEET FP1.1.

P. SPRINKLER AND STANDPIPE RISERS AND MONITOR NOZZLES TO BE SUPPLIED BY THE SYSTEM.
NOT APPLICABLE.

Q. LOCATION OF FIRE DEPARTMENT CONNECTION
REFER TO SHEET FP1.1.

R. WATER SUPPLY INFORMATION:
a. INFORMATION REGARDING WHETHER THE MAIN IS CIRCULATING OR DEAD END
MAIN IS DEAD END.

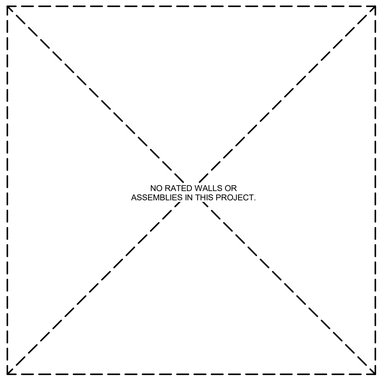
b. PRESSURE UNDER FLOWING AND STATIC CONDITIONS. IF AVAILABLE, INFORMATION ON ORIFICE SIZE AND COEFFICIENT OF ORIFICE.
FLOW TEST INFORMATION SHOWN ON FP1.1.

c. ORIFICE USED IN THE TEST, AS WELL AS THE PITOT TEST PRESSURE.
2-1/2" ORIFICE USED FOR FLOW HYDRANT.

d. INFORMATION REGARDING WHO CONDUCTED THE FLOW TEST, WHEN AND WHERE THE TEST WAS CONDUCTED
FLOW TEST INFORMATION SHOWN ON FP0.1, PITOT TEST PRESSURE OF 72 PSI.

HYDRAULIC CALCULATIONS
A. ENGINEER SHALL PREPARE AND SUBMIT PRELIMINARY HYDRAULIC CALCULATIONS PROVING AVAILABILITY OF ADEQUATE WATER. THIS SHALL BE FOR THE HYDRAULICALLY MOST REMOTE AREA, OR IF PRESENT, THE STANDPIPE DEMAND CALCULATIONS SHALL INCLUDE THE INFORMATION REQUIRED BY NFPA 13.:
REFER TO THIS SHEET FOR HYDRAULIC CALCULATIONS.
MOST REMOTE HYDRAULIC AREA NOT AFFECTED IN SCOPE OF WORK.

3 SITE PLAN
N.T.S.



2 UL PENETRATION DETAILS
N.T.S.

Renaissance Group
9700 Village Circle, ste.100
Lakeland, TN 38002
901.332.5533
fax: 901.332.5534
www.rgroup.biz

GARY E. WHITMAN
REGISTERED ENGINEER
No. 091077
STATE OF TENNESSEE
03/13/2023

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

CSA ENGINEERING PROJECT NO: 23173
Chad Stewart & Associates, Inc.
9720 Village Circle Lakeland, TN 38002
Phone 901-260-7850 CSAengineeringinc.com
Memphis Nashville

Sheet Title: GENERAL NOTES AND LEGEND
Project No.: 22129
Drawn by: ETC
Date: 03-13-2023
Sheet No.: FP0.1

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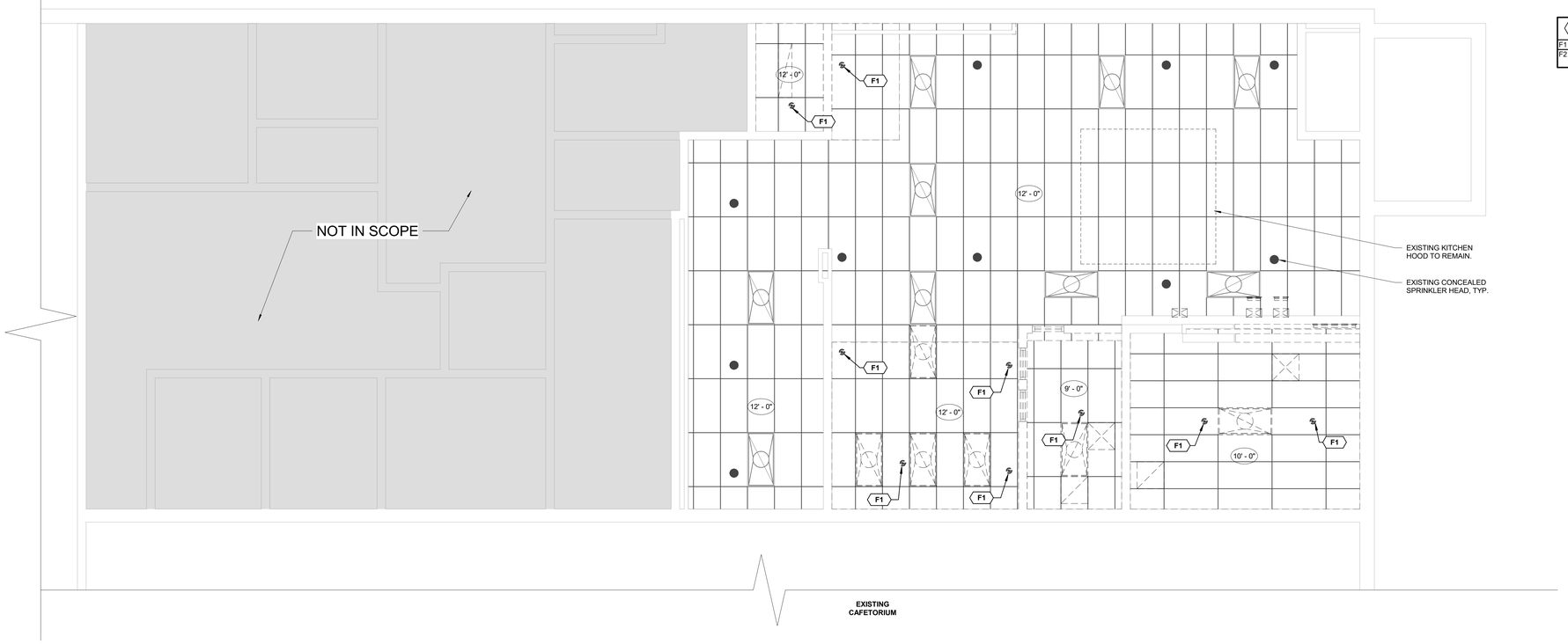
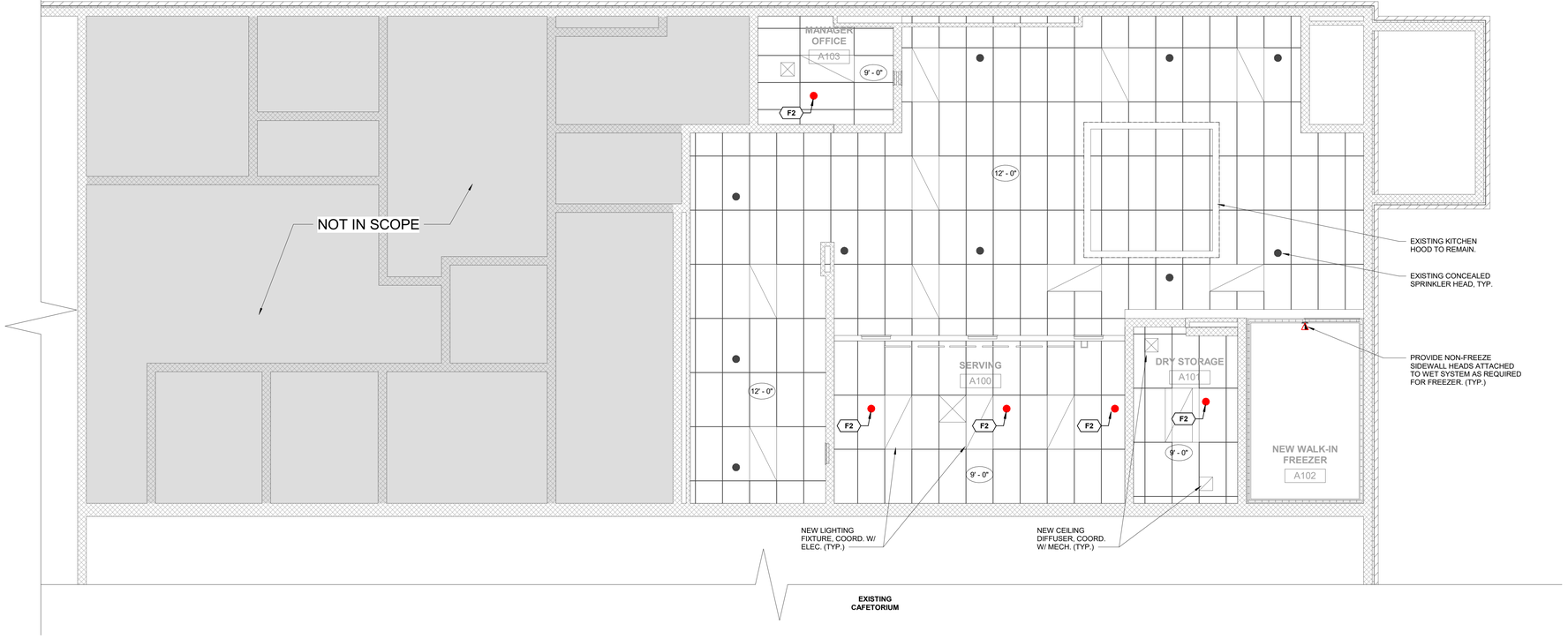


2 DEMO FLOOR PLAN - FIRE PROTECTION

1/4" = 1'-0"



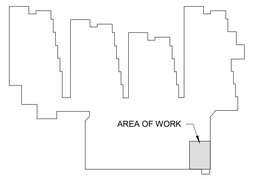
1 FLOOR PLAN - FIRE PROTECTION

1/4" = 1'-0"

#	FP KEYNOTE LEGEND
F1	EXISTING SPRINKLER HEAD TO BE DEMOLISHED.
F2	PROVIDE NEW CONCEALED SPRINKLER HEAD. MODIFY EXISTING FIRE MAIN, BRANCH PIPING AS REQUIRED.

LIFE SAFETY LEGEND

THERE ARE NO RATED WALLS AFFECTED IN THE SCOPE OF THIS PROJECT



KEY PLAN

N.T.S.

SCALE: 1/4" = 1'-0"

0' 2' 4' 8'

Renaissance Group
9700 Village Circle, ste.100
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901.332.5533
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GARY E. WHITTAM
REGISTERED ENGINEER
No. 091073
STATE OF TENNESSEE
03/13/2023

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

GERMANTOWN TN 38018

CSA ENGINEERING PROJECT NO: 23173
Chad Stewart & Associates, Inc.
9720 Village Circle Lakeland, TN 38002
Phone 901-260-7850 CSAengineeringinc.com
Memphis Nashville

Sheet Title: FLOOR PLAN

Project No.: 22129

Drawn by: ETC

Date: 03-13-2023

Sheet No.: FP1.1

renaissance group

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PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE DATA	WASTE	VENT	C.W.	H.W.	REMARKS
FS-1	FLOOR SINK WITH FUNNEL. JR SMITH 3100 (8.5X8.5X6). NICKEL BRONZE RIM AND GRATE WITH 6" DIA. FUNNEL. 2" OUTLET. FLOOR SINK SHALL BE SET 1/2-INCH TO 1-INCH ABOVE FINISHED FLOOR AND SHALL BE LOCATED SO AS NOT TO CREATE A TRIPPING HAZARD AS REQUIRED BY AMENDMENT 427.2.	2"	2"	-	-	SEE NOTES.
HD-1	HUB DRAIN - LACQUERED CAST IRON HUB DRAIN WITH ANCHOR FLANGE, WEEPHOLES, STAINLESS STEEL STRAINER AND INDIRECT WASTE HUB. MIFAB #F1100-DD. 5" DIA. CAST IRON HUB DRAIN W/ OUTLET SIZE AS NOTED.	2"	2"	-	-	SEE NOTES.

NOTES:
1. PROVIDE TRAP SEAL EQUAL TO ZURN Z1072 FOR TRAPS SUBJECT TO EVAPORATION AS REQUIRED BY SECTION 1002.4 OF THE IPC 2021.
2. PROVIDE FULL SIZE CLEANOUTS.
3. ITEMS SPECIFIED IN THIS SCHEDULE ARE LISTED AS STANDARD. COMPARABLE ITEMS MAY BE SUBMITTED FOR APPROVAL MEETING THIS STANDARD.

SCOPE OF WORK

SCOPE OF WORK
THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE ALL LOCAL CODES AND OTHER REGULATION GOVERNING WORK. THE CONTRACTOR SHALL BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT. EQUIPMENT INDICATED ON THE DRAWINGS OR AS REQUIRED FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL WRAP ALL EXPOSED PVC PIPING IN UL RATED WRAP WITH A 25/50 FLAME SPREAD / SMOKE DEVELOPED INDEX. CONTRACTOR SHALL REPAIR ALL CORE DRILLED HOLES IN SPACE THAT ARE NOT UTILIZED IN THE NEW WORK (FIELD VERIFY EXISTING HOLES).

PERMITS
THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS WORK. RETAIN CERTIFICATES OF INSPECTIONS AND SUBMIT WHEN WORK IS COMPLETE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES ENFORCED BY CITY, COUNTY, STATE, AND/OR FEDERAL AUTHORITIES.

SHOP DRAWINGS
SUBMIT SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT ELECTRONIC SHOP DRAWINGS IN PDF FORMAT AND THEY SHALL BE CLEARLY LABELED.

MISCELLANEOUS
ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE. COORDINATE THE INSTALLATION OF ALL ROOF FLASHINGS AT ROOF PENETRATION. PROVIDE FLASHING FOR ALL ROOF PENETRATIONS IN ACCORDANCE WITH ROOF MANUFACTURER'S RECOMMENDATIONS. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE. THE PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REQUIRED SIZES, WEIGHTS ELECTRICAL CONNECTIONS, AND CLEARANCES ARE COMPATIBLE WITH THE DESIGN CONCEPT SHOWN ON THE DRAWING. THESE CHANGES SHALL BE ACCOMPLISHED BY THE CONTRACTOR. THE PLANS ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE

SOIL, WASTE AND VENT PIPING
SOIL, WASTE AND VENT PIPING 10" AND SMALLER SHALL PVC, ASTM 2665, D1785, SCHEDULE 40 PVC WITH PVC FITTINGS, AND SOLVENT WELD JOINTS WITH ASTM 2564 SOLVENT CEMENT.

DOMESTIC WATER PIPING
DOMESTIC WATER PIPING 2" AND SMALLER SHALL BE COPPER TUBE WITH WROUGHT COPPER SWEAT FITTINGS JOINED WITH NON-LEAD, NON-ANTIMONY SOLDER OR APPROVED EQUAL. PROVIDE TYPE "L" COPPER TUBE ABOVE GRADE AND TYPE "K" BELOW GRADE.

CROSS-LINKED POLYETHYLENE (PEX) PIPE CONFORMING TO STANDARDS ASTM F876 OR ASTM F877 SHALL BE ACCEPTABLE.

DOMESTIC HOT WATER PIPING THAT IS PART OF HWR SYSTEM SHALL BE CPVC. PEX OR PVC PIPING IS NOT ACCEPTABLE.

HANGERS & SUPPORTS
THE PLUMBING CONTRACTOR SHALL FURNISH ALL PIPE SUPPORTS REQUIRED FOR EQUIPMENT AND MATERIAL. ALL HORIZONTAL RUNS OF PIPING SHALL BE SUPPORTED BY PIPE HANGERS INSTALLED AS REQUIRED BY LOCAL CODES ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. HANGERS AND PIPE ATTACHMENTS TO BE FACTORY FABRICATED WITH GALVANIZED COATINGS; NONMETALLIC COATED FOR HANGERS IN DIRECT CONTACT WITH COPPER TUBING.

CONNECTIONS
INSTALL UNIONS ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS. SCREW JOINT STEEL PIPING UP TO AND INCLUDING 1-1/2". WELD PIPING USE NON-LEAD, NON-ANTIMONY SOLDER FOR SOLDERING DOMESTIC WATER COPPER PIPE.

CLEANOUTS
PROVIDE J.R. SMITH OR EQUIVALENT FLOOR AND WALL CLEANOUTS AS INDICATED ON THE DRAWINGS OR WHERE REQUIRED BY CODE IN ALL SOIL, WASTE, AND DRAIN LINES. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.

INSTALLATION
INSTALL EXPOSED PIPING FREE OF SAGS AND BENDS. PROVIDE BRACKET STANDOFFS FROM MOUNTING SURFACES SUFFICIENT TO ALLOW 1" CLEANING SPACE AROUND ALL PIPING, INCLUDING ANY ADDED PIPING INSULATION. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM BOARD PARTITIONS, CONCRETE FLOOR AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.

GENERAL
PLUMBING CONTRACTOR TO PROVIDE VALVES WHERE INDICATED ON PLANS AND AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH FIXTURE AND ITEM OF EQUIPMENT. PROVIDE BRAIDED STAINLESS STEEL HOSE (UNLESS OTHERWISE NOTED) BETWEEN VALVE AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.

VALVES
PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER. UNLESS NOTED OTHERWISE VALVES SHALL BE AS FOLLOWS:

VALVE TYPE	MANUFACTURER	MODEL NO.
CHECK VALVE (UP TO 2")	NIBCO	#S-22
FULL PORT BALL VALVE (UP TO 3")	NIBCO	#S-FP-600
GATE VALVE (UP TO 3")	NIBCO	#S-113
TEMP. & PRESSURE RELIEF VALVE	WILKINS	#TP1100A
WATER HAMMER ARRESTOR	WILKINS	#1250
BACKFLOW PREVENTER (DEVICE)	WILKINS	#700
VACUUM RELIEF VALVE	WILKINS	#35VCH
PRESSURE REDUCING VALVE	WILKINS	#500YSBR

SUPPLY
IF WATER PRESSURE SUPPLIED TO STORE IS GREATER THAN AND 65 PSI. THEN PROVIDE A PRESSURE REGULATOR TO MAIN SUPPLY TO MAINTAIN WATER PRESSURE. PROVIDE BACKFLOW PREVENTION ON WATER SERVICE IF REQUIRED BY LOCAL CODES.

TESTING
ALL PIPES SHALL BE TESTED BY AN APPROVED METHOD BEFORE THEY ARE BACKFILLED OR CONCEALED. AFTER TESTING IS COMPLETE, THE PLUMBING CONTRACTOR SHALL DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO ENGINEER FOR REVIEW AND APPROVAL.

GUARANTEE
MATERIALS, EQUIPMENT, AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF SUBSTANTIAL COMPLETION. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. FOR THE SAME PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

GENERAL NOTES

1. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS (DO NOT SCALE FOR LOCATIONS). THE CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONAL HEATING, VENTILATING, AND AIR CONDITIONING SYSTEM (HVAC) AS INDICATED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES AND CONTROLS AS INDICATED.
2. REMOVE CONNECTING UTILITIES (WATER, DRAINAGE, POWER, GAS, ETC.) AS INDICATED OR NECESSARY FOR FUTURE RECONNECTION IF REQUIRED.
3. CONTRACTOR SHALL EMPLOY WORKMEN WHO ARE TRAINED AND EXPERIENCED IN NECESSARY SKILLS TO PERFORM DEMOLITION WORK.
4. CONTRACTOR SHALL USE APPROPRIATE TOOLS AND SHALL NOT IMPART EXCESSIVE VIBRATIONS TO THE EXISTING STRUCTURE OR OTHER BUILDING COMPONENTS.
5. COORDINATE PIPING WITH EXISTING STRUCTURAL, ELECTRICAL, HVAC, COMMUNICATION, AND FIRE PROTECTION. MAKE OFFSETS AND TRANSITIONS TO COORDINATE WITH OTHER TRADES WITHOUT ANY ADDITIONAL EXPENSE TO THE OWNER. CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS OF TRADES.
6. ALL NEW & DEMOLISHED PIPING PENETRATIONS SHALL BE FULLY SEALED WATERTIGHT.
7. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF ASME, ASTM, UL, NEMA, ANSI, ASHRAE, NFPA, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY.
8. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
9. PROVIDE AND INSTALL ALL "P" TRAPS, MANIFOLDS, DRAIN LINES, SHUT-OFFS, GREASE TRAPS & BACKFLOW PREVENTORS AS REQUIRED BY EQUIPMENT AND/OR LOCAL CODES.
10. IF WATER PRESSURE AT EQUIPMENT AREA EXCEEDS 40 P.S.I. FLOW PRESSURE, INSTALL A PRESSURE REDUCING VALVE ON BOTH THE MAIN HOT AND COLD WATER SUPPLY LINES.
11. LOCATE AND FURNISH ALL AREA FLOOR DRAINS UNLESS OTHERWISE SPECIFIED.
12. SEE EQUIPMENT SCHEDULE FOR LISTING OF ALL EQUIPMENT WITH APPROPRIATE SPECIFICATIONS. SCHEDULE WILL INCLUDE ALL RESPONSIBILITIES FOR PROVIDING AND INSTALLING EQUIPMENT.
13. THESE PLANS ARE FOR INFORMATION ONLY. INFORMATION ON THIS SHEET IS TO BE REVIEWED BY THE OWNER AND INCORPORATED INTO THE PLANS IN ACCORDANCE WITH LOCAL CODES. THE ENTIRE INSTALLATION SHALL CONFORM WITH THE LATESET EDITION OF THE LOCAL AND STATE PLUMBING CODE IN ADDITION TO LANDLORD REQUIREMENTS AND SPECIFICATIONS.
14. THE OWNER SHOULD SUBMIT THESE PLANS TO LOCAL BUILDING, HEALTH AND FIRE DEPARTMENT OFFICIALS FOR APPROVAL.
15. CONTRACTORS TO MAKE USE OF ANY CONNECTIONS ALREADY INSTALLED IN EXISTING BUILDING WHENEVER POSSIBLE.
16. ALL INDIRECT WASTES EXCEEDING 24" IN LENGTH SHALL BE TRAPPED.
17. PROVIDE CLEANOUTS REQUIRED, & AT THE BASE OF ALL STACKS.
18. PROVIDE FIXTURE STOPS AT ALL PLUMBING FIXTURES.
19. PROVIDE ALL FITTING & ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
20. PROVIDE AUTOMATIC BALANCING VALVES IN ALL HWR CIRCUITS.

PIPING INSULATION

WATER PIPING
PROVIDE THERMAL INSULATION ON ALL HOT TEMPERED & COLD WATER, AND HORIZONTAL WASTE PIPING IN CEILING SPACES, AND ON ALL COLD WATER PIPING IN CASEWORK AND BAR AREAS. USE SELF-SEALING CLOSED CELL FOAM OR JACKETED FIBERGLASS INSULATION WITH MANUFACTURE APPROVED ADHESIVES, SEALERS, AND COATINGS. ALL MATERIALS USED SHALL NOT EXCEED 25 FOR FLAME SPREAD, 50 FOR FUEL CONTRIBUTED, OR 50 FOR SMOKE DEVELOPED. UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES, THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:

PIPE SIZE	INSULATION
THICKNESS	
LESS THAN OR EQUAL TO 1-1/2"	1"
2" DIA. OR GREATER	1-1/2"

(INSULATION VALUE = K VALUE NOT EXCEEDING 2 .027 BTU PER INCH/h*ft*f

SAFETY COVERS
INSTALL SPECIFIED NO-SCALD SAFETY COVERS WITH INSULATED FOAM LINER AND TAMPER PROOF STRAP AT ALL EXPOSED PIPING.

HVAC PIPING
INSULATE REFRIGERANT SUCTION PIPING AND COOLING COIL CONDENSATE PIPING 3/4" THICK, SELF SEALING, CLOSED CELL FOAM. INSULATE CONDENSATE PIPING WITH 1-1/2" THICK, HEAVY DUTY, SELF SEALING, JACKETED FIBERGLASS.

PLUMBING LEGEND

NOT ALL SYMBOLS MAY BE USED

SYMBOL	ABB.	DESCRIPTION
CW	CW	DOMESTIC COLD WATER
HW	HW	DOMESTIC HOT WATER
HWR	HWR	DOMESTIC HOT WATER RECIRC.
S	S	SANITARY
CD	CD	CONDENSATE DRAIN
SD	SD	STORM DRAIN
V	V	SANITARY VENT
		UNDERGROUND PIPING
		PIPE TURN DOWN
		PIPE TURN UP
		BALL VALVE
		GATE VALVE
		CHECK VALVE
		BALANCING VALVE
		BUTTERFLY VALVE
		STRAINER
		REDUCER
		ANCHOR
		CAP/PLUG
	CO	CLEANOUT (ABOVE CEILING)
		UNION
FCO	FCO	FLOOR CLEAN OUT
	CTE	CONNECT TO EXISTING
	WCO	WALL CLEAN OUT
	FD	FLOOR DRAIN
	VTR	VENT THRU ROOF
	IE	INVERT ELEVATION
	AFF	ABOVE FINISHED FLOOR
	WH	WATER HEATER
	WC	WATER CLOSET
	BFP	BACKFLOW PREVENTER
	(E)	EXISTING
	(D)	DEMOLISH

PLUMBING SHEET INDEX

Sheet Number	Sheet Name
P0.1	GENERAL NOTES, SCHEDULES AND LEGEND
P1.1	FLOOR PLAN
P2.1	PLUMBING DETAILS

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No. 091073
STATE OF TENNESSEE
03/13/2023

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

CSA ENGINEERING PROJECT NO: 23173
Chad Stewart & Associates, Inc.
9720 Village Circle Lakeland, TN 38002
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Memphis Nashville

Sheet Title: GENERAL NOTES, SCHEDULES AND LEGEND
Project No.: 22129
Drawn by: ETC
Date: 03-13-2023
Sheet No.: P0.1

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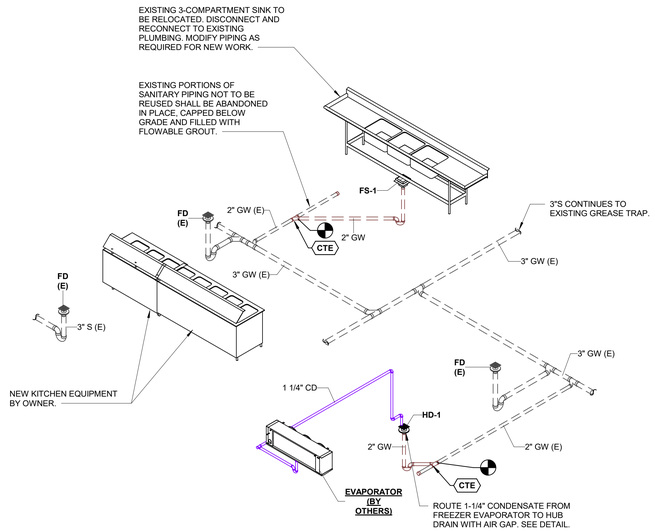
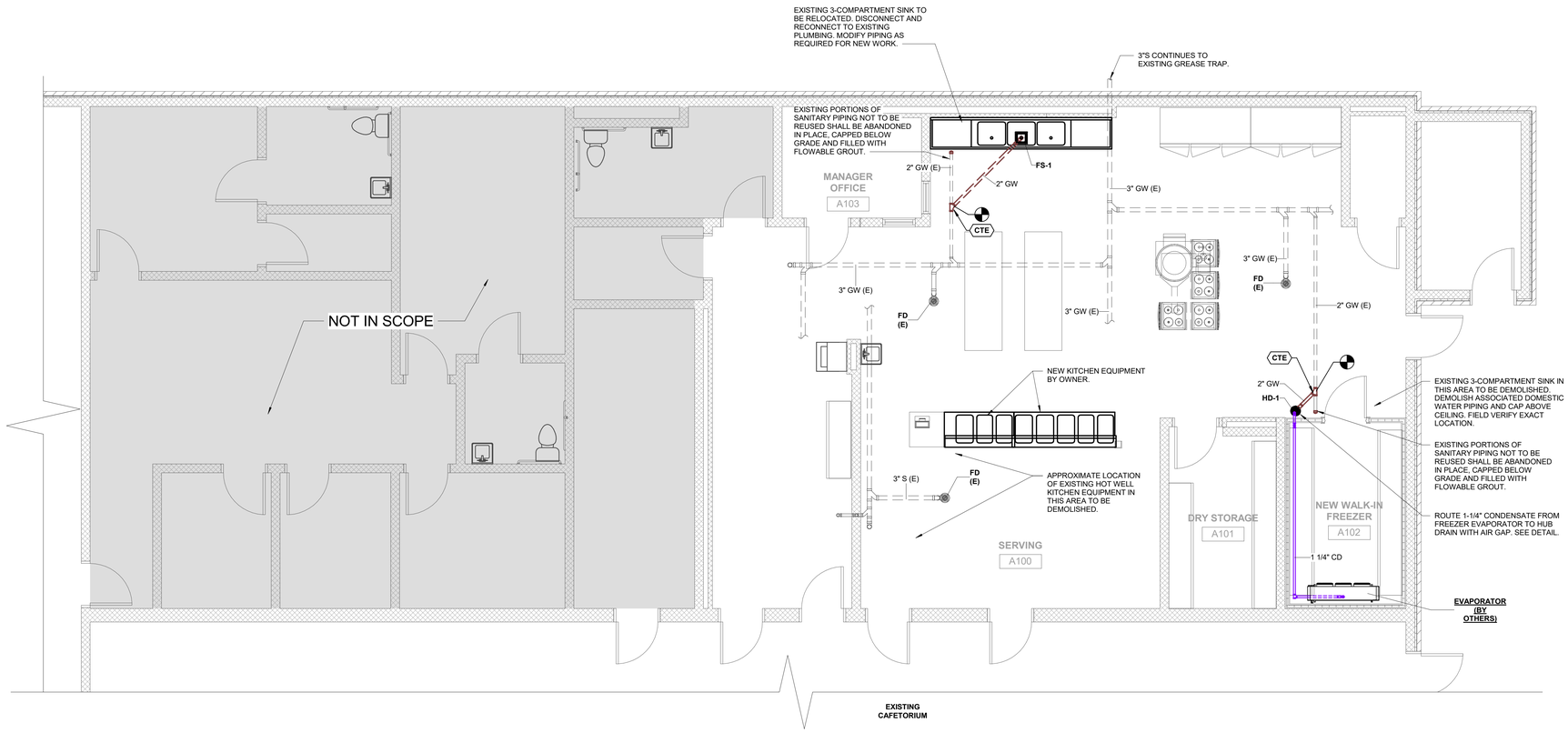


2 DWV RISER DIAGRAM

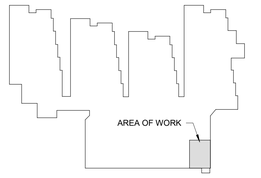


1 FLOOR PLAN - DWV
1/4" = 1'-0"

#	PLUMBING KEYNOTE LEGEND
CTE	CONNECT TO EXISTING. FIELD VERIFY EXACT LOCATION IN FIELD. SAWCUT CONCRETE/ASPHAULT DRIVES AS REQUIRED TO INSTALL NEW WORK AND PATCH TO MATCH EXISTING.

LIFE SAFETY LEGEND

THERE ARE NO RATED WALLS AFFECTED IN THE SCOPE OF THIS PROJECT



KEY PLAN
N.T.S.

SCALE: 1/4" = 1'-0"
0' 2' 4' 8'

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CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

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Sheet Title: FLOOR PLAN
Project No.: 22129
Drawn by: ETC
Date: 03-13-2023
Sheet No.: P1.1

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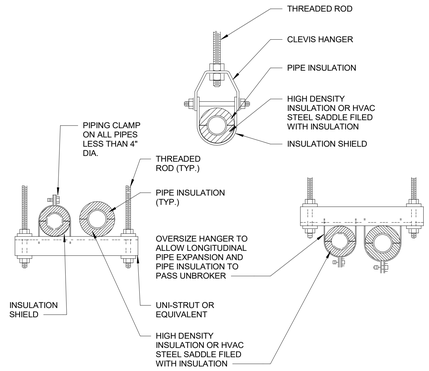
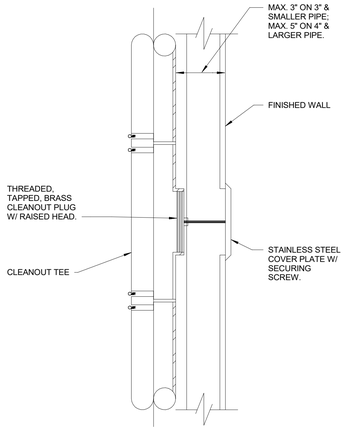
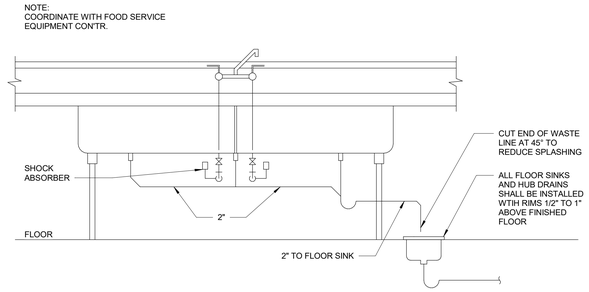


1 PIPE SUPPORT DETAIL
N.T.S.



2 WALL CLEANOUT DETAIL
N.T.S.



3 3 COMPARTMENT SINK DETAIL
N.T.S.

4 FLOOR SINK DETAIL
N.T.S.

5 UL PENETRATION DETAILS
N.T.S.

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No. 091073
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CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

Sheet Title: PLUMBING DETAILS
Project No.: 22129
Drawn by: ETC
Date: 03-13-2023
Sheet No.: P2.1

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ELECTRICAL LEGEND

- DUPLEX
- GFCI DUPLEX
- SPLIT-WIRED DUPLEX
- QUAD OUTLET
- DUPLEX/DATA FLOOR BOX
- DATA FLOOR BOX
- DUPLEX FLOOR BOX
- QUAD FLOOR BOX
- QUAD/DATA FLOOR BOX
- COMMUNICATIONS OUTLET
- WAP — WIRELESS ACCESS POINT
- $_X — WALL SWITCH (X DENOTES TYPE)
- MOTOR
- NON-FUSED DISCONNECT
- FUSED DISCONNECT
- MOTOR STARTER
- KEYPAD
- TV OUTLET
- SD — CEILING SMOKE DETECTOR
- SD — CEILING SMOKE DETECTOR w/ SOUNDER BASE
- HD — HEAT DETECTOR
- CO — CARBON MONOXIDE DETECTOR
- DSD — DUCT SMOKE DETECTOR
- PIV — POST INDICATOR VALVE
- CARD READER
- ELECTRIC STRIKE
- MAGLOCK
- ELECTRIFIED TRANSFER HINGE
- S — CEILING SPEAKER
- MANUAL PULL STATION
- FIRE ALARM HORN/ STROBE
- FIRE ALARM SPEAKER/STROBE
- FIRE ALARM STROBE
- WALL SMOKE ALARM/DETECTOR
- MAGNETIC HOLD OPEN DEVICE
- CM — CONTROL MODULE
- MM — MONITOR MODULE
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- PS — PRESSURE SWITCH
- INTERCOM STATION
- CEILING MOUNT EXIT SIGN
- WALL MOUNT EXIT SIGN
- SURFACE MOUNT 2'X4'
- SURFACE MOUNT 2'X2'
- RECESSED 2'X 4'
- RECESSED 2'X 2'
- EMERGENCY RECESSED 2'X 4'
- EMERGENCY RECESSED 2'X 2'
- SQUARE/ RECT. HIGH BAY
- ROUND HIGH BAY
- STRIP LIGHT
- EMERGENCY STRIP LIGHT
- WALL MOUNT EMERGENCY LIGHT
- J — JUNCTION BOX
- HEARING IMPAIRED DOORBELL
- CCTV CAMERA

ELECTRICAL ABBREVIATIONS

XX"	INDICATES MOUNTING HEIGHT AFF
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATS	AUTOMATIC TRANSFER SWITCH
FLA	FULL LOAD AMPS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
LED	LIGHT EMITTING DIODE
IG	ISOLATED GROUND
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
NF	NON-FUSED
N.I.C.	NOT IN CONTACT
NEC	NATIONAL ELECTRIC CODE
N.T.S.	NOT TO SCALE
UNO	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
XFMR	TRANSFORMER
# / E#.#	DETAIL NUMBER/SHEET NUMBER

LIGHTING FIXTURE SCHEDULE

Mark	Description	Manufacturer	Model	Lamp	Initial Color Temperature	Electrical Data	Comments
ET	Existing 2 x 4 Troffer	Lithonia	2BLT4-60L-ADSMT-EZ1-LP840	LED	4000 K	120 V/1-0 VA	
RT	Relocated Troffer	Lithonia	2BLT4-60L-ADSMT-EZ1-LP840	LED	4000 K	120 V/1-0 VA	

ELECTRICAL FIXTURE SCHEDULE

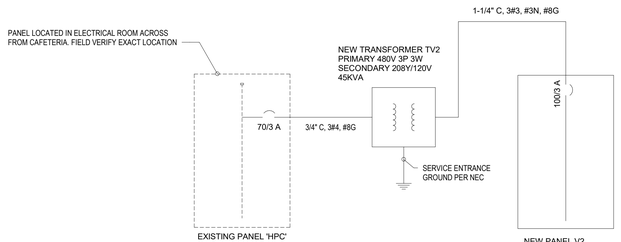
Type Mark	Description	Electrical Data	Manufacturer	Model	Comments
	Duplex	120 V/1-180 VA	Hubbell Wiring Devices	5362BK	
	GFCI Duplex	120 V/1-180 VA	Hubbell Wiring Devices	GFR5362BKTR	
CT	Cooling Table	120 V/1-1800 VA	Hubbell Wiring Devices	GFR5362BKTR	
DH	Door Heat and Lights	120 V/1-500 VA			
PP	Power Pole	120 V/1-500 VA	Hubbell Wiring Devices	HBLPPOAAL	
WT	Warming Table	120 V/1-1200 VA	Hubbell Wiring Devices	GFR5362BKTR	

