ARCHITECT'S ADDENDUM

Addendum Number: 002

Date: Monday, December 30, 2019

RE: KANE COUNTY - Multi-Use facility

Prepared By: Viral Shah
Cordogan, Clark & Associates

CCA Project No.: 19-349

To: Prospective Bidders

Subject: Addendum No. 002 to the Construction Documents for the Kane County Multi-Use Facility.

This Addendum forms a part of the Construction Documents and modifies the original Construction Documents, dated 12/16/2019. Acknowledge receipt of this Addendum in space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

THE FOLLOWING ITEMS ARE TO BE INCLUDED IN THE PROPOSAL.

Clarifications To The Specifications:
See following attached specifications:

- 042000 Unit Masonry
- 074213.23 Metal Composite Wall Panels
- 093013 Ceramic Tile
- 096519 Resilient Tile Flooring
- 096723 Resinous Flooring
- 096813 Tile Carpeting
- 281500 Access Control

Clarifications To The Drawings:
See attached Drawing Clarifications Log and following revised sheets:

- T2.1B Life Safety Sheriff Area Plan – First Floor
- T2.2 Life Safety Sheriff Area Plan – Mezzanine
- A1.1 Architectural Site Plan
- A1.1A Dumpster / Transformer Enclosure Details
- A2.1 Floor Plan Overall – First Floor
- A2.1B Enl. Sheriff Area Floor Plan – First Floor
- A2.2 Floor Plan Overall – Mezzanine
- A2.2A Enl. Sheriff Area Plan – Mezzanine

- A3.1 Reflected Ceiling Plans Overall – FF
- A3.1B Enl. Sheriff Ceiling Plan – First Floor
- A5.2 Building Elevations
- A5.12 Precast Elevations
- A6.1 Building Sections
- A6.2 Building Sections
- A6.4 Building Sections
- A7.12 Stair Section and Handrail details
- A8.2 Interior Elevations
- A8.3 Interior Elevations
- A8.5 Interior Elevations
- A9.1 Door Schedule
- A9.11 Room Finish Schedule
- A10.1 Overall Equipment Floor Plan
- A10.1B Enl. Sheriff Area Equipment Floor Plan

RFI and Response Log:
See attached

End Of Addendum No. 002

L:\CCA\2019jobs\ 19-349 Kane County Judicial Center South Campus\ 7-Bidding-Negotiation\Addendum_02\ADDENDUM 2

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Face brick.
3. Mortar and grout.
4. Steel reinforcing bars.
5. Masonry joint reinforcement.
6. Ties and anchors.
7. Embedded flashing.
8. Miscellaneous masonry accessories.

B. Related Sections:

1. Division 04 Section "Cast Stone Masonry" for furnishing cast stone trim.
2. Division 05 Section "Structural Steel Framing" for installing anchor sections of adjustable masonry anchors for connecting to structural steel frame.
3. Division 07 Section "Sheet Metal Flashing and Trim" for exposed sheet metal flashing and for furnishing manufactured reglets installed in masonry joints.

1.3 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.4 PERFORMANCE REQUIREMENTS

A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.

1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.
2. Determine net-area compressive strength of masonry by testing masonry prisms according to ASTM C 1314.

B. Pre-installed U-shaped, Concrete Masonry Unit Insulation:
1. Description: Inserts pre-installed in CMU's prior to delivery to jobsite shall comply with ASTM C 578; Standard Type X.
2. Physical Properties:
   a. Moisture Absorption: ASTM C 272= < 1.0% by volume
   b. Fire Characteristics:
      1) ASTM E 84 – Flame Spread < 5.
      2) ASTM E 119 – Insert shall cause no reduction in hourly rating.
   c. Size: 8"x16"x8" Nominal, 8"x16"x10" Nominal
   d. Thermal Resistance (R) per inch of thickness = 5.00
   e. Drainage: Allows full drainage of water in cores of masonry units.
   f. Rot & Vermin Resistance: Produced from expanded polystyrene – fully resistant to rot; does not attract vermin, termites or rodents.
   g. Density: ASTM C 303 – 18.3 kg/m^3 (1.3 lb./cu. ft.)
   h. Components: Insulation shall contain no fluorocarbons and no formaldehyde.
   i. Shape: U-shaped insert accomplishing compression fit with inside faces of both the front and rear face shells and the central web of the CMU allowing rebar placement at center of wall, and handhold access at center web of the CMU.

C. Delegated Design: Design veneer anchors and ties including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

1. Structural Loads:

   a. Basic Wind Speed: 120 mph.
   b. Importance Factor: 1.15.
   c. Exposure Category: B.
   d. Minimum wind pressure +/- 35 psf.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For the following:

1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
2. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."
3. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

C. Delegated-Design Submittal: For all veneer ties and anchors indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified engineer responsible for their preparation.

D. Samples for Verification: For each type and color of the following:
1. Face brick, in the form of straps of five or more bricks.

2. Pigmented and colored-aggregate mortar. Make Samples using same sand and mortar ingredients to be used on Project.

E. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.

1. Submittal is for information only. Neither receipt of list nor approval of mockup constitutes approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.

F. Material Certificates: For each type and size of the following:

1. Masonry units.

a. Include material test reports substantiating compliance with requirements.
b. For exposed brick, include test report for efflorescence according to ASTM C 67.
c. For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.

G. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
1. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

H. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1093 for testing indicated.

B. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.

C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

D. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches down both sides of walls and hold cover securely in place.
2. Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

B. Fire-Resistance Ratings: Where indicated, provide units that comply with requirements for fire-resistance ratings indicated as determined by testing according to ASTM E 119, by equivalent masonry thickness, or by other means, as acceptable to authorities having jurisdiction.

2.2 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
2. Provide bullnose units for outside corners unless otherwise indicated.

B. CMUs: ASTM C 90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2500 psi.
2. Density Classification: Normal weight.
3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.

2.3 PRE-INSTALLED, U-SHAPED CONCRETE MASONRY INSULATION:

1. Basis of Design Product: Korfil inserts manufactured by Concrete Block Insulating Systems.

2.4 MASONRY LINTELS

A. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

2.5 BRICK

A. General: Provide shapes indicated and as follows, with exposed surfaces matching finish and color of exposed faces of adjacent units:

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
2. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.

3. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
4. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

B. Face Brick: Facing brick complying with ASTM C 216.\

1. Brick Supplier
   a. Bricks Incorporated
   b. Brent Schmitt, (630)730-5156, bschmitt@bricksinc.net
2. Products: Subject to compliance with requirements, provide the following:
   a. Grade: SW.
   b. Type: FBX
   c. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 4950 psi.
   d. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.
   e. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
   f. Size (Actual Dimensions): Norman (3-5/8 inches wide by 2-1/4 inches high by 11-5/8 inches long.)
   g. Color/Finish:
      1) BRK-01
         a) Color: TBD
      2) BRK-02
         a) Color: TBD
3. Application: Use where brick is exposed unless otherwise indicated.

2.6 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type I. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C 207, Type S - Special.

C. Aggregate for Mortar: ASTM C 144.

1. For mortar that is exposed to view, use washed aggregate consisting of natural sand.
2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.

D. Epoxy Pointing Mortar: ASTM C 395, epoxy-resin-based material formulated for use as pointing mortar for structural-clay facing units.

E. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979. Use only pigments with a record of satisfactory performance in masonry mortar.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

   a. Davis Colors; True Tone Mortar Colors.
   b. Lanxess Corporation; Bayferrox Iron Oxide Pigments.

c. Solomon Colors, Inc.; SGS Mortar Colors.
1) Basis of Design Color: SGS 10H Light Buff

2. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
3. Pigments shall not exceed 10 percent of portland cement by weight.

F. Aggregate for Grout: ASTM C 404.

G. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Euclid Chemical Company (The); Accelguard 80.
b. Grace Construction Products, W. R. Grace & Co. - Conn.; Morset.
c. Sonneborn Products, BASF Aktiengesellschaft; Trimix-NCA.

H. Water: Potable.

2.7 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Masonry Joint Reinforcement, General: ASTM A 951/A 951M.

1. Interior Walls: Hot-dip galvanized, carbon steel.
2. Exterior Walls: Hot-dip galvanized, carbon steel.
3. Wire Size for Side Rods: 0.187-inch diameter.
4. Wire Size for Cross Rods: 0.148-inch diameter.
5. Wire Size for Veneer Ties: 0.187-inch diameter.
6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
7. Provide in lengths of not less than 10 feet with prefabricated corner and tee units.

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Ladder type with single pair of side rods.

2.8 TIES AND ANCHORS

A. Delegated Design: In all locations where the distance between outside face of structural substrate and interior face of veneer exceed 4 ½" provide rational design per Part 1 and Part 2 requirements in this section.

B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.
1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 153/A 153M, Class B-2 coating.
2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
3. Steel Plates, Shapes and Bars: ASTM A36/A 36M.

C. Wire Ties, General: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches parallel to face of veneer.

D. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches wide.

1. Wire: Fabricate from 3/16-inch diameter, hot-dip galvanized steel wire.

E. Adjustable Anchors for Connecting to Structural Steel Framing: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch diameter, hot-dip galvanized steel wire.
2. Tie Section: Triangular-shaped wire tie, sized to extend within 1 inch of masonry face, made from 0.187-inch diameter, hot-dip galvanized steel wire.

F. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

1. Connector Section: Dovetail tabs for inserting into dovetail slots in concrete and attached to tie section; formed from 0.105-inch thick, steel sheet, galvanized after fabrication

2. Tie Section: Triangular-shaped wire tie, sized to extend within 1 inch of masonry face, made from 0.187-inch diameter, hot-dip galvanized steel wire.

G. Partition Top anchors: 0.097-inch thick metal plate with 3/8-inch-diameter metal rod 6 inches long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.

H. Adjustable Masonry-Veneer Anchors:

1. General: Provide anchors that allow vertical adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to wood or metal studs, and as follows:

a. Structural Performance Characteristics: Capable of withstanding a 100-lbf load in both tension and compression without deforming or developing play in excess of 0.05 inch.

2. Contractor's Option: Unless otherwise indicated, provide any of the following types of anchors:

3. Screw-Attached, Masonry-Veneer Anchors: Units consisting of a wire tie and a metal anchor section.

a. Products: Subject to compliance with requirements, provide one of the following:

1) Heckmann Building Products Inc.; 315-D with 316.
2) Hohmann & Barnard, Inc.; X-SEAL.
3) Wire-Bond; 1004, Type III

b. Anchor Section: Gasketed sheet metal plate, 1-1/4 inches wide by 6 inches long, with screw holes top and bottom; top and bottom ends bent to form pronged legs of

length to match thickness of insulation or sheathing; and raised rib-stiffened strap, 5/8 inch wide by 6 inches long, stamped into center to provide a slot between strap and plate for inserting wire tie. Provide anchor manufacturer's standard, self-adhering, modified bituminous gaskets manufactured to fit behind anchor plate and extend beyond pronged legs.

c. Wire Ties: Triangular-, rectangular-, or T-shaped wire ties fabricated from 0.187-inch diameter, hot-dip galvanized steel wire.

d. Location: Steel stud backed cavity walls

2.9 EMBEDDED FLASHING MATERIALS

A. Flexible Flashing: Use one of the following unless otherwise indicated:

1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch.

a. Products: Subject to compliance with requirements, provide one of the following:
1) Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
2) Fiberweb, Clark Hammerbeam Corp.; Aquaflash 500.
3) Grace Construction Products, W. R. Grace & Co. - Conn.; Perm-A-Barrier Wall Flashing.
4) Heckmann Building Products Inc.; No. 82 Rubberized-Asphalt Thru-Wall Flashing.
5) Hohmann & Barnard, Inc.; Textroflash.
6) W. R. Meadows, Inc.; Air-Shield Thru-Wall Flashing.
7) Polyguard Products, Inc.; Polyguard 400.
8) Sandell Manufacturing Co., Inc.; Sando-Seal.
9) Williams Products, Inc.; Everlastic MF-40.

b. Accessories: Provide preformed corners, end dams, other special shapes, and seaming materials produced by flashing manufacturer.

B. Application: Unless otherwise indicated, use the following:

1. Where flashing is indicated to receive counterflashing, use metal flashing.
2. Where flashing is indicated to be turned down at or beyond the wall face, use metal flashing.
3. Where flashing is partly exposed and is indicated to terminate at the wall face, use metal flashing with a drip edge or flexible flashing with a metal drip edge.
4. Where flashing is fully concealed, use metal flashing or flexible flashing unless specifically noted in drawings.

C. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.10 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).

D. Weep/Vent Products: Use one of the following unless otherwise indicated:
   1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch less than depth of outer wythe, in color selected from manufacturer's standard.

      a. Products: Subject to compliance with requirements, provide one of the following:

         1) Advanced Building Products Inc.; Mortar Maze weep vent.
         2) Blok-Lok Limited; Cell-Vent.
         3) Heckmann Building Products Inc.; No. 85 Cell Vent.
         4) Hohmann & Barnard, Inc.; Quadro-Vent.
         5) Wire-Bond; Cell Vent.

E. Cavity Drainage Material <DM-01>: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.

   1. Products: Subject to compliance with requirements, provide one of the following:

      a. Advanced Building Products Inc.; Mortar Break II.
      b. Archovations, Inc.; CavClear Masonry Mat.
      c. Dayton Superior Corporation, Dur-O-Wal Division; Polytite MortarStop.
      d. Mortar Net USA, Ltd.; Mortar Net.

   2. Provide one of the following configurations:

      a. Strips, full-depth of cavity and 10 inches high, with dovetail shaped notches 7 inches deep that prevent clogging with mortar droppings.
      b. Strips, not less than 1-1/2 inches thick and 10 inches high, with dimpled surface designed to catch mortar droppings and prevent weep holes from clogging with mortar.

F. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and hold reinforcing bars in center of cells. Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.

   1. Products: Subject to compliance with requirements, provide one of the following:

      a. Dayton Superior Corporation, Dur-O-Wal Division; D/A 810, D/A 812 or D/A 817.
      b. Heckmann Building Products Inc.; No. 376 Rebar Positioner.
      c. Hohmann & Barnard, Inc.; #RB or #RB-Twin Rebar Positioner.

d. Wire-Bond; O-Ring or Double O-Ring Rebar Positioner.

2.11 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Limit cementitious materials in mortar for exterior and reinforced masonry to portland cement and lime.
3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Mortar for Unit Masonry: Comply with ASTM C 270, Property Specification.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use Type S.
3. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions; and for other applications where another type is not indicated, use Type N.
   a. For calcium silicate units provide Type N mortar meeting proportion specification method of ASTM C270, and mixed to the following proportions:
      1) 1 part Portland cement (ASTM C150, Type I)
      2) 1 part hydrated lime (ASTM C207, Type S – Special), and
      3) 6 parts masonry sand (ASTM C144)

C. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.

1. Pigments shall not exceed 10 percent of portland cement by weight.
2. Pigments shall not exceed 5 percent of masonry cement by weight.
3. Mix to match Architect's sample.
4. Application: Use pigmented mortar for exposed mortar joints with the following units:

   a. Face Brick

D. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
2. Verify that foundations are within tolerances specified.
3. Verify that reinforcing dowels are properly placed.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.

B. Build chases and recesses to accommodate items specified in this and other Sections.

C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.

D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

1. Mix units from several pallets or cubes as they are placed.

F. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

3.3 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.

3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
5. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.

3.4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in bond pattern indicated on Drawings; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4-inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

F. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

G. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.

H. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

I. Build non-load-bearing interior partitions full height of story to underside of solid floor or roof structure above unless otherwise indicated.

1. Install compressible filler in joint between top of partition and underside of structure above.
2. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide 1/2-inch clearance between end of anchor rod and end of tube. Space anchors 48 inches o.c. unless otherwise indicated.
3. Wedge non-load-bearing partitions against structure above with small pieces of tile, slate, or metal. Fill joint with mortar after dead-load deflection of structure above approaches final position.
4. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Division 07 Section "Fire-Resistive Joint Systems."

3.5 MORTAR BEDDING AND JOINTING

A. Lay hollow brick and CMUs as follows:

1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Set cast-stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.

1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
2. Allow cleaned surfaces to dry before setting.
3. Wet joint surfaces thoroughly before applying mortar.

D. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

3.6 CAVITY WALLS

A. Bond wythes of cavity walls together using one of the following methods:

1. Individual Metal Ties: Provide ties as shown installed in horizontal joints, but not less than one metal tie for 2.67 sq. ft. of wall area spaced not to exceed 32 inches o.c. horizontally and 16 inches o.c. vertically. Stagger ties in alternate courses. Provide additional ties within 12 inches of openings and space not more than 36 inches apart

around perimeter of openings. At intersecting and abutting walls, provide ties at no more than 24 inches o.c. vertically.

a. Where bed joints of wythes do not align, use adjustable (two-piece) type ties.
b. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable (two-piece) type ties to allow for differential movement regardless of whether bed joints align.

2. Masonry Veneer Anchors: Comply with requirements for anchoring masonry veneers.

B. Bond wythes of cavity walls together using bonding system indicated on Drawings.

C. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

D. Coat cavity face of backup wythe to comply with Division 07 Section "Fluid Applied Membrane Air Barrier" where indicated on drawings.

E. Installing Cavity-Wall Insulation: Place small dabs of adhesive, spaced approximately 12 inches o.c. both ways, on inside face of insulation boards, or attach with plastic fasteners designed for this purpose. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.

1. Fill cracks and open gaps in insulation with crack sealer compatible with insulation and masonry.

3.7 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.

1. Space reinforcement not more than 16 inches o.c.
2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.8 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

A. Anchor masonry to structural steel and concrete where masonry abuts or faces structural steel or concrete to comply with the following:

1. Provide an open space not less than 1/2 inch wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o.c. horizontally.

3.9 ANCHORING MASONRY VENEERS

A. Anchor masonry veneers to wall framing and concrete and masonry backup with masonry-veneer anchors to comply with the following requirements:

1. Fasten screw-attached anchors through sheathing to wall framing and to concrete and masonry backup with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
2. Embed tie sections in masonry joints. Provide not less than 2 inches of air space between back of masonry veneer and face of sheathing.
3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
4. Space anchors as indicated, but not more than 16 inches o.c. vertically and 32 inches o.c. horizontally with not less than 1 anchor for each 2.67 sq. ft. of wall area. Install additional anchors within 12 inches of openings and at intervals, not exceeding 36 inches, around perimeter.

3.10 PRE-INSTALLED, U-SHAPED CONCRETE MASONRY INSULATION:

A. General: Inserts shall be pre-installed by CMU manufacturer prior to delivery to jobsite.

B. Unless otherwise indicated on Construction Documents, inserts shall be left in place when grouting.

3.11 CONTROL AND EXPANSION JOINTS

A. General: Install control and expansion joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.

B. Form control joints in concrete masonry as follows:

1. Install preformed control-joint gaskets designed to fit standard sash block.

C. Form expansion joints in brick as follows:

1. Build in compressible joint fillers where indicated.
2. Form open joint full depth of brick wythe and of width indicated, but not less than 3/8 inch for installation of sealant and backer rod specified in Division 07 Section "Joint Sealants."

D. Provide horizontal, pressure-relieving joints by either leaving an air space or inserting a compressible filler of width required for installing sealant and backer rod specified in Division 07 Section "Joint Sealants," but not less than 1/2 inch.

1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

3.12 LINTELS

A. Install steel lintels where indicated.

B. Provide masonry lintels where shown and where openings of more than 24 inches for block-size units are shown without structural steel or other supporting lintels.

C. Provide minimum bearing of 8 inches at each jamb unless otherwise indicated.

3.13 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated. Install vents at shelf angles, ledges, and other obstructions to upward flow of air in cavities, and where indicated.

B. Install flashing as follows unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches, and through inner wythe to within 1/2 inch of the interior face of wall in exposed masonry. Where interior face of wall is to receive furring or framing, carry flashing completely through inner wythe and turn flashing up approximately 2 inches on interior face.
3. At masonry-veneer walls, extend flashing through veneer, across air space behind veneer, and up face of sheathing at least 8 inches; provide termination bar and caulk at top of flashing.
4. At lintels and shelf angles, extend flashing a minimum of 6 inches into masonry at each end. At heads and sills, extend flashing 6 inches at ends and turn up not less than 2 inches to form end dams.
5. Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Division 07 Section "Joint Sealants" for application indicated.
6. Install metal drip edges with ribbed sheet metal flashing by interlocking hemmed edges to form hooked seam. Seal seam with elastomeric sealant complying with requirements in Division 07 Section "Joint Sealants" for application indicated.
7. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal drip edge.
8. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal flashing termination.
9. Cut flexible flashing off flush with face of wall after masonry wall construction is completed.

C. Install reglets and nailers for flashing and other related construction where they are shown to be built into masonry.

D. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:

1. Use specified weep/vent products to form weep holes.
2. Use wicking material to form weep holes above flashing where indicated on drawings. Turn wicking down at lip of sill to be as inconspicuous as possible.
3. Space weep holes 24 inches o.c. unless otherwise indicated.
4. Space weep holes formed from wicking material 16 inches o.c.
5. Trim wicking material flush with outside face of wall after mortar has set.

E. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

F. Install vents in head joints in exterior wythes at spacing indicated. Use specified weep/vent products to form vents.

1. Close cavities off vertically and horizontally with blocking in manner indicated. Install through-wall flashing and weep holes above horizontal blocking.

3.14 REINFORCED UNIT MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches.

3.15 FIELD QUALITY CONTROL

A. Inspectors: Owner will engage qualified independent inspectors to perform inspection s and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.

1. Place grout only after inspectors have verified compliance of grout spaces and grades, sizes, and locations of reinforcement.

B. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections indicated below and prepare test reports:

1. Payment for these services will be made by Owner
2. Retesting of materials that fail to comply with specified requirements shall be done at Contractor’s expense.

C. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.

D. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.

E. Prism Test: For each type of construction provided, according to ASTM C 1314 at 7 days and at 28 days.

3.16 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
3. Protect adjacent stone, calcium silicate manufactured stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
6. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.
7. Clean stone trim to comply with stone supplier's written instructions.

3.17 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, an d broken masonry units, by crushing and mixing with fill material as fill is placed.

1. Crush masonry waste to less than 4 inches in each dimension.
2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Division 31 Section "Earth Moving."
3. Do not dispose of masonry waste as fill within 18 inches of finished grade.

C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042000

SECTION 074213.23 – METAL COMPOSITE MATERIAL WALL PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes ACM wall panels.

1.3 DEFINITIONS

A. ACM: Aluminum composite material; cladding material formed by joining two thin metal skins to polyethylene or fire-retardant core and bonded under precise temperature, pressure, and tension.

B. PER: Pressure equalized rainscreen system; rainscreen system designed for no water intrusion with equal pressure between interior system cavity and outside cladding barrier.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**.

1. Meet with Owner, Architect, Owner's insurer if applicable, ACM panel Fabricator and Installer, ACM sheet manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects ACM panels, including installers of doors, windows, and louvers.
2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review methods and procedures related to ACM panel installation, including manufacturer's written instructions.
4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
5. Review flashings, special siding details, wall penetrations, openings, and condition of other construction that affect ACM panels.
6. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.

7. Review temporary protection requirements for ACM panel assembly during and after installation.
8. Review procedures for repair of panels damaged after installation.
9. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.

B. Shop Drawings:

1. Include fabrication and installation layouts of ACM panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment assembly, trim, flashings, closures, and accessories; and special details.
2. Accessories: Include details of the flashing, trim and anchorage, at a scale of not less than 1-1/2 inches per 12 inches (1:10).

C. Samples for Initial Selection: For each type of ACM panel indicated with factory-applied color finishes.

1. Include similar Samples of trim and accessories involving color selection.

D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.

1. ACM Panels: 12 inches (305 mm) long by actual panel width. Include fasteners, closures, and other ACM panel accessories. Submit custom color samples in paint manufacturer's standard size.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each product, tests performed by a qualified testing agency.

1. ACM Manufacturer's Material Test Reports: Certified test reports showing compliance with specific performance or third-party listing documenting compliance to comparable code sections IBC 1407.14 and IBC 1703.5.
2. ACM System Fabricator's Certified System Tests Reports: Certified system test reports showing system compliance with specific performance or third-party listing documenting compliance code section. Base performance requirements on ACM system type provided.
   a. PER System: Tested to AAMA 508.

C. Field quality-control reports.

D. Sample Warranties: For special warranties.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For ACM panels to include in maintenance manuals.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by ACM Fabricator.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for ACM fabrication and installation.

1. Build mockup of typical ACM panel assembly, including **corner, soffits,** supports, attachments, and accessories.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, ACM panels, and other manufactured items so as not to be damaged or deformed. Package ACM panels for protection during transportation and handling.

B. Unload, store, and erect ACM panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack ACM panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store ACM panels to ensure dryness, with positive slope for drainage of water. Do not store ACM panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Retain strippable protective covering on ACM panels during installation.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of ACM panels to be performed in accordance with manufacturers' written instructions and warranty requirements.

1.11 COORDINATION

A. Coordinate ACM panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.12 WARRANTY

A. Warranty on Panel Material: Manufacturer's standard form in which manufacturer agrees to replace ACM that fails within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace ACM panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: **20** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide ACM panel systems capable of withstanding the effects of the following loads, based on testing in accordance with ASTM E330:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: **As indicated on Drawings**.
3. Deflection Limits: For wind loads, panel deflection no greater than L/60 of the span.

B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) of wall area when tested in accordance with ASTM E283 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

C. Water Penetration under Static Pressure: No water penetration to room side of assembly when tested for 15 minutes in accordance with ASTM E331 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

D. Thermal Movements: Include expansion and contraction points as needed to allow for free and noiseless thermal movements from surface temperature changes.

1. Temperature Change (Range): minus 20 deg F to 175 deg F (minus 29 to 79.4 deg C), material surfaces.

E. Fire Propagation Characteristics: ACM wall assembly passes NFPA 285 testing.

2.2 ACM WALL PANELS <**ACM-01**>

A. Aluminum-Faced Composite Wall Panels : Formed with 0.020-inch- (0.50-mm-) thick, **coil-coated** aluminum sheet facings.

1. Panel Thickness: **0.157 inch (4 mm)**
2. Core: Fire retardant.

3. Exterior Finish: **PVDF fluoropolymer** with coats and thicknesses that comply with ACM panel manufacturer's performance and warranty requirements.

    a. Color: **As selected by Architect from manufacturer's full range**.

        1) Color 1: <**ACM-01**>.

4. Peel Strength: 22.5 in-lb/in. (100 N x mm/mm) when tested for bond integrity in accordance with ASTM D1781.
5. Fire Performance: Flame spread less than 25 and smoke developed less than 450, in accordance with ASTM E84.

B. Attachment Assembly Components: Formed from **extruded aluminum**.

2.3 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet ASTM A653/A653M, G90 (Z275) hot-dip galvanized coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide Fabricator's standard sections as required for support and alignment of ACM panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of ACM panels unless otherwise indicated.

C. Flashing and Trim: Provide flashing and trim formed from same material as ACM panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent ACM panels.

1. Basis-of-Design Product: Subject to compliance with requirements, provide 3A Composites USA Inc.; ALUCOBOND® Axcent™ Trim or comparable product by one of the following:

    a. Arconic Architectural Products (USA).
    b. Mitsubishi Chemical Composites.

2. Aluminum Trim: Formed with 0.040-inch (1.00-mm-) thick, coil-coated aluminum sheet facings.
3. Color: **As selected by Architect from manufacturer's full range**.

D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of ACM panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.

E. Panel Sealants: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in ACM panels and remain weathertight; and as recommended in writing by ACM panel manufacturer.

2.4 FABRICATION

A. General: Fabricate and finish ACM panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. Fabricate ACM panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.

C. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations or recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
4. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.

    a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.

2.5 FINISHES

A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Aluminum Panels and Accessories:

1. PVDF Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, ACM panel supports, and other conditions affecting performance of the Work.

1. Examine wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by ACM wall panel manufacturer.
2. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by ACM wall panel manufacturer.

a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

B. Examine roughing-in for components and assemblies penetrating ACM panels to verify actual locations of penetrations relative to seam locations of ACM panels before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages in accordance with ASTM C754 and ACM panel manufacturer's written recommendations.

3.3 ACM PANEL INSTALLATION

A. General: Install ACM panels in accordance with Fabricator's written instructions in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to supports unless otherwise indicated. Anchor ACM panels and other components of the Work securely in place, with provisions for thermal and structural movement.

1. Shim or otherwise plumb substrates receiving ACM panels.
2. Flash and seal ACM panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by ACM panels are installed.
3. Install screw fasteners in predrilled holes.

4. Locate and space fastenings in uniform vertical and horizontal alignment.
5. Install flashing and trim as ACM panel work proceeds.
6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
7. Align bottoms of ACM panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.

B. Fasteners:

1. Aluminum Panels: Use aluminum or stainless steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.

C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by ACM panel manufacturer.

D. Attachment Assembly, General: Install attachment assembly required to support ACM wall panels and to provide a complete weathertight wall system, including subgirts, perimeter extrusions, tracks, drainage channels, panel clips, and anchor channels.

1. Include attachment to supports, panel-to-panel joinery, panel-to-dissimilar-material joinery, and panel-system joint seals.

E. Panel Installation: Attach ACM wall panels to supports at locations, spacings, and with fasteners recommended by Fabricator to achieve performance requirements specified.

1. Pressure-Equalized-Rainscreen (PER) Installation: Install using Fabricator's standard assembly with vertical channel that provides support and secondary drainage assembly, draining at base of wall. Notch vertical channel to receive support pins. Install vertical channels supported by channel brackets or adjuster angles and at locations, spacings, and with fasteners recommended by manufacturer. Attach aluminum composite material (ACM) wall panels by inserting horizontal support pins into notches in vertical channels and into flanges of panels. Leave horizontal and vertical joints with open reveal.

1) Track-Support Installation: Install support assembly at locations, spacings, and with fasteners recommended by Fabricator. Use Fabricator's standard horizontal tracks and vertical **tracks** that provide support and secondary drainage assembly, draining to the exterior at horizontal joints through drain tube. Attach ACM wall panels to tracks by interlocking panel edges with Fabricator's standard "T" clips.

b. Panel Installation:

1) Attach routed-and-returned flanges of wall panels to perimeter extrusions with Fabricator's standard fasteners.
2) Install wall panels to allow individual panels to "free float" and be installed and removed without disturbing adjacent panels.

c. Joint Sealing: Seal all joints in accordance with AAMA 508. Do not apply sealants to joints unless indicated.

F. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete ACM panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by ACM panel Fabricator; or, if not indicated, provide types recommended in writing by ACM system Fabricator.

G. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, or SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.

1. Install exposed flashing and trim that is without buckling and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof performance.
2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (605 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

3.4 ERECTION TOLERANCES

A. Site Verifications of Conditions:

1. Verify conditions of substrate previously installed under other Sections are acceptable for the ACM system installation. Provide documentation indicating detrimental conditions to the ACM system performance.
2. Once conditions are verified, ACM system installation tolerances are as follows:

a. Shim and align ACM wall panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m), non-accumulative, on level, plumb, and location lines as indicated, and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.5 FIELD QUALITY CONTROL

A. Fabricator's Field Service: Engage a factory-authorized service representative to test and inspect completed ACM wall panel installation, including accessories.

B. ACM wall panels will be considered defective if they do not pass test and inspections.

C. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.

D. Prepare test and inspection reports.

3.6 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as ACM panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of ACM panel installation, clean finished surfaces as recommended by ACM panel manufacturer. Maintain in a clean condition during construction.

B. After ACM panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

C. Replace ACM panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074213.23

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Porcelain tile.
2. Tile backing panels.
3. Waterproof membrane for thinset applications.
4. Crack isolation membrane.
5. Metal edge strips.

B. Related Requirements:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Section 093023 "Glass Mosaic Tiling."

1.3 RELATED WORK:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Section 092900 "Gypsum Board" for cementitious backer units.
3. Section 093023 "Glass Mosaic Tiling."

1.4 DEFINITIONS

A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.

B. ANSI A108 Series: ANSI A108.01, ANSI A108.02, ANSI A108.1A, ANSI A108.1B, ANSI A108.1C, ANSI A108.4, ANSI A108.5, ANSI A108.6, ANSI A108.8, ANSI A108.9, ANSI A108.10, ANSI A108.11, ANSI A108.12, ANSI A108.13, ANSI A108.14,

ANSI A108.15, ANSI A108.16, and ANSI A108.17, which are contained in its "Specifications for Installation of Ceramic Tile."

C. Module Size: Actual tile size plus joint width indicated.

D. Face Size: Actual tile size, excluding spacer lugs.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Samples for Initial Selection: For tile, grout, and accessories involving color selection.

D. Samples for Verification:

1. Full-size units of each type and composition of tile and for each color and finish required.
2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required. Make samples at least [**12 inches (300 mm) square** but not fewer than four tiles. Use grout of type and in color or colors approved for completed Work.
3. Full-size units of each type of trim and accessory **for each color and finish required**.
4. Metal edge strips in 6-inch (150-mm) lengths.

E. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

1.7 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup of each type of wall tile installation.

2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

D. Store liquid materials in unopened containers and protected from freezing.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Tile: Obtain tile of each type from single source or producer.

1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Waterproofing, Crack Suppression, Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.

1. Obtain waterproofing, crack suppression, setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.

C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:

1. Metal edge strips.

2.2 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

1. Provide tile complying with Standard grade requirements unless otherwise indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

1. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.

2.3 TILE PRODUCTS / TERMINATION ACCESSORIES

A. General Tile Type: Ceramic wall tile and cove base.

1. Subject to compliance with requirements, provide one of the following:
   a. Basis of Design: Subject to compliance with requirements, provide Mirage USA, Transition, or comparable product by one of the following:
      1) Alfalux; OR EQUAL
      2) Wonder; OR EQUAL
      3) Daltile.
      4) Florim USA.

2. Tile Style, Color and Pattern: As selected by Architect from manufacturer's full range.
3. Grout Color: As selected by Architect from manufacturer's full range.
4. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes, selected from manufacturer's standard shapes.

B. Ceramic Tile Type [CT-<01>]: Unglazed porcelain tile.

1. Face Size: 12 by 24 inches.
2. Face Size Variation: Rectified.
3. Thickness: 3/8 inch.
4. Face: Plain with square edges.
5. Dynamic Coefficient of Friction: Not less than 0.42.
6. Location: Typical at all locations unless noted otherwise
7. Collection: Oxy by Mirage
8. Color: Greige OX07
9. Laying pattern: Stacked Bond

C. Ceramic Tile Type <CT-02>: Glazed wall tile.

1. Module Size: 3 by 6 inches.

2. Thickness: 5/16 inch.
3. Face: Plain with modified square edges or cushion edges.
4. Finish: Semi-Gloss / Gloss glaze.
5. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
   a. External Corners for Portland Cement Mortar Installations: Bullnose shape with radius of at least 3/4 inch unless otherwise indicated.
   b. Internal Corners: Field-butted square corners. For coved base and cap use angle pieces designed to fit with stretcher shapes.
6. Location: Autopsy Room, Hazmat Room
7. Collection: Oxy by Mirage
8. Color: Royal White OX04
9. Laying pattern: Stacked Bond

~~D. Ceramic Tile Type [CT-<03>]: Unglazed porcelain tile.~~

~~1. Face Size: 12 by 24 inches.~~
~~2. Face Size Variation: Rectified.~~
~~3. Thickness: 3/8 inch.~~
~~4. Face: Plain with square edges.~~
~~5. Dynamic Coefficient of Friction: Not less than 0.42.~~
~~6. Location: All shower rooms~~

E. Provide Schluter termination accessories (or equal) as required, including but not limited to: outside / inside corners, top / bottom bars, etc. No field fabrication of joints allowed, including out-of-plumb / level butt joints.

2.4 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 or ASTM C1325, Type A, in maximum lengths available to minimize end-to-end butt joints.

1. Thickness: 1/2 inch.

2.5 WATERPROOF MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Fluid-Applied Membrane: Liquid-latex rubber or elastomeric polymer.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. LATICRETE SUPERCAP, LLC.
   b. MAPEI Corporation.
   c. H.B. Fuller Construction Products / TEC

C. Location: Underneath tiles CT-02 and CT-03

2.6 CRACK ISOLATION MEMBRANE

A. General: Manufacturer's standard product**,** selected from the following, that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer. Provide at ALL walls.

B. Fluid-Applied Membrane: Liquid-latex rubber or elastomeric polymer.

1. Basis of Design: Redgard by Custom Building Products

2. Other Approved Manufacturers: Subject to compliance with requirements,:

a. LATICRETE SUPERCAP, LLC.
b. MAPEI Corporation.
c. H.B. Fuller Construction Products / TEC

C. Location: Underneath all tiles

2.7 SETTING MATERIALS

A. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02.

1. Cleavage Membrane: Asphalt felt, ASTM D 226, Type I (No. 15); or polyethylene sheeting, ASTM D 4397, 4.0 mils (0.1 mm) thick.

B. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Boiardi Products; a QEP company.
b. Bonsal American; an Oldcastle company.
c. Bostik, Inc.
d. C-Cure.
e. Custom Building Products.
f. Jamo Inc.
g. Laticrete International, Inc.
h. MAPEI Corporation.
i. Mer-Kote Products, Inc.
j. Southern Grouts & Mortars, Inc.
k. Summitville Tiles, Inc.
l. TEC; a subsidiary of H. B. Fuller Company.

2. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.

2.8 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color indicated.

B. Polymer-Modified Tile Grout: ANSI A118.7.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Boiardi Products; a QEP company.
b. Bonsal American; an Oldcastle company.
c. Bostik, Inc.
d. C-Cure.
e. Custom Building Products.
f. Jamo Inc.
g. Laticrete International, Inc.
h. MAPEI Corporation.
i. Southern Grouts & Mortars, Inc.
j. Summitville Tiles, Inc.

2.9 ELASTOMERIC SEALANTS

A. General: Provide sealants, primers, backer rods, and other sealant accessories that comply with the following requirements:

1. Use sealants that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Use primers, backer rods, and sealant accessories recommended by sealant manufacturer.

B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints unless otherwise indicated.

C. One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. DAP Inc.; Titanium Enriched Kitchen and Bath Sealant.
b. Dow Corning Corporation; Dow Corning 786.
c. GE Silicones; a division of GE Specialty Materials; Sanitary 1700.
d. Laticrete International, Inc.; Latasil Tile & Stone Sealant.
e. Pecora Corporation; Pecora 898 Sanitary Silicone Sealant.
f. Tremco Incorporated; Tremsil 600 White.

2.10 MISCELLANEOUS MATERIALS

A. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

B. Grout Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Bonsal American; an Oldcastle company; Grout Sealer.
b. Bostik, Inc.; CeramaSeal Grout & Tile Sealer.
c. C-Cure; Penetrating Sealer 978.
d. Custom Building Products; Surfaceguard Sealer.
e. Jamo Inc.; Matte Finish Sealer.
f. MAPEI Corporation; KER 003, Silicone Spray Sealer for Cementitious Tile Grout.
g. Southern Grouts & Mortars, Inc.; Silicone Grout Sealer.
h. Summitville Tiles, Inc.; SL-15, Invisible Seal Penetrating Grout and Tile Sealer.
i. TEC; a subsidiary of H. B. Fuller Company; TA-256 Penetrating Silicone Grout Sealer.

2.11 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Preparation: The following work should be complete and approved before installation of porcelain ceramic tile has begun:
1. Verify that cementitious substrates for tile walls installed with thin set mortar comply with surface finish requirements in ANSI A108.01.
2. Surface to receive tile shall be plumb, level and true with square corners, maximum variation from required plan shall be 1/8” in 10 feet.
3. Before setting, ensure that substrates for setting tile are firm, dry, clean free of coatings that are incompatible with tile-setting materials including curing compounds and other substances that contain soap, wax, oil, or silicone.

4. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
5. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
6. Report all unacceptable surfaces to the architect; do not set until surface areas are corrected.
7. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect. Crack Isolation Membrane to be used on non-directional cracks, shrinkage cracks, and all areas where crack transfer is suspected.
8. Locate and determine expansion joints based on building control joints, cold joints, sawed joints and recommended expansion joints based on TCA specifications current issue of EJ 171.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Fill cracks, holes, and depressions in substrates for tile walls installed with thin-set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

B. Prepare substrates to receive waterproofing by applying a reinforced mortar bed.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

D. Field-Applied Temporary Protective Coating: If indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

3.3 TILE INSTALLATION

A. Comply with TCA's "Handbook for Ceramic Tile Installation" for TCA installation. Comply with parts of the ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCA installation methods, and apply to cementitious substrate, types of setting and grouting materials used.

1. For the following installations, follow procedures in the ANSI A108 Series of tile installation standards for providing 95 percent mortar coverage:
    a. Tile floors in wet areas.
    b. Tile floors composed of tiles 8 by 8 inches (200 by 200 mm) or larger.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for

straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

D. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
2. Where adjoining tiles on base, walls, or trim are specified or indicated to be same size, align joints.
3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on base, walls, or trim, align joints unless otherwise indicated.

E. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:

1. Porcelain Bodied Wall Tile: 3/16 inch to 1/4 inch.

F. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, as required. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.

G. Grout Sealer: Apply grout sealer to grout joints according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 WATERPROOFING INSTALLATION

A. Install waterproofing to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.

B. Allow waterproofing to cure and verify by testing that it is watertight before installing tile or setting materials over it.

3.5 CRACK ISOLATION MEMBRANE INSTALLATION

A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness and bonded securely to substrate.

B. Do not install tile or setting materials over crack isolation membrane until membrane has cured.

3.6 CLEANING AND PROTECTING

A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Remove latex-portland cement grout residue from tile as soon as possible.
2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
3. Remove temporary protective coating by method recommended by coating manufacturer and that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent drain clogging.

B. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

C. Prohibit work on walls for at least seven days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.7 INTERIOR WALL TILE INSTALLATION NOTES

A. Tile contractor is responsible to coordinate extent of cementitious backer units or fiber cement underlayment required with general trades contractor.

B. Tile contractor to provide a smooth crack-free surface prepared with crack isolation membrane prior to setting wall tile.

C. Tile contractor to provide thin-set mortar on cementitious backer units or fiber cement underlayment.

D. Wall tile to be provided full-height (to bottom of ceiling) on all walls in all restrooms, public and private.

E. Provide 5/8” cementitious backer units behind tile walls in lieu of 5/8” gypsum board.

3.8 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. Interior Wall Installations, Wood or Metal Studs or Furring:

1. Ceramic Tile Installation: TCNA W244C or TCNA W244F; thinset mortar on cementitious backer units or fiber-cement backer board.

    a. Ceramic Tile Type: <CT-01>.
    b. Thinset Mortar: Improved modified dry-set mortar.
    c. Grout: High-performance unsanded grout.

2. Ceramic Tile Installation: TCNA W244C or TCNA W244F; thinset mortar on cementitious backer units or fiber-cement backer board over vapor-retarder membrane.

a. Ceramic Tile Type: <CT-2>.
b. Thinset Mortar: Improved modified dry-set mortar.
c. Grout: Water-cleanable epoxy grout.

3. Ceramic Tile Installation: TCNA W244C or TCNA W244F; thinset mortar on cementitious backer units or fiber-cement backer board.

a. Ceramic Tile Type: <CT-03>.
b. Thinset Mortar: Improved modified dry-set mortar.
c. Grout: High-performance unsanded grout.

END OF SECTION 093013

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes solid vinyl floor tile including accessories and miscellaneous materials:

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For each type of resilient floor tile.

1. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
2. Show details of special patterns.

C. Samples for Initial Selection: For each type of floor tile indicated.

D. Product Schedule: For floor tile. Use same designations indicated on Drawings.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials**,** from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Coordinate mockups in this Section with mockups specified in other Sections.

    a. Size: Minimum 100 sq. ft. for each type, color, and pattern in locations directed by Architect.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.8 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive floor tile during the following periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Close spaces to traffic during floor tile installation.

D. Close spaces to traffic for 48 hours after floor tile installation.

E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For resilient floor tile, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 SOLID VINYL FLOOR TILE

A. Basis of Design: Subject to compliance with requirements, provide product scheduled in Drawings or comparable products in color and pattern by the following manufacturers:

1. Mannington Mills, Inc.
2. Tandus Centiva

B. Tile Standard: ASTM F 1700.

1. Class: Class III, Printed Film Vinyl Tile.
2. Type: B, Embossed Surface.

C. Thickness: 0.100 inch.

D. Size:
1. 6 by 36 inches

E. Colors and Patterns:
1. AMTICO COLLECTION WOOD, Pearl Wash Wood AR0W8220
2. Laying Pattern: One-Third Running

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.

B. Adhesives: High moisture, water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Contractor shall engage a third-party testing agency to perform tests recommended by the floor covering manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
4. Moisture Testing: Contractor shall engage a third-party testing agency to perform tests recommended by the floor covering manufacturer. Each test area shall exceed 1000 sq. ft., and no fewer than three tests in each installation area shall be performed with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of recommended by floor covering manufacturer.
    b. Relative Humidity Test: Using in-situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum percent relative humidity level measurement recommended by the floor covering manufacturer
    c. Contractor shall provide the flooring manufacturer’s high moisture adhesive within their base bid. Moisture mitigation, if required, shall be provided by the Contractor via unit pricing established on the bid form.

C. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.

D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

E. Do not install floor tiles until materials are the same temperature as space where they are to be installed.

1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.

F. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay tiles square with room axis.

C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles with grain running in one direction.

D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

F. Extend floor tile underneath and behind moveable equipment.

G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.

H. Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.

B. Perform the following operations immediately after completing floor tile installation:

1. Remove adhesive and other blemishes from surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Cover floor tile until Substantial Completion.

END OF SECTION 096519

SECTION 096723 - RESINOUS FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes resinous flooring systems.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.

B. Samples for Initial Selection: For each type of exposed finish required.

1.5 INFORMATIONAL SUBMITTALS

A. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For resinous flooring to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.

C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Apply full-thickness mockups on 96-inch-square floor area selected by Architect.

a. Include 96-inch length of integral cove base with inside and outside corner.

2. Simulate finished lighting conditions for Architect's review of mockups.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.

B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.

C. Close spaces to traffic during resinous flooring application and for 24 hours after application unless manufacturer recommends a longer period.

PART 2 - PRODUCTS

2.1 PERORMANCE REQUIREMENTS

A. Flammability: Self-extinguishing according to ASTM D635.

2.2 MANUFACTURERS

A. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. Obtain secondary materials, including patching and fill material, joint sealant, and repair

materials, of type and from manufacturer recommended in writing by manufacturer of primary materials.

B. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:

1. Metal edge strips.

2.3 RESINOUS FLOORING <EPX-01, EPX-02>

A. Resinous Flooring System: Abrasion-, impact-, and chemical-resistant, aggregate-filled, and resin-based monolithic floor surfacing designed to produce a seamless floor and integral cove base.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Duraflex, Inc.
b. Sherwin-Williams Company, General Polymers.
c. Stonhard, Inc.
d. Tnemec Inc.

2. Basis of Design: Dur-a-Flex, Decorative Epoxy Flake Floor System

3. Color: TBD, selected from Manufacturers full ranges of colors, patterns and finishes.

B. System Characteristics:

1. Color and Pattern: As indicated on drawings.
2. Wearing Surface: Textured for slip resistance.
3. Overall System Thickness: 1/8 inch.
4. Breathable system capable of withstanding high vapor emissions.

C. Primer: Type recommended by resinous flooring manufacturer for substrate and resinous flooring system indicated.

1. Formulation Description: High solids, Water based.

D. Patching and Fill Material: Resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated.

E. Body Coats:

1. Resin: Epoxy.
2. Formulation Description: High solids, Water based.
3. Type: Pigmented.
4. Application Method: Self-leveling slurry.
5. Number of Coats: One.
6. Thickness of Coats: 1/8 inch.
7. Aggregates: Natural silica.

F. Grout Coat:

1. Resin: Epoxy.
2. Formulation Description: High solids, Water based.
3. Type: Pigmented.
4. Thickness of Coat: 8 mils.

G. Topcoats: Sealing or finish coats.

1. Resin: Urethane.
2. Type: Clear.
3. Number of Coats: Two.
4. Thickness of Coats: 4 mils.
5. Finish: Gloss.

H. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:

1. Compressive Strength: 5,800 psi minimum according to ASTM C579.
2. Tensile Strength: 1,200 psi minimum according to ASTM C307.
3. Flexural Modulus of Elasticity: 1,200 psi minimum according to ASTM C580.
4. Impact Resistance: No chipping, cracking, or delamination and not more than 1/16-inch permanent indentation according to MIL-D-3134J.
5. Resistance to Elevated Temperature: No slip or flow of more than 1/16 inch according to MIL-D-3134J.
6. Hardness: 80, Shore D according to ASTM D2240.

I. Provide Schluter termination accessories (or equal) as required, including but not limited to: top of cove base. No field fabrication of joints allowed, including out-of-plumb / level butt joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean, dry substrate for resinous flooring application.

B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.

1. Roughen concrete substrates as follows:

a. Comply with ASTM C811 requirements unless manufacturer's written instructions are more stringent.

2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.

3. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.

C. Patching and Filling: Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.

1. Control Joint Treatment: Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written instructions.

D. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.

3.2 APPLICATION

A. Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.

1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
3. Expansion and Isolation Joint Treatment: At substrate expansion and isolation joints, comply with resinous flooring manufacturer's written instructions.

B. Primer: Apply primer over prepared substrate at manufacturer's recommended spreading rate.

C. Integral Cove Base: Apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details, including those for taping, mixing, priming, troweling, sanding, and top coating of cove base. Round internal and external corners.

1. Integral Cove Base: 4 inches high.

D. Metal transition strips: Install metal transition strip along top edge of integral cove base.

E. Self-Leveling Body Coats: Apply self-leveling slurry body coats in thickness indicated for flooring system.

1. Aggregates: Broadcast aggregates at rate recommended by manufacturer and, after resin is cured, remove excess aggregates to provide surface texture indicated.

F. Troweled or Screeded Body Coats: Apply troweled or screeded body coats in thickness indicated for flooring system. Hand or power trowel and grout to fill voids. When body coats are cured, remove trowel marks and roughness using method recommended by manufacturer.

G. Grout Coat: Apply grout coat, of type recommended by resinous flooring manufacturer, to fill voids in surface of final body coat.

H. Topcoats: Apply topcoats in number indicated for flooring system and at spreading rates recommended in writing by manufacturer and to produce wearing surface indicated.

3.3 PROTECTION

A. Protect resinous flooring from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.

END OF SECTION 096723

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes modular carpet tile.

B. Related Requirements:

1. Section 096513 "Resilient Base and Accessories" for resilient wall base and accessories installed with carpet tile.
2. Section 090561.13 “Moisture Vapor Emission Control” for concrete substrate moisture mitigation.

1.3 SUBMITTALS

A. All submittals shall be in pdf format.

B. Product Data: For each product indicated.

C. Shop Drawings: Show the following:
1. Carpet tile type, color, and dye lot.
2. Pattern of installation.
3. Insets and borders.
4. Edge, transition, and other accessory strips.
5. Transition details to other flooring materials.

D. Samples for Initial Selection: For each type of carpet tile.

1. Include Samples of exposed edge, transition, and other accessory stripping involving color or finish selection.

E. Samples for Verification: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet Tile: Full-size Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- (300-mm-) long Samples.

F. Product Data:
1. For carpet tile, documentation indicating compliance with testing and product requirements of Carpet and Rug Institute's "Green Label Plus" program.
2. For installation adhesive, including printed statement of VOC content.

G. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

H. Maintenance data.

1.4 INSTALLATION QUALITY ASSURANCE

A. Contractor to be specialty contractor normally engaged in this type of work and shall have three (3) years minimum documented experience in the installation of these materials and participation in manufacturer’s environmental program including responsible carpet removal, recycling and installation.

B. Contractor and his/her sub-contractors must be approved by the architect and/or the carpet manufacturer.

C. Contractor will be responsible for the proper product installation, including floor preparation in all the areas indicated in the drawings to receive carpet. The carpet installation standard will be as listed in The Carpet and Rug Institute’s Standard for Installation of Commercial Carpet CRI-104, the standard that establishes the minimum installation procedures.

D. Flooring manufacturer to provide owner a written warranty that guarantees the completed installation to be free from defects in materials and workmanship for a period of no less than two (2) years after job completion.

E. Carpet manufacturer to provide field service experts to assist in project start-up as required by the job. Manufacturer will notify owner, architect, general prime contractor or another designated contact in any installation instructions is not followed.

F. Qualifications of Installers: All work shall be done by installation firms specializing in commercial carpet installation. It is required, that the firm shall be a member of the Floor Covering Installation Contractors Association (FCICA) and/or certified by the Floor Covering Installation Board (FCIB).

G. Waste Reduction: All polyethylene roll wrap shall be collected and recycled.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver all materials to installation site in the manufacturer’s original packaging. Packaging to contain manufacturer’s name, identification number and related information.

B. Product to be delivered as required by manufacturer.

C. All materials are to be delivered (24 hours) before the start of installation and stored in (above 65 degrees F and below 95 degrees F), dry location, safe from damage and soiling.

D. Delivered and stored materials must be available for inspection as required by owner, architect, general contractor and/or the manufacturer.

1.6 PROJECT CONDITIONS

A. Comply with CRI 104, Section 7.2, "Site Conditions; Temperature and Humidity" and Section 7.12, "Ventilation."

B. Substrate Conditions: Use the current test methods described below to determine the dryness as required to ensure initial and long-term success:
   1. Comply with ASTM F2170 testing procedures.
   2. Comply with ASTM F1869 testing procedures (see #4 below).
   3. Engage a third party testing agent to conduct in-site relative humidity testing (ASTM F2170) or anhydrous calcium chloride testing (ASTM F1869), whichever is recommended by resilient flooring manufacturer. Perform minimum of 3 tests for the first 1000 square feet and at least one test for each additional 1000 square feet, to ensure concrete internal relative humidity does not exceed 85% or moisture vapor emissions do not exceed 10.0 lb per square feet within a 24 hour period, depending on resilient flooring manufacturer's recommendations.
   4. Only use the ASTM F 1869, anhydrous calcium chloride test of vapor emission if recommended by the flooring manufacturer, otherwise, ASTM F 2170 should be used.
   5. Contingency for high moisture readings: if at the time of testing the moisture readings are in excess of 85% internal relative humidity or 10.0 lb moisture vapor emissions, the Architect will direct the testing service to initiate a petrographic analysis to determine the water/cement ratio and if sufficient hydration has taken place. If the specifications were not followed in their entirety, water/cement ratio (as specified), and/or the concrete surface has been inadequately hydrated, the Contractor responsible for the placement of the cement shall be responsible for the costs associated with the petrographic analysis and subsequent remediation requirements.

C. The Contractor shall verify in writing to the Owner, a minimum of thirty (30) days prior to scheduled resilient flooring installation, the following substrate conditions:
   1. Moisture: Maximum of 85% internal relative humidity tested in accordance with the current ASTM F2170 or maximum of 10.0 lb moisture vapor emission rate tested in accordance with the current ASTM F1869.
   2. Alkalinity (ASTM F710): Minimum 7.0 pH and Maximum 10.0 pH.
   3. Suitability of Substrate Surface: Ensure that substrate surface is sound, smooth and flat to 1/8 inch in 10 feet. It is the Contractor's responsibility to meet this 1/8" in 10 feet requirement.
   4. Letter of Certification from adhesive manufacturer and moisture remediation sealer manufacturer that both products are compatible with one another.

D. Environmental Limitations: Do not install carpet tiles until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use. Carpet installation shall not commence until painting and finishing work is complete and ceiling and overhead work is tested, approved and completed.

E. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.

1.7 WARRANTY

A. Warranties must be the standard, printed warranties on the carpet manufacturer's letterhead. All warranty items to be full term, not pro-rated for the indicated period. All warranties must be issued by the manufacturer as standard published warranties on all types of carpet within this document. If the product fails to perform as warranted when properly installed and maintained according to procedures, the affected area will be repaired or replaced at the expense of the manufacturer. The carpet manufacturer will provide standard published written performance warranties for the following:

1. Lifetime warranty against excessive surface wear. Excessive wear means no more than 10% loss of pile fiber weight measured before and after use as tested under ASTM D-3936.

2. Lifetime static protection, meaning built-in protection below 3.0 kv as tested under AATCC-134

B. The Carpet manufacturer shall warrant carpet manufactured with Nexus Modular backing for the useful life of the original installation against product failure from:
1. Tuft Bind (edge ravel, yarn pulls, zippering)
2. Delamination
3. Lifetime Moisture Barrier
4. Lifetime Dimensional Stability

C. All warranties to be sole source responsibility of the carpet manufacturer. Second source warranties that involve parties other than the carpet manufacturer are unacceptable.

D. Warranties shall not be written only for this purchase or purchaser and shall be standard issue nationally official documents.

1.8 EXTRA MATERIALS

A. Provide five percent (5%) extra material for shelf stock of carpeting of each color and type specified. Deliver as requested to owner's storage. Recycle waste and unusable scrap through manufacturer's environmental program.

PART 2 - PRODUCTS

2.1 CARPET TILE <CPT-01>:

A. Products: Subject to compliance with requirements, provide the following:

1. Tandus Centiva; Modular Carpet Tile
   a. Collection: Powerbond Hybrid Resilient

b. Series: Iso
c. Color: Iso 04536 Wired 48201
d. Laying Pattern: Quarter Turn
e. Size: 24” x 24”.
~~f. Color & Pattern: As indicated in Contract Documents.~~

B. Performance Characteristics: As follows:

1. Certified test reports shall be submitted by the carpet manufacturer, for all performance assurance specifications listed below. All submitted test numbers should represent average for standard production goods.

2. Required Test Reports:

a. Pill Test/ DOC-FF-1-70 (ASTM D-2589) – Requirement: Pass
b. Flooring Radiant Panel / ASTM E-648 – Requirement: Pass
c. CRI VOC Chamber Test/Indoor Air Quality test (CRI-IAQ) Green Label Plus Test
d. Lightfastness: Rating of not less than 5 on International Grey Scale after 40 SFU’s when tested in accordance with AATCC Test Method 16E.
e. Crockfastness: Minimum stain rating on International Grey Scale of not less than 5 wet or dry when tested in accordance with AATCC Test Method 165.
f. Atmospheric Fading: Burned Gas shall not be less than 5 on International Grey Scale after two cycles on each test as per AATCC Test Method 129 Ozone and AATCC Test Method 23.

2.2 WALK OFF CARPET TILE <CPT-02>:

A. Products: Subject to compliance with requirements, provide the following:

1. Tandus Centiva; Walk off Carpet Tile
a. Collection: Powerbond Hybrid Resilient
b. Series: Abrasive Action II
c. Color: 02578 Winter Gray 19103
d. Laying Pattern: Monolithic
e. Size: 24” x 24”.

2.3 Color & Pattern: As indicated in Contract Documents

2.4 INSTALLATION ACCESSORIES

A. Carpet Tile Manufacturer recommended adhesive or comparable product that meet the specification for Adhesives below.

B. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.

C. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.

1. Carpet Tile Manufacturer recommended adhesive or comparable product that meet the specifications for Adhesives below.

    a. 85% Relative Humidity (ASTM F2170).
    b. 10.0 lbs. per 1000 sq. ft. per 24-hour period (ASTM F 1869).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, moisture vapor emission rate, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:

1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet tile manufacturer.
2. Allowable Variation in Surface Plane of Flooring: Do not exceed 1/8 inch in 10 feet from level or slope indicated when tested with a 10-foot straightedge.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

D. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Contractor shall engage a third-party testing agency to perform tests recommended by the floor covering manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
4. Moisture Testing: Contractor shall engage a third-party testing agency to perform tests recommended by the floor covering manufacturer. Each test area shall exceed 1000 sq. ft., and no fewer than three tests in each installation area shall be performed with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F 1869. Provide Anhydrous Calcium Chloride Test only if required by flooring manufacturer. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of recommended by floor covering manufacturer.
    b. Relative Humidity Test: Using in-situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum percent relative humidity level measurement recommended by the floor covering manufacturer

c. Contractor shall provide the flooring manufacturer’s high moisture adhesive within their base bid. Moisture mitigation, if required, shall be provided by the Contractor via unit pricing established on the bid form.

3.2 PREPARATION

A. General: Comply with CRI 104, Section 6.2, "Site Conditions; Floor Preparation," and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.

B. General Contractor to remove all existing floor finishes. Contractor to remove adhesives / mortar bed remnants and prep existing floor to receive new flooring finish. Where required (i.e. in areas where asbestos tile was chemically removed), Contractor shall provide appropriate primer to ensure proper adhesion.

C. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.

D. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer.

1. Moisture Testing: Engage a third-party testing agency to perform tests recommended by floor covering manufacturer. Proceed with installation only after substrates pass testing.

   a. Perform relative humidity test using in-situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 85% relative humidity level measurement. If moisture exceeds 85% relative humidity rate, initiate contingency for high moisture readings below. Comply with Section 090561.13 Concrete Moisture Vapor Emission (MVE) control systems.

   b. Perform anhydrous calcium chloride test, ASTM F 1869 for vapor emission, only if specified by flooring manufacturer. Proceed with installation only after substrates have maximum of 10 lb moisture-vapor-emission rate. If moisture exceeds the 10 lb moisture-vapor-emission rate, initiate contingency for high moisture readings below. Comply with Section 090561.13 Concrete Moisture Vapor Emission (MVE) control systems.

   c. Contingency for high moisture readings: if at the time of testing the moisture readings are in excess of 10 lb moisture vapor emissions or 85% relative humidity, the Architect will direct the third party testing service to initiate a petrographic analysis to determine the water/cement ratio and if sufficient hydration has taken place. If the specifications were not followed in their entirety, water/cement ratio (as specified), and/or the concrete surface has been inadequately hydrated, the Contractor responsible for the placement of the cement shall be responsible for the costs associated with the petrographic analysis and subsequent remediation requirements.

d. If moisture related failure occurs, the Relative Humidity Test, ASTM F 2170, results will be the qualifying standard.

E. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

A. General: Comply with CRI 104, Section 14, "Carpet Modules," and with carpet tile manufacturer's written installation instructions.

B. Installation Method: As recommended in writing by carpet tile manufacturer.

C. Maintain dye lot integrity. Do not mix dye lots in same area.

D. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.

E. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.

G. Pattern installation: Verify with Architect.

H. Stagger joints of carpet tiles so carpet tile grid is offset from access flooring panel grid. Do not fill seams of access flooring panels with carpet adhesive; keep seams free of adhesive.

3.4 CLEANING AND PROTECTION

A. Perform the following operations immediately after installing carpet tile:

1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
2. Remove yarns that protrude from carpet tile surface.
3. Vacuum carpet tile using commercial machine with face-beater element.

B. Protect installed carpet tile to comply with CRI 104, Section 16, "Protection of Indoor Installations."

C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 281500 - ACCESS CONTROL HARDWARE DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Card readers, credential cards, and keypads
2. Cables
3. Transformers

B. Related Requirements:

1. Section 281300 "Access Control System Software and Database Management" for control and monitoring applications, workstations, and interfaces.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Diagrams for cable management system.
2. System labeling schedules, including electronic copy of labeling schedules that are part of the cable and asset identification system of the software specified in Parts 2 and 3.
3. Wiring Diagrams. For power, signal, and control wiring. Show typical wiring schematics including the following as applicable:

    a. Workstation outlets, jacks, and jack assemblies.
    b. Patch cords.
    c. Patch panels.

4. Cable Administration Drawings: As specified in "Identification" Article.
5. Battery and charger calculations for central station, workstations, and controllers.

C. Product Schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Credential card blanks, ready for printing. Include enough credential cards for all personnel to be enrolled at the site plus an extra 50 percent for future use.
2. Fuses of all kinds, power and electronic, equal to 10 percent of amount installed for each size used, but no fewer than three units.
3. One spare card reader.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An licensed employer of workers trained and approved by manufacturer.

1. Cable installer must have on staff an RCDD certified by Building Industry Consulting Service International.

B. Source Limitations: Obtain central station, workstations, controllers, Identifier readers, and all software through one source from single supplier.

1.8 PROJECT CONDITIONS

A. Environmental Conditions: System shall be capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:

1. Control Station: Rated for continuous operation in ambient conditions of 60 to 85 deg F (16 to 30 deg C) and a relative humidity of 20 to 80 percent, noncondensing.
2. Indoor, Controlled Environment: NEMA 250, Type 1 enclosure. System components, except the central-station control unit, installed in temperature-controlled indoor environments shall be rated for continuous operation in ambient conditions of 36 to 122 deg F (2 to 50 deg C) dry bulb and 20 to 90 percent relative humidity, noncondensing.
3. Outdoor Environment: NEMA 250, NEMA 250, Type 3R enclosures. System components installed in locations exposed to weather shall be rated for continuous operation in ambient conditions of minus 30 to plus 122 deg F (minus 34 to plus 50

deg C) dry bulb and 20 to 90 percent relative humidity, condensing. Rate for continuous operation where exposed to rain as specified in NEMA 250, winds up to 85 mph (137 km/h) and snow cover up to 24 inches (610 mm) thick.

PART 2 - PRODUCTS

2.1 OPERATION

A. Security access system hardware shall use a single database for access-control and credential-creation functions.

2.2 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NFPA 70, "National Electrical Code."

C. Comply with applicable SIA-DC and OSDP standards.

2.3 CARD READERS, CREDENTIAL CARDS, AND KEYPADS

A. Card Readers:

1. Card-Reader Power: Powered from its associated controller, including its standby power source, and shall not dissipate more than 5 W.
2. Response Time: Card reader shall respond to passage requests by generating a signal that is sent to the controller. Response time shall be 800 ms or less, from the time the card reader finishes reading the credential card until a response signal is generated.
3. Enclosure: Suitable for surface, semi-flush, pedestal, or weatherproof mounting. Mounting types shall additionally be suitable for installation in the following locations:

    a. Indoors, controlled environment.
    b. Indoors, uncontrolled environment.
    c. Outdoors, with built-in heaters or other cold-weather equipment to extend the operating temperature range as needed for operation at the site.

4. Display: Digital visual indicator shall provide visible[**and audible**] status indications and user prompts. Indicate power on or off, whether user passage requests have been accepted or rejected, and whether the door is locked or unlocked.
5. Proximity Readers:
    a. Passive-detection proximity card readers shall use a swept-frequency, RF field generator to read the resonant frequencies of tuned circuits laminated into compatible credential cards. The resonant frequencies read shall constitute a unique identification code number.
    b. The card reader shall read proximity cards in a range from direct contact to at least 6 inches (150 mm) from the reader and provide audible acceptance confirmation.

B. Keypads:

1. Entry-control keypads shall use a unique combination of alphanumeric and other symbols as an Identifier.
2. Keypads shall contain an integral alphanumeric/special symbols keyboard with symbols arranged in ascending ASCII-code ordinal sequence.
3. Communication protocol shall be compatible with the local processor.
4. Keypad Display:

    a. Keypads shall include a digital visual indicator and shall provide visible and audible status indications and user prompts.

        1) Display shall indicate power on or off and whether user passage requests have been accepted or rejected.

5. Keypad Response Time:

    a. The keypad shall respond to passage requests by generating a signal to the local processor. The response time shall be 800 ms or less from the time the last alphanumeric symbol is entered until a response signal is generated.

6. Keypad Power:

    a. The keypad shall be powered from the source as shown and shall not dissipate more than 150 W.

7. Keypad Mounting Method:

    a. Keypads shall be suitable for surface, semi-flush, pedestal, or weatherproof mounting as required.

8. Keypad Duress Codes:

    a. Keypads shall provide a means for users to indicate a duress situation by entering a special code.

C. Credential Cards:

1. Modification: Entry-control cards shall be able to be modified by lamination direct print process during the enrollment process without reduction of readability. The design of the credential cards shall allow for the addition of at least one slot or hole to accommodate the attachment of a clip for affixing the credential card to the badge holder used at the site.
2. Card Size and Dimensional Stability: Credential cards shall be 2-1/8 by 3-3/8 inches (54 by 86 mm). The credential card material shall be dimensionally stable so that an undamaged card with deformations resulting from normal use shall be readable by the card reader.
3. Card Material: Abrasion resistant, nonflammable, nontoxic, and impervious to solar radiation and effects of ultraviolet light.
4. Card Construction:

a. Core and laminate or monolithic construction.
b. Tactile lettering, logos, or other markings selected by Owner shall be hot stamped into the credential material or direct printed.
c. Furnish equipment for on-site assembly and lamination of credential cards.

2.4 PUSH-BUTTON SWITCHES

A. Push-Button Switches: Momentary-contact back-lighted push buttons with stainless steel switch enclosures.

B. Electrical Ratings:

1. Selected to match system voltage type and rating and load break requirements.
2. Rated for indoor controlled environments.

C. Enclosures: Push buttons shall be suitable for flush mounting in a switch enclosures when indicated on the plan.

D. Power: Push-button switches shall be powered from their associated controller, using dc control.

2.5 CABLES

A. General Cable Requirements: Comply with requirements in Section 26519 "Low-Voltage Electrical Power Conductors and Cables" and as recommended by system manufacturer for integration requirement.

B. Comply with Division 260519, et al.

C. Install wiring systems per manufacturer specifications; low voltage wiring installed via open methods must be plenum rated.

D. LAN Cabling:

1. Comply with requirements in Section 271513 "Communications Copper Horizontal Cabling."

2.6 TRANSFORMERS

A. NFPA 70, Class II control transformers, NRTL listed. Transformers for security access-control system shall not be shared with any other system.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with recommendations in SIA CP-01.

B. Comply with TIA 606-B, "Administration Standard for Commercial Telecommunications Infrastructure."

C. Product Schedules: Obtain detailed product schedules from manufacturer of access-control system or develop product schedules to suit Project. Fill in all data available from Project plans and specifications and publish as Product Schedules for review and approval.

D. In meetings with Architect and Owner, present Product Schedules and review, adjust, and prepare final setup documents. Use approved, final Product Schedules to set up system software.

3.2 CABLING

A. Comply with NECA 1, "Good Workmanship in Electrical Construction."

B. Install cables and wiring according to requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

C. Wiring Method: Install wiring in raceway and cable tray except within consoles, cabinets, desks, and counters and except in accessible ceiling spaces and in gypsum board partitions where unenclosed wiring method using NRTL-listed plenum cable may be applied. Conceal raceway and cables wherever possible.

D. Install LAN cables using techniques, practices, and methods per division 27.

E. Boxes and enclosures containing security-system components or cabling, and which are easily accessible to employees or to the public, shall be provided with a seal. Boxes above ceiling level in occupied areas of the building shall not be considered accessible. Junction boxes and small device enclosures below ceiling level and easily accessible to employees or the public shall be covered with a suitable cover plate and secured with tamperproof screws.

F. Install end-of-line resistors at the field device location and not at the controller or panel location.

3.3 CABLE APPLICATION

A. Comply with TIA 569-D, "Commercial Building Standard for Telecommunications Pathways and Spaces" and as required by manufacturer of system hardware.

B. TIA 232-F Cabling as applicable: Install at a maximum distance of 50 ft. (15 m) between terminations.

C. TIA 485-A Cabling as applicable: Install at a maximum distance of 4000 ft. (1220 m) between terminations.

D. Card Readers and Keypads:

1. Install number of conductor pairs recommended by manufacturer for the functions specified.

2. Unless manufacturer recommends larger conductors, install No. 22 AWG wire if maximum distance from controller to the reader is 250 ft. (75 m), and install No. 20 AWG wire if maximum distance is 500 ft. (150 m).
3. For greater distances, install "extender" or "repeater" modules recommended by manufacturer of the controller.
4. Install minimum No. 18 AWG shielded cable to readers and keypads that draw 50 mA or more.

E. Install minimum No. 16 AWG cable from controller to electrically powered locks. Do not exceed manufacturer’s recommended distances between terminations.

F. Install minimum No. 18 AWG ac power wire from transformer to controller; do not exceed manufacturer’s recommended distances between terminations.

3.4 GROUNDING

A. Comply with Section 270526 "Grounding and Bonding for Communications Systems."

B. Comply with IEEE 1100, "Recommended Practice for Power and Grounding Electronic Equipment."

C. Ground cable shields, drain conductors, and equipment to eliminate shock hazard and to minimize ground loops, common-mode returns, noise pickup, cross talk, and other impairments.

D. Bond shields and drain conductors to ground at only one point in each circuit.

E. Signal Ground:

1. Terminal: Locate in each equipment room and wiring closet; isolate from power system and equipment grounding.
2. Bus: Mount on wall of main equipment room with standoff insulators.
3. Backbone Cable: Extend from signal ground bus to signal ground terminal in each equipment room and wiring closet.

3.5 IDENTIFICATION

A. In addition to requirements in this article, comply with applicable requirements in Section 270553 "Identification for Communications Systems" and with TIA 606-B.

3.6 SYSTEM SOFTWARE AND HARDWARE

A. Develop, install, and test software and hardware, and perform database tests for the complete and proper operation of systems involved. Assign software license to Owner.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. LAN Cable Procedures: Inspect for physical damage and test each conductor signal path for continuity and shorts. Use tester approved for type and kind of installed cable. Test for faulty connectors, splices, and terminations. Test according to TIA 568-C.1, "Commercial Building Telecommunications Cabling Standards - Part 1: General Requirements." Link performance for balanced twisted-pair cables must comply with minimum criteria in TIA 568-C.1.
2. Test each circuit and component of each system. Tests shall include, but are not limited to, measurements of power-supply output under maximum load, signal loop resistance, and leakage to ground where applicable. System components with battery backup shall be operated on battery power for a period of not less than 10 percent of the calculated battery operating time. Provide special equipment and software if testing requires special or dedicated equipment.
3. Operational Test: After installation of cables and connectors, demonstrate product capability and compliance with requirements. Test each signal path for end-to-end performance from each end of all pairs installed. Remove temporary connections when tests have been satisfactorily completed.

C. Devices and circuits will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.8 STARTUP SERVICE

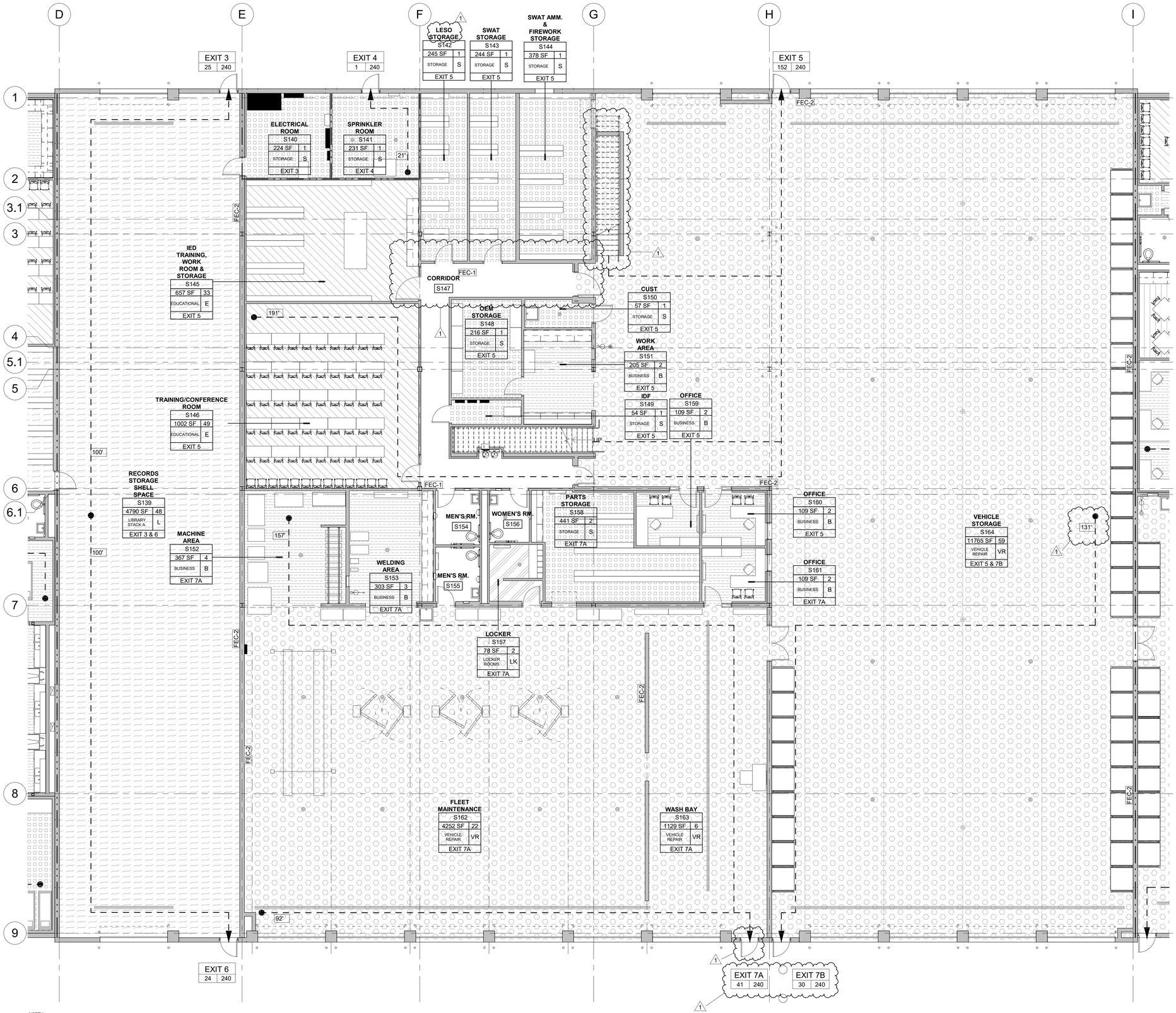
A. Engage a factory-authorized service representative to supervise and assist with startup service.

1. Complete installation and startup checks according to approved procedures that were developed in "Preparation" Article and with manufacturer's written instructions.
2. Enroll and prepare badges and access cards for Owner's operators, management, and security personnel.

END OF SECTION 281500

DRAWING CLARIFICATIONS LOG

SERIAL NO.	ITEMS	DRAWING REFERENCE	SPEC REFERENCE	DISCIPLINE	CORRECTIONS/ COMMENTS
1	Pallet racks in Sheriff Building; Room S164 Vehicle Storage	A10.1B (Revised and included herewith		Arch	Additional pallet racks on east wall of Room S164
2	Commissioning Agent			Arch	Owner wil contract commissioning agent
3	New Exterior access door S163C	T2.1B, A2.1, A2.1B, A3.1, A3.1B, A5.2, A5.12, A8.2, and A9.1 - revised and attached herewith		Arch	Add exterior access door in the Fleet Maintanance Area - Room S162. Drawings as listed - revised and attached herewith
4	S142 Bomb Unit Storage Room	T2.1B, A2.1, A2.1B, A3.1B and A9.11 - revised and attached herewith		Arch	Revised S142 Bomb Unit Storage Room name to "LESO Storage". Drawings as listed - revised and attached herewith
5	Doors S145 and S147A	T2.1B, T2.2, A2.1, A2.1B,A2.2, A2.2A, A3.1, A3.1B, A6.1, A6.2, A7.12, A8.5, and A9.1 - revised and attached herewith		Arch	Door size revised to 4'-0" clears opening. Drawings as listed - revised and attached herewith
6	Rail openings at mezzanine	A2.2, A2.2A, A6.4, A8.2 and A8.3 - revised and attached herewith		Arch	(2) 4'-0" Removable Rail Section
7	Existing Equipment	A10.1 and A10.1B - revised and attached herewith		Arch	Existing equipment provided and installed by owner is identified in equipment schedule
8	Exterior Thin Brick Selection			Arch	Thin Brick: TBRK-01 - Summitville - 97 Valley Forge; Size: Norman; Texture: Velour TBRK-02 - Summitville – 27 Georgetown; Size: Norman; Texture: Velour Face Brick: BRK-02 - to match thin brick TBRK-02
9	Trash Enclosure	C2.1 and L 200		Civil/ Landscape	Ignore chainlink fence around trash enclosure and GENSet enclosure. Follow Details on A1.1A
10	Storefront Type C3 and Type C4	9/A9.2			Correction to glazing for Type C3 and Type C4 shall be IG-1.



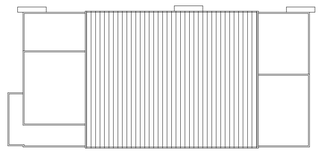
NORTH 1 LIFE SAFETY PLAN - SHERIFF AREA
1/8" = 1'-0"

SYMBOL LEGEND

- 2 HOUR RATED FIRE WALL
- XXX — EGRESS TRAVEL DISTANCES IN FEET
- EXIT # / ACT. | MAX — EXIT NUMBER; MAXIMUM CAPACITY TO EXIT; ACTUAL NUMBER OF OCCUPANTS EXITING
- Room Name / 101 / 500 SF | # O / Occupancy | Dep / Exit # — ROOM NAME; ROOM NUMBER; AREA IN SQUARE FEET; TOTAL NUMBER OF OCCUPANTS; OCCUPANCY CODE; OCCUPANCY; EXIT NUMBER TO EXIT FROM SPACE
- FEC-1 — RECESSED FIRE EXTINGUISHER CABINET AND EXTINGUISHER
- FEC-2 — SURFACE MOUNTED FIRE EXTINGUISHER CABINET AND EXTINGUISHER

OCCUPANCY LEGEND

SYMBOL	CODE REQUIREMENT
	BUSINESS - B 100 G.S.F. PER PERSON
	PARKING GARAGE - G 200 G.S.F. PER PERSON
	ACCESSORY STORAGE/MECH./EQUIPMENT - S 300 G.S.F. PER PERSON
	ASSEMBLY W/OUT FIXED SEATING - A UNCONCENTRATED (TABLES AND CHAIRS) 15 N.S.F. PER PERSON
	EDUCATIONAL CLASSROMM AREA (TRAINING) - E 20 N.S.F. PER PERSON
	LIBRARY STACK AREA (RECORD STORAGE) - L 100 G.S.F. PER PERSON
	LOCKER ROOMS - LK 50 G.S.F. PER PERSON



NORTH KEY PLAN
SCALE: NOT TO SCALE

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

LIFE SAFETY SHERIFF AREA PLAN - FIRST FLOOR

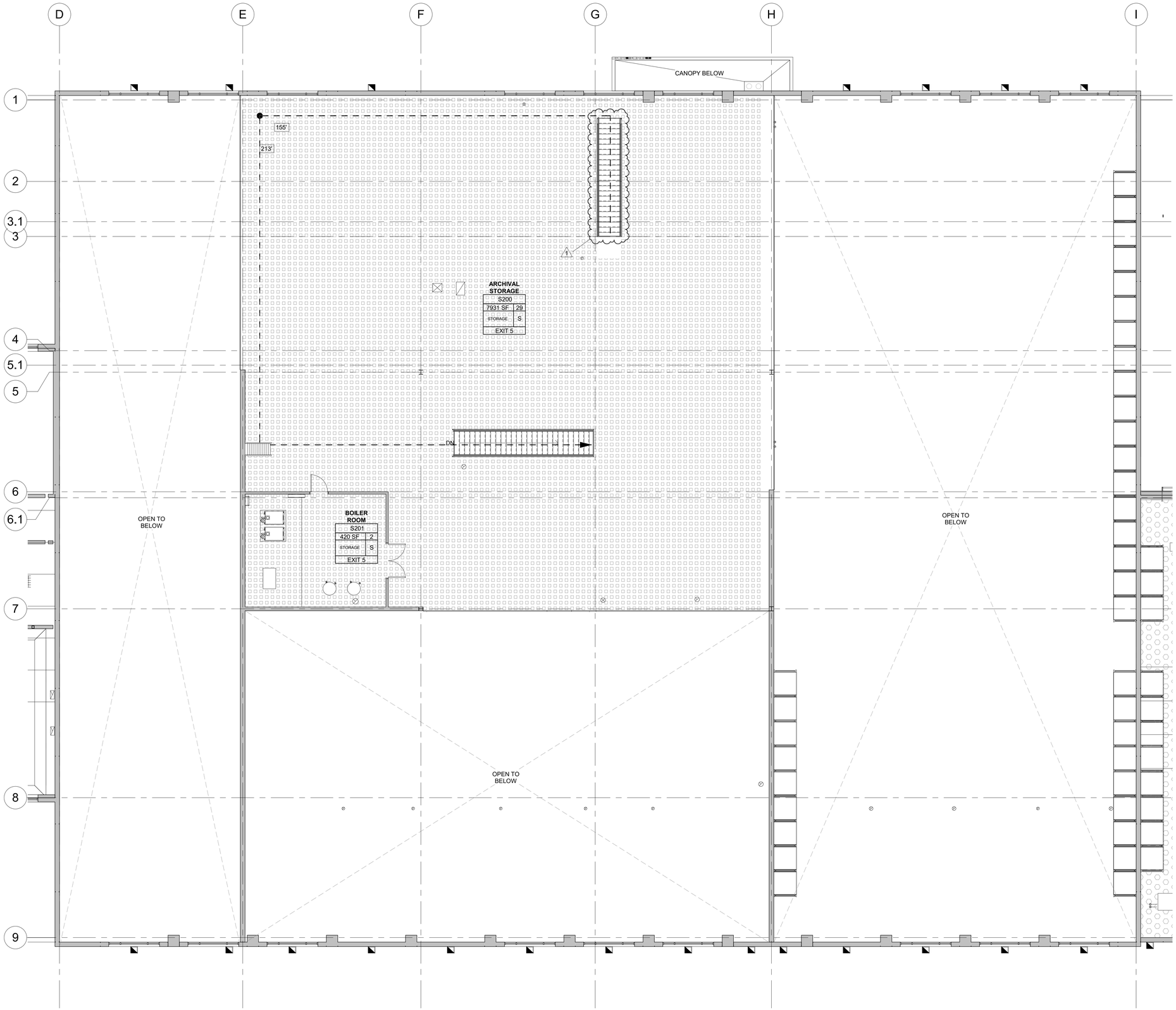
JOB NUMBER 19-349

DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

T2.1B



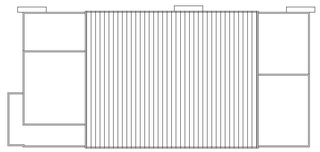
1 LIFE SAFETY PLAN - SHERIFF AREA
1/8" = 1'-0"

SYMBOL LEGEND

- 2 HOUR RATED FIRE WALL
- XXX — EGRESS TRAVEL DISTANCES IN FEET
- EXIT # / ACT. MAX — EXIT NUMBER; MAXIMUM CAPACITY TO EXIT; ACTUAL NUMBER OF OCCUPANTS EXITING
- Room Name / 101 / 500 SF / # O / Occupancy / Dep / Exit # — ROOM NAME; ROOM NUMBER; AREA IN SQUARE FEET; TOTAL NUMBER OF OCCUPANTS; OCCUPANCY CODE; OCCUPANCY; EXIT NUMBER TO EXIT FROM SPACE
- FEC-1 — RECESSED FIRE EXTINGUISHER CABINET AND EXTINGUISHER
- FEC-2 — SURFACE MOUNTED FIRE EXTINGUISHER CABINET AND EXTINGUISHER

OCCUPANCY LEGEND

SYMBOL	CODE REQUIREMENT
	BUSINESS - B 100 G.S.F. PER PERSON
	PARKING GARAGE - G 200 G.S.F. PER PERSON
	ACCESSORY STORAGE/MECH./EQUIPMENT - S 300 G.S.F. PER PERSON
	ASSEMBLY W/OUT FIXED SEATING - A UNCONCENTRATED (TABLES AND CHAIRS) 15 N.S.F. PER PERSON
	EDUCATIONAL CLASSROMM AREA (TRAINING) - E 20 N.S.F. PER PERSON
	LIBRARY STACK AREA (RECORD STORAGE) - L 100 G.S.F. PER PERSON
	LOCKER ROOMS - LK 50 G.S.F. PER PERSON



KEY PLAN
SCALE: NOT TO SCALE

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

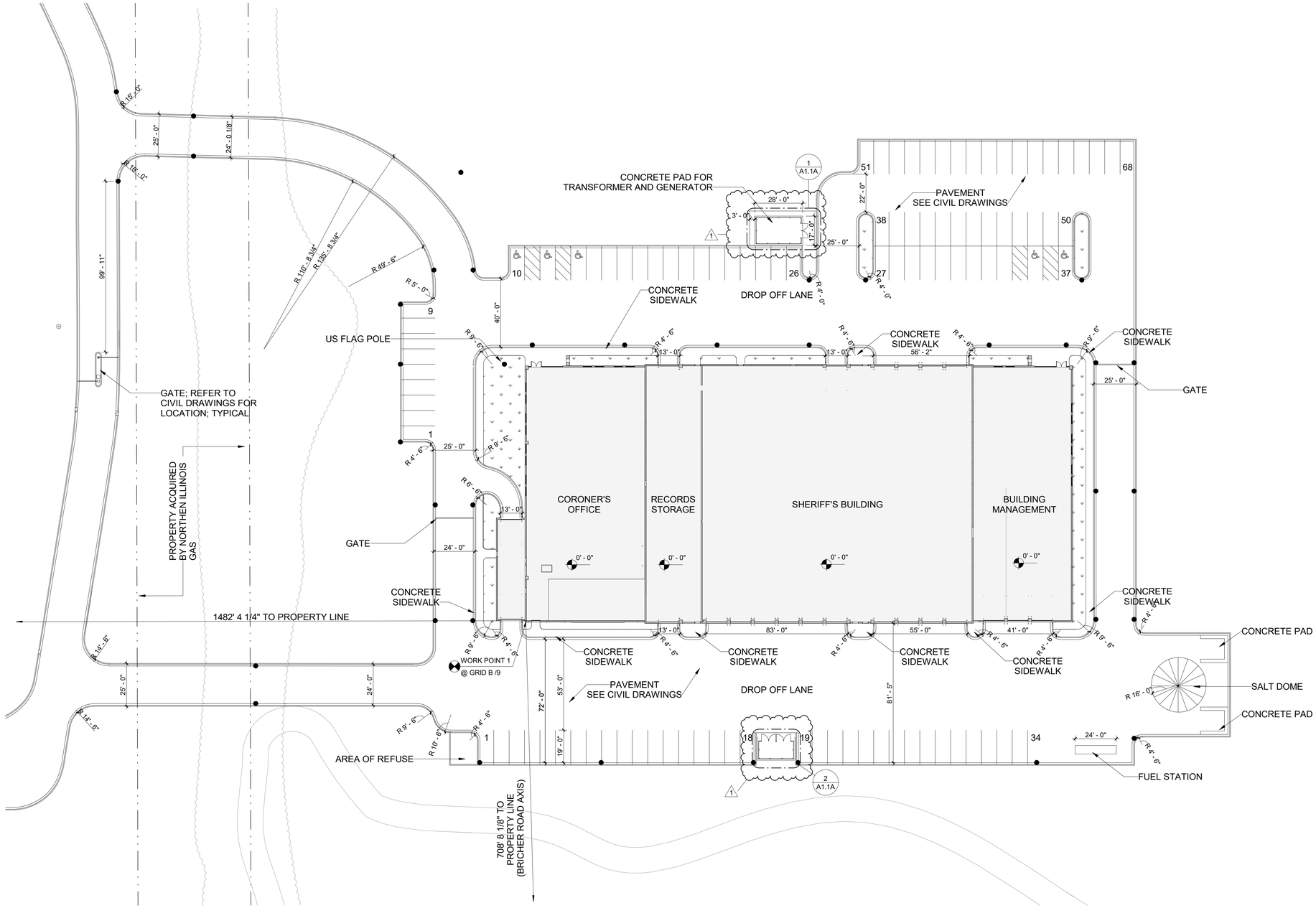
LIFE SAFETY SHERIFF AREA PLAN - MEZZANINE

JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

T2.2



NORTH

1 SITE PLAN
1" = 30'-0"

SITE GENERAL NOTES

1. REFER TO CIVIL DRAWINGS FOR SITE UTILITES, FINAL TOPOGRAPHY, DRAINAGE EROSION PROTECTION PLANS, LANDSCAPE, AND ANY EXTERIOR SITE RELATED CONSTRUCTION WORK.
2. ALL FINAL GRADING TO BE PER CIVIL, ARCHITECTURAL WORK SUCH AS STAIRS, RAMPS AND WALLS TO BE ADJUSTED AS REQUIRED FOR FINAL GRADES.

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

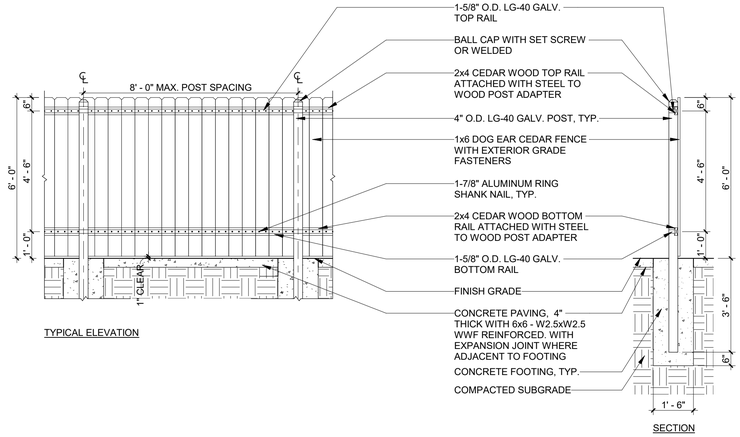
ARCHITECTURAL SITE PLAN

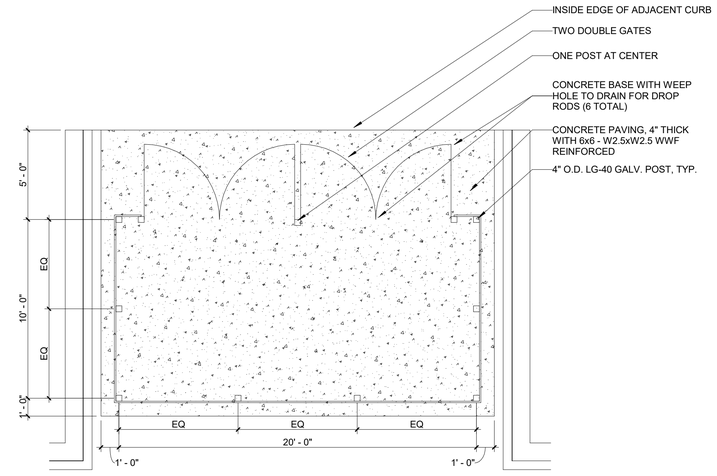
JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

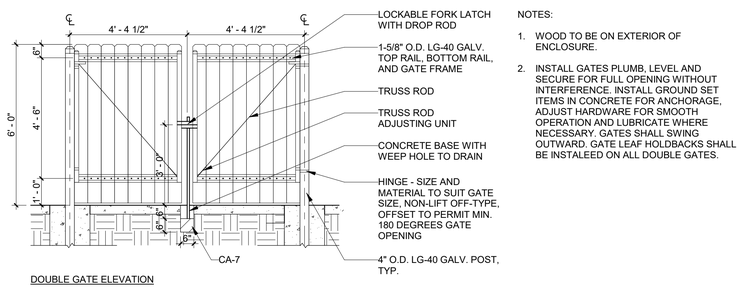
BID / PERMIT SET

A1.1





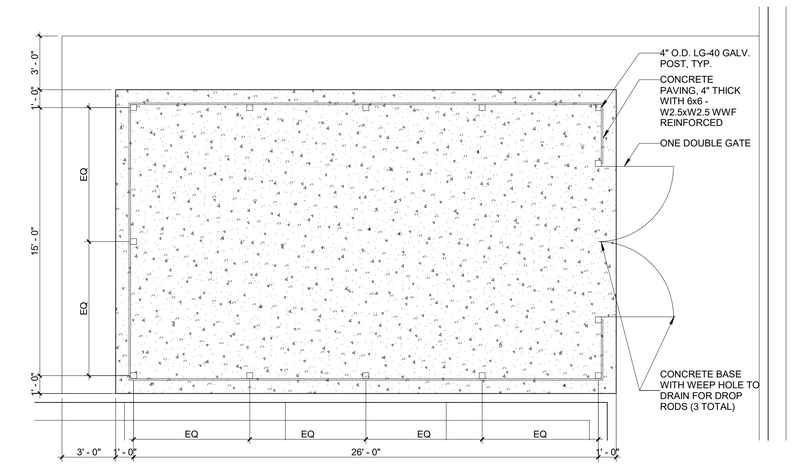
2 DUMPSTER ENCLOSURE PLAN
1/4" = 1'-0"



NOTES:

1. WOOD TO BE ON EXTERIOR OF ENCLOSURE.
2. INSTALL GATES PLUMB, LEVEL AND SECURE FOR FULL OPENING WITHOUT INTERFERENCE. INSTALL GROUND SET ITEMS IN CONCRETE FOR ANCHORAGE, ADJUST HARDWARE FOR SMOOTH OPERATION AND LUBRICATE WHERE NECESSARY. GATES SHALL SWING OUTWARD. GATE LEAF HOLDBACKS SHALL BE INSTALEED ON ALL DOUBLE GATES.

3 TYP. ENCLOSURE FENCING DETAIL
3/8" = 1'-0"



1 TRANSFORMER / GENERATOR ENCLOSURE PLAN
1/4" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

DUMPSTER / TRANSFORMER DETAILS

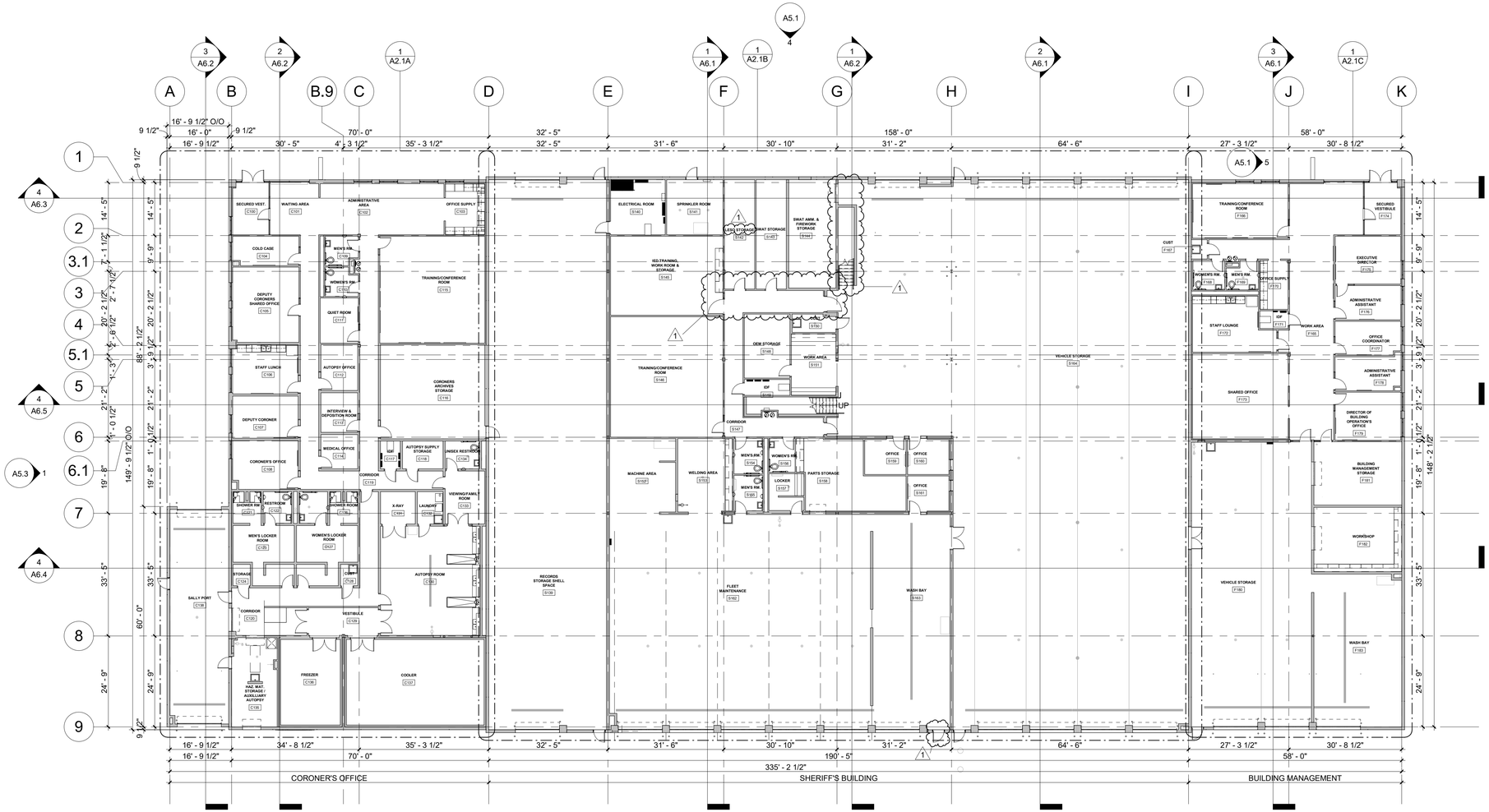
JOB NUMBER 19-349

DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A1.1A
1



NORTH

1 FIRST FLOOR PLAN OVERALL
1/16" = 1'-0"

FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A	WALL REFERENCE TAG SHEETS A2.4 & A2.5 (PARTITION TYPES)	FD	FLOOR DRAIN REFER TO PLUMBING DWGS
1	WINDOW REFERENCE TAG SHT A9.X EXTERIOR FRAMES SHT A10.X INTERIOR FRAMES	A	INTERIOR ELEVATION TAG REFER TO A8.X
101A	DOOR REFERENCE TAG SHT A9.1 (DOOR SCHEDULE)	EL 0' - 0"	FLOOR ELEVATION T/STRUCTURAL SLAB
Room name 101	ROOM REFERENCE TAG SHT A10.1 (ROOM SCHEDULE)	AED	AED DEVICE AUTOMATED EXTERNAL DEFIBRILLATOR

GENERAL FLOOR PLAN NOTES

1. REFER TO DRAWING A10.1 FOR DOOR TYPES.
2. REFER TO DRAWING A10.1 FOR FRAME TYPES.
3. REFER TO DRAWING A2.7 FOR PARTITION TYPES.
4. REFER TO DRAWING A5.5, A5.6 FOR PRECAST ELEVATIONS.
5. REFER TO ENLARGED PLANS FOR DIMENSIONAL INFORMATION AND PARTITION TYPES OF TAGGED AREAS SUCH AS STAIRS, AND LOCKER ROOMS.

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

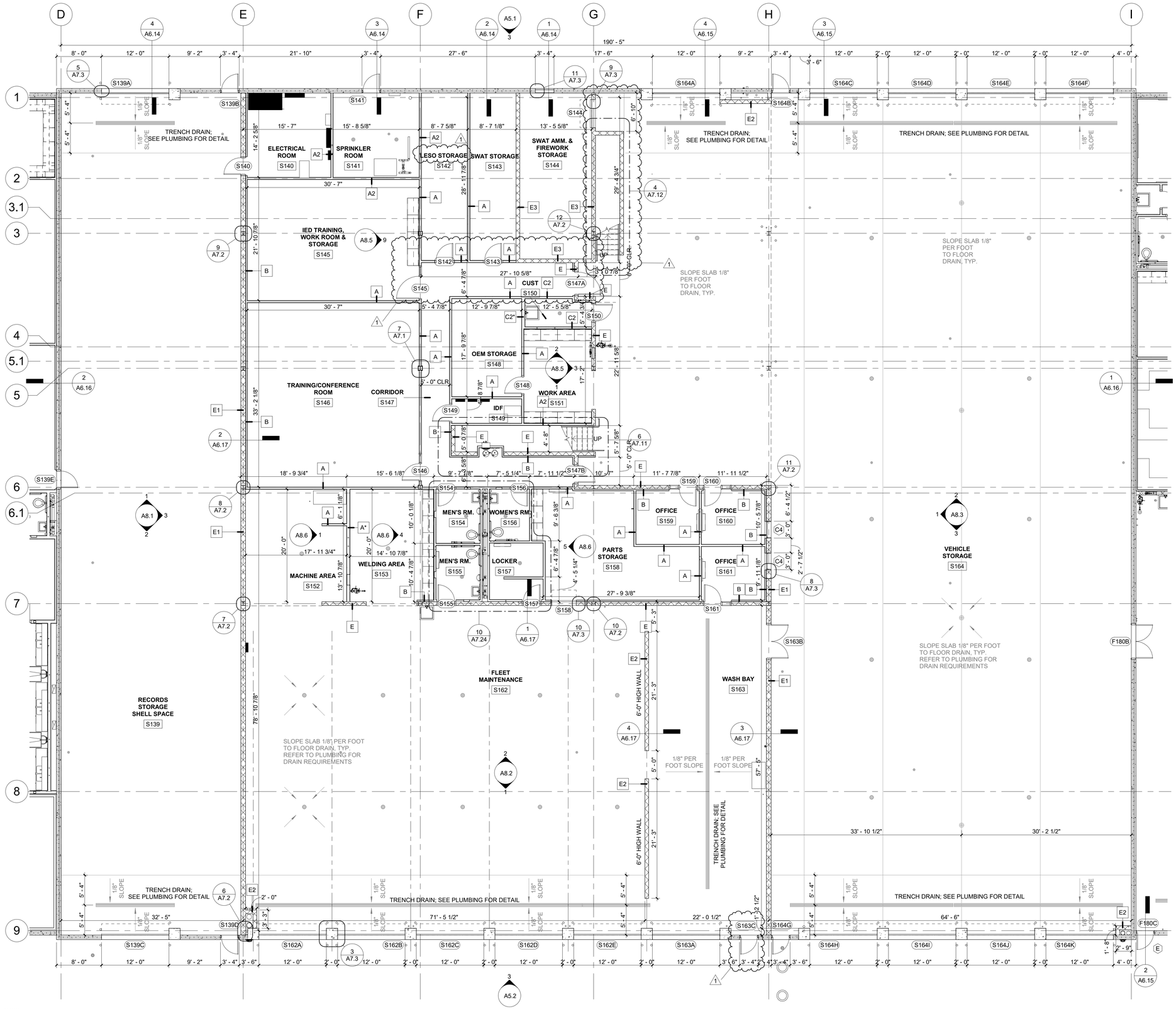
KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

FLOOR PLAN OVERALL - FIRST FLOOR

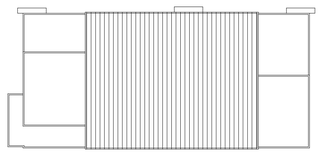
JOB NUMBER 19-349
DATE 12.16.2019
REVISIONS: 1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A2.1



1 ENLARGED PLAN - SHERIFF AREA
1/8" = 1'-0"



NORTH KEY PLAN
SCALE: NOT TO SCALE

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

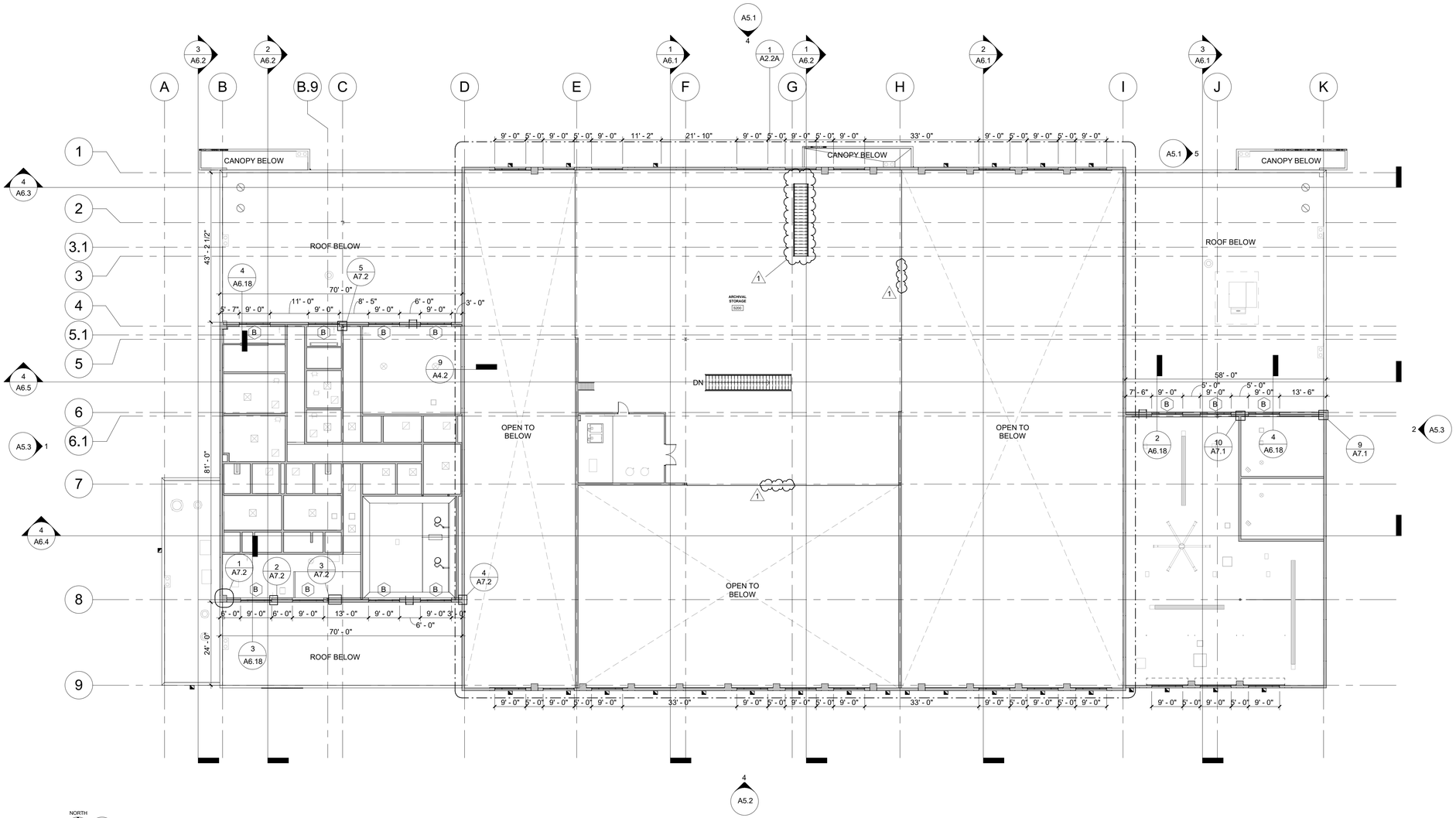
ENL. SHERIFF AREA PLAN - FIRST FLOOR

JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A2.1B



NORTH

1 MEZZANINE PLAN OVERALL

1/16" = 1'-0"

FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A	WALL REFERENCE TAG SHEETS A2.4 & A2.5 (PARTITION TYPES)	FD	FLOOR DRAIN REFER TO PLUMBING DWGS
1	WINDOW REFERENCE TAG SHT A9.X EXTERIOR FRAMES SHT A10.X INTERIOR FRAMES	A	INTERIOR ELEVATION TAG REFER TO A8.X
101A	DOOR REFERENCE TAG SHT A9.1 (DOOR SCHEDULE)	EL. 0' - 0"	FLOOR ELEVATION T/STRUCTURAL SLAB
Room name 101	ROOM REFERENCE TAG SHT A10.1 (ROOM SCHEDULE)	AED	AED DEVICE AUTOMATED EXTERNAL DEFIBRILLATOR

GENERAL FLOOR PLAN NOTES

1. REFER TO DRAWING A10.1 FOR DOOR TYPES.
2. REFER TO DRAWING A10.1 FOR FRAME TYPES.
3. REFER TO DRAWING A2.7 FOR PARTITION TYPES.
4. REFER TO DRAWINGS A5.5, A5.6 FOR PRECAST ELEVATIONS.
5. REFER TO ENLARGED PLANS FOR DIMENSIONAL INFORMATION AND PARTITION TYPES OF TAGGED AREAS SUCH AS STAIRS, AND LOCKER ROOMS.

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

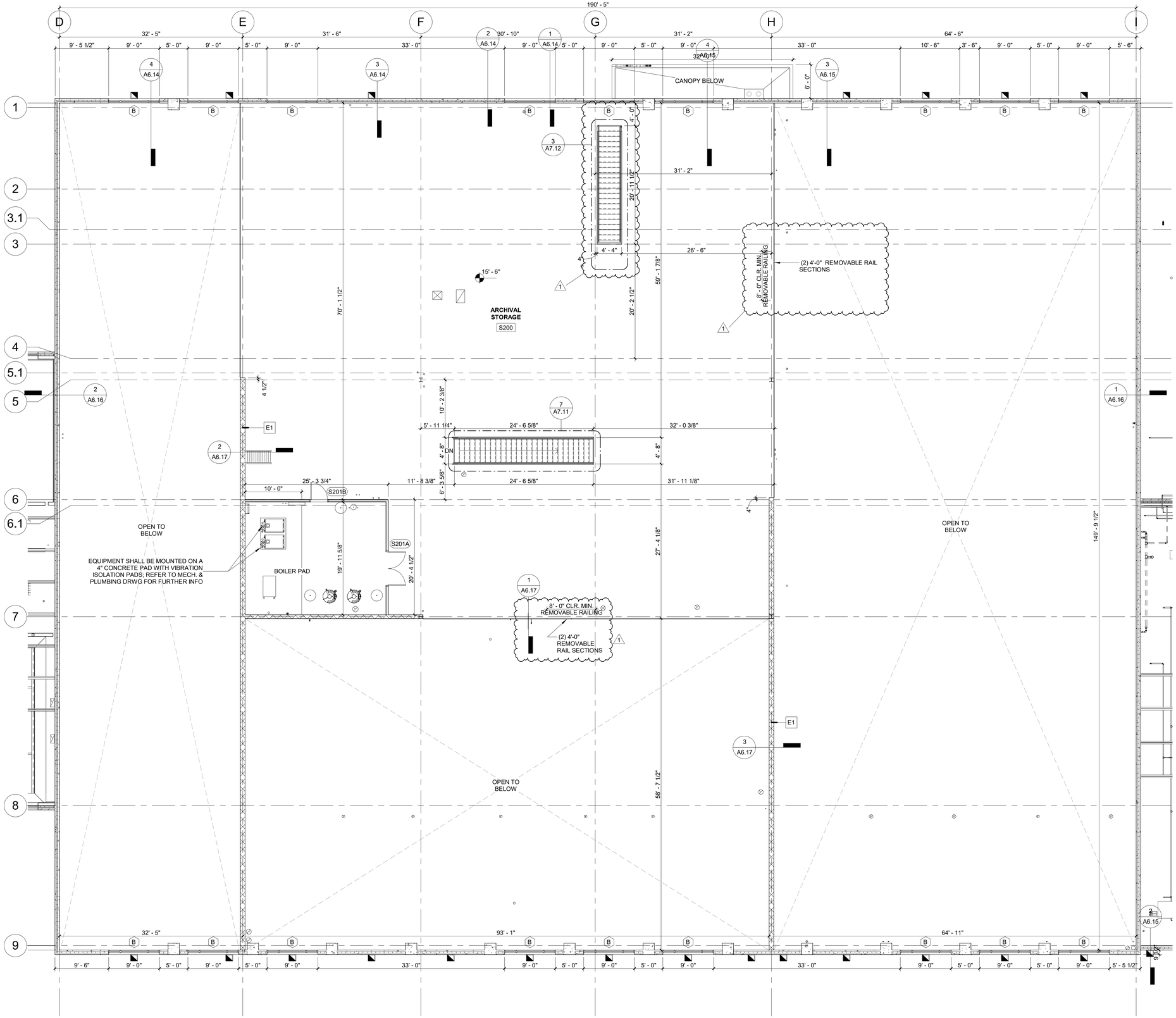
FLOOR PLAN OVERALL - MEZZANINE

JOB NUMBER 19-349
DATE 12.16.2019

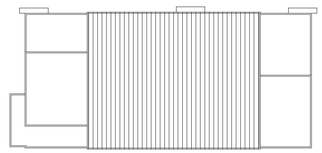
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A2.2



NORTH 1 ENLARGED PLAN - SHERIFF AREA
1/8" = 1'-0"



NORTH KEY PLAN
SCALE: NOT TO SCALE

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel. 630.896.4678
Fax 630.896.4987
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel. 312.943.7250
Fax 312.943.4771

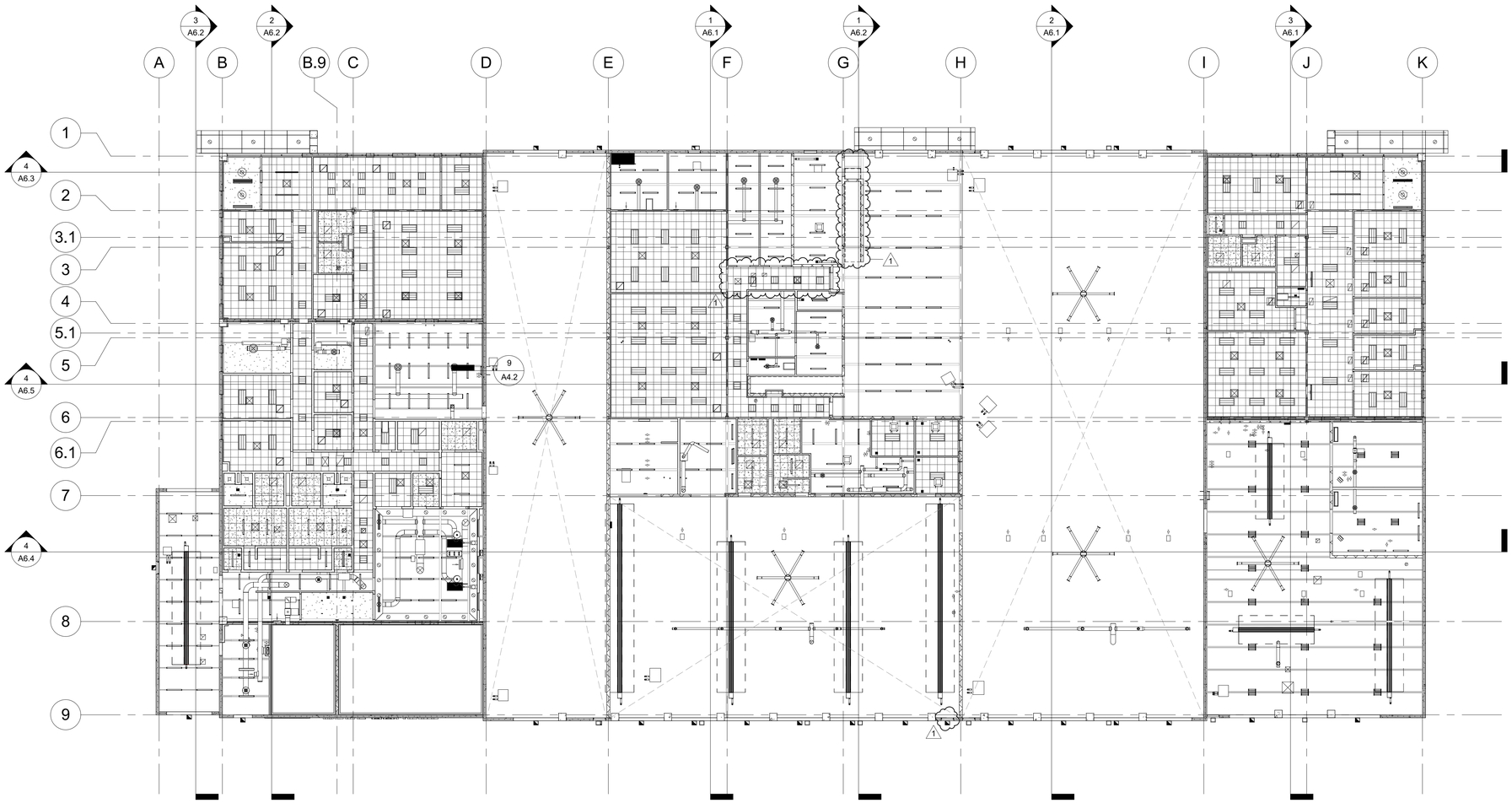
KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

ENL. SHERIFF AREA PLAN - MEZZANINE

JOB NUMBER 19-349
DATE 12.16.2019
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A2.2A



NORTH

1 FIRST FLOOR CEILING OVERALL
1/16" = 1'-0"

REFLECTED CEILING LEGEND

	2' x 2' ACOUSTICAL CEILING TILES <ACT-01>		WALL MOUNTED UP/DOWN FIXTURE REFER TO ELECTRICAL DRAWINGS
			RECESSED CAN FIXTURE REFER TO ELECTRICAL DRAWINGS
	2' x 2' CLEANABLE ACOUSTICAL CEILING TILES <ACT-02>		INDUSTRIAL FIXTURE REFER TO ELECTRICAL DRAWINGS
			SUPPLY DIFFUSER REFER TO MECHANICAL DRAWINGS
	GYPSUM BOARD CEILING		RETURN GRILLE REFER TO MECHANICAL DRAWINGS
	GYPSUM BOARD CEILING 1 HR FIRE RATED, SEE NOTES		EXHAUST GRILLE REFER TO MECHANICAL DRAWINGS
	NO CEILING PAINTED STRUCTURE - SW 2124-30 IRON MOUNTAIN		EXIT SIGNS REFER TO ELECTRICAL DRAWINGS
	2'x4' RECESSED LIGHT FIXTURE REFER TO ELECTRICAL DRAWINGS		
	SUSPENDED LIGHT FIXTURE REFER TO ELECTRICAL DRAWINGS		

GENERAL CEILING NOTE

GENERAL NOTES

1. ALL CEILING HEIGHTