

**ADDENDUM THREE
MULTIPLE BALLFIELD AND FACILITY IMPROVEMENTS
CONTRACT NO. R-19-006-201
CITY OF CHATTANOOGA, TENNESSEE**

The following changes shall be made to the Contract Documents, Specifications, and Drawings:

I. REVISED BID FORM

A. A revised bid form is included in this Addendum.

II. REVISED DRAWINGS

A. Updated drawings are included with this Addendum.

III. ADDED TECHNICAL SPECIFICATIONS

A. Additional technical specifications are included in this Addendum pertaining solely to the renovations at John A. Patten YFD Center.

April 23, 2019

/s/ Justin C. Holland, Administrator
City of Chattanooga
Department of Public Works

BID SCHEDULE

MULTIPLE BALLFIELD AND FACILITY IMPROVEMENTS

R-19-006-201

CHATTANOOGA, TENNESSEE

DESCRIPTION

Constructing new wood awning structures for the concessions building at Lookout Valley Ballfields, replacing damaged scorers' box wood at the Lookout Valley Ballfields, replacing selected wood subfloor and performing other repairs at the East Lake Community Center, and replacing a section of concrete slab at the entrance vestibule to the Tyner Recreation Building. Add Alternate 1 includes constructing office space and other modifications in the DRC. Add Alternate 2 includes numerous modifications to the John A Patten YFD Center 2nd Floor, including removing and adding partitions, a toilet, and wall and floor finishes.

TOTAL CONTRACT BID

TOTAL BASE BID \$ _____ _____

SUBPROJECT R-18-008 \$ _____

SUBPROJECT R-18-014 \$ _____

SUBPROJECT Y-18-007 \$ _____

ADD ALTERNATE 1 \$ _____
(DRC 2nd Floor Modification)

ADD ALTERNATE 2 \$ _____
(John A Patten YFD 2nd Floor Modification)

Note: Dollar amounts are to be shown in both words and figures. In case of discrepancy, dollar amounts shown in words will govern.

Contractor certifies that he has reviewed the plans and specifications, and that all items of work not specifically listed in the Bid Schedule are included in the prices for the various items listed on the Bid Schedule.

BIDDER: _____ **DATE:** _____

BY: _____ **(Signature) TITLE:** _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP CODE:** _____

TELEPHONE NUMBER: _____ 00301AD7-1

Bid Schedule

Contract Number R-19-006-201

LOOKOUT VALLEY BALLFIELDS SITE IMPROVEMENTS

City of Chattanooga

SUBPROJECT R-18-008-201

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
BASE BID					
00717	Mobilization	1	LS		
01000	Fees for all Permits (Including plans review fees, permit fees, maintenance fees)	1	LS		
02270	Erosion Control	1	LS		
00023-1	Removal of Structures and Obstructions	1	LS		
712-01	Traffic Control	1	LS		
008001	Construct new restroom awnings	2	EA		
008002	Construct new concession stand awning	1	EA		
008003	Remove and dispose of unsuitable building materials	1	LS		
008004	Replace unsuitable wood on scorekeeper's box structures	5	EA		
008005	Cleaning and restoration of construction activities in concession structure and on site	1	LS		

R-18-008-201 TOTAL BASE BID \$

Bid Schedule**Contract Number R-19-006-201****EAST LAKE SENIOR CENTER BUILDING IMPROVEMENTS****City of Chattanooga****SUBPROJECT R-18-014-201**

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
BASE BID					
00717	Mobilization	1	LS		
01000	Fees for all Permits (Including plans review fees, permit fees, maintenance fees)	1	LS		
00023-1	Removal of Structures and Obstructions	1	LS		
014001	Remove, store, protect, and reinstall toilets in men's restroom	2	EA		
014002	Remove, store, protect, and reinstall partitions in men's and women's restrooms.	1	LS		
014003	Remove existing sub-flooring in men's restroom and replace with Advantech panels and caulked joints	106	SF		
014004	Replace, repair, or supplement ex. Joists or other Floor Framing in Men's Restroom, as needed and directed by the Engineer	20	LF		
014005	Remove And Properly Dispose of Existing Floor Finish and Base Board Molding in Building. Prepare Subfloor to Receive New Floor Finish	1698	SF		
014006	Provide and Install New Adhered Resilient Floor Finish, with 1/4" Wood Panel Underlayment	1698	SF		
014007	Provide and Install New Resilient 4" Baseboard Molding	396	LF		

Bid Schedule

Contract Number R-19-006-201

EAST LAKE SENIOR CENTER BUILDING IMPROVEMENTS

City of Chattanooga

SUBPROJECT R-18-014-201

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
BASE BID					
014008	Replace electrical outlet cover plates as directed	1	EA		
014009	Replace overhead kitchen light fixture	1	EA		
014010	Cleanup and restoration	1	LS		

R-18-014-201 TOTAL BASE BID \$

Bid Schedule

Contract Number R-19-006-201

TYNER RECREATION CENTER BUILDING SLAB REPAIR

City of Chattanooga

SUBPROJECT Y-18-007-201

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
BASE BID					
00717	Mobilization	1	LS		
01000	Fees for all Permits (Including plans review fees, permit fees, maintenance fees)	1	LS		
02270	Erosion Control	1	LS		
00023-1	Removal of Structures and Obstructions	1	LS		
712-01	Traffic Control	1	LS		
007001	Removal, inventory & organization, protection, storage, and reassembly of vestibule storefront system	1	LS		
007002	Saw-cut and remove existing concrete slab, and excavate to depth to allow construction of new slab	1	LS		

Bid Schedule

Contract Number R-19-006-201

TYNER RECREATION CENTER BUILDING SLAB REPAIR

City of Chattanooga

SUBPROJECT Y-18-007-201

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
BASE BID					
007003	Construct new concrete slab (16" max depth) per details, including vapor barrier, compacted base, and reinforcing	1	LS		
007004	Drill and epoxy grout #5 dowels into ex. Building slab and exterior sidewalk per details	1	LS		
007005	Shoring as needed	1	LS		
007006	Expansion joint materials, caulking and sealing	1	LS		
007007	Cleanup and restoration	1	LS		

Y-18-007-201 TOTAL BASE BID \$ _____

Bid Schedule

Contract Number R-19-006-201

ADD ALTERNATE 1

City of Chattanooga

DEVELOPMENT RESOURCE CENTER SECOND FLOOR MODIFICATION

Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
ADD ALTERNATE 1					
DRC 01	Perform all work in Contract Documents to Construct New 2nd Floor Office Partitions, MEP, Painting, Remove and Replace Floor Coverings, Etc.	1	LS		

Bid Schedule

Contract Number R-19-006-201

ADD ALTERNATE 1

City of Chattanooga

DEVELOPMENT RESOURCE CENTER SECOND FLOOR MODIFICATION					
Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
ADD ALTERNATE 1					
DRC 02	Perform all work in Contract Documents to Fabricate, Provide, and Install 3rd Floor Casework	1	LS		
DRC 03	Additional Cost to Perform the Work of Items DRC 01 between the hours of 4 PM - 12 AM only	1	LS		
TOTAL ADD ALTERNATE 1 \$ _____					

Bid Schedule

Contract Number R-19-006-201

ADD ALTERNATE 2

City of Chattanooga

JOHN A PATTEN YFD CENTER RENOVATIONS TO 2ND FLOOR					
Item No.	Description	Estimated Qty.	Unit	Unit Price	Total Price
ADD ALTERNATE 2					
	Perform 2nd Floor Modifications in Accordance with Contract Documents (Base Scope of Work)	1	LS		
	Perform Additional 2nd Floor Modifications and Provide and Install all electrical, mechanical, plumbing for HVAC ALTERNATE LAYOUT (See A100, M101 and E101),	1	LS		
TOTAL ADD ALTERNATE 2 \$ _____					

**CITY OF CHATTANOOGA
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

CERTIFICATION AND SEAL

I hereby certify that the Project Drawings and the Contract Documents and Specifications for the following contract were prepared by me or under my direct supervision, and that I am a duly registered architect under the laws of the state in which these projects are located:

**Renovations to the 2nd Floor
John A Patten Rec Center
3202 Kellys Ferry Road, Chattanooga, TN 37419**

Contract No. Y-17-017-201



TN REGISTRATION NO. 101590

**ARCHITECT
VICE PRESIDENT, FRANKLIN ASSOCIATES**

1 April 2019

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END OF SECTION

SUBMITTALS

SECTION 01 30 00

1.01 EQUIPMENT DELIVERY AND CONSTRUCTION SCHEDULE

Not later than ten (10) consecutive calendar days after the issuance of the "Notice to Proceed," the Contractor shall submit to the ENGINEER for review a detailed schedule of major equipment delivery and installation and general construction operations, indicating the sequence of the work, the estimated dates of starting each task, and the estimated time of completion of each task. The schedule shall be broken down with respect to individual structures and facilities, indicating when existing structures or equipment would be taken out of service (if applicable). The form and content of the schedule shall be satisfactory to the ENGINEER.

1.02 SHOP DRAWINGS AND PRODUCT DATA

- A. The Contractor shall submit to the ENGINEER for review, for design concept, complete drawings and ENGINEERING data for all equipment, materials, and products to be incorporated into the work. Shop drawings and engineering data shall be provided and the ENGINEER'S review will be conducted in accordance with the requirements of the General Provisions. Shop drawings and/or engineering data, as appropriate, shall be submitted for the following items, including, but not limited to:
1. All piping, pipe fittings, pipe supports, hangers, couplings, and insulation including mill tests if requested by the ENGINEER.
 2. Miscellaneous iron castings and gratings, manhole frames and covers, curb inlets, manhole steps.
 3. All concrete and masonry accessories and steel reinforcement, including bending diagrams and bar schedules, ties, spreaders, chairs, inserts, form coatings, waterstops, curing and sealing compounds, and epoxy bonding agents.
 4. Premixed grouts and mortars.
 5. All paints and protective coatings.
 6. Grass seed, fertilizer, and commercial mulches.
 7. Precast concrete manholes, Sections, Frames and covers, steps, junction boxes, etc., inclusive of manhole boots and joint material, etc.
 8. Portland Cement Concrete design mix for Class A and Class B Concrete.
 9. Paving mix design inclusive of sieve analysis and bituminous content.

- B. Shop drawings and engineering data for equipment supplied as a pre-engineered or pre-assembled system shall include complete shop drawings and engineering data on each component of that system. In all cases, the information provided shall be sufficient to determine if the material or product conforms with the requirements of the specifications.
- C. Shop drawings and engineering data shall be prepared by the original equipment vendors or fabricators, as applicable. Purchased specifications by the Contractor or his Supplier shall not be acceptable as a substitute for actual vendor drawings and data.
- D. All shop drawings shall include a legend or other suitable means to identify all symbols and abbreviations used on the drawing. Where an accepted, industry-wide drafting symbol or standard has been established for a particular item, information depicted on the shop drawings shall conform to that standard.
- E. Shop drawings shall be dimensioned using the U.S. standard unit of measurement (feet and/or inches). Size of drawing shall not exceed 24 inches by 36 inches. All scaled drawings and details shall have the scale clearly noted on the drawing or detail. All information shall be clear and legible.
- F. Each shop drawing and each item of engineering data shall bear the Contractor's APPROVED stamp indicating that the Contractor has reviewed the drawing or data for conformance with the Contract Documents.
- G. All design calculations and drawings for foundation and footings, sheeting and shoring, and concrete formwork shall bear the signed and dated stamp of a licensed professional engineer.

1.03 MISCELLANEOUS SUBMITTALS

The Contractor shall submit to the ENGINEER miscellaneous information, procedures, test data, samples, etc., in the manner and at the time specified in these Specifications and Contract Documents. Miscellaneous submittals shall include, but not be limited to, the following:

1. Procedures for handling and disposing of sewage flows during construction.
2. Factory test data and results where specified for specific items of equipment.
3. Preliminary concrete mix design reports.
4. Satisfactory written evidence in the form of laboratory or mill test reports indicating that all cement, aggregate, masonry, structural steel, fencing, castings, steel reinforcement, conduit, pipe, grout, waterproof materials, grass seed and other items incorporated into the work are in compliance with the requirements of these Specifications.
5. Project record documents.

6. Copies of original invoices of all equipment delivered to the site.
7. When requested, analysis and design data on concrete formwork and sheeting and shoring.
8. Drawings and details of erosion and sediment control structures, if significantly different from Drawings approved by the Stormwater Division of the Department of Public Works.
9. Written evidence of equipment warranties.

1.04 SCHEDULE OF WORK

Contractor shall submit a SCHEDULE OF WORK in sequential order by dates in which he expects to perform the contract specifying the areas or locations in the order the work is anticipated beginning with work commencement date.

- A. "The Work" may include related sections or items (individually or grouped) such as, Clearing and Grubbing, Gradework (cut & fill), Storm Sewers, Relocation of Sanitary & Related Culvert Construction, Erosion Control, Base, Paving, etc., as examples.

1.05 SAMPLES

At the ENGINEER'S request, the Contractor shall furnish certified samples of materials utilized in the fabrications or production of equipment, materials and products supplied under these Contract Documents. Cost of all such samples shall be borne by the Contractor. The samples will be tested by a qualified, independent, testing laboratory selected by the OWNER to determine if the mechanical and chemical properties of the materials supplied are in accordance with the requirements of these Specifications and Contract Documents. The OWNER shall pay for the laboratory testing of material samples provided by the Contractor. The Contractor shall pay for all retests made necessary by the failure of materials to conform to the requirements of these Specifications and Contract Documents.

1.06 SCHEDULES, REPORTS AND RECORDS

- A. The Contractor shall submit to the Engineer such schedule of quantities and costs, progress schedules, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the Work to be performed.
- B. Prior to the first partial payment estimate, the Contractor shall submit construction schedules showing the order in which the Contractor proposes to carry on the Work, including dates, at which the various parts of the Work will be started, estimated date of completion of each part, and, as applicable:
 1. The dates on which special detail drawings will be required. Submittal must allow sufficient time for review by the Engineer. Final approval must be obtained prior to commencement of construction of that portion of work to which they pertain.

2. Respective dates for submission of shop drawings, the beginning of manufacture, the testing and the installation of materials, supplies, and equipment.
- C. The Contractor shall also submit a schedule of payments that the Contractor anticipates will be earned during the course of the Work.

END OF DOCUMENT

PART ONE – GENERAL

1.01 WORK INCLUDED: This Section establishes general requirements pertaining to cutting, fitting, and patching of the work.

1.02 COORDINATION:

- A. It is the intent of the Contract Documents that the work be accomplished with the minimum amount of cutting.
- B. The Contractor is responsible for all cutting and patching which includes demolition work for required access and clean-up of all debris resulting from such work.
 - 1. When cutting or patching of existing building construction is required, the Contractor may require subcontractors to perform such work and clean-up resulting debris.
 - 2. When cutting or patching of new work is required, the Contractor may require subcontractors to perform such work and clean-up resulting debris.
 - 3. No sub-contractor, trade or craft shall perform any cutting without first notifying the Contractor as to the number and sizes of accesses required and receiving the Contractor's permission.
 - 4. Each sub-contractor, craft or trade requiring cutting or patching work shall notify the Contractor to the fullest extent in the scheduling and coordination of work to minimize the need for cutting and patching.
- C. The Contractor shall be responsible for providing all required protection including but not limited to, shoring, design of shoring, bracing and support necessary to maintain structural integrity of the Work.
- D. The Contractor must patch and / or re-build any Fire-Rated, Smoke-Rated, or Sound-Rated Partitions or ceilings that are damaged during performance of Work under this Contract to their original condition prior to the damage, and to maintain their rating status in compliance with STC Assemblies, UL Assemblies and IBC Requirements.
- E. Welding and torch cutting shall only be performed under provisions of the Fire Safety Program.

1.03 DEFINITIONS:

- A. Patching includes restoration or replacement of construction material, including finishing.
- B. Cutting and Patching:
 - 1. Includes cutting and patching of both previously existing work and nominally completed portions of Contract work.
 - 2. Excludes shop drilling of holes to install fasteners.
 - 3. Excludes special categories of work identified as alterations, demolition, excavating, grading, planting, cleaning, removal/replacement of noncomplying work and similar activities; although some of these activities may require cutting and patching.

PART TWO – PRODUCTS

- 2.01 MATERIALS: For replacement of Work removed, re-use existing materials or use materials which match existing or which comply with pertinent sections of these Specifications or which are approved by the Architect.

PART THREE – EXECUTION

- 3.01 GENERAL: Contractor shall oversee all cutting and patching for approval by the Architect.

3.02 PERFORMANCE:

- A. Perform all cutting, fitting and patching that may be required to make the several parts of the work fit together properly. Do not endanger the Work or any part of it. Design shoring and bracing or retain a licensed structural engineer to design and inspect shoring and bracing. Furnish, erect, maintain in safe condition and remove shoring and bracing as necessary to accomplish the work.
 - B. Perform cutting and demolition by methods which will minimize damage to other portions of the Work and will provide proper surfaces to receive installation of repair and new work.
 - C. No use of open flame, torch or welding equipment will be allowed without a fire extinguisher being ready for use within ten feet of the work. At the end of each work day, Contractor's Superintendent shall inspect all areas where open flame, torch or welding equipment was used to be certain there is no possibility of fire existing as a result of that work.
 - 1. In addition, Contractor shall provide no less than a one-hour fire-watch at the end of each day to include all areas where open flame, torch or welding equipment was used that day.
 - D. Protect the building from any and all damage related to Construction activities.
 - 1. All cutting, welding and any other Hot Work performed to accomplish the Work of this Project must comply with Federal and State OSHA Regulations.
 - 2. Contractor must provide fire extinguishers, safety plan, fire watch, fire blankets, other protective equipment, and anything else necessary to comply with Federal and State OSHA Regulations.
 - E. Patch work shall be performed by appropriate sub-contractor engaged in a given craft or trade. That is, plaster contractor shall do all patching of plaster, a ceramic tile contractor shall patch ceramic tile, etc.
 - F. Patching of all finishes shall match existing work, to the approval of the Architect.
 - G. Refinish entire surfaces as necessary to provide an even finish. For continuous surfaces, refinish to nearest intersections.
- 3.03 COST: The cost of required cutting and patching shall be included in the Contract Sum.

END OF SECTION

FINAL CLEANING, WASTE MANAGEMENT
AND DISPOSAL

SECTION 02 41 21

PART 1 - GENERAL

- 1.01 SCOPE: Provide materials, equipment and labor required for the thorough cleaning and sanitizing of the buildings and the Project Site. Leave pavements, floors, walls, ceilings, hardware, plumbing fixtures and lighting fixtures clean and free of dust and construction debris. Actively minimize, manage and recycle construction waste. Categorize, recycle to the maximum extent practicable, and properly dispose of undesirable and extraneous materials and debris found within the construction limits. Comply with hauling and disposal regulations of authorities having jurisdiction.
- 1.02 SPECIAL JOB CONDITIONS:
- A. SPECIAL PROTECTIVE MEASURES: Comply with the Special Protective Procedures of Section 01 50 00 – *Temporary Facilities and Controls* in the performance of Work under this Section.
- B. SITE PROTECTION: The Contractor shall not allow contaminated water and other fluids from cleaning and other construction operations to flow outside of the construction limits or off-site, or to damage adjacent lawns and landscaping. Contain and dispose of contaminated water and other fluids in a manner that will prevent contamination of the City of Chattanooga storm water drainage system that ultimately drains to the Tennessee River. Comply with City of Chattanooga and TDEC regulations.
- 1.03 DEFINITIONS:
- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- 1.04 Protect from damage all surfaces that could be impacted by cleaning processes. Provide all necessary dust barriers. Protect all mechanical equipment from dust and construction debris.
- 1.05 SUBMITTALS: Comply with Section 01 33 00. Submit Material Safety Data Sheets (MSDS) for all cleaning agents and other potentially harmful chemicals to be used in the performance of the Work.

PART 2 - MATERIALS

- 2.01 CLEANING AGENTS: Use cleaning materials and agents recommended by the manufacturers for the surfaces to be cleaned. Do not use agents that are potentially hazardous to the health of applicators, other construction personnel or to future occupants. Do not use products that could damage the surfaces to which they are applied.
- A. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

- 3.01 **CLEANING GENERAL:** Conduct cleaning and waste removal operations to comply with all local, state and federal environmental and antipollution regulations. Employ experienced workers or professional cleaners. Clean each surface, piece of equipment, mechanical unit and electrical device to a condition expected in an average commercial building. Maintain a clean and orderly job site as work progresses and perform final cleaning at project completion.
- 3.02 **WASTE MANAGEMENT GENERAL:** The Contractor shall not allow trash and debris to accumulate; all demolition waste, construction waste, trash and debris resulting from each day's work shall be collected, transported off-site and legally disposed; loose material which spills off trucks or which accumulates on the ground during handling and loading shall be picked up by the end of each day.
- A. Burning of waste materials on-site is not permitted.
- B. Provide at least one dumpster for refuse and debris resulting from demolition and construction work. Place all such materials in the dumpsters and have the dumpsters emptied and replaced as they are filled. Place dumpsters at locations to be determined mutually between Contractor and the Owner.
- C. **DISPOSAL OF WASTE**
1. **General:** Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 2. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.
 3. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 4. **Burning:** Do not burn waste materials.
 5. **Disposal:** Transport waste materials off Owner's property and legally dispose of them.
- 3.03 **CLEANING:** Remove all dust, stains, films and other foreign substances from all exposed surfaces throughout the Project Site within the Construction Limits. The following lists are not a complete enumeration of work to be done, but are merely an indication of what will be considered "satisfactory".
- A. **INTERIOR CLEANING:**
1. As work progresses, take active measures to control the accumulation of dust from on-going construction activities. Protect mechanical equipment, ductwork and filters from air-borne dust. Maintain a clean work site.
 2. Thoroughly clean exposed surfaces in all spaces throughout the buildings. Remove and properly dispose of all rubbish, debris, animal carcasses, insects, insect and animal nests, arachnids, spider webs, bird droppings, other animal waste, biological and chemical contaminants, and all other foreign materials.
 3. Sweep all floors broom clean. Vacuum as necessary to remove all dust and grit. Leave floors dirt and dust free.
 4. Clean all exposed surfaces to a dust-free condition, free of stains, film and other foreign substances. Carefully clean all exposed electrical conduit, boxes, devices, etc., both wall, column and ceiling mounted, vacuuming as necessary. Wipe all column, wall and ceiling surfaces.

5. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, equipment vaults, and similar spaces.
6. Vacuum clean carpet and similar soft surfaces in office areas, removing debris and excess nap. Shampoo if visible soil or stains remain.
7. Wipe surfaces of all mechanical equipment, electrical panels and equipment, elevator equipment and similar items. Remove excess lubrication and other foreign substances. Clean ducts, fans, coils and permanent filters. At the end of construction, replace all disposable filters.
8. Clean light fixtures, lamps, globes, lenses and reflectors such that maximum efficiency is restored. Replace lamps as they burn out during the course of construction activities or are damaged by cleaning procedures. Dispose of fluorescent and metal halide fixtures in compliance with all local, state and federal regulations.
9. Conduct all cleaning operations using products, to the maximum extent practicable, that meet Green Seal GS-37, or if GS-37 is not applicable, using products that comply with the California Code of Regulations maximum allowable VOC levels.
10. Contain and dispose of contaminated water and other fluids in a manner that will prevent contamination of the City of Chattanooga storm water drainage system that ultimately drains to the Tennessee River. Comply with City of Chattanooga and TDEC regulations.

3.04 VERMIN REMOVAL AND CONTROL: During construction, the Contractor shall keep the buildings and project site free of food scraps and similar organic matter that would attract vermin, and shall take other legal measures necessary to prevent further infestation of the property.

END OF SECTION

ROUGH CARPENTRY

SECTION 06 10 00

PART ONE - GENERAL

- 1.01 SCOPE: Provide layout, installation, forming, framing, plates, blocking, nailers, bridging, fasteners, plywood decking, plywood backer panels, and related items necessary to complete work detailed and/or specified herein.
- 1.02 PROTECTION: Store products off of ground. Loosely cover with "breathing type" tarpaulins to prevent wetting and allow free air circulation. Do not use polyethylene sheeting for covering.
- 1.03 SUBMITTALS: Comply with Section 01 33 00. Submit information for framing, plywood, fasteners, panel adhesive, engineered lumber, fire-treatment treatment, and pressure-preservative treatment. Submit manufacturer's literature and proposed product numbers for Simpson and other types of fasteners.

PART TWO - MATERIALS

- 2.01 GENERAL REQUIREMENTS:
 - A. Current edition, Association Grading Rules, govern.
 - B. All lumber shall bear the grade mark of an ALSC Board of Review approved agency. Provide grades and species specified.
 - C. Sizes shown are nominal. Actual sizes shall conform to American Lumber Standard PS 20.
 - D. All lumber shall be S4S (surfaced four sides) unless otherwise indicated.
 - E. All lumber shall be kiln-dried. Moisture content of lumber 2" or less in thickness, shall be 19% or less at time of installation.
- 2.02 FRAMING, STUDS, JOISTS, AND OTHER SUCH FRAMING: No. 2 Grade Southern Yellow Pine free from warp that cannot be corrected by nailing. Fire-Retardant-Treated material is required.
- 2.03 NON-STRUCTURAL SOLID LUMBER FURRING, SLEEPERS, PLATES, BRACING, NAILERS AND BLOCKING: Standard and Better, any species.
- 2.04 FIRE-RETARDANT AND PRESERVATIVE TREATMENT:
 - A. Where noted on the Drawings, Fire-Retardant-Treated lumber and plywood are required to comply with requirements of the International Building Code. Lumber and plywood sawed or cut after treatment shall have the cut surface brush coated with the same preservative that was used at the plant.
 - B. All wood framing, blocking, and other lumber in contact with earth, concrete, masonry, or steel, or where noted "P.T." on the Drawings shall be pressure treated for "ground contact". Lumber sawed or cut after treatment shall have the cut surface brush coated with the same preservative that was used at the plant.
- 2.05 POWDER-DRIVEN AND COMPRESSED-AIR-DRIVEN ANCHORS AND FASTENERS: Not permitted except with specific written approval of the Architect.

- 2.06 FASTENERS, ANCHORS AND CONNECTORS: Provide stainless steel or corrosion resistant coated fasteners where required for use with Preservative Treated and Fire-Retardant-Treated lumber and plywood.
- A. Common wire nails, ring shank nails, finishing nails, and cement coated nails.
 - B. Bolts, screws, washers and nuts: Commercial quality, galvanized.
 - C. Self-drilling fasteners: Zinc plated No. 12 Teks/5 screws, length as required.
 - D. Provide other required items as noted on Architect's Structural Drawings.
 - E. Anchor bolts with threaded ends and hooks as shown on drawings. See Paragraph 3.03, B. Where remedial work is required, Phillips Red Head or equal with machine bolts and washer.
- 2.07 PLYWOOD: Cross-laminated wood cores and wood face veneers. **No** fiberboard, particleboard, flakeboard, OSB or similar cores. Fire-Retardant-Treated APA Rated Sheathing, Exposure 1, PS2 or PRP-108, 5 ply and as follows:
- A. Subfloor and Floor Decking: Span Rating of 40/20; 23/32" or 3/4" thickness; tongue and groove; fully sanded face. Fire-Retardant-Treated material is required.
 - B. For use as backer panels for telephone and other equipment mounting boards, mirrors, and other miscellaneous locations; APA, B-B, Exposure 1, 5 ply; thicknesses noted on Drawings, or 19/32" if not shown on Drawings. Fire-Retardant-Treated material is required.
- 2.08 ADHESIVE: Construction and panel adhesive. Contractor's choice of products meeting APA approval, Abitibi or equal.

PART THREE - EXECUTION

- 3.01 GENERAL: Hand nailing is required. Machine or power nailing is only permitted if specific request is made by Contractor and specific written approval received from structural engineer.
- 3.02 INSTALLING WOOD BLOCKING IN WALLS: Provide solid wood concealed blocking and shims at window and door openings, and as necessary for proper installation and attachment of wall hung fixtures, plumbing fixtures, electrical fixtures and cabinets, handrails, closet specialties, toilet and other accessories, cabinets, countertops, door stops, etc. Install wood blocking securely to provide strong support for items to be installed.
- 3.03 FRAMING: All framing lumber shall be of size and spacing shown on Drawings and comply with the following:
- A. Lay out, cut, and install rough carpentry items. Framing shall have all joints true, tight, and properly nailed or bolted. Horizontal members shall be set with crown up. Splicing of members between bearing shall not be permitted. Plates and sills bearing on uneven concrete or masonry surface shall be solidly grouted to provide full bearing.
 - B. Nailers and plates shall be anchored with 5/8" diameter x 12" + 4" hook anchor bolts with maximum spacing of 4 feet on center, and with a minimum of two bolts in each piece.

- C. Install joist framing with crown edge up and support ends of each member with not less than 1-1/2" of bearing on wood or 3" on masonry. Toe nailing and end nailing are not permitted. Attach to wood bearing members using metal connectors; frame to wood supporting members with wood ledgers, and with metal connectors. Do not notch joists and do not bore holes in joists without specific approval of Architect. Provide solid blocking (2" thick by depth of joist) at ends of joists . Lap members framing from opposite sides of supports not less than 4". Provide solid blocking (2" thick by depth of joists) over supports. Provide solid blocking between joists. Use solid wood bridging 2" thick by depth of joist, end nailed to joist.

- 3.04 PLYWOOD FLOOR PANELS: Adhere with construction adhesive and mechanically fasten plywood to wood framing. Install plywood panels perpendicular to framing or sleepers and offset adjacent panels 16". Face nail the plywood panels at 8" centers along the edges and at 16" centers in the field of each panel. Use 8d or longer screw shank nails.

- 3.05 PLYWOOD BACKER PANELS:
 - A. Mechanically fasten plywood panels to wall surfaces with 3/8" corrosion-resistant toggle bolts and corrosion resistant flat steel washers; using no less than eight such fasteners per panel.

 - B. Mechanically fasten plywood panels to stainless steel bars where plywood serves as backer for mirrors using 3/8" stainless steel countersunk bolts and stainless steel countersunk flat washers; and no less than three such fasteners per stainless steel bar.

- 3.06 ANCHORING: Anchor wood nailers to steel members with machine bolts, washers, lock washers and nuts. Where there is not room for attachment with bolts and nuts, it is permissible to use lag bolts.

- 3.07 FITTING: Fit wood square, plumb, true without gaps, cracks, or open joints.

- 3.08 CLEAN-UP: Clean up debris resulting from this work and remove from site. Leave building and areas broom clean.

END OF SECTION 06 10 00

CAULKING AND SEALANTS, JOINT SYSTEMS FIRESTOPPING,
AND THROUGH-PENETRATION FIRESTOPPING

SECTION 07 92 00

PART ONE - GENERAL

1.01 SCOPE:

- A. Furnish and install sealants, caulking, joint systems firestopping and through-penetration firestopping, at interior and exterior locations as necessary and as required to make the building windtight, watertight and fire-stopped, whether or not the caulking and firestopping are shown on the Drawings.
- B. Whether or not the penetrations occur in areas shown on the Drawings, seal all penetrations created during performance of work under this contract through rated and un-rated walls, floors and ceilings. Maintain the indicated rating of assembly.
- C. Firestopping in this Section 07 92 00 is for all firestopping not included in the Mechanical and Electrical Work.
- D. Firestopping of penetrations performed as part of the Mechanical and Electrical Work is included on those Drawings.
 - 1. Such firestopping shall be provided as part of the Work under Divisions 21, 22, 23, 26, and 27 from notes on their drawings or under this Section 07 92 00

1.02 DEFINITION: The terms "caulk" and "caulking" are used interchangeably and include (1) materials identified as "caulk", "caulking" and "sealants" and (2) the process of installing caulk, caulking and sealants.

1.03 SUBMITTALS: Submit manufacturer's product literature and installation instructions, samples and color charts for approval and color selection, in compliance with Section 01 33 00. Submit a schedule of joint system firestop systems and through-penetration firestop systems proposed for use to the Architect.

1.04 COLORS: Colors will be selected by Architect from the approved manufacturer's standard selections. Multiple colors will be selected based on locations of sealant and caulk. The lack of enough standard colors to equal those of the specified products will serve as a basis of rejection of substitutions.

PART TWO - PRODUCTS

2.01 CAULK AND SEALANT:

- A. Exterior perimeter of door frames, windows, storefront, and entrance framing; exterior masonry control joints; and other locations on building exposed to daylight: Low modulus one part silicone building sealant as follows:
 - 1. On porous substrates: Use Dow Corning 790 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 100 / 50, Use T, NT, G, M, A, and O. The approved sealant must be non-migrating and non-staining.
 - 2. On metal, glass or other non-porous substrates: Use Dow Corning 795 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A, and O.

- B. Exterior Horizontal Pedestrian and Vehicular Traffic Bearing Joints: Two-part non-sag, polyurethane; equal to Dynatred by Pecora.
- C. Inside Cavity (or other hidden conditions not exposed to daylight): One-Part Non-Sag Polyurethane; equal to Sonneborn NP-1.
- D. Bedding of Thresholds: Equal to Pecora BC-158.
- E. Inside Conditioned Spaces:
 - 1. Interior perimeter of door frames, windows, storefront, and entrance framing; and interior masonry control joints.
 - a. On porous substrates: Use Dow Corning 790 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 100 / 50, Use T, NT, G, M, A, and O. The approved sealant must be non-migrating and non-staining.
 - b. On metal, glass or other non-porous substrates: Use Dow Corning 795 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A, and O.
 - 2. Toilets and other Interior Wet Areas; and at Cabinets: Do not use "consumer product" bath tub caulk; use FDA, NSF and USDA approved one-part silicone sealant equal to GE 1700 Sanitary Sealant. Color to be selected by Architect.
 - 3. All Other Interior Locations: One-part acrylic-latex caulk equal to Pecora AC-20.
- F. Miscellaneous: Provide primers, backing rods, joint cleaner, bondbreaker tape and any other materials required or recommended by caulk and sealant manufacturer.

2.02 FIRESTOPPING:

- A. Provide products and systems having UL approval for use in sealing linear openings between wall and/or floor assemblies and penetrations in rated wall, floor and ceiling assemblies of types suitable for specific installation.
- B. Provide products of U.L. listed and numbered "Joint Systems (XHBN)" and "Through-Penetration Firestop Systems (XHEZ)" listed in Volume II of the UL Fire Resistance Directory. Use only firestop products that have been UL 2079, UL 1479 or ASTM E814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
- C. Where other penetrations occur, submit the Contractor's choice of products and manufacturers, and a schedule of the U.L. System Numbers and the types of penetrations where each system will be used.
- D. Provide all components of each U.L. listed system.
- E. Provide low odor and low V.O.C. products.

PART THREE - EXECUTION

- 3.01 JOB CONDITIONS: Apply materials only when the temperature of spaces, materials, and surfaces is above 40 degrees F.

3.02 APPLICATION:

- A. Apply in accordance with manufacturer's written instructions.
- B. If not otherwise shown or noted on the Drawings, the width and depth of sealants shall be a minimum of 1/4 inch, or as recommended by the Manufacturer for any "large" joints (two inches or wider).
- C. Protect adjacent areas not to receive sealants and caulking. Remove promptly if caulking or sealant does get on these surfaces. Clean satisfactorily or replace surfaces with new materials.
- D. Use gun nozzles to fit joints. Finish joints neatly. Remove excess materials. Leave joints clean.
- E. Caulk exterior and interior joints where indicated, and at all joints between different materials, whether or not the caulking or sealant are shown on the Drawings.
- F. Comply with Paragraph 1.01, B.

END OF SECTION 07 92 00

HOLLOW METAL FRAMES

SECTION 08 12 13

PART ONE - GENERAL

- 1.01 SCOPE: Furnish and install fire-rated and non-fire-rated hollow metal frames for interior and exterior doors and non-fire-rated hollow metal frames for interior view windows. Provide "UL" or Warnock-Hersey fire-rating tags or labels on frames indicated. Coordinate the fabrication of metal frames with the door and hardware Sections. Coordinate the installation of metal frames with the Masonry and Carpentry Sections.
- 1.02 SUBMITTALS: Comply with Section 01 33 00. Submit product literature and shop drawings. Shop and erection drawings shall show all sizes, anchorages, details of fabrication and erection, finishes and any other pertinent information.
- 1.03 MARKING: Ship frames to the job site with all frames identified with the Door Numbers indicated on the approved Hardware Schedule from the hardware supplier.

PART TWO - MATERIALS

2.01 METAL FRAMES:

- A. Metal frames for doors and view windows shall be formed to sizes and shapes indicated on the Drawings. Refer to Frame Elevations and Details on Drawings. Frames shall be combination type with integral trim. Knock down frames are not acceptable for CMU walls. Frames in CMU walls shall be factory-fabricated and either shop-welded or factory-welded by the frame manufacturer, with full welded unit type construction at joints. Metal shall be cold-rolled or hot-rolled, pickled and oiled, steel sheets with clean smooth surfaces. Unless otherwise required for UL or Warnock-Hersey fire rating, frames shall be fabricated of 16 gauge steel.
1. Where not protected by an overhang, provide door frames in exterior walls with 6" deep continuous weather hood with end closures the full width of frame, of same gauge and material as the frame, and continuously welded to the frame.
 2. Provide hot-dip galvanized steel weather hoods at all openings in exterior walls.
 3. Provide hot-dip galvanized steel frames at all interior and exterior locations of hollow metal frames.
- B. Provisions for Hardware: Provide concealed metal reinforcement for hardware in accordance with the manufacturer's recommendations. Frames shall be prepared at the factory for the installation of hardware. Welding of hinges to frames will not be permitted. Frames shall be drilled and tapped to receive mortise hardware as scheduled. Frames to receive surface applied hardware shall be provided with reinforcing plates only. Provide corner boxes in back of all hardware cut-outs. Door frames shall be punched to receive silencers, as scheduled.
- C. Anchorage: Provide metal anchors of shapes and sizes required for the adjoining type of wall construction. Fabricate jamb anchors of steel, not lighter than the gauge used for frames. Locate anchors on jambs near the top and bottom of each frame and at intermediate points not over 24" apart. For frames set in masonry, provide 10" long corrugated type adjustable anchors at jambs. Provide floor clips of not less than 16 gauge steel and fasten to bottom of each jamb member for anchoring frames to floor construction.

D. Fire-Rated Frames: Fire-Rated Frames shall meet the U.L. or Warnock-Hersey requirements for the scheduled fire-rating. Each fire-rated frame must have a metal tag or label attached by the frame manufacturer; paper tags or labels are not acceptable.

1. Provide Temperature Rise Rated frames for Fire Rated doors used in stairway enclosures, if any. The average temperature developed on the unexposed side shall not exceed 450 degrees F at the end of 30 minutes of standard fire test exposure, in compliance with the International Building Code and NFPA 101.

E. Tornado Frames: Frames required at "Tornado Doors" shall be factory-fabricated and either shop-welded or factory-welded by the frame manufacturer, with full welded unit type construction at joints. Metal shall be cold-rolled or hot-rolled, pickled and oiled, steel sheets with clean smooth surfaces. Frames shall be fabricated of 14 gauge steel and anchored at 8" O.C. vertical with 14 gauge CMU hook anchors.

F. Shipment: Provide temporary steel spreaders fastened across bottom of frames. Where construction will permit concealment, leave spreaders in place after installation; otherwise, remove spreaders after frames are set and anchored. Before shipping, label each frame with metal or plastic tag to show its location, size, swing and other pertinent information.

2.02 SHOP PAINTING: Clean and chemically treat galvanized and non-galvanized metal surfaces to assure maximum paint adherence; follow with a dip or spray coat of rust-inhibitive metallic oxide, zinc chromate, or synthetic resin primer on all surfaces whether exposed or non-exposed. Finish surfaces shall be smooth and free from irregularities and rough spots. Each coat of paint shall be separately baked or oven dried. The time and temperature for drying shall be in accordance with manufacturer's recommendations for developing maximum hardness and resistance to abrasion.

A. Primer must be compatible with the site-applied Paint specified in Section 09 91 00.

PART THREE- EXECUTION

3.01 PROTECTION AND CLEANING: Protect frames from damage during transportation and at the job site; store at the site under cover on wood blocking or on suitable floors. After installation, protect from damage during subsequent construction activities. Damaged work will be rejected and shall be replaced with new work.

3.02 INSTALLATION: Set frames in position, plumb, align and brace squarely until permanent anchors are set. Build wall anchors into walls or secure to adjoining construction as indicated or specified.

END OF SECTION 08 12 13

PART ONE - GENERAL

- 1.01 SCOPE: Furnish and install swinging, fire-rated and non-fire-rated, flush solid core wood doors (some with metal framed glazed vision panels). All doors shall be handed, with bevel edges. Provide "UL" or Warnock-Hersey fire-rating tags or labels on fire-rated doors. Coordinate the installation of wood doors with the hardware and carpentry sections.
- 1.02 SUBMITTALS: Comply with Section 01 33 00.
- A. Submit manufacturer's product literature, shop drawings and installation instructions. Shop and erection drawings shall show all sizes, anchorages, details of fabrication and erection, finishes and any other pertinent information.
 - B. Submit actual samples of the full range of available factory finishes on samples of the specified veneers, not just photographic representations.
 - C. For each veneer type, submit as many as four 1'-0" x 1'-0" samples of veneers, factory finished as specified, one at a time for approval by the Architect. In addition, if Contractor elects to field finish doors, submit the same size samples field finished for approval.
- 1.03 PRODUCT HANDLING:
- A. Protect the materials of this Section during transit, storage, and handling to prevent deterioration, damage and soiling.
 - B. Ship doors to the job site with all doors identified with the Door Numbers indicated on the approved Hardware Schedule from the hardware supplier.
 - C. Receive and carefully stack doors laid flat and level on three 2 x 4's, one at center and one 12 inches from each end in a dry, clean, well ventilated space. Place corrugated cardboard, plywood, or other suitable protection course under bottom doors and over top doors.

PART TWO - PRODUCTS

- 2.01 WOOD DOORS:
- A. General:
 - 1. See Door Elevations and Door Schedules in the Drawings.
 - 2. Wood doors shall be of the sizes, types, and designs shown on the Drawings; handed, with bevel edges; and factory sealed tops and bottoms; 1-3/4" thick for all wood doors.
 - a. Re-seal tops and bottoms if cut on job site.
 - 3. Veneer Species: Door faces and vertical edges shall have premium grade natural wood veneers. Basis for bidding shall be Quarter Cut Red Oak veneers. The intention is to match the wood veneer and finished appearance of the Owner's Modular Library Casework.
 - a. Refer to Paragraph 3.02.
 - 4. At Contractor's option wood doors may be pre-machined for hardware by the door manufacturer or machined on site.

- B. Flush Non-Fire-Rated Solid Core Doors: Particle board core door consisting of 5-ply hot press construction. Cores shall be uniform thickness; bonded to 1-1/8" hardwood rails and 1-1/2" laminated hardwood stiles, to match face veneer. Hardwood cross bands and standard thickness face veneers shall be bonded to the core with exterior type resin glue. Acceptable type, quality, Marshfield DPC-1 or equal doors by Maiman, Eggers or other manufacturers. Cores to be 30 to 32 lb. per cubic foot.
- C. Flush Fire Rated Solid Core Doors: Particleboard core or mineral core door consisting of 5 ply hot press construction. Cores shall be uniform thickness; bonded to 1-1/8" hardwood rails and 1-1/2" laminated hardwood stiles, to match face veneers. Hardwood cross bands shall be bonded to the core with exterior type resin glue. Acceptable type and quality: Marshfield DFM-45, as required by the Door Schedule, or equal doors by Maiman, Eggers or other manufacturers. Fire-Rated Doors shall meet U.L. or Warnock-Hersey requirements for the scheduled fire-rating; and each fire-rated door must bear the appropriate metal tag or label attached by the door manufacturer. Paper tags or labels are not acceptable.
 - 1. Provide continuous overlapping metal astragals on pairs of fire-rated doors, if any, where needed to comply with NFPA 80 and the 2006 Edition of the International Building Code.
 - 2. Provide Temperature Rise Rated doors for Fire Rated doors used in stairway enclosures, if any. The average temperature developed on the unexposed side shall not exceed 450 degrees F at the end of 30 minutes of standard fire test exposure, in compliance with the International Building Code and NFPA 101.
- D. Solid core doors shall have glazed openings as scheduled. Door moldings for view windows in the doors shall be slim line metal, Marshfield #115, or approved equal; of same fire-rating as the door.

PART THREE - EXECUTION

- 3.01 INSTALLATION: Comply with Section 06 20 00 and the following: Install doors in respective frames using specified hardware. Doors shall operate without binding or sticking at frames or floor. Maintain NWWDA and NFPA No. 80 standard tolerances. Hang doors in adequately braced or otherwise secured square and plumb frames with clearance of not more than 3/32 inch at each side and head; clearance at bottom 1/2 inch or as required for floor covering, carpeting or thresholds. At Contractor's option, site or factory-mortise, drill, and/or otherwise work doors for finish hardware, and component parts, as scheduled; bevel edge to allow for proper clearance in opening and closing doors. At Contractor's option, site or factory seal all surfaces cut for hardware component parts, ends, and edges.
- 3.02 FINISH:
 - A. Finish shall be a varnish finish (without stain) field-applied under Section 09 91 00, or at Contractor's option, doors may be factory finished to match AWI Premium Grade TR2 or better, but all wood doors must be finished alike (site finished or factory finished). The intention is to match the wood veneer and finished appearance of the existing doors.
 - B. Metal door moldings will be considered factory primed for field finish painting as scheduled in Section 09 91 00.

END OF SECTION 08 14 16

PART 1 - GENERAL

- 1.01 SCOPE: Furnish, install and finish gypsum board drywall and accessories (ready for painting); and furnish and install metal studs, studs used as joists, and furring channels, of various types, gauges and dimensions noted herein or on the Drawings, for use in constructing fire-rated, non-fire-rated, sound-rated and non-sound-rated drywall partitions, ceilings, dropped headers and soffits.
- A. Installation of framing and drywall, and the finishing of drywall, must be performed to achieve a Level 4 Finish (ready for painting) where partitions are exposed in the finished Work.
- B. Installation of framing and drywall, and the finishing of drywall, shall be performed to achieve a Level 3 Finish where partitions are not exposed in the finished Work; such as above lay-in ceilings.
- 1.02 MATERIAL HANDLING: Deliver all materials in original unopened packages and store in an enclosed shelter (heated if necessary, to prevent freezing) providing protection from damage, freezing and other exposure to the elements. Remove frozen and other damaged or deteriorated materials from the premises.
- 1.03 JOB CONDITIONS: In cold weather and during gypsum panel application and joint finishing, maintain temperatures within the building within the range of 50⁰ to 70⁰F. Provide adequate ventilation to carry off excess moisture.
- 1.04 FIRE-RATED AND TESTED ASSEMBLIES: Notwithstanding the requirements of this Section 09 21 16, where noted on the Drawings, the materials, application and finishing of framing, accessories, drywall and other components shall conform to requirements of the rated assemblies, UL Design Number designation, shown on the drawings.
- 1.05 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions for all items proposed to be furnished and installed under this section.
- 1.06 COORDINATION: Contractor's attention is directed to requirements for wood blocking in Section 06 10 00. Any necessary Cold-Formed Metal Framing such as load-bearing steel studs or studs used as joists, are specified, furnished and installed under Section 05 40 00. Gypsum Board Exterior Wall Sheathing is specified, furnished and installed under Section 07 25 00.

PART 2 - MATERIALS

- 2.01 FRAMING AND FURRING: Comply with ASTM C 645 standards for material components indicated. Channel-type galvanized steel studs, their channel-type galvanized steel top and bottom runners or plates, overhead steel studs used as joists, their perimeter framing members. Provide 25-gauge galvanized steel roll-formed hat-shape 7/8" deep furring channels. Metal-framed non-load-bearing fire-rated and non-fire-rated drywall partitions, furred walls and ceilings, and dropped headers and soffits shall be constructed using galvanized steel studs, galvanized steel top and bottom runners and other perimeter framing members, and various

metal furring members. **Dimpled steel furring members of “equivalent” strength are not permitted.** 16-gauge cold-rolled steel carrying channels, 1-1/2" main runner channels, and furring accessories shall be used for framing of dropped ceilings. All other framing heavier than 20-gauge shall be included in Section 05 40 00.

- A. In addition, provide G-90 galvanized metal strap bracing and angled knee-bracing for supplemental support of partitions, dropped headers and soffits as shown and noted on the Drawings.
- 2.02 FACEBOARDS: Complying with ASTM C 1396. Conventional tapered gypsum panels, of maximum length, shall be 5/8" thick Regular, 5/8" Moisture-Resistant, 5/8" thick Regular fire-code (Type X), 5/8" Moisture-Resistant fire-code (Type X), 5/8" thick Exterior Ceiling Board, and 5/8" thick Regular fire-code (Type C). Use 5/8" thick Exterior Ceiling Board where gypsum board ceilings are shown in exterior ceilings or soffits, and in interior ceilings of Toilets. Use Type X and Type C where required for certain UL Rated Assemblies as shown on the Drawings.
- 2.03 DRYWALL FASTENERS: Stainless steel or corrosion-resistant coated drywall screws, for screw attachment of drywall to metal framing, panhead types of proper sizes per drywall manufacturer's recommendations for each type of board, framing and environment; and as required for Fire-Rated Assemblies.
- 2.04 TRIM: Drywall manufacturer's recommended corrosion-resistant metal trim.
- 2.05 CORNER BEAD AND CONTROL JOINTS: Drywall manufacturer's recommended corrosion-resistant metal corner beads and control joints.
- 2.06 JOINT TREATMENT: Reinforcing tape, joint compound and other products recommended by the drywall manufacturer for each type of board, framing and environment.
- 2.07 ACOUSTICAL SEALANT: Drywall manufacturer's recommended Acoustical Sealant meeting ASTM C557 and ASTM C919.
- 2.08 READY-MIX PLASTER: Complying with ASTM C28.

PART 3 - EXECUTION

- 3.01 INSTALLATION OF METAL SUPPORT SYSTEMS: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:
 - A. General:
 - 1. Metal Support Installation Standard: Comply with ASTM C754.
 - 2. Do not bridge building expansion joints with support system, frame both sides of joints.

B. Support Systems:

1. Install supplementary framing, blocking and bracing at terminations in the work and for support of fixtures, equipment services, heavy trim, grab bars, toilet accessories, and similar work.
2. Isolate stud system from transfer of structural loading to system, both horizontally and vertically. Provide slip or cushioned type joints to attain lateral support and avoid axial loading.
3. Install runner tracks at floors, ceilings and structural walls and columns where gypsum drywall stud system abuts other work, except as otherwise indicated. If bottom tracks are damaged after they are installed and prior to installation of studs, replace the damaged bottom track with new undamaged track.
4. Place studs in each continuous run of studs so their flanges point in the same direction.
5. Space studs and furring 16" o.c., unless otherwise shown, or otherwise required for rated assembly.
6. Extend partition stud system through acoustical ceilings to the structural support and substrate above the ceiling.
 - a. Refer to the Wall Type Legend on the Drawings. Where noted, extend studs to the horizontal and lateral bracing members located above the ceilings as shown on the Drawings. Coordinate with Division 05 Section for Cold Formed Metal Framing.
 - b. Refer to the Wall Type Legend on the Drawings. Where noted, extend studs to bottom of deck for floor above or to bottom of roof deck.
7. Coordinate with Division 05 Section for Cold Formed Metal Framing. Install the horizontal and lateral bracing members above the ceilings, as specified in Division 05 Section for Cold Formed Metal Framing, using the materials and spacing shown on the Drawings.
 - a. Install other support framing above the ceiling, and install framing for light coves, soffits and headers below the ceiling, using the same materials and spacing as in the wall framing.
 - b. In addition, install diagonal knee bracing for lateral support of stud partitions above ceiling at no greater than 48-inches o.c. using same materials as in the wall framing. Extend knee bracing from approximately 6 inches above the ceilings up to the structural support above the ceiling.
8. Frame door openings to comply with details indicated. Attach vertical studs at jambs with screws to jamb anchor clips on door frames; install runner track section (for jack studs) at head and secure to jamb studs. Extend vertical jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
9. Frame openings other than door openings in same manner as required for door openings; and install framing below sills of openings to match framing required above door heads.
10. Where acoustical insulation is called for on the drawings, apply acoustical sealant in accordance with the instructions of drywall manufacturer, but in no case less than the following:
 - a. Around the perimeter of all wall penetrations, such as electrical boxes, telephone outlets, light switches, thermostats, etc.
 - b. Apply a bead of sealant along the floor at the top and bottom stud tracks and bed gypsum panels in sealant.

11. Chase Wall Framing:
 - a. Align two parallel rows of floor and ceiling runners according to partition layout.
 - b. Position steel studs vertically in runners, with flanges in the same direction, and with studs on opposite sides of chase directly across from each other. Except in fire-rated walls, anchor all studs to floor and ceiling runner flanges with Unimast 3/8" or 1/2" Type S Pan Head Screws.
 - c. Cut cross-bracing to be placed between rows of studs from gypsum board 12" high by chase wall width. Space braces 48" o.c. vertically and attach to stud web with screws spaced max. 8" o.c. per brace.
 - d. Bracing of 2-1/2" min. steel studs may be used in place of gypsum board. Anchor web at each end of metal brace to stud web with two 3/8" Pan Head Screws. When chase wall studs are not opposite, install steel stud cross-braces 24" o.c. horizontally, and securely anchor each end to a continuous horizontal 2-1/2" runner screw-attached to chase wall studs within the cavity.
12. Wall and Ceiling Framing Systems for Fire-Rated Construction: Comply with Paragraph 1.04 and the following: Install wall and ceiling framing, of various configurations shown on the Drawings, where fire-rated walls and ceilings occur; and install perimeter framing where openings for ducts occur to maintain the fire-rating integrity of the construction, in accordance with the U.L. Assembly printed instructions shown on the Drawings.
13. Furred Ceiling System: Space hat-shaped metal furring channels 24" o.c. at right angles to bar joists or other structural members. As an alternate, 1-5/8" steel studs may be used as furring. Saddle-tie furring channels to bar joists with double-strand 18-ga. tie wire at each intersection. Provide 1" clearance between furring ends and abutting walls and partitions. At splices, nest furring channels with at least 8" overlap and securely wire-tie each end with double-strand 18-ga. tie wire. Frame around openings such as light troffers with additional furring channels and wire tie to bar joists. Install soffit vent in exterior locations in accordance with manufacturer's instructions at locations shown on Drawings. Provide attachment reinforcing for lighting fixtures and other type fixtures in accordance with fixture manufacturer's recommendations.
14. Suspended Ceiling Grillage:
 - a. Space 8-ga. hanger wires 48" o.c. along carrying channels and within 6" of ends of carrying-channel runs. In concrete, anchor hangers by attachment to reinforcing steel, by loops embedded at least 2" or by approved inserts. For steel construction, wrap hanger around or through beams or joists.
 - b. Install 1-1/2" carrying channels 48" o.c. (spaced as tested for fire-rated construction) and within 6" of walls. Position channels for proper ceiling height, level, and secure with hanger wire saddle-tied along channels. Provide 1" clearance between runners and abutting walls and partitions. At channel splices, interlock flanges, overlap ends 12" and secure each end with double-strand 18-ga. tie wire. Provide additional framing as necessary for curved ceilings.
 - c. Erect metal furring channels 24" o.c. at right angles to 1-1/2" carrying channels. Space furring within 6" of walls. Provide 1" clearance between furring ends and abutting walls and partitions. Attach furring channels to 1-1/2" channels with Unimast Furring Channel Clips installed on alternate sides of carrying channel. Saddle-tie furring to channels with double-strand 18-ga. tie wire when clips cannot be alternated. At splices, nest furring channels with at least 8" overlap and securely wire-tie each end with double-strand 18-ga. tie wire. Provide additional framing as necessary for curved ceilings.

- d. For long-span suspension beneath large ducts or pipes, Unimast Steel Studs are substituted for furring channels.
- e. Where required in fire-rated assemblies, install double furring channels to support gypsum panel ends and back-block with gypsum board strip. When staggered end joints are not required, control joints may be used.
- f. At light troffers or any openings that interrupt the carrying or furring channels, install additional cross-reinforcing to restore the lateral stability of grillage.
- g. Frame around openings such as light troffers with additional furring channels and wire tie to bar joists. Install soffit vent in exterior locations in accordance with manufacturer's instructions at locations shown on Drawings. Provide attachment reinforcing for lighting fixtures and other type fixtures in accordance with fixture manufacturer's recommendations.

3.02 ACCESSORY APPLICATION: Comply with Paragraphs 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:

- A. Joint System - Finish all face panel joints and internal angles with a drywall manufacturer recommended Joint System installed according to manufacturer's directions. Spot exposed fasteners on face layers and finish corner bead, control joints and trim as required, with at least three coats of joint compound feathered out onto panel faces and sanded smooth.
- B. Corner Bead - Reinforce all vertical and horizontal exterior corners with corner bead fastened with 9/16" rosin-coated staples 12" o.c. on both flanges along entire length of bead.
- C. Metal Trim - Where reveals, recesses, and soffit vents are shown, and at other locations where assembly terminates against dissimilar material, apply metal trim over panel edge and fasten with screws 12" o.c.
- D. Screws - Power-driven at least 3/8" from edges or ends of panel to provide uniform dimple 1/32" deep.
- E. Control Joint - Install control joints in locations recommended by USG in ceilings (interior and exterior) and partitions in accordance with USG published instructions. Provide backing as recommended by USG to maintain rated assemblies.

3.03 GYPSUM PANEL ERECTION:

- A. Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and as described herein.
- B. Use maximum practical lengths to minimize end joints. Fit ends and edges closely, but not forced together.
 - 1. Where acoustical insulation is called for on the drawings, apply acoustical sealant in accordance with the instructions of USG but in no case less than the following:
 - a. Around the perimeter of all wall and ceiling penetrations, such as electrical boxes, telephone outlets, light switches, thermostats, etc.
 - b. Apply a bead of sealant along the floor at the top and bottom plates and bed gypsum panels in sealant.

- C. Install ceilings first and then sidewalls. Extend ceiling board into corners and make firm contact with top plate. Space screws 12" o.c. in field and 6" o.c. staggered along abutting edges for ceilings.
 - D. Stagger joints on opposite sides of partition. Space screws 16" o.c. in field of panels and 8" o.c. staggered along abutting edges for sidewalls.
 - E. To insure level surfaces at joints, arrange board application so the leading edge of each board is attached to the open or unsupported edge of a steel stud flange. To do this, all studs must be placed so their flanges point in the same direction. Board application is then planned to advance in the direction opposite to flange direction.
 - F. For single layer application of gypsum panels, unless otherwise required for rated assembly, apply gypsum panels with long dimension perpendicular to and edges positioned over furring or framing.
 - G. For double-layer application, unless otherwise required for rated assembly, apply base layer of gypsum board with long dimension perpendicular to studs, with abutting ends in center of stud. Stagger joints on opposite sides of partition so they occur on different studs. Space fasteners in base layer at 16" o.c. Apply face layer with long dimension parallel to studs. Fit ends and edges closely, but not forced together. Stagger joints from those in base layer and on opposite sides of partitions. Space fasteners in face layer 12" o.c., staggered from base layer fasteners, or adhesive apply face layer in accordance with board manufacturer's printed instructions.
 - H. Space fasteners not less than 3/8" from edges and ends of panels and drive fasteners in accordance with manufacturers printed directions. Drive fasteners in field of panels first, working toward ends and edges. Hold panel in firm contact with framing while driving fasteners.
 - I. Grout all open-back interior metal frames solid (jambs and head) with Ready Mix Plaster of trowel-grade consistency. Do not grout tube sections.
 - J. Gypsum Board Exterior Wall Sheathing is specified, furnished and installed under Section 06 16 43.
- 3.04 JOINT TREATMENT APPLICATION: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:
- A. Mix joint compound in strict accordance with manufacturer's recommendations.
 - B. Apply taping or embedding compound in a thin uniform layer to all joints and angles to be reinforced. Immediately apply Reinforcing Tape centered over joint and seated into compound. Sufficient compound approximately 1/64" to 1/32" - must remain under the tape to provide proper bond. 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. Further finishing of drywall is not required at locations where not exposed in the finished work.
 - C. Apply second coat of joint compound over embedding coat, filling panel taper flush with surface; cover tape and feather out slightly beyond first coat. On joints with no taper, cover the

tape and feather out at least 4" on either side of tape. Allow second coat to dry thoroughly prior to application of finish coat. (Exception: Durabond Joint Compounds need only have hardened prior to second coat application).

- D. Spread finish coat evenly over and extend slightly beyond second coat on all joints and feather to a smooth uniform finish. Over tapered edges do not allow finish joint to protrude beyond plane of the surface. Apply a finish coat to cover tape and taping compound at all tapered angles and provide a true angle. Where necessary, sand between coats and following the final application of compound to provide a smooth surface ready for decoration.

3.05 FINISHING FASTENERS: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:

- A. Apply a taping or 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. Use Durabond Joint Compound 201 and 90 only for the first coat on fasteners.

3.06 FINISHING BEADS AND TRIMS: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:

- A. Apply first coat to all beads and trim and properly feather out from ground to plane of surface. Compound must be thoroughly dry prior to application of second coat. (Exception: Durabond Joint Compounds need only have hardened prior to application of next coat).
- B. 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.
- C. Apply finish coat to all beads 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.

END OF SECTION

ACOUSTICAL CEILING PANELS
AND SUSPENSION SYSTEM (GRID)

SECTION 09 51 13

PART ONE - GENERAL

- 1.01 SCOPE: Furnish labor, equipment, and materials to furnish and install all lay-in acoustical ceiling panels and suspension systems where shown on the Drawings and as specified herein.
- 1.02 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions. Submit samples of ceiling grid systems and lay in panels for approval and color confirmation or selections. Refer to the Finish Schedule and Finish Notes on the Drawings, and the Quality Standard, Basis-of-Design Products specified herein. Equivalent products of other manufacturers will be acceptable as proposed substitutions for the Quality Standard, Basis-of-Design Products. Proposed Substitutions are subject to Architect and Owner approval and compliance with the requirements for Submittals. If proposed substitutions are not approved the Contractor must provide the originally specified products, colors and patterns at no change in the Contract Sum.
- 1.03 JOB CONDITIONS:
- A. No work of this section is to be started until all exterior openings are closed. All wet work, including cement, plastering, etc., shall be completed and dried before work is started. Temporary or permanent heat shall be furnished to provide uniform temperatures of at least 60 degrees F. before, during and after installation of acoustical material.
 - B. No work of this section is to be started within a room or space until all required inspections of areas, spaces and items above acoustical ceiling have been accomplished.
- 1.04 CONTRACTOR QUALIFICATIONS: Installation of the work of this Section shall be performed by an acoustical contractor approved by the manufacturer of the acoustical materials.

PART TWO - PRODUCTS

- 2.01 ACOUSTICAL CEILINGS (AC-#) PANELS AND SUSPENSION SYSTEM (GRID): Quality Standard, Basis-of-Design Product selections are scheduled below. Refer to Paragraph 1.02.
- A. AC-1: Armstrong Product No. 1714, School Zone Fine Fissured; medium texture; color White; 2' x 4' x 3/4", square lay-in; with Armstrong Prelude 15/16" exposed tee grid; White grid with matching wall angles.

PART THREE - EXECUTION

- 3.01 INSTALLATION: Suspension system shall be installed in strict accordance with manufacturer's printed instructions to comply with ASTM C635 and C636, CISKA and ASTM E 580, seismic design requirements of the 2006 International Building Code as noted on the Drawings, and no less than the following:
- A. Suspend main tees from structure using No. 12 gauge wire hangers at 48" centers both directions. Join cross tees to vertical surfaces with ends of tees resting on bottom flange of molding. Secure wall angle to substrate with suitable fasteners and anchors.

- B. In addition, ceiling panels, electrical fixtures, mechanical equipment, and other lay-in units weighing over 56 lbs. each shall be supported on all four sides with additional hangers. Suspend surface mounted fixtures and other items from building structure and pull tightly against ceiling.
 - C. Coordinate with the Electrical Contractor regarding suspension of electrical ceiling fixtures from the ceiling suspension.
 - D. Install hold-down clips on all lay-in panels within 20 feet of an exterior door to hold such panels tight to grid system.
 - E. Where needed, or where shown or noted on the Reflected Ceiling Plans, furnish and install “stretcher” ceiling panels for installation at perimeters of the spaces shown. Stretcher panels shall be cut-to-fit on site from four-foot long panels of the same style and pattern as the ceiling panels in the “field” of the ceiling.
 - F. At the end of the project in addition to any Attic Stock required, Contractor shall replace all damaged or missing ceiling panels using new ceiling panels.
- 3.02 CLEAN-UP: At completion of the work, all scaffolding, containers and other rubbish resulting from this portion of the work shall be removed from the site.
- 3.03 ATTIC STOCK:
- A. Furnish one unopened bundle of each color and type of acoustical tile for Owner's use as attic stock. Deliver attic stock to Owner at job site, and place in storage location as directed by Owner.
 - B. Attic stock is for Owner's use after warranty period; contractor shall furnish and install replacement materials during warranty period as required.

END OF SECTION 09 51 13

RESILIENT FLOORING, BASE, STAIR TREADS,
AND ACCESSORIES

SECTION 09 65 13

PART ONE - GENERAL

- 1.01 SCOPE: Perform any and all surface preparation necessary, and furnish and install resilient flooring, base, stair treads and accessories at the locations indicated in the Finish Schedule and Finish Notes on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 1.02 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions. Submit samples of Resilient Products and Accessories for approval and Color verification or selection. Furnish detailed dimensioned shop drawings for areas of special patterns, if any. Refer to the Finish Schedule and Notes on the Drawings, and refer to Paragraph 2.01. The Quality Standard, Basis-of-Design Products are noted on the Drawings. Equivalent products of other manufacturers will be acceptable as proposed substitutions for the Quality Standard Basis-of-Design Products. Proposed substitutions are subject to Architect and Owner approval and compliance with requirements for Submittals. If proposed substitutions are not approved, the Contractor must provide the originally specified products at no change in the Contract Sum.

PART TWO - PRODUCTS

- 2.01 VINYL COMPOSITION TILE (VCT), STAIR TREADS, RUBBER BASE (RB) AND ACCESSORIES: Quality Standard, Basis-of-Design Product selections are noted in the Finish Schedule and Finish Notes on the Drawings. Refer to Paragraph 1.02.
- A. Rubber Base: 4" x 1/8" gauge rolled rubber base (Type TS); set-on cove type. Provide factory-made pre-molded external corners in same color as base. Provide factory-made pre-molded end stops as required in same color as base.
 - B. Edge Strips and Nosings: Beveled edge rubber at discontinuous edges; if colors are not noted on the Drawings, colors shall be selected by the Architect from manufacturer's standard color range.
- 2.02 ADHESIVES: In addition to epoxy filler at stair tread nosings, use the types and qualities of adhesives approved by the manufacturers of the resilient flooring, base, and accessories.
- A. Adhesives must meet moisture limit requirements for use with concrete floors exhibiting MVER Calcium Chloride Test of 7 lbs. per 1000 sq. ft. per 24 hours; equal to Armstrong Products S-515 or S-521, Moisture Resistant Adhesives.
- 2.03 SKIM COAT MATERIAL: Contractor's choice of manufactured, commercially available products using only Portland cement base compounds, which are approved by resilient flooring manufacturer.
- 2.04 FLOOR STRIPPER AND FINISH PRODUCTS: None required. Owner will strip and finish the resilient floors.

PART THREE - EXECUTION

3.01 PREPARATION:

- A. Check surfaces on which these materials are to be placed. Provide all labor and materials necessary, and perform any and all surface preparation necessary to assure a proper bond of the Flooring Adhesives.
- B. Maintain a temperature of 70 degrees F or more in spaces in which resilient flooring is to be laid for a period of not less than one week before and after time materials are laid. Store flooring materials at such temperature for the same period of time prior to laying.
- C. Where any obvious unevenness in substrate occurs or where required to produce smooth transitions between adjacent floor surfaces, apply floor leveler in accordance with manufacturer's recommendations, and allow to cure as required.

3.02 VCT INSTALLATION:

- A. Open tile flooring cartons, enough to cover each area, and mix each type of flooring products to ensure shade variations do not occur within any one area.
- B. Spread adhesive evenly in quantity recommended by manufacturer to ensure adhesion over entire area of installation. Spread only enough adhesive to permit installation of flooring before initial set.
- C. If no special pattern is indicated, lay tile from center line of an area on both axes; space so that no less than half size tile will occur at the edge. At discontinuous edges, install edging strip; cope neatly at jambs of doors and carefully adhere to floor. Where different patterns or colors meet, such as at a doorway, install a 1" wide feature strip of color to be selected, center under door if door occurs, or locate as directed if a door does not occur.
- D. Completely bed each tile in adhesives, and make joints tight and inconspicuous. Remove any tile showing bumps, waves, or projecting edges and replace with new material.

3.03 BASE INSTALLATION: Install resilient base at base cabinet perimeter and at other locations scheduled or shown. Install base with joints tight and vertical, with minimum 18" between joints. Miter internal corners. Use factory made premoulded section for external corners and exposed ends. Install base on solid backing. Adhere tightly to wall and floor surfaces. Scribe and fit to door frames and other obstructions. Install straight and level.

3.05 PROTECTION: Prohibit traffic from resilient flooring for minimum 48 hours after installation.

3.06 CLEANING: Immediately prior to Substantial Completion of the Project, but no sooner than 96 hours after installation, replace any damaged, loose or broken pieces, then clean the flooring and base by wet mopping with clean water only, changing the water frequently. Do not strip the floors or apply any "finish" products. The Owner will strip and finish the resilient flooring.

3.07 ATTIC STOCK: Contractor shall furnish and install replacement products during warranty period as necessary. In addition, provide to the Owner, one new, unopened cartons of each finish material.

END OF SECTION 09 65 13

ACOUSTIC BLANKET INSULATION

SECTION 09 81 16

PART ONE - GENERAL

- 1.01 SCOPE: Furnish and install acoustic blanket insulation in locations shown or noted on the Drawings.
- 1.02 COORDINATION: Coordinate the work of this section with the locations and installation of blocking, hangers, anchors, etc. for wall hung fixtures, equipment, accessories, etc., so such items will be supported directly by the blocking or wall framing.
- 1.03 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions.

PART TWO - MATERIALS

- 2.01 ACOUSTIC BLANKET INSULATION: Inorganic glass fiber un-faced acoustic batts, of various thicknesses shown or noted on the Drawings, 16-inch or 24-inch width to equal stud spacing; ninety-six (96) inches in length; Contractor's choice of manufacturer.

PART THREE - EXECUTION

- 3.01 JOB CONDITIONS: The installer shall examine the locations and the conditions under which the acoustic insulation work is to be performed and notify the Contractor of any unsatisfactory conditions.
- 3.02 INSTALLATION:
 - A. Install acoustic insulation in all locations shown or noted on the Drawings, and in strict accordance with the manufacturer's written recommendations.
 - B. At STC rated assemblies, if any, installation shall comply with requirements of specific assembly.

END OF SECTION 09 81 16

PAINTING

SECTION 09 91 00

PART ONE - GENERAL

1.01 SCOPE:

- A. Furnish materials, equipment and labor required to complete the painting work: (1) As described and scheduled in this Section 09 91 00 and other sections of the Specifications, (2) As noted in the Finish Schedule and Door Schedule, and (3) As required by other notes on the Drawings.
- B. Paint and Painting Work includes all required materials, surface preparation, application of materials, and all other work necessary to achieve the required finished surfaces whether opaque, semi-transparent or transparent.

1.02 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and application instructions for all materials proposed to be used. Submit a schedule to confirm the use of the specified products.

- A. Where substitutions are proposed, submit a schedule showing product-for-product the specified products and the proposed substitutions side by side.
- B. Submit data sheets for the proposed substitutions which clearly show the type of vehicle and solids content, and the percentages of each. The percent solids content of the proposed substitutions must be no less than 3 percent of the solids content of the specified product. For example: If the specified product has a 30% solids content, the proposed substitution must have at least a 27% solids content.

1.03 SAMPLES: Owner will select colors and Contractor will prepare and submit strike-offs for color match. After strike-offs are approved by Owner and Architect, Contractor shall apply approved materials to a minimum 4' x 8' surface of wall and ceiling material for each surface and finish type specified, within a properly lit area approved by the Architect and complying with Par. 1.04, D for approval by Architect and Owner.

- A. In addition, prepare varnish samples (no stain) on the wood samples provided under Division 06 Section for Finish Carpentry and Casework. Multiple samples may be required, one at a time, until approved by the Architect. It is the intention for the wood doors, wood casework and other wood items to match the appearance of the pre-finished Library Furniture.

1.04 JOB, WEATHER AND TEMPERATURE CONDITIONS

- A. Maintain temperature in building at constant 50 degrees F., or above and provide adequate ventilation for escape of moisture from building, in order to prevent mildew, damage to other work, and improper drying of paint.
- B. Before painting is started in any area, it shall be broom cleaned and excessive dust shall be removed from all areas to be painted.
- C. After painting operations begin in a given area, broom cleaning will not be allowed, cleaning shall then be done only with commercial vacuum cleaning equipment.
- D. Adequate illumination shall be provided in all areas where painting operations are in progress. In addition to temporary lighting provided in Division 26, Paint Contractor shall make all necessary arrangements and shall provide and pay the costs of any additional lighting required for proper application of paint products.

- 1.05 SAFETY: Contractor shall ensure that personnel involved in painting work are properly aware of safety precautions relative to fall protection and the use of hazardous materials, and shall ensure that such precautions are followed.
- 1.06 MANUFACTURER'S RECOMMENDATIONS: In the event of a conflict between manufacturer's written recommendations and these specifications, manufacturer's recommendations shall be followed unless otherwise directed by the Architect.
- 1.07 TEMPORARY PROTECTIVE MEASURES FOR PAINTING: Since paint fumes from construction areas may activate fire and smoke alarms and may expose occupants to irritating odors, the Contractor shall take preventive measures including, but not limited to:
- A. The Contractor shall notify the Owner of time periods that painting will be in progress prior to commencing such work. When directed by the Owner fire and smoke alarms shall be covered during painting work.
 - B. The Contractor shall seal off all areas being painted, while painting is in progress. Openings in walls and at doors shall be temporarily sealed. Temporary barriers shall be erected across corridors. HVAC equipment which circulates air between renovated and occupied spaces shall be temporarily sealed.
 - C. The Contractor shall furnish and maintain suitable and adequate ventilation and exhaust at the immediate areas of painting work.

PART TWO - MATERIALS

- 2.01 PRODUCTS AND MANUFACTURERS: Proprietary names used in the Painting Schedules in Paragraphs 3.04, D and 3.04, E herein are products manufactured by Sherwin-Williams, PPG Pittsburgh Paints, PPG Porter Paints, and Benjamin-Moore. They are the Quality Standard, Basis-of-Design Products for this Section and will be used as the standard for review of proposed substitutions. Comparable products of any of the following manufacturers will be acceptable as proposed substitutions for the Quality Standard, Basis-of-Design Products scheduled herein. Proposed Substitutions are subject to Architect and Owner approval and compliance with requirements.
- A. The Sherwin-Williams Company.
 - B. Benjamin-Moore & Company.
 - C. PPG Porter Paints.
 - D. PPG Pittsburgh Paints.
- 2.02 COLORS AND SHEEN: Colors are listed in the Finish Schedule and Finish Notes on the Drawings. Colors selected by the Architect may be custom colors to be matched by the approved manufacturer. Multiple colors, color schemes, and sheen may be selected by the Architect for use throughout the project. Final work shall match approved color samples, except if the Architect or Owner so directs between coats, the succeeding coat or coats may be slightly lightened or darkened.
- 2.03 PRODUCTS: All paints, varnishes, enamels, lacquers, stains, paste fillers, linseed oil, shellac, turpentine, and similar materials must be delivered in the original containers with the seals unbroken, labels intact, and with the manufacturer's instructions printed thereon. All painting materials shall be pure and of highest quality, and shall be approved by the Architect.

- 2.04 ORDERING MATERIALS: Do not order any materials until after receipt through the Architect of Owner-approved color schedule and Owner approval of paint manufacturer and in-place color samples.

PART THREE - EXECUTION

3.01 APPLICATION AND WORKMANSHIP

A. General Workmanship

1. The workmanship shall be the very best. Only skilled mechanics shall be employed. Application may be by brush, roller, or spray at the Contractor's option, and as recommended by the paint/stain manufacturer, for all surfaces and materials.
2. All materials shall be mixed, thinned, modified and applied only as specified by the manufacturer's directions on the container.
3. Protect work at all times, and adjacent work and materials by suitable covering or other method during progress of work. Upon completion of work, remove all paint and varnish spots from the floors, glass and other surfaces. Remove from the premises all rubbish and accumulated materials of whatever nature not caused by others and leave the work in clean, orderly and acceptable condition.
4. All material shall be applied under adequate illumination, and shall be evenly spread and smoothly flowed on utilizing the proper type and sizes of brushes, roller covers, bucket grids, and other equipment to avoid runs, sags, holidays, brush marks, air bubbles and excessive roller stipple.
5. Coverage and hide shall be complete. Dry film thicknesses specified herein are the minimum required coverage. When color, stain, dirt or undercoats show through final coat of paint, the surface shall be covered by additional coats until the paint film finish is uniform in color, appearance and coverage.

B. Workmanship for Exterior Painting:

1. Exterior painting shall not be performed when the air or surface temperature of the items being painted are below 50 degrees F., while the surface is damp, during cold, rainy or frosty weather, or when the temperature is likely to drop to freezing within 24 hours. Avoid all painting of surfaces while they are exposed to hot sun.
2. Prime and back-prime all surfaces of any new exterior wood trim, before its installation, with one coat of the specified Primer.

C. Workmanship for Interior Painting:

1. Prime and back-prime all surfaces of any new interior wood trim, before its installation, with one coat of the specified Primer.
2. Enamel or varnish finish applied to wood or metal shall be sanded with fine sand paper to produce a feather edge, and then cleaned between coats to produce an even, smooth finish.
3. All closets, recessed areas, etc. shall be finished the same as adjoining rooms, unless otherwise specified. All other surfaces shall be finished the same as nearest or adjoining surfaces, unless otherwise specified or directed by the Architect or Owner.

- 3.02 PREPARATION OF SURFACES: Comply with Surface Preparation requirements of the Paint Manufacturer, those listed in the Schedules in Paragraph 3.04, and the following:

- A. General: Surfaces shall be cleaned, abraded, sanded and spot-primed. Surfaces shall be clean, dry and adequately protected from dampness. Surfaces shall be smooth, even, and true to plane. Surfaces shall be free of any foreign material which will adversely affect adhesion or appearance of applied coating. Minimum required surface preparation shall be that recommended by the

paints / coatings manufacturer for the surface to be painted. Perform any additional surface preparation specified.

B. Wood:

1. Smooth Surfaced:
 - a. "Transparent", "Varnished" or "Natural" Finish: Sandpaper to smooth even surfaces, then dust off. Sand lightly between coats.
 - b. Painted or Opaque Finish: Apply shellac, four (4) pounds cut, to all knots, pitch and resin sapwood. After priming coat has dried, putty all nail holes, cracks, open joints and other defects. Putty shall be colored to match paint.
 - c. If mildew is present, remove it by washing and sterilizing the surface as recommended by paint manufacturer. Prime with a paint primer that has a mildew resistant film as soon as possible after the surface is dry.
2. Rough Surfaced:
 - a. If mildew is present, remove it by washing and sterilizing the surface as recommended by paint manufacturer.

C. Non-Galvanized Ferrous Metals: SSPC - SP3 Power Tool Clean, and the following:

1. Remove dirt and grease with non-ammoniated cleaner and wipe dry with clean cloths.
2. Remove rust, mill scale and defective paint down to sound surface, using scraper, sandpaper or wire brush as necessary. Grind, if necessary, to remove shoulders at edge of sound paint to prevent flaws from photographing through finish coats.
3. Touch up primer on ferrous metal surfaces of all items installed adjacent to concrete and masonry prior to any openings between metal surfaces and adjacent surfaces being filled in or caulked.
4. Leave surfaces clean, dry and free of contaminates.

D. Galvanized Metals: SSPC - SP1 Solvent Cleaning, and the following:

1. Remove dirt and grease with non-ammoniated cleaner and wipe dry with cloths.
2. If required by paint manufacturer, galvanized steel surfaces shall be pretreated according to the paint manufacturer's directions.
3. Leave surfaces clean, dry and free of contaminates.

E. Gypsum Wallboard: In addition to the Work required under Section 09 21 16:

1. Ensure that all gypsum board surfaces have received the Level of Finish specified in Section 09 21 16 and they are ready to receive the scheduled decoration.
2. As required, sand joint compound smooth and flush with surface using fine grit sandpaper, fill nicks, scratches, holes and uneven spots with spackling compound and, after dry, sand flush with the surface.

F. Concrete and Concrete Masonry: Allow installed stucco, concrete and concrete masonry to cure for at least thirty days prior to applying any coat. Patch large openings and holes with Portland cement mortar and finish flush with adjoining surfaces. Test for alkalinity and moisture content. Ph must be 10.0 or lower. Moisture must be equal to or less than that recommended by paint manufacturer.

3.03 MATERIAL PREPARATION: Mix and thin materials according to manufacturer's latest printed instructions. Do not use materials beyond manufacturer's recommended shelf life. Do not use materials beyond manufacturer's recommended pot life.

3.04 SCHEDULES:

A. General:

1. The following schedules indicate the finish systems to be applied to each substrate. The design intent is that each system will achieve a paint finish suitable for the end use of the substrate or product. Any proposed substitution will be considered in terms of the total paint system.
2. All dry film mil thicknesses shall be per coat as listed by the Paint Manufacturer.
3. Primer and Finish Coats must be full coverage to all scheduled surfaces.

B. Fire-Rated and Smoke Partitions: Each and every partition noted on the Drawings as fire-rated or smoke partition shall be effectively and permanently identified with signs or stenciling in a manner acceptable to the Authority Having Jurisdiction. Such identification shall be above any decorative ceiling and in concealed spaces. Suggested wording of such signs and/or stenciling is "Fire and Smoke Barrier-Protect All Openings."

C. Miscellaneous:

1. Exposed conduit, sprinkler pipe, plumbing pipe, natural gas piping, ducts, bar joists, metal deck:
 - a. Paint in interior of building where exposed to view.
 - b. If any, natural gas piping on roof must be painted the color(s) required by Code.
2. Color-coding, stenciling or other identification of piping: If required, is included in Division 22.
3. Anodized or non-anodized aluminum: Do not paint.
4. Do not paint silicone or polyurethane sealants. Careful masking is required. If walls adjacent to such joints are painted prior to installation of sealant, the surfaces to receive the sealant must not be coated with paint.

D. Exterior Painting Schedule: Products of PPG Pittsburgh Paints and PPG Porter Paints are listed herein as Quality Standards. Refer to Paragraph 2.01 for additional information and other acceptable Manufacturers.

1. Structural and Miscellaneous Steel (where exposed in finished work), Metal Doors, Metal Door Frames, Metal View Lite Frames, Steel Angles, Railings, Handrails, and any other Non-Galvanized Ferrous Metal Items Exposed to View in the Finished Work:

- a. Field Surface Preparation of Items with Steel Fabricator's Standard Shop Primer: SSPC-SP1 Solvent Cleaning followed by SSPC-SP3 Power Tool Clean.
- b. Field Surface Preparation of Items With Manufacturers Standard Baked-On Shop Primer, such as Metal Doors, Metal Door Frames, Fire Extinguishers Cabinets and Mechanical/Electrical Panels: Clean, dry and feather edge any imperfections.
- c. Leave surfaces clean, dry and free of contaminates.

1 coat - S-W: Kem Kromik Universal Metal Primer, B50NZ Series (<390 g/l VOC) 3.3-4.4 mils DFT

2 coats - S-W: Pro Industrial Urethane Alkyd Enamel, B54W00151 (326 g/l VOC) 2.0-4.0 mils DFT per coat

2. Galvanized Structural and Miscellaneous Steel and any other Galvanized Metal Items Exposed in Finished Work:

- a. Field Surface Preparation of Items With Steel Fabricator's Standard Shop Primer: SSPC-SP1 Solvent Cleaning followed by SSPC-SP3 Power Tool Clean.

b. Leave surfaces clean, dry and free of contaminants.

1 coat - S-W: Pro Industrial DTM Acrylic Primer / Finish, B66W00011 (<50 g/l VOC)
1.9-3.9 mils DFT

Option: S-W: Pro Industrial Pro-Cryl Universal Primer, B66W01310 (<50 g/l VOC)
1.9-3.8 mils DFT

2 coats - S-W: Pro Industrial DTM Acrylic Coating, Gloss, B66-1000 (<50 g/l VOC)
2.4-4.0 mils DFT per coat

o Also available in: Semi-Gloss, B66-1100 / Eg-Shel, B66-1200

Option: S-W Product: Pro Industrial Acrylic Gloss Coating, B66W00611 (<50 g/l
VOC) 2.1-4.2 mils DFT per coat (also available in EgShel, B66-660 / Semi-
Gloss, B66-650)

4. Gypsum Drywall Surfaces (Ceilings and Soffits):

a. Leave surfaces clean, dry and free of contaminants.

1 coat - S-W: PrepRite ProBlock Interior / Exterior Latex Primer / Sealer, B51W00620
(<50 g/l VOC) 1.4 mils DFT

2 coats S-W: A-100 Exterior Latex Satin House Paint, A82 Series (<50 g/l VOC) 1.4
mils DFT per coat

5. Plywood, Wood Trim and Other Wood Items:

a. Leave surfaces clean, dry and free of contaminants.

b. Prime and back-prime all surfaces upon delivery to the job site. All cut surfaces must be primed after cutting.

1 coat - S-W: PrepRite ProBlock Interior / Exterior Latex Primer / Sealer, B51W00620
(<50 g/l VOC) 1.4 mils DFT

* OR *

1 coat - S-W: Multi-Purpose Interior / Exterior Latex Primer / Sealer, B51-450 Series
(<50 g/l VOC) 1.4 mils DFT

* THEN *

2 coats - S-W: A-100 Exterior Latex Satin House Paint, A82 Series (<50 g/l VOC)
1.4 mils DFT

E. Interior Painting Schedule: Products of Benjamin-Moore, PPG and Sherwin Williams are listed herein as Quality Standards. Refer to Paragraph 2.01 for additional information and other acceptable Manufacturers. Sheen shall be selected by the Architect.

1. Gypsum Board / Drywall use the following:

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: ProMar 200 Zero VOC Interior Latex Primer, B28W02600 (<50 g/l VOC)
1.2 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Flat, B30W12651 (<50 g/l
VOC) 1.4 mils DFT

- or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT
- or- 2 coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

2. Concrete and Plaster use the following:

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Loxon Concrete / Masonry Interior / Exterior Primer / Sealer, LX02W0050 (<50 g/l VOC) 2.1-3.2 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Flat, B30W12651 (<50 g/l VOC) 1.4 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

3. Ferrous Metal – Steel, Iron – Metal Doors, Metal Frames, Steel Handrails: Except where Epoxy Coatings are specified, use the following:

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Pro Industrial DTM Acrylic Primer / Finish, B66W00011 (<50 g/l VOC) 1.9-3.9 mils DFT

Option: S-W: Pro Industrial Pro-Cryl Universal Primer, B66W01310 (<50 g/l VOC) 1.9-3.8 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

4. Non-Ferrous – Galvanized Metal

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Pro Industrial DTM Acrylic Primer / Finish, B66W00011 (<50 g/l VOC) 1.9-3.9 mils DFT

Option: S-W: Pro Industrial Pro-Cryl Universal Primer, B66W01310 (<50 g/l VOC) 1.9-3.8 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

5. Wood Doors and Wood Trim (Painted)

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Multi-Purpose Interior / Exterior Latex Primer / Sealer, B51-450 Series 1.4 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Flat, B30W12651 (<50 g/l VOC) 1.4 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

6. Wood Doors and Wood Trim (Stained & Varnished)

Acrylic Waterborne Polyurethane System: (one stain coat, one sealer coat, two clear coats).

Stain: 1 coat: S-W: MinWax Performance Series Tintable Wood Stain 250 VOC, 400-450 sq ft per gallon

Sealer: 1 Coat: S-W: MinWax Water Based Oil-Modified Polyurethane (available in Semi-Gloss or Satin Finish) 400-450 sq ft per gallon

Clear: 2 Coats: S-W: MinWax Water Based Oil-Modified Polyurethane (available in Semi-Gloss or Satin Finish) 400-450 sq ft per gallon

-or- 2 coats: S-W: MinWax Water Based Oil-Modified Polyurethane, Gloss 400-450 sq ft per gallon

F. All wall surfaces, whether concealed in the finished work or exposed, must be painted from wall to wall, from floor to permanent ceiling and to 8 inches above lay-in finished ceiling.

1. Such surfaces shall receive full primer coat at all locations, and shall receive all finish coats where exposed, plus behind marker boards, and where open-back cabinets, casework and shelving occur.
2. Wall surfaces behind closed-back cabinets, casework and shelving require primer coat only.

G. In addition to the items scheduled for painting in Paragraphs 3.04 C, D, E, and F above, unless specifically indicated otherwise, all other exposed surfaces shall be field painted with one full-coverage prime coat and two full-coverage finish coats using color(s) selected by the Architect. Such surfaces include, but are not limited to, roof-top equipment, exposed steel structural members, electrical panels and cabinets in corridors and occupied spaces, grilles and diffusers, and other miscellaneous panels and cabinets.

3.05 CLEANING: Remove paint splatters from glass, plumbing fixtures and adjoining surfaces. Repair any and all damage to coatings or surfaces caused by cleaning operations. Remove debris from job site and leave work area clean.

3.06 ATTIC STOCK: None required. However, painting contractor shall furnish and install replacement paint during warranty period as required.

3.07 TOUCH-UP: Touch-up all opaque, semi-transparent and transparent finishes as required after all other Work of this Contract has been installed and completed.

END OF SECTION 09 91 00.

TOILET ACCESSORIES
CONTRACTOR-FURNISHED / CONTRACTOR-INSTALLED (CFCI)

SECTION 10 28 00

PART 1 - GENERAL

- 1.01 WORK INCLUDED: Refer to Drawings, Toilet Accessory Schedule, Toilet Accessory Mounting Heights Legend, and other pertinent information. Unless specifically noted otherwise on the Drawings, install toilet accessories and related items scheduled as Contractor Installed.
- A. Contractor shall furnish and install toilet accessories and related items scheduled as CFCI (Contractor Furnished / Contractor Installed).
 - B. Contractor shall install accessories and related items scheduled as OFCI (Owner Furnished / Contractor Installed).
 - C. Owner, or Owner's separate Vendor, shall furnish accessories and related items scheduled as OFCI (Owner Furnished / Contractor Installed).
 - D. Contractor shall furnish and install *all* required concealed lumber blocking for toilet and custodial accessories at the locations scheduled herein or at the locations required by the manufacturers of the accessories.
 - E. The Owner shall provide to the Contractor the locations, dimensions, and mounting heights required for concealed lumber blocking for each of the Owner-Furnished accessories.
 - F. Accessories scheduled as OFCI shall be selected and purchased by the Owner or by Owner's separate Vendor, then delivered to the Contractor FOB the job site by the Owner or Owner's separate vendor.
 - G. Contractor shall receive, unload, handle, transport, store on-site, and protect from damage *all accessories*.
 - H. The Contractor shall provide to the Owner in writing a schedule of "no later than" dates for when each of the OFCI accessories will be needed on the job site in order for the Contractor to meet the approved Project Completion Date.
- 1.02 RELATED WORK OF OTHER SECTIONS: Solid lumber blocking is specified in Section 06 10 00.
- 1.03 SUBMITTALS: Comply with Section 01 33 00. For items scheduled as CFCI, submit manufacturer's product literature and installation instructions, and shop and installation drawings, showing details of fabrication and erection, including types of materials, dimensions, arrangements of component parts, finishes, fittings, anchorage, and/or any other pertinent information.

PART 2 - PRODUCTS

- 2.01 PRODUCTS AND MANUFACTURERS OF CFCI ACCESSORIES: Products manufactured

by ***Bobrick Washroom Equipment, Inc.*** are scheduled on the Drawings for the CFCI accessories, and they are the Basis-of-Design-and-Bidding / Quality Standards selected by the Architect.

A. Contractor's choice of other manufacturers and products for CFCI accessories, anchors, back plates, mounting plates, fasteners and other products that are manufactured to have the same material, gauge, function, appearance and performance as the products scheduled on the Drawings and in the Specifications, may be submitted for the Architect's review and possible approval, subject to compliance with requirements.

B. Manufacturers: Subject to compliance with requirements, manufacturers other than ***Bobrick Washroom Equipment, Inc.*** offering comparable products that may be incorporated into the Work include, but are not limited to, the following:

1. ***A & J Washroom Accessories, Inc.***
2. ***American Specialties, Inc.***
3. ***Bradley Corporation.***

C. Refer to Drawings, Toilet Accessory Schedule, and Toilet Accessory Mounting Heights Legend, and other pertinent information for Grab Bars and other Accessories.

- | | | |
|----|-----------------------|--------------|
| 1. | 24"x36" Framed Mirror | B-165-2436 |
| 2. | Soap Dispenser | B2011 |
| 3. | Toilet Paper Holder | B-6867 |
| 4. | Paper Towel Holder | B-38032 |
| 5. | Grab Bar – Back Wall | B-5806.99x36 |
| 6. | Grab Bar – Side Wall | B5806.99x42 |
| 7. | Grab Bar – Vertical | B5806.99x18 |

2.02 ANCHORS, BACK PLATES, MOUNTING PLATES, AND FASTENERS FOR CFCI ACCESSORIES:

A. Provide the heaviest gage or most substantial anchors, back plates, mounting kits, mounting plates and fasteners for each flange of each Grab Bar and for other Accessories, manufactured by the manufacturer of the grab bars and other accessories and well suited for use with the substrate material.

1. In addition to other necessary anchors and back plates, ***with each flange of each grab bar*** furnish and install specialty, concealed, anchor plates manufactured for each grab bar installed on a stud wall, on a solid wall, and on a toilet room partition; and engineered to support loads in excess of those required by ADA, ANSI and IBC.
 - a. Equal to Bobrick WingIT Anchor System 251 or No. 2562 Series anchor plate and concealed fasteners for each flange of each grab bar installed on a stud wall.
 - b. Equal to Bobrick WingIT Anchor System 251 or No. 2573 Series anchor and concealed fasteners for each flange of each grab bar installed on a solid wall.
 - c. Equal to Bobrick 2583 or 2586 Anchor Device and concealed fasteners for each flange of each grab bar installed on a toilet partition. Provide gasket seal at any fastener penetrations in toilet partitions.
2. If exposed fasteners are absolutely necessary, provide oval head fasteners with finish matching the accessory.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS: For Items shown or noted on the Drawings as Contractor-Installed.

- A. Prior to installation of the work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. In the event of discrepancies, do not proceed with installation in areas of discrepancies until all such discrepancies have been fully resolved.

3.02 INSTALLATION: For Items shown or noted on the Drawings as Contractor-Installed.

- A. Install accessories in strict accordance with current ADA, ANSI and IBC requirements, the manufacturer's written instructions, at heights and locations scheduled herein and shown on Drawings, and as directed by Architect.

END OF SECTION

APPLIANCES (OWNER-FURNISHED / CONTRACTOR-INSTALLED)

PART 1 - GENERAL

1.01 SCOPE:

- A. Owner- Furnished / Contractor-Installed (OFCI) Appliances: Appliances identified as OFCI shall be selected and purchased by the Owner, delivered to the jobsite by the Owner's separate vendor, and unpacked, installed, and connected by the Contractor or by Contractor's subcontractors, complete and ready to use.
- B. Contractor or Contractor's subcontractor shall store equipment at the job site, uncrate, unpack, assemble, and install items in strict accordance with manufacturer's written instruction, anchor built-in units securely in place using suitable fasteners recommended by manufacturer, make all final connections to building structure, and haul off all packing material.
- C. Contractor must provide to the Owner, as soon as possible, a schedule in writing of "No Later Than" dates for delivery of Equipment to the job site to allow the Contractor to complete the Project in accordance with the accepted schedule.

1.02 ASSOCIATED WORK: Installation of utilities, and final utilities connections are included in the work of Divisions 22, 23 and 26.

- A. Plumbing Subcontractor, under Division 22, shall be responsible for:
 - 1. Furnishing and installing all hot and cold water piping, rough-in points, final connection of the equipment, furnishing each line with a shut-off valve and, where required, a pressure reducer.
 - 2. Furnishing and installing all waste piping, traps, vents, etc. and making final connections to drain outlets on sinks, dishwasher, etc.
- B. Mechanical Subcontractor, under Division 23, shall be responsible for furnishing and installing hoods, ducts, vent fans and other items required for proper operation of the equipment, and making final connections to the equipment.
- C. Electrical Subcontractor, under Division 26, shall be responsible for:
 - 1. Furnishing and installing all roughing-in wiring for the equipment, and making final connection between roughing-in points and points of connection to the equipment (pigtailed or terminals). Connections to the equipment shall be made in accordance with wiring diagrams furnished by the equipment supplier and in accordance with the requirements of the National Electrical Code.
 - 2. Providing and installing all electrical receptacles at walls, tables, etc. shown on the plans and/or required for the equipment.
 - 3. Providing and installing all equipment mounted receptacles shown on the plans and/or required for the equipment.
 - 4. Providing and installing all disconnect switches between roughing-in points and the points of connection on the equipment.

1.03 QUALITY ASSURANCE:

- A. Employ only qualified, skilled workers in the unloading, installation, and connection of appliances.
- B. Contractor shall notify proper authorities, as required by law, relative to this work; and assist the Owner in obtaining all required permits and licenses.

PART 2 - MATERIALS

- 2.01 MISCELLANEOUS ITEMS: For all items, Contractor shall provide supply hoses, drain hoses, electric pigtails, vents, etc. as necessary.
- 2.02 APPLIANCES: Shown and noted on the Drawings; see Elevation "A" on Drawing Sheet A601.
 - A. Refrigerator. Stand-Alone floor model.
 - B. Microwave: Countertop model.

PART 3 - EXECUTION

- 3.01 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- 3.02 MATERIAL HANDLING: Handle, transport, unload, store and install appliances to preclude damage.
- 3.03 INSTALLATION, GENERAL:
 - A. Except as modified by requirements of governmental agencies having jurisdiction, install appliances in accordance with recommendations of the manufacturer as approved by the Architect and the pertinent UL design requirements.
 - B. Cooperate as needed with adjacent trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- 3.04 FINAL:
 - A. After installation is complete, and immediately before Substantial Completion inspection, adjust appliances to ensure proper working order and condition. Remove masking or protective coatings or coverings from stainless steel and other finished surfaces. Notify Architect and Owner of any appliances not operating properly. Wash, clean and polish appliances, fittings and accessories.
 - B. After all utility connections to the appliances are made up and completed, the Owner or Supplier shall conduct the final test of all appliances in the presence of the Owner and shall put all items through at least three complete cycles of operation, adjusting as needed to assure proper operation. They shall also instruct a designated representative of the Owner in the proper operation, maintenance, and care of all operating equipment.

3.05 CLEANING UP: In addition to other stipulated requirements for cleaning, Contractor shall completely remove finger prints and traces of soil from the surfaces of all work of this Section, using only those cleaning materials recommended for the purpose by the manufacturer of the material being cleaned.

END OF SECTION

CITY OF CHATTANOOGA, TENNESSEE

CONTRACT #R-19-006-201 MULTIPLE BALLFIELD AND FACILITY IMPROVEMENTS

SUB-PROJECT INDEX

PROJECT NUMBER

LOOKOUT VALLEY BALLFIELD IMPROVEMENTS	R-18-008
EAST LAKE SENIOR CENTER BUILDING IMPROVEMENTS	R-18-014
TYNER RECREATION CENTER BUILDING PAD IMPROVEMENTS	Y-18-007

ADD ALTERNATE 1: DEVELOPMENT RESOURCE CENTER
2ND FLOOR MODIFICATION

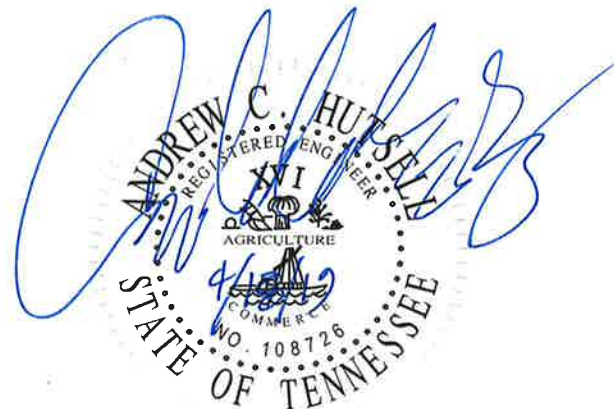
MAYOR

ANDY BERKE

ADD ALTERNATE 2: JOHN A. PATTEN YFD CENTER
RENOVATIONS TO 2ND FLOOR


CITY COUNCIL

DISTRICT 1 - CHIP HENDERSON, VICE-CHAIR
DISTRICT 2 - JERRY MITCHELL
DISTRICT 3 - KEN SMITH
DISTRICT 4 - DARRIN LEDFORD
DISTRICT 5 - RUSSELL GILBERT, SR.
DISTRICT 6 - CAROL B. BERZ
DISTRICT 7 - ERSKINE OGLESBY, JR., CHAIR
DISTRICT 8 - ANTHONY BYRD
DISTRICT 9 - DEMETRUS COONROD



TN REGISTRATION NO. 108726

ANDREW C. HUTSELL, P.E. DATE
SENIOR ENGINEER
STATE LICENSE NO. 108726

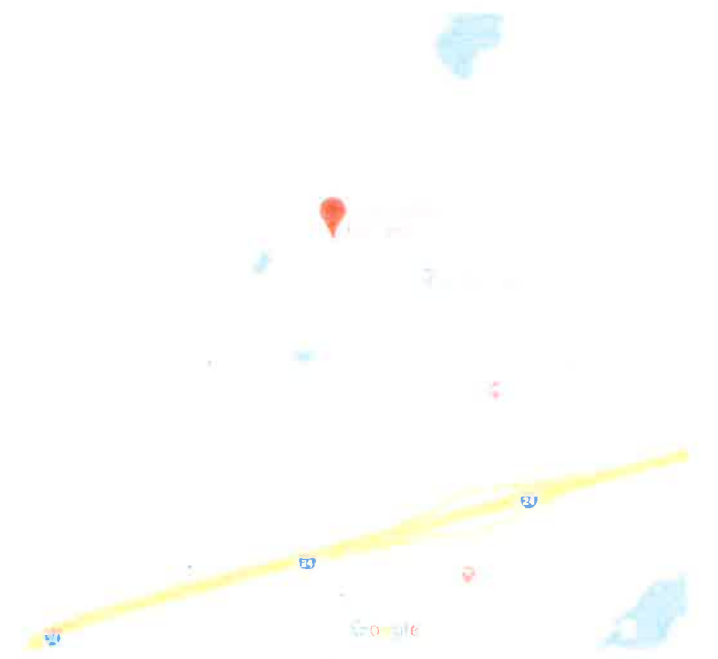

APPROVED FOR RELEASE DATE
WILLIAM C. PAYNE, PE
CITY ENGINEER

DEPARTMENT OF PUBLIC WORKS

JUSTIN C. HOLLAND, ADMINISTRATOR

CITY OF CHATTANOOGA, TENNESSEE

CONTRACT #R-18-008 LOOKOUT VALLEY BALLFIELDS SITE IMPROVEMENTS



TITLE
COVER SHEET
PROPERTY MAP
CONSTRUCTION LAY DOWN PLAN
SITE PLAN
SCOREKEEPER BOX LOCATIONS
PICTURES
DETAILS

DRAWING NUMBER

0
1
2
3
4
5-9
10-12

MAYOR
ANDY BERKE

LOCATION MAP

DESIGN CRITERIA:

1. 2012 IBC.
2. WIND LOADS
 - 120 MPH BASIC WIND SPEED (3 SEC. GUST)
 - ROUGHNESS B
 - EXPOSURE B
3. GRAVITY LOADS
 - 10 PSF DEAD LOAD
 - 20 PSF LIVE LOAD

CITY COUNCIL

- DISTRICT 1 - CHIP HENDERSON
DISTRICT 2 - JERRY MITCHELL
DISTRICT 3 - KEN SMITH, CHAIR
DISTRICT 4 - DARRIN LEDFORD
DISTRICT 5 - RUSSELL GILBERT
DISTRICT 6 - CAROL B. BERZ
DISTRICT 7 - ERSKINE OGLESBY, JR., VICE-CHAIR
DISTRICT 8 - ANTHONY BYRD
DISTRICT 9 - DEMETRUS COONROD



TN REGISTRATION NO. 108726

ANDREW C. HUTSELL, P.E. DATE
SENIOR ENGINEER
STATE LICENSE NO. 108726

 03-04-19
APPROVED FOR RELEASE DATE
WILLIAM C. PAYNE, PE
CITY ENGINEER

DEPARTMENT OF PUBLIC WORKS

JUSTIN C. HOLLAND, ADMINISTRATOR

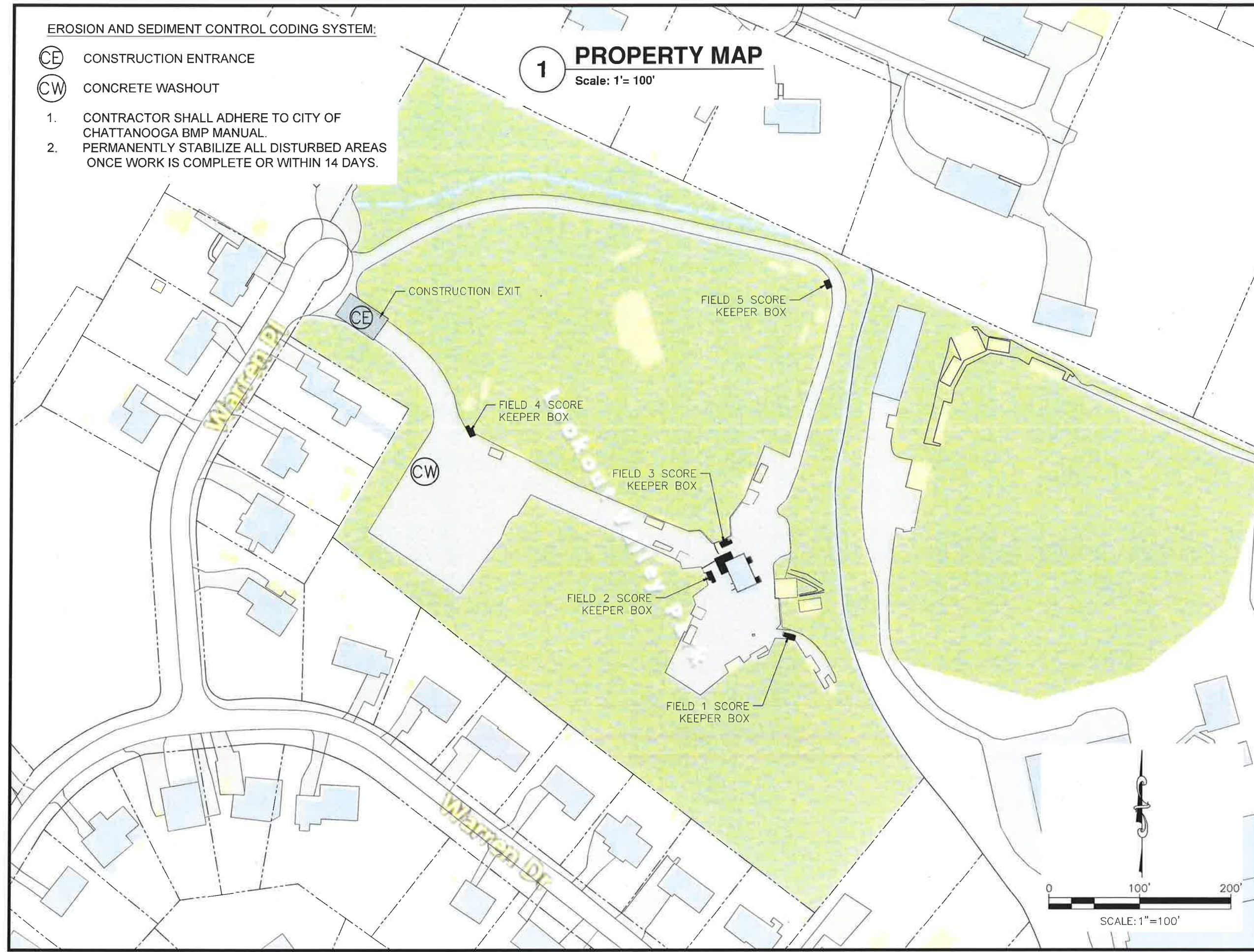
EROSION AND SEDIMENT CONTROL CODING SYSTEM:

CE CONSTRUCTION ENTRANCE

CW CONCRETE WASHOUT

1. CONTRACTOR SHALL ADHERE TO CITY OF CHATTANOOGA BMP MANUAL.
2. PERMANENTLY STABILIZE ALL DISTURBED AREAS ONCE WORK IS COMPLETE OR WITHIN 14 DAYS.

1 PROPERTY MAP
Scale: 1" = 100'



CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS

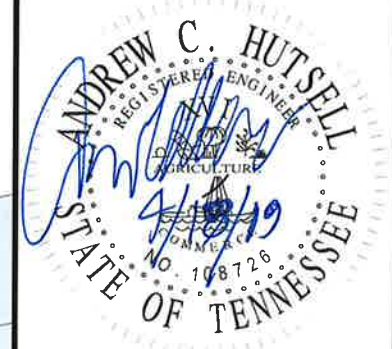
ADMINISTRATOR:
JUSTIN C. HOLLAND

CITY ENGINEER:
WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
LOOKOUT VALLEY BALLFIELDS
SITE IMPROVEMENTS

CONTRACT#	R-18-008
SCALE:	1" = 100'
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH



TN REGISTRATION NO. 108726
PROPERTY MAP



**CITY OF
CHATTANOOGA**

**DEPARTMENT OF
PUBLIC WORKS**

ADMINISTRATOR:

JUSTIN C. HOLLAND

CITY ENGINEER:

WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
LOOKOUT VALLEY BALLFIELDS
SITE IMPROVEMENTS

CONTRACT# R-18-008

SCALE: 1" = 20'

DRAWN: JAH

DESIGN: ACH

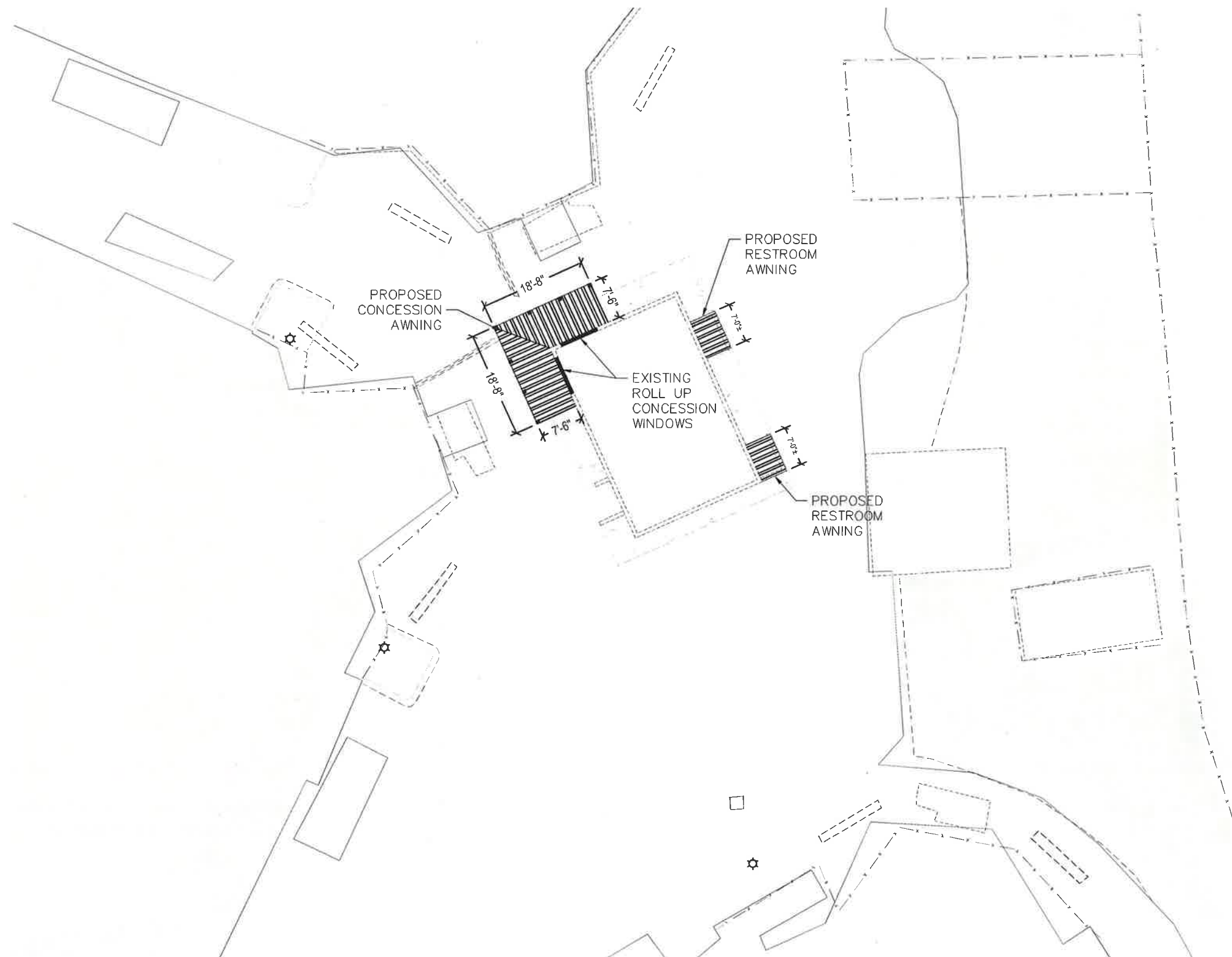
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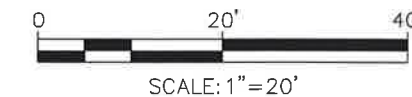
TN REGISTRATION NO. 108726

SITE PLAN

SHEET: 3 OF 12

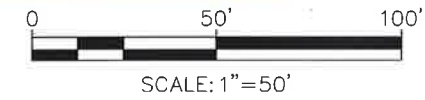


1 SITE PLAN
Scale: 1" = 20'





1 SCOREKEEPER BOX LOCATIONS
Scale: 1"=50'



CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
JUSTIN C. HOLLAND
CITY ENGINEER:
WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
LOOKOUT VALLEY BALLFIELDS
SITE IMPROVEMENTS

CONTRACT#	R-18-008
SCALE:	1" = 50'
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH



TN REGISTRATION NO. 108726
SCOREKEEPER BOX MAP
SHEET: 4 OF 12

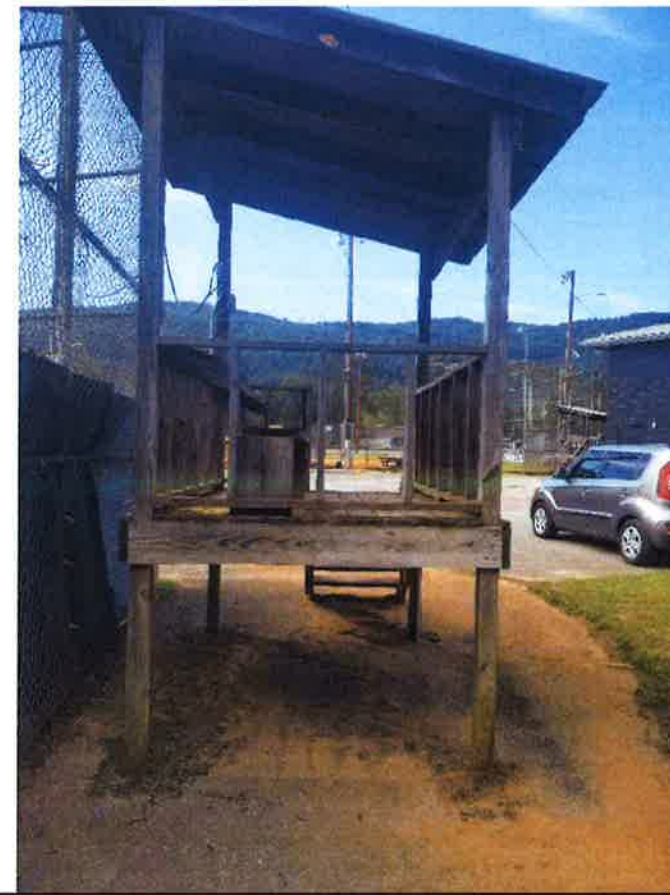


CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
 JUSTIN C. HOLLAND
 CITY ENGINEER:
 WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

NOTE: REMOVE AND REPLACE ALL STAIR TREADS, ROTTED FLOOR DECKING AND ROTTED/DAMAGED HANDRAILS IN SCOREKEEPERS BOX AS REQUIRED AND/OR AS DIRECTED. INSTALL ALL 2" WOOD REPLACEMENT USING #9x3" STAR FLAT-HEADED DECKING SCREWS (COATED). INSTALL ALL DECK BOARDS USING #8x2" STAR FLAT-HEADED WOOD DECK SCREWS (COATED). ALL MEMBERS TO BE REPLACED WITH EQUAL OR LARGER DIMENSIONS. DECKING TO BE 5/4" MINIMUM THICKNESS. ALL LUMBER TO BE NO. 2 OR BETTER.

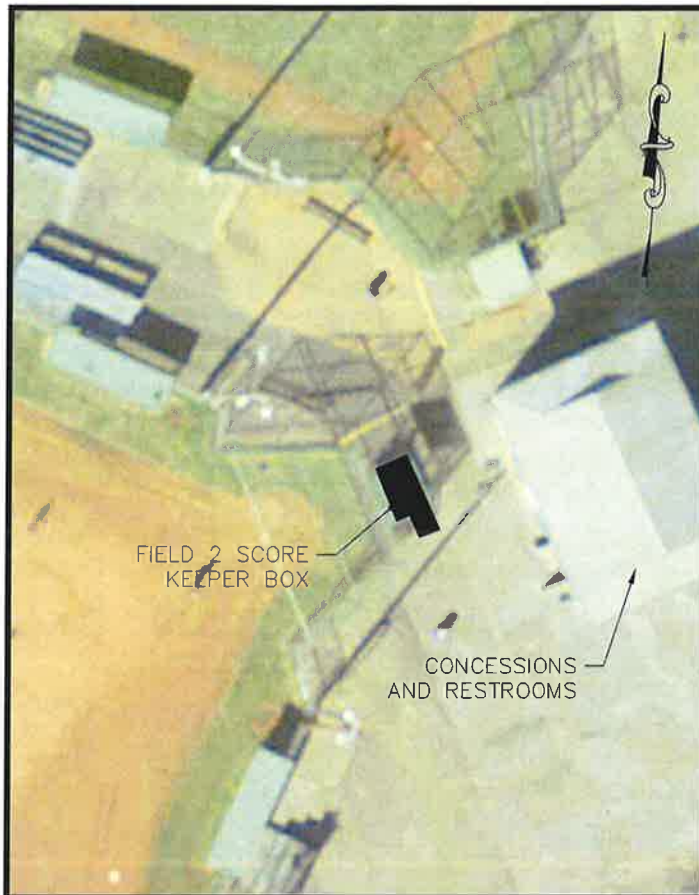


CITY OF CHATTANOOGA
 LOOKOUT VALLEY BALLFIELDS
 SITE IMPROVEMENTS

CONTRACT# R-18-008
 SCALE: N.T.S.
 DRAWN: JAH
 DESIGN: ACH
 CHECKED: ACH



TN REGISTRATION NO. 108726
 FIELD 1 SCOREBOX PICTURES
 SHEET: 5 OF 12



NOTE: REMOVE AND REPLACE ALL STAIR TREADS, ROTTED FLOOR DECKING AND ROTTED/DAMAGED HANDRAILS IN SCOREKEEPERS BOX AS REQUIRED AND/OR AS DIRECTED. INSTALL ALL 2" WOOD REPLACEMENT USING #9x3" STAR FLAT-HEADED DECKING SCREWS (COATED). INSTALL ALL DECK BOARDS USING #8x2" STAR FLAT-HEADED WOOD DECK SCREWS (COATED). ALL MEMBERS TO BE REPLACED WITH EQUAL OR LARGER DIMENSIONS. DECKING TO BE 5/4" MINIMUM THICKNESS. ALL LUMBER TO BE NO. 2 OR BETTER.



CITY OF CHATTANOOGA
 DEPARTMENT OF PUBLIC WORKS

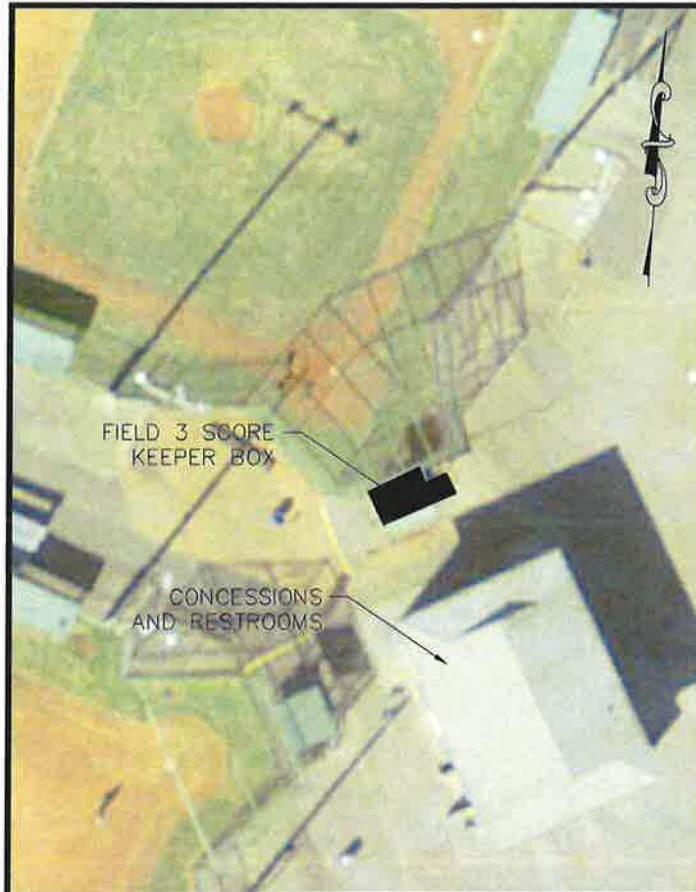
ADMINISTRATOR:				
JUSTIN C. HOLLAND				
CITY ENGINEER:				
WILLIAM C. PAYNE, P.E.				
NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
 LOOKOUT VALLEY BALLFIELDS
 SITE IMPROVEMENTS

CONTRACT#	R-18-008
SCALE:	N.T.S.
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH



TN REGISTRATION NO. 108726
 FIELD 2 SCOREBOX PICTURES



CITY OF CHATTANOOGA
 DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
 JUSTIN C. HOLLAND
 CITY ENGINEER:
 WILLIAM C. PAYNE, P.E.

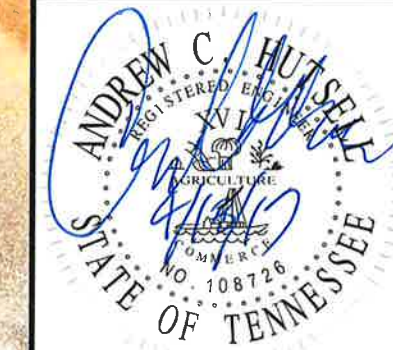
NO.	DATE	REVISION	DES.	SIG.

NOTE: REMOVE AND REPLACE ALL STAIR TREADS, ROTTED FLOOR DECKING AND ROTTED/DAMAGED HANDRAILS IN SCOREKEEPERS BOX AS REQUIRED AND/OR AS DIRECTED. INSTALL ALL 2" WOOD REPLACEMENT USING #9x3" STAR FLAT-HEADED DECKING SCREWS (COATED). INSTALL ALL DECK BOARDS USING #8x2" STAR FLAT-HEADED WOOD DECK SCREWS (COATED). ALL MEMBERS TO BE REPLACED WITH EQUAL OR LARGER DIMENSIONS. DECKING TO BE 5/4" MINIMUM THICKNESS. ALL LUMBER TO BE NO. 2 OR BETTER.



CITY OF CHATTANOOGA
 LOOKOUT VALLEY BALLFIELDS
 SITE IMPROVEMENTS

CONTRACT# R-18-008
 SCALE: N.T.S.
 DRAWN: JAH
 DESIGN: ACH
 CHECKED: ACH



TN REGISTRATION NO. 108726
 FIELD 3 SCOREBOX PICTURES
 SHEET: 7 OF 12



FIELD 4 SCORE
KEEPER BOX



NOTE: REMOVE AND REPLACE ALL STAIR TREADS, ROTTED FLOOR DECKING AND ROTTED/DAMAGED HANDRAILS IN SCOREKEEPERS BOX AS REQUIRED AND/OR AS DIRECTED. INSTALL ALL 2" WOOD REPLACEMENT USING #9x3" STAR FLAT-HEADED DECKING SCREWS (COATED). INSTALL ALL DECK BOARDS USING #8x2" STAR FLAT-HEADED WOOD DECK SCREWS (COATED). ALL MEMBERS TO BE REPLACED WITH EQUAL OR LARGER DIMENSIONS. DECKING TO BE 5/4" MINIMUM THICKNESS. ALL LUMBER TO BE NO. 2 OR BETTER.



CITY OF
CHATTANOOGA

DEPARTMENT OF
PUBLIC WORKS

ADMINISTRATOR:

JUSTIN C. HOLLAND

CITY ENGINEER:

WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
LOOKOUT VALLEY BALLFIELDS
SITE IMPROVEMENTS

CONTRACT# R-18-008

SCALE: N.T.S.

DRAWN: JAH

DESIGN: ACH

CHECKED: ACH



TN REGISTRATION NO. 108726

FIELD 4 SCOREBOX PICTURES

SHEET: 8 OF 12



CITY OF CHATTANOOGA
 DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
 JUSTIN C. HOLLAND

CITY ENGINEER:
 WILLIAM C. PAYNE, P.E.

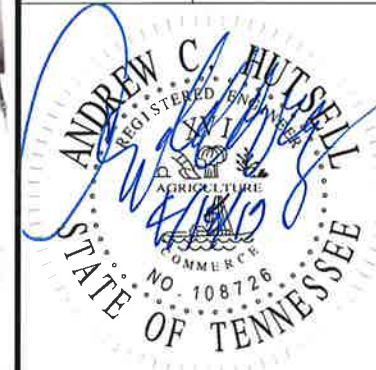
NO.	DATE	REVISION	DES.	SIG.

NOTE: REMOVE AND REPLACE ALL STAIR TREADS, ROTTED FLOOR DECKING AND ROTTED/DAMAGED HANDRAILS IN SCOREKEEPERS BOX AS REQUIRED AND/OR AS DIRECTED. INSTALL ALL 2" WOOD REPLACEMENT USING #9x3" STAR FLAT-HEADED DECKING SCREWS (COATED). INSTALL ALL DECK BOARDS USING #8x2" STAR FLAT-HEADED WOOD DECK SCREWS (COATED). ALL MEMBERS TO BE REPLACED WITH EQUAL OR LARGER DIMENSIONS. DECKING TO BE 5/8" MINIMUM THICKNESS. ALL LUMBER TO BE NO. 2 OR BETTER.



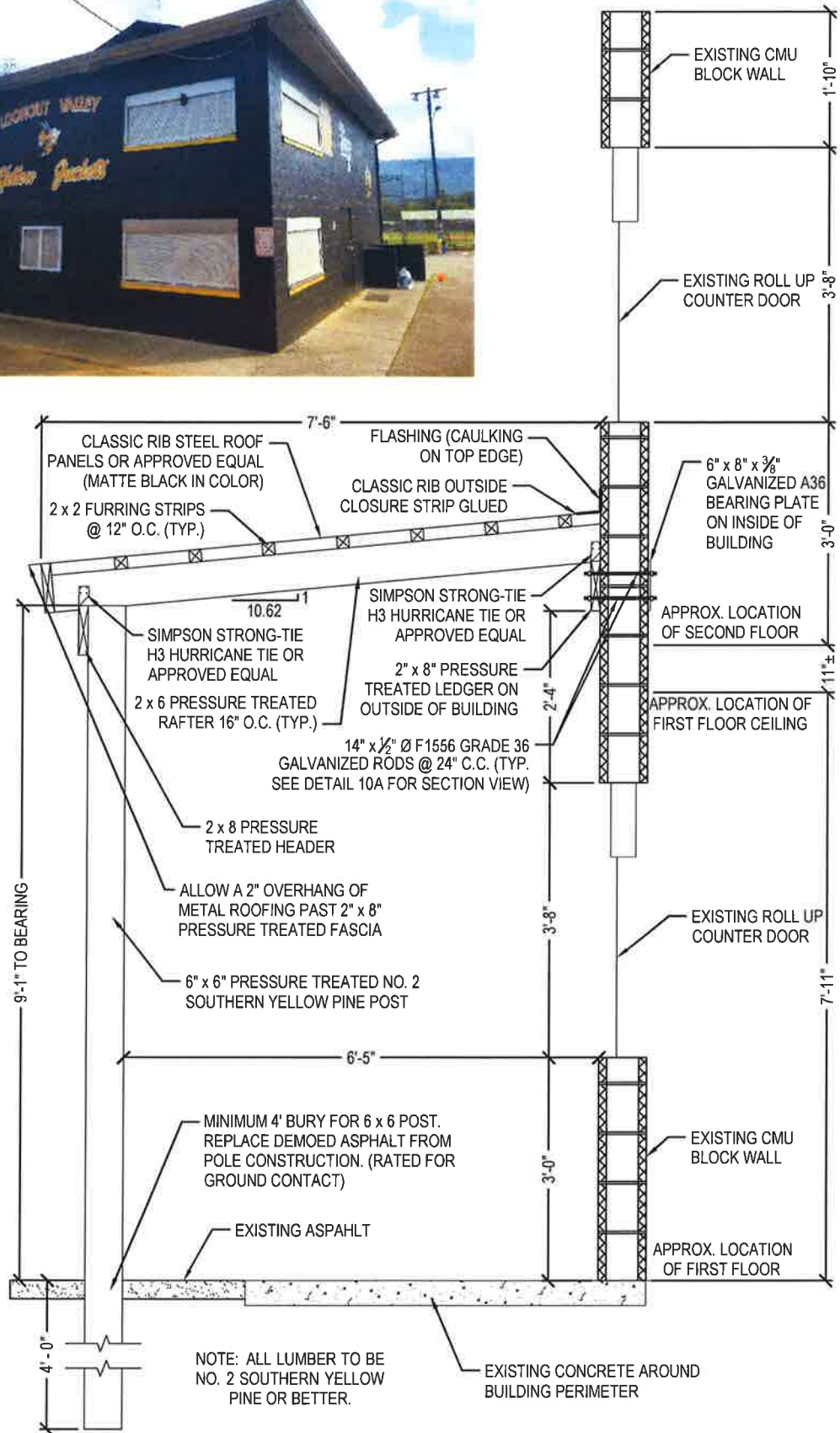
CITY OF CHATTANOOGA
 LOOKOUT VALLEY BALLFIELDS
 SITE IMPROVEMENTS

CONTRACT#	R-18-008
SCALE:	N.T.S.
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH

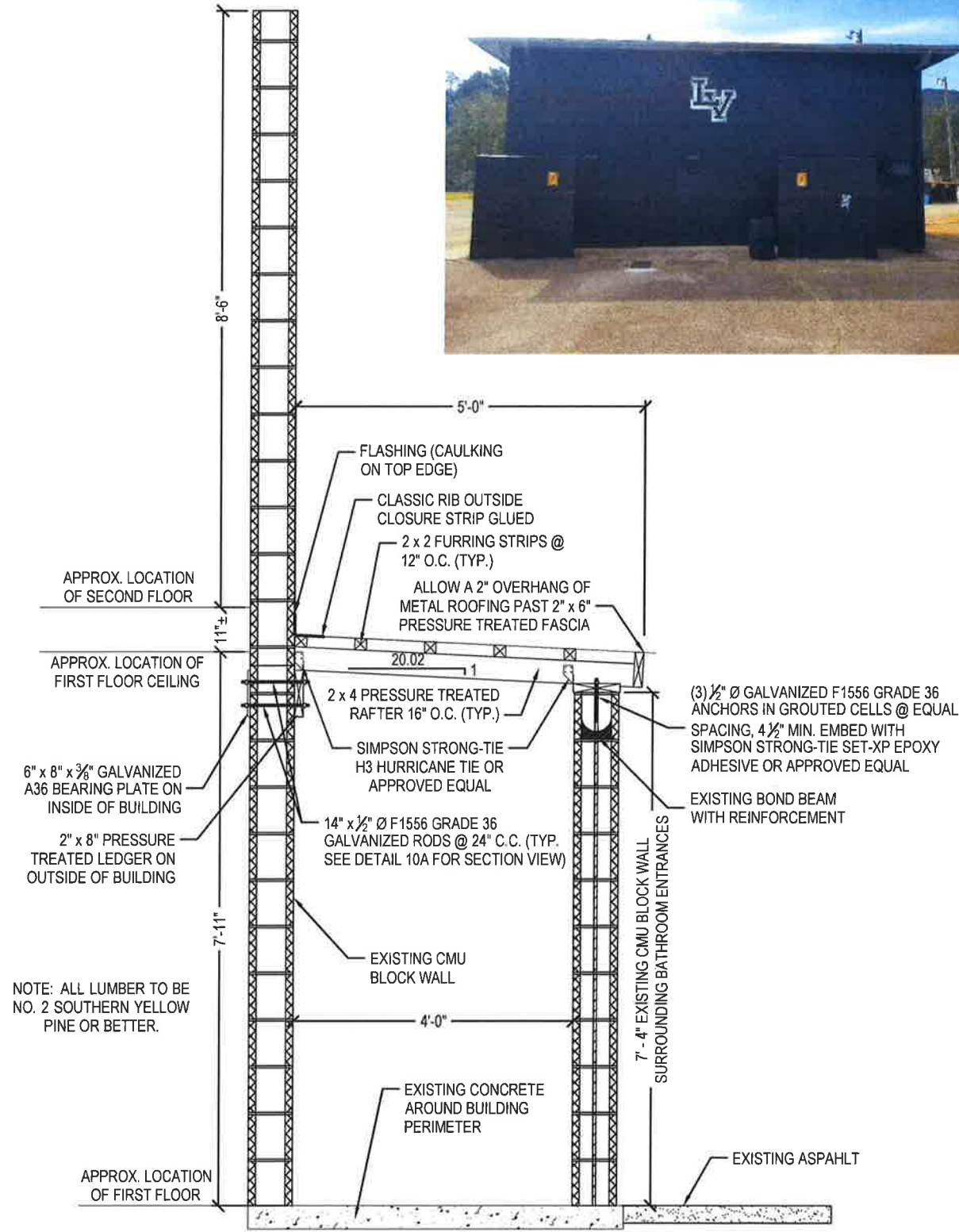


TN REGISTRATION NO. 108726

FIELD 5 SCOREBOX PICTURES



1 CONCESSIONS AWNING DETAIL
Scale: N.T.S.



2 RESTROOMS AWNING DETAIL
Scale: N.T.S.

- CLASSIC RIB STEEL ROOF PANELS (HOME DEPOT):**
- 29 GAUGE THICKNESS, 36" PANEL COVERAGE, 3/4" RIB HEIGHT ON 9" CENTERS.
 - MS COLORFAST 45 COATING SYSTEM
 - INSTALLATION PER MANUFACTURERS RECOMMENDATIONS
 - SCREW COLOR TO MATCH ROOFING PANELS



CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
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CITY ENGINEER:
WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

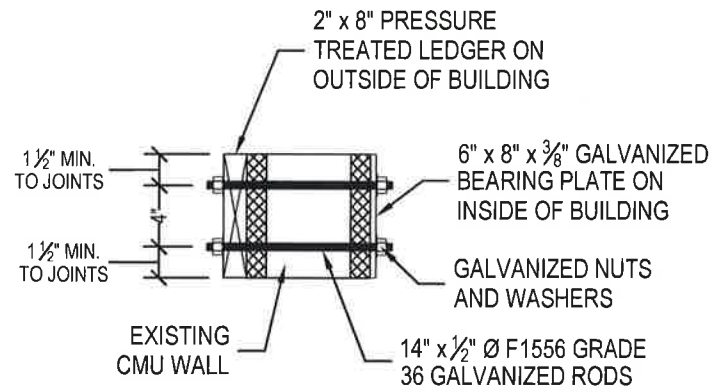
CITY OF CHATTANOOGA
LOOKOUT VALLEY BALLFIELDS
SITE IMPROVEMENTS

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CHECKED:	ACH

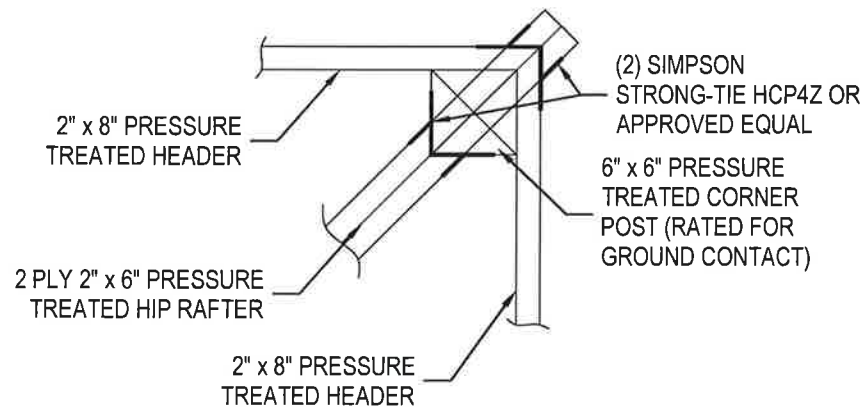


TN REGISTRATION NO. 108726
DETAILS
SHEET: 10 OF 12

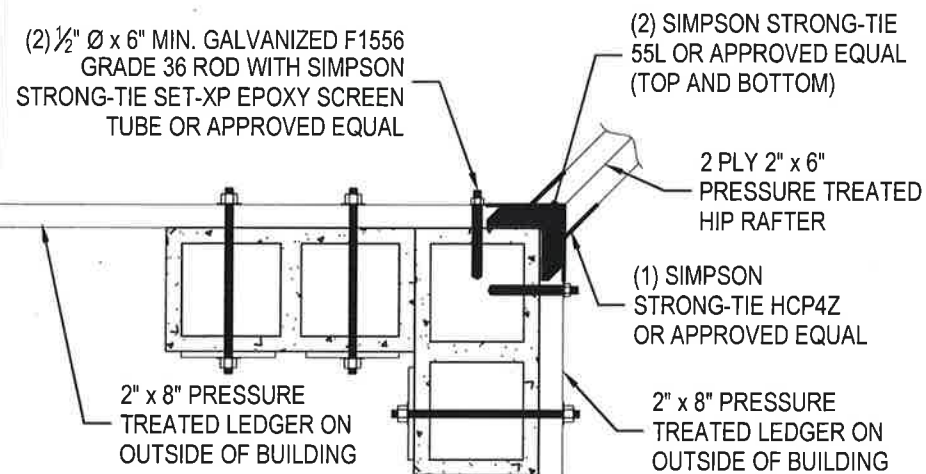
NOTE: THIS DETAIL APPLIES TO BOTH THE CONCESSION AWNING AND THE RESTROOMS AWNING CONNECTION.



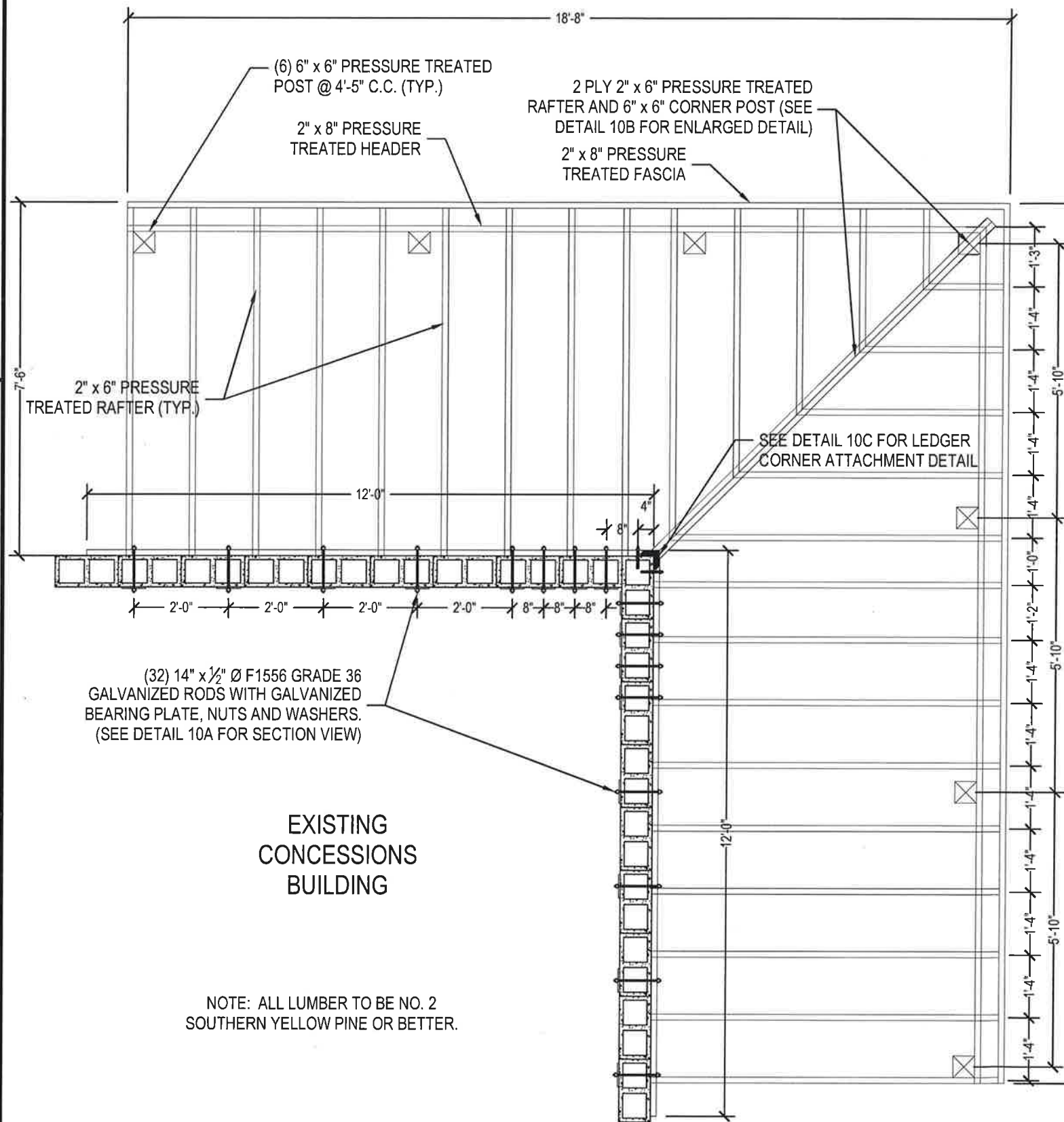
10A LEDGER ATTACHMENT DETAIL
Scale: 1" = 1'-0"



10B ENLARGED CORNER POST DETAIL
Scale: 1" = 1'-0"



10C LEDGER CORNER DETAIL
Scale: 1" = 1'-0"



10 CONCESSIONS AWNING DETAIL
Scale: 3/8" = 1'-0"



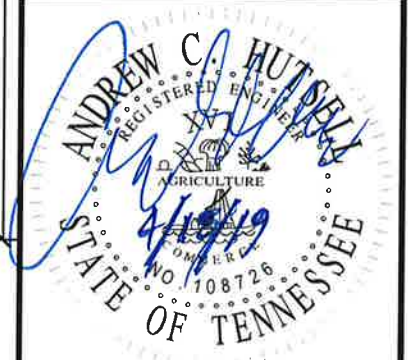
CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
JUSTIN C. HOLLAND
CITY ENGINEER:
WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
LOOKOUT VALLEY BALLFIELDS
SITE IMPROVEMENTS

CONTRACT#	R-18-008
SCALE:	AS NOTED
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH





CITY OF CHATTANOOGA

DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
JUSTIN C. HOLLAND
CITY ENGINEER:
WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

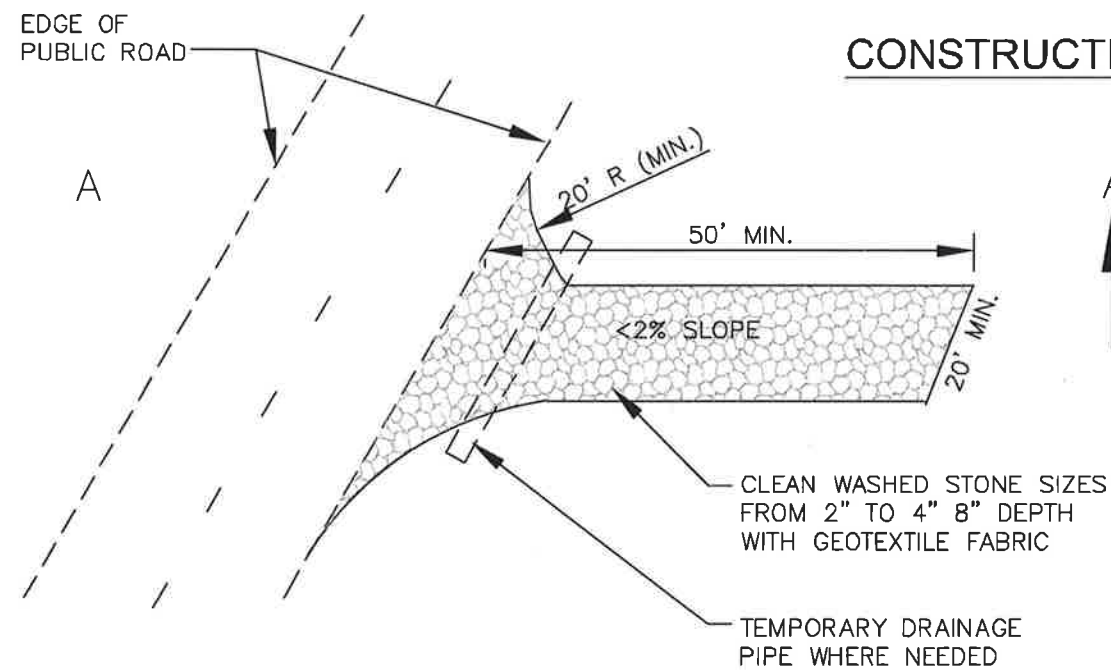
CITY OF CHATTANOOGA
LOOKOUT VALLEY BALLFIELDS
SITE IMPROVEMENTS

CONTRACT#	R-18-008
SCALE:	AS NOTED
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH

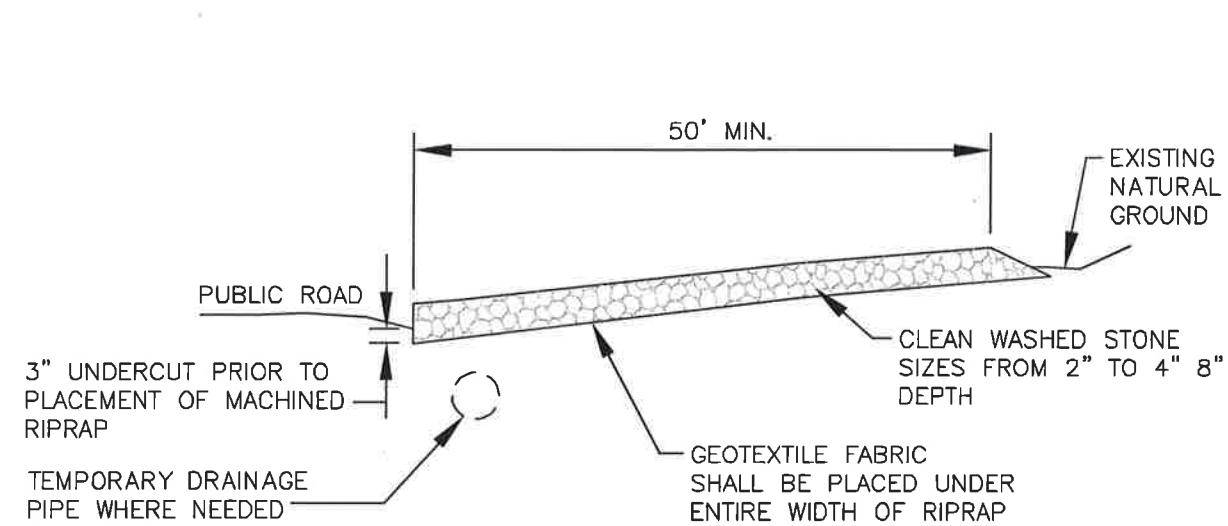


TN REGISTRATION NO. 108726
DETAILS

CONSTRUCTION EXIT DETAIL (TDEC 7.28)

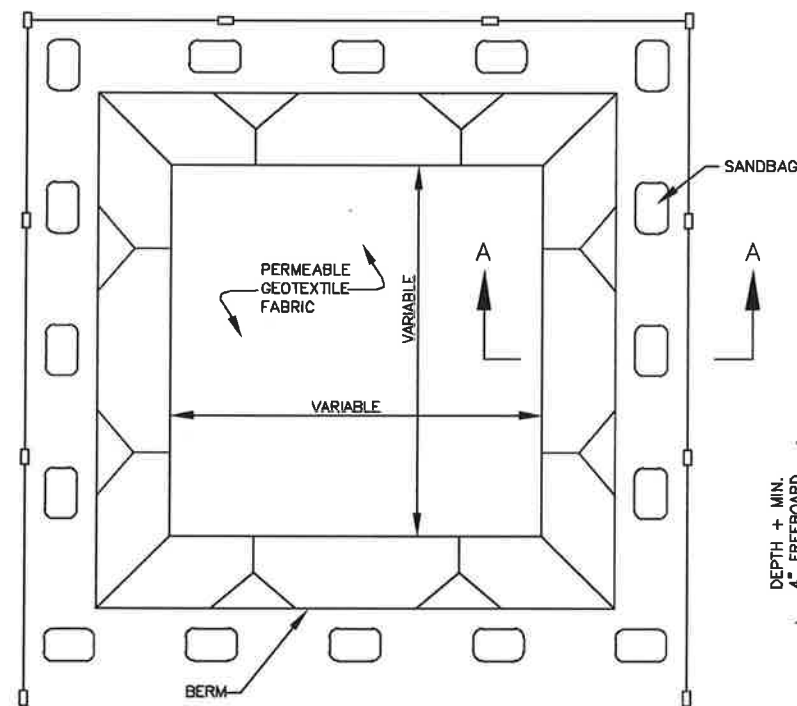


PLAN VIEW OF TEMPORARY CONSTRUCTION ROAD



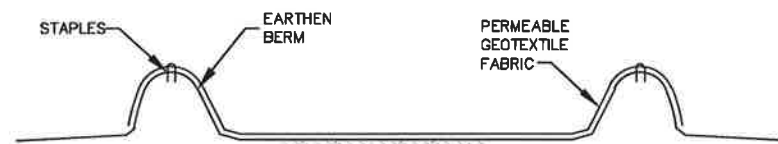
SECTION A-A

CONCRETE WASHOUT DETAIL (TDEC 7.16)

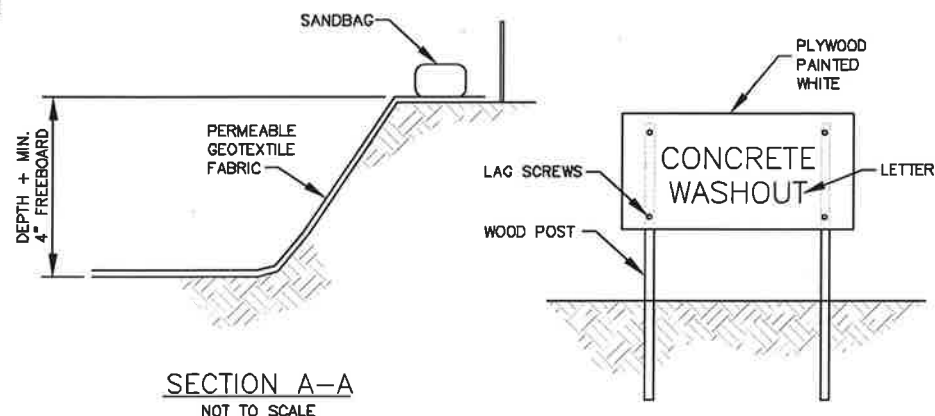


PLAN VIEW
NOT TO SCALE

TYPE "BELOW GRADE"



SECTION B-B
NOT TO SCALE

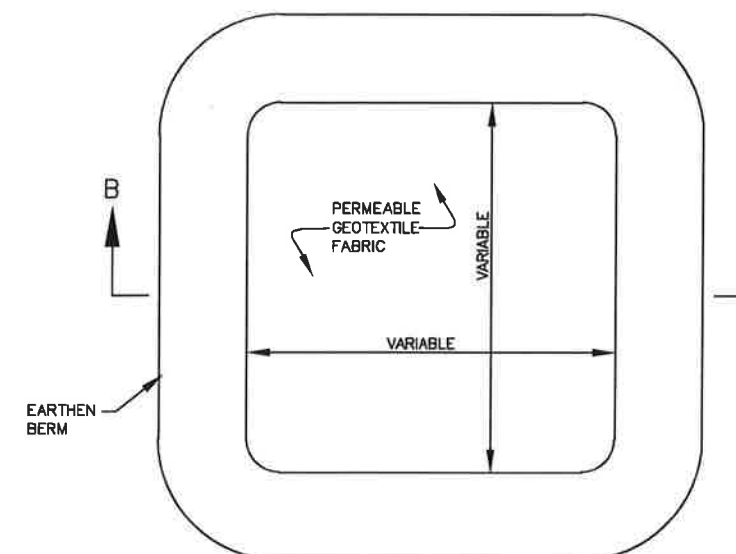


SECTION A-A
NOT TO SCALE

CONCRETE WASHOUT
SIGN (OR EQUIVALENT)

- NOTES:**
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
 2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5FT. OF THE WASHOUT FACILITY.

PLAN VIEW
NOT TO SCALE
TYPE "ABOVE GRADE"
WITH EARTHEN BERMS



CITY OF CHATTANOOGA, TENNESSEE

CONTRACT #R-18-014 EAST LAKE SENIOR CENTER BUILDING IMPROVEMENTS



LOCATION MAP

TITLE

COVER SHEET
PROPERTY MAP
IMPROVEMENT PLAN
WINDOW DETAILS

DRAWING NUMBER

0
1
2
3

MAYOR

ANDY BERKE

CITY COUNCIL


- DISTRICT 1 - CHIP HENDERSON
- DISTRICT 2 - JERRY MITCHELL
- DISTRICT 3 - KEN SMITH, CHAIR
- DISTRICT 4 - DARRIN LEDFORD
- DISTRICT 5 - RUSSELL GILBERT
- DISTRICT 6 - CAROL B. BERZ
- DISTRICT 7 - ERSKINE OGLESBY, JR., VICE-CHAIR
- DISTRICT 8 - ANTHONY BYRD
- DISTRICT 9 - DEMETRUS COONROD

DESIGN CRITERIA:
1. 2012 IBC.



TN REGISTRATION NO. 108726

ANDREW C. HUTSELL, P.E. DATE
SENIOR ENGINEER
STATE LICENSE NO. 108726


APPROVED FOR RELEASE DATE
WILLIAM C. PAYNE, PE
CITY ENGINEER

DEPARTMENT OF PUBLIC WORKS

JUSTIN C. HOLLAND, ADMINISTRATOR



CITY OF CHATTANOOGA

DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
JUSTIN C. HOLLAND
CITY ENGINEER:
WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
EAST LAKE
SENIOR CENTER

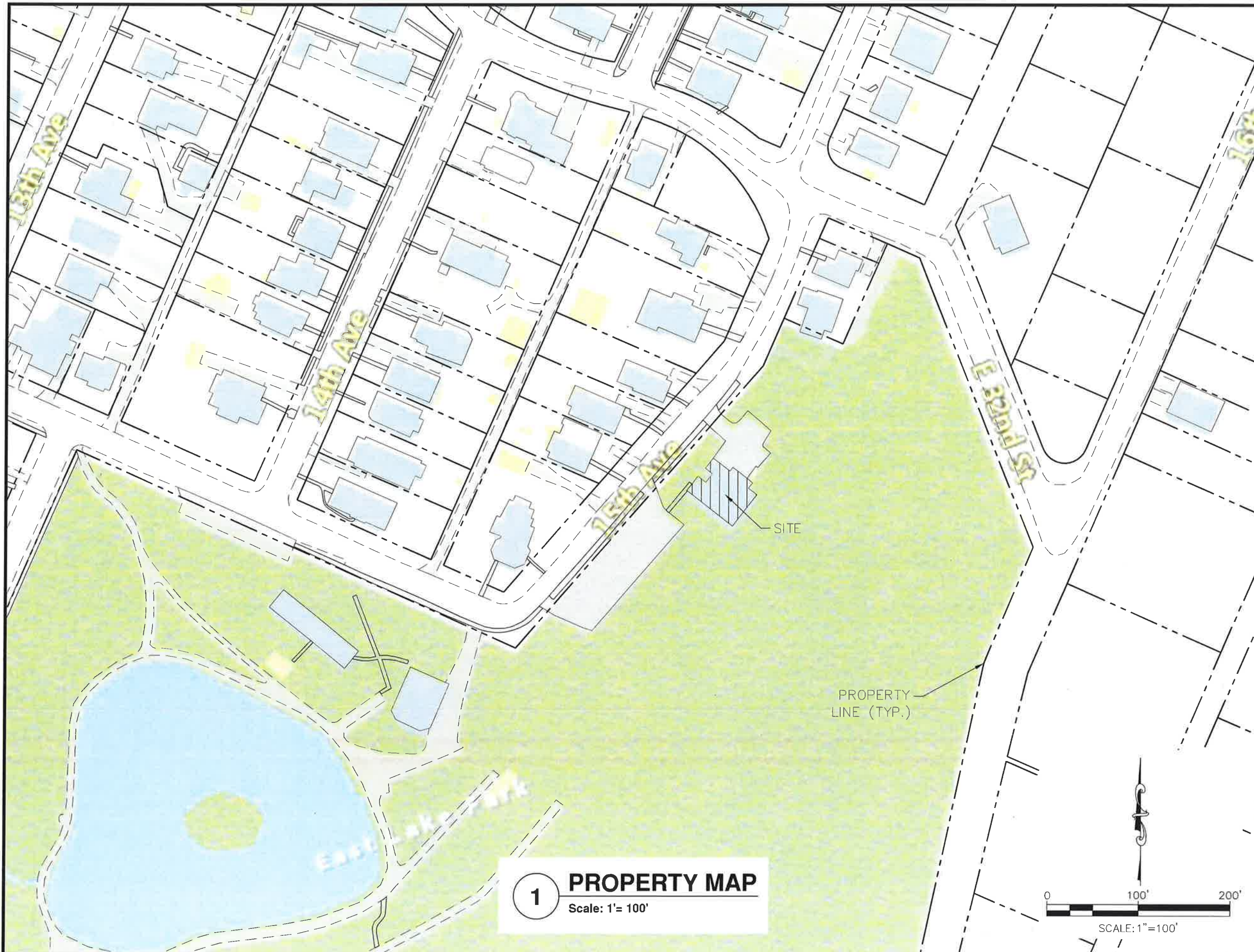
CONTRACT#	R-18-014
SCALE:	1" = 5'
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH



TN REGISTRATION NO. 108726

PROPERTY MAP

SHEET: 1 OF 3



1 **PROPERTY MAP**
Scale: 1"= 100'

PROPERTY LINE (TYP.)

SITE



CITY OF CHATTANOOGA

DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:

JUSTIN C. HOLLAND

CITY ENGINEER:

WILLIAM C. PAYNE, P.E.

NO.	DATE	REVISION	DES.	SIG.

CITY OF CHATTANOOGA
EAST LAKE
SENIOR CENTER

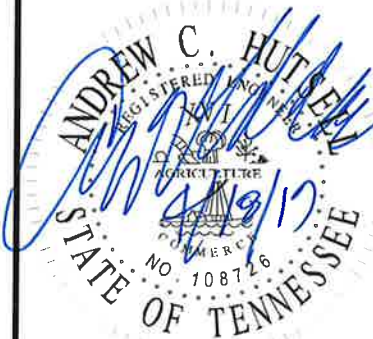
CONTRACT# R-18-014

SCALE: 1" = 5'

DRAWN: JAH

DESIGN: ACH

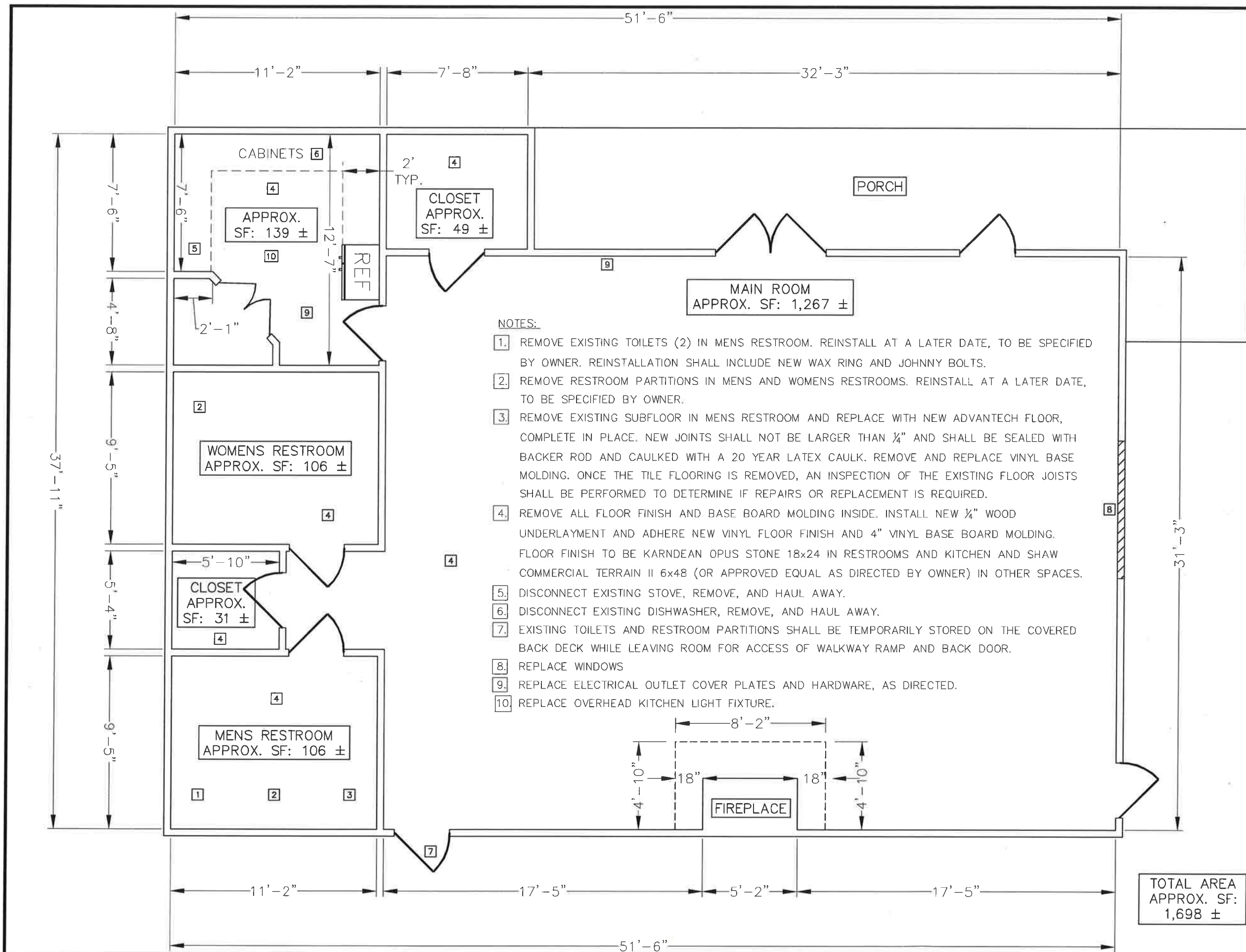
CHECKED: ACH



TN REGISTRATION NO. 108726

IMPROVEMENT PLAN

SHEET: 2 OF 3





CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:
 JUSTIN C. HOLLAND
 CITY ENGINEER:
 WILLIAM C. PAYNE, P.E.

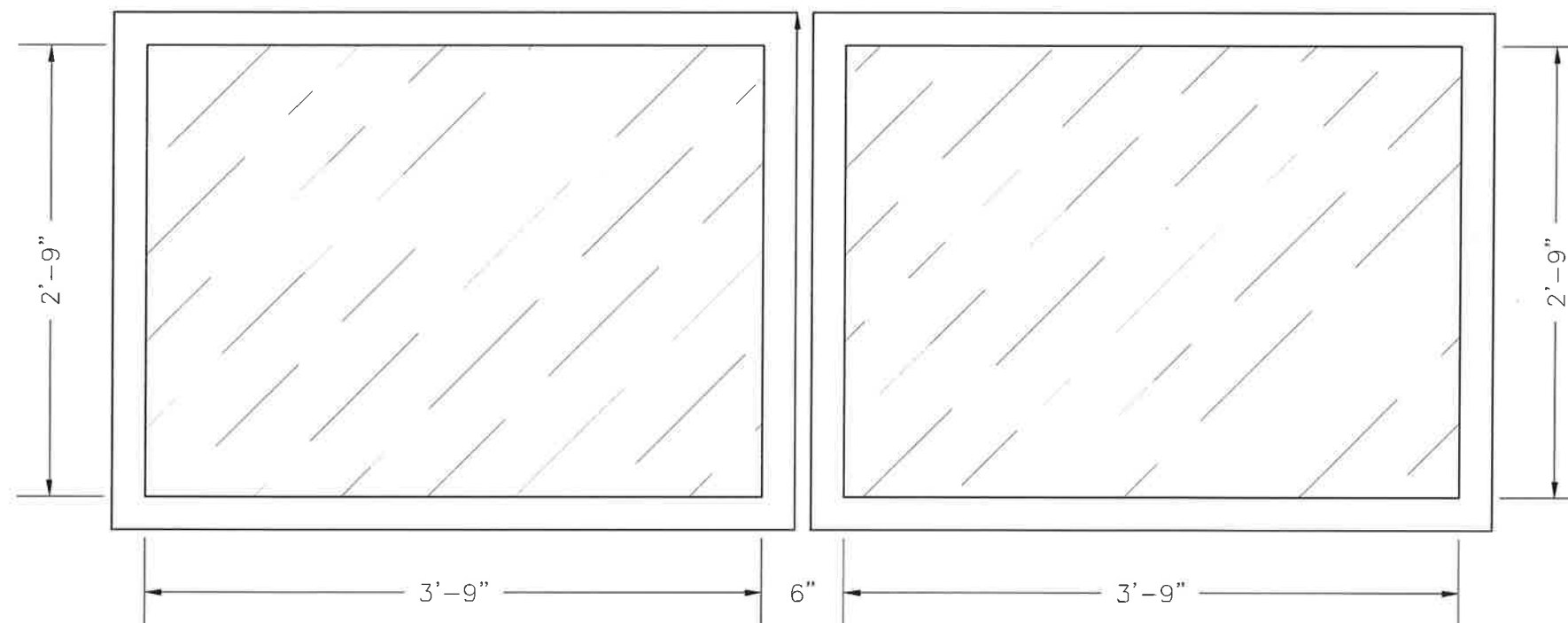
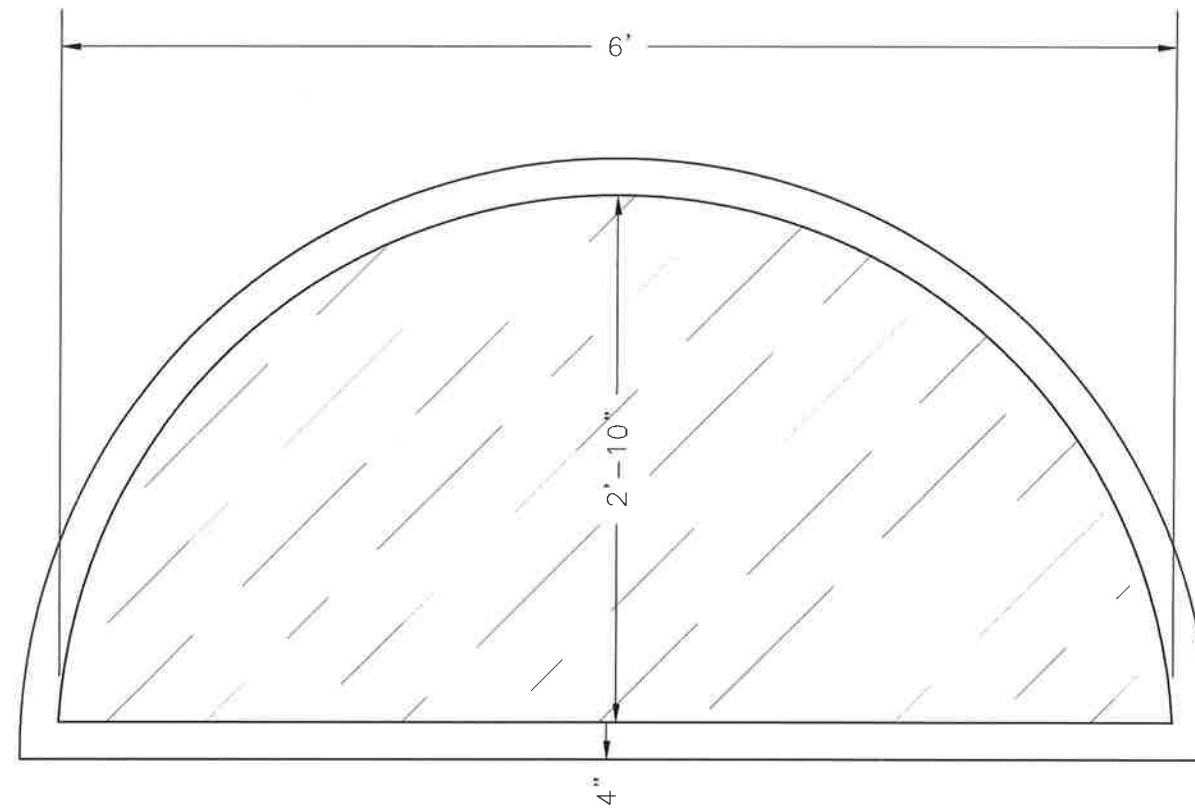
NO.	DATE	REVISION	DES	SIG.

CITY OF CHATTANOOGA
 EAST LAKE
 SENIOR CENTER

CONTRACT#	R-18-014
SCALE:	1" = 1'
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ACH



TN REGISTRATION NO. 108726
 WINDOW REPLACEMENT

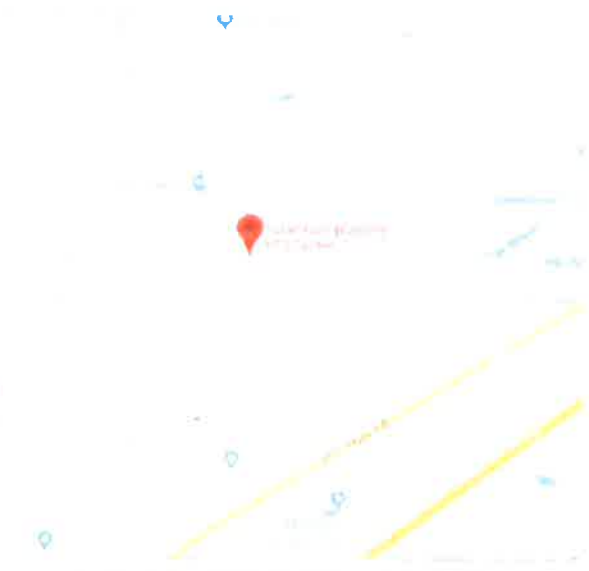


NOTES:

- EXISTING WINDOWS ARE WOOD FRAME.
- ALL DIMENSIONS ARE TO INSIDE EDGE OF TRIM AROUND WINDOW.
- CONTRACTOR RESPONSIBLE FOR ALL MEASUREMENTS AND VERIFYING EXISTING CONDITIONS.
- STANDARD VINYL REPLACEMENT WINDOW WITH INSULATED DOUBLE PANE FROSTED GLASS TO REPLACE EXISTING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW FRAMING, INCIDENTAL REPAIRS, NEW INSULATION, WATERPROOFING, CAULKING AND TRIM REPLACEMENT AS REQUIRED.

CITY OF CHATTANOOGA, TENNESSEE

CONTRACT #Y-18-007 TYNER RECREATION CENTER BUILDING SLAB REPAIR



TITLE
COVER SHEET
PROPERTY MAP
STRUCTURAL NOTES
PLAN
BUILDING SECTION

DRAWING NUMBER

0
PM-01
SK-00
SK-01
SK-02

MAYOR
ANDY BERKE

LOCATION MAP

DESIGN CRITERIA:
1. 2012 IBC.


CITY COUNCIL

DISTRICT 1 - CHIP HENDERSON
DISTRICT 2 - JERRY MITCHELL
DISTRICT 3 - KEN SMITH, CHAIR
DISTRICT 4 - DARRIN LEDFORD
DISTRICT 5 - RUSSELL GILBERT
DISTRICT 6 - CAROL B. BERZ
DISTRICT 7 - ERSKINE OGLESBY, JR., VICE-CHAIR
DISTRICT 8 - ANTHONY BYRD
DISTRICT 9 - DEMETRUS COONROD



TN REGISTRATION NO. 108726

ANDREW C. HUTSELL, P.E. DATE
SENIOR ENGINEER
STATE LICENSE NO. 108726

 03-01-19
APPROVED FOR RELEASE DATE
WILLIAM C. PAYNE, PE
CITY ENGINEER

DEPARTMENT OF PUBLIC WORKS

JUSTIN C. HOLLAND, ADMINISTRATOR



CITY OF CHATTANOOGA

DEPARTMENT OF PUBLIC WORKS

ADMINISTRATOR:

JUSTIN C. HOLLAND

CITY ENGINEER:

WILLIAM C. PAYNE, P.E.

NO. DATE REVISION DES SIG.

NO.	DATE	REVISION	DES	SIG.

CITY OF CHATTANOOGA
TYNER RECREATION CENTER
BUILDING SLAB REPAIR

CONTRACT# Y-18-007

SCALE: 1" = 200'

DRAWN:

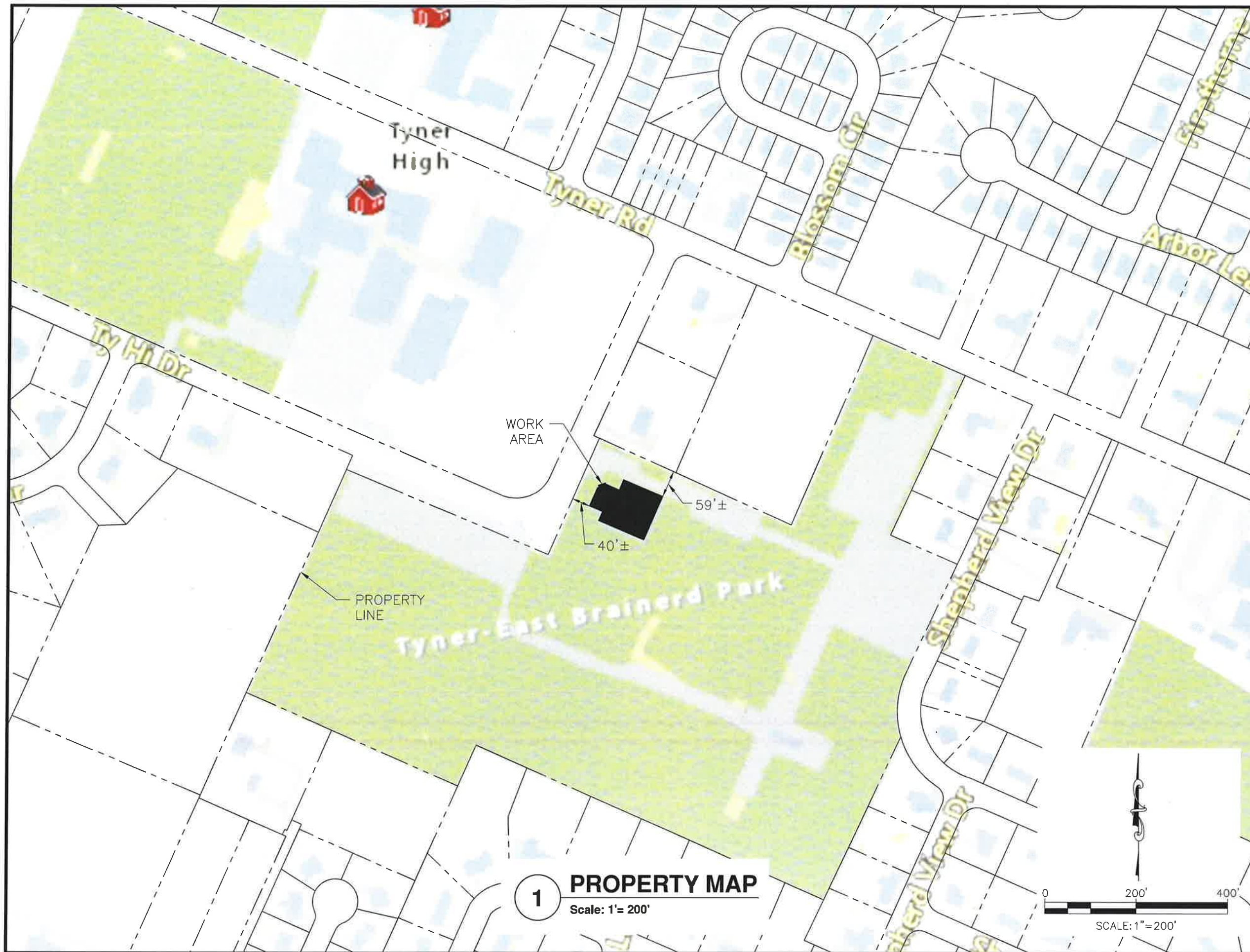
DESIGN:

CHECKED:

**PRELIMINARY
(SUBJECT TO
CHANGE)**

PROPERTY MAP

SHEET: 1 OF 4



1 PROPERTY MAP
Scale: 1" = 200'

DEVELOPMENT RESOURCE CENTER SECOND FLOOR MODIFICATION

1201 KING STREET
CHATTANOOGA, TN

ARTECH

ARTECH DESIGN GROUP, INC.
1410 COWART STREET
CHATTANOOGA, TN 37408
423.265.4313

		ISSUED			17/2019			2/1/2019			3/4/2019		
		INITIAL	ISSUE		ADDENDUM #1			ADDENDUM #2					
GENERAL	T1.1	COVER SHEET	X	X	X								
	T1.2	TECHNICAL INFORMATION	X	X									
ARCHITECTURAL	A1.1	SECOND FLOOR PLAN			X	X	X						
	A1.2	MISC. DETAILS			X	X							
MECHANICAL / ELECTRICAL	ME1-1	2ND. FLR. MESH. AND ELEC. PLAN					X						

ARTECH
ARCHITECTURE
& INTERIORS
ARTECH DESIGN GROUP, INC.
1410 COWART STREET
CHATTANOOGA, TN 37408
423.265.4313

**DEVELOPMENT RESOURCE CENTER
SECOND FLOOR MODIFICATION**
1201 KING STREET
CHATTANOOGA, TN 37403



ISSUE DATES

INITIAL ISSUE:	01-07-19
1. ADDENDUM #1	2/1/19
2. ADDENDUM #2	03-04-19
3.	
4.	
5.	
6.	
7.	
8.	

JOB NO. | DWN | CKD
19-003

T1.1
COVER SHEET

GENERAL DEMOLITION NOTES

- DO NOT SCALE DRAWINGS. DRAWINGS ARE REPRESENTATIVE OF THE GENERAL LAYOUT, SIZE, AND CONSTRUCTION OF WORK TO BE REMOVED. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND COMPOSITION OF WORK TO BE REMOVED BEFORE PROCEEDING. NOTIFY ARCHITECT IF DISCREPANCIES ARE ENCOUNTERED.
- ALL DEMOLITION SHALL BE INCLUDED IN THE CONTRACT. PORTIONS OF THE WORK ARE NOT SHOWN BUT CAN BE INFERRED OR ARE IMPLIED BY THE DRAWINGS SHALL BE A PART OF THE CONTRACT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE LIMITS OF DEMOLITION BASED UPON THE DRAWINGS. ANY QUESTIONS SHALL BE SUBMITTED PRIOR TO BIDDING.
- WHERE INDICATED REMOVE ALL FINISHES AND REPAIR / PREP SUBSTRATE TO ACCEPT NEW FINISHES AS REQUIRED.
- ALL STRUCTURAL COLUMNS, WALLS AND BEAMS ARE TO REMAIN UNLESS OTHERWISE NOTED. INFORMATION REGARDING EXISTING CONDITIONS IS INCOMPLETE AND MAY NOT BE ACCURATE. BEFORE REMOVING ANY WALLS, PORTIONS OF WALLS, OR COLUMNS OF ANY KIND, THE CONTRACTOR SHALL VERIFY SAID ELEMENT IS NOT STRUCTURAL IN NATURE AND / OR HOLDING UP FLOORS OR ROOF ABOVE. IF THERE IS ANY QUESTION WHETHER AN ELEMENT IS STRUCTURAL, CONTRACTOR SHALL NOTIFY ARCHITECT PRIOR TO REMOVAL.
- DASHED LINES INDICATE EXTENT OF DEMOLITION INCLUDING THE FOLLOWING:
 - PARTITIONS
 - CEILINGS, LIGHT FIXTURES, DIFFUSERS, GRILLES AND APPURTENANCES.
 - FLOOR FINISHES TO SUB-FLOOR INCLUDING BASE.
 - DOORS AND FRAMES.
 - CABINETS, MILLWORK, SHELVES ETC.
 - PLUMBING FIXTURES AND TOILET ACCESSORIES INCLUDING PARTITIONS.
 - EQUIPMENT.
- REFER TO MEP DRAWINGS AND SPECS FOR ADDITIONAL DEMOLITION OF MECHANICAL, ELECTRICAL AND PLUMBING.
- THE FACILITY BEING RENOVATED WILL REMAIN OCCUPIED AND IN USE DURING CONSTRUCTION. COORDINATE DISRUPTIVE WORK WITH THE OWNER 48 HOURS PRIOR TO COMMENCEMENT.
- PROVIDE DUST PROTECTION IN FACILITIES THAT ARE OCCUPIED DURING CONSTRUCTION
- PROVIDE ADEQUATE SAFETY MEASURES (BARRIERS, BARRICADES, ETC.) TO INSURE THE SAFETY OF THE PUBLIC.
- ALL WORK SHALL BE COORDINATED WITH THE OWNER AND PROVIDE AS LITTLE DISRUPTION AS POSSIBLE FOR FACILITIES THAT ARE OCCUPIED DURING CONSTRUCTION.
- COORDINATE AND VERIFY WITH THE OWNER BEFORE THE REMOVAL OF EQUIPMENT AND FURNITURE.
- ALL MATERIAL REMOVED FROM THE PROJECT SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL RULES, REGULATIONS AND LAWS.
- ALL WORK TO REMAIN, INCLUDING ADJACENT SPACES / BUILDINGS SHALL BE PROTECTED FROM DAMAGE AND DUST AT ALL TIMES.
- ALL WORK TO BE REMOVED BUT RE-USED SHALL BE PROPERLY STORED AND PROTECTED.
- DO NOT INTERRUPT EXISTING UTILITIES IN OCCUPIED FACILITIES UNLESS AUTHORIZED IN WRITING BY THE OWNER. IF INTERRUPTION IS ALLOWED, PROVIDE ALTERNATE TEMPORARY SERVICES ACCEPTABLE TO THE OWNER. CONTRACTOR SHALL COORDINATE UTILITY WORK 48 HOURS PRIOR TO ANY DEMOLITION WORK.
- CONTRACTOR IS TO FIELD VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR POSSIBLE CONFLICTS.
- INSTALL ALL MANUFACTURED ITEMS, MATERIALS AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDED SPECIFICATIONS. UNLESS OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWS, ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK.

DRAFTING SYMBOLS

COLUMN LINES

MAIN ROOF COLUMN NUMBERING SECONDARY COLUMN NUMBERING

DIMENSIONING

SYMBOL

TITLE	TITLE SYMBOL
SECTION SYMBOL section # X sheet # AX.X	
DETAIL SYMBOL detail # X sheet # AX.X	
ENLARGED DETAIL SYMBOL detail # X sheet # AX.X	
INTERIOR ELEVATION SYMBOL elevation # X sheet # AX.X	
EXTERIOR ELEVATION SYMBOL elevation # X sheet # AX.X	
VESTIBULE	
DOOR SYMBOL see door schedule	
WALL TYPES SYMBOL see wall/partition legend	
FINISH ELEVATION SYMBOL elevation number	
REVISION SYMBOL	

WALL LEGEND

WALL/PARTITION NOTES:

- REFER TO REFLECTED CEILING PLAN FOR PARTITIONS REQUIRED TO EXTEND AND SEAL TIGHT TO STRUCTURE ABOVE. ALL OTHER PARTITIONS SHALL EXTEND 6" ABOVE ADJACENT FINISHED CEILING HEIGHT.
- SPECIAL CONDITIONS AND SPECIAL PARTITIONS ARE INDICATED ON PLANS AND DETAILS.
- WALLS SHOWN WITH MORE THAN ONE INDICATOR SHALL CONTAIN ALL COMPONENTS OF THE WALL TYPES INDICATED.
- ALL INTERIOR STUD SPACING TO BE 16" UNLESS NOTED OTHERWISE.
- ALL PARTITIONS TO BE TYPE 1 UNLESS NOTED OTHERWISE.
- PROVIDE SOLID WOOD BLOCKING IN WALLS AT ALL TOILET ACCESSORY, DOOR STOP, SHELVING, AND MILLWORK, AS REQUIRED.
- ALL GYPSUM BOARD FROM FLOOR TO 6" ABOVE CEILING TO BE TAPED, SPACKLED, SANDED AND READY TO RECEIVE FINISH.
- PROVIDE MOISTURE RESISTANT GYPSUM BOARD ON WALL BEHIND AND/OR ADJACENT TO SERVICE SINKS AND DRINKING FOUNTAINS (MINIMUM 4'-0" X 4'-0") AS WELL AS ALL WALLS INSIDE TOILET ROOMS.
- ALL GYPSUM BOARD IN RESTROOMS TO BE TAPED, SPACKLED, SANDED AND READY TO RECEIVE PAINT.
- ALL PARTITIONS UNLESS NOTED OTHERWISE ARE TO HAVE FULL-DEPTH ACOUSTICAL INSULATION UP TO STRUCTURE OR TO HEIGHT OF ACOUSTICAL CEILING BLANKETS.

INDICATOR	CONSTRUCTION	DESCRIPTION
1		3.5/8" METAL STUDS 16" OC W/ ONE LAYER 5/8" GYPSUM WALL BOARD EACH SIDE W/ 3 1/2" SOUND BATT INSULATION

BUILDING CODE SUMMARY

NAME OF PROJECT: **DEVELOPMENT RESOURCE CENTER 2ND FLOOR MODIFICATION**
 ADDRESS: **1201 KING STREET, CHATTANOOGA, TN**
 PROPOSED USE: **BUSINESS**
 OWNER/CONTACT PERSON: **ERIC BOOKER** PHONE: **(423) 643-5800**
 CODE ENFORCEMENT JURISDICTION: **CHATTANOOGA, TN**

APPLICABLE CODES:

ARCHITECTURE: **2012 INTERNATIONAL BUILDING CODE WITH GA. AMENDMENTS**
 ELECTRICAL: **2017 NATIONAL ELECTRIC CODE**
 PLUMBING: **2012 INTERNATIONAL PLUMBING CODE WITH GA. AMENDMENTS**
 MECHANICAL: **2012 INTERNATIONAL MECHANICAL CODE WITH GA. AMENDMENTS**
 LIFE SAFETY: **2012 INTERNATIONAL FIRE CODE WITH GA. AMENDMENTS**
 GAS: **2012 INTERNATIONAL FUEL GAS CODE WITH GA. AMENDMENTS**
 ENERGY: **2012 INTL. ENERGY CONSERVATION CODE WITH GA. AMENDMENTS**
 BUILDING: **2012 INTERNATIONAL BUILDING CODE WITH GA. AMENDMENTS**

DESIGNER OF RECORD:

DESIGNER	NAME	LICENSE #	TELEPHONE #
ARCHITECT, P.C.	DAVID HUDSON	17137	(423) 265-4313
ELECTRICAL	PHILLIP PENNINGTON	017882	(423) 267-9718
MECHANICAL	PHILLIP PENNINGTON	017882	(423) 267-9718

BUILDING DATA: INTERIOR 2ND FLOOR ALTERATION

OCCUPANCY: RESIDENTIAL BUSINESS EDUCATIONAL RECREATIONAL INDUSTRIAL STORAGE

NEED OCCUPANCY: YES NO

CONSTRUCTION TYPE: I A I B II A II B III A III B IV A IV B

PERMITTED: YES NO

FIRE DISTRICT: YES NO

BUILDING HEIGHT: YES NO

MEZZANINE: YES NO

HIGH RISE: YES NO

GROSS BUILDING AREA: 1ST FLOOR = 27,000 S.F. +/-
 2ND FLOOR = 27,000 S.F. +/-
 3RD FLOOR = 27,000 S.F. +/-

TOTAL GROSS AREA: 81,000 S.F. +/-

AREA OF RENOVATION: 215 S.F. +/-

NEARBY: YES NO

EXIT REQUIREMENTS:

DEAD END LIMIT-MAXIMUM CONDITION: 20 FEET
 TRAVEL DISTANCE TO EXIT-MAXIMUM CONDITION: 300 FEET

GENERAL CONSTRUCTION NOTES

- WHERE A DETAIL IS SHOWN OR NOTE IS DESCRIBED FOR ONE CONDITION IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS.
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS AFFECTING THIS PROJECT PRIOR TO FABRICATION OR INSTALLATION OF NEW WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES FROM DIMENSIONS SHOWN, NOTED OR REQUIRED. ADJUST DIMENSIONS OF NEW CONSTRUCTION AT DIRECTION OF ARCHITECT TO ALLOW FOR ACTUAL FIELD DIMENSIONS.
- PROVIDE OPENINGS WITH LINTELS OR HEADERS IN WALLS / PARTITIONS AS REQUIRED FOR MECHANICAL, ELECTRICAL AND PLUMBING WORK.
- PROVIDE WOOD BLOCKING AS REQUIRED IN WALLS FOR ALL WALL MOUNTED CASEWORK, SHELVES, EQUIPMENT, ACCESSORIES, AND AS INDICATED FOR INSTALLATION OF EQUIPMENT BY OTHERS.
- WOOD BLOCKING AND/OR NAILERS ARE GENERALLY SHOWN IN A GENERIC FASHION - CONTRACTOR MUST COORDINATE EXACT BLOCKING REQUIREMENTS WITH COMPONENT MANUFACTURER'S SUGGESTIONS OR STANDARDS, AND WITH OTHER TRADES.

CONTACT LIST

OWNER: City of Chattanooga
 1201 King St.
 Chattanooga, TN 37403
 Telephone: (423) 643-5800
 Contact: Eric Booker

ARCHITECT: Artech Design Group, Inc.
 1410 Cowart Street
 Chattanooga, TN 37408
 Telephone: (423) 643-0617
 Contact: Mark Wynne
 Email: markw@artechdgn.com

ENGINEERS: Campbell and Associates
 1401 Carter St. Suite 100
 Chattanooga, TN 37402
 Telephone: (423) 267-9718
 Contact: Phillip Pennington

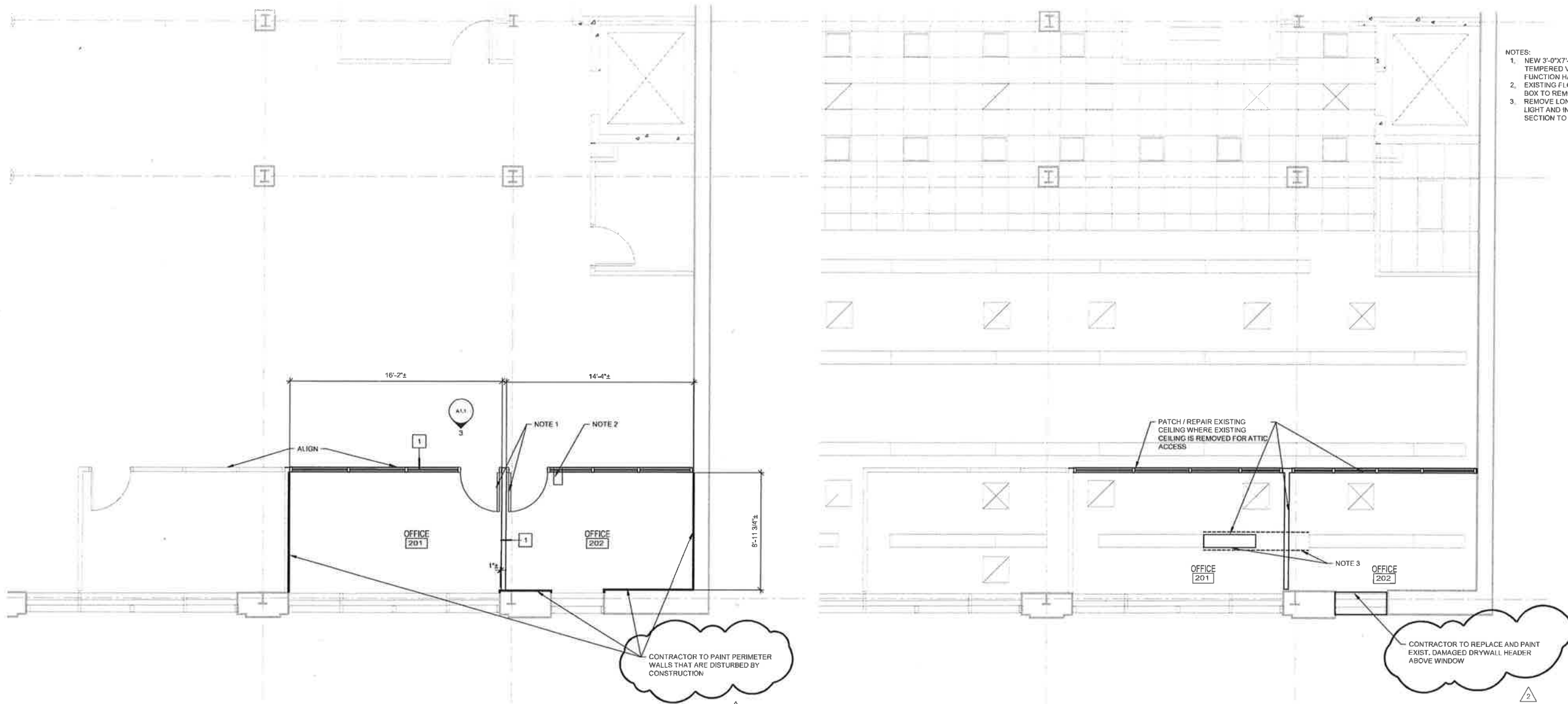
VICINITY MAP



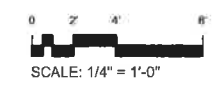
**DEVELOPMENT RESOURCE CENTER
 SECOND FLOOR MODIFICATION**

1201 KING STREET
 CHATTANOOGA, TN 37403

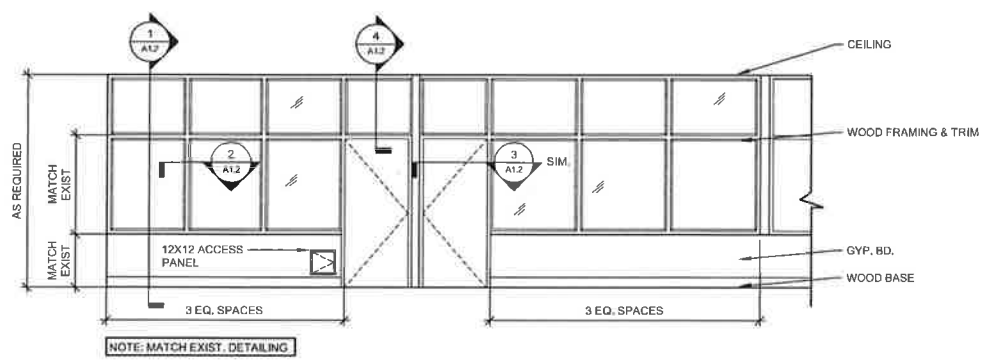
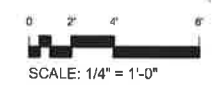
- NOTES:
1. NEW 3'-0"x7'-0" S.C. WD DOOR WITH FULL TEMPERED VIEW LITE AND OFFICE FUNCTION HARDWARE. MATCH EXIST.
 2. EXISTING FLOOR MOUNTED POWER/DATA BOX TO REMAIN. SEE ELECTRICAL.
 3. REMOVE LONG SECTION OF PENDANT LIGHT AND INSTALL NEW SHORTER SECTION TO MATCH EXISTING. SEE ELEC.



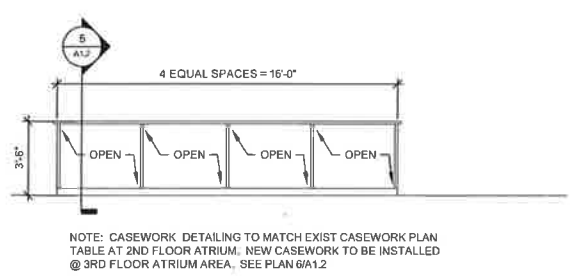
1 SECOND FLOOR MODIFICATION PLAN
 SCALE: 1/4" = 1'-0"



2 SECOND FLOOR REFLECTED CEILING PLAN
 SCALE: 1/4" = 1'-0"

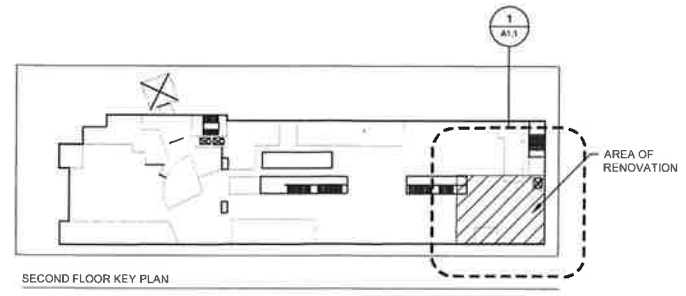


3 GLAZED WALL ELEVATION
 SCALE: 1/4" = 1'-0"



4 CASEWORK ELEVATION
 SCALE: 1/4" = 1'-0"

NOTE: CASEWORK DETAILING TO MATCH EXIST CASEWORK PLAN TABLE AT 2ND FLOOR ATRIUM. NEW CASEWORK TO BE INSTALLED @ 3RD FLOOR ATRIUM AREA. SEE PLAN @A1.2

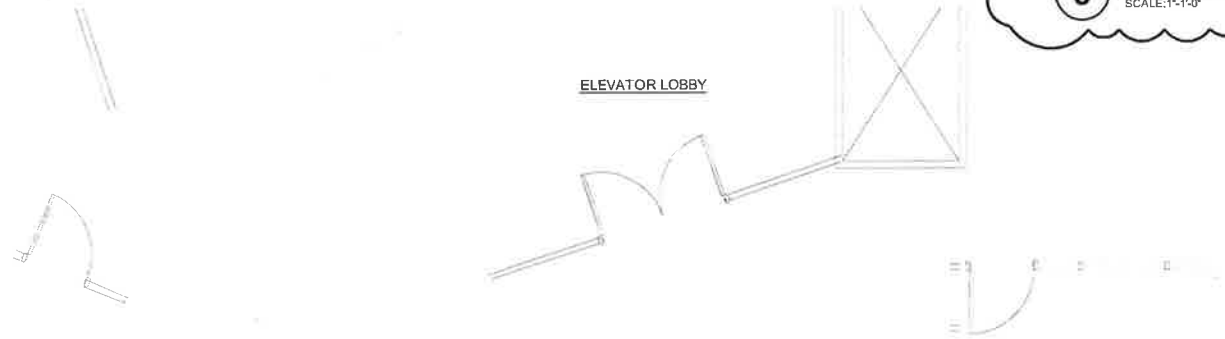
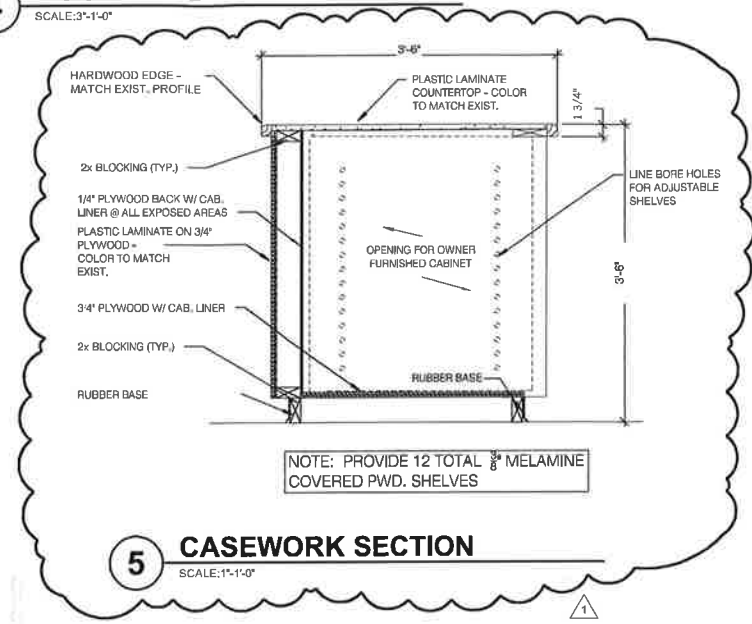
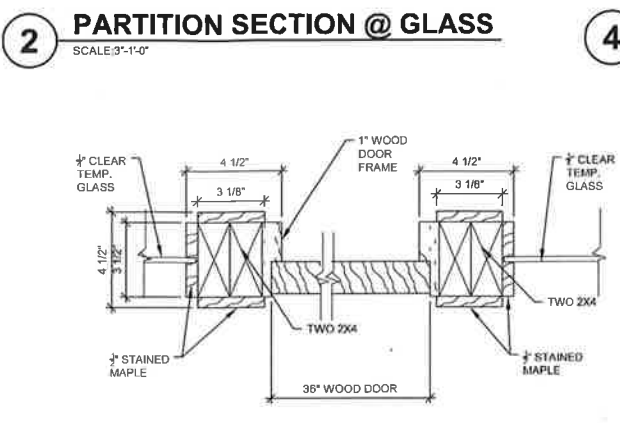
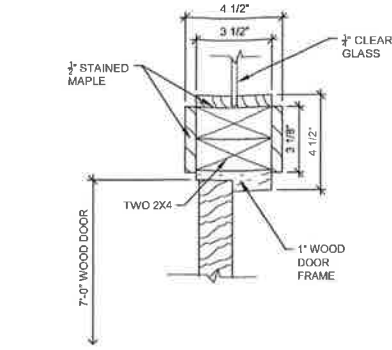
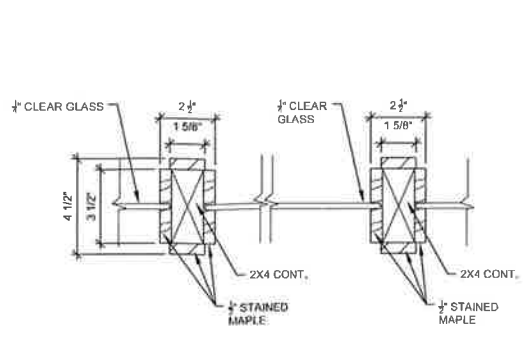
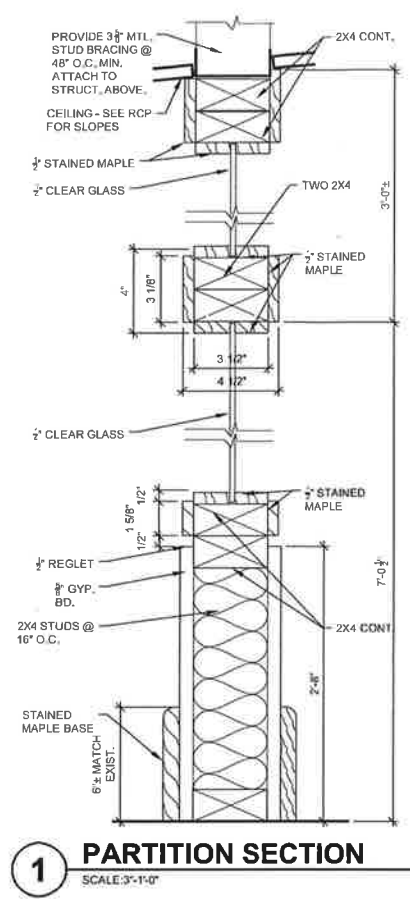


SECOND FLOOR KEY PLAN

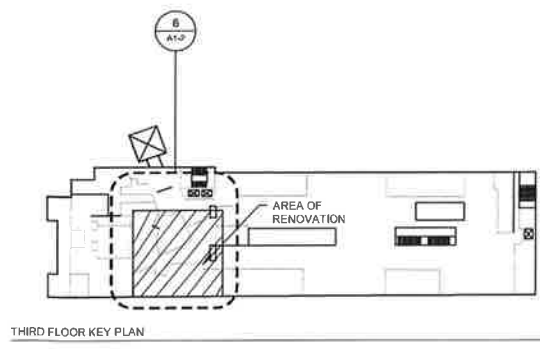
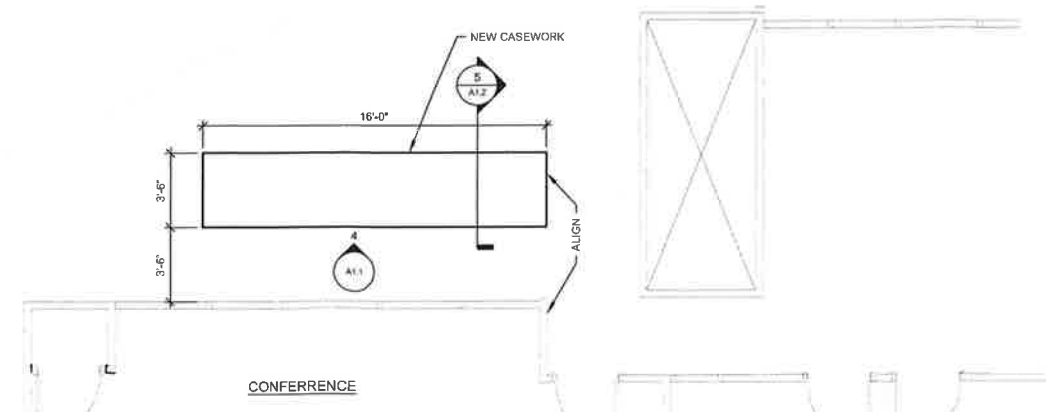


- ISSUE DATES
- INITIAL ISSUE: 01-07-19
 - 1. ADDENDUM #1 2-1-19
 - 2. ADDENDUM #2 03-04-19
 - 3.
 - 4.
 - 5.
 - 6.
 - 7.
 - 8.

DEVELOPMENT RESOURCE CENTER
SECOND FLOOR MODIFICATION
 1201 KING STREET
 CHATTANOOGA, TN 37403

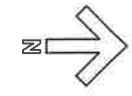


OPEN ATRIUM LOBBY CONFERENCE



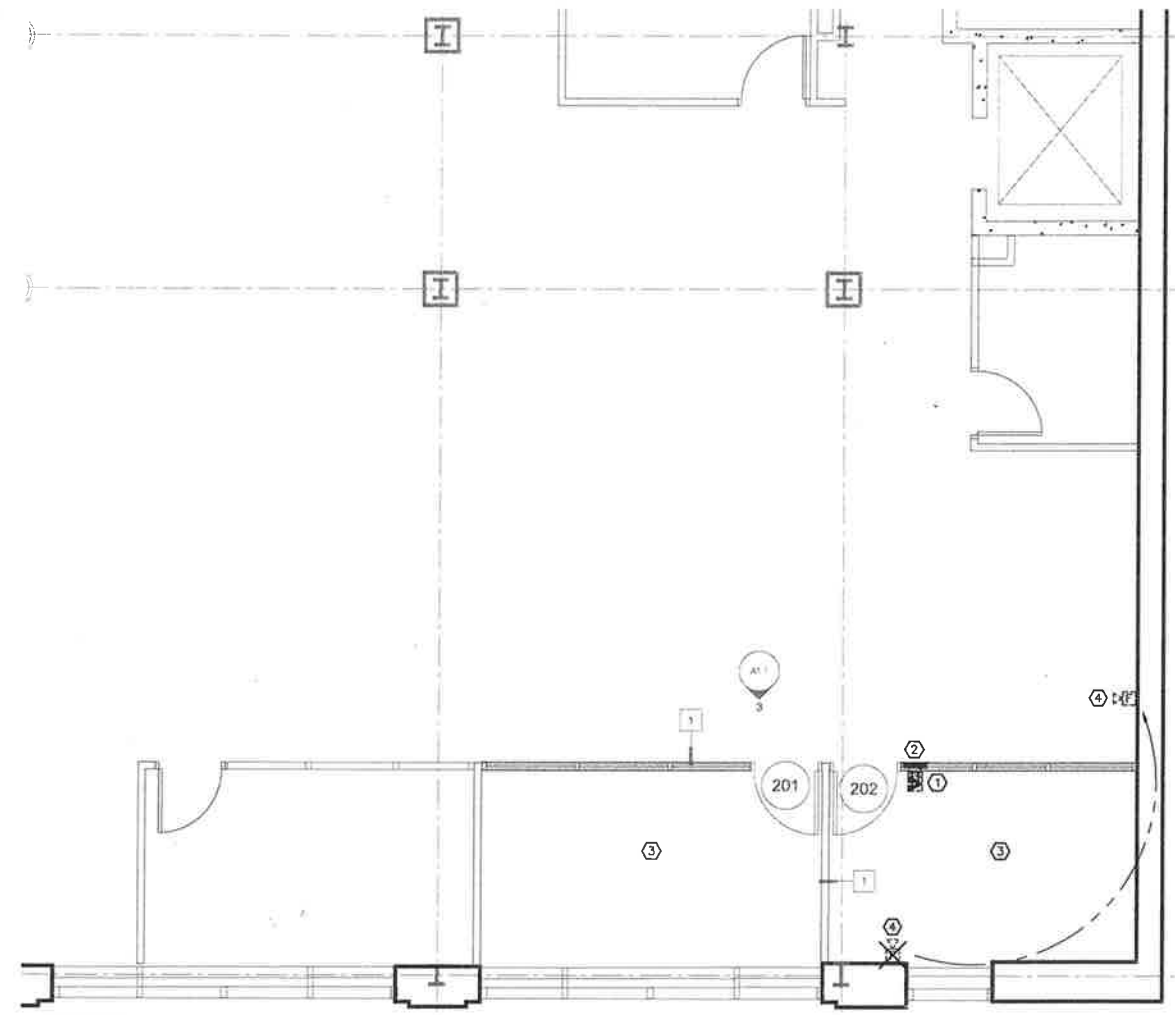
ISSUE DATES
 INITIAL ISSUE: 01-07-19
 1. ADDENDUM #1 2-1-19
 2.
 3.
 4.
 5.
 6.
 7.
 8.

JOB NO. DWN CKD
 19-003
A1-2
 MISC. DETAILS



**DEVELOPMENT RESOURCE CENTER
 SECOND FLOOR MODIFICATION**

1201 KING STREET
 CHATTANOOGA, TN 37403



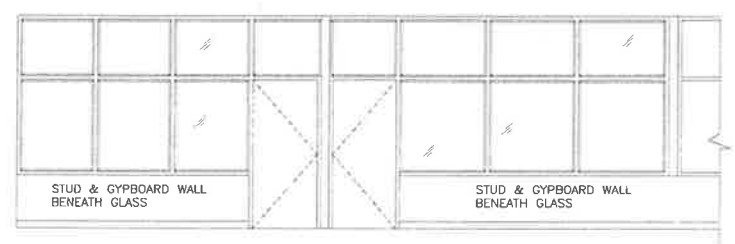
SHEET NOTES:

1. EXISTING POWER & DATA UNDERFLOOR CELLULAR ACTIVATION BOX (ONE DUPLEX RECEPTACLE ON CIRCUIT 'A2-10' & DATA JACKS) IS ON/AT NEW WALL. G.C. IS PROVIDING ACCESS PANEL TO ACCESS THIS BOX FROM OUTSIDE OFFICE TO POWER RELOCATED MODULAR FURNITURE WORKSTATION (SEE ITEM #2 BELOW.)
2. RELOCATED MODULAR FURNITURE WORKSTATION OUTSIDE OFFICE IS FED FROM EXISTING POWER & DATA CELLULAR UNDERFLOOR ACTIVATION BOX (ONE DUPLEX RECEPTACLE ON CIRCUIT 'A2-10' & DATA JACKS) VIA NEW ACCESS PANEL (SEE ARCHITECTURAL SHEETS FOR DETAILS.)
3. MODULAR FURNITURE WORKSTATION INSIDE OFFICE RECEIVES POWER & DATA FROM EXISTING-TO-REMAIN POWER & DATA CELLULAR UNDERFLOOR ACTIVATION BOX (ONE DUPLEX RECEPTACLE & DATA JACK, TYPICAL FOR EACH OFFICE.)
4. RELOCATE EXISTING FIRE ALARM SYSTEM NOTIFICATION APPLIANCE FROM INSIDE NEW OFFICE TO OUTSIDE OFFICE TO BE VISIBLE TO OPEN OFFICE AREA.

ELECTRICAL SPECIFICATIONS:

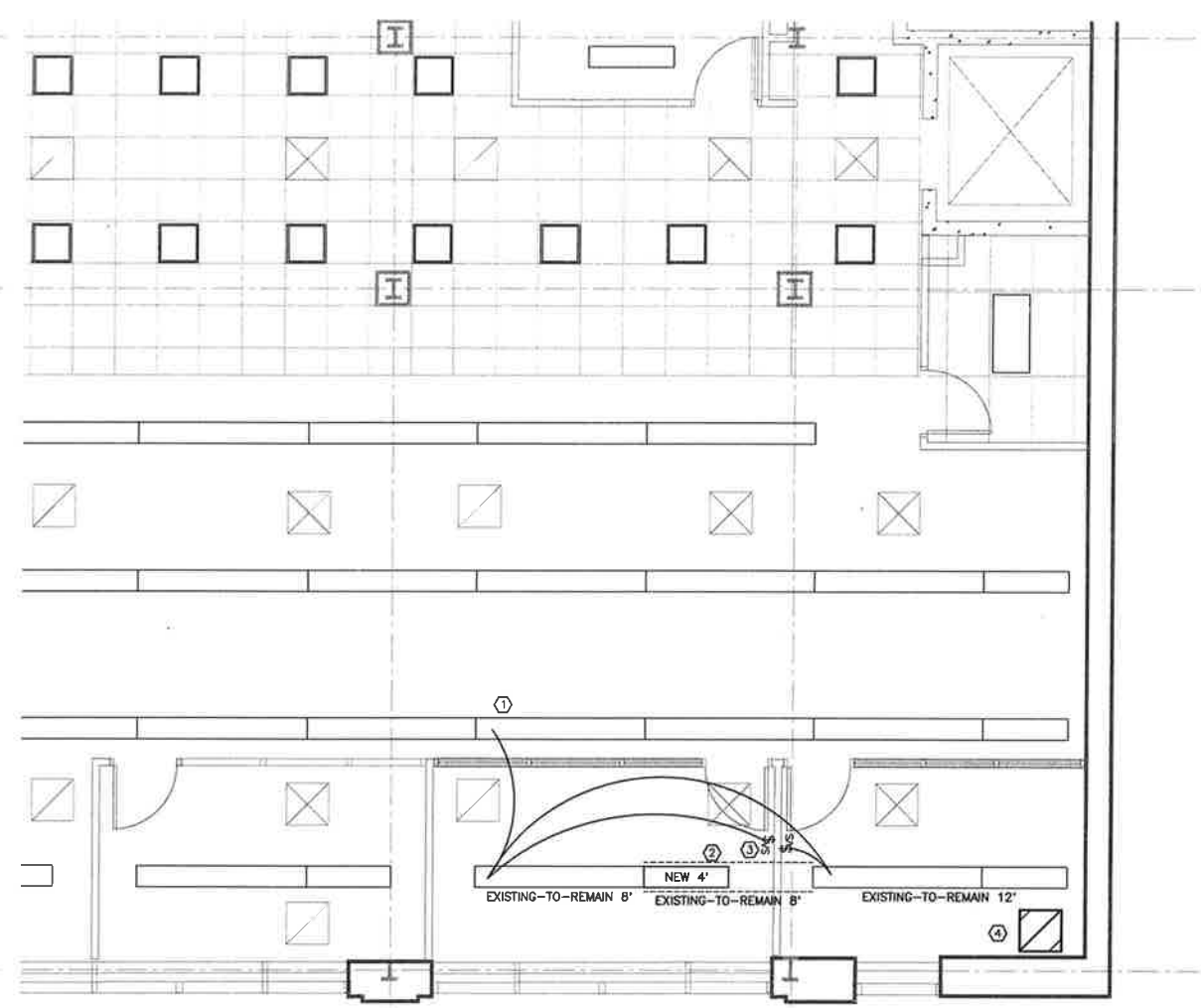
1. ALL WORK IS TO COMPLY WITH THE NEC 2018 & ALL OTHER APPLICABLE CODES.
2. ALL CIRCUITS ARE TO BE #10 w/GND "MC" CABLE AS REQUIRED TO FISH THRU WALLS.
3. ALL RECEPTACLES ARE TO BE SPEC GRADE 20A DEVICES TO MATCH EXISTING.
4. ALL DATA BOX COVERPLATES ARE TO MATCH EXISTING MANUFACTURER/MODEL, WITH SIZE & FINISH TO MATCH RECEPTACLE COVERPLATES.
5. ALL CAT6 CABLE IS TO BE PLENUM RATED, HUBBELL OR APPROVED EQUAL.
6. CONTRACT WITH OWNER'S APPROVED FIRE ALARM VENDOR TO RELOCATE DEVICE.
7. NEW LIGHTING SECTION IS TO BE SAME MANUFACTURER, MODEL & FINISH AS EXISTING. NEW LIGHTING ENDCAPS ARE TO MATCH EXISTING.
8. NEW WALL OCC SENSOR SWITCHES ARE TO BE DUAL TECHNOLOGY w/INTELLIGENT IR & EITHER ULTRASONIC OR MICROPHONIC, CAPABLE OF SENSING MINOR MOTION (e.g. TYPING) AT FAR END OF ROOM.
9. CONTRACTORS MUST MAKE A DETAILED SITE VISIT BEFORE BIDDING TO DETERMINE EXISTING CONDITIONS. SCHEDULE VISITS WITH ERIC BOOKER (423-643-6185, EBooker@CHATTAHOOGA.GOV).

1 SECOND FLOOR MODIFICATION PLAN
 18x11-0



NOTE: MATCH EXIST. DETAILING

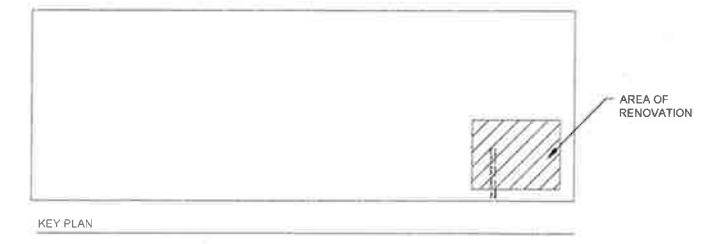
3 STOREFRONT ELEVATION (SHOWN FOR GUIDANCE TO CONSTRUCTION TYPE)
 18x11-0



SHEET NOTES:

1. MODIFY EXISTING CIRCUIT TO CONNECT LIGHTS IN NEW OFFICES TO EXISTING LIGHTING CIRCUIT AHEAD OF ALL SWITCHING.
2. AREA HAS AN EXISTING 28' RUN OF LINEAR DIRECT/INDIRECT LIGHTING. REMOVE SECTION WHICH CROSSES NEW OFFICE DEMISING WALL & ADD NEW 4' SECTION (TO MATCH EXISTING) TO OFFICE AS SHOWN SO THAT EACH NEW OFFICE HAS A 12' RUN OF LINEAR DIRECT/INDIRECT LIGHTING. PROVIDE TWO NEW ENDCAPS & ONE NEW POWER FEED (TO MATCH EXISTING) TO BREAK LIGHTING INTO TWO SEPARATE, FINISHED RUNS. TURN OVER REMOVED SECTION TO OWNER FOR REPLACEMENT STOCK.
3. IN EACH NEW OFFICE, PROVIDE NEW WALL MOUNTED MANUAL ON/OFF OCC SENSOR SET FOR VACANCY SENSOR OPERATION (i.e. MANUAL ON, MANUAL OR AUTO OFF.)
4. PROVIDE NEW FLUSH 24"x24" EGG CRATE RETURN GRILL (TO MATCH EXISTING) AS SHOWN TO ALLOW RETURN AIR INTO RETURN PLENUM.

2 SECOND FLOOR REFLECTED CEILING PLAN
 18x11-0



KEY PLAN



ISSUE DATES
 INITIAL ISSUE: 01-07-19
 1. ADDENDUM #2 3/4/19
 2.
 3.
 4.
 5.
 6.
 7.
 8.

JOB NO 19-003 | D'WN | CKD
 MDW | PMP
ME1-1
 2nd FLOOR MECHANICAL & ELECTRICAL PLAN



City of Chattanooga
Department of Public Works

John A. Patten Rec Center

Renovations to the 2nd Floor

City of Chattanooga Contract No. Y-17-017-201

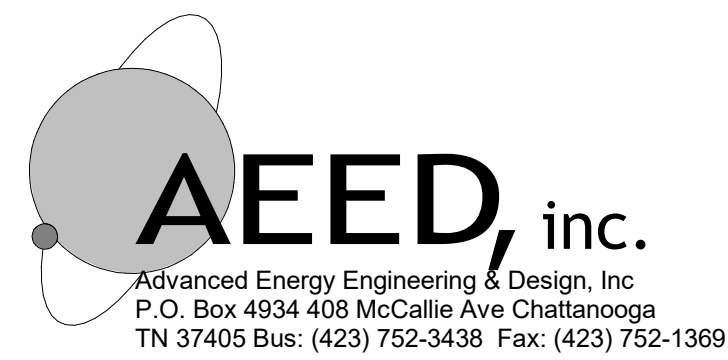
ARCHITECT:



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v: 423.266.1207 f: 423.266.1216

MEP ENGINEER:



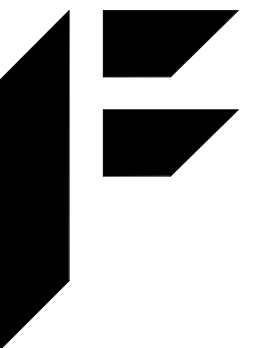
AEED, inc.

Advanced Energy Engineering & Design, Inc.
P.O. Box 4934 408 McCallie Ave Chattanooga
TN 37405 Bus: (423) 752-3438 Fax: (423) 752-1369

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A200	DOOR & ROOM FINISH SCHEDULES
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P001	COVER SHEET
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E101	LIGHTING & POWER PLANS

Construction Documents



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Chattanooga, TN 37405
v: 423.266.1207 f: 423.266.1216

In association with:



John A. Patten Rec Center

Renovations to the
2nd Floor

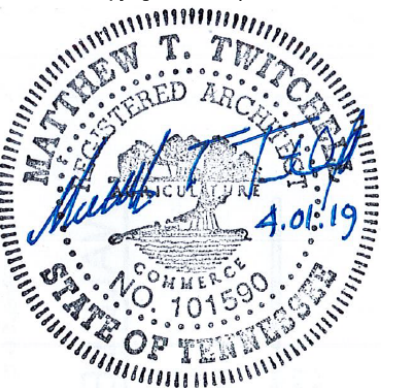
City of Chattanooga Contract No.
Y-17-017-201

at

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Chattanooga, TN 37419

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ABBREVIATIONS

ABV	ABOVE	HGT	HEIGHT
ACT	ACOUSTICAL CEILING TILE	HM	HOLLOW METAL
AL	ALUMINUM	HORIZ	HORIZONTAL
BD	BOARD	MATL	MATERIAL
BLK	BLOCK	NIC	NOT INCLUDED IN CONTRACT
BRK	BRICK	PRE	PREFINISHED
CER	CERAMIC	PLAM	PLASTIC LAMINATE
CLG	CEILING	PNT	PAINT
CL	CENTERLINE	PT	PORCELAIN TILE
CMU	CONCRETE MASONRY UNITS	PWD	PLYWOOD
CO	CASED OPENING	QT	QUARRY TILE
COL	COLUMN	REIN	REINFORCEMENT
CONC	CONCRETE	RB	RUBBER BASE
CONT	CONTINUOUS	ST	STAIN
CPT	CARPET	SV	SHEET VINYL
CT	CERAMIC TILE	TBS	TO BE SELECTED
EIFS	EXTERIOR INSULATION & FINISH SYSTEM	TYP	TYPICAL
EXG	EXISTING	UNO	UNLESS NOTED OTHERWISE
EXP	EXPOSED	VCT	VINYL COMPOSITION TILE
FEC	FIRE EXTINGUISHER CABINET	WD	WOOD
FRP	FIBERGLASS REINFORCED PANEL	VERT	VERTICAL
GWB	GYPSUM WALLBOARD	WWF	WELDED WIRE FABRIC
GYP	GYPSUM		

TYPICAL NOTES:
DIMENSIONS ARE FROM FACE OF MASONRY OR CONCRETE WALLS, TO OUTSIDE
FACE OF EXTERIOR STUD OF EXTERIOR WALLS, AND FACE OF STUD (ONE SIDE
ONLY) OF INTERIOR STUD WALLS. OPENINGS IN STUD WALLS ARE DIMENSIONED TO
CENTER OF OPENING. OPENINGS IN MASONRY WALLS ARE DIMENSIONED TO
MASONRY OPENING.

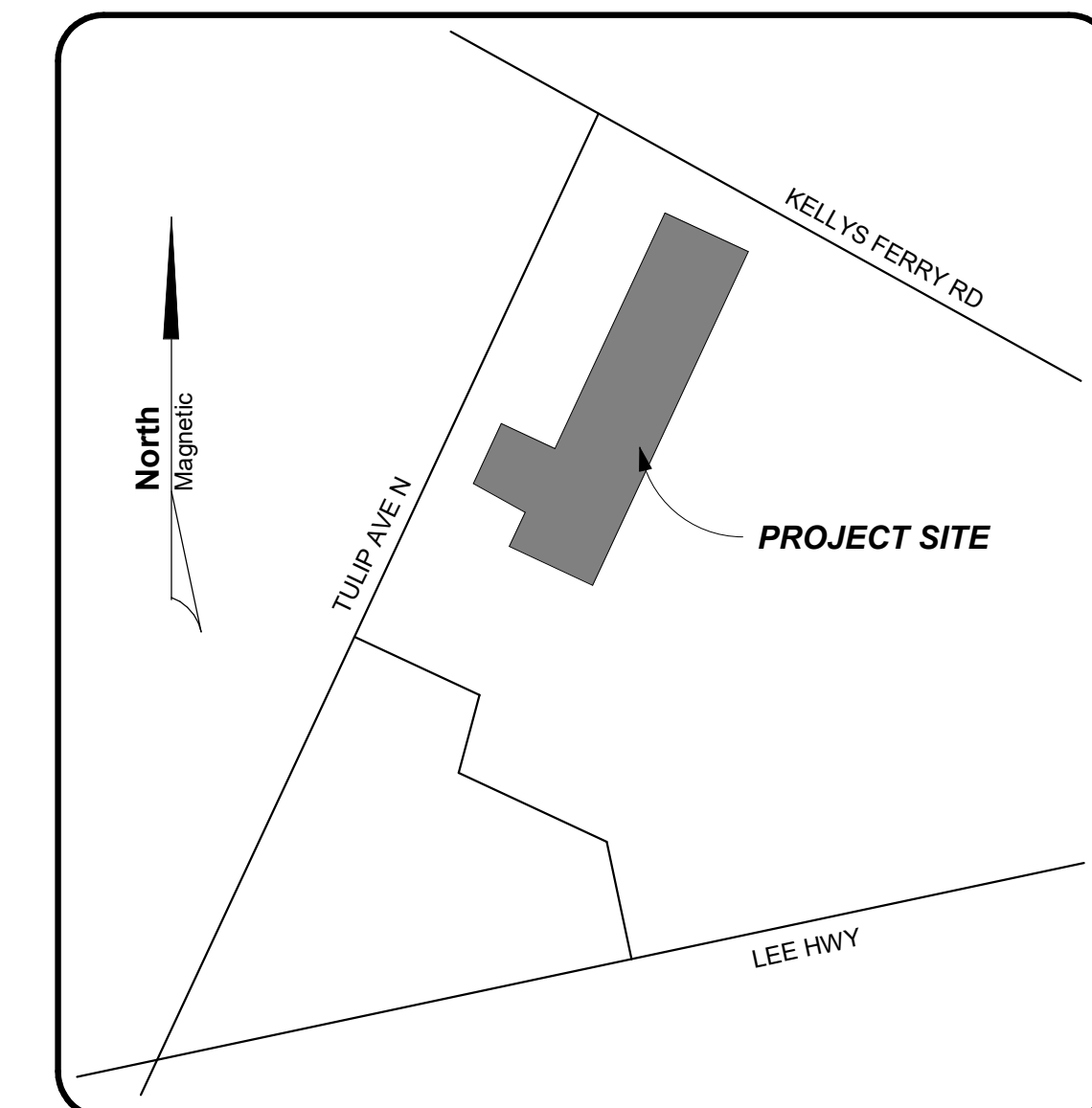
MATERIALS

	BRICK
	CMU
	STEEL
	BATT INSULATION
	RIGID INSULATION
	WOOD, FINISH
	WOOD, ROUGH FRAMING
	PLYWOOD
	CONCRETE
	ASPHALT PAVING
	GYPSUM BOARD
	STONE
	EARTH
	CRUSHED STONE

REFERENCE SYMBOLS

NAME	SYMBOL	DESCRIPTION	NAME	SYMBOL	DESCRIPTION
BUILDING SECTION MARK		DRAWING NUMBER	WINDOW TAG		WINDOW TYPE
		SHEET NUMBER	STOREFRONT TAG		STOREFRONT TYPE
WALL SECTION MARK		DRAWING NUMBER	CURTAIN WALL TAG		CURTAIN WALL TYPE
		SHEET NUMBER	HEIGHT INDICATION		HEIGHT ABOVE FINISH FLOOR
EXTERIOR ELEVATION MARK		DRAWING NUMBER	SIGNAGE TAG		SIGNAGE TYPE
		SHEET NUMBER	TOILET ACCESSORY TAG		ACCESSORY TYPE
INTERIOR ELEVATION MARK		DRAWING NUMBER	CASEWORK TAG		CASEWORK TYPE
		SHEET NUMBER	CEILING TAG		CEILING TYPE
ENLARGED DRAWING/DETAIL TAG		DRAWING NUMBER	FINISH INDICATION		FINISH ABBREVIATION
		SHEET NUMBER	ROOM TAG		ROOM NAME
		ROOM NUMBER	DOOR TAG		DOOR NUMBER
		PARTITION TYPE	WALL TAG		WALL TYPE
		REVISION NUMBER	REVISION TAG		REVISION NUMBER
					MARKERBOARD
					TACKBOARD
					SMART BOARD
					WIDTH IN FEET

VICINITY MAP



Sheet Information

Date 04/01/19
Job No. 6944.01

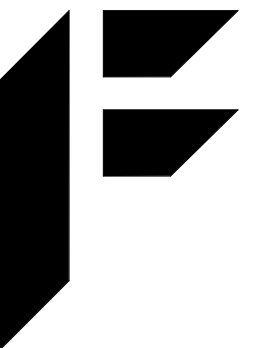
Title

GENERAL

COVER SHEET

Sheet

G000



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Job No.	6944.01

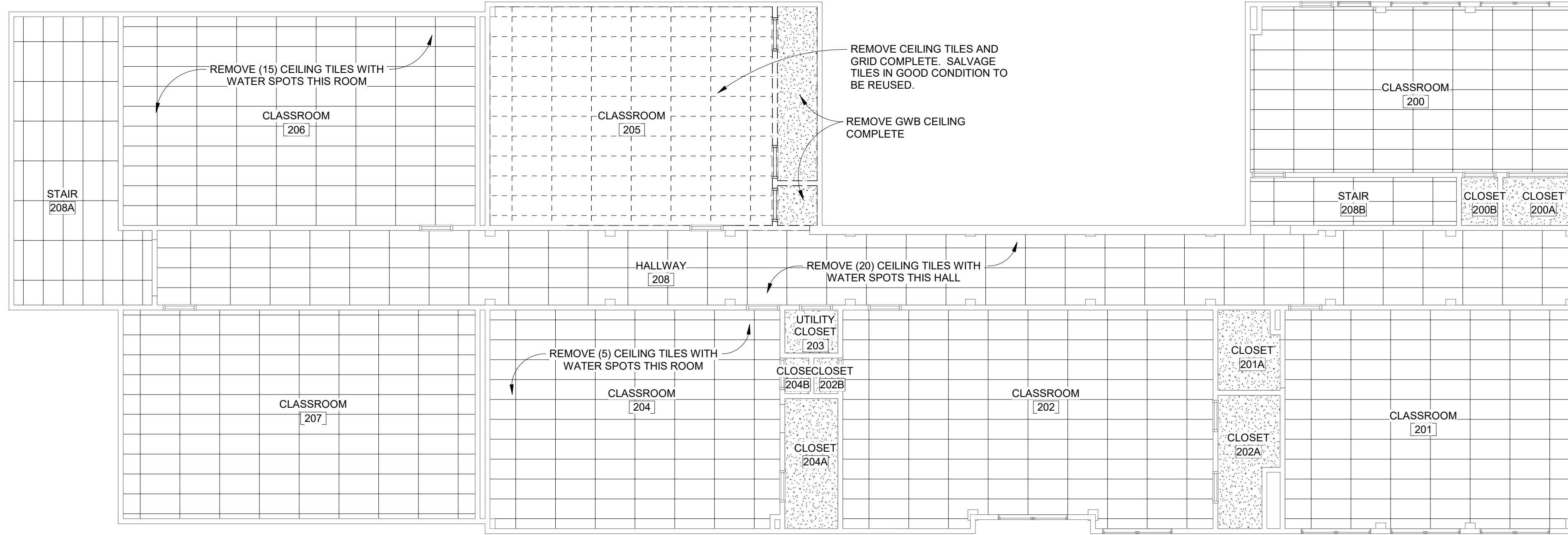
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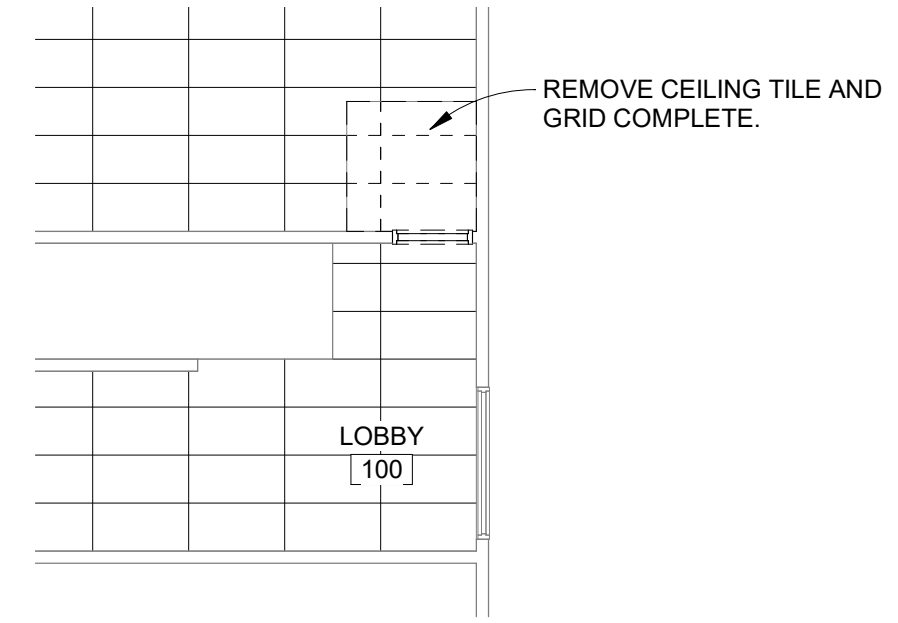
DEMOLITION PLANS

Sheet

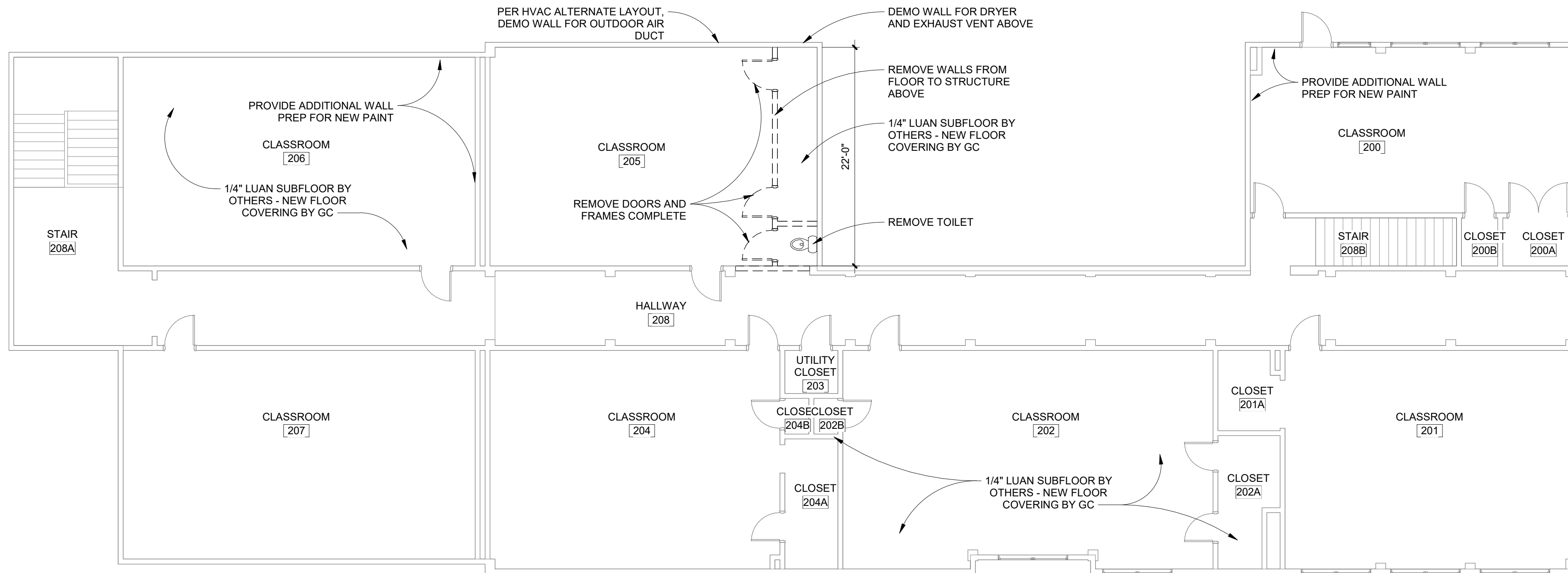
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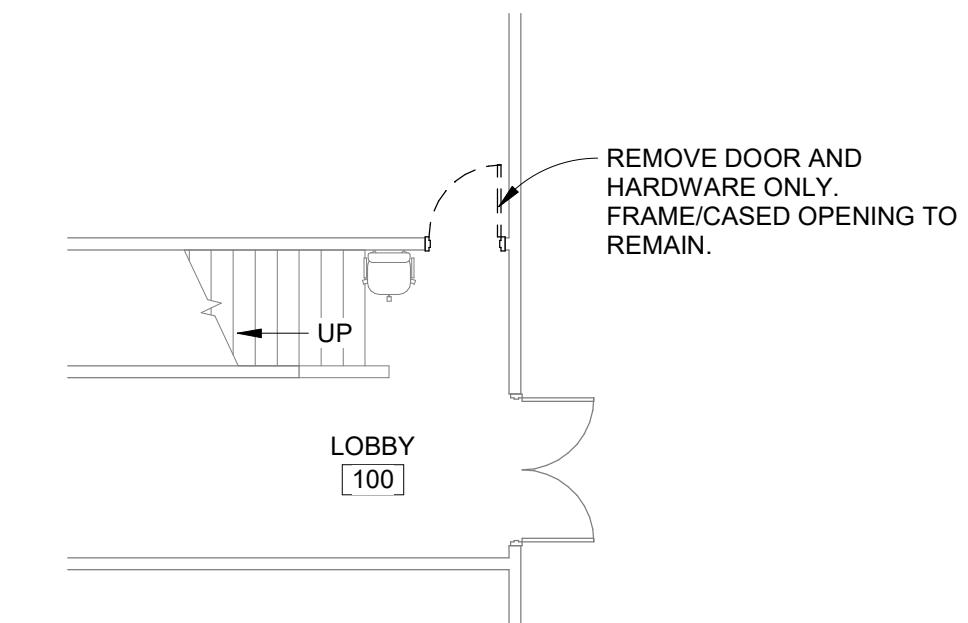
1 DEMOLITION CEILING PLAN - LEVEL 2
SCALE: 1/8" = 1'-0"



2 DEMOLITION CEILING PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

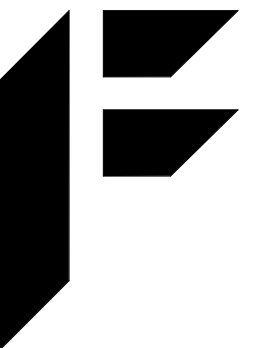


3 DEMOLITION FLOOR PLAN - LEVEL 2
SCALE: 1/8" = 1'-0"



4 DEMOLITION FLOOR PLAN - LEVEL 1
SCALE: 1/8" = 1'-0"

Last Plotted: 4/22/2019 3:56:44 PM



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Date 04/01/19

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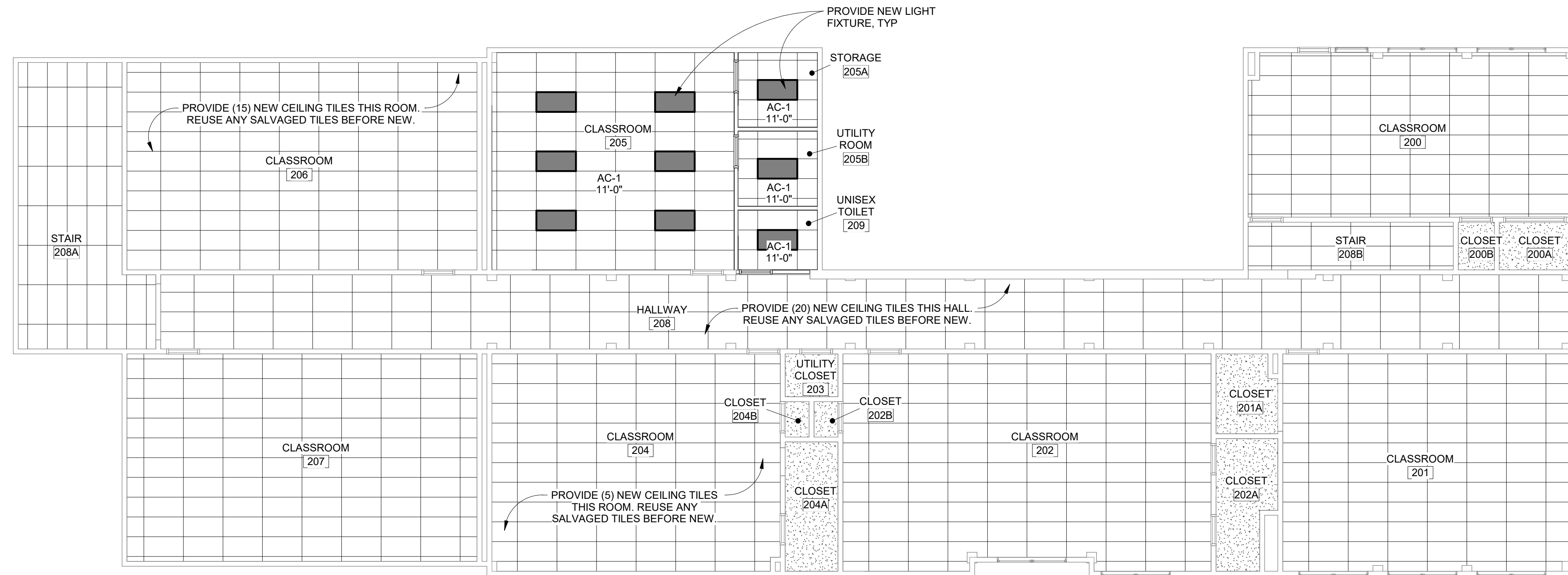
Title

ARCHITECTURAL

NEW WORK PLANS

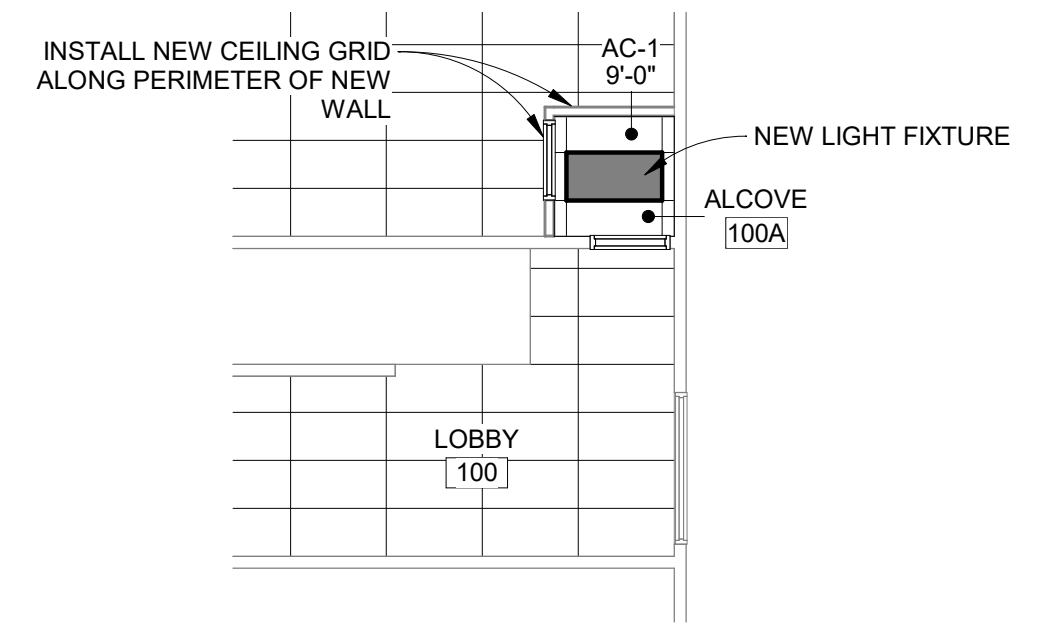
Sheet

A101



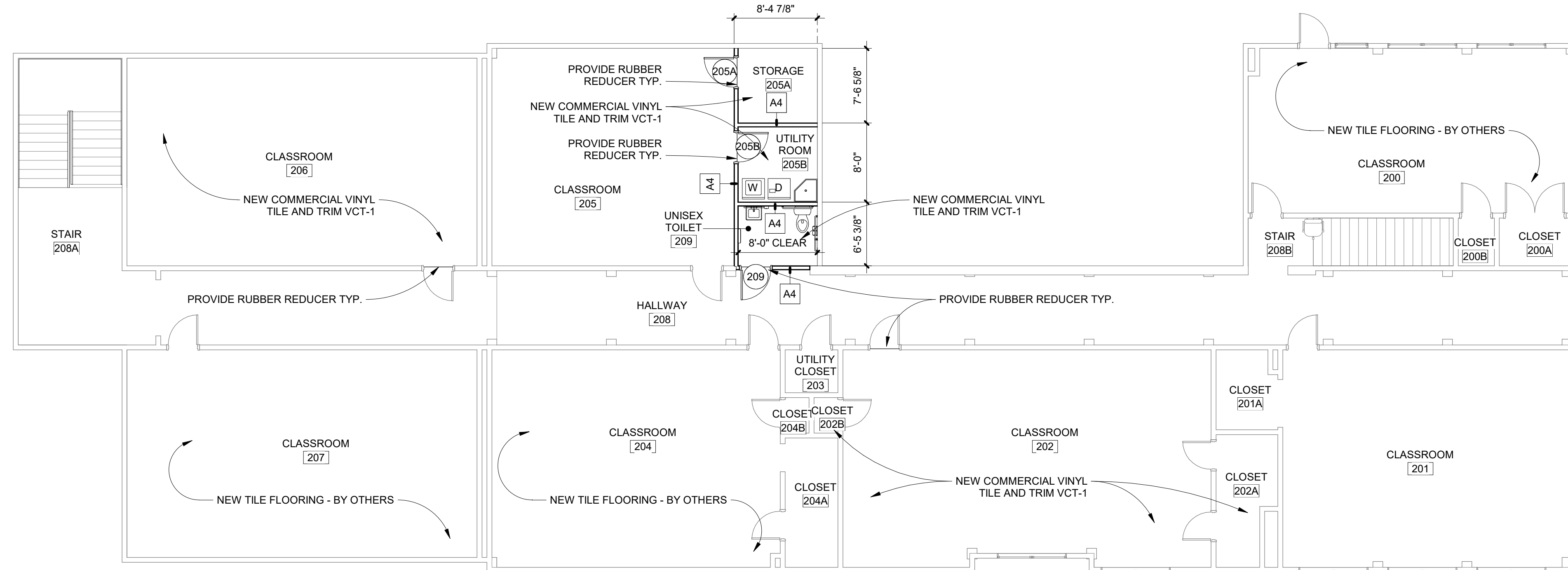
1 NEW CEILING PLAN - LEVEL 2

SCALE: 1/8" = 1'-0"



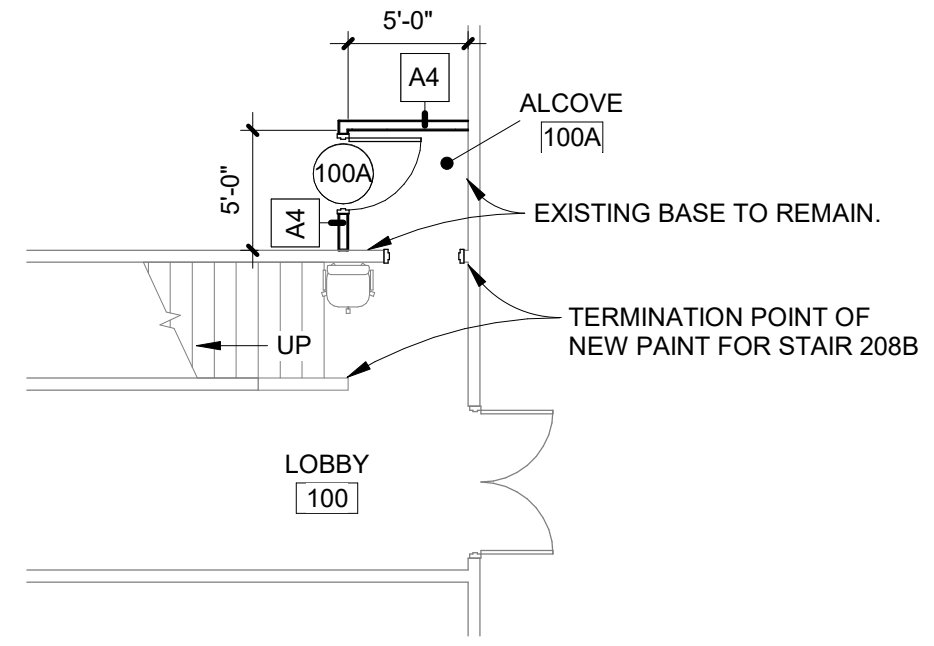
2 NEW CEILING PLAN - LEVEL 2

SCALE: 1/8" = 1'-0"



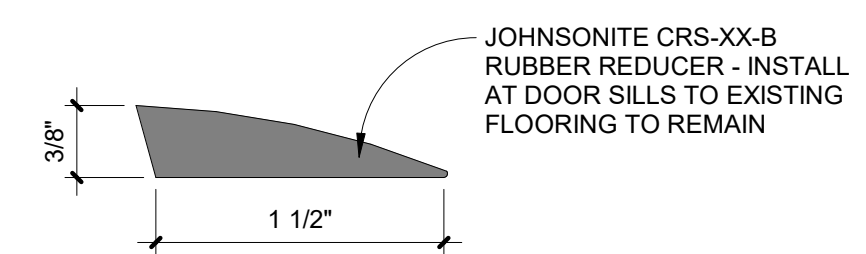
3 NEW FLOOR PLAN - LEVEL 2

SCALE: 1/8" = 1'-0"



4 NEW FLOOR PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"

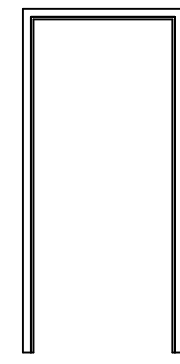


5 RUBBER REDUCER

SCALE: 12" = 1'-0"

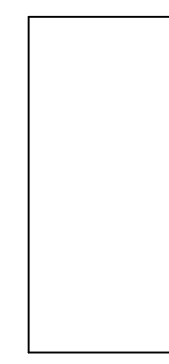
Last Plotted: 4/22/2019 3:56:45 PM

DOOR SCHEDULE													
NUMBER	DOOR						FRAME			HARDWARE			
	TYPE	MATERIAL	FINISH	PAIR	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	FIRE RATING	SET	REMARKS
100A	A	SCW	PRE	-	3'-0"	7'-0"	1 3/4"	F1	HM	PNT	-	1	LOCKSET
205A	A	SCW	PRE	-	3'-0"	7'-0"	1 3/4"	F1	HM	PNT	-	1	LOCKSET
205B	A	SCW	PRE	-	3'-0"	7'-0"	1 3/4"	F1	HM	PNT	-	1	LOCKSET
209	A	SCW	PRE	-	3'-0"	7'-0"	1 3/4"	F1	HM	PNT	-	2	PRIVACY



F1 - HM - PNT

DOOR FRAME TYPES

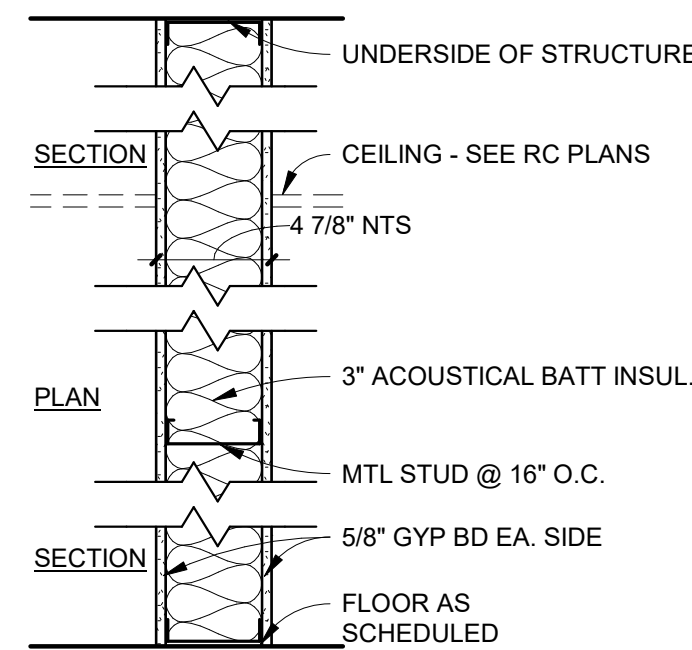


A - FLUSH - WD - STN

DOOR TYPES

DOOR HARDWARE LEGEND

Hardware #1			
Description: Office			
3	Hinge	TA2714 4-1/2" x 4-1/2"	US26D MK
1	Cylindrical Lock (Office)	ML 2051	626 CR
1	Kick Plate	K1050 10" x L.A.R. 4BE CSK	US32D RO
1	Door Stop	Wall - Floor - OH as required	US32D RO
3	Silencer	608	RO
Hardware #2			
Description: Toilets (w/ occupied indicator)			
3	Hinge	TA2714 4-1/2" x 4-1/2"	US26D MK
1	Cylindrical Lock (Office)	ML 2020	626 CR
1	Kick Plate	K1050 10" x L.A.R. 4BE CSK	US32D RO
1	Mop Plate	K1050 4" x L.A.R. 4BE CSK	US32D RO
1	Door Stop	Wall - Floor - OH as required	US32D RO
3	Silencer	608	RO



1 WALL TYPE A4
SCALE: 1" = 1'-0"

FINISH LEGEND AND NOTES

VINYL COMPOSITION TILE (VCT-1)
ARMSTRONG, STANDARD EXCELON IMPERIAL TEXTURE, 12" X 12", COLOR TO MATCH EXISTING

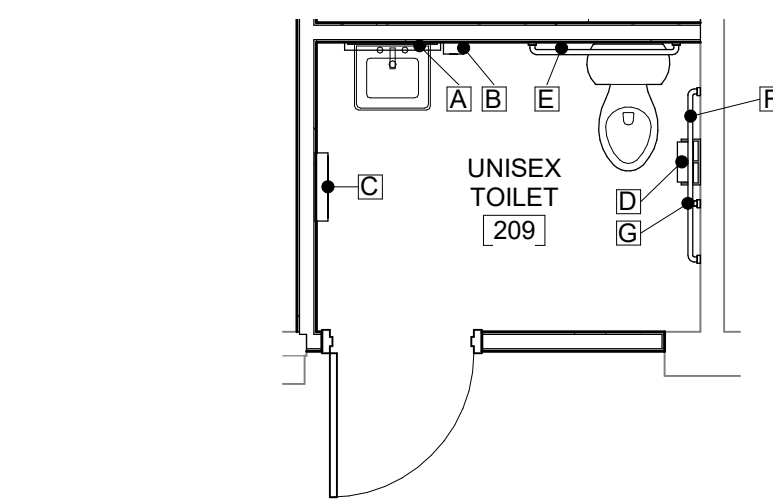
RESILIENT BASE (RB-1)
JOHNSONITE, BASEWORKS, 4"H COVE, COLOR: 20 CHARCOAL

TRANSITION STRIP (TS-1)
JOHNSONITE, 1" WIDE FEATURE STRIP, COLOR: 20 CHARCOAL

PAINT (PNT-1)
SHERWIN WILLIAMS, COLOR TO MATCH EXISTING FIELD

ACOUSTICAL CEILING TILE (AC-1)
ARMSTRONG, 1714 SCHOOL ZONE FINE FISSURED, SQUARE LAY-IN, 24" X 48" X 3/4", COLOR: WHITE
INSTALL WITH 15/16" PRELUDE GRID SYSTEM

EXISTING TO REMAIN (ETR)
PROTECT EXISTING FINISH TO REMAIN

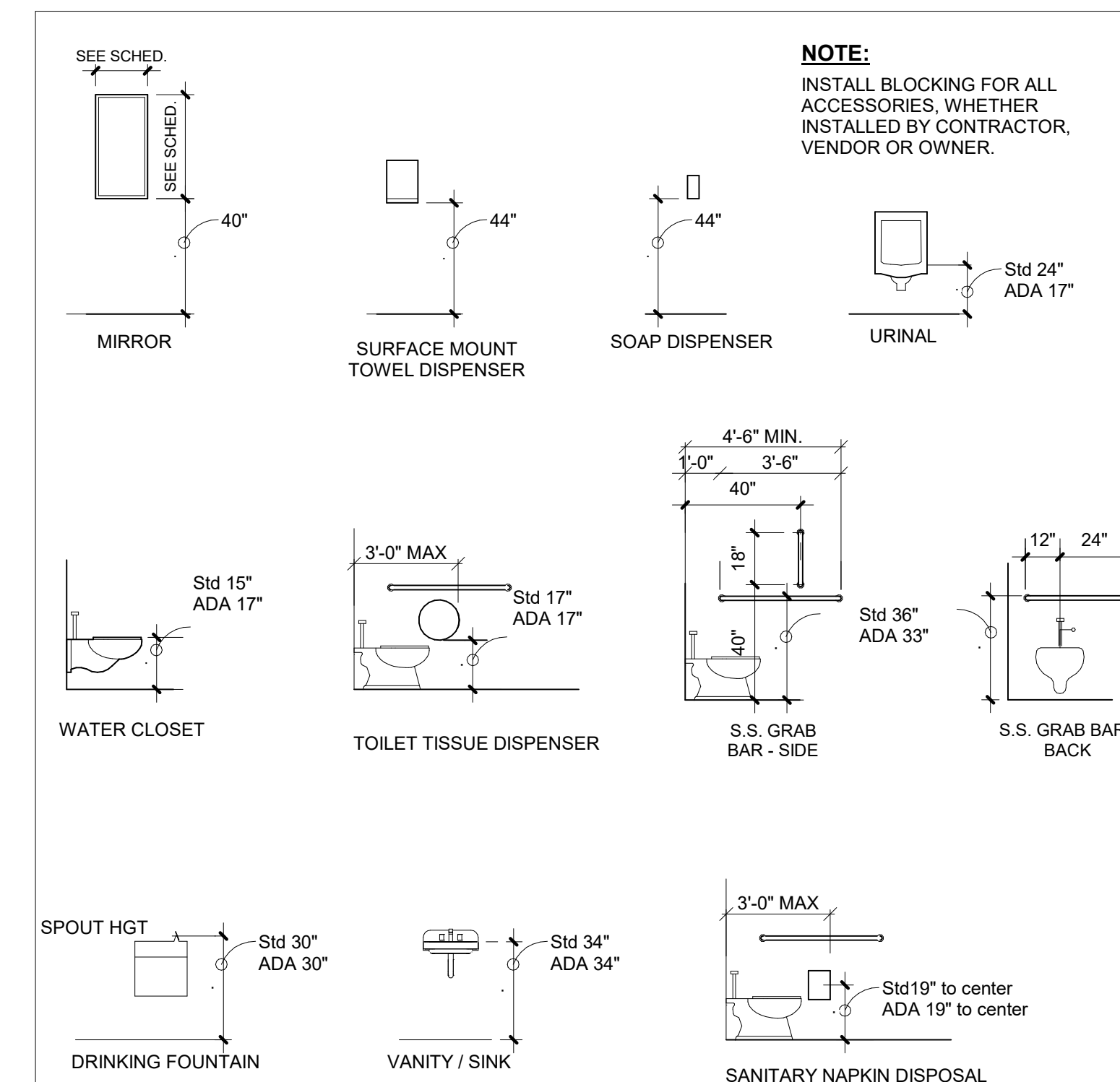


2 ENLARGED TOILET PLAN
SCALE: 1/4" = 1'-0"

TOILET ACCESSORY SCHEDULE			
MARK	DESCRIPTION	OWNER SUPPLIED	CONTRACTOR SUPPLIED
A	24" x 36" MIRROR, FRAMED		X
B	SOAP DISPENSER		X
C	PAPER TOWEL DISPENSER & WASTE RECEPTACLE, SEMI-RECESSED		X
D	TOILET TISSUE DISPENSER, DOUBLE-ROLL		X
E	1-1/2" DIA. X 36" S.S. GRAB BAR		X
F	1-1/2" DIA. X 42" S.S. GRAB BAR		X
G	1-1/2" DIA. X 18" S.S. GRAB BAR		X

ROOM FINISH SCHEDULE									
NUMBER	NAME	FLOOR	BASE	WALL	CASEWORK	COUNTERTOP	CEILING	NOTES	
100	LOBBY	ETR	ETR	ETR	-	-	ETR		
100A	ALCOVE	ETR	ETR, RB-1	PNT-1	-	-	AC-1	PROVIDE WALL AND BASE FINISH BOTH SIDES OF NEW WALLS	
200	CLASSROOM	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM); REFER TO NEW WORK PLAN FOR NEW VCT FLOORING EXTENTS	
200A	CLOSET	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
200B	CLOSET	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
201	CLASSROOM	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
201A	CLOSET	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
202	CLASSROOM	VCT-1	RB-1	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM); REFER TO NEW WORK PLAN FOR NEW VCT FLOORING EXTENTS	
202A	CLOSET	VCT-1	RB-1	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
202B	CLOSET	VCT-1	RB-1	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
203	UTILITY CLOSET	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
204	CLASSROOM	ETR	ETR	PNT-1	-	-	ETR, AC-1	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM); REFER TO NEW WORK PLAN FOR NEW VCT FLOORING EXTENTS	
204A	CLOSET	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
204B	CLOSET	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
205	CLASSROOM	ETR	ETR, RB-1	PNT-1	-	-	AC-1	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM); PROVIDE RB-1 AT NEW WALL	
205A	STORAGE	VCT-1	RB-1	PNT-1	-	-	AC-1	PROVIDE TS-1 AT FLOOR TRANSITION BETWEEN NEW AND EXISTING VCT	
205B	UTILITY ROOM	VCT-1	RB-1	PNT-1	-	-	AC-1	PROVIDE TS-1 AT FLOOR TRANSITION BETWEEN NEW AND EXISTING VCT	
206	CLASSROOM	VCT-1	RB-1	PNT-1	-	-	ETR, AC-1	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM); REFER TO RCP FOR NEW CEILING TILE EXTENTS	
207	CLASSROOM	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM); REFER TO NEW WORK PLAN FOR NEW VCT FLOORING EXTENTS	
208	HALLWAY	ETR	ETR	PNT-1	-	-	ETR, AC-1	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM); REFER TO RCP FOR NEW CEILING TILE EXTENTS	
208A	STAIR	ETR	ETR	ETR	-	-	ETR		
208B	STAIR	ETR	ETR	PNT-1	-	-	ETR	PAINT ALL WALLS AND MISCELLANEOUS TRIM (DOOR & WINDOW FRAMES, BASEBOARDS, CHALKBOARD TRIM, CORNICE TRIM)	
209	UNISEX TOILET	VCT-1	RB-1	PNT-1	-	-	AC-1	PROVIDE NEW THRESHOLD TO MATCH EXISTING THRESHOLDS AT CORRIDOR DOORS	

TOILET ACCESSORY MOUNTING HEIGHTS



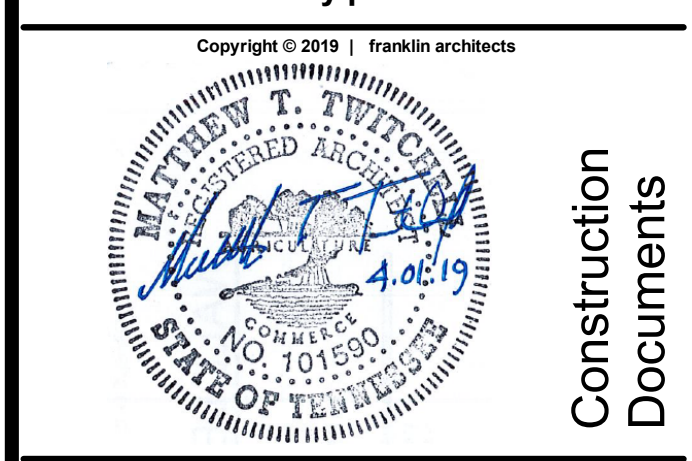
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John A. Patten
Rec Center
Renovations to the
2nd Floor

City of Chattanooga Contract No.
Y-17-017-201
at
3202 Kellys Ferry Road
Chattanooga, TN 37419

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Revisions		
No.	Issue	Date

Sheet Information	
Date	04/01/19
Job No.	6944.01
Title	

ARCHITECTURAL
DOOR & ROOM
FINISH SCHEDULES

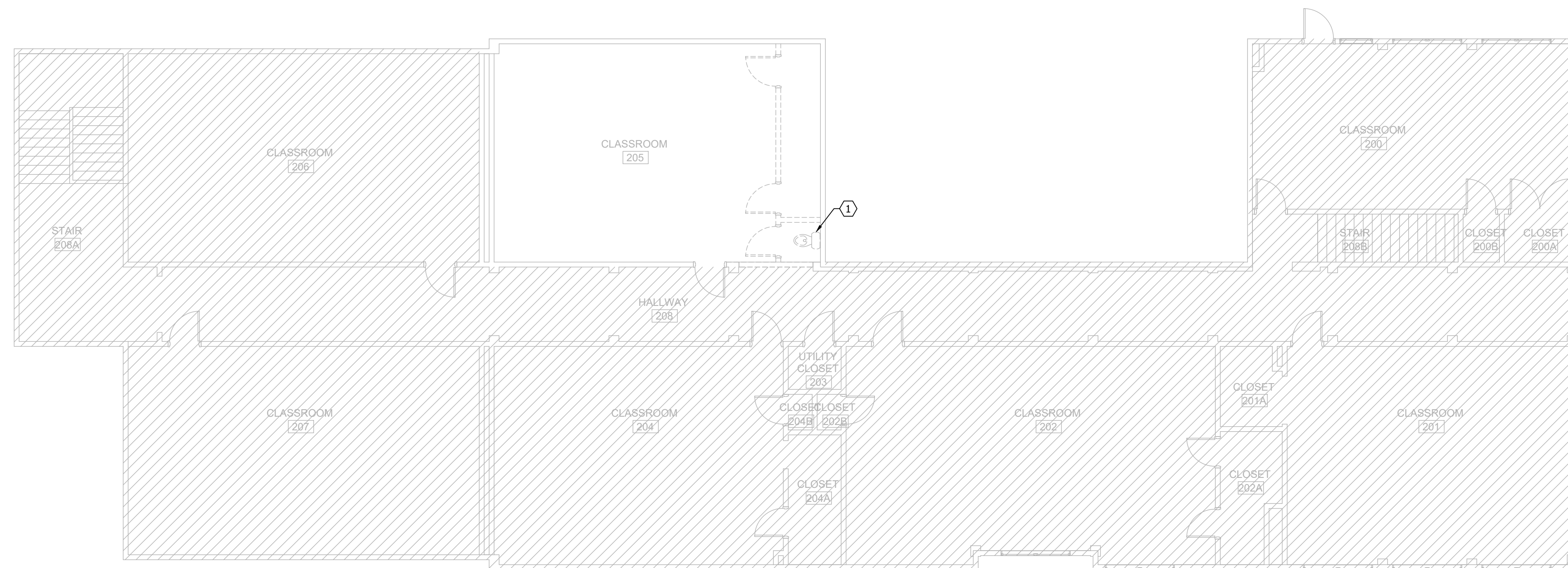
Sheet
A200

PLUMBING UNREFERENCED NOTES

- a. SEE SHEET P001 FOR GENERAL PLUMBING NOTES.
- b. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE CONNECTION SIZES.
- c. COORDINATE DWV & DOMESTIC WATER LINES WITH ARCHITECTURAL AND STRUCTURAL CONDITIONS. PLUMBING CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBER WITHOUT WRITTEN CONSENT FROM THE STRUCTURAL ENGINEER.
- d. CONTRACTOR SHALL REVIEW DEMOLITION AND DESIGN DRAWINGS PRIOR TO DEMOLITION AND SHALL REPORT ANY DEVIATIONS TO THE ENGINEER PRIOR TO INITIATING ANY WORK.
- e. ALL EXISTING SANITARY & DOMESTIC WATER PIPE ROUTING ARE SHOWN TO THE BEST OF THE ENGINEER'S KNOWLEDGE. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL WALK THE SITE AND FIELD VERIFY ALL EXISTING SANITARY & DOMESTIC ROUTING, INVERTS, & TIE IN LOCATIONS AND CONDITIONS THEN REPORT ANY DISCREPANCIES TO ENGINEER ON RECORD.

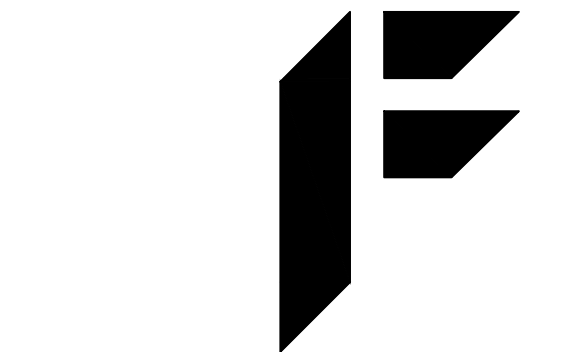
PLUMBING REFERENCED NOTES

- ① REMOVE EXISTING FIXTURE AND SURRENDER TO OWNER.
 - DEMOLISH EXISTING DWV PIPING BACK TO STACK AND CAP.
 - DEMOLISH EXISTING CW & HW SUPPLY LINES BACK TO SOURCE AND CAP.



1 PLUMBING - DEMO PLAN - LEVEL 2
P100 SCALE: 1/8" = 1'-0"

Last Plotted: 3/25/2019 8:40:42 AM



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Revisions		
No.	Issue	Date

Sheet Information	
Date	04/01/19
Job No.	6944.01

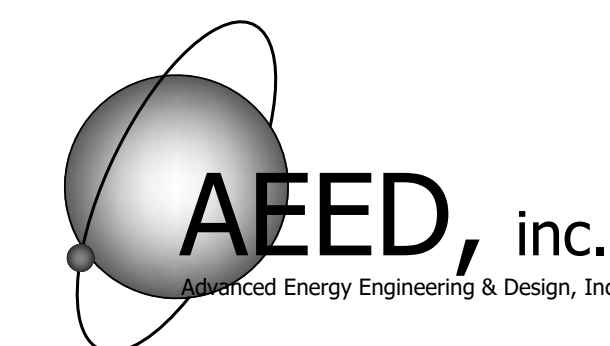
Title

PLUMBING

DEMO PLANS

Sheet

P100



AEED JOB NO. 048-19

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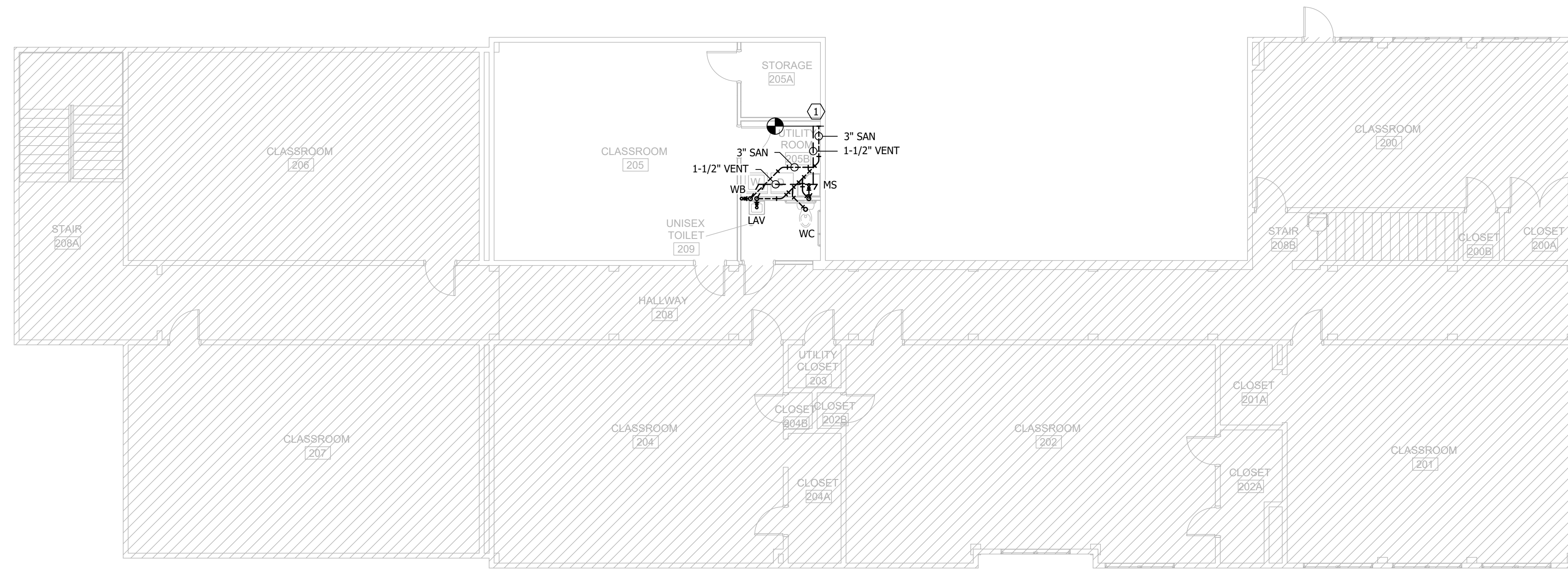
Advanced Energy Engineering & Design, Inc

PLUMBING UNREFERENCED NOTES

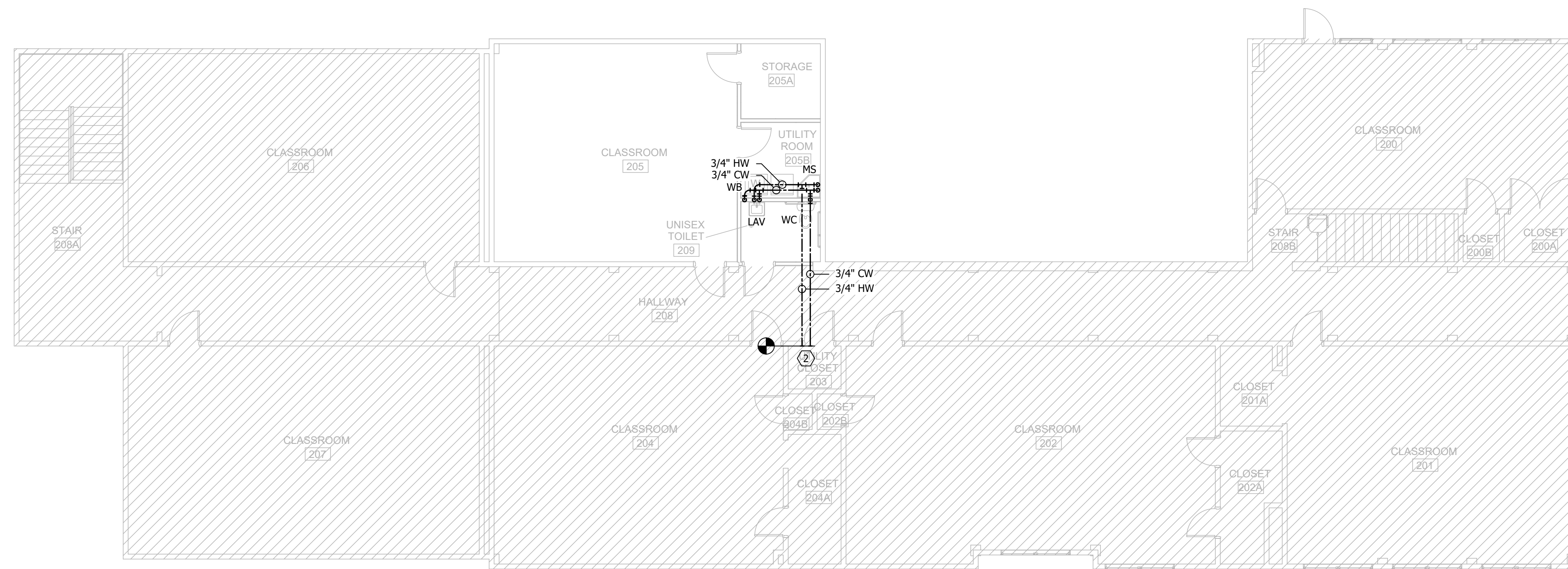
- a. SEE SHEET P001 FOR GENERAL PLUMBING NOTES.
- b. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE CONNECTION SIZES.
- c. COORDINATE DWV & DOMESTIC WATER LINES WITH ARCHITECTURAL AND STRUCTURAL CONDITIONS. PLUMBING CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBER WITHOUT WRITTEN CONSENT FROM THE STRUCTURAL ENGINEER.
- d. CONTRACTOR SHALL REVIEW DEMOLITION AND DESIGN DRAWINGS PRIOR TO DEMOLITION AND SHALL REPORT ANY DEVIATIONS TO THE ENGINEER PRIOR TO INITIATING ANY WORK.
- e. ALL EXISTING SANITARY & DOMESTIC WATER PIPE ROUTING ARE SHOWN TO THE BEST OF THE ENGINEER'S KNOWLEDGE. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL WALK THE SITE AND FIELD VERIFY ALL EXISTING SANITARY & DOMESTIC ROUTING, INVERTS, & TIE IN LOCATIONS AND CONDITIONS THEN REPORT ANY DISCREPANCIES TO ENGINEER ON RECORD.

PLUMBING REFERENCED NOTES

- ① TIE INTO EXISTING 4" WASTE STACK AND STACK VENT IN THIS APPROXIMATE LOCATION. CONTRACTOR TO FIELD VERIFY EXACT POINT OF CONNECTION AND REPORT ANY DISCREPANCIES TO PLAN PRIOR TO BEGINNING WORK.
- ② TIE INTO EXISTING 3/4" CW & HW SUPPLY LINES LOCATED IN UTILITY CLOSET. CONTRACTOR TO FIELD VERIFY EXACT POINT OF CONNECTION AND REPORT ANY DISCREPANCIES TO PLAN PRIOR TO BEGINNING WORK.



1 PLUMBING - WASTE & VENT PLAN - LEVEL 2
P101 SCALE: 1/8" = 1'-0"



2 PLUMBING - DOMESTIC & GAS PLAN - LEVEL 2
P101 SCALE: 1/8" = 1'-0"



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City of Chattanooga Contract No.
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Construction Documents

Revisions		
No.	Issue	Date

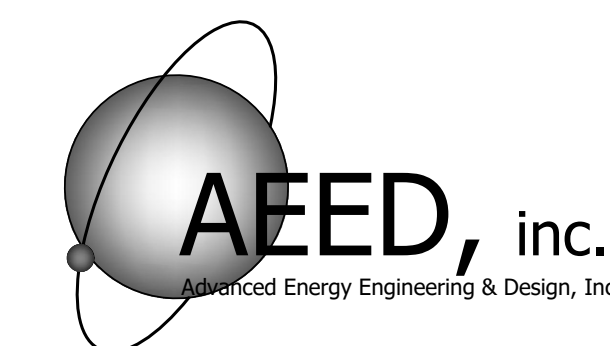
Sheet Information	
Date	04/01/19
Job No.	6944.01

Title

**PLUMBING
PLANS**

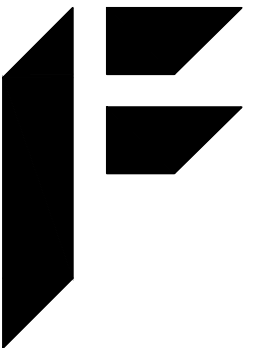
Sheet

P101



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Revisions

No.	Issue	Date

Sheet Information

Date	04/01/19
Job No.	6944.01

Title

PLUMBING

SCHEDULES &
DETAILS

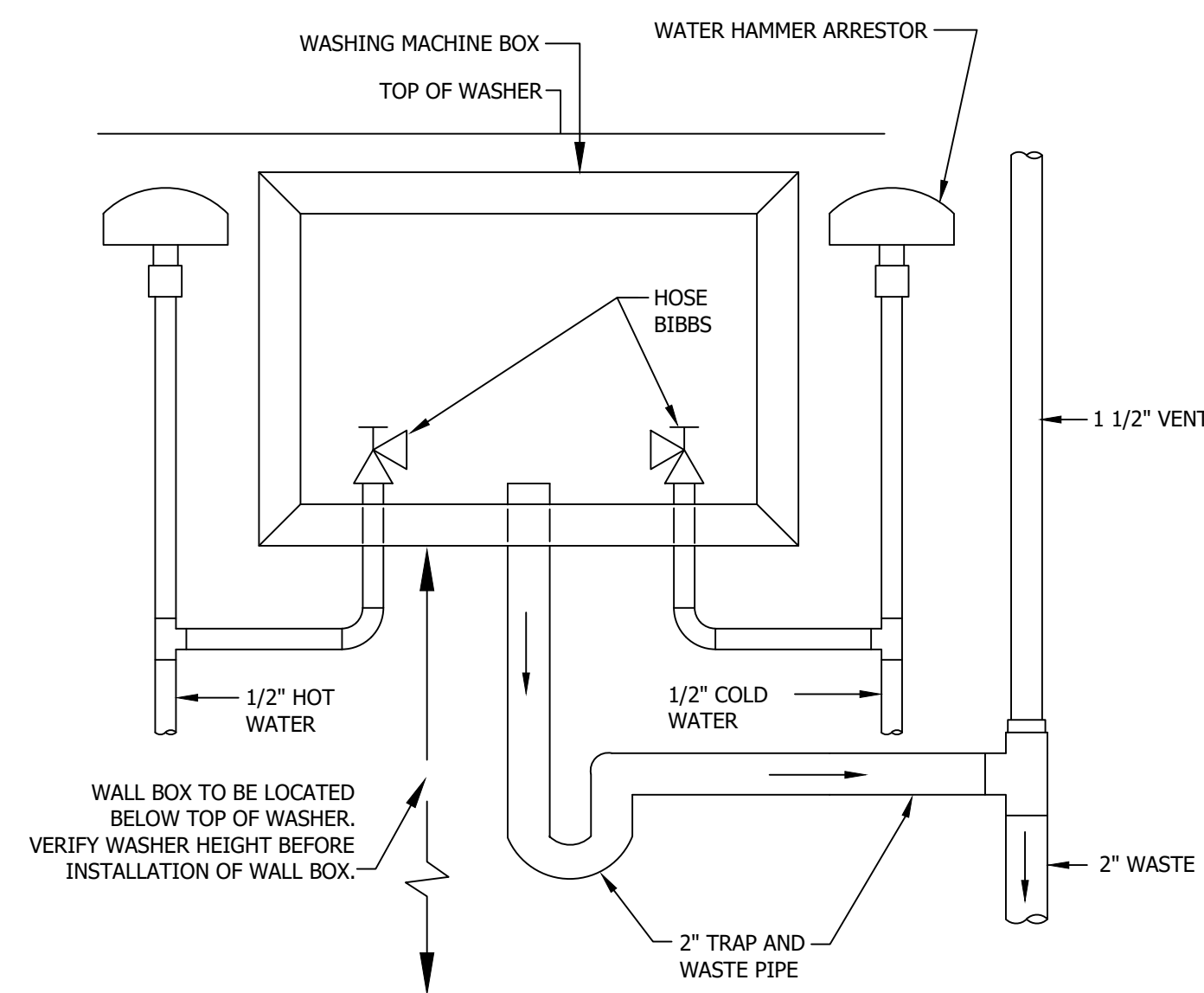
Sheet

P200

PLUMBING FIXTURE SCHEDULE

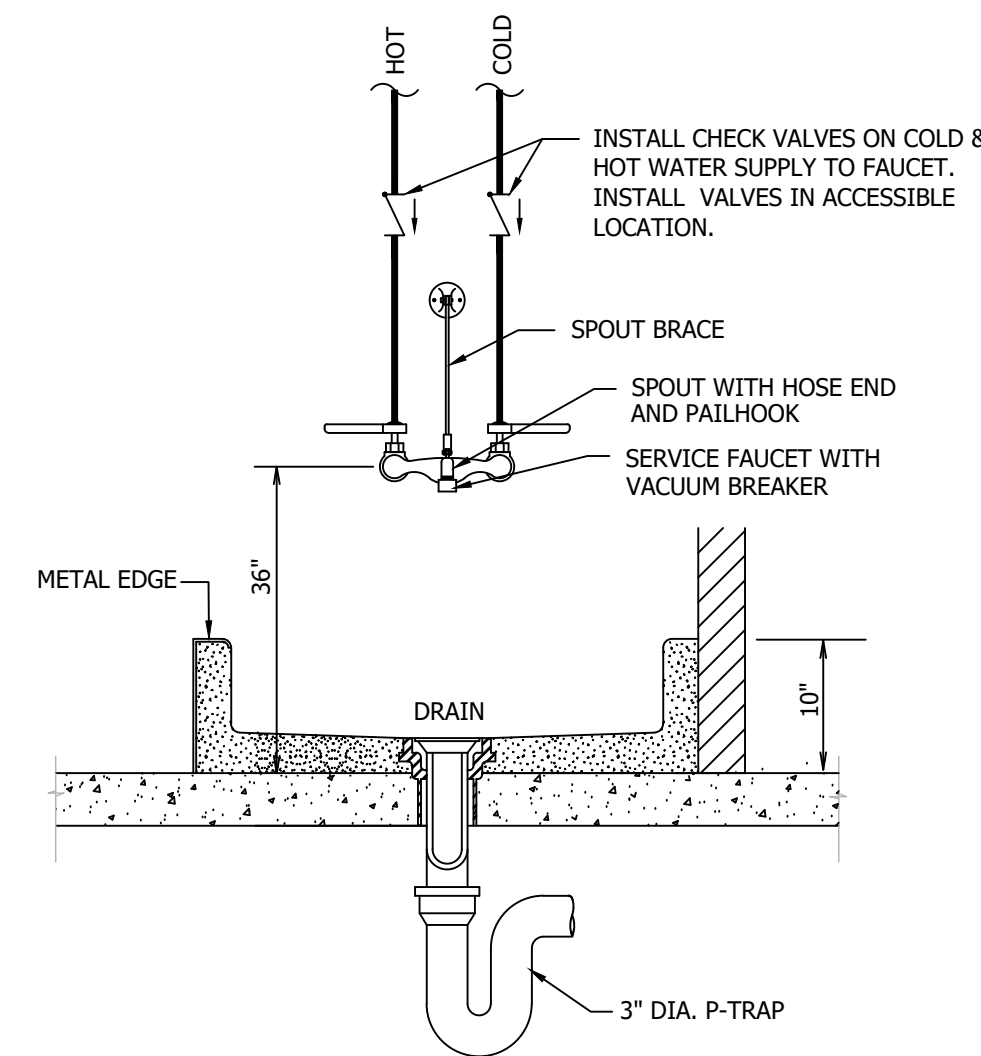
ITEM	DESCRIPTION	MANUFACTURER	CATALOG #	TRIM/FAUCET	SUPPLIES	WASTE	TRAP	ROUGH-IN (INCHES)			
								C.W.	H.W.	WASTE	VENT
WC	ZURN Z5552.000.11.03.36 HIGH PERFORMANCE 3" FLUSHING TECHNOLOGY FLOOR MOUNTED ELONGATED TANK TYPE 1.6gpf WATER CLOSET WITH OPEN FRONT SEAT W/SELF SUSTAINING STAINLESS STEEL CHECK HINGE, 1/2" NOM X 3/8" OD STOP, COPPER TUBE SUPPLY LINE, ESCUTCHEON, CLOSET BOLTS AND WAX RINGS						INTEGRAL	3/4"	-	4"	1-1/2"
LAV	ZURN Z5364.519.1.07.00.0 20" X 18" 4" CC WALL HUNG LAVATORY; SOLID CAST BRASS SINGLE CONTROL FAUCET; GRID DRAIN; 1-1/4" CAST BRASS P-TRAP WITH CLEANOUT; 1/2" NOM X 3/8" OD STOPS; COPPER TUBE SUPPLY LINES, ESCUTCHEON AND TRAP						P-TRAP	1/2"	1/2"	2"	1-1/4"
MS	24" X 24" X 12" SERVICE SINK WITH TWO TILING FLANGE, HOSE AND BRACKET WITH MOP HANGER	STERN WILLIAMS	SB902-T35-T40	ZURN Z841M1-XL SERVICE SINK FAUCET WITH VACUUM BREAKER, INTEGRAL STOP ARMS, PAIL HOOK AND 3/4" HOSE CONNECTION			P-TRAP	3/4"	3/4"	3"	1-1/4"
WB	WASHING MACHINE SUPPLY & DRAIN BOX	GUY GREY	T2000PPVC				P-TRAP	3/4"	3/4"	2"	1-1/2"

NOTE:
1. PROVIDE THERMOSTATIC MIXING VALVE SYMMONS #7-210-CK FOR PUBLIC LAVATORIES.



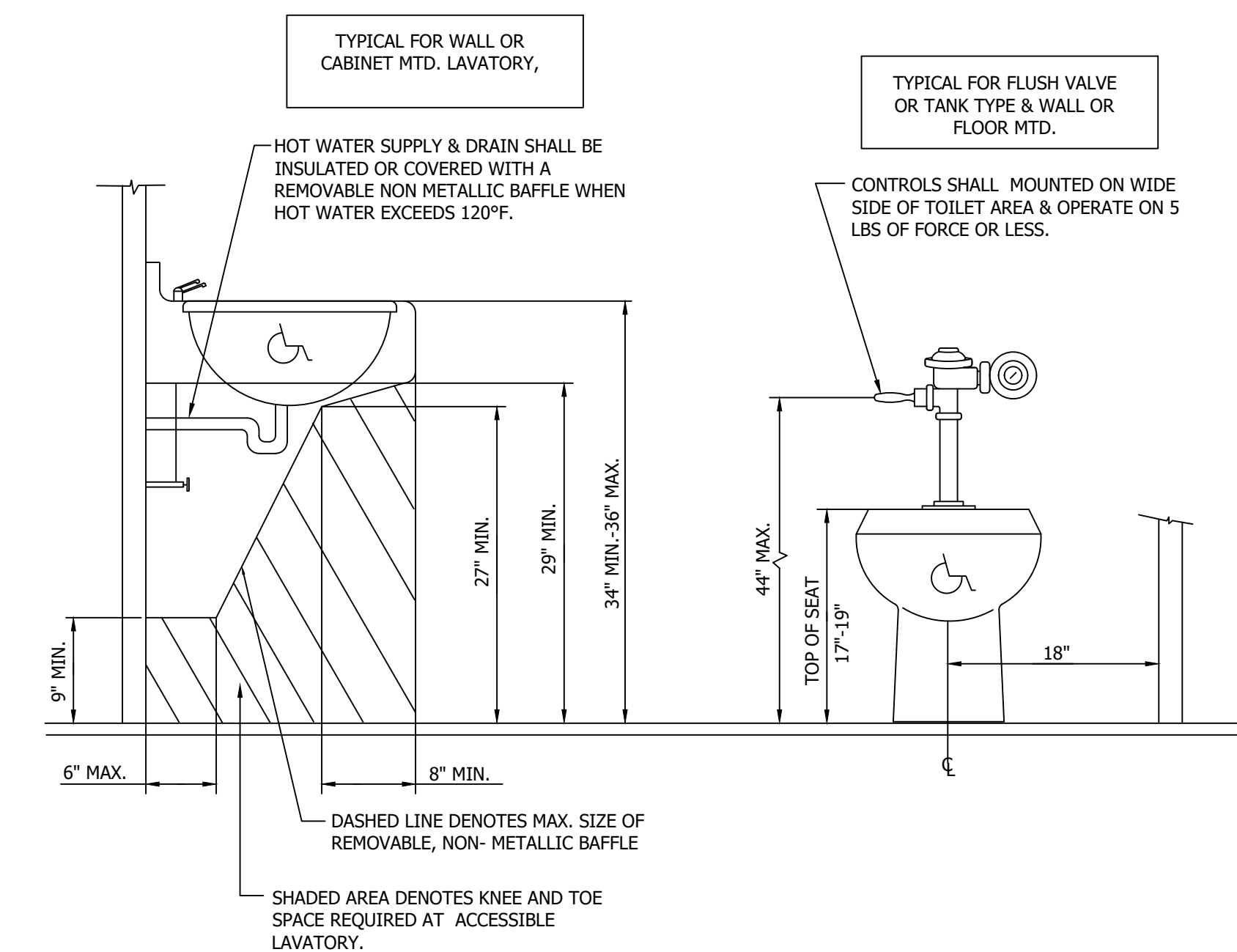
WASHING MACHINE BOX DETAIL

SCALE: NONE



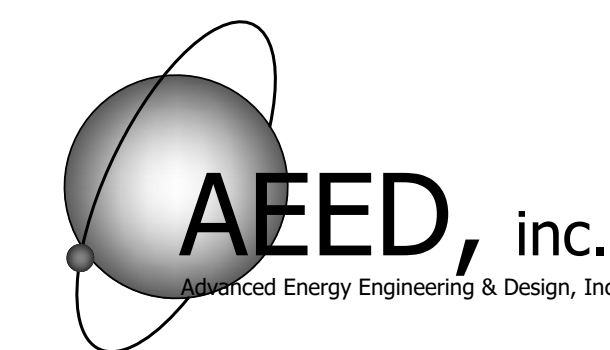
MOP SINK INSTALLATION DETAIL

SCALE: NONE



ADA PLUMBING FIXTURE INSTALLATION

SCALE: NONE



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CONSTRUCTION SPECIFICATIONS

TEST AND BALANCE (MINIMUM REQUIREMENTS)

- TAB FIRM QUALIFICATIONS: ENGAGE A TAB FIRM CERTIFIED BY AABC, NEBB, OR TABB.
- TAB CONFERENCE: MEET WITH OWNER'S AND/OR OWNERS REPRESENTATIVES ON APPROVAL OF TAB STRATEGIES AND PROCEDURES PLAN TO DEVELOP A MUTUAL UNDERSTANDING OF THE DETAILS. ENSURE THE PARTICIPATION OF TAB TEAM MEMBERS, EQUIPMENT MANUFACTURERS' AUTHORIZED SERVICE REPRESENTATIVES, HVAC CONTROLS INSTALLERS, AND OTHER SUPPORT PERSONNEL. PROVIDE SEVEN DAYS' ADVANCE NOTICE OF SCHEDULED MEETING TIME AND LOCATION.
- TAB REPORT FORMS: USE STANDARD FORMS FROM SMACNA'S TABB "HVAC SYSTEMS" - TESTING, ADJUSTING, AND BALANCING.
- COORDINATE THE EFFORTS OF FACTORY-AUTHORIZED SERVICE REPRESENTATIVES FOR SYSTEMS AND EQUIPMENT, HVAC CONTROLS INSTALLERS, AND OTHER MECHANICS TO OPERATE HVAC SYSTEMS AND EQUIPMENT TO SUPPORT AND ASSIST TAB ACTIVITIES.
- PERFORM TAB AFTER LEAKAGE AND PRESSURE TESTS ON AIR AND WATER DISTRIBUTION SYSTEMS HAVE BEEN SATISFACTORILY COMPLETED.
- COMPLETE SYSTEM READINESS CHECKS AND PREPARE SYSTEM READINESS REPORTS. VERIFY THE FOLLOWING:
 - PERMANENT ELECTRICAL POWER WIRING IS COMPLETE.
 - HYDRONIC SYSTEMS ARE FILLED, CLEAN, AND FREE OF AIR.
 - AUTOMATIC TEMPERATURE-CONTROL SYSTEMS ARE OPERATIONAL.
 - EQUIPMENT AND DUCT ACCESS DOORS ARE SECURELY CLOSED.
 - BALANCE, SMOKE, AND FIRE DAMPERS ARE OPEN.
 - ISOLATING AND BALANCING VALVES ARE OPEN AND CONTROL VALVES ARE OPERATIONAL.
- PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN SMACNA'S TABB "HVAC SYSTEMS" - TESTING, ADJUSTING, AND BALANCING" AND THIS SECTION.
- CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY TO ALLOW ADEQUATE PERFORMANCE OF PROCEDURES. AFTER TESTING AND BALANCING, CLOSE PROBE HOLES AND PATCH INSULATION WITH NEW MATERIALS IDENTICAL TO THOSE REMOVED. RESTORE VAPOR BARRIER AND FINISH ACCORDING TO INSULATION SPECIFICATIONS FOR THIS PROJECT.
- MARK EQUIPMENT AND BALANCING DEVICE SETTINGS WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL, INCLUDING DAMPER-CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, TO SHOW FINAL SETTINGS.
- TAKE AND REPORT TESTING AND BALANCING MEASUREMENTS IN INCH-POUND (IP) UNITS.
- PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S OUTLET FACTORS AND RECOMMENDED TESTING PROCEDURES. CROSSCHECK THE SUMMATION OF REQUIRED OUTLET VOLUMES WITH REQUIRED FAN VOLUMES.
- PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS "AS-BUILT" DUCT LAYOUTS.
- DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT AIRFLOW MEASUREMENTS.
- CHECK AIRFLOW PATTERNS FROM THE OUTSIDE-AIR LOUVERS AND DAMPERS AND THE RETURN- AND EXHAUST-AIR DAMPERS, THROUGH THE SUPPLY-FAN DISCHARGE AND MIXING DAMPERS.
- LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS, AND MOTOR STARTERS.
- VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.
- CHECK DAMPERS FOR PROPER POSITION TO ACHIEVE DESIRED AIRFLOW PATH.
- CHECK FOR AIRFLOW BLOCKAGES.
- CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.
- CHECK FOR PROPER SEALING OF AIR-HANDLING UNIT COMPONENTS.
- CHECK FOR PROPER SEALING OF AIR DUCT SYSTEM.
- ADJUST FANS TO DELIVER TOTAL INDICATED AIRFLOWS WITHIN THE MAXIMUM ALLOWABLE FAN SPEED LISTED BY FAN MANUFACTURER.
- MEASURE FAN STATIC PRESSURES TO DETERMINE ACTUAL STATIC PRESSURE AS FOLLOWS:
 - MEASURE OUTLET STATIC PRESSURE AS FAR DOWNSTREAM FROM THE FAN AS PRACTICAL AND UPSTREAM FROM RESTRICTIONS IN DUCTS SUCH AS ELBOWS AND TRANSITIONS.
 - MEASURE STATIC PRESSURE DIRECTLY AT THE FAN OUTLET OR THROUGH THE FLEXIBLE CONNECTION.
 - MEASURE INLET STATIC PRESSURE OF SINGLE-INLET FANS IN THE INLET DUCT AS NEAR THE FAN AS POSSIBLE, UPSTREAM FROM FLEXIBLE CONNECTION AND DOWNSTREAM FROM DUCT RESTRICTIONS.
 - MEASURE INLET STATIC PRESSURE OF DOUBLE-INLET FANS THROUGH THE WALL OF THE PLENUM THAT HOUSES THE FAN.
- MEASURE STATIC PRESSURE ACROSS EACH COMPONENT THAT MAKES UP AN AIR-HANDLING UNIT, ROOFTOP UNIT, AND OTHER AIR-HANDLING AND -TREATING EQUIPMENT.
- SIMULATE DIRTY FILTER OPERATION AND RECORD THE POINT AT WHICH MAINTENANCE PERSONNEL MUST CHANGE FILTERS.
- MEASURE STATIC PRESSURES ENTERING AND LEAVING OTHER DEVICES SUCH AS SOUND TRAPS, HEAT RECOVERY EQUIPMENT, AND AIR WASHERS, UNDER FINAL BALANCED CONDITIONS.
- COMPARE DESIGN DATA WITH INSTALLED CONDITIONS TO DETERMINE VARIATIONS IN DESIGN STATIC PRESSURES VERSUS ACTUAL STATIC PRESSURES. COMPARE ACTUAL SYSTEM EFFECT FACTORS WITH CALCULATED SYSTEM EFFECT FACTORS TO IDENTIFY WHERE VARIATIONS OCCUR. RECOMMEND CORRECTIVE ACTION TO ALIGN DESIGN AND ACTUAL CONDITIONS.
- DO NOT MAKE FAN-SPEED ADJUSTMENTS THAT RESULT IN MOTOR OVERLOAD. CONSULT EQUIPMENT MANUFACTURERS ABOUT FAN-SPEED SAFETY FACTORS. MODULATE DAMPERS AND MEASURE FAN-MOTOR AMPERAGE TO ENSURE THAT NO OVERLOAD WILL OCCUR. MEASURE AMPERAGE IN FULL COOLING, FULL HEATING, ECONOMIZER, AND ANY OTHER OPERATING MODES TO DETERMINE THE MAXIMUM REQUIRED BRAKE HORSEPOWER.
- ADJUST VOLUME DAMPERS FOR MAIN DUCT, SUBMAIN DUCTS, AND MAJOR BRANCH DUCTS TO INDICATED AIRFLOWS WITHIN SPECIFIED TOLERANCES.
- MEASURE STATIC PRESSURE AT A POINT DOWNSTREAM FROM THE BALANCING DAMPER AND ADJUST VOLUME DAMPERS UNTIL THE PROPER STATIC PRESSURE IS ACHIEVED.
- PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS "AS-BUILT" PIPING LAYOUTS.
- PREPARE HYDRONIC SYSTEMS FOR TESTING AND BALANCING ACCORDING TO THE FOLLOWING, IN ADDITION TO THE GENERAL PREPARATION PROCEDURES SPECIFIED ABOVE:
 - OPEN ALL MANUAL VALVES FOR MAXIMUM FLOW.
 - CHECK EXPANSION TANK LIQUID LEVEL.
 - CHECK MAKEUP-WATER-STATION PRESSURE GAGE FOR ADEQUATE PRESSURE FOR HIGHEST VENT.
 - CHECK FLOW-CONTROL VALVES FOR SPECIFIED SEQUENCE OF OPERATION AND SET AT INDICATED FLOW.
 - SET DIFFERENTIAL-PRESSURE CONTROL VALVES AT THE SPECIFIED DIFFERENTIAL PRESSURE. DO NOT SET AT FULLY CLOSED POSITION WHEN PUMP IS POSITIVE-DISPLACEMENT TYPE UNLESS SEVERAL TERMINAL VALVES ARE KEPT OPEN.
 - CHECK AIR VENTS FOR A FORCEFUL LIQUID FLOW EXITING FROM VENTS WHEN MANUALLY OPERATED.
- SET CALIBRATED BALANCING VALVES, IF INSTALLED, AT CALCULATED PRESETTINGS.
- MEASURE FLOW AT ALL STATIONS AND ADJUST, WHERE NECESSARY, TO OBTAIN FIRST BALANCE.
- SYSTEM COMPONENTS THAT HAVE CV RATING OR AN ACCURATELY CATALOGED FLOW-PRESSURE-DROP RELATIONSHIP MAY BE USED AS A FLOW-INDICATING DEVICE.
- MEASURE FLOW AT MAIN BALANCING STATION AND SET MAIN BALANCING DEVICE TO ACHIEVE FLOW THAT IS 5 PERCENT GREATER THAN INDICATED FLOW.
- CHECK THE SETTING AND OPERATION OF AUTOMATIC TEMPERATURE-CONTROL VALVES, SELF-CONTAINED CONTROL VALVES, AND PRESSURE-REDUCING VALVES. RECORD THE FINAL SETTING.
- VERIFY THAT CONTROLLERS ARE CALIBRATED AND COMMISSIONED.
- CHECK TRANSMITTER AND CONTROLLER LOCATIONS AND NOTE CONDITIONS THAT WOULD ADVERSELY AFFECT CONTROL FUNCTIONS.
- RECORD CONTROLLER SETTINGS AND NOTE VARIANCES BETWEEN SET POINTS AND ACTUAL MEASUREMENTS.
- CHECK THE OPERATION OF LIMITING CONTROLLERS (I.E., HIGH- AND LOW-TEMPERATURE CONTROLLERS).
- CHECK FREE TRAVEL AND PROPER OPERATION OF CONTROL DEVICES SUCH AS DAMPER AND VALVE OPERATORS.
- CHECK THE SEQUENCE OF OPERATION OF CONTROL DEVICES. NOTE AIR PRESSURES AND DEVICE POSITIONS AND CORRELATE WITH AIRFLOW AND WATER FLOW MEASUREMENTS. NOTE THE SPEED OF RESPONSE TO INPUT CHANGES.
- CHECK THE INTERACTION OF ELECTRICALLY OPERATED SWITCH TRANSUCERS.
- CHECK THE INTERACTION OF INTERLOCK AND LOCKOUT SYSTEMS.
- RECORD VOLTAGES OF POWER SUPPLY AND CONTROLLER OUTPUT. DETERMINE WHETHER THE SYSTEM OPERATES ON A GROUNDED OR NONGROUNDED POWER SUPPLY.
- NOTE OPERATION OF ELECTRIC ACTUATORS USING SPRING RETURN FOR PROPER FAIL-SAFE OPERATIONS.
- SET HVAC SYSTEM AIRFLOW AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:
 - SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS 5 TO PLUS 10 PER CENT.
 - AIR OUTLETS AND INLETS: 0 TO MINUS 10 PERCENT.
 - HEATING-WATER FLOW RATE: 0 TO MINUS 10 PERCENT.
 - COOLING-WATER FLOW RATE: 0 TO MINUS 5 PERCENT.
- FINAL REPORT SHALL BE TYPEWRITTEN, OR COMPUTER PRINTOUT IN LETTER-QUALITY FONT, ON STANDARD BOND PAPER, IN THREE-RING BINDER, TABULATED AND DIVIDED INTO SECTIONS BY TESTED AND BALANCED SYSTEMS.
- FINAL REPORT CONTENTS: IN ADDITION TO CERTIFIED FIELD REPORT DATA, INCLUDE THE FOLLOWING:
 - FAN CURVES.
 - MANUFACTURERS' TEST DATA.
 - FIELD TEST REPORTS PREPARED BY SYSTEM AND EQUIPMENT INSTALLERS.
 - OTHER INFORMATION RELATIVE TO EQUIPMENT PERFORMANCE, BUT DO NOT INCLUDE SHOP DRAWINGS AND PRODUCT DATA.
- TEST CONDITIONS FOR FANS AND PUMP PERFORMANCE FORMS INCLUDING THE FOLLOWING:
 - SETTINGS FOR OUTSIDE-, RETURN-, AND EXHAUST-AIR DAMPERS.
 - CONDITIONS OF FILTERS.
 - COOLING COIL, WET- AND DRY-BULB CONDITIONS.
 - FACE AND BYPASS DAMPER SETTINGS AT COILS.
 - FAN DRIVE SETTINGS INCLUDING SETTINGS AND PERCENTAGE OF MAXIMUM PITCH DIAMETER.
 - SETTINGS FOR SUPPLY-AIR, STATIC-PRESSURE CONTROLLER.
 - OTHER SYSTEM OPERATING CONDITIONS THAT AFFECT PERFORMANCE.
- SYSTEM DIAGRAMS: INCLUDE SCHEMATIC LAYOUTS OF AIR AND HYDRONIC DISTRIBUTION SYSTEMS. PRESENT EACH SYSTEM WITH SINGLE-LINE DIAGRAM AND INCLUDE THE FOLLOWING:
 - QUANTITIES OF OUTSIDE, SUPPLY, RETURN, AND EXHAUST AIRFLOWS.
 - WATER AND STEAM FLOW RATES.
 - DUCT, OUTLET, AND INLET SIZES.
 - PIPE AND VALVE SIZES AND LOCATIONS.
 - TERMINAL UNITS.
 - BALANCING STATIONS.
 - POSITION OF BALANCING DEVICES.
- AIR-HANDLING UNIT TEST REPORTS: FOR AIR-HANDLING UNITS WITH COILS, INCLUDE THE FOLLOWING:
 - UNIT IDENTIFICATION.
 - LOCATION.
 - MAKE AND TYPE.
 - MODEL NUMBER AND UNIT SIZE.
 - MANUFACTURER'S SERIAL NUMBER.
 - UNIT ARRANGEMENT AND CLASS.
 - DISCHARGE ARRANGEMENT.
 - SHEAVE MAKE, SIZE IN INCHES, AND BORE.
 - SHEAVE DIMENSIONS, CENTER-TO-CENTER, AND AMOUNT OF ADJUSTMENTS IN INCHES.
 - NUMBER OF BELTS, MAKE, AND SIZE.
 - NUMBER OF FILTERS, TYPE, AND SIZE.
 - MOTOR DATA:
 - MAKE AND FRAME TYPE AND SIZE.
 - HORSEPOWER AND RPM.
 - VOLTS, PHASE, AND HERTZ.
 - FULL-LOAD AMPERAGE AND SERVICE FACTOR.
 - SHEAVE MAKE, SIZE IN INCHES, AND BORE.
 - SHEAVE DIMENSIONS, CENTER-TO-CENTER, AND AMOUNT OF ADJUSTMENTS IN INCHES.
 - TEST DATA (INDICATED AND ACTUAL VALUES):
 - TOTAL AIRFLOW RATE IN CFM.
 - TOTAL SYSTEM STATIC PRESSURE IN INCHES WG.
 - FAN RPM.
 - DISCHARGE STATIC PRESSURE IN INCHES WG.
 - FILTER STATIC-PRESSURE DIFFERENTIAL IN INCHES WG.
 - PREHEAT COIL STATIC-PRESSURE DIFFERENTIAL IN INCHES WG.
 - COOLING COIL STATIC-PRESSURE DIFFERENTIAL IN INCHES WG.
 - HEATING COIL STATIC-PRESSURE DIFFERENTIAL IN INCHES WG.
 - OUTSIDE AIRFLOW IN CFM.
 - RETURN AIRFLOW IN CFM.
 - OUTSIDE-AIR DAMPER POSITION.
 - RETURN-AIR DAMPER POSITION.
 - VORTEX DAMPER POSITION.

MECHANICAL SPECIFICATIONS

DUCT INSTALLATION

- DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEM. INDICATED DUCT LOCATIONS, CONFIGURATIONS, AND ARRANGEMENTS WERE USED TO SIZE DUCTS AND CALCULATE FRICTION LOSS FOR AIR-HANDLING EQUIPMENT SIZING AND FOR OTHER DESIGN CONSIDERATIONS. INSTALL DUCT SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON SHOP DRAWINGS AND COORDINATION DRAWINGS.
- INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.
- INSTALL DUCTS WITH FEWEST POSSIBLE JOINTS.
- INSTALL FACTORY- OR SHOP-FABRICATED FITTINGS FOR CHANGES IN DIRECTION, SIZE, AND SHAPE AND FOR BRANCH CONNECTIONS.
- UNLESS OTHERWISE INDICATED, INSTALL DUCTS VERTICALLY AND HORIZONTALLY, AND PARALLEL AND PERPENDICULAR TO BUILDING LINES.
- INSTALL DUCTS CLOSE TO WALLS, OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF BUILDING.
- INSTALL DUCTS WITH A CLEARANCE OF 1 INCH, PLUS ALLOWANCE FOR INSULATION THICKNESS.
- ROUTE DUCTS TO AVOID PASSING THROUGH TRANSFORMER VAULTS AND ELECTRICAL EQUIPMENT ROOMS AND ENCLOSURES.
- WHERE DUCTS PASS THROUGH FIRE-RATED INTERIOR PARTITIONS AND EXTERIOR WALLS, INSTALL FIRE DAMPERS UNLESS FIRE DAMPER EXCEPTION IS MET PER NOTE (THIS SHEET).
- PROTECT DUCT INTERIORS FROM MOISTURE, CONSTRUCTION DEBRIS AND DUST, AND OTHER FOREIGN MATERIALS
- PROTECT EXPOSED DUCTS FROM BEING DENTED, SCRATCHED, OR DAMAGED.
- TRIM DUCT SEALANTS FLUSH WITH METAL. CREATE A SMOOTH AND UNIFORM EXPOSED BEAD. DO NOT USE TWO-PART TAPE SEALING SYSTEM.
- GRIND WELDS TO PROVIDE SMOOTH SURFACE FREE OF BURRS, SHARP EDGES, AND WELD SPATTER. WHEN WELDING STAINLESS STEEL WITH A NO. 3 OR 4 FINISH, GRIND THE WELDS FLUSH, POLISH THE EXPOSED WELDS, AND TREAT THE WELDS TO REMOVE DISCOLORATION CAUSED BY WELDING.
- MAINTAIN CONSISTENCY, SYMMETRY, AND UNIFORMITY IN THE ARRANGEMENT AND FABRICATION OF FITTINGS, HANGERS AND SUPPORTS, DUCT ACCESSORIES, AND AIR OUTLETS.
- REPAIR OR REPLACE DAMAGED SECTIONS AND FINISHED WORK THAT DOES NOT COMPLY WITH THESE REQUIREMENTS.
- SEAL DUCTS TO THE FOLLOWING SEAL CLASSES ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE":
 - COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
 - OUTDOOR, SUPPLY-AIR DUCTS: SEAL CLASS A.
 - OUTDOOR, EXHAUST DUCTS: SEAL CLASS C.
 - OUTDOOR, RETURN-AIR DUCTS: SEAL CLASS C.
 - UNCONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES 2-INCH WG AND LOWER: SEAL CLASS B.
 - UNCONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES HIGHER THAN 2-INCH WG: SEAL CLASS A.
 - UNCONDITIONED SPACE, EXHAUST DUCTS: SEAL CLASS C.
 - UNCONDITIONED SPACE, RETURN-AIR DUCTS: SEAL CLASS B.
 - CONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES 2-INCH WG AND LOWER: SEAL CLASS C.
 - CONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES HIGHER THAN 2-INCH WG: SEAL CLASS B.
 - CONDITIONED SPACE, EXHAUST DUCTS: SEAL CLASS B.
 - CONDITIONED SPACE, RETURN-AIR DUCTS: SEAL CLASS C.

- THE INSTALLATION OF ALL INSULATION SHALL BE PERFORMED BY AN EXPERIENCED CRAFTSMAN IN A NEAT WORKMANSHIP-LIKE MANNER AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN PUBLISHED RECOMMENDATIONS FOR SERVICE INTENDED.
- CONCEALED INDOOR SUPPLY, RETURN & OUTDOOR AIR DUCTS SHALL BE INSULATED WITH A MINERAL-FIBER BLANKET, 0.75-LB/CU. FT. NOMINAL DENSITY, TO ACHIEVE A MINIMUM INSTALLED R-6 VALUE.
- EXPOSED INDOOR SUPPLY, RETURN & OUTDOOR AIR DUCTS SHALL BE LINED WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1.
- EXPOSED OUTDOOR SUPPLY & EXHAUST AIR DUCTS SHALL BE INSULATED WITH A MINERAL-FIBERBOARD, 3 INCHES THICK, 3-LB/CU. FT. NOMINAL DENSITY. INSTALL JACKET OVER INSULATION MATERIAL. FOR INSULATION WITH FACTORY-APPLIED JACKET, INSTALL THE FIELD-APPLIED JACKET OVER THE FACTORY-APPLIED JACKET. DUCTS AND PLENUMS, EXPOSED, UP TO 48 INCHES IN DIAMETER OR WITH FLAT SURFACES UP TO 72 INCHES: ALUMINUM, SMOOTH MINIMUM 0.020 INCHES THICK.
- ALL SUPPLY, RETURN & OUTDOOR AIR DUCTS ROUTED IN UNCONDITIONED SPACE SHALL HAVE MINIMUM R11 INSULATION. ALL OTHER INSULATION SHALL BE PER ENERGY CODE UNLESS OTHERWISE NOTED.

EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

- INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED.
- INSTALL HVAC EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.
- INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.
- DAMAGE AND TOUCHUP: REPAIR MARRED AND DAMAGED FACTORY-PAINTED FINISHES WITH MATERIALS AND PROCEDURES TO MATCH ORIGINAL FACTORY FINISH.

METAL DUCT

- DUCT CONSTRUCTION, INCLUDING SHEET METAL THICKNESSES, SEAM AND JOINT CONSTRUCTION, REINFORCEMENTS, AND HANGERS AND SUPPORTS, SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" AND PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED IN "DUCT SCHEDULE" ARTICLE.
- STRUCTURAL PERFORMANCE: DUCT HANGERS AND SUPPORTS SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS DESCRIBED IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".
- AIRSTREAM SURFACES: SURFACES IN CONTACT WITH THE AIRSTREAM SHALL COMPLY WITH REQUIREMENTS IN ASHRAE 62.1-2004.

DUCT HANGER AND SUPPORT INSTALLATION

- COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4, "HANGERS AND SUPPORTS."
- HANGER SPACING: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 4-1, "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 4-2, "MINIMUM HANGER SIZES FOR ROUND DUCT," FOR MAXIMUM HANGER SPACING; INSTALL HANGERS AND SUPPORTS WITHIN 24 INCHES OF EACH ELBOW AND WITHIN 48 INCHES OF EACH BRANCH INTERSECTION.
- HANGERS EXPOSED TO VIEW: THREADED ROD AND ANGLE OR CHANNEL SUPPORTS.
- SUPPORT VERTICAL DUCTS WITH STEEL ANGLES OR CHANNEL SECURED TO THE SIDES OF THE DUCT WITH WELDS, BOLTS, SHEET METAL SCREWS, OR BLIND RIVETS; SUPPORT AT EACH FLOOR AND AT A MAXIMUM INTERVALS OF 16 FEET.
- INSTALL UPPER ATTACHMENTS TO STRUCTURES. SELECT AND SIZE UPPER ATTACHMENTS WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

REFRIGERANT PIPING INSTALLATION

- PIPING FOR INVERTER DRIVEN (VRV/VRF) SYSTEMS SHALL STRICTLY ADHERE TO MANUFACTURER'S APPROVED ARRANGEMENT AND RECOMMENDATIONS. DO NOT INSTALL ANY FILTERS, SIGHT GLASSES, TRAPS, OR OTHER FITTINGS OR JOINTS NOT APPROVED AND RECOMMENDED BY THE MANUFACTURER.
- DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS; INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON SHOP DRAWINGS.
- INSTALL REFRIGERANT PIPING ACCORDING TO ASHRAE 15.
- INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.
- INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.
- INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
- INSTALL PIPING ADJACENT TO MACHINES TO ALLOW SERVICE AND MAINTENANCE.
- INSTALL PIPING FREE OF SAGS AND BENDS.
- INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
- SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.
- INSTALL PIPING AS SHORT AND DIRECT AS POSSIBLE, WITH A MINIMUM NUMBER OF JOINTS, ELBOWS, AND FITTINGS.
- ARRANGE PIPING TO ALLOW INSPECTION AND SERVICE OF REFRIGERATION EQUIPMENT. INSTALL VALVES AND SPECIALTIES IN ACCESSIBLE LOCATIONS TO ALLOW FOR SERVICE AND INSPECTION. INSTALL ACCESS DOORS OR PANELS AS IF VALVES OR EQUIPMENT REQUIRING MAINTENANCE IS CONCEALED BEHIND FINISHED SURFACES.
- INSTALL REFRIGERANT PIPING IN PROTECTIVE CONDUIT WHERE INSTALLED BELOWGROUND.
- INSTALL REFRIGERANT PIPING IN RIGID OR FLEXIBLE CONDUIT IN LOCATIONS WHERE EXPOSED TO MECHANICAL INJURY.
- SLOPE REFRIGERANT PIPING AS FOLLOWS:
 - INSTALL HORIZONTAL HOT-GAS DISCHARGE PIPING WITH A UNIFORM SLOPE DOWNWARD AWAY FROM COMPRESSOR.
 - INSTALL HORIZONTAL SUCTION LINES WITH A UNIFORM SLOPE DOWNWARD TO COMPRESSOR.
 - INSTALL TRAPS AND DOUBLE RISERS TO ENTRAIN OIL IN VERTICAL RUNS.
 - LIQUID LINES MAY BE INSTALLED LEVEL.

- WHEN BRAZING OR SOLDERING, REMOVE SOLENOID-VALVE COILS AND SIGHT GLASSES; ALSO REMOVE VALVE STEMS, SEATS, AND PACKING, AND ACCESSIBLE INTERNAL PARTS OF REFRIGERANT SPECIALTIES. DO NOT APPLY HEAT NEAR EXPANSION-VALVE BULB.
- INSTALL PIPING WITH ADEQUATE CLEARANCE BETWEEN PIPE AND ADJACENT WALLS AND HANGERS OR BETWEEN PIPES FOR INSULATION INSTALLATION.
- INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

- INSTALL SLEEVE SEALS FOR PIPING PENETRATIONS OF CONCRETE WALLS AND SLABS.
- INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

REFRIGERANT PIPE JOINT CONSTRUCTION

- SOLDERED JOINTS: CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK."
- BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK," CHAPTER "PIPE AND TUBE."
 - USE TYPE BCUP, COPPER-PHOSPHORUS ALLOY FOR JOINING COPPER SOCKET FITTINGS WITH COPPER PIPE.
 - USE TYPE BAG, CADMIUM-FREE SILVER ALLOY FOR JOINING COPPER WITH BRONZE OR STEEL.

REFRIGERANT PIPE HANGERS AND SUPPORTS

PIPING HANGERS AND SUPPORTS MUST ACCOMMODATE EXPANSION AND CONTRACTION, VIBRATION, DEAD LOAD OF PIPING AND ITS CONTENTS, AND SEISMIC-BRACING REQUIREMENTS.

- HANGER, SUPPORT, AND ANCHOR PRODUCTS ARE SPECIFIED IN SECTION 230529 "HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT."
- INSTALL THE FOLLOWING PIPE ATTACHMENTS:
 - ADJUSTABLE STEEL CLEVIS HANGERS FOR INDIVIDUAL HORIZONTAL RUNS LESS THAN 20 FEET LONG.
 - ROLLER HANGERS AND SPRING HANGERS FOR INDIVIDUAL HORIZONTAL RUNS 20 FEET OR LONGER.
 - PIPE ROLLER: MSS SP-58, TYPE 44 FOR MULTIPLE HORIZONTAL PIPING 20 FEET OR LONGER, SUPPORTED ON A TRAPEZE.
 - SPRING HANGERS TO SUPPORT VERTICAL RUNS.
 - COPPER-CLAD HANGERS AND SUPPORTS FOR HANGERS AND SUPPORTS IN DIRECT CONTACT WITH COPPER PIPE.
- INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD SIZES:
 - NPS 1/2": MAXIMUM SPAN, 60 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
 - NPS 5/8": MAXIMUM SPAN, 60 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
 - NPS 1": MAXIMUM SPAN, 72 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
 - NPS 1-1/4": MAXIMUM SPAN, 96 INCHES; MINIMUM ROD SIZE, 3/8 INCH.
 - NPS 1-1/2": MAXIMUM SPAN, 96 INCHES; MINIMUM ROD SIZE, 3/8 INCH.
 - SUPPORT MULTIFLOOR VERTICAL RUNS AT LEAST AT EACH FLOOR.

VERIFY ACTUAL SUPPORTED LOADS FOR HANGER SIZES AND SPACING. CONSULT STRUCTURAL ENGINEER. SPACING AND SIZES IN SUBPARAGRAPHS BELOW ARE FROM THE 2000 ASHRAE HANDBOOK - "HVAC SYSTEMS AND EQUIPMENT."

- NPS 1/2": MAXIMUM SPAN, 60 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
- NPS 5/8": MAXIMUM SPAN, 60 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
- NPS 1": MAXIMUM SPAN, 72 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
- NPS 1-1/4": MAXIMUM SPAN, 96 INCHES; MINIMUM ROD SIZE, 3/8 INCH.
- NPS 1-1/2": MAXIMUM SPAN, 96 INCHES; MINIMUM ROD SIZE, 3/8 INCH.
- SUPPORT MULTIFLOOR VERTICAL RUNS AT LEAST AT EACH FLOOR.

REFRIGERANT PIPE FIELD QUALITY CONTROL

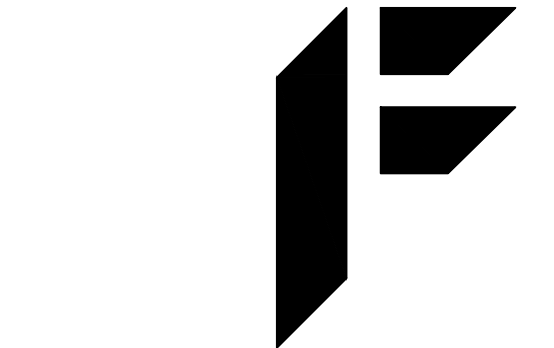
- PERFORM TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.
- TESTS AND INSPECTIONS:
 - COMPLY WITH ASME B31.5, CHAPTER VI.
 - TEST REFRIGERANT PIPING AND SPECIALTIES. ISOLATE COMPRESSOR, CONDENSER, EVAPORATOR, AND SAFETY DEVICES FROM TEST PRESSURE IF THEY ARE NOT RATED ABOVE THE TEST PRESSURE.
 - TEST HIGH- AND LOW-PRESSURE SIDE PIPING OF EACH SYSTEM SEPARATELY AT NOT LESS THAN THE PRESSURES INDICATED IN PART 1 "PERFORMANCE REQUIREMENTS" ARTICLE.
 - FILL SYSTEM WITH NITROGEN TO THE REQUIRED TEST PRESSURE.
 - SYSTEM SHALL MAINTAIN TEST PRESSURE AT THE MANIFOLD GAGE THROUGHOUT DURATION OF TEST.
 - TEST JOINTS AND FITTINGS WITH ELECTRONIC LEAK DETECTOR OR BY BRUSHING A SMALL AMOUNT OF SOAP AND GLYCERIN SOLUTION OVER JOINTS.
 - REMAK LEAKING JOINTS USING NEW MATERIALS, AND RETEST UNTIL SATISFACTORY RESULTS ARE ACHIEVED.

REFRIGERANT SYSTEM CHARGING

- FOR INVERTER DRIVEN (VRV/VRF) SYSTEMS USE MANUFACTURER'S MOST STRINGENT CHARGING PROCEDURE. DETERMINE CHARGE BASED ON MANUFACTURER'S LITERATURE. ONLY USE GAUGES AND VACUUM PUMPS THAT MEET THE PERFORMANCE REQUIRED BY THE MANUFACTURER'S PROCEDURE.
- CHARGE SYSTEM USING THE FOLLOWING PROCEDURES:
 - INSTALL CORE IN FILTER DRYERS AFTER LEAK TEST BUT BEFORE EVACUATION.
 - EVACUATE ENTIRE REFRIGERANT SYSTEM WITH A VACUUM PUMP TO 500 MICROMETERS. IF VACUUM HOLDS FOR 12 HOURS, SYSTEM IS READY FOR CHARGING.
 - BREAK VACUUM WITH REFRIGERANT GAS, ALLOWING PRESSURE TO BUILD UP TO 2 PSIG.
 - CHARGE SYSTEM WITH A NEW FILTER-DRYER CORE IN CHARGING LINE.

REFRIGERANT SYSTEM ADJUSTING

- FOR INVERTER (VRV/VRF) SYSTEMS REFER TO MANUFACTURER LITERATURE FOR SYSTEM ADJUSTMENT.
- ADJUST THERMOSTATIC EXPANSION VALVE TO OBTAIN PROPER EVAPORATOR SUPERHEAT.
- ADJUST HIGH- AND LOW-PRESSURE SWITCH SETTINGS TO AVOID SHORT CYCLING IN RESPONSE TO FLUCTUATING SUCTION PRESSURE.
- ADJUST SET-POINT TEMPERATURE OF AIR-CONDITIONING OR CHILLED-WATER CONTROLLERS TO THE SYSTEM DESIGN TEMPERATURE.
- PERFORM THE FOLLOWING ADJUSTMENTS BEFORE OPERATING THE REFRIGERATION SYSTEM, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS:
 - OPEN SHUT-OFF VALVES IN CONDENSER WATER CIRCUIT.
 - VERIFY THAT COMPRESSOR OIL LEVEL IS CORRECT.
 - OPEN COMPRESSOR SUCTION AND DISCHARGE VALVES.
 - OPEN REFRIGERANT VALVES EXCEPT BYPASS VALVES THAT ARE USED FOR OTHER PURPOSES.
 - CHECK OPEN COMPRESSOR-MOTOR ALIGNMENT AND VERIFY LUBRICATION FOR MOTORS AND BEARINGS.
- REPLACE CORE OF REPLACEABLE FILTER DRYER AFTER SYSTEM HAS BEEN ADJUSTED AND AFTER DESIGN FLOW RATES AND PRESSURES ARE ESTABLISHED.



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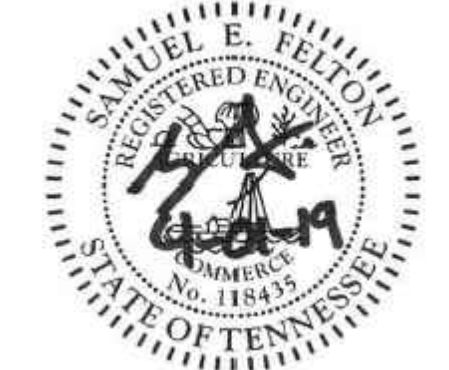
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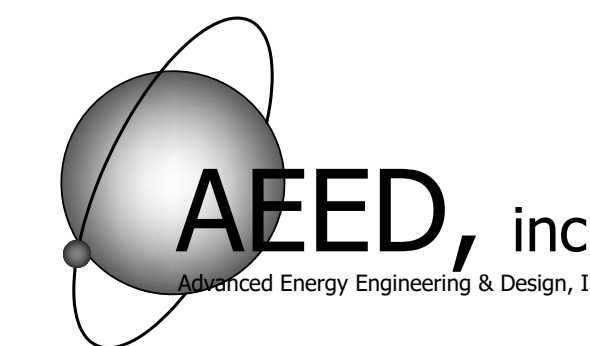
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MECHANICAL

SPEC SHEET

Sheet

M002



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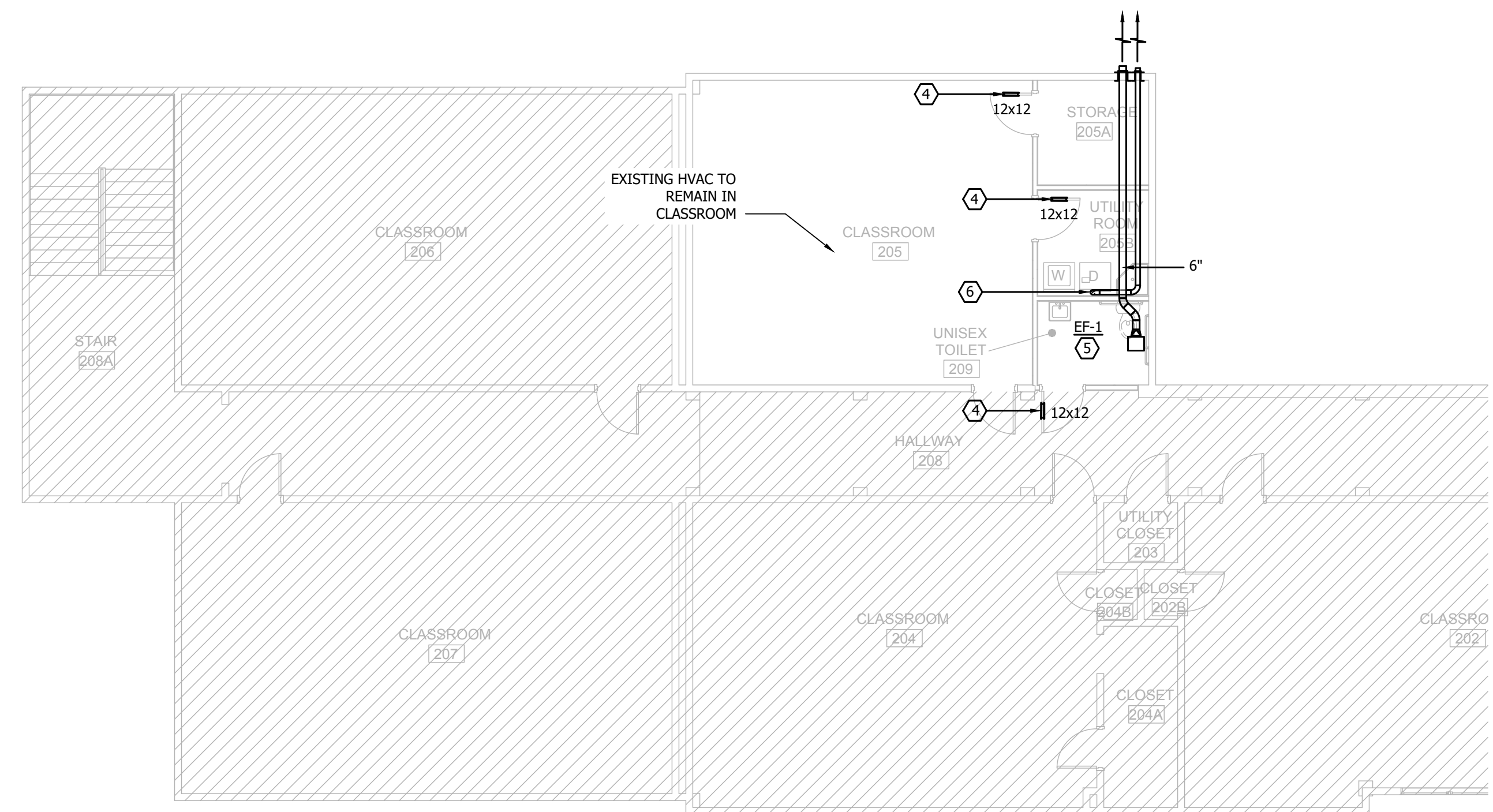
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HVAC SHEET NOTES - NEW CONSTRUCTION REFERENCED

- ① CEILING MOUNTED CASSETTE UNIT
 - SUSPEND UNIT FLUSH WITH CEILING USING VIBRATION ISOLATION HANGERS
 - PROVIDE 4" OUTDOOR AIR DUCT, PROVIDE MANUAL BALANCING DAMPER
 - ROUTE CONDENSATE DRAIN LINE AS SHOWN, SLOPE LINE 1/8" PER 1'-0" AWAY FROM COIL
- ② 3/4" CONDENSATE PIPING
 - ROUTE CONDENSATE LINE DOWN IN EXTERIOR WALL
 - CONDENSATE LINES SHALL BE INSULATED TO PREVENT PIPE SWEATING IN WALL/ABOVE CEILING.
 - SLOPE CONDENSATE DRAIN LINE 1/8" PER 1'-0" AWAY FROM COIL
 - SPILL LINE IN MOP SINK AS SHOWN
- ③ 4" OUTDOOR AIR DUCT
 - ROUTE FROM INTAKE POINT ON UNIT OUT TO WALL MOUNTED INTAKE VENT WITH INSECT SCREEN
 - SLEEVE AND SEAL AROUND VENT WEATHER TIGHT
- ④ DOOR MOUNTED TRANSFER GRILLE
 - GRILLE MOUNTED 6" ABOVE BOTTOM OF DOOR
 - GRILLE SIZE BASED ON MFG: TITUS MODEL: CT-700L
 - PROVIDE COMPLETE WITH AUXILIARY FRAME
- ⑤ CEILING MOUNTED EXHAUST FAN
 - EXTEND 6" EXHAUST DUCT FROM FAN TO BRICK VENT IN EXTERIOR WALL
 - SLEEVE AND SEAL AROUND DUCT WEATHER TIGHT
 - FAN TO BE INTERLOCKED WITH WALL SWITCH
- ⑥ 4" DRYER VENT CONSTRUCTED OF RIGID DUCTWORK
 - ROUTE TO EXTERIOR WALL VENT
 - SLEEVE AND SEAL WALL PENETRATION WEATHER TIGHT
 - PROVIDE AND INSTALL INLINE LINT TRAP AND BOOSTER FAN IN READILY ACCESSIBLE LOCATION.
- ⑦ MOUNT CONDENSING UNIT AT GRADE ON 6" THICK RE-INFORCED CONCRETE PAD
 - PAD EXTENDS 6" ON EVERY SIDE OF UNIT
 - MAINTAIN 36" CLEARANCE TO ELECTRICAL ACCESS PANELS
 - ROUTE REFRIGERANT PIPING FROM CONDENSING UNIT UP IN EXTERIOR WALL TO CORRESPONDING A/C UNIT
 - MINIMIZE PIPING EXPOSED ON EXTERIOR
 - SEAL ALL PENETRATIONS TO EXTERIOR WEATHER TIGHT
 - MAINTAIN MANUFACTURERS RECOMMENDED CLEARANCES AROUND UNIT
 - ROUTE REFRIGERANT PIPING IN STRICT ADHERENCE WITH MANUFACTURER'S REQUIREMENTS
 - CHARGE SYSTEM ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

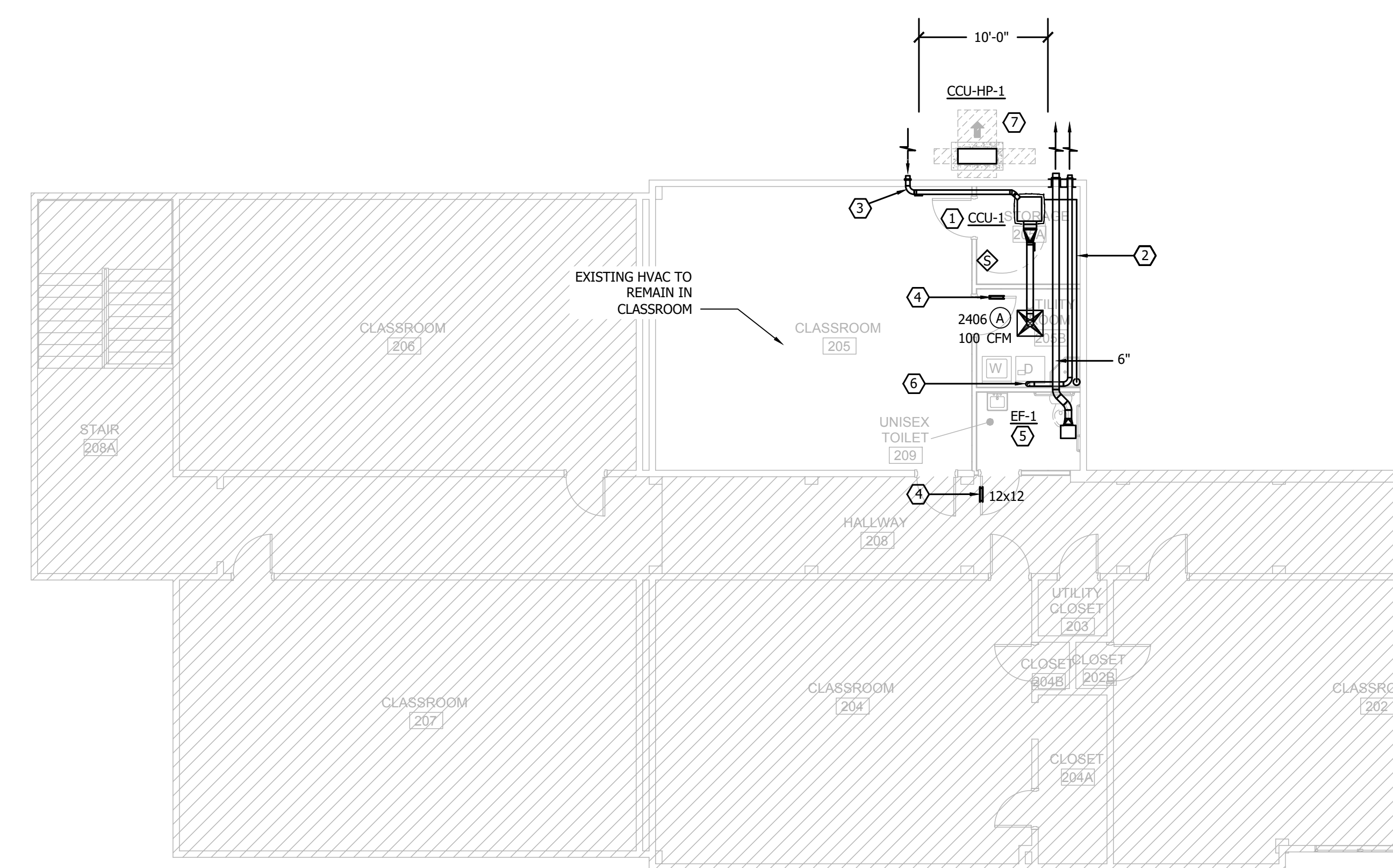
MECHANICAL UNREFERENCED NOTES

- A. FOR GENERAL HVAC NOTES SEE COVER SHEET. IN THE CASE OF CONFLICTING NOTES THE MOST STRINGENT OF THE TWO SHALL APPLY PER APPLICABLE JOB CODE.
- B. ROUND DUCT RUNOUTS TO INDIVIDUAL DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK UNLESS NOTED.
- C. EXISTING MATERIAL DISTURBED BECAUSE OF WORK PERFORMED UNDER THIS CONTRACT ARE TO BE REPAIRED AND RESTORED TO CONDITIONS EQUAL TO ORIGINAL AT NO COST TO THE OWNER.
- D. MAINTAIN 10 FT. (MIN.) SEPARATION BETWEEN OUTSIDE AIR INTAKES AND EXHAUST OR VENT OPENINGS.
- F. EXTEND FULL SIZE CONDENSATE DRAIN LINE FROM EACH A/C UNIT AND TERMINATE AT FLOOR DRAIN, ROOF DRAIN, FRENCH DRAIN, OR OTHER TERMINATION POINTS AS DIRECTED. TRAP AND VENT DRAIN LINE AT CONNECTION TO EQUIPMENT.
- G. SLOPE CONDENSATE LINES TO DRAIN AWAY FROM EQUIPMENT AT MINIMUM 1/8" PER FOOT. ALL INTERIOR CONDENSATE LINES SHALL BE INSULATED TO PREVENT CONDENSATION.
- H. MAINTAIN MINIMUM 36" BETWEEN SUPPLY/RETURN AIR TERMINALS AND SMOKE DETECTORS.
- I. MAINTAIN MINIMUM 12" BETWEEN SUPPLY DIFFUSERS AND FIRE SPRINKLER HEADS. WHERE HEATING DISCHARGE AIR TEMPERATURE IS 100°F OR MORE, THE MINIMUM DISTANCE SHALL BE 36".
- J. COORDINATE FINAL THERMOSTAT OR EQUIPMENT CONTROLLER LOCATIONS WITH OWNER/ARCHITECT.
- K. PROVIDE A MANUAL VOLUME DAMPER IN DUCT OR AIR TERMINAL FOR EACH BRANCH RUNOUT. BALANCE AIR TERMINALS TO AIRFLOW INDICATED ON PLANS.
- L. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS.
- M. FLEXIBLE DUCT ON ANY BRANCH LINE, WHERE USED, SHALL NOT EXCEED 5'-0" IN TOTAL LENGTH.
- N. SUPPLY DIFFUSERS SHALL BE INSTALLED WITH MANUFACTURER'S MOLDED INSULATION BLANKET WHERE APPLICABLE.



1 MECHANICAL - BASE HVAC PLAN - LEVEL 2
M101 SCALE: 1/8" = 1'-0"

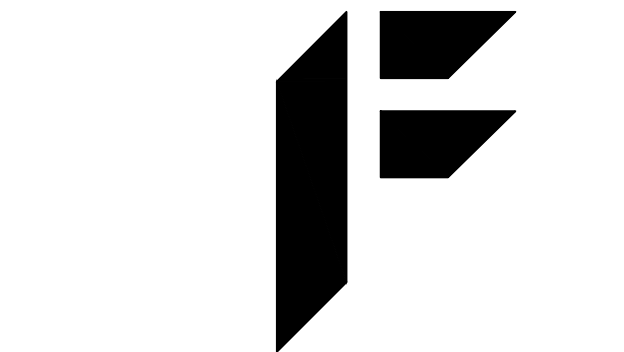
BASE BID LAYOUT



2 MECHANICAL - ALTERNATE HVAC PLAN - LEVEL 2
M101 SCALE: 1/8" = 1'-0"

HVAC ALTERNATE BID LAYOUT

NOTE: CONTRACTOR SHALL PRICE BASE AND HVAC ALTERNATE LAYOUTS AS SEPARATE LINE ITEMS ON PROPOSAL



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Rec Center**

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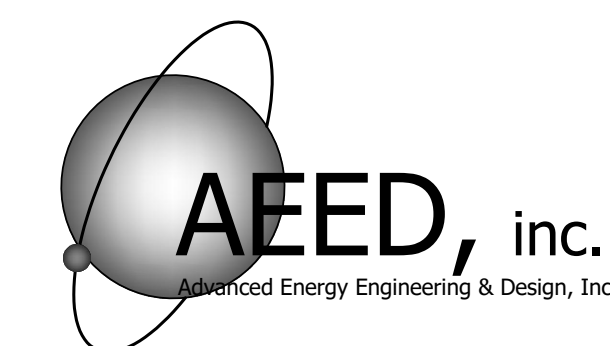
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MECHANICAL

HVAC PLANS

Sheet

M101



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DUCTLESS A/C SCHEDULE (ALTERNATE BID)

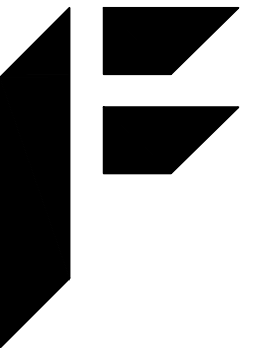
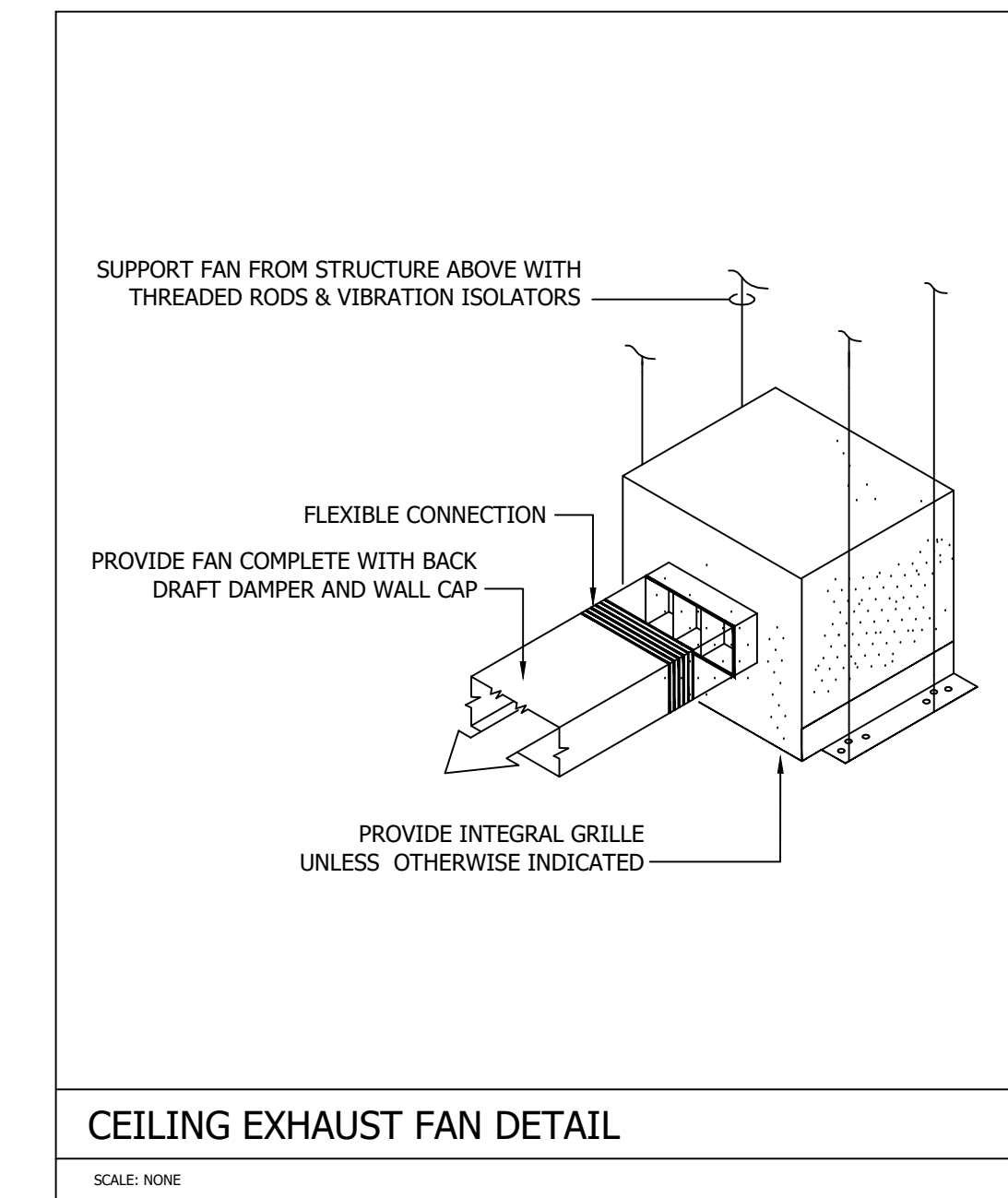
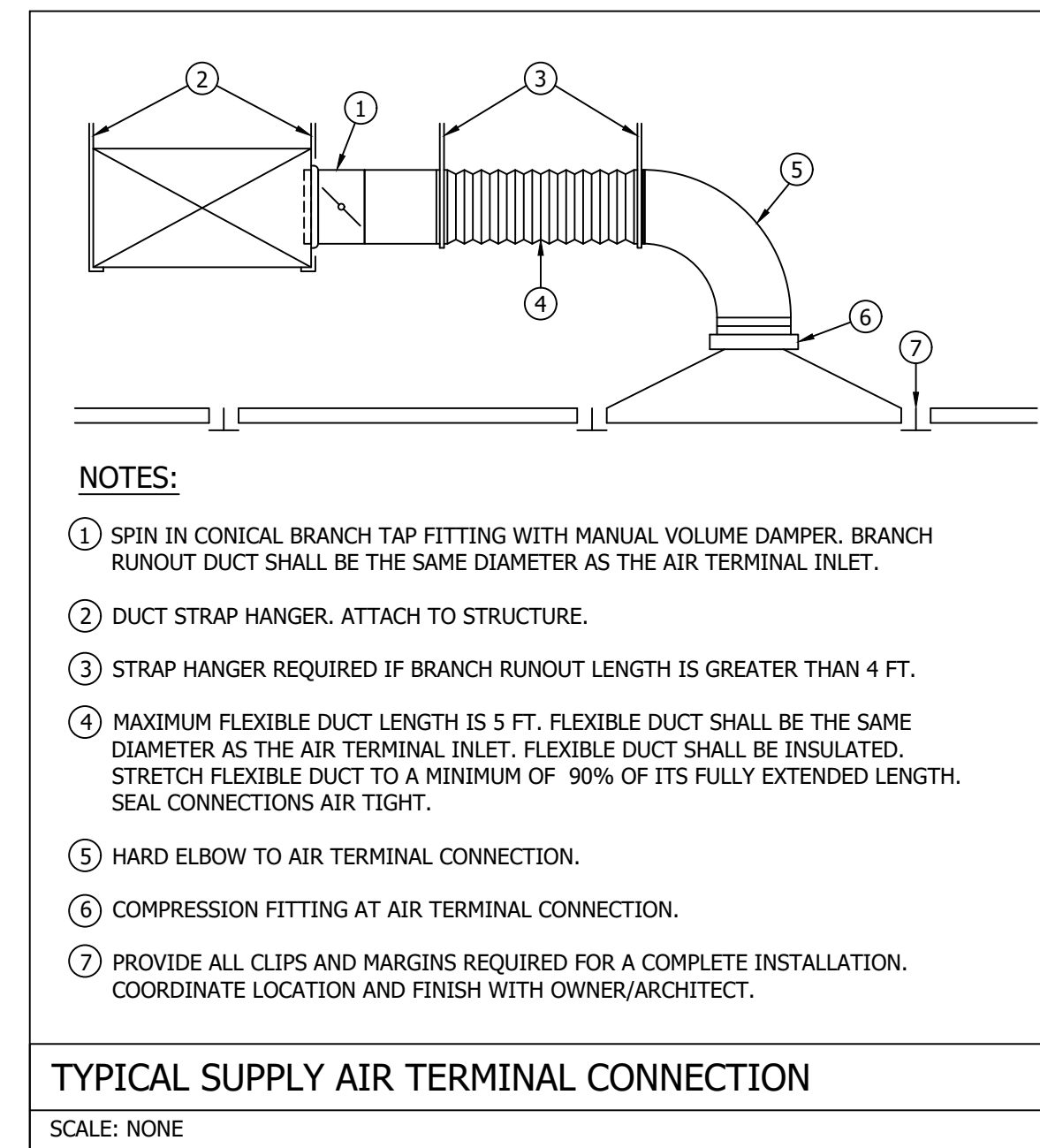
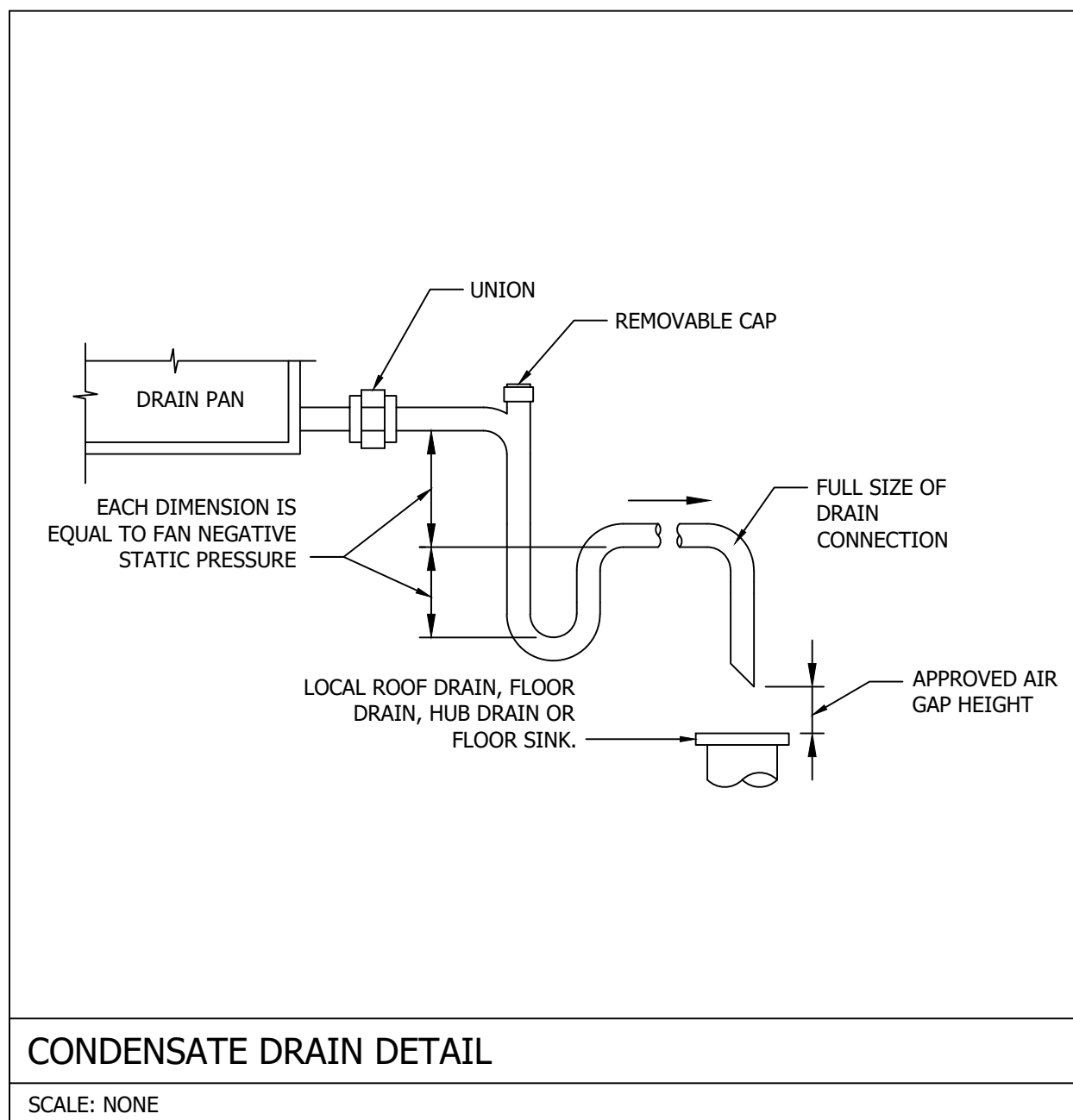
DESIG.	MANUFACTURER	INDOOR	OUTDOOR	CFM HI - MED - LOW	OA CFM	INDOOR		OUTDOOR		COOLING (MBH)	HEATING (MBH)	OPTIONS-ACCESSORIES
						VOLTS	MCA	VOLTS	(MCA/MOCP)			
CCU-1 / CCU-HP-1	CARRIER	40MBCQ09--3	38MAQB09R--3	380-320-260	15	208/1/60	0.2	208/1/60	9 / 15	9.0	10.0	ALL

- NOTES:
 1. VERIFY PROPER VOLTAGE WITH ELECTRICAL CONTRACTOR.
 2. PROVIDE WITH WIRE REMOTE WALL MOUNTED CONTROLLER.
 3. PROVIDE AND INSTALL DISCONNECTS WITHIN SIGHT OF OUTDOOR AND INDOOR UNITS.

EXHAUST FAN SCHEDULE

ITEM	MANUFACTURER	MODEL NO.	CFM	MOTOR		SP (in wg)	MAX SONE	VOLTS/ø	TOTAL WEIGHT (LBS)	NOTES
				FAN SPEED (RPM)	HP/WATTS					
EF-1	GREENHECK	SP-A70	50	850	13w	0.25	1.0	115/1	15	ALL

- NOTES:
 1. INTERLOCK FAN WITH WALL SWITCH
 2. PROVIDE & INSTALL WITH WALL CAP, BACKDRAFT DAMPER, & INSECT SCREEN



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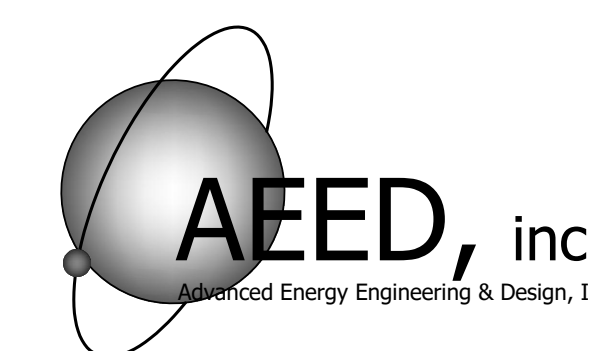
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MECHANICAL

SCHEDULES &
 DETAILS

Sheet

M200

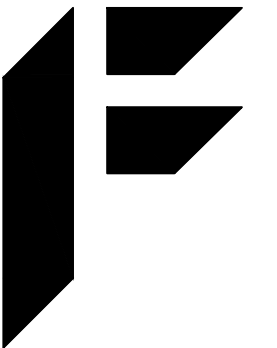


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ELECTRICAL DEMO SHEET NOTES - UN-REFERENCED

- a. ALL LIGHTS, FIRE ALARM, ETC. IN AREAS WHERE CEILING IS BEING DEMOLISHED SHALL BE TAKEN BACK TO SOURCE. FIXTURES AND DEVICES ARE SHOWN FOR INTENT, BUT THERE MAY BE ADDITIONAL DEVICES REQUIRING DEMO THAT ARE NOT SHOWN.
- b. E.C. TO MAINTAIN CIRCUIT INTEGRITY FOR ANY REMAINING FIXTURES/DEVICES.
- c. ALL LIGHT FIXTURES SHALL BE COMPLETELY REMOVED AND DISPOSED OF BY THE E.C. PER THE PROJECT MANAGERS DIRECTION. E.C. MAY UTILIZE EXISTING BRANCH WIRING/CIRCUITING WITH NEW HOME RUNS.



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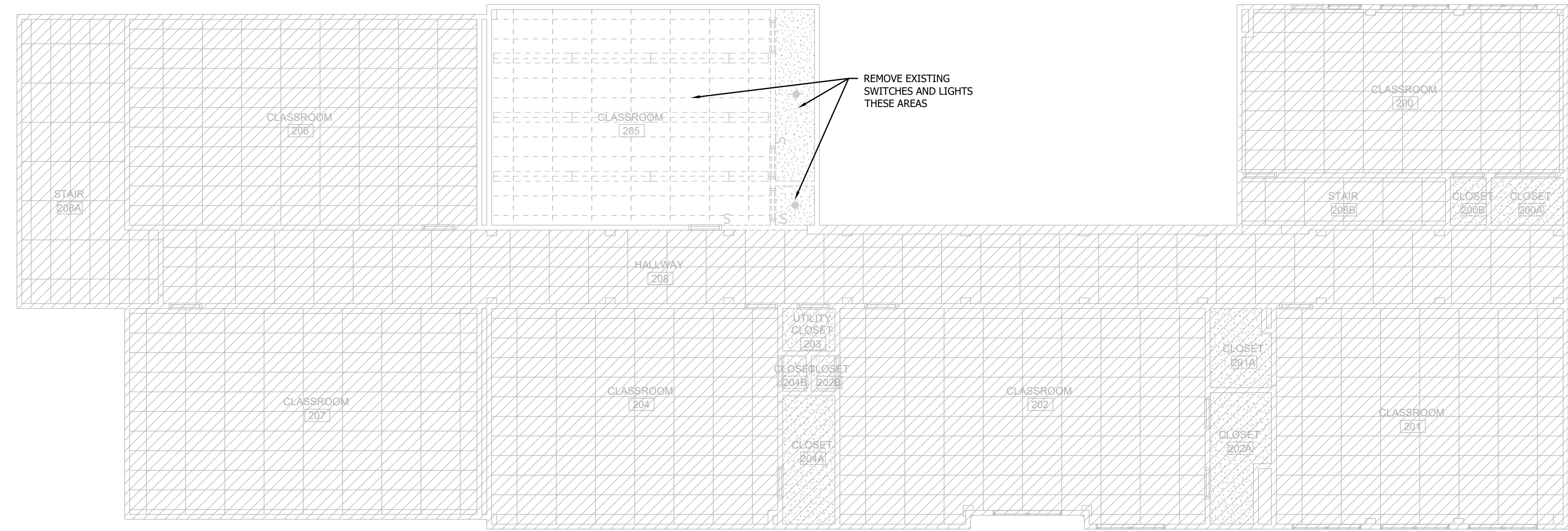
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ELECTRICAL

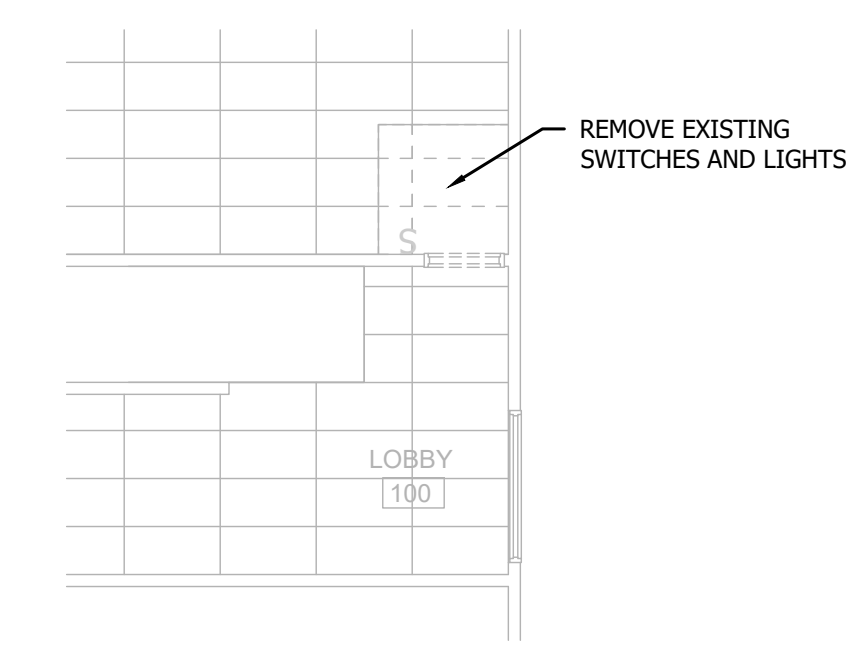
DEMO PLANS

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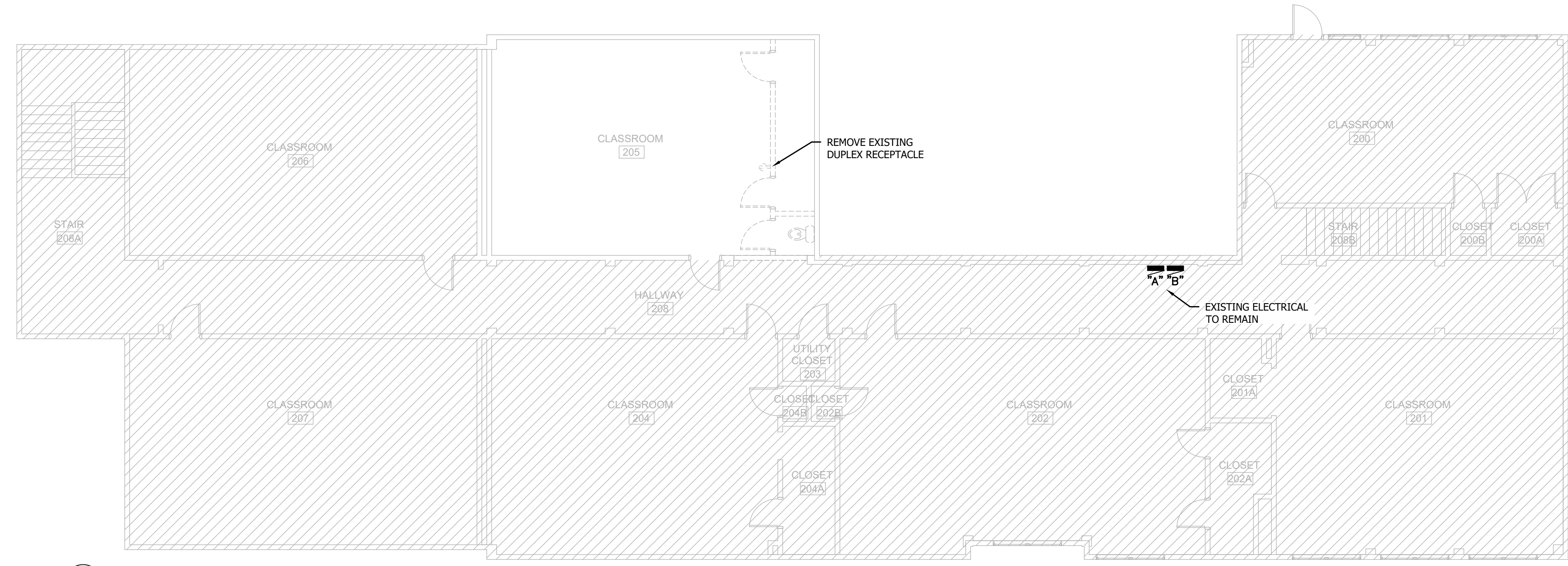
E100



1 ELECTRICAL - LIGHTING - DEMO PLAN - LEVEL 2
E100 SCALE: 1/8" = 1'-0"

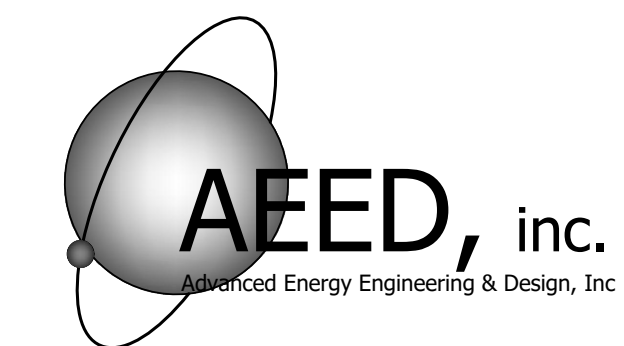


3 ELECTRICAL - LIGHTING - DEMO PLAN - LEVEL 1
E100 SCALE: 1/8" = 1'-0"



2 ELECTRICAL - POWER - DEMO PLAN - LEVEL 2
E100 SCALE: 1/8" = 1'-0"

Last Plotted: 3/25/2019 8:40:42 AM



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LUMINAIRE SCHEDULE										
TYPE	DESCRIPTION	MOUNTING	RECESS DEPTH	LAMPS		INPUT WATTS	VOLT	MANUFACTURER	CATALOG NUMBER	SPECIFIC NOTES
				QTY	TYPE					
A	2 X 4 RECESSED	RECESSED			LED	37.4	120	EATON	24GR-LDS-48-UNV-L835-CD-1-U	
Y	EMERGENCY LIGHT	SURFACE			LED	10	120	EATON	AP-2SQ-LED	

GENERAL NOTES:
A. THE LUMINAIRE SCHEDULE CAN NOT BE USED INDEPENDENTLY OF THE DRAWINGS AND SPECIFICATIONS TO OBTAIN LUMINAIRE COSTS. THE INDIVIDUAL ESTABLISHING LUMINAIRE COSTS SHALL NOT QUOTE PRICING WITHOUT FIRST SEEING APPLICABLE ELECTRICAL DRAWINGS AND ELECTRICAL DIVISION SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY DRAWINGS AND SPECIFICATIONS TO THE INDIVIDUAL QUOTING LUMINAIRE PRICING.
B. REFER TO DRAWINGS FOR FIXTURES REQUIRING EMERGENCY BATTERY BACKUP OPTION (SHOWN BY HATCH IN/OVER SYMBOL). MINIMUM LIGHT OUTPUT SHALL BE 600 LUMENS.
C. ALL FIXTURES ARE TO BE 3500° KELVIN COLOR TEMPERATURE UNLESS SPECIFIED OTHERWISE.

SPECIFIC NOTES:
(1)
(2)
(3)
(4)

MECHANICAL EQUIPMENT SCHEDULE													
MARK	DESCRIPTION	LOCATION	VOLT / PHASE	HP / WATTS	FLA	MCA	MOCF	STARTER	DISCONNECT / FUSE SIZE	FEEDER	CIRCUIT	SPECIFIC NOTES	
CCU-1	DUCTLESS AC	INDOOR							20A 1P MRDS			2	
CCU-HP-1	DUCTLESS AC	OUTDOOR	208/1		7.2	9.0	20.0		30A 2P FUSED DISC SW	20 (2WG)	A-22.24		
EF-1	EXHAUST FAN	TOILET	115/1						20A 1P MRDS	20 (2WG)	LIGHTING CKT	1	

GENERAL NOTES:
A. ALL STARTERS FOR ALL EQUIPMENT LISTED ON THIS SCHEDULE ARE PROVIDED BY THE MECHANICAL CONTRACTOR, U.N.O.
B. PROVIDE PHASE PROTECTION FOR ALL THREE PHASE MOTORS ABOVE 7-1/2 HP.
C. PROVIDE ALL EXTERIOR DISCONNECTS WITH NEMA 3R RATING.
D. ALL MECHANICAL AIR HANDLING EQUIPMENT WITH RATINGS OF 2000 CFM AND GREATER SHALL BE PROVIDED WITH SUPPLY AND RETURN DUCT DETECTORS AND SHUT DOWN EQUIPMENT UPON ACTIVATION. DETECTORS SHALL BE PROVIDED BY EC, INSTALLED BY MC AND WIRED BY EC.
E. COORDINATE ALL DISCONNECTS WITH MECHANICAL CONTRACTOR AND ACTUAL EQUIPMENT NAMEPLATE IN FIELD.

SPECIFIC NOTES:
(1) TIE TO LIGHTING CKT
(2) INDOOR UNIT POWER IS SUPPLIED THRU OUTDOOR UNIT. PROVIDE DISCONNECTS WITHIN SITE OF INDOOR AND OUTDOOR UNIT.
(3)
(4)

WIRING SCHEDULE							
COPPER				ALUMINUM			
AMPS	(2WG) 10, 2 WIRE, GROUND	(3WG) 10, 3 WIRE, GROUND OR 30, 3 WIRE, GROUND	(4WG) 30, 4 WIRE, GROUND	(2WG) 10, 2 WIRE, GROUND	(3WG) 10, 3 WIRE, GROUND OR 30, 3 WIRE, GROUND	(4WG) 30, 4 WIRE, GROUND	AMPS
20	(2#12 & 1#12 G) 34°C	(3#12 & 1#12 G) 34°C	(4#12 & 1#12 G) 34°C				20
30	(2#10 & 1#10 G) 34°C	(3#10 & 1#10 G) 34°C	(4#10 & 1#10 G) 34°C				30
40	(2#8 & 1#10 G) 34°C	(3#8 & 1#10 G) 34°C	(4#8 & 1#10 G) 1°C				40

CONDUCTOR SIZES ARE BASED ON 90° TERMINATIONS LESS THAN 100A AND 75° TERMINATIONS GREATER THAN 100A PER NEC 110.14
ADJUSTMENT FACTORS ARE BASED ON 90° TEMPERATURE RATINGS PER NEC 110.14
CONDUIT SIZES ARE BASED ON NEC CH 9 TABLE 4 (RNC SCHED 80) FOR WORST CASE AND TABLE 5 (THHN INSULATION)

ELECTRICAL SHEET NOTES - UN-REFERENCED

- a. EM AND ALL EXIT FIXTURES SHALL BE FED AHEAD OF ANY SWITCHES OR RELAYS FOR 24/7 OPERATION. FEED FROM CIRCUIT SERVING THE NORMAL LIGHTS IN THAT AREA.
- b. E.C. MAY UTILIZE EXISTING BRANCH WIRING/CIRCUITING WITH NEW HOMERUNS.
- c. ALL NEW FIRE ALARM DEVICES TO BE ROUTED BACK TO EXISTING FACP. ALL DEVICES SHALL BE COMPATIBLE WITH EXISTING SYSTEM. USE EXTENDER MODULES AND ADDITIONAL BOOSTER PANELS AS REQUIRED FOR A COMPLETE AND WORKING SYSTEM. FIRE ALARM WIRING IS TO BE CLEARLY MARKED.
- d. PROVIDE 3/4" C. TO NEAREST ACCESSIBLE CEILING TO ALL DATA/NETWORK DEVICES.
- e. ALL COVERPLATES/SWITCH COVERS TO MATCH. VERIFY COLOR WITH ARCHITECT. REPLACE EXISTING TO MATCH NEW.
- f. ALL PANELS SHALL HAVE NEW SCHEDULES TYPED OUT INDICATING NEW ROOM NAMING CONVENTIONS. ANY CIRCUITS THAT ARE CONFIRMED REMOVED DURING DEMOLITION SHALL BE LABELED AS SPARE.
- g. CONFIRM AVAILABILITY OF CIRCUITS INDICATED PRIOR TO USING. AVAILABILITY WAS BASED ON EXISTING SCHEDULES, BUT SHOULD BE CONFIRMED.

ELECTRICAL REFERENCED NOTES

- ① CIRCUIT TO NEAREST LIGHTING CIRCUIT SERVING MADE AVAILABLE DURING DEMO



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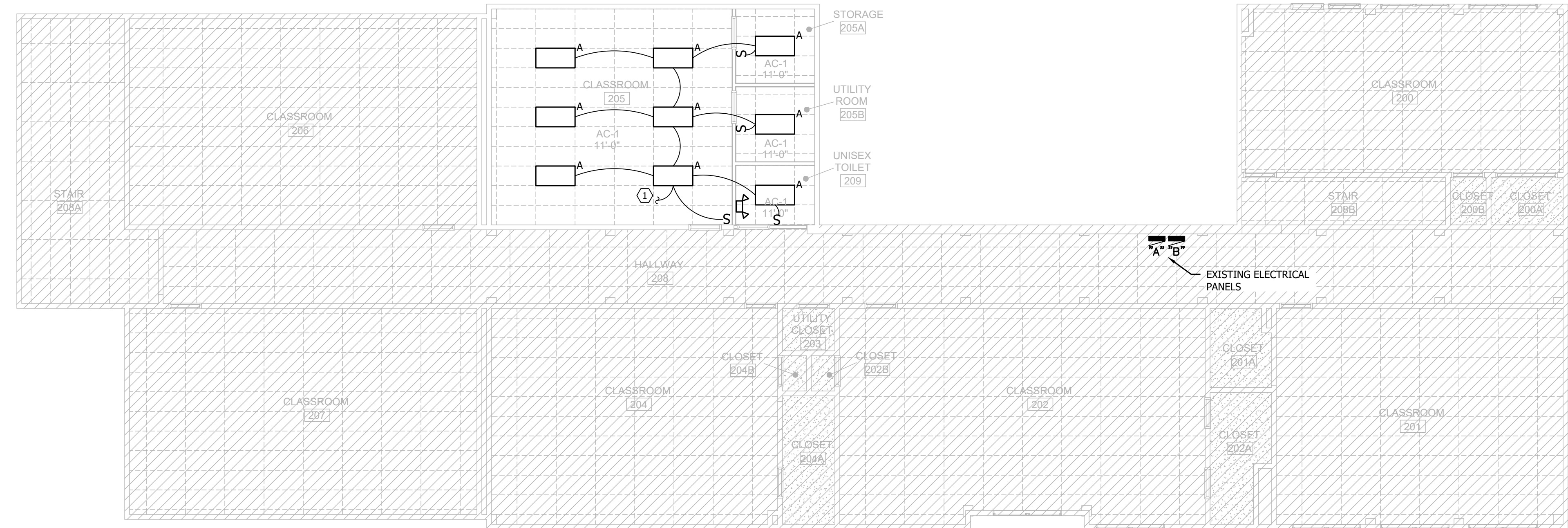
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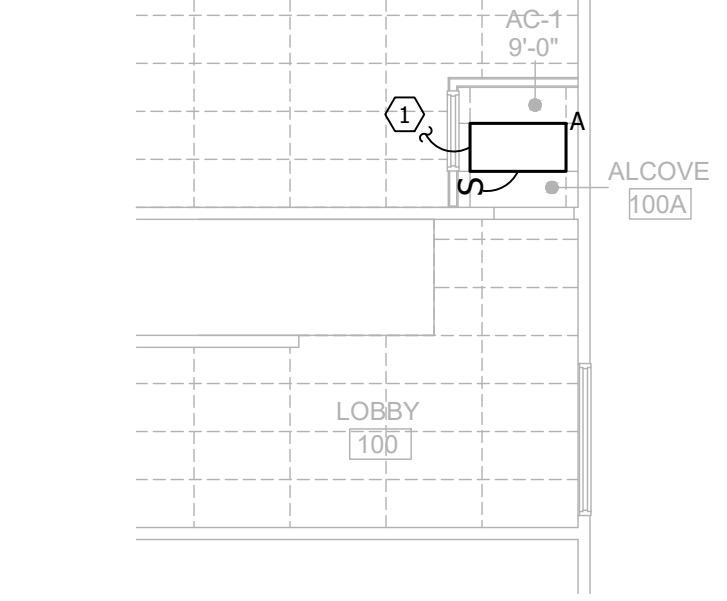
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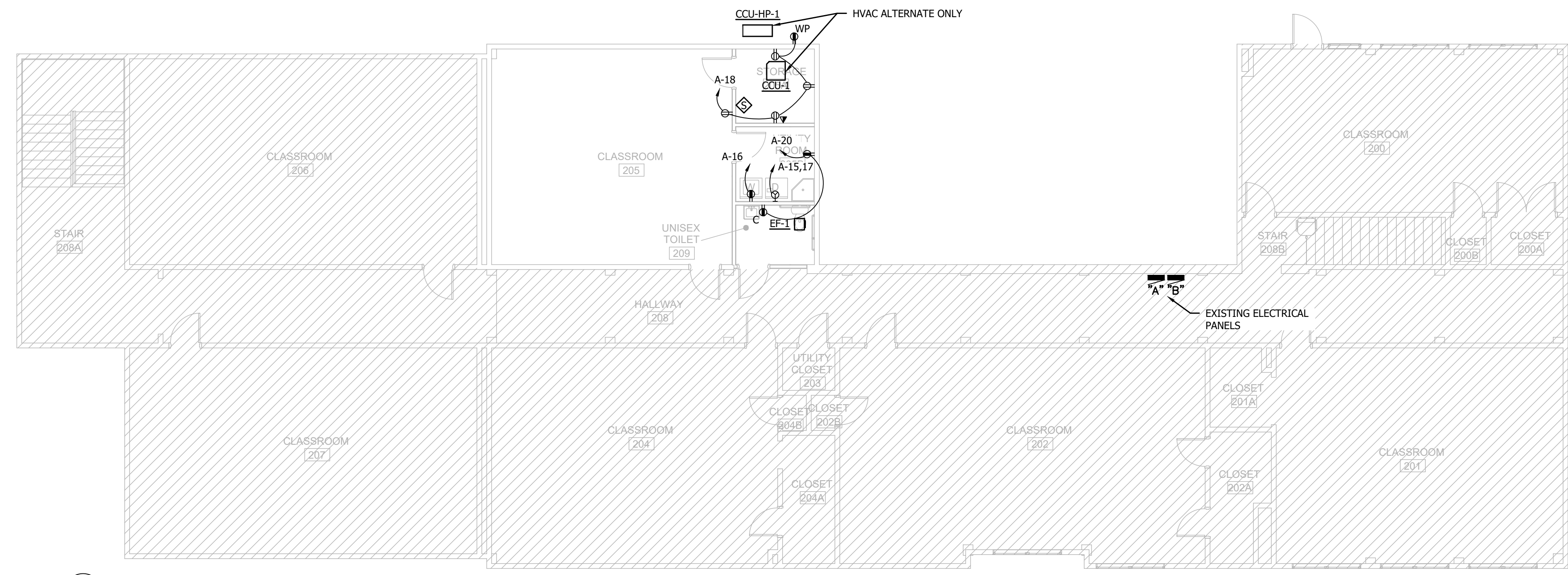
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No.	Issue	Date



1 ELECTRICAL - LIGHTING PLAN - LEVEL 2
E101 SCALE: 1/8" = 1'-0"



3 ELECTRICAL - LIGHTING PLAN - LEVEL 1
E101 SCALE: 1/8" = 1'-0"



2 ELECTRICAL - POWER PLAN - LEVEL 2
E101 SCALE: 1/8" = 1'-0"

PANEL:		A	
LOCATION:	CORRIDOR	VOLTAGE:	120/208V, 1PH, 3W
MOUNTING:	SURFACE	MINIMUM BUS:	100
		MAIN:	100/2 CB
		MINIMUM AIC:	EXISTING

NO.	LOAD		TYPE	LOAD DESCRIPTION	BREAKER POLE	TRIP	BUS		BREAKER POLE	TRIP	TYPE	LOAD DESCRIPTION	LOAD		NO.
	A	B					A	B					A	B	
1				EXISTING LOAD	f	20	+	20	f			EXISTING LOAD			2
3				EXISTING LOAD	f	20	+	20	f			EXISTING LOAD			4
5				EXISTING LOAD	f	20	+	20	f			EXISTING LOAD			6
7				EXISTING LOAD	f	20									

**CITY OF CHATTANOOGA
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

CERTIFICATION AND SEAL

I hereby certify that the Project Drawings and the Contract Documents and Specifications for the following contract were prepared by me or under my direct supervision, and that I am a duly registered architect under the laws of the state in which these projects are located:

**Renovations to the 2nd Floor
John A Patten Rec Center
3202 Kellys Ferry Road, Chattanooga, TN 37419**

Contract No. Y-17-017-201



TN REGISTRATION NO. 101590

**ARCHITECT
VICE PRESIDENT, FRANKLIN ASSOCIATES**

1 April 2019

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06 10 00	Rough Carpentry
	<u>DIVISION 08 – OPENINGS</u>
07 92 00	Caulking, Sealants, & Firestopping
	<u>DIVISION 08 – OPENINGS</u>
08 12 13	Hollow Metal Frames
08 14 16	Flush Wood Doors
	<u>DIVISION 09 - FINISHES</u>
09 21 16	Gypsum Board Assemblies
09 51 13	Acoustical Ceilings and Suspension systems
09 65 18	Vinyl Composition Tile (VCT) Flooring, Transitions, And Accessories
09 51 16	Acoustical Blanket Insulation
09 91 00	Interior Painting
	<u>DIVISION 10 – SPECIALTIES</u>
10 28 00	Toilet (Contractor-Furnished / Contractor-Installed)
	<u>DIVISION 11 – EQUIPMENT</u>
11 31 01	Appliances (Owner-Furnished / Contractor-Installed)

END OF SECTION

SUBMITTALS

SECTION 01 30 00

1.01 EQUIPMENT DELIVERY AND CONSTRUCTION SCHEDULE

Not later than ten (10) consecutive calendar days after the issuance of the "Notice to Proceed," the Contractor shall submit to the ENGINEER for review a detailed schedule of major equipment delivery and installation and general construction operations, indicating the sequence of the work, the estimated dates of starting each task, and the estimated time of completion of each task. The schedule shall be broken down with respect to individual structures and facilities, indicating when existing structures or equipment would be taken out of service (if applicable). The form and content of the schedule shall be satisfactory to the ENGINEER.

1.02 SHOP DRAWINGS AND PRODUCT DATA

- A. The Contractor shall submit to the ENGINEER for review, for design concept, complete drawings and ENGINEERING data for all equipment, materials, and products to be incorporated into the work. Shop drawings and engineering data shall be provided and the ENGINEER'S review will be conducted in accordance with the requirements of the General Provisions. Shop drawings and/or engineering data, as appropriate, shall be submitted for the following items, including, but not limited to:
1. All piping, pipe fittings, pipe supports, hangers, couplings, and insulation including mill tests if requested by the ENGINEER.
 2. Miscellaneous iron castings and gratings, manhole frames and covers, curb inlets, manhole steps.
 3. All concrete and masonry accessories and steel reinforcement, including bending diagrams and bar schedules, ties, spreaders, chairs, inserts, form coatings, waterstops, curing and sealing compounds, and epoxy bonding agents.
 4. Premixed grouts and mortars.
 5. All paints and protective coatings.
 6. Grass seed, fertilizer, and commercial mulches.
 7. Precast concrete manholes, Sections, Frames and covers, steps, junction boxes, etc., inclusive of manhole boots and joint material, etc.
 8. Portland Cement Concrete design mix for Class A and Class B Concrete.
 9. Paving mix design inclusive of sieve analysis and bituminous content.

- B. Shop drawings and engineering data for equipment supplied as a pre-engineered or pre-assembled system shall include complete shop drawings and engineering data on each component of that system. In all cases, the information provided shall be sufficient to determine if the material or product conforms with the requirements of the specifications.
- C. Shop drawings and engineering data shall be prepared by the original equipment vendors or fabricators, as applicable. Purchased specifications by the Contractor or his Supplier shall not be acceptable as a substitute for actual vendor drawings and data.
- D. All shop drawings shall include a legend or other suitable means to identify all symbols and abbreviations used on the drawing. Where an accepted, industry-wide drafting symbol or standard has been established for a particular item, information depicted on the shop drawings shall conform to that standard.
- E. Shop drawings shall be dimensioned using the U.S. standard unit of measurement (feet and/or inches). Size of drawing shall not exceed 24 inches by 36 inches. All scaled drawings and details shall have the scale clearly noted on the drawing or detail. All information shall be clear and legible.
- F. Each shop drawing and each item of engineering data shall bear the Contractor's APPROVED stamp indicating that the Contractor has reviewed the drawing or data for conformance with the Contract Documents.
- G. All design calculations and drawings for foundation and footings, sheeting and shoring, and concrete formwork shall bear the signed and dated stamp of a licensed professional engineer.

1.03 MISCELLANEOUS SUBMITTALS

The Contractor shall submit to the ENGINEER miscellaneous information, procedures, test data, samples, etc., in the manner and at the time specified in these Specifications and Contract Documents. Miscellaneous submittals shall include, but not be limited to, the following:

1. Procedures for handling and disposing of sewage flows during construction.
2. Factory test data and results where specified for specific items of equipment.
3. Preliminary concrete mix design reports.
4. Satisfactory written evidence in the form of laboratory or mill test reports indicating that all cement, aggregate, masonry, structural steel, fencing, castings, steel reinforcement, conduit, pipe, grout, waterproof materials, grass seed and other items incorporated into the work are in compliance with the requirements of these Specifications.
5. Project record documents.

6. Copies of original invoices of all equipment delivered to the site.
7. When requested, analysis and design data on concrete formwork and sheeting and shoring.
8. Drawings and details of erosion and sediment control structures, if significantly different from Drawings approved by the Stormwater Division of the Department of Public Works.
9. Written evidence of equipment warranties.

1.04 SCHEDULE OF WORK

Contractor shall submit a SCHEDULE OF WORK in sequential order by dates in which he expects to perform the contract specifying the areas or locations in the order the work is anticipated beginning with work commencement date.

- A. "The Work" may include related sections or items (individually or grouped) such as, Clearing and Grubbing, Gradework (cut & fill), Storm Sewers, Relocation of Sanitary & Related Culvert Construction, Erosion Control, Base, Paving, etc., as examples.

1.05 SAMPLES

At the ENGINEER'S request, the Contractor shall furnish certified samples of materials utilized in the fabrications or production of equipment, materials and products supplied under these Contract Documents. Cost of all such samples shall be borne by the Contractor. The samples will be tested by a qualified, independent, testing laboratory selected by the OWNER to determine if the mechanical and chemical properties of the materials supplied are in accordance with the requirements of these Specifications and Contract Documents. The OWNER shall pay for the laboratory testing of material samples provided by the Contractor. The Contractor shall pay for all retests made necessary by the failure of materials to conform to the requirements of these Specifications and Contract Documents.

1.06 SCHEDULES, REPORTS AND RECORDS

- A. The Contractor shall submit to the Engineer such schedule of quantities and costs, progress schedules, reports, estimates, records and other data where applicable as are required by the CONTRACT DOCUMENTS for the Work to be performed.
- B. Prior to the first partial payment estimate, the Contractor shall submit construction schedules showing the order in which the Contractor proposes to carry on the Work, including dates, at which the various parts of the Work will be started, estimated date of completion of each part, and, as applicable:
 1. The dates on which special detail drawings will be required. Submittal must allow sufficient time for review by the Engineer. Final approval must be obtained prior to commencement of construction of that portion of work to which they pertain.

2. Respective dates for submission of shop drawings, the beginning of manufacture, the testing and the installation of materials, supplies, and equipment.
- C. The Contractor shall also submit a schedule of payments that the Contractor anticipates will be earned during the course of the Work.

END OF DOCUMENT

PART ONE – GENERAL

1.01 WORK INCLUDED: This Section establishes general requirements pertaining to cutting, fitting, and patching of the work.

1.02 COORDINATION:

- A. It is the intent of the Contract Documents that the work be accomplished with the minimum amount of cutting.
- B. The Contractor is responsible for all cutting and patching which includes demolition work for required access and clean-up of all debris resulting from such work.
 - 1. When cutting or patching of existing building construction is required, the Contractor may require subcontractors to perform such work and clean-up resulting debris.
 - 2. When cutting or patching of new work is required, the Contractor may require subcontractors to perform such work and clean-up resulting debris.
 - 3. No sub-contractor, trade or craft shall perform any cutting without first notifying the Contractor as to the number and sizes of accesses required and receiving the Contractor's permission.
 - 4. Each sub-contractor, craft or trade requiring cutting or patching work shall notify the Contractor to the fullest extent in the scheduling and coordination of work to minimize the need for cutting and patching.
- C. The Contractor shall be responsible for providing all required protection including but not limited to, shoring, design of shoring, bracing and support necessary to maintain structural integrity of the Work.
- D. The Contractor must patch and / or re-build any Fire-Rated, Smoke-Rated, or Sound-Rated Partitions or ceilings that are damaged during performance of Work under this Contract to their original condition prior to the damage, and to maintain their rating status in compliance with STC Assemblies, UL Assemblies and IBC Requirements.
- E. Welding and torch cutting shall only be performed under provisions of the Fire Safety Program.

1.03 DEFINITIONS:

- A. Patching includes restoration or replacement of construction material, including finishing.
- B. Cutting and Patching:
 - 1. Includes cutting and patching of both previously existing work and nominally completed portions of Contract work.
 - 2. Excludes shop drilling of holes to install fasteners.
 - 3. Excludes special categories of work identified as alterations, demolition, excavating, grading, planting, cleaning, removal/replacement of noncomplying work and similar activities; although some of these activities may require cutting and patching.

PART TWO – PRODUCTS

- 2.01 MATERIALS: For replacement of Work removed, re-use existing materials or use materials which match existing or which comply with pertinent sections of these Specifications or which are approved by the Architect.

PART THREE – EXECUTION

- 3.01 GENERAL: Contractor shall oversee all cutting and patching for approval by the Architect.

3.02 PERFORMANCE:

- A. Perform all cutting, fitting and patching that may be required to make the several parts of the work fit together properly. Do not endanger the Work or any part of it. Design shoring and bracing or retain a licensed structural engineer to design and inspect shoring and bracing. Furnish, erect, maintain in safe condition and remove shoring and bracing as necessary to accomplish the work.
 - B. Perform cutting and demolition by methods which will minimize damage to other portions of the Work and will provide proper surfaces to receive installation of repair and new work.
 - C. No use of open flame, torch or welding equipment will be allowed without a fire extinguisher being ready for use within ten feet of the work. At the end of each work day, Contractor's Superintendent shall inspect all areas where open flame, torch or welding equipment was used to be certain there is no possibility of fire existing as a result of that work.
 - 1. In addition, Contractor shall provide no less than a one-hour fire-watch at the end of each day to include all areas where open flame, torch or welding equipment was used that day.
 - D. Protect the building from any and all damage related to Construction activities.
 - 1. All cutting, welding and any other Hot Work performed to accomplish the Work of this Project must comply with Federal and State OSHA Regulations.
 - 2. Contractor must provide fire extinguishers, safety plan, fire watch, fire blankets, other protective equipment, and anything else necessary to comply with Federal and State OSHA Regulations.
 - E. Patch work shall be performed by appropriate sub-contractor engaged in a given craft or trade. That is, plaster contractor shall do all patching of plaster, a ceramic tile contractor shall patch ceramic tile, etc.
 - F. Patching of all finishes shall match existing work, to the approval of the Architect.
 - G. Refinish entire surfaces as necessary to provide an even finish. For continuous surfaces, refinish to nearest intersections.
- 3.03 COST: The cost of required cutting and patching shall be included in the Contract Sum.

END OF SECTION

FINAL CLEANING, WASTE MANAGEMENT
AND DISPOSAL

SECTION 02 41 21

PART 1 - GENERAL

- 1.01 SCOPE: Provide materials, equipment and labor required for the thorough cleaning and sanitizing of the buildings and the Project Site. Leave pavements, floors, walls, ceilings, hardware, plumbing fixtures and lighting fixtures clean and free of dust and construction debris. Actively minimize, manage and recycle construction waste. Categorize, recycle to the maximum extent practicable, and properly dispose of undesirable and extraneous materials and debris found within the construction limits. Comply with hauling and disposal regulations of authorities having jurisdiction.
- 1.02 SPECIAL JOB CONDITIONS:
- A. SPECIAL PROTECTIVE MEASURES: Comply with the Special Protective Procedures of Section 01 50 00 – *Temporary Facilities and Controls* in the performance of Work under this Section.
- B. SITE PROTECTION: The Contractor shall not allow contaminated water and other fluids from cleaning and other construction operations to flow outside of the construction limits or off-site, or to damage adjacent lawns and landscaping. Contain and dispose of contaminated water and other fluids in a manner that will prevent contamination of the City of Chattanooga storm water drainage system that ultimately drains to the Tennessee River. Comply with City of Chattanooga and TDEC regulations.
- 1.03 DEFINITIONS:
- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- 1.04 Protect from damage all surfaces that could be impacted by cleaning processes. Provide all necessary dust barriers. Protect all mechanical equipment from dust and construction debris.
- 1.05 SUBMITTALS: Comply with Section 01 33 00. Submit Material Safety Data Sheets (MSDS) for all cleaning agents and other potentially harmful chemicals to be used in the performance of the Work.

PART 2 - MATERIALS

- 2.01 CLEANING AGENTS: Use cleaning materials and agents recommended by the manufacturers for the surfaces to be cleaned. Do not use agents that are potentially hazardous to the health of applicators, other construction personnel or to future occupants. Do not use products that could damage the surfaces to which they are applied.
- A. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

- 3.01 **CLEANING GENERAL:** Conduct cleaning and waste removal operations to comply with all local, state and federal environmental and antipollution regulations. Employ experienced workers or professional cleaners. Clean each surface, piece of equipment, mechanical unit and electrical device to a condition expected in an average commercial building. Maintain a clean and orderly job site as work progresses and perform final cleaning at project completion.
- 3.02 **WASTE MANAGEMENT GENERAL:** The Contractor shall not allow trash and debris to accumulate; all demolition waste, construction waste, trash and debris resulting from each day's work shall be collected, transported off-site and legally disposed; loose material which spills off trucks or which accumulates on the ground during handling and loading shall be picked up by the end of each day.
- A. Burning of waste materials on-site is not permitted.
- B. Provide at least one dumpster for refuse and debris resulting from demolition and construction work. Place all such materials in the dumpsters and have the dumpsters emptied and replaced as they are filled. Place dumpsters at locations to be determined mutually between Contractor and the Owner.
- C. **DISPOSAL OF WASTE**
1. **General:** Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 2. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.
 3. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 4. **Burning:** Do not burn waste materials.
 5. **Disposal:** Transport waste materials off Owner's property and legally dispose of them.
- 3.03 **CLEANING:** Remove all dust, stains, films and other foreign substances from all exposed surfaces throughout the Project Site within the Construction Limits. The following lists are not a complete enumeration of work to be done, but are merely an indication of what will be considered "satisfactory".
- A. **INTERIOR CLEANING:**
1. As work progresses, take active measures to control the accumulation of dust from on-going construction activities. Protect mechanical equipment, ductwork and filters from air-borne dust. Maintain a clean work site.
 2. Thoroughly clean exposed surfaces in all spaces throughout the buildings. Remove and properly dispose of all rubbish, debris, animal carcasses, insects, insect and animal nests, arachnids, spider webs, bird droppings, other animal waste, biological and chemical contaminants, and all other foreign materials.
 3. Sweep all floors broom clean. Vacuum as necessary to remove all dust and grit. Leave floors dirt and dust free.
 4. Clean all exposed surfaces to a dust-free condition, free of stains, film and other foreign substances. Carefully clean all exposed electrical conduit, boxes, devices, etc., both wall, column and ceiling mounted, vacuuming as necessary. Wipe all column, wall and ceiling surfaces.

5. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, equipment vaults, and similar spaces.
6. Vacuum clean carpet and similar soft surfaces in office areas, removing debris and excess nap. Shampoo if visible soil or stains remain.
7. Wipe surfaces of all mechanical equipment, electrical panels and equipment, elevator equipment and similar items. Remove excess lubrication and other foreign substances. Clean ducts, fans, coils and permanent filters. At the end of construction, replace all disposable filters.
8. Clean light fixtures, lamps, globes, lenses and reflectors such that maximum efficiency is restored. Replace lamps as they burn out during the course of construction activities or are damaged by cleaning procedures. Dispose of fluorescent and metal halide fixtures in compliance with all local, state and federal regulations.
9. Conduct all cleaning operations using products, to the maximum extent practicable, that meet Green Seal GS-37, or if GS-37 is not applicable, using products that comply with the California Code of Regulations maximum allowable VOC levels.
10. Contain and dispose of contaminated water and other fluids in a manner that will prevent contamination of the City of Chattanooga storm water drainage system that ultimately drains to the Tennessee River. Comply with City of Chattanooga and TDEC regulations.

3.04 VERMIN REMOVAL AND CONTROL: During construction, the Contractor shall keep the buildings and project site free of food scraps and similar organic matter that would attract vermin, and shall take other legal measures necessary to prevent further infestation of the property.

END OF SECTION

ROUGH CARPENTRY

SECTION 06 10 00

PART ONE - GENERAL

- 1.01 SCOPE: Provide layout, installation, forming, framing, plates, blocking, nailers, bridging, fasteners, plywood decking, plywood backer panels, and related items necessary to complete work detailed and/or specified herein.
- 1.02 PROTECTION: Store products off of ground. Loosely cover with "breathing type" tarpaulins to prevent wetting and allow free air circulation. Do not use polyethylene sheeting for covering.
- 1.03 SUBMITTALS: Comply with Section 01 33 00. Submit information for framing, plywood, fasteners, panel adhesive, engineered lumber, fire-treatment treatment, and pressure-preservative treatment. Submit manufacturer's literature and proposed product numbers for Simpson and other types of fasteners.

PART TWO - MATERIALS

- 2.01 GENERAL REQUIREMENTS:
 - A. Current edition, Association Grading Rules, govern.
 - B. All lumber shall bear the grade mark of an ALSC Board of Review approved agency. Provide grades and species specified.
 - C. Sizes shown are nominal. Actual sizes shall conform to American Lumber Standard PS 20.
 - D. All lumber shall be S4S (surfaced four sides) unless otherwise indicated.
 - E. All lumber shall be kiln-dried. Moisture content of lumber 2" or less in thickness, shall be 19% or less at time of installation.
- 2.02 FRAMING, STUDS, JOISTS, AND OTHER SUCH FRAMING: No. 2 Grade Southern Yellow Pine free from warp that cannot be corrected by nailing. Fire-Retardant-Treated material is required.
- 2.03 NON-STRUCTURAL SOLID LUMBER FURRING, SLEEPERS, PLATES, BRACING, NAILERS AND BLOCKING: Standard and Better, any species.
- 2.04 FIRE-RETARDANT AND PRESERVATIVE TREATMENT:
 - A. Where noted on the Drawings, Fire-Retardant-Treated lumber and plywood are required to comply with requirements of the International Building Code. Lumber and plywood sawed or cut after treatment shall have the cut surface brush coated with the same preservative that was used at the plant.
 - B. All wood framing, blocking, and other lumber in contact with earth, concrete, masonry, or steel, or where noted "P.T." on the Drawings shall be pressure treated for "ground contact". Lumber sawed or cut after treatment shall have the cut surface brush coated with the same preservative that was used at the plant.
- 2.05 POWDER-DRIVEN AND COMPRESSED-AIR-DRIVEN ANCHORS AND FASTENERS: Not permitted except with specific written approval of the Architect.

- 2.06 FASTENERS, ANCHORS AND CONNECTORS: Provide stainless steel or corrosion resistant coated fasteners where required for use with Preservative Treated and Fire-Retardant-Treated lumber and plywood.
- A. Common wire nails, ring shank nails, finishing nails, and cement coated nails.
 - B. Bolts, screws, washers and nuts: Commercial quality, galvanized.
 - C. Self-drilling fasteners: Zinc plated No. 12 Teks/5 screws, length as required.
 - D. Provide other required items as noted on Architect's Structural Drawings.
 - E. Anchor bolts with threaded ends and hooks as shown on drawings. See Paragraph 3.03, B. Where remedial work is required, Phillips Red Head or equal with machine bolts and washer.
- 2.07 PLYWOOD: Cross-laminated wood cores and wood face veneers. **No** fiberboard, particleboard, flakeboard, OSB or similar cores. Fire-Retardant-Treated APA Rated Sheathing, Exposure 1, PS2 or PRP-108, 5 ply and as follows:
- A. Subfloor and Floor Decking: Span Rating of 40/20; 23/32" or 3/4" thickness; tongue and groove; fully sanded face. Fire-Retardant-Treated material is required.
 - B. For use as backer panels for telephone and other equipment mounting boards, mirrors, and other miscellaneous locations; APA, B-B, Exposure 1, 5 ply; thicknesses noted on Drawings, or 19/32" if not shown on Drawings. Fire-Retardant-Treated material is required.
- 2.08 ADHESIVE: Construction and panel adhesive. Contractor's choice of products meeting APA approval, Abitibi or equal.

PART THREE - EXECUTION

- 3.01 GENERAL: Hand nailing is required. Machine or power nailing is only permitted if specific request is made by Contractor and specific written approval received from structural engineer.
- 3.02 INSTALLING WOOD BLOCKING IN WALLS: Provide solid wood concealed blocking and shims at window and door openings, and as necessary for proper installation and attachment of wall hung fixtures, plumbing fixtures, electrical fixtures and cabinets, handrails, closet specialties, toilet and other accessories, cabinets, countertops, door stops, etc. Install wood blocking securely to provide strong support for items to be installed.
- 3.03 FRAMING: All framing lumber shall be of size and spacing shown on Drawings and comply with the following:
- A. Lay out, cut, and install rough carpentry items. Framing shall have all joints true, tight, and properly nailed or bolted. Horizontal members shall be set with crown up. Splicing of members between bearing shall not be permitted. Plates and sills bearing on uneven concrete or masonry surface shall be solidly grouted to provide full bearing.
 - B. Nailers and plates shall be anchored with 5/8" diameter x 12" + 4" hook anchor bolts with maximum spacing of 4 feet on center, and with a minimum of two bolts in each piece.

- C. Install joist framing with crown edge up and support ends of each member with not less than 1-1/2" of bearing on wood or 3" on masonry. Toe nailing and end nailing are not permitted. Attach to wood bearing members using metal connectors; frame to wood supporting members with wood ledgers, and with metal connectors. Do not notch joists and do not bore holes in joists without specific approval of Architect. Provide solid blocking (2" thick by depth of joist) at ends of joists . Lap members framing from opposite sides of supports not less than 4". Provide solid blocking (2" thick by depth of joists) over supports. Provide solid blocking between joists. Use solid wood bridging 2" thick by depth of joist, end nailed to joist.

- 3.04 PLYWOOD FLOOR PANELS: Adhere with construction adhesive and mechanically fasten plywood to wood framing. Install plywood panels perpendicular to framing or sleepers and offset adjacent panels 16". Face nail the plywood panels at 8" centers along the edges and at 16" centers in the field of each panel. Use 8d or longer screw shank nails.

- 3.05 PLYWOOD BACKER PANELS:
 - A. Mechanically fasten plywood panels to wall surfaces with 3/8" corrosion-resistant toggle bolts and corrosion resistant flat steel washers; using no less than eight such fasteners per panel.

 - B. Mechanically fasten plywood panels to stainless steel bars where plywood serves as backer for mirrors using 3/8" stainless steel countersunk bolts and stainless steel countersunk flat washers; and no less than three such fasteners per stainless steel bar.

- 3.06 ANCHORING: Anchor wood nailers to steel members with machine bolts, washers, lock washers and nuts. Where there is not room for attachment with bolts and nuts, it is permissible to use lag bolts.

- 3.07 FITTING: Fit wood square, plumb, true without gaps, cracks, or open joints.

- 3.08 CLEAN-UP: Clean up debris resulting from this work and remove from site. Leave building and areas broom clean.

END OF SECTION 06 10 00

CAULKING AND SEALANTS, JOINT SYSTEMS FIRESTOPPING,
AND THROUGH-PENETRATION FIRESTOPPING

SECTION 07 92 00

PART ONE - GENERAL

1.01 SCOPE:

- A. Furnish and install sealants, caulking, joint systems firestopping and through-penetration firestopping, at interior and exterior locations as necessary and as required to make the building windtight, watertight and fire-stopped, whether or not the caulking and firestopping are shown on the Drawings.
- B. Whether or not the penetrations occur in areas shown on the Drawings, seal all penetrations created during performance of work under this contract through rated and un-rated walls, floors and ceilings. Maintain the indicated rating of assembly.
- C. Firestopping in this Section 07 92 00 is for all firestopping not included in the Mechanical and Electrical Work.
- D. Firestopping of penetrations performed as part of the Mechanical and Electrical Work is included on those Drawings.
 - 1. Such firestopping shall be provided as part of the Work under Divisions 21, 22, 23, 26, and 27 from notes on their drawings or under this Section 07 92 00

1.02 DEFINITION: The terms "caulk" and "caulking" are used interchangeably and include (1) materials identified as "caulk", "caulking" and "sealants" and (2) the process of installing caulk, caulking and sealants.

1.03 SUBMITTALS: Submit manufacturer's product literature and installation instructions, samples and color charts for approval and color selection, in compliance with Section 01 33 00. Submit a schedule of joint system firestop systems and through-penetration firestop systems proposed for use to the Architect.

1.04 COLORS: Colors will be selected by Architect from the approved manufacturer's standard selections. Multiple colors will be selected based on locations of sealant and caulk. The lack of enough standard colors to equal those of the specified products will serve as a basis of rejection of substitutions.

PART TWO - PRODUCTS

2.01 CAULK AND SEALANT:

- A. Exterior perimeter of door frames, windows, storefront, and entrance framing; exterior masonry control joints; and other locations on building exposed to daylight: Low modulus one part silicone building sealant as follows:
 - 1. On porous substrates: Use Dow Corning 790 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 100 / 50, Use T, NT, G, M, A, and O. The approved sealant must be non-migrating and non-staining.
 - 2. On metal, glass or other non-porous substrates: Use Dow Corning 795 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A, and O.

- B. Exterior Horizontal Pedestrian and Vehicular Traffic Bearing Joints: Two-part non-sag, polyurethane; equal to Dynatred by Pecora.
- C. Inside Cavity (or other hidden conditions not exposed to daylight): One-Part Non-Sag Polyurethane; equal to Sonneborn NP-1.
- D. Bedding of Thresholds: Equal to Pecora BC-158.
- E. Inside Conditioned Spaces:
 - 1. Interior perimeter of door frames, windows, storefront, and entrance framing; and interior masonry control joints.
 - a. On porous substrates: Use Dow Corning 790 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 100 / 50, Use T, NT, G, M, A, and O. The approved sealant must be non-migrating and non-staining.
 - b. On metal, glass or other non-porous substrates: Use Dow Corning 795 or other silicone sealant complying with ASTM C920, Type S, Grade NS, Class 50, Use NT, G, A, and O.
 - 2. Toilets and other Interior Wet Areas; and at Cabinets: Do not use "consumer product" bath tub caulk; use FDA, NSF and USDA approved one-part silicone sealant equal to GE 1700 Sanitary Sealant. Color to be selected by Architect.
 - 3. All Other Interior Locations: One-part acrylic-latex caulk equal to Pecora AC-20.
- F. Miscellaneous: Provide primers, backing rods, joint cleaner, bondbreaker tape and any other materials required or recommended by caulk and sealant manufacturer.

2.02 FIRESTOPPING:

- A. Provide products and systems having UL approval for use in sealing linear openings between wall and/or floor assemblies and penetrations in rated wall, floor and ceiling assemblies of types suitable for specific installation.
- B. Provide products of U.L. listed and numbered "Joint Systems (XHBN)" and "Through-Penetration Firestop Systems (XHEZ)" listed in Volume II of the UL Fire Resistance Directory. Use only firestop products that have been UL 2079, UL 1479 or ASTM E814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
- C. Where other penetrations occur, submit the Contractor's choice of products and manufacturers, and a schedule of the U.L. System Numbers and the types of penetrations where each system will be used.
- D. Provide all components of each U.L. listed system.
- E. Provide low odor and low V.O.C. products.

PART THREE - EXECUTION

- 3.01 JOB CONDITIONS: Apply materials only when the temperature of spaces, materials, and surfaces is above 40 degrees F.

3.02 APPLICATION:

- A. Apply in accordance with manufacturer's written instructions.
- B. If not otherwise shown or noted on the Drawings, the width and depth of sealants shall be a minimum of 1/4 inch, or as recommended by the Manufacturer for any "large" joints (two inches or wider).
- C. Protect adjacent areas not to receive sealants and caulking. Remove promptly if caulking or sealant does get on these surfaces. Clean satisfactorily or replace surfaces with new materials.
- D. Use gun nozzles to fit joints. Finish joints neatly. Remove excess materials. Leave joints clean.
- E. Caulk exterior and interior joints where indicated, and at all joints between different materials, whether or not the caulking or sealant are shown on the Drawings.
- F. Comply with Paragraph 1.01, B.

END OF SECTION 07 92 00

HOLLOW METAL FRAMES

SECTION 08 12 13

PART ONE - GENERAL

- 1.01 SCOPE: Furnish and install fire-rated and non-fire-rated hollow metal frames for interior and exterior doors and non-fire-rated hollow metal frames for interior view windows. Provide "UL" or Warnock-Hersey fire-rating tags or labels on frames indicated. Coordinate the fabrication of metal frames with the door and hardware Sections. Coordinate the installation of metal frames with the Masonry and Carpentry Sections.
- 1.02 SUBMITTALS: Comply with Section 01 33 00. Submit product literature and shop drawings. Shop and erection drawings shall show all sizes, anchorages, details of fabrication and erection, finishes and any other pertinent information.
- 1.03 MARKING: Ship frames to the job site with all frames identified with the Door Numbers indicated on the approved Hardware Schedule from the hardware supplier.

PART TWO - MATERIALS

2.01 METAL FRAMES:

- A. Metal frames for doors and view windows shall be formed to sizes and shapes indicated on the Drawings. Refer to Frame Elevations and Details on Drawings. Frames shall be combination type with integral trim. Knock down frames are not acceptable for CMU walls. Frames in CMU walls shall be factory-fabricated and either shop-welded or factory-welded by the frame manufacturer, with full welded unit type construction at joints. Metal shall be cold-rolled or hot-rolled, pickled and oiled, steel sheets with clean smooth surfaces. Unless otherwise required for UL or Warnock-Hersey fire rating, frames shall be fabricated of 16 gauge steel.
1. Where not protected by an overhang, provide door frames in exterior walls with 6" deep continuous weather hood with end closures the full width of frame, of same gauge and material as the frame, and continuously welded to the frame.
 2. Provide hot-dip galvanized steel weather hoods at all openings in exterior walls.
 3. Provide hot-dip galvanized steel frames at all interior and exterior locations of hollow metal frames.
- B. Provisions for Hardware: Provide concealed metal reinforcement for hardware in accordance with the manufacturer's recommendations. Frames shall be prepared at the factory for the installation of hardware. Welding of hinges to frames will not be permitted. Frames shall be drilled and tapped to receive mortise hardware as scheduled. Frames to receive surface applied hardware shall be provided with reinforcing plates only. Provide corner boxes in back of all hardware cut-outs. Door frames shall be punched to receive silencers, as scheduled.
- C. Anchorage: Provide metal anchors of shapes and sizes required for the adjoining type of wall construction. Fabricate jamb anchors of steel, not lighter than the gauge used for frames. Locate anchors on jambs near the top and bottom of each frame and at intermediate points not over 24" apart. For frames set in masonry, provide 10" long corrugated type adjustable anchors at jambs. Provide floor clips of not less than 16 gauge steel and fasten to bottom of each jamb member for anchoring frames to floor construction.

- D. Fire-Rated Frames: Fire-Rated Frames shall meet the U.L. or Warnock-Hersey requirements for the scheduled fire-rating. Each fire-rated frame must have a metal tag or label attached by the frame manufacturer; paper tags or labels are not acceptable.
1. Provide Temperature Rise Rated frames for Fire Rated doors used in stairway enclosures, if any. The average temperature developed on the unexposed side shall not exceed 450 degrees F at the end of 30 minutes of standard fire test exposure, in compliance with the International Building Code and NFPA 101.
- E. Tornado Frames: Frames required at "Tornado Doors" shall be factory-fabricated and either shop-welded or factory-welded by the frame manufacturer, with full welded unit type construction at joints. Metal shall be cold-rolled or hot-rolled, pickled and oiled, steel sheets with clean smooth surfaces. Frames shall be fabricated of 14 gauge steel and anchored at 8" O.C. vertical with 14 gauge CMU hook anchors.
- F. Shipment: Provide temporary steel spreaders fastened across bottom of frames. Where construction will permit concealment, leave spreaders in place after installation; otherwise, remove spreaders after frames are set and anchored. Before shipping, label each frame with metal or plastic tag to show its location, size, swing and other pertinent information.
- 2.02 SHOP PAINTING: Clean and chemically treat galvanized and non-galvanized metal surfaces to assure maximum paint adherence; follow with a dip or spray coat of rust-inhibitive metallic oxide, zinc chromate, or synthetic resin primer on all surfaces whether exposed or non-exposed. Finish surfaces shall be smooth and free from irregularities and rough spots. Each coat of paint shall be separately baked or oven dried. The time and temperature for drying shall be in accordance with manufacturer's recommendations for developing maximum hardness and resistance to abrasion.
- A. Primer must be compatible with the site-applied Paint specified in Section 09 91 00.

PART THREE- EXECUTION

- 3.01 PROTECTION AND CLEANING: Protect frames from damage during transportation and at the job site; store at the site under cover on wood blocking or on suitable floors. After installation, protect from damage during subsequent construction activities. Damaged work will be rejected and shall be replaced with new work.
- 3.02 INSTALLATION: Set frames in position, plumb, align and brace squarely until permanent anchors are set. Build wall anchors into walls or secure to adjoining construction as indicated or specified.

END OF SECTION 08 12 13

PART ONE - GENERAL

- 1.01 SCOPE: Furnish and install swinging, fire-rated and non-fire-rated, flush solid core wood doors (some with metal framed glazed vision panels). All doors shall be handed, with bevel edges. Provide "UL" or Warnock-Hersey fire-rating tags or labels on fire-rated doors. Coordinate the installation of wood doors with the hardware and carpentry sections.
- 1.02 SUBMITTALS: Comply with Section 01 33 00.
- A. Submit manufacturer's product literature, shop drawings and installation instructions. Shop and erection drawings shall show all sizes, anchorages, details of fabrication and erection, finishes and any other pertinent information.
 - B. Submit actual samples of the full range of available factory finishes on samples of the specified veneers, not just photographic representations.
 - C. For each veneer type, submit as many as four 1'-0" x 1'-0" samples of veneers, factory finished as specified, one at a time for approval by the Architect. In addition, if Contractor elects to field finish doors, submit the same size samples field finished for approval.
- 1.03 PRODUCT HANDLING:
- A. Protect the materials of this Section during transit, storage, and handling to prevent deterioration, damage and soiling.
 - B. Ship doors to the job site with all doors identified with the Door Numbers indicated on the approved Hardware Schedule from the hardware supplier.
 - C. Receive and carefully stack doors laid flat and level on three 2 x 4's, one at center and one 12 inches from each end in a dry, clean, well ventilated space. Place corrugated cardboard, plywood, or other suitable protection course under bottom doors and over top doors.

PART TWO - PRODUCTS

- 2.01 WOOD DOORS:
- A. General:
 - 1. See Door Elevations and Door Schedules in the Drawings.
 - 2. Wood doors shall be of the sizes, types, and designs shown on the Drawings; handed, with bevel edges; and factory sealed tops and bottoms; 1-3/4" thick for all wood doors.
 - a. Re-seal tops and bottoms if cut on job site.
 - 3. Veneer Species: Door faces and vertical edges shall have premium grade natural wood veneers. Basis for bidding shall be Quarter Cut Red Oak veneers. The intention is to match the wood veneer and finished appearance of the Owner's Modular Library Casework.
 - a. Refer to Paragraph 3.02.
 - 4. At Contractor's option wood doors may be pre-machined for hardware by the door manufacturer or machined on site.

- B. Flush Non-Fire-Rated Solid Core Doors: Particle board core door consisting of 5-ply hot press construction. Cores shall be uniform thickness; bonded to 1-1/8" hardwood rails and 1-1/2" laminated hardwood stiles, to match face veneer. Hardwood cross bands and standard thickness face veneers shall be bonded to the core with exterior type resin glue. Acceptable type, quality, Marshfield DPC-1 or equal doors by Maiman, Eggers or other manufacturers. Cores to be 30 to 32 lb. per cubic foot.
- C. Flush Fire Rated Solid Core Doors: Particleboard core or mineral core door consisting of 5 ply hot press construction. Cores shall be uniform thickness; bonded to 1-1/8" hardwood rails and 1-1/2" laminated hardwood stiles, to match face veneers. Hardwood cross bands shall be bonded to the core with exterior type resin glue. Acceptable type and quality: Marshfield DFM-45, as required by the Door Schedule, or equal doors by Maiman, Eggers or other manufacturers. Fire-Rated Doors shall meet U.L. or Warnock-Hersey requirements for the scheduled fire-rating; and each fire-rated door must bear the appropriate metal tag or label attached by the door manufacturer. Paper tags or labels are not acceptable.
 - 1. Provide continuous overlapping metal astragals on pairs of fire-rated doors, if any, where needed to comply with NFPA 80 and the 2006 Edition of the International Building Code.
 - 2. Provide Temperature Rise Rated doors for Fire Rated doors used in stairway enclosures, if any. The average temperature developed on the unexposed side shall not exceed 450 degrees F at the end of 30 minutes of standard fire test exposure, in compliance with the International Building Code and NFPA 101.
- D. Solid core doors shall have glazed openings as scheduled. Door moldings for view windows in the doors shall be slim line metal, Marshfield #115, or approved equal; of same fire-rating as the door.

PART THREE - EXECUTION

- 3.01 INSTALLATION: Comply with Section 06 20 00 and the following: Install doors in respective frames using specified hardware. Doors shall operate without binding or sticking at frames or floor. Maintain NWWDA and NFPA No. 80 standard tolerances. Hang doors in adequately braced or otherwise secured square and plumb frames with clearance of not more than 3/32 inch at each side and head; clearance at bottom 1/2 inch or as required for floor covering, carpeting or thresholds. At Contractor's option, site or factory-mortise, drill, and/or otherwise work doors for finish hardware, and component parts, as scheduled; bevel edge to allow for proper clearance in opening and closing doors. At Contractor's option, site or factory seal all surfaces cut for hardware component parts, ends, and edges.
- 3.02 FINISH:
 - A. Finish shall be a varnish finish (without stain) field-applied under Section 09 91 00, or at Contractor's option, doors may be factory finished to match AWI Premium Grade TR2 or better, but all wood doors must be finished alike (site finished or factory finished). The intention is to match the wood veneer and finished appearance of the existing doors.
 - B. Metal door moldings will be considered factory primed for field finish painting as scheduled in Section 09 91 00.

END OF SECTION 08 14 16

PART 1 - GENERAL

- 1.01 SCOPE: Furnish, install and finish gypsum board drywall and accessories (ready for painting); and furnish and install metal studs, studs used as joists, and furring channels, of various types, gauges and dimensions noted herein or on the Drawings, for use in constructing fire-rated, non-fire-rated, sound-rated and non-sound-rated drywall partitions, ceilings, dropped headers and soffits.
- A. Installation of framing and drywall, and the finishing of drywall, must be performed to achieve a Level 4 Finish (ready for painting) where partitions are exposed in the finished Work.
- B. Installation of framing and drywall, and the finishing of drywall, shall be performed to achieve a Level 3 Finish where partitions are not exposed in the finished Work; such as above lay-in ceilings.
- 1.02 MATERIAL HANDLING: Deliver all materials in original unopened packages and store in an enclosed shelter (heated if necessary, to prevent freezing) providing protection from damage, freezing and other exposure to the elements. Remove frozen and other damaged or deteriorated materials from the premises.
- 1.03 JOB CONDITIONS: In cold weather and during gypsum panel application and joint finishing, maintain temperatures within the building within the range of 50⁰ to 70⁰F. Provide adequate ventilation to carry off excess moisture.
- 1.04 FIRE-RATED AND TESTED ASSEMBLIES: Notwithstanding the requirements of this Section 09 21 16, where noted on the Drawings, the materials, application and finishing of framing, accessories, drywall and other components shall conform to requirements of the rated assemblies, UL Design Number designation, shown on the drawings.
- 1.05 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions for all items proposed to be furnished and installed under this section.
- 1.06 COORDINATION: Contractor's attention is directed to requirements for wood blocking in Section 06 10 00. Any necessary Cold-Formed Metal Framing such as load-bearing steel studs or studs used as joists, are specified, furnished and installed under Section 05 40 00. Gypsum Board Exterior Wall Sheathing is specified, furnished and installed under Section 07 25 00.

PART 2 - MATERIALS

- 2.01 FRAMING AND FURRING: Comply with ASTM C 645 standards for material components indicated. Channel-type galvanized steel studs, their channel-type galvanized steel top and bottom runners or plates, overhead steel studs used as joists, their perimeter framing members. Provide 25-gauge galvanized steel roll-formed hat-shape 7/8" deep furring channels. Metal-framed non-load-bearing fire-rated and non-fire-rated drywall partitions, furred walls and ceilings, and dropped headers and soffits shall be constructed using galvanized steel studs, galvanized steel top and bottom runners and other perimeter framing members, and various

metal furring members. **Dimpled steel furring members of “equivalent” strength are not permitted.** 16-gauge cold-rolled steel carrying channels, 1-1/2" main runner channels, and furring accessories shall be used for framing of dropped ceilings. All other framing heavier than 20-gauge shall be included in Section 05 40 00.

- A. In addition, provide G-90 galvanized metal strap bracing and angled knee-bracing for supplemental support of partitions, dropped headers and soffits as shown and noted on the Drawings.
- 2.02 FACEBOARDS: Complying with ASTM C 1396. Conventional tapered gypsum panels, of maximum length, shall be 5/8" thick Regular, 5/8" Moisture-Resistant, 5/8" thick Regular fire-code (Type X), 5/8" Moisture-Resistant fire-code (Type X), 5/8" thick Exterior Ceiling Board, and 5/8" thick Regular fire-code (Type C). Use 5/8" thick Exterior Ceiling Board where gypsum board ceilings are shown in exterior ceilings or soffits, and in interior ceilings of Toilets. Use Type X and Type C where required for certain UL Rated Assemblies as shown on the Drawings.
- 2.03 DRYWALL FASTENERS: Stainless steel or corrosion-resistant coated drywall screws, for screw attachment of drywall to metal framing, panhead types of proper sizes per drywall manufacturer's recommendations for each type of board, framing and environment; and as required for Fire-Rated Assemblies.
- 2.04 TRIM: Drywall manufacturer's recommended corrosion-resistant metal trim.
- 2.05 CORNER BEAD AND CONTROL JOINTS: Drywall manufacturer's recommended corrosion-resistant metal corner beads and control joints.
- 2.06 JOINT TREATMENT: Reinforcing tape, joint compound and other products recommended by the drywall manufacturer for each type of board, framing and environment.
- 2.07 ACOUSTICAL SEALANT: Drywall manufacturer's recommended Acoustical Sealant meeting ASTM C557 and ASTM C919.
- 2.08 READY-MIX PLASTER: Complying with ASTM C28.

PART 3 - EXECUTION

- 3.01 INSTALLATION OF METAL SUPPORT SYSTEMS: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:
 - A. General:
 - 1. Metal Support Installation Standard: Comply with ASTM C754.
 - 2. Do not bridge building expansion joints with support system, frame both sides of joints.

B. Support Systems:

1. Install supplementary framing, blocking and bracing at terminations in the work and for support of fixtures, equipment services, heavy trim, grab bars, toilet accessories, and similar work.
2. Isolate stud system from transfer of structural loading to system, both horizontally and vertically. Provide slip or cushioned type joints to attain lateral support and avoid axial loading.
3. Install runner tracks at floors, ceilings and structural walls and columns where gypsum drywall stud system abuts other work, except as otherwise indicated. If bottom tracks are damaged after they are installed and prior to installation of studs, replace the damaged bottom track with new undamaged track.
4. Place studs in each continuous run of studs so their flanges point in the same direction.
5. Space studs and furring 16" o.c., unless otherwise shown, or otherwise required for rated assembly.
6. Extend partition stud system through acoustical ceilings to the structural support and substrate above the ceiling.
 - a. Refer to the Wall Type Legend on the Drawings. Where noted, extend studs to the horizontal and lateral bracing members located above the ceilings as shown on the Drawings. Coordinate with Division 05 Section for Cold Formed Metal Framing.
 - b. Refer to the Wall Type Legend on the Drawings. Where noted, extend studs to bottom of deck for floor above or to bottom of roof deck.
7. Coordinate with Division 05 Section for Cold Formed Metal Framing. Install the horizontal and lateral bracing members above the ceilings, as specified in Division 05 Section for Cold Formed Metal Framing, using the materials and spacing shown on the Drawings.
 - a. Install other support framing above the ceiling, and install framing for light coves, soffits and headers below the ceiling, using the same materials and spacing as in the wall framing.
 - b. In addition, install diagonal knee bracing for lateral support of stud partitions above ceiling at no greater than 48-inches o.c. using same materials as in the wall framing. Extend knee bracing from approximately 6 inches above the ceilings up to the structural support above the ceiling.
8. Frame door openings to comply with details indicated. Attach vertical studs at jambs with screws to jamb anchor clips on door frames; install runner track section (for jack studs) at head and secure to jamb studs. Extend vertical jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
9. Frame openings other than door openings in same manner as required for door openings; and install framing below sills of openings to match framing required above door heads.
10. Where acoustical insulation is called for on the drawings, apply acoustical sealant in accordance with the instructions of drywall manufacturer, but in no case less than the following:
 - a. Around the perimeter of all wall penetrations, such as electrical boxes, telephone outlets, light switches, thermostats, etc.
 - b. Apply a bead of sealant along the floor at the top and bottom stud tracks and bed gypsum panels in sealant.

11. Chase Wall Framing:
 - a. Align two parallel rows of floor and ceiling runners according to partition layout.
 - b. Position steel studs vertically in runners, with flanges in the same direction, and with studs on opposite sides of chase directly across from each other. Except in fire-rated walls, anchor all studs to floor and ceiling runner flanges with Unimast 3/8" or 1/2" Type S Pan Head Screws.
 - c. Cut cross-bracing to be placed between rows of studs from gypsum board 12" high by chase wall width. Space braces 48" o.c. vertically and attach to stud web with screws spaced max. 8" o.c. per brace.
 - d. Bracing of 2-1/2" min. steel studs may be used in place of gypsum board. Anchor web at each end of metal brace to stud web with two 3/8" Pan Head Screws. When chase wall studs are not opposite, install steel stud cross-braces 24" o.c. horizontally, and securely anchor each end to a continuous horizontal 2-1/2" runner screw-attached to chase wall studs within the cavity.
12. Wall and Ceiling Framing Systems for Fire-Rated Construction: Comply with Paragraph 1.04 and the following: Install wall and ceiling framing, of various configurations shown on the Drawings, where fire-rated walls and ceilings occur; and install perimeter framing where openings for ducts occur to maintain the fire-rating integrity of the construction, in accordance with the U.L. Assembly printed instructions shown on the Drawings.
13. Furred Ceiling System: Space hat-shaped metal furring channels 24" o.c. at right angles to bar joists or other structural members. As an alternate, 1-5/8" steel studs may be used as furring. Saddle-tie furring channels to bar joists with double-strand 18-ga. tie wire at each intersection. Provide 1" clearance between furring ends and abutting walls and partitions. At splices, nest furring channels with at least 8" overlap and securely wire-tie each end with double-strand 18-ga. tie wire. Frame around openings such as light troffers with additional furring channels and wire tie to bar joists. Install soffit vent in exterior locations in accordance with manufacturer's instructions at locations shown on Drawings. Provide attachment reinforcing for lighting fixtures and other type fixtures in accordance with fixture manufacturer's recommendations.
14. Suspended Ceiling Grillage:
 - a. Space 8-ga. hanger wires 48" o.c. along carrying channels and within 6" of ends of carrying-channel runs. In concrete, anchor hangers by attachment to reinforcing steel, by loops embedded at least 2" or by approved inserts. For steel construction, wrap hanger around or through beams or joists.
 - b. Install 1-1/2" carrying channels 48" o.c. (spaced as tested for fire-rated construction) and within 6" of walls. Position channels for proper ceiling height, level, and secure with hanger wire saddle-tied along channels. Provide 1" clearance between runners and abutting walls and partitions. At channel splices, interlock flanges, overlap ends 12" and secure each end with double-strand 18-ga. tie wire. Provide additional framing as necessary for curved ceilings.
 - c. Erect metal furring channels 24" o.c. at right angles to 1-1/2" carrying channels. Space furring within 6" of walls. Provide 1" clearance between furring ends and abutting walls and partitions. Attach furring channels to 1-1/2" channels with Unimast Furring Channel Clips installed on alternate sides of carrying channel. Saddle-tie furring to channels with double-strand 18-ga. tie wire when clips cannot be alternated. At splices, nest furring channels with at least 8" overlap and securely wire-tie each end with double-strand 18-ga. tie wire. Provide additional framing as necessary for curved ceilings.

- d. For long-span suspension beneath large ducts or pipes, Unimast Steel Studs are substituted for furring channels.
- e. Where required in fire-rated assemblies, install double furring channels to support gypsum panel ends and back-block with gypsum board strip. When staggered end joints are not required, control joints may be used.
- f. At light troffers or any openings that interrupt the carrying or furring channels, install additional cross-reinforcing to restore the lateral stability of grillage.
- g. Frame around openings such as light troffers with additional furring channels and wire tie to bar joists. Install soffit vent in exterior locations in accordance with manufacturer's instructions at locations shown on Drawings. Provide attachment reinforcing for lighting fixtures and other type fixtures in accordance with fixture manufacturer's recommendations.

3.02 ACCESSORY APPLICATION: Comply with Paragraphs 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:

- A. Joint System - Finish all face panel joints and internal angles with a drywall manufacturer recommended Joint System installed according to manufacturer's directions. Spot exposed fasteners on face layers and finish corner bead, control joints and trim as required, with at least three coats of joint compound feathered out onto panel faces and sanded smooth.
- B. Corner Bead - Reinforce all vertical and horizontal exterior corners with corner bead fastened with 9/16" rosin-coated staples 12" o.c. on both flanges along entire length of bead.
- C. Metal Trim - Where reveals, recesses, and soffit vents are shown, and at other locations where assembly terminates against dissimilar material, apply metal trim over panel edge and fasten with screws 12" o.c.
- D. Screws - Power-driven at least 3/8" from edges or ends of panel to provide uniform dimple 1/32" deep.
- E. Control Joint - Install control joints in locations recommended by USG in ceilings (interior and exterior) and partitions in accordance with USG published instructions. Provide backing as recommended by USG to maintain rated assemblies.

3.03 GYPSUM PANEL ERECTION:

- A. Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and as described herein.
- B. Use maximum practical lengths to minimize end joints. Fit ends and edges closely, but not forced together.
 - 1. Where acoustical insulation is called for on the drawings, apply acoustical sealant in accordance with the instructions of USG but in no case less than the following:
 - a. Around the perimeter of all wall and ceiling penetrations, such as electrical boxes, telephone outlets, light switches, thermostats, etc.
 - b. Apply a bead of sealant along the floor at the top and bottom plates and bed gypsum panels in sealant.

- C. Install ceilings first and then sidewalls. Extend ceiling board into corners and make firm contact with top plate. Space screws 12" o.c. in field and 6" o.c. staggered along abutting edges for ceilings.
 - D. Stagger joints on opposite sides of partition. Space screws 16" o.c. in field of panels and 8" o.c. staggered along abutting edges for sidewalls.
 - E. To insure level surfaces at joints, arrange board application so the leading edge of each board is attached to the open or unsupported edge of a steel stud flange. To do this, all studs must be placed so their flanges point in the same direction. Board application is then planned to advance in the direction opposite to flange direction.
 - F. For single layer application of gypsum panels, unless otherwise required for rated assembly, apply gypsum panels with long dimension perpendicular to and edges positioned over furring or framing.
 - G. For double-layer application, unless otherwise required for rated assembly, apply base layer of gypsum board with long dimension perpendicular to studs, with abutting ends in center of stud. Stagger joints on opposite sides of partition so they occur on different studs. Space fasteners in base layer at 16" o.c. Apply face layer with long dimension parallel to studs. Fit ends and edges closely, but not forced together. Stagger joints from those in base layer and on opposite sides of partitions. Space fasteners in face layer 12" o.c., staggered from base layer fasteners, or adhesive apply face layer in accordance with board manufacturer's printed instructions.
 - H. Space fasteners not less than 3/8" from edges and ends of panels and drive fasteners in accordance with manufacturers printed directions. Drive fasteners in field of panels first, working toward ends and edges. Hold panel in firm contact with framing while driving fasteners.
 - I. Grout all open-back interior metal frames solid (jamb and head) with Ready Mix Plaster of trowel-grade consistency. Do not grout tube sections.
 - J. Gypsum Board Exterior Wall Sheathing is specified, furnished and installed under Section 06 16 43.
- 3.04 JOINT TREATMENT APPLICATION: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:
- A. Mix joint compound in strict accordance with manufacturer's recommendations.
 - B. Apply taping or embedding compound in a thin uniform layer to all joints and angles to be reinforced. Immediately apply Reinforcing Tape centered over joint and seated into compound. Sufficient compound approximately 1/64" to 1/32" - must remain under the tape to provide proper bond. 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. Further finishing of drywall is not required at locations where not exposed in the finished work.
 - C. Apply second coat of joint compound over embedding coat, filling panel taper flush with surface; cover tape and feather out slightly beyond first coat. On joints with no taper, cover the

tape and feather out at least 4" on either side of tape. Allow second coat to dry thoroughly prior to application of finish coat. (Exception: Durabond Joint Compounds need only have hardened prior to second coat application).

- D. Spread finish coat evenly over and extend slightly beyond second coat on all joints and feather to a smooth uniform finish. Over tapered edges do not allow finish joint to protrude beyond plane of the surface. Apply a finish coat to cover tape and taping compound at all tapered angles and provide a true angle. Where necessary, sand between coats and following the final application of compound to provide a smooth surface ready for decoration.

3.05 FINISHING FASTENERS: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:

- A. Apply a taping or 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. Use Durabond Joint Compound 201 and 90 only for the first coat on fasteners.

3.06 FINISHING BEADS AND TRIMS: Comply with Paragraph 1.04. In addition, comply with GA-216, GA-214 and drywall manufacturer's recommendations for Level 3 or Level 4 Finish as noted in Paragraph 1.01, A and B, and the following:

- A. Apply first coat to all beads and trim and properly feather out from ground to plane of surface. Compound must be thoroughly dry prior to application of second coat. (Exception: Durabond Joint Compounds need only have hardened prior to application of next coat).
- B. 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.
- C. Apply finish coat to all beads 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.

END OF SECTION

ACOUSTICAL CEILING PANELS
AND SUSPENSION SYSTEM (GRID)

SECTION 09 51 13

PART ONE - GENERAL

- 1.01 SCOPE: Furnish labor, equipment, and materials to furnish and install all lay-in acoustical ceiling panels and suspension systems where shown on the Drawings and as specified herein.
- 1.02 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions. Submit samples of ceiling grid systems and lay in panels for approval and color confirmation or selections. Refer to the Finish Schedule and Finish Notes on the Drawings, and the Quality Standard, Basis-of-Design Products specified herein. Equivalent products of other manufacturers will be acceptable as proposed substitutions for the Quality Standard, Basis-of-Design Products. Proposed Substitutions are subject to Architect and Owner approval and compliance with the requirements for Submittals. If proposed substitutions are not approved the Contractor must provide the originally specified products, colors and patterns at no change in the Contract Sum.
- 1.03 JOB CONDITIONS:
- A. No work of this section is to be started until all exterior openings are closed. All wet work, including cement, plastering, etc., shall be completed and dried before work is started. Temporary or permanent heat shall be furnished to provide uniform temperatures of at least 60 degrees F. before, during and after installation of acoustical material.
 - B. No work of this section is to be started within a room or space until all required inspections of areas, spaces and items above acoustical ceiling have been accomplished.
- 1.04 CONTRACTOR QUALIFICATIONS: Installation of the work of this Section shall be performed by an acoustical contractor approved by the manufacturer of the acoustical materials.

PART TWO - PRODUCTS

- 2.01 ACOUSTICAL CEILINGS (AC-#) PANELS AND SUSPENSION SYSTEM (GRID): Quality Standard, Basis-of-Design Product selections are scheduled below. Refer to Paragraph 1.02.
- A. AC-1: Armstrong Product No. 1714, School Zone Fine Fissured; medium texture; color White; 2' x 4' x 3/4", square lay-in; with Armstrong Prelude 15/16" exposed tee grid; White grid with matching wall angles.

PART THREE - EXECUTION

- 3.01 INSTALLATION: Suspension system shall be installed in strict accordance with manufacturer's printed instructions to comply with ASTM C635 and C636, CISKA and ASTM E 580, seismic design requirements of the 2006 International Building Code as noted on the Drawings, and no less than the following:
- A. Suspend main tees from structure using No. 12 gauge wire hangers at 48" centers both directions. Join cross tees to vertical surfaces with ends of tees resting on bottom flange of molding. Secure wall angle to substrate with suitable fasteners and anchors.

- B. In addition, ceiling panels, electrical fixtures, mechanical equipment, and other lay-in units weighing over 56 lbs. each shall be supported on all four sides with additional hangers. Suspend surface mounted fixtures and other items from building structure and pull tightly against ceiling.
 - C. Coordinate with the Electrical Contractor regarding suspension of electrical ceiling fixtures from the ceiling suspension.
 - D. Install hold-down clips on all lay-in panels within 20 feet of an exterior door to hold such panels tight to grid system.
 - E. Where needed, or where shown or noted on the Reflected Ceiling Plans, furnish and install “stretcher” ceiling panels for installation at perimeters of the spaces shown. Stretcher panels shall be cut-to-fit on site from four-foot long panels of the same style and pattern as the ceiling panels in the “field” of the ceiling.
 - F. At the end of the project in addition to any Attic Stock required, Contractor shall replace all damaged or missing ceiling panels using new ceiling panels.
- 3.02 CLEAN-UP: At completion of the work, all scaffolding, containers and other rubbish resulting from this portion of the work shall be removed from the site.
- 3.03 ATTIC STOCK:
- A. Furnish one unopened bundle of each color and type of acoustical tile for Owner's use as attic stock. Deliver attic stock to Owner at job site, and place in storage location as directed by Owner.
 - B. Attic stock is for Owner's use after warranty period; contractor shall furnish and install replacement materials during warranty period as required.

END OF SECTION 09 51 13

RESILIENT FLOORING, BASE, STAIR TREADS,
AND ACCESSORIES

SECTION 09 65 13

PART ONE - GENERAL

- 1.01 SCOPE: Perform any and all surface preparation necessary, and furnish and install resilient flooring, base, stair treads and accessories at the locations indicated in the Finish Schedule and Finish Notes on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 1.02 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions. Submit samples of Resilient Products and Accessories for approval and Color verification or selection. Furnish detailed dimensioned shop drawings for areas of special patterns, if any. Refer to the Finish Schedule and Notes on the Drawings, and refer to Paragraph 2.01. The Quality Standard, Basis-of-Design Products are noted on the Drawings. Equivalent products of other manufacturers will be acceptable as proposed substitutions for the Quality Standard Basis-of-Design Products. Proposed substitutions are subject to Architect and Owner approval and compliance with requirements for Submittals. If proposed substitutions are not approved, the Contractor must provide the originally specified products at no change in the Contract Sum.

PART TWO - PRODUCTS

- 2.01 VINYL COMPOSITION TILE (VCT), STAIR TREADS, RUBBER BASE (RB) AND ACCESSORIES: Quality Standard, Basis-of-Design Product selections are noted in the Finish Schedule and Finish Notes on the Drawings. Refer to Paragraph 1.02.
- A. Rubber Base: 4" x 1/8" gauge rolled rubber base (Type TS); set-on cove type. Provide factory-made pre-molded external corners in same color as base. Provide factory-made pre-molded end stops as required in same color as base.
 - B. Edge Strips and Nosings: Beveled edge rubber at discontinuous edges; if colors are not noted on the Drawings, colors shall be selected by the Architect from manufacturer's standard color range.
- 2.02 ADHESIVES: In addition to epoxy filler at stair tread nosings, use the types and qualities of adhesives approved by the manufacturers of the resilient flooring, base, and accessories.
- A. Adhesives must meet moisture limit requirements for use with concrete floors exhibiting MVER Calcium Chloride Test of 7 lbs. per 1000 sq. ft. per 24 hours; equal to Armstrong Products S-515 or S-521, Moisture Resistant Adhesives.
- 2.03 SKIM COAT MATERIAL: Contractor's choice of manufactured, commercially available products using only Portland cement base compounds, which are approved by resilient flooring manufacturer.
- 2.04 FLOOR STRIPPER AND FINISH PRODUCTS: None required. Owner will strip and finish the resilient floors.

PART THREE - EXECUTION

3.01 PREPARATION:

- A. Check surfaces on which these materials are to be placed. Provide all labor and materials necessary, and perform any and all surface preparation necessary to assure a proper bond of the Flooring Adhesives.
- B. Maintain a temperature of 70 degrees F or more in spaces in which resilient flooring is to be laid for a period of not less than one week before and after time materials are laid. Store flooring materials at such temperature for the same period of time prior to laying.
- C. Where any obvious unevenness in substrate occurs or where required to produce smooth transitions between adjacent floor surfaces, apply floor leveler in accordance with manufacturer's recommendations, and allow to cure as required.

3.02 VCT INSTALLATION:

- A. Open tile flooring cartons, enough to cover each area, and mix each type of flooring products to ensure shade variations do not occur within any one area.
- B. Spread adhesive evenly in quantity recommended by manufacturer to ensure adhesion over entire area of installation. Spread only enough adhesive to permit installation of flooring before initial set.
- C. If no special pattern is indicated, lay tile from center line of an area on both axes; space so that no less than half size tile will occur at the edge. At discontinuous edges, install edging strip; cope neatly at jambs of doors and carefully adhere to floor. Where different patterns or colors meet, such as at a doorway, install a 1" wide feature strip of color to be selected, center under door if door occurs, or locate as directed if a door does not occur.
- D. Completely bed each tile in adhesives, and make joints tight and inconspicuous. Remove any tile showing bumps, waves, or projecting edges and replace with new material.

3.03 BASE INSTALLATION: Install resilient base at base cabinet perimeter and at other locations scheduled or shown. Install base with joints tight and vertical, with minimum 18" between joints. Miter internal corners. Use factory made premoulded section for external corners and exposed ends. Install base on solid backing. Adhere tightly to wall and floor surfaces. Scribe and fit to door frames and other obstructions. Install straight and level.

3.05 PROTECTION: Prohibit traffic from resilient flooring for minimum 48 hours after installation.

3.06 CLEANING: Immediately prior to Substantial Completion of the Project, but no sooner than 96 hours after installation, replace any damaged, loose or broken pieces, then clean the flooring and base by wet mopping with clean water only, changing the water frequently. Do not strip the floors or apply any "finish" products. The Owner will strip and finish the resilient flooring.

3.07 ATTIC STOCK: Contractor shall furnish and install replacement products during warranty period as necessary. In addition, provide to the Owner, one new, unopened cartons of each finish material.

END OF SECTION 09 65 13

ACOUSTIC BLANKET INSULATION

SECTION 09 81 16

PART ONE - GENERAL

- 1.01 SCOPE: Furnish and install acoustic blanket insulation in locations shown or noted on the Drawings.
- 1.02 COORDINATION: Coordinate the work of this section with the locations and installation of blocking, hangers, anchors, etc. for wall hung fixtures, equipment, accessories, etc., so such items will be supported directly by the blocking or wall framing.
- 1.03 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and installation instructions.

PART TWO - MATERIALS

- 2.01 ACOUSTIC BLANKET INSULATION: Inorganic glass fiber un-faced acoustic batts, of various thicknesses shown or noted on the Drawings, 16-inch or 24-inch width to equal stud spacing; ninety-six (96) inches in length; Contractor's choice of manufacturer.

PART THREE - EXECUTION

- 3.01 JOB CONDITIONS: The installer shall examine the locations and the conditions under which the acoustic insulation work is to be performed and notify the Contractor of any unsatisfactory conditions.
- 3.02 INSTALLATION:
 - A. Install acoustic insulation in all locations shown or noted on the Drawings, and in strict accordance with the manufacturer's written recommendations.
 - B. At STC rated assemblies, if any, installation shall comply with requirements of specific assembly.

END OF SECTION 09 81 16

PAINTING

SECTION 09 91 00

PART ONE - GENERAL

1.01 SCOPE:

- A. Furnish materials, equipment and labor required to complete the painting work: (1) As described and scheduled in this Section 09 91 00 and other sections of the Specifications, (2) As noted in the Finish Schedule and Door Schedule, and (3) As required by other notes on the Drawings.
- B. Paint and Painting Work includes all required materials, surface preparation, application of materials, and all other work necessary to achieve the required finished surfaces whether opaque, semi-transparent or transparent.

1.02 SUBMITTALS: Comply with Section 01 33 00. Submit manufacturer's product literature and application instructions for all materials proposed to be used. Submit a schedule to confirm the use of the specified products.

- A. Where substitutions are proposed, submit a schedule showing product-for-product the specified products and the proposed substitutions side by side.
- B. Submit data sheets for the proposed substitutions which clearly show the type of vehicle and solids content, and the percentages of each. The percent solids content of the proposed substitutions must be no less than 3 percent of the solids content of the specified product. For example: If the specified product has a 30% solids content, the proposed substitution must have at least a 27% solids content.

1.03 SAMPLES: Owner will select colors and Contractor will prepare and submit strike-offs for color match. After strike-offs are approved by Owner and Architect, Contractor shall apply approved materials to a minimum 4' x 8' surface of wall and ceiling material for each surface and finish type specified, within a properly lit area approved by the Architect and complying with Par. 1.04, D for approval by Architect and Owner.

- A. In addition, prepare varnish samples (no stain) on the wood samples provided under Division 06 Section for Finish Carpentry and Casework. Multiple samples may be required, one at a time, until approved by the Architect. It is the intention for the wood doors, wood casework and other wood items to match the appearance of the pre-finished Library Furniture.

1.04 JOB, WEATHER AND TEMPERATURE CONDITIONS

- A. Maintain temperature in building at constant 50 degrees F., or above and provide adequate ventilation for escape of moisture from building, in order to prevent mildew, damage to other work, and improper drying of paint.
- B. Before painting is started in any area, it shall be broom cleaned and excessive dust shall be removed from all areas to be painted.
- C. After painting operations begin in a given area, broom cleaning will not be allowed, cleaning shall then be done only with commercial vacuum cleaning equipment.
- D. Adequate illumination shall be provided in all areas where painting operations are in progress. In addition to temporary lighting provided in Division 26, Paint Contractor shall make all necessary arrangements and shall provide and pay the costs of any additional lighting required for proper application of paint products.

- 1.05 SAFETY: Contractor shall ensure that personnel involved in painting work are properly aware of safety precautions relative to fall protection and the use of hazardous materials, and shall ensure that such precautions are followed.
- 1.06 MANUFACTURER'S RECOMMENDATIONS: In the event of a conflict between manufacturer's written recommendations and these specifications, manufacturer's recommendations shall be followed unless otherwise directed by the Architect.
- 1.07 TEMPORARY PROTECTIVE MEASURES FOR PAINTING: Since paint fumes from construction areas may activate fire and smoke alarms and may expose occupants to irritating odors, the Contractor shall take preventive measures including, but not limited to:
- A. The Contractor shall notify the Owner of time periods that painting will be in progress prior to commencing such work. When directed by the Owner fire and smoke alarms shall be covered during painting work.
 - B. The Contractor shall seal off all areas being painted, while painting is in progress. Openings in walls and at doors shall be temporarily sealed. Temporary barriers shall be erected across corridors. HVAC equipment which circulates air between renovated and occupied spaces shall be temporarily sealed.
 - C. The Contractor shall furnish and maintain suitable and adequate ventilation and exhaust at the immediate areas of painting work.

PART TWO - MATERIALS

- 2.01 PRODUCTS AND MANUFACTURERS: Proprietary names used in the Painting Schedules in Paragraphs 3.04, D and 3.04, E herein are products manufactured by Sherwin-Williams, PPG Pittsburgh Paints, PPG Porter Paints, and Benjamin-Moore. They are the Quality Standard, Basis-of-Design Products for this Section and will be used as the standard for review of proposed substitutions. Comparable products of any of the following manufacturers will be acceptable as proposed substitutions for the Quality Standard, Basis-of-Design Products scheduled herein. Proposed Substitutions are subject to Architect and Owner approval and compliance with requirements.
- A. The Sherwin-Williams Company.
 - B. Benjamin-Moore & Company.
 - C. PPG Porter Paints.
 - D. PPG Pittsburgh Paints.
- 2.02 COLORS AND SHEEN: Colors are listed in the Finish Schedule and Finish Notes on the Drawings. Colors selected by the Architect may be custom colors to be matched by the approved manufacturer. Multiple colors, color schemes, and sheen may be selected by the Architect for use throughout the project. Final work shall match approved color samples, except if the Architect or Owner so directs between coats, the succeeding coat or coats may be slightly lightened or darkened.
- 2.03 PRODUCTS: All paints, varnishes, enamels, lacquers, stains, paste fillers, linseed oil, shellac, turpentine, and similar materials must be delivered in the original containers with the seals unbroken, labels intact, and with the manufacturer's instructions printed thereon. All painting materials shall be pure and of highest quality, and shall be approved by the Architect.

- 2.04 ORDERING MATERIALS: Do not order any materials until after receipt through the Architect of Owner-approved color schedule and Owner approval of paint manufacturer and in-place color samples.

PART THREE - EXECUTION

3.01 APPLICATION AND WORKMANSHIP

A. General Workmanship

1. The workmanship shall be the very best. Only skilled mechanics shall be employed. Application may be by brush, roller, or spray at the Contractor's option, and as recommended by the paint/stain manufacturer, for all surfaces and materials.
2. All materials shall be mixed, thinned, modified and applied only as specified by the manufacturer's directions on the container.
3. Protect work at all times, and adjacent work and materials by suitable covering or other method during progress of work. Upon completion of work, remove all paint and varnish spots from the floors, glass and other surfaces. Remove from the premises all rubbish and accumulated materials of whatever nature not caused by others and leave the work in clean, orderly and acceptable condition.
4. All material shall be applied under adequate illumination, and shall be evenly spread and smoothly flowed on utilizing the proper type and sizes of brushes, roller covers, bucket grids, and other equipment to avoid runs, sags, holidays, brush marks, air bubbles and excessive roller stipple.
5. Coverage and hide shall be complete. Dry film thicknesses specified herein are the minimum required coverage. When color, stain, dirt or undercoats show through final coat of paint, the surface shall be covered by additional coats until the paint film finish is uniform in color, appearance and coverage.

B. Workmanship for Exterior Painting:

1. Exterior painting shall not be performed when the air or surface temperature of the items being painted are below 50 degrees F., while the surface is damp, during cold, rainy or frosty weather, or when the temperature is likely to drop to freezing within 24 hours. Avoid all painting of surfaces while they are exposed to hot sun.
2. Prime and back-prime all surfaces of any new exterior wood trim, before its installation, with one coat of the specified Primer.

C. Workmanship for Interior Painting:

1. Prime and back-prime all surfaces of any new interior wood trim, before its installation, with one coat of the specified Primer.
2. Enamel or varnish finish applied to wood or metal shall be sanded with fine sand paper to produce a feather edge, and then cleaned between coats to produce an even, smooth finish.
3. All closets, recessed areas, etc. shall be finished the same as adjoining rooms, unless otherwise specified. All other surfaces shall be finished the same as nearest or adjoining surfaces, unless otherwise specified or directed by the Architect or Owner.

- 3.02 PREPARATION OF SURFACES: Comply with Surface Preparation requirements of the Paint Manufacturer, those listed in the Schedules in Paragraph 3.04, and the following:

- ##### A. General:
- Surfaces shall be cleaned, abraded, sanded and spot-primed. Surfaces shall be clean, dry and adequately protected from dampness. Surfaces shall be smooth, even, and true to plane. Surfaces shall be free of any foreign material which will adversely affect adhesion or appearance of applied coating. Minimum required surface preparation shall be that recommended by the

paints / coatings manufacturer for the surface to be painted. Perform any additional surface preparation specified.

B. Wood:

1. Smooth Surfaced:
 - a. "Transparent", "Varnished" or "Natural" Finish: Sandpaper to smooth even surfaces, then dust off. Sand lightly between coats.
 - b. Painted or Opaque Finish: Apply shellac, four (4) pounds cut, to all knots, pitch and resin sapwood. After priming coat has dried, putty all nail holes, cracks, open joints and other defects. Putty shall be colored to match paint.
 - c. If mildew is present, remove it by washing and sterilizing the surface as recommended by paint manufacturer. Prime with a paint primer that has a mildew resistant film as soon as possible after the surface is dry.
2. Rough Surfaced:
 - a. If mildew is present, remove it by washing and sterilizing the surface as recommended by paint manufacturer.

C. Non-Galvanized Ferrous Metals: SSPC - SP3 Power Tool Clean, and the following:

1. Remove dirt and grease with non-ammoniated cleaner and wipe dry with clean cloths.
2. Remove rust, mill scale and defective paint down to sound surface, using scraper, sandpaper or wire brush as necessary. Grind, if necessary, to remove shoulders at edge of sound paint to prevent flaws from photographing through finish coats.
3. Touch up primer on ferrous metal surfaces of all items installed adjacent to concrete and masonry prior to any openings between metal surfaces and adjacent surfaces being filled in or caulked.
4. Leave surfaces clean, dry and free of contaminates.

D. Galvanized Metals: SSPC - SP1 Solvent Cleaning, and the following:

1. Remove dirt and grease with non-ammoniated cleaner and wipe dry with cloths.
2. If required by paint manufacturer, galvanized steel surfaces shall be pretreated according to the paint manufacturer's directions.
3. Leave surfaces clean, dry and free of contaminates.

E. Gypsum Wallboard: In addition to the Work required under Section 09 21 16:

1. Ensure that all gypsum board surfaces have received the Level of Finish specified in Section 09 21 16 and they are ready to receive the scheduled decoration.
2. As required, sand joint compound smooth and flush with surface using fine grit sandpaper, fill nicks, scratches, holes and uneven spots with spackling compound and, after dry, sand flush with the surface.

F. Concrete and Concrete Masonry: Allow installed stucco, concrete and concrete masonry to cure for at least thirty days prior to applying any coat. Patch large openings and holes with Portland cement mortar and finish flush with adjoining surfaces. Test for alkalinity and moisture content. Ph must be 10.0 or lower. Moisture must be equal to or less than that recommended by paint manufacturer.

3.03 MATERIAL PREPARATION: Mix and thin materials according to manufacturer's latest printed instructions. Do not use materials beyond manufacturer's recommended shelf life. Do not use materials beyond manufacturer's recommended pot life.

3.04 SCHEDULES:

A. General:

1. The following schedules indicate the finish systems to be applied to each substrate. The design intent is that each system will achieve a paint finish suitable for the end use of the substrate or product. Any proposed substitution will be considered in terms of the total paint system.
2. All dry film mil thicknesses shall be per coat as listed by the Paint Manufacturer.
3. Primer and Finish Coats must be full coverage to all scheduled surfaces.

B. Fire-Rated and Smoke Partitions: Each and every partition noted on the Drawings as fire-rated or smoke partition shall be effectively and permanently identified with signs or stenciling in a manner acceptable to the Authority Having Jurisdiction. Such identification shall be above any decorative ceiling and in concealed spaces. Suggested wording of such signs and/or stenciling is "Fire and Smoke Barrier-Protect All Openings."

C. Miscellaneous:

1. Exposed conduit, sprinkler pipe, plumbing pipe, natural gas piping, ducts, bar joists, metal deck:
 - a. Paint in interior of building where exposed to view.
 - b. If any, natural gas piping on roof must be painted the color(s) required by Code.
2. Color-coding, stenciling or other identification of piping: If required, is included in Division 22.
3. Anodized or non-anodized aluminum: Do not paint.
4. Do not paint silicone or polyurethane sealants. Careful masking is required. If walls adjacent to such joints are painted prior to installation of sealant, the surfaces to receive the sealant must not be coated with paint.

D. Exterior Painting Schedule: Products of PPG Pittsburgh Paints and PPG Porter Paints are listed herein as Quality Standards. Refer to Paragraph 2.01 for additional information and other acceptable Manufacturers.

1. Structural and Miscellaneous Steel (where exposed in finished work), Metal Doors, Metal Door Frames, Metal View Lite Frames, Steel Angles, Railings, Handrails, and any other Non-Galvanized Ferrous Metal Items Exposed to View in the Finished Work:

- a. Field Surface Preparation of Items with Steel Fabricator's Standard Shop Primer: SSPC-SP1 Solvent Cleaning followed by SSPC-SP3 Power Tool Clean.
- b. Field Surface Preparation of Items With Manufacturers Standard Baked-On Shop Primer, such as Metal Doors, Metal Door Frames, Fire Extinguishers Cabinets and Mechanical/Electrical Panels: Clean, dry and feather edge any imperfections.
- c. Leave surfaces clean, dry and free of contaminates.

1 coat - S-W: Kem Kromik Universal Metal Primer, B50NZ Series (<390 g/l VOC) 3.3-4.4 mils DFT

2 coats - S-W: Pro Industrial Urethane Alkyd Enamel, B54W00151 (326 g/l VOC) 2.0-4.0 mils DFT per coat

2. Galvanized Structural and Miscellaneous Steel and any other Galvanized Metal Items Exposed in Finished Work:

- a. Field Surface Preparation of Items With Steel Fabricator's Standard Shop Primer: SSPC-SP1 Solvent Cleaning followed by SSPC-SP3 Power Tool Clean.

b. Leave surfaces clean, dry and free of contaminants.

1 coat - S-W: Pro Industrial DTM Acrylic Primer / Finish, B66W00011 (<50 g/l VOC)
1.9-3.9 mils DFT

Option: S-W: Pro Industrial Pro-Cryl Universal Primer, B66W01310 (<50 g/l VOC)
1.9-3.8 mils DFT

2 coats - S-W: Pro Industrial DTM Acrylic Coating, Gloss, B66-1000 (<50 g/l VOC)
2.4-4.0 mils DFT per coat

o Also available in: Semi-Gloss, B66-1100 / Eg-Shel, B66-1200

Option: S-W Product: Pro Industrial Acrylic Gloss Coating, B66W00611 (<50 g/l
VOC) 2.1-4.2 mils DFT per coat (also available in EgShel, B66-660 / Semi-
Gloss, B66-650)

4. Gypsum Drywall Surfaces (Ceilings and Soffits):

a. Leave surfaces clean, dry and free of contaminants.

1 coat - S-W: PrepRite ProBlock Interior / Exterior Latex Primer / Sealer, B51W00620
(<50 g/l VOC) 1.4 mils DFT

2 coats S-W: A-100 Exterior Latex Satin House Paint, A82 Series (<50 g/l VOC) 1.4
mils DFT per coat

5. Plywood, Wood Trim and Other Wood Items:

a. Leave surfaces clean, dry and free of contaminants.

b. Prime and back-prime all surfaces upon delivery to the job site. All cut surfaces must be primed after cutting.

1 coat - S-W: PrepRite ProBlock Interior / Exterior Latex Primer / Sealer, B51W00620
(<50 g/l VOC) 1.4 mils DFT

* OR *

1 coat - S-W: Multi-Purpose Interior / Exterior Latex Primer / Sealer, B51-450 Series
(<50 g/l VOC) 1.4 mils DFT

* THEN *

2 coats - S-W: A-100 Exterior Latex Satin House Paint, A82 Series (<50 g/l VOC)
1.4 mils DFT

E. Interior Painting Schedule: Products of Benjamin-Moore, PPG and Sherwin Williams are listed herein as Quality Standards. Refer to Paragraph 2.01 for additional information and other acceptable Manufacturers. Sheen shall be selected by the Architect.

1. Gypsum Board / Drywall use the following:

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: ProMar 200 Zero VOC Interior Latex Primer, B28W02600 (<50 g/l VOC)
1.2 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Flat, B30W12651 (<50 g/l
VOC) 1.4 mils DFT

- or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT
- or- 2 coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

2. Concrete and Plaster use the following:

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Loxon Concrete / Masonry Interior / Exterior Primer / Sealer, LX02W0050 (<50 g/l VOC) 2.1-3.2 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Flat, B30W12651 (<50 g/l VOC) 1.4 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

3. Ferrous Metal – Steel, Iron – Metal Doors, Metal Frames, Steel Handrails: Except where Epoxy Coatings are specified, use the following:

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Pro Industrial DTM Acrylic Primer / Finish, B66W00011 (<50 g/l VOC) 1.9-3.9 mils DFT

Option: S-W: Pro Industrial Pro-Cryl Universal Primer, B66W01310 (<50 g/l VOC) 1.9-3.8 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

4. Non-Ferrous – Galvanized Metal

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Pro Industrial DTM Acrylic Primer / Finish, B66W00011 (<50 g/l VOC) 1.9-3.9 mils DFT

Option: S-W: Pro Industrial Pro-Cryl Universal Primer, B66W01310 (<50 g/l VOC) 1.9-3.8 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

5. Wood Doors and Wood Trim (Painted)

Zero VOC System: Commercial LEED compliant (one prime coat and two finish coats; any color)

Primer: 1 coat: S-W: Multi-Purpose Interior / Exterior Latex Primer / Sealer, B51-450 Series 1.4 mils DFT

Finish: 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Flat, B30W12651 (<50 g/l VOC) 1.4 mils DFT

-or- 2 Coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Eg-Shel, B20W12651 (<50 g/l VOC) 1.7 mils DFT

-or- 2 coats: S-W: ProMar 200 Zero VOC Interior Latex Coating, Semi-Gloss, B31W02651 (<50 g/l VOC) 1.5 mils DFT

6. Wood Doors and Wood Trim (Stained & Varnished)

Acrylic Waterborne Polyurethane System: (one stain coat, one sealer coat, two clear coats).

Stain: 1 coat: S-W: MinWax Performance Series Tintable Wood Stain 250 VOC, 400-450 sq ft per gallon

Sealer: 1 Coat: S-W: MinWax Water Based Oil-Modified Polyurethane (available in Semi-Gloss or Satin Finish) 400-450 sq ft per gallon

Clear: 2 Coats: S-W: MinWax Water Based Oil-Modified Polyurethane (available in Semi-Gloss or Satin Finish) 400-450 sq ft per gallon

-or- 2 coats: S-W: MinWax Water Based Oil-Modified Polyurethane, Gloss 400-450 sq ft per gallon

F. All wall surfaces, whether concealed in the finished work or exposed, must be painted from wall to wall, from floor to permanent ceiling and to 8 inches above lay-in finished ceiling.

1. Such surfaces shall receive full primer coat at all locations, and shall receive all finish coats where exposed, plus behind marker boards, and where open-back cabinets, casework and shelving occur.
2. Wall surfaces behind closed-back cabinets, casework and shelving require primer coat only.

G. In addition to the items scheduled for painting in Paragraphs 3.04 C, D, E, and F above, unless specifically indicated otherwise, all other exposed surfaces shall be field painted with one full-coverage prime coat and two full-coverage finish coats using color(s) selected by the Architect. Such surfaces include, but are not limited to, roof-top equipment, exposed steel structural members, electrical panels and cabinets in corridors and occupied spaces, grilles and diffusers, and other miscellaneous panels and cabinets.

3.05 CLEANING: Remove paint splatters from glass, plumbing fixtures and adjoining surfaces. Repair any and all damage to coatings or surfaces caused by cleaning operations. Remove debris from job site and leave work area clean.

3.06 ATTIC STOCK: None required. However, painting contractor shall furnish and install replacement paint during warranty period as required.

3.07 TOUCH-UP: Touch-up all opaque, semi-transparent and transparent finishes as required after all other Work of this Contract has been installed and completed.

END OF SECTION 09 91 00.

TOILET ACCESSORIES
CONTRACTOR-FURNISHED / CONTRACTOR-INSTALLED (CFCI)

SECTION 10 28 00

PART 1 - GENERAL

- 1.01 WORK INCLUDED: Refer to Drawings, Toilet Accessory Schedule, Toilet Accessory Mounting Heights Legend, and other pertinent information. Unless specifically noted otherwise on the Drawings, install toilet accessories and related items scheduled as Contractor Installed.
- A. Contractor shall furnish and install toilet accessories and related items scheduled as CFCI (Contractor Furnished / Contractor Installed).
 - B. Contractor shall install accessories and related items scheduled as OFCI (Owner Furnished / Contractor Installed).
 - C. Owner, or Owner's separate Vendor, shall furnish accessories and related items scheduled as OFCI (Owner Furnished / Contractor Installed).
 - D. Contractor shall furnish and install *all* required concealed lumber blocking for toilet and custodial accessories at the locations scheduled herein or at the locations required by the manufacturers of the accessories.
 - E. The Owner shall provide to the Contractor the locations, dimensions, and mounting heights required for concealed lumber blocking for each of the Owner-Furnished accessories.
 - F. Accessories scheduled as OFCI shall be selected and purchased by the Owner or by Owner's separate Vendor, then delivered to the Contractor FOB the job site by the Owner or Owner's separate vendor.
 - G. Contractor shall receive, unload, handle, transport, store on-site, and protect from damage *all accessories*.
 - H. The Contractor shall provide to the Owner in writing a schedule of "no later than" dates for when each of the OFCI accessories will be needed on the job site in order for the Contractor to meet the approved Project Completion Date.
- 1.02 RELATED WORK OF OTHER SECTIONS: Solid lumber blocking is specified in Section 06 10 00.
- 1.03 SUBMITTALS: Comply with Section 01 33 00. For items scheduled as CFCI, submit manufacturer's product literature and installation instructions, and shop and installation drawings, showing details of fabrication and erection, including types of materials, dimensions, arrangements of component parts, finishes, fittings, anchorage, and/or any other pertinent information.

PART 2 - PRODUCTS

- 2.01 PRODUCTS AND MANUFACTURERS OF CFCI ACCESSORIES: Products manufactured

by **Bobrick Washroom Equipment, Inc.** are scheduled on the Drawings for the CFCI accessories, and they are the Basis-of-Design-and-Bidding / Quality Standards selected by the Architect.

A. Contractor's choice of other manufacturers and products for CFCI accessories, anchors, back plates, mounting plates, fasteners and other products that are manufactured to have the same material, gauge, function, appearance and performance as the products scheduled on the Drawings and in the Specifications, may be submitted for the Architect's review and possible approval, subject to compliance with requirements.

B. Manufacturers: Subject to compliance with requirements, manufacturers other than **Bobrick Washroom Equipment, Inc.** offering comparable products that may be incorporated into the Work include, but are not limited to, the following:

1. **A & J Washroom Accessories, Inc.**
2. **American Specialties, Inc.**
3. **Bradley Corporation.**

C. Refer to Drawings, Toilet Accessory Schedule, and Toilet Accessory Mounting Heights Legend, and other pertinent information for Grab Bars and other Accessories.

- | | | |
|----|-----------------------|--------------|
| 1. | 24"x36" Framed Mirror | B-165-2436 |
| 2. | Soap Dispenser | B2011 |
| 3. | Toilet Paper Holder | B-6867 |
| 4. | Paper Towel Holder | B-38032 |
| 5. | Grab Bar – Back Wall | B-5806.99x36 |
| 6. | Grab Bar – Side Wall | B5806.99x42 |
| 7. | Grab Bar – Vertical | B5806.99x18 |

2.02 ANCHORS, BACK PLATES, MOUNTING PLATES, AND FASTENERS FOR CFCI ACCESSORIES:

A. Provide the heaviest gage or most substantial anchors, back plates, mounting kits, mounting plates and fasteners for each flange of each Grab Bar and for other Accessories, manufactured by the manufacturer of the grab bars and other accessories and well suited for use with the substrate material.

1. In addition to other necessary anchors and back plates, **with each flange of each grab bar** furnish and install specialty, concealed, anchor plates manufactured for each grab bar installed on a stud wall, on a solid wall, and on a toilet room partition; and engineered to support loads in excess of those required by ADA, ANSI and IBC.
 - a. Equal to Bobrick WingIT Anchor System 251 or No. 2562 Series anchor plate and concealed fasteners for each flange of each grab bar installed on a stud wall.
 - b. Equal to Bobrick WingIT Anchor System 251 or No. 2573 Series anchor and concealed fasteners for each flange of each grab bar installed on a solid wall.
 - c. Equal to Bobrick 2583 or 2586 Anchor Device and concealed fasteners for each flange of each grab bar installed on a toilet partition. Provide gasket seal at any fastener penetrations in toilet partitions.
2. If exposed fasteners are absolutely necessary, provide oval head fasteners with finish matching the accessory.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS: For Items shown or noted on the Drawings as Contractor-Installed.

- A. Prior to installation of the work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. In the event of discrepancies, do not proceed with installation in areas of discrepancies until all such discrepancies have been fully resolved.

3.02 INSTALLATION: For Items shown or noted on the Drawings as Contractor-Installed.

- A. Install accessories in strict accordance with current ADA, ANSI and IBC requirements, the manufacturer's written instructions, at heights and locations scheduled herein and shown on Drawings, and as directed by Architect.

END OF SECTION

APPLIANCES (OWNER-FURNISHED / CONTRACTOR-INSTALLED)

PART 1 - GENERAL

1.01 SCOPE:

- A. Owner- Furnished / Contractor-Installed (OFCI) Appliances: Appliances identified as OFCI shall be selected and purchased by the Owner, delivered to the jobsite by the Owner's separate vendor, and unpacked, installed, and connected by the Contractor or by Contractor's subcontractors, complete and ready to use.
- B. Contractor or Contractor's subcontractor shall store equipment at the job site, uncrate, unpack, assemble, and install items in strict accordance with manufacturer's written instruction, anchor built-in units securely in place using suitable fasteners recommended by manufacturer, make all final connections to building structure, and haul off all packing material.
- C. Contractor must provide to the Owner, as soon as possible, a schedule in writing of "No Later Than" dates for delivery of Equipment to the job site to allow the Contractor to complete the Project in accordance with the accepted schedule.

1.02 ASSOCIATED WORK: Installation of utilities, and final utilities connections are included in the work of Divisions 22, 23 and 26.

- A. Plumbing Subcontractor, under Division 22, shall be responsible for:
 - 1. Furnishing and installing all hot and cold water piping, rough-in points, final connection of the equipment, furnishing each line with a shut-off valve and, where required, a pressure reducer.
 - 2. Furnishing and installing all waste piping, traps, vents, etc. and making final connections to drain outlets on sinks, dishwasher, etc.
- B. Mechanical Subcontractor, under Division 23, shall be responsible for furnishing and installing hoods, ducts, vent fans and other items required for proper operation of the equipment, and making final connections to the equipment.
- C. Electrical Subcontractor, under Division 26, shall be responsible for:
 - 1. Furnishing and installing all roughing-in wiring for the equipment, and making final connection between roughing-in points and points of connection to the equipment (pigtailed or terminals). Connections to the equipment shall be made in accordance with wiring diagrams furnished by the equipment supplier and in accordance with the requirements of the National Electrical Code.
 - 2. Providing and installing all electrical receptacles at walls, tables, etc. shown on the plans and/or required for the equipment.
 - 3. Providing and installing all equipment mounted receptacles shown on the plans and/or required for the equipment.
 - 4. Providing and installing all disconnect switches between roughing-in points and the points of connection on the equipment.

1.03 QUALITY ASSURANCE:

- A. Employ only qualified, skilled workers in the unloading, installation, and connection of appliances.
- B. Contractor shall notify proper authorities, as required by law, relative to this work; and assist the Owner in obtaining all required permits and licenses.

PART 2 - MATERIALS

- 2.01 MISCELLANEOUS ITEMS: For all items, Contractor shall provide supply hoses, drain hoses, electric pigtails, vents, etc. as necessary.
- 2.02 APPLIANCES: Shown and noted on the Drawings; see Elevation "A" on Drawing Sheet A601.
 - A. Refrigerator. Stand-Alone floor model.
 - B. Microwave: Countertop model.

PART 3 - EXECUTION

- 3.01 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- 3.02 MATERIAL HANDLING: Handle, transport, unload, store and install appliances to preclude damage.
- 3.03 INSTALLATION, GENERAL:
 - A. Except as modified by requirements of governmental agencies having jurisdiction, install appliances in accordance with recommendations of the manufacturer as approved by the Architect and the pertinent UL design requirements.
 - B. Cooperate as needed with adjacent trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- 3.04 FINAL:
 - A. After installation is complete, and immediately before Substantial Completion inspection, adjust appliances to ensure proper working order and condition. Remove masking or protective coatings or coverings from stainless steel and other finished surfaces. Notify Architect and Owner of any appliances not operating properly. Wash, clean and polish appliances, fittings and accessories.
 - B. After all utility connections to the appliances are made up and completed, the Owner or Supplier shall conduct the final test of all appliances in the presence of the Owner and shall put all items through at least three complete cycles of operation, adjusting as needed to assure proper operation. They shall also instruct a designated representative of the Owner in the proper operation, maintenance, and care of all operating equipment.

3.05 CLEANING UP: In addition to other stipulated requirements for cleaning, Contractor shall completely remove finger prints and traces of soil from the surfaces of all work of this Section, using only those cleaning materials recommended for the purpose by the manufacturer of the material being cleaned.

END OF SECTION