ELECTRICAL EQUIPMENT SCHEDULE

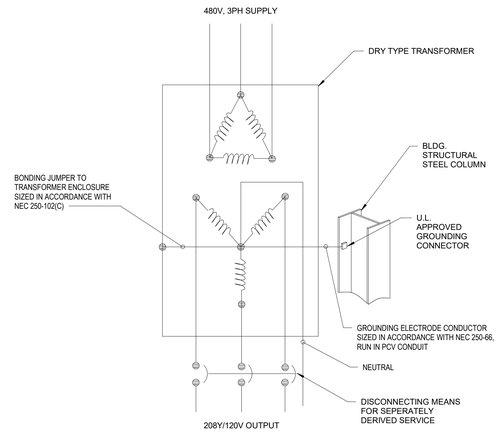
Type Mark	Panel Name	Description	Electrical Data	Comments
FC		Freezer Condenser	208 V/3-11586 VA	Nema 3R Disconnect
FE		Freezer Evaporator	208 V/2-2038 VA	
	HPC		480 V/3-0 VA	
	TV2		480 V/3-0 VA	
	V	Existing Panel	208 V/3-0 VA	
	V2	Existing Panel	208 V/3-0 VA	

LIGHTING DEVICE SCHEDULE

Type Mark	Description	Manufacturer	Model	Comments
CD	Office Call Button			
S	Low Voltage Switch	nLight	nPODM	



1 E0.1 **One-Line Diagram**
1/16" = 1'-0"



2 E0.1 **Dry-Type Transformer Grounding Detail**
1/8" = 1'-0"

Existing Panel: HPC

Location:
Supply From:
Mounting: Recessed
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MLO
Mains Rating: 225 A
MCB Rating: 225 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
HPC:1				0 VA	0 VA					1	20 A	Existing Breaker	HPC:2
HPC:3	Existing Breaker	25 A	3			0 VA	0 VA			1	20 A	Existing Breaker	HPC:4
HPC:5								0 VA	0 VA	1	20 A	Existing Breaker	HPC:6
HPC:7	Existing Breaker	20 A	1	0 VA	0 VA					1	20 A	Existing Breaker	HPC:8
HPC:9	Existing Breaker	20 A	1			0 VA							HPC:10
HPC:11													HPC:12
HPC:13					7881...								HPC:14
HPC:15							5241...			3	20 A	TV2	HPC:16
HPC:17									5262...				HPC:18
		Total Load:		7881 VA		5241 VA		5262 VA					
		Total Amps:		28 A		19 A		19 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment - Non-Dwelling Unit	3000 VA	100.00%	3000 VA		
Receptacle	1260 VA	100.00%	1260 VA	**Total Conn. Load:**	18384 VA
Power	14124 VA	100.00%	14124 VA	**Total Est. Demand:**	18384 VA
				Total Conn.:	22 A
				Total Est. Demand:	22 A
				Total Adjusted Est. Load:	18384 VA
				Total Adjusted Demand:	22 A

Notes:

New Panel: V2

Location: Room 35
Supply From: TV2
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
V2:1				1019...	3862...								V2:2
V2:3	Freezer Evaporator	20 A	2			1019...	3862...			3	40 A	Freezer Condenser	V2:4
V2:5	Power	20 A	1					500 VA	3862...				V2:6
V2:7	Warming Table	20 A	1	1200...	1800...					1	20 A	Cooling Table	V2:8
V2:9	Receptacle	20 A	1			180 VA	180 VA			1	20 A	Receptacle	V2:10
V2:11	Receptacle	20 A	1					180 VA	720 VA	1	20 A	Cafeteria Office Receptacles	V2:12
V2:13													V2:14
V2:15													V2:16
V2:17													V2:18
V2:19													V2:20
V2:21													V2:22
V2:23													V2:24
V2:25													V2:26
V2:27													V2:28
V2:29													V2:30
		Total Load:		7881 VA		5241 VA		5262 VA					
		Total Amps:		66 A		44 A		44 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Kitchen Equipment - Non-Dwelling Unit	3000 VA	100.00%	3000 VA		
Receptacle	1260 VA	100.00%	1260 VA	**Total Conn. Load:**	18384 VA
Power	14124 VA	100.00%	14124 VA	**Total Est. Demand:**	18384 VA
				Total Conn.:	51 A
				Total Est. Demand:	51 A
				Total Adjusted Est. Load:	18384 VA
				Total Adjusted Demand:	51 A

Notes:

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JAMES W. HAYNES — REGISTERED ELECTRICAL ENGINEER — No. 115598 — STATE OF TENNESSEE
03/13/2023

REV	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS

DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT

GERMANTOWN TN 38018

Sheet Title: GENERAL NOTES, SCHEDULES AND LEGEND
Project No.: 22129
Drawn by: BJB
Date: 03-13-2023

Sheet No. **E0.1**

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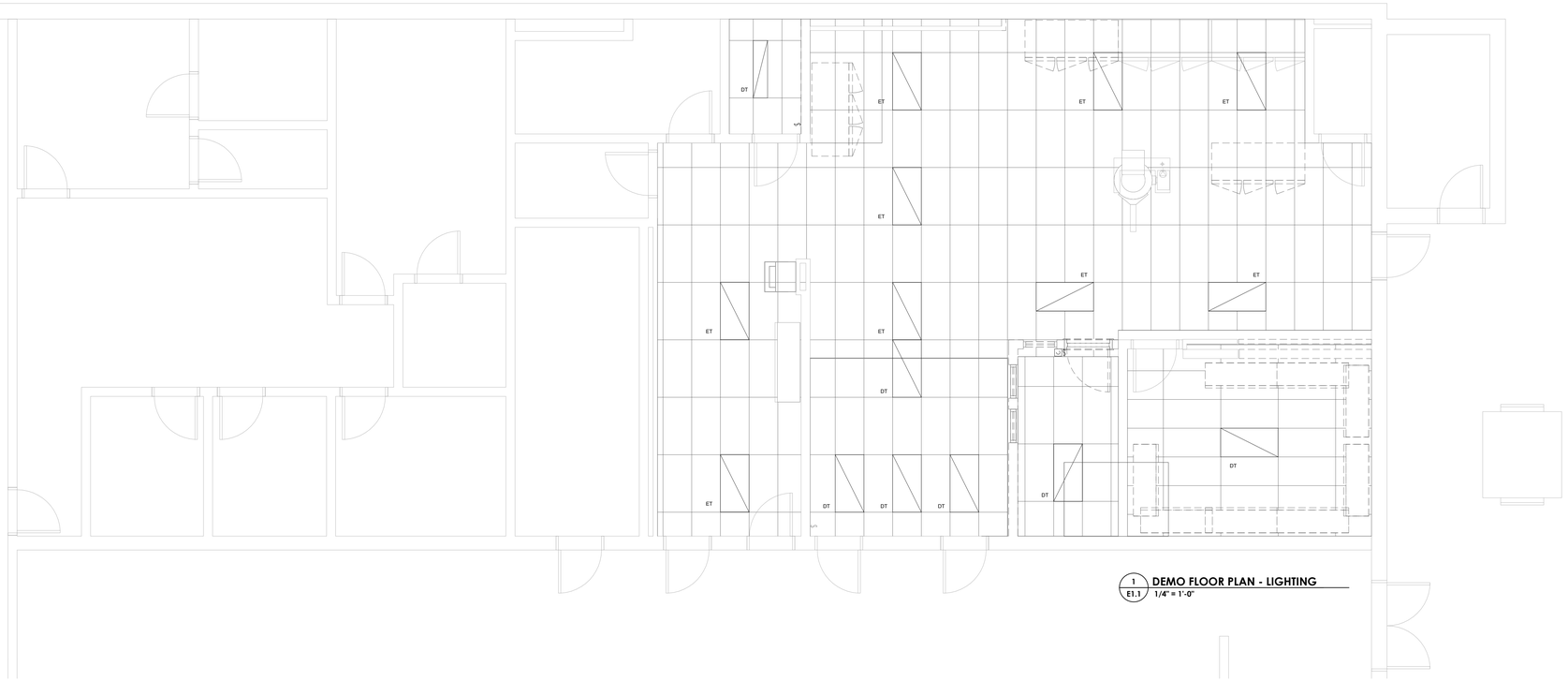
DEMO NOTES:

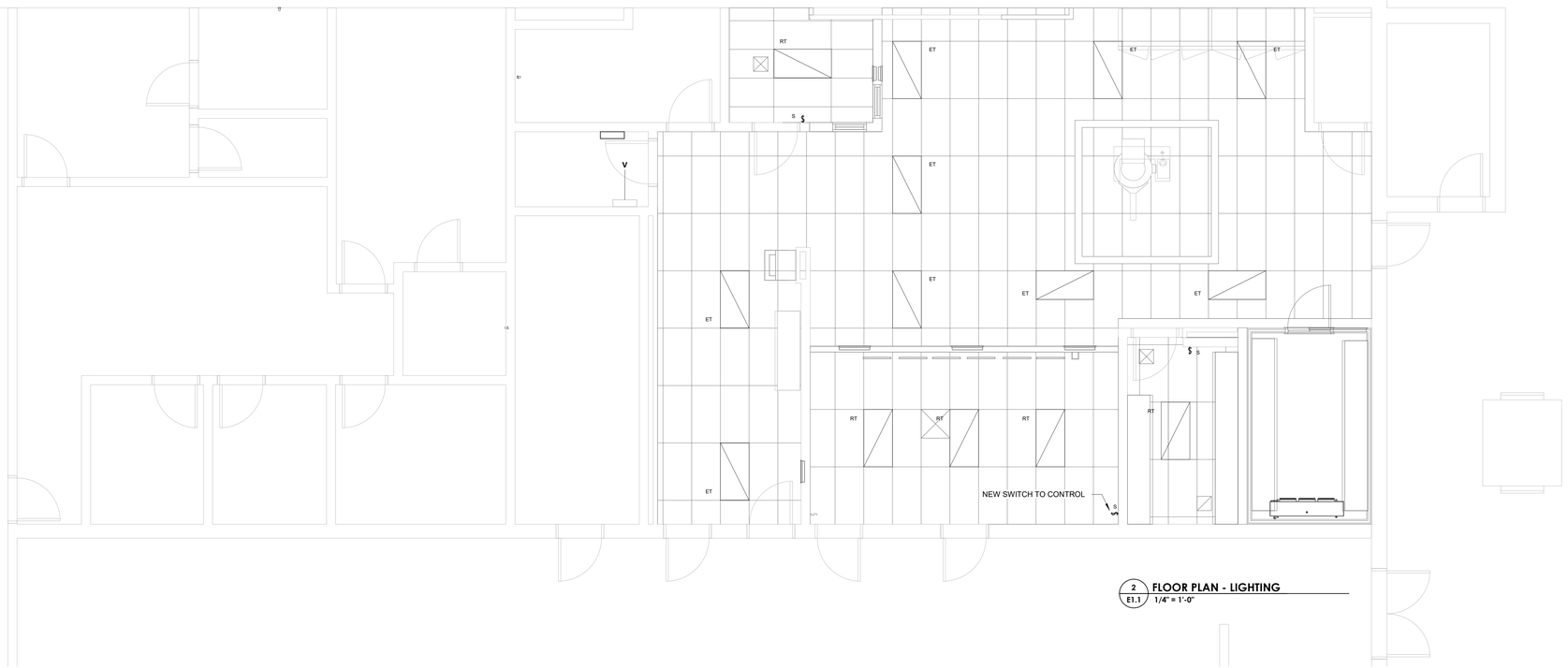
1. CONTRACTOR IS TO DEMOLISH FIXTURES MARKED 'DT'. MAINTAIN CIRCUIT CONTINUITY ABOVE THE CEILING. STORE FIXTURES FOR REUSE WHERE FIXTURES ARE IN GOOD WORKING ORDER FOR RELOCATION.



1 / E1.1 **DEMO FLOOR PLAN - LIGHTING**
1/4" = 1'-0"

NOTES:

1. RECONNECT RELOCATED FIXTURES IN NEW LOCATION SHOWN. REPROGRAM CONTROLS TO SWITCH AS INDICATED.



2 / E1.1 **FLOOR PLAN - LIGHTING**
1/4" = 1'-0"

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CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

Sheet Title: FLOOR PLAN - LIGHTING
Project No.: 22129
Drawn by: BJB
Date: 03-13-2023
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Memphis Nashville

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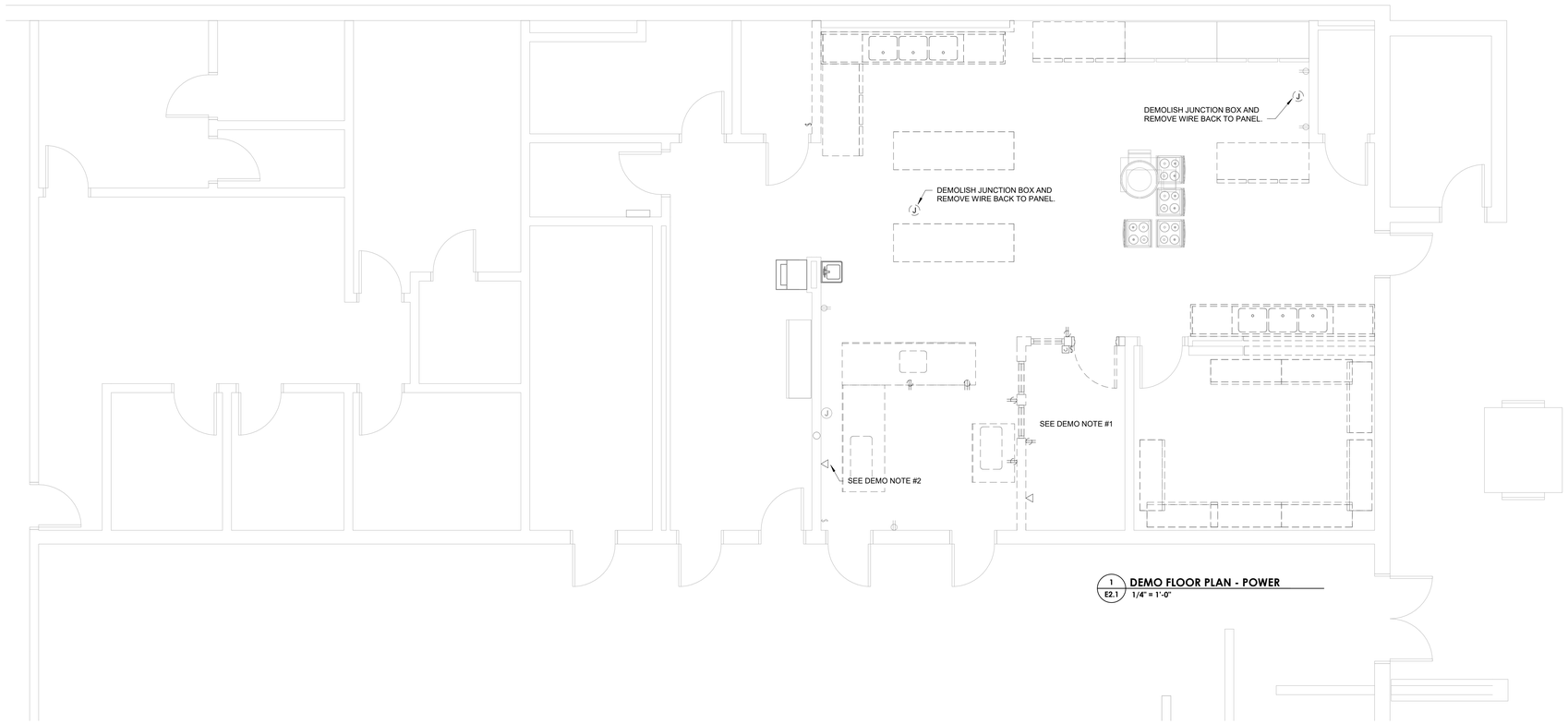
DEMO NOTES:

1. DEMOLISH EXISTING OFFICE CALL DEVICE AND DATA DROPS IN OFFICE. INTECEPT EXISTING FEEDS AND PREPARE FOR RELOCATION TO NEW OFFICE LOCATION. SEE POWER FLOOR PLAN FOR NEW LOCATION (TYPICAL OF ALL DATA DEVICES IN OFFICE).

2. DEMOLISH EXISTING DATA AND POWER TO EXISTING REGISTER. INTERCEPT EXISTING FEED ABOVE THE CEILING AND PREPARE FOR RELOCATION TO NEW REGISTER LOCATION. SEE POWER FLOOR PLAN FOR NEW LOCATION.



1 / E2.1 **DEMO FLOOR PLAN - POWER**
1/4" = 1'-0"

NOTES:

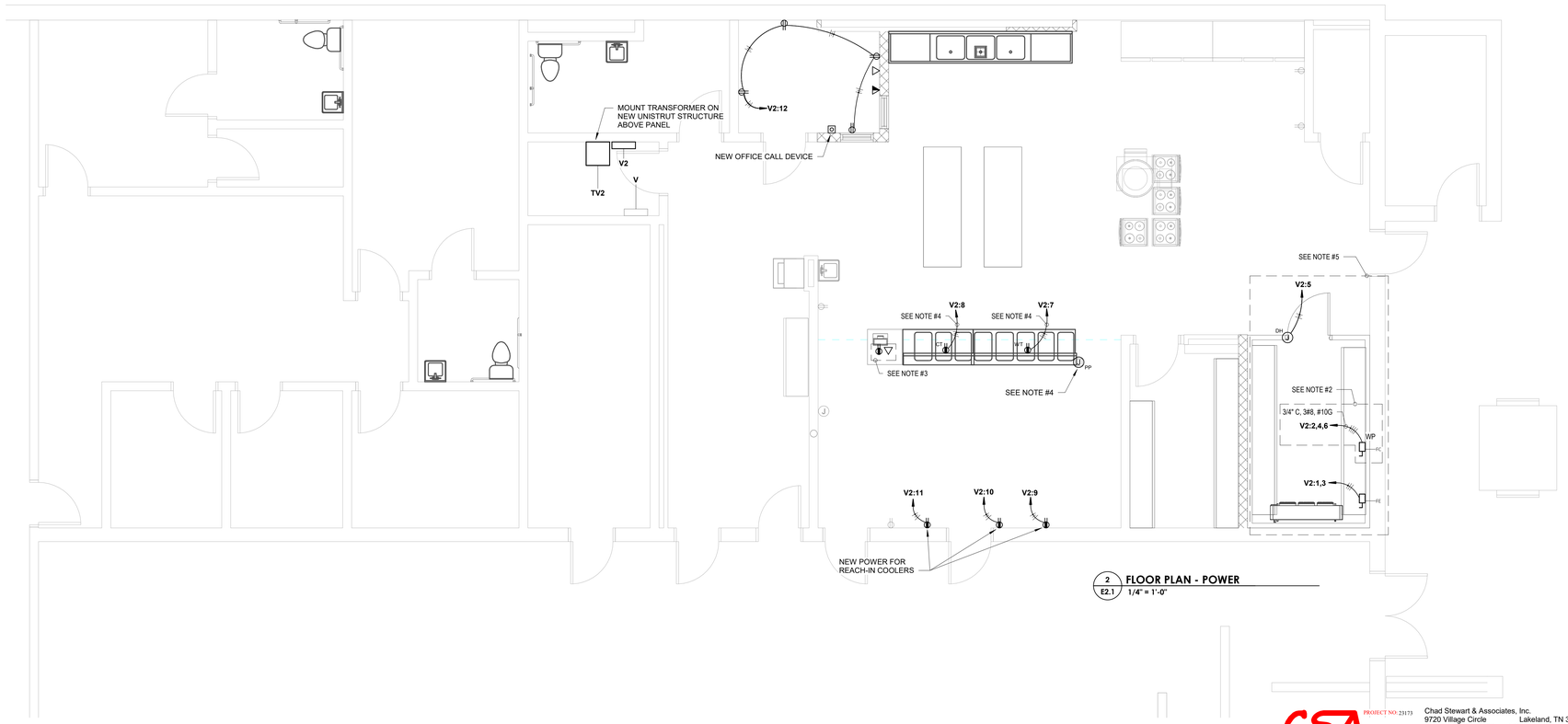
1. CIRCUIT NUMBERS ARE SHOWN FOR CLARIFICATION PURPOSES ONLY. FIELD VERIFY EXACT BREAKER LOCATIONS AND AVALIABLE CIRCUITS DURING THE BID PROCESS.

2. FREEZER CONDENSER TO BE MOUNTED ON ROOF. PROVIDE WEATHER PROOF DISCONNECT FOR FREEZER CONDENSER.

3. EXTEND EXISTING POWER CIRCUIT AND DATA DROP FEEDING CASH REGISTER TO THIS LOCATION. ROUTE CABLES AND WIRES THROUGH POWER POLE.

4. ROUTE POWER FOR HEATING AND COOLING TABLE THROUGH THE POWER POLE 'PP'. ALL CABLES AND WIRES TO BE CONCEALED.

5. WALK IN FREEZER TO BE PURCHASED BY GC AS PART OF THE CONSTRUCTION PACKAGE. VERIFY FINAL FEEDS, BREAKERS, AND TERMINATIONS WITH THE FREEZER SPECIFIED.



2 / E2.1 **FLOOR PLAN - POWER**
1/4" = 1'-0"

Renaissance Group
9700 Village Circle, ste.100
Lakeland, TN 38002
901.332.5533
fax: 901.332.5534
www.rgroup.biz

JAMES WESLEY BRYANT
REGISTERED ENGINEER
PROFESSIONAL ENGINEER
STATE OF TENNESSEE
03/13/2023

REV.	DESCRIPTION	DATE

CONSTRUCTION DRAWINGS
DOGWOOD ELEMENTARY KITCHEN IMPROVEMENT
GERMANTOWN TN 38018

CSA ENGINEERING PROJECT NO: 23173
Chad Stewart & Associates, Inc.
9720 Village Circle Lakeland, TN 38002
Phone 901-260-7850 CSAengineeringinc.com
Memphis Nashville

Sheet Title: FLOOR PLAN - POWER
Project No.: 22129
Drawn by: BJB
Date: 03-13-2023
Sheet No.: E2.1

Renaissance Group
Autodesk Docs://22129 - Dogwood Elementary Kitchen Renovation/MEP 23173 CSA V22.rvt
3/13/2023 3:35:56 PM

Germantown Municipal School District

6685 Poplar Avenue, Suite 202

Germantown TN 38138

901-752-7900

Jacqueline Saunders, Purchasing Analyst

Jacqueline.Saunders@gmsdk12.org

FAX (901)757-6479

GMSD Vendor/Contractor Application and Information Packet

This packet should be submitted via mail, fax or email. Unless otherwise noted, each section should be completed. If a section is to be omitted, it will be designated with the signature on page 7 (or at the end of the document) of a GMSD District Office employee.

VENDOR/CONTRACTOR INFORMATION

Date of Application:_____ **Business Location(County & State):**_____

Business Name (as listed on W-9):_____

Federal Employer ID Number (as listed on W-9):_____

Mailing Address (as listed on W-9):

_____

_____

_____

Telephone:_____

Fax:_____

Email:_____

Type of Business (Check One) Manufacturer___ Construction___ Distributor___ Agent/Rep___ Other___ (*please specify*_____)

Organization (Check One) Individual___ Partnership___ Corporation___ Non-Profit Org.___

Business Certification Yes___ No___

Uniform Certification Agency Number:_____

(***Please Select Only Those Categories That Apply***)

SMALL BUSINESS ENTERPRISE_____
WOMEN-OWNED BUSINESS_____
MINORITY BUSINESS ENTERPRISE:

Asian/Pacific Female___
Asian/Pacific Male_____
Asian/Indian Female___
Asian/Indian Male_____

Black-Non Hispanic Female___
Black-Non Hispanic Male_____
Black _____
Hispanic Female _____
Hispanic Male _____

Native American Indian/Alaskan Female___
Native American Indian/Alaskan Male_____
White American Female _____
White American Male _____

How Long in Present Business _____
Average Number of Employees_____
Average Annual Sales $_____

LIST OTHER TN CUSTOMERS YOU HAVE SOLD / SERVICED TO:
_____Phone #_____
_____Phone #_____
_____Phone #_____
Approximate Inventory Normally Stocked $_____ (if applicable)

Location of Warehouse Facility:_____ and/or Location of Service Facility:_____

NAMES OF OFFICERS, MEMBERS OR OWNERS, PARTNERSHIP, ETC.:
PRESIDENT:_____
VICE-PRESIDENT:_____
SECRETARY:_____
TREASURER:_____

PERSONS AUTHORIZED TO SIGN BIDS & CONTRACTS:
NAME:_____
OFFICIAL CAPACITY:_____

Note: Each manufacturer, supplier and vendor is responsible for notifying GMSD Purchasing of any change to any/all information listed above.

By requesting to be placed on GMSD's Vendor/Contractor/Bidder's List, each manufacturer, supplier and vendor is agreeing to do business with GMSD. Each manufacturer, supplier, vendor also agrees to extend credit to GMSD without requiring a credit application and to fulfill any Purchase Orders and/or contractual obligation that may occur. If a credit application is required, a submitted bid may be rejected.

DRUG AND ALCOHOL TESTING

Due to the safety-sensitive nature of education, GMSD employees, without limitation, are subject to reasonable suspicion and post-accident drug and alcohol testing. All COMPANIES attest that such COMPANY operates a drug-free workplace program or other drug and alcohol testing program with requirements at least as stringent as that of GMSD. **The COMPANY will attach a copy of their drug and alcohol testing policy.**

BACKGROUND CHECK

By agreeing to provide services to any school within GMSD, the COMPANY attests that it is aware of its obligations under T.C.A. 49-5-413(D) to ensure that all of its employees who have direct contact with students of GMSD or students in GMSD's child care program or who have access to the grounds of GMSD when children are present have completed the following:

(1) Supplied a fingerprint sample and submitted to a criminal history records check conducted by the Tennessee Bureau of Investigation and the Federal Bureau of Investigation prior to having any contact with GMSD's children or entering the grounds of GMSD. T.C.A. 49-5-413(d)(2)(A)

(2) Successfully passed the aforementioned criminal history records check. An employer or employee may not come in direct contact with GMSD's children or children in GMSD's child care program and may not enter the grounds of GMSD when children are present if the criminal history records check indicates that the employee has ever been convicted of any of the following offenses, or the same or similar offense in any jurisdiction, including convictions for the solicitation of, attempt to commit, conspiracy, or acting as an accessory to:

(i) A sexual offense or a violent sexual offense as defined in § 40-39-202;
(ii) Any offense in title 39, chapter 13;
(iii) §§ 39-14-301 and 39-14-302;
(iv) §§ 39-14-401 -- 39-14-404;
(v) §§ 39-15-401 and 39-15-402;
(vi) § 39-17-417;
(vii) § 39-17-1320; or
(viii) Any other offense in title 39, chapter 17, part 13.

In addition, the COMPANY also agrees that if one of its employees commits such an offense after it has conducted its initial criminal history check on such employee, said employee will notify the COMPANY of the offense within seven (7) days from the date of conviction and the COMPANY will subsequently not permit that employee to have contact with students of GMSD or to children in GMSD's child care program or to enter the grounds of GMSD.

The COMPANY shall ensure that subcontractors comply with the statutory requirements described in this background check policy. The COMPANY will attach a copy of their background check policy, including what COMPANY they utilize for background checks.

CODE OF ETHICS

All employees representing the COMPANY are expected to abide by a Code of Ethics for COMPANIES established by GMSD:

1. Any employee representing the COMPANY shall not be in physical, verbal or any other type of contact or communication with any students on GMSD property except as required by the scope of contracted services.

2. The use of tobacco products, drugs or alcohol by any employee representing the COMPANY on GMSD property or during GMSD meetings or events is strictly forbidden.

3. All employees representing the COMPANY shall treat all representatives of GMSD with the utmost respect. Employees will not engage in any conduct that could reasonably be construed as exploitative, physically intimidating, discriminatory, harassing on the basis of gender, race, ethnicity, religion, national origin, sexual orientation, age, or any other protected category. No profanity of any kind will be tolerated on GMSD property.

   The Germantown Municipal School District ("GMSD") conducts its programs, services and activities consistent with applicable federal, state and local laws and regulations. GMSD provides equal employment and educational opportunities to all qualified persons without discrimination on the basis of race, color, national origin (including ancestry, or any other subcategory of national origin recognized by applicable law), religion, sex (including any subcategory of sex recognized by applicable law), age, disability, veteran status, genetic information, or any other basis protected by applicable law in employment and in any program or activity offered or sponsored by GMSD or GMSD schools. Sex discrimination includes sexual harassment and is strictly prohibited.

   The Contractor agrees to conduct its business and to provide services to GMSD in accordance with GMSD policy and all applicable federal, state and local laws and regulations governing discrimination and harassment. The Contractor certifies that it does not discriminate against its employees or applicants on grounds of race, color, religion, national origin, sex, disability, veteran's status, or age with regard to persons forty (40) years of age and older.

4. All employees representing the COMPANY shall abide by all guidelines set at the school level, including, but not limited to parking, checking in and out at the front office, any time an employee of the COMPANY is on campus, and working within the framework of the school and administration of the school to provide services that are least disruptive to the education environment of the school.

5. All employees representing the COMPANY are forbidden from using any technology available at the schools unless they have express written permission from the school administration.

6. In the event that an employee representing the COMPANY is required to take a cell phone call for personal or business reasons, the employee must do so in a manner and setting that causes the least disruption to the educational environment.

7. All employees representing the COMPANY are forbidden from taking photographs, video or footage of any kind on GMSD property without written consent of a School Administrator or the District Office.

8. All employees representing the COMPANY understand that unauthorized removal of any kind will not be tolerated on GMSD property and will be grounds for a request by the District to remove that employee from the property.

9. All employees representing the COMPANY shall represent GMSD in a positive ethical, legal and moral manner.

CONFLICTS OF INTEREST

The employees of the COMPANY shall avoid any conflict of interest that could interfere with the duties and responsibilities designated by the Germantown Municipal School Board or could reflect in a manner detrimental to the system. The following is prohibited:

- Any pecuniary transaction, indirectly or directly, by a professional employee or school board member concerned with supplying books, maps, school furniture, and/or other apparatus to the school system of employment or to act as agent for anyone is expressly forbidden by statute (T.C.A. 49-6-2003).
- Selling items or soliciting money for personal gain or profit during school hours or at an off-campus event attended by students and staff.
- Soliciting, referring, or encouraging students into programs, schools, or universities for personal compensatory gain.

Transactions with parties with whom a conflicting interest exists may be undertaken only if all of the following are observed:

1. The conflicting interest is fully disclosed;
2. The person with the conflict of interest is excluded from the discussion and approval of such transaction;
3. A competitive bid or comparable valuation exists; and
4. The [board or a duly constituted committee thereof] has determined that the transaction is in the best interest of the organization.

Disclosure in the organization should be made to the Superintendent (or if he/she is the one with the conflict, then to the GMSD Board of Education Chair), who shall bring the matter to the attention of the Board or Ethics Committee established in accordance with Policy 1.106 . Disclosure involving Board Members should be made to the GMSD Board of Education Chair, (or if he/she is the one who shall bring these matters to the Board or Ethics Committee. The Board or Ethics Committee shall determine whether a conflict exists and in the case of an existing conflict, whether the contemplated transaction may be authorized. The decision of the Board or Ethics Committee on these matters will rest in their sole discretion, and their concern must be the welfare of Germantown Municipal School District and the advancement of its purpose.

Germantown Municipal School District Policy References

1. Professional Employment HR 5.102
2. Drug-Free Schools SP 6.307
3. Drug and Alcohol Testing for Employees
4. Drug-Free Workplace SBO 1.804
5. Code of Ethics SBO 1.106
6. Tobacco Free Schools SBO 1.803
7. Conflict of Interest HR 5.601

Tennessee State Code Policy References

1. TCA 49-5-413(d)
2. TCA 40-39-202

CONFIDENTIALITY AND NON-DISCLOSURE

All records, documents, files, data and/or information maintained by GMSD shall, at all times remain the sole and exclusive property of GMSD.

The COMPANY agrees that its employees, agents, successors, assigns, legal representatives or subcontractors will not access, use, divulge or disclose, either directly or indirectly, any records, documents, files, data and/or information maintained by GMSD, specifically including but not limited to, student records and information about employees made confidential by law (the "Non-Public Information"), unless and except as required by the COMPANY's scope of services for GMSD or as otherwise required by law. The COMPANY further agrees to take all necessary steps to safeguard private information from accidental or intentional disclosure.

The COMPANY agrees to return to GMSD all records, documents, files, data and/or information; and, all copies thereof in any format in which they may exist, that are in the possession of the COMPANY when the contract terminates and/or the scope of services is complete. Where return is not possible or practical, the PARTIES may agree that such records, documents, files, data and/or information will be destroyed if permitted by law.

The COMPANY shall not assign or transfer any of its contract rights or obligations unless expressly provided by the contract or agreed by prior written consent of Germantown Municipal School District.

HOLD HARMLESS

As a condition precedent to Contractor being awarded contract with GMSD, Contractor hereby agrees to indemnify and hold harmless the Germantown Municipal School District, its board members, administrators, employees, and agents (individually an "Indemnitees") from and against any and all claims, demands, actions, suits, losses, costs, charges, expenses, damages and liabilities whatsoever, whether under federal or state law, which the Indemnitee(s) may pay, sustain, suffer, or incur by reason of or in connection with the services, equipment or products provided by Contractor pursuant to the contract, including, without limiting the generality of the foregoing, all costs and expenses (including legal expenses) incurred in connection with any such loss or damage.

INSURANCE REQUIREMENTS
WITH
GERMANTOWN MUNICIPAL SCHOOL DISTRICT

The COMPANY shall purchase and maintain the insurance outlined below to provide protection from the COMPANY's negligent acts. The COMPANY shall provide this insurance as required by the Contract documents. All Certificates should be issued with an Insurance Company (or Companies) maintaining an AM Best Rating of A- or better and a Financial Size of IX or greater. All Insurance Companies shall be authorized to conduct business in the State of Tennessee. The negligence by any subcontractor, by anyone directly or indirectly employed by any of them, shall be considered a negligent act of the COMPANY.

- Commercial General Liability Insurance in the amount of $1,000,000 per occurrence. This must include Products/Completed Operations, Explosion/Collapse/Underground Coverage and Contractual Liability. The Germantown Municipal School District must be named Additional Insured using a CG 2010 (11/85) endorsement (or equivalent) and this must be noted on the Certificate of Insurance. The Insurance Company agrees to waive their Right of Subrogation against the Germantown Municipal School District and this must be noted on the Certificate of Insurance.
- Auto Liability Insurance in the amount of $1,000,000 Combined Single Limit. The Germantown Municipal School District must be named Additional Insured and the Insurance Company agrees to waive their Right of Subrogation against the Germantown Municipal School District and this must be noted on the Certificate of Insurance.
- Statutory Workers Compensation with Employers Liability- the Insurance Company agrees to waive their Right of Subrogation against the Germantown Municipal School District and this must be noted on the Certificate of Insurance.
- Umbrella Liability in the amount of $2,000,000 per occurrence- the terms and conditions of the Umbrella must conform to the primary insurance.

The Cancellation Clause on the Certificate of Insurance is amended to read: Should any of the described policies on the attached Certificate of Insurance be cancelled, non-renewed or reduced in coverage- the issuing Insurance Company will mail 30 days written notice by registered mail, return receipt requested, or email to:

Germantown Municipal School District
ATTN: Jacqueline Saunders
6685 Poplar Avenue
Suite 202
Germantown TN 38138

The Company agrees that it shall maintain the above insurance through both final acceptance and any Warranty Period defined by the contract documents.

I have read the aforementioned terms set forth by GMSD and attest I have reviewed the TCA statutes and Board policies referenced in this document. My signature below indicates my company and its representatives agree to abide by all the terms set forth in this agreement.

If any provision of this Agreement shall be held by a court of competent jurisdiction to be unenforceable, the remaining provisions shall remain in full force and effect.

I understand that for this application to be complete, my company must also submit:

_____ *Completed W-9*
_____ *Certificate of Insurance (listing GMSD—6685 Poplar Avenue, Suite 202, Germantown TN 38138-- as Additional Insured)*
_____ *Copy of Drug and Alcohol Policy*
_____ *Copy of Background Check Policy and Company Utilizing*

_____
Signature

_____
Name (Please Print)

_____
Title

District Office Signature: _____

Raptor may be used in lieu of Background Check Requirements _____
No COI required for this submission _____

PLEASE INDICATE WHICH PRODUCTS AND/OR SERVICES YOUR COMPANY CAN SUPPLY.

- [ ] CLASS: 005-00 - ABRASIVES
- [ ] CLASS: 010-00 - ACOUSTICAL TILE, INSULATING MATERIALS, AND SUPPLIES
- [ ] CLASS: 015-00 - ADDRESSING, COPYING, MIMEOGRAPH, AND SPIRIT DUPLICATING MACHINE SUPPLIES: CHEMICALS, INKS, PAPER, ETC.
- [ ] CLASS: 025-00 - AIR COMPRESSORS AND ACCESSORIES
- [ ] CLASS: 031-00 - AIR CONDITIONING, HEATING AND VENTILATING EQUIPMENT: PARTS AND ACCESSORIES (SEE CLASS 740)
- [ ] CLASS: 045-00 - APPLIANCES AND EQUIPMENT, HOUSEHOLD TYPE
- [ ] CLASS: 050-00 - ART EQUIPMENT AND SUPPLIES
- [ ] CLASS: 055-00 - AUTOMOTIVE ACCESSORIES FOR AUTOMOBILES, BUSES, TRUCKS, ETC.
- [ ] CLASS: 060-00 - AUTOMOTIVE AND TRAILER EQUIPMENT AND PARTS
- [ ] CLASS: 065-00 - AUTOMOTIVE BODIES, ACCESSORIES, AND PARTS
- [ ] CLASS: 070-00 - AUTOMOTIVE AND RELATED TRANSPORTATION EQUIPMENT
- [ ] CLASS: 071-00 - AUTOMOBILES, SCHOOL BUSES, SUVS, AND VANS
- [ ] CLASS: 072-00 - TRUCKS
- [ ] CLASS: 073-00 - TRAILERS
- [ ] CLASS: 075-00 - AUTOMOTIVE SHOP EQUIPMENT AND SUPPLIES
- [ ] CLASS: 080-00 - BADGES, EMBLEMS, NAME TAGS AND PLATES, JEWELRY, ETC.
- [ ] CLASS: 085-00 - BAGS, BAGGING, TIES, AND EROSION CONTROL EQUIPMENT
- [ ] CLASS: 090-00 - BAKERY EQUIPMENT, COMMERCIAL
- [ ] CLASS: 095-00 - BARBER AND BEAUTY SHOP EQUIPMENT AND SUPPLIES
- [ ] CLASS: 100-00 - BARRELS, DRUMS, KEGS, AND CONTAINERS
- [ ] CLASS: 105-00 - BEARINGS
- [ ] CLASS: 110-00 - BELTS AND BELTING: AUTOMOTIVE AND INDUSTRIAL
- [ ] CLASS: 125-00 - BOOKBINDING SUPPLIES
- [ ] CLASS: 150-00 - BUILDER'S SUPPLIES
- [ ] CLASS: 155-00 - BUILDINGS AND STRUCTURES: FABRICATED AND PREFABRICATED
- [ ] CLASS: 165-00 - CAFETERIA AND KITCHEN EQUIPMENT, COMMERCIAL
- [ ] CLASS: 175-00 - CHEMICAL LABORATORY EQUIPMENT AND SUPPLIES
- [ ] CLASS: 190-00 - CHEMICALS AND SOLVENTS, COMMERCIAL (IN BULK)
- [ ] CLASS: 192-00 - CLEANING COMPOSITIONS, DETERGENTS, SOLVENTS, AND STRIPPERS-PREPACKAGED
- [ ] CLASS: 193-00 - CLINICAL LABORATORY REAGENTS AND TESTS
- [ ] CLASS: 195-00 - CLOCKS, TIMERS, WATCHES, AND JEWELERS' AND WATCHMAKERS TOOLS AND EQUIPMENT
- [ ] CLASS: 200-00 - CLOTHING, ATHLETIC, CASUAL, DRESS, UNIFORM, WEATHER RELATED, WORK
- [ ] CLASS: 201-00 - CLOTHING ACCESSORIES (SEE CLASS 800 FOR SHOES AND BOOTS)
- [ ] CLASS: 204-00 - COMPUTER HARDWARE AND PERIPHERALS AND MICROCOMPUTERS
- [ ] CLASS: 206-00 - COMPUTER HARDWARE AND PERIPHERALS FOR MINI AND MAIN FRAME COMPUTERS
- [ ] CLASS: 207-00 - COMPUTER ACCESSORIES AND SUPPLIES
- [ ] CLASS: 208-00 - COMPUTER SOFTWARE AND MICROCOMPUTERS (PREPROGRAMMED)
- [ ] CLASS: 209-00 - COMPUTER SOFTWARE FOR MINI AND MAINFRAME COMPUTERS (PREPROGRAMMED)
- [ ] CLASS: 220-00 - CONTROLLING, INDICATING, MEASURING, MONITORING, & RECORDING

- [ ] CLASS: 225-00 - COOLERS, DRINKING WATER, (WATER FOUNTAINS)
- [ ] CLASS: 232-00 - CRAFTS, GENERAL
- [ ] CLASS: 233-00 - CRAFTS, SPECIALIZED
- [ ] CLASS: 240-00 - CUTLERY, COOKWARE, DISHES, GLASSWARE, SILVERWARE, UTENSILS, SUPPLIES
- [ ] CLASS: 250-00 - DATA PROCESSING CARDS AND PAPER
- [ ] CLASS: 255-00 - DECALS AND STAMPS
- [ ] CLASS: 265-00 - DRAPERIES, CURTAINS, AND UPHOLSTERY MATERIAL (INCLUDING AUTO)
- [ ] CLASS: 280-00 - ELECTRICAL CABLES AND WIRES (NOT ELECTRONIC)
- [ ] CLASS: 285-00 - ELECTRICAL EQUIPMENT AND SUPPLIES (EXCEPT CABLE AND WIRE)
- [ ] CLASS: 287-00 - ELECTRONIC COMPONENTS, REPLACEMENT PARTS, AND ACCESSORIES
- [ ] CLASS: 310-00 - ENVELOPES, PLAIN
- [ ] CLASS: 315-00 - EPOXY BASED FORMULATIONS FOR ADHESIVES, COATINGS, AND RELATED AGENTS
- [ ] CLASS: 318-00 - FARE COLLECTION EQUIPMENT AND SUPPLIES
- [ ] CLASS: 330-00 - FENCING
- [ ] CLASS: 335-00 - FERTILIZERS AND SOIL CONDITIONERS
- [ ] CLASS: 340-00 - FIRE PROTECTION EQUIPMENT AND SUPPLIES
- [ ] CLASS: 345-00 - FIRST AID AND SAFETY EQUIPMENT AND SUPPLIES
- [ ] CLASS: 350-00 - FLAGS, FLAG POLES, BANNERS, AND ACCESSORIES
- [ ] CLASS: 360-00 - FLOOR COVERING, FLOOR COVERING INSTALLATION AND REMOVAL EQUIPMENT AND SUPPLIES
- [ ] CLASS: 365-00 - FLOOR MAINTENANCE MACHINES, PARTS, AND ACCESSORIES
- [ ] CLASS: 375-00 - FOODS: BAKERY PRODUCTS (FRESH)
- [ ] CLASS: 380-00 - FOODS: DAIRY PRODUCTS (FRESH)
- [ ] CLASS: 385-00 - FOODS, FROZEN
- [ ] CLASS: 390-00 - FOODS: PERISHABLE
- [ ] CLASS: 393-00 - FOODS: STAPLE GROCERY AND GROCER'S MISCELLANEOUS ITEMS
- [ ] CLASS: 395-00 - FORMS, CONTINUOUS, COMPUTER PAPER, FORM LABELS, SNAP-OUT FORMS, AND FOLDERS AND FORMS
- [ ] CLASS: 405-00 - FUEL, OIL, GREASE AND LUBRICANTS
- [ ] CLASS: 410-00 - FURNITURE: HEALTH CARE AND HOSPITAL FACILITY
- [ ] CLASS: 415-00 - FURNITURE: LABORATORY
- [ ] CLASS: 420-00 - FURNITURE: CAFETERIA, CHAPEL, DORMITORY, HOUSEHOLD, LIBRARY, LOUNGE, SCHOOL
- [ ] CLASS: 425-00 - FURNITURE: OFFICE
- [ ] CLASS: 440-00 - GLASS AND GLAZING SUPPLIES
- [ ] CLASS: 445-00 - HAND TOOLS (POWERED AND NON-POWERED), ACCESSORIES & SUPPLIES
- [ ] CLASS: 450-00 - HARDWARE AND RELATED ITEMS
- [ ] CLASS: 460-00 - HOSE, ACCESSORIES, AND SUPPLIES: INDUSTRIAL, COMMERCIAL, AND GARDEN
- [ ] CLASS: 470-00 - HOSPITAL AND RELATED SPECIALIZED EQUIPMENT AND SUPPLIES: MOBILITY, SPEECH IMPAIRED, AND RESTRAINT ITEMS
- [ ] CLASS: 475-00 - HOSPITAL, SURGICAL, AND RELATED MEDICAL ACCESSORIES AND SUNDRY ITEMS
- [ ] CLASS: 485-00 - JANITORIAL SUPPLIES, GENERAL LINE
- [ ] CLASS: 490-00 - LABORATORY EQUIPMENT AND ACCESSORIES

- [ ] CLASS: 493-00 - LABORATORY EQUIPMENT AND ACCESSORIES: BIOCHEMISTRY, CHEMISTRY, ENVIRONMENTAL SCIENCE, ETC
- [ ] CLASS: 495-00 - LABORATORY AND FIELD EQUIPMENT AND SUPPLIES: BIOLOGY, BOTANY, GEOLOGY, MICROBIOLOGY, ZOOLOGY, ETC
- [ ] CLASS: 500-00 - LAUNDRY AND DRY CLEANING EQUIPMENT, ACCESSORIES, PARTS, AND SUPPLIES-COMMERCIAL
- [ ] CLASS: 515-00 - LAWN MAINTENANCE EQUIPMENT, ACCESSORIES
- [ ] CLASS: 525-00 - LIBRARY AND ARCHIVAL EQUIPMENT, MACHINES, AND SUPPLIES
- [ ] CLASS: 530-00 - LUGGAGE, BRIEF CASES, PURSES AND RELATED ITEMS
- [ ] CLASS: 545-00 - MACHINERY AND HARDWARE, INDUSTRIAL
- [ ] CLASS: 550-00 - MARKERS, PLAQUES AND TRAFFIC DEVICES
- [ ] CLASS: 555-00 - MARKING AND STENCILING DEVICES
- [ ] CLASS: 556-00 - MASS TRANSPORTATION-TRANSIT BUS
- [ ] CLASS: 557-00 - MASS TRANSPORTATION-TRANSIT BUS ACCESSORIES AND PARTS
- [ ] CLASS: 560-00 - MATERIAL HANDLING AND STORAGE EQUIPMENT AND ALLIED ITEMS
- [ ] CLASS: 575-00 - MICROFICHE AND MICROFILM EQUIPMENT, ACCESSORIES, AND SUPPLIES
- [ ] CLASS: 580-00 - MUSICAL INSTRUMENTS, ACCESSORIES, AND SUPPLIES
- [ ] CLASS: 590-00 - NOTIONS AND RELATED SEWING ACCESSORIES AND SUPPLIES
- [ ] CLASS: 595-00 - NURSERY STOCK, EQUIPMENT, AND SUPPLIES
- [ ] CLASS: 600-00 - OFFICE MACHINES, EQUIPMENT, AND ACCESSORIES
- [ ] CLASS: 605-00 - OFFICE MECHANICAL AIDS, SMALL MACHINES, AND APPARATUSES
- [ ] CLASS: 610-00 - OFFICE SUPPLIES: CARBON PAPER AND RIBBONS, ALL TYPES
- [ ] CLASS: 615-00 - OFFICE SUPPLIES, GENERAL
- [ ] CLASS: 620-00 - OFFICE SUPPLIES: ERASERS, INKS, LEADS, PENS, PENCILS, ETC
- [ ] CLASS: 630-00 - PAINT, PROTECTIVE COATINGS, VARNISH, WALLPAPER, AND RELATED PRODUCTS
- [ ] CLASS: 635-00 - PAINTING EQUIPMENT AND ACCESSORIES
- [ ] CLASS: 640-00 - PAPER AND PLASTIC PRODUCTS, DISPOSABLE
- [ ] CLASS: 645-00 - PAPER, FOR OFFICE AND PRINT SHOP USE
- [ ] CLASS: 650-00 - PARK, PLAYGROUND, RECREATION AREA AND SWIMMING POOL EQUIP
- [ ] CLASS: 652-00 - PERSONAL HYGIENE AND GROOMING EQUIPMENT AND SUPPLIES
- [ ] CLASS: 655-00 - PHOTOGRAPHIC EQUIPMENT AND SUPPLIES (NOT INCLUDING GRAPHIC ARTS, AND MICROFILM, AND X-RAY)
- [ ] CLASS: 658-00 - PIPE, TUBING, AND ACCESSORIES
- [ ] CLASS: 659-00 - PIPE AND TUBING FITTINGS
- [ ] CLASS: 665-00 - PLASTICS, RESINS, FIBERGLASS: CONSTRUCTION, FORMING, LAMINATING AND MOLDING EQUIPMENT
- [ ] CLASS: 670-00 - PLUMBING EQUIPMENT, FIXTURES, AND SUPPLIES
- [ ] CLASS: 680-00 - POLICE EQUIPMENT AND SUPPLIES
- [ ] CLASS: 690-00 - POWER GENERATION EQUIPMENT, ACCESSORIES, AND SUPPLIES
- [ ] CLASS: 691-00 - POWER TRANSMISSION EQUIPMENT (ELECTRICAL, MECHANICAL, AIR AND HYDRAULIC)
- [ ] CLASS: 700-00 - PRINTING PLANT EQUIPMENT AND SUPPLIES (EXCEPT PAPER)
- [ ] CLASS: 710-00 - PROSTHETIC DEVICES, HEARING AIDS, AUDITORY TESTING EQUIPMENT, ELECTRONIC READING DEVICES, ETC
- [ ] CLASS: 715-00 - PUBLICATIONS, AUDIOVISUAL MATERIALS, BOOKS, TEXTBOOKS
- [ ] CLASS: 720-00 - PUMPING EQUIPMENT AND ACCESSORIES

☐ CLASS: 725-00 - RADIO COMMUNICATION, TELEPHONE, AND TELECOMMUNICATION EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 730-00 - RADIO COMMUNICATION AND TELECOMMUNICATION TESTING, MEASURING, AND ANALYZING EQUIPMENT, ACCESSORIES AND SUPPLIES

☐ CLASS: 740-00 - REFRIGERATION EQUIPMENT AND ACCESSORIES

☐ CLASS: 745-00 - ROAD AND HIGHWAY BUILDING MATERIALS

☐ CLASS: 770-00 - ROOFING

☐ CLASS: 780-00 - SCALES AND WEIGHING APPARATUS

☐ CLASS: 785-00 - SCHOOL EQUIPMENT AND SUPPLIES

☐ CLASS: 795-00 - SEWING AND TEXTILE MACHINERY, AND ACCESSORIES

☐ CLASS: 801-00 - SIGNS, SIGN MATERIALS, SIGN MAKING EQUIPMENT, AND RELATED SUPPLIES

☐ CLASS: 803-00 - SOUND SYSTEMS, COMPONENTS, AND ACCESSORIES: GROUP INTERCOM, MUSIC, PUBLIC ADDRESS, ETC

☐ CLASS: 805-00 - SPORTING GOODS, ATHLETIC EQUIPMENT AND ATHLETIC FACILITY EQUIPMENT

☐ CLASS: 810-00 - SPRAYING EQUIPMENT

☐ CLASS: 815-00 - STEAM AND HOT WATER FITTINGS, ACCESSORIES, AND SUPPLIES

☐ CLASS: 820-00 - STEAM AND HOT WATER BOILERS AND STEAM HEATING EQUIPMENT

☐ CLASS: 830-00 - TANKS (METAL, WOOD, AND SYNTHETIC MATERIALS)

☐ CLASS: 832-00 - TAPE

☐ CLASS: 838-00 - TELECOMMUNICATIONS EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 839-00 - TELEPHONE EQUIPMENT, ACCESSORIES, AND SUPPLIES

☐ CLASS: 840-00 - TELEVISION EQUIPMENT AND ACCESSORIES

☐ CLASS: 845-00 - TESTING APPARATUS AND INSTRUMENTS

☐ CLASS: 855-00 - THEATRICAL EQUIPMENT AND SUPPLIES

☐ CLASS: 863-00 - TIRES AND TUBES

☐ CLASS: 870-00 - VENETIAN BLINDS, AWNINGS, AND SHADES

☐ CLASS: 880-00 - VISUAL EDUCATION EQUIPMENT AND SUPPLIES

☐ CLASS: 883-00 - VOICE RESPONSE SYSTEMS

☐ CLASS: 895-00 - WELDING EQUIPMENT AND SUPPLIES

☐ CLASS: 906-00 - ARCHITECTURAL SERVICES, PROFESSIONAL

☐ CLASS: 907-00 - ARCHITECTURAL AND ENGINEERING SERVICES, NON-PROFESSIONAL

☐ CLASS: 908-00 - REBINDING AND REPAIRING SERVICES

☐ CLASS: 909-00 - BUILDING CONTSTRUCTION SERVICES, NEW

☐ CLASS 910-00 - BUILDING MAINTENANCE, INSTALLATION, AND REPAIR SERVICES

☐ CLASS: 912-00 - CONSTRUCTION SERVICES, GENERAL

☐ CLASS: 913-00 - CONSTRUCTION SERVICES, HEAVY

☐ CLASS: 914-00 - CONSTRUCTION SERVICES, TRADE

☐ CLASS: 915-00 - COMMUNICATIONS AND MEDIA RELATED SERVICES

☐ CLASS: 918-00 - CONSULTING SERVICES

☐ CLASS: 920-00 - DATA PROCESSING, COMPUTER, AND SOFTWARE SERVICES

☐ CLASS: 924-00 - EDUCATIONAL SERVICES

☐ CLASS: 925-00 - ENGINEERING SERVICES, PROFESSIONAL

☐ CLASS: 926-00 - ENVIRONMENTAL AND ECOLOGICAL SERVICES

☐ CLASS: 928-00 - EQUIP. MAINT., AND REPAIR SERVICES FOR AUTOMOBILES, TRUCKS, TRAILERS, TRANSIT BUS AND OTHER

	CLASS: 931-00 - EQUIP. MAINT., AND REPAIR SERVICES-APPLIANCE, ATHLETIC, CAFETERIA, FURNITURE, MUSICAL INSTRUMENTS, & SEWING EQUIP.
	CLASS: 936-00 - EQUIP. MAINT., AND REPAIR SERVICES-GENERAL
	CLASS: 939-00 - EQUIP. MAINT., AND REPAIR SERVICES-COMPUTERS, OFFICE, PHOTOGRAPHIC, RADIO/TELEVISION EQUIPMENT
	CLASS: 941-00 - EQUIP. MAINT., REPAIR, AND RELATED SERVICES-POWER GENERATION
	CLASS: 946-00 - FINANCIAL SERVICES
	CLASS: 948-00 - HEALTH RELATED SERVICES
	CLASS: 952-00 - HUMAN SERVICES
	CLASS: 953-00 - INSURANCE, AND INSURANCE SERVICES ALL TYPES
	CLASS: 956-00 - LIBRARY AND SUBSCRIPTION SERVICES
	CLASS: 958-00 - MANAGEMENT SERVICES
	CLASS: 962-00 - MISCELLANEOUS SERVICES, NO. 2
	CLASS: 965-00 - PRINTING PREPARATIONS
	CLASS: 966-00 - PRINTING
	CLASS: 971-00 - REAL PROPERTY RENTAL OR LEASE
	CLASS: 975-00 - RENTAL OR LEASE SERVICES
	CLASS: 977-00 - RENTAL OR LEASE SERVICES OF APPLIANCES
	CLASS: 981-00 - RENTAL OR LEASE OF EQUIPMENT-GENERAL EQUIPMENT
	CLASS: 984-00 - RENTAL OR LEASE OF SERVICES OF COMPUTERS, DATA PROCESSING, AND WORD PROCESSING EQUIPMENT
	CLASS: 985-00 - RENTAL OR LEASE SERVICES OF EQUIPMENT-OFFICE
	CLASS: 988-00 - ROADSIDE, GROUNDS, RECREATIONAL AND PARK AREA SERVICES
	CLASS: 990-00 - SECURITY, FIRE, SAFETY, AND EMERGENCY SERVICES
	CLASS: 992-00 - TESTING AND CALIBRATION SERVICES
	CLASS: 998-00 - SALE OF SURPLUS & OBSOLETE ITEMS

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

Give Form to the requester. Do not send to the IRS.

Print or type. See **Specific Instructions** on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person** ▶ **Date** ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),

2. Certify that you are not subject to backup withholding, or

3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and

4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting,* later, for further information.

Note: If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.

2. The treaty article addressing the income.

3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.

4. The type and amount of income that qualifies for the exemption from tax.

5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,

2. You do not certify your TIN when required (see the instructions for Part II for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code,* later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships,* earlier.

What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code,* later, and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of $50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a $500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note: ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)

2—The United States or any of its agencies or instrumentalities

3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

4—A foreign government or any of its political subdivisions, agencies, or instrumentalities

5—A corporation

6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession

7—A futures commission merchant registered with the Commodity Futures Trading Commission

8—A real estate investment trust

9—An entity registered at all times during the tax year under the Investment Company Act of 1940

10—A common trust fund operated by a bank under section 584(a)

11—A financial institution

12—A middleman known in the investment community as a nominee or custodian

13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over $600 required to be reported and direct sales over $5,000[1]	Generally, exempt payees 1 through 5[2]
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

[1] See Form 1099-MISC, Miscellaneous Income, and its instructions.

[2] However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note: You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See *What Name and Number To Give the Requester,* later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at *www.SSA.gov*. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at *www.irs.gov/Businesses* and clicking on Employer Identification Number (EIN) under Starting a Business. Go to *www.irs.gov/Forms* to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to *www.irs.gov/OrderForms* to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note: Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code,* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account[1]
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor[2]
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee[1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner[1]
6. Sole proprietorship or disregarded entity owned by an individual	The owner[3]
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	**Give name and EIN of:**
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity[4]
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

[1] List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

[2] Circle the minor's name and furnish the minor's SSN.

[3] You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

[4] List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships,* earlier.

***Note:** The grantor also must provide a Form W-9 to trustee of trust.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to *phishing@irs.gov.* You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at *spam@uce.gov* or report them at *www.ftc.gov/complaint.* You can contact the FTC at *www.ftc.gov/idtheft* or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see *www.IdentityTheft.gov* and Pub. 5027.

Visit *www.irs.gov/IdentityTheft* to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

Quotation

Dugmore & Duncan of Tennessee, Inc.
3001 Kate Bond Road
Bartlett, TN 38133
>

(888)−384−6673
(888)−329−3846 (Fax)
sales@dugmore.com

GERMANTOWN MUNICIPAL SCHOOLS
Attn: Scott
Customer number: 729493
Phone: (901) 752−7900
Email: JCOUGHLI@dugmore.com

From: JCOUGHLI
Date: 2023−Mar−28
Quote good through: 2023−Apr−27

Quote number: 086550

Job name: ADA Security upgrade

Terms

- Freight is included on this quote

Quoted items

Backorder Pricing						
#	**item**	**qty**	**list price**	**unit price**	**line total**	**delivery time**
1	DG1 28 11G38 LL 26D TA	280	$1078.00	$390.00	$109200.00	4−6 weeks
	sargent classroom intruder t−zone lockset masterkeyed 3 keys per lock					
2	extra keys	280	$9.00	$9.00	$2520.00	4−6 weeks
	dg1 cut keys					
3	KSP2	1	$180.00	$0.00	$0.00	
	key system preparation 4 level					
4	installation	280	$30.00	$30.00	$8400.00	
	installation and removal of locksets. does not include door mosifications					
				total:	**$120120.00**	

Standard keyway quoted. Factory masterkeying includes 3 keys per lock.

−−−− Delivery Time Estimates are made in good faith and are not guaranteed. −−−−

−−−− Sales tax will be added where applicable. −−−−

−−−− End of quote number 086550 −−−−

GERMANTOWN
MUNICIPAL SCHOOL DISTRICT
Inspiring Personal Excellence

3350 S. Forest Hill Irene Rd • Germantown, TN 38138 • 901.752.7900 • Fax 901.757.6479 • www.gmsdk12.org

School Tenure Eligibility Review

Understandings:

1. According to school board policy, 5.117-*Teacher Tenure,* "the decision to grant tenure is solely within the discretion of the board."

2. Tenure is granted typically when there has been a completion of five (5) school years or not less than forty-five (45) months within the last seven-year period.

3. Employees' evaluations must demonstrate an overall performance effectiveness level (LOE) of "above expectations" or significantly above expectations" as provided in the evaluation guidelines adopted by the state board of education, during the last two (2) years of the probationary period.

4. Teachers from other public school systems in the state of Tennessee who arrived to us in a *non-tenured status* can include these years of service to count towards the five (5) years with the last two of the five years being at levels of overall performance level (LOE) of "above expectations" or significantly above expectations" as provided in the evaluation guidelines adopted by the state board of education. Year 5 of the non-tenured status does have to be with the Germantown Municipal School District.

5. A teacher who comes to us and *has tenure* from another Tennessee public school system must serve two (2) consecutive school years with us on probationary status. During these two (2) years of service, the teacher does have to perform at levels of overall performance level (LOE) of "above expectations" or significantly above expectations" as provided in the evaluation guidelines adopted by the state board of education.

Process:

- A list was generated by the Human Resources Department on teachers who met tenure eligibility requirements at the conclusion of the 2021-2022 school year.

- GMSD reviewed their overall level of effectiveness (LOE) scores for the 20-21 and 21-22 school years to determine tenure eligibility.

- Principals reviewed the list and then were asked to identify any staff members who may have inadvertently been left off the list.

- HR, by this collaborative effort with the Principals, reviewed these additional names and determined their eligibility status for tenure as described in the *Understandings* section. The finalized list of teacher names eligible for tenure is on page 2.

With Gratitude:

Thank you, GMSD School Board, for reviewing this list of twenty four (24) staff members. By granting these teachers tenure, you have honored their work with children in this school district. On their behalf, Superintendent Manuel, the GMSD HR Team, and our School Principals appreciate the consideration and the amount of work you put in for this school district.

GMSD Tenure Recommendations

The following Certified Staff Members have met the requirements for initial tenure eligibility according to TCA 49-5-501 et seq.

2021-2022

Certified Staff Member	Location
Brady Boyd	Dogwood Elem
Ann Wallace	Dogwood Elem

Certified Staff Member	Location
Jenna Black	Farmington Elem
Christopher Garry	Farmington Elem
Jennifer Rivers	Farmington Elem

Certified Staff Member	Location
Mary Beth Etheridge	Forest Hill Elem
Camellia Jones	Forest Hill Elem

Certified Staff Member	Location
Shawn Abel	Houston High
William Houston	Houston High
Kimberly Martin	Houston High
NaToya Chandler	Houston High
Meredith Steepleton	Houston High
Lana Wells	Houston High

Certified Staff Member	Location
Sabrina Martin	Houston Middle
Cynthia “Renee” Nations	Houston Middle

Certified Staff Member	Location
LeeAnn Bailey	Riverdale Elem
Blanche Barron	Riverdale Elem
Aysha Brown	Riverdale Elem
Amy Callaway	Riverdale Elem
John Frizzell	Riverdale Elem
Heather “Alex” Moorhead	Riverdale Elem
Leslie Morris	Riverdale Elem
Mio Namba	Riverdale Elem

Certified Staff Member	Location
Leigh Ellis	District Office

Germantown Municipal School District offers educational and employment opportunities without regard to race, color, creed, national origin, religion, sex, age, or disability and adheres to the provisions of the Family Education Rights and Privacy Act (FERPA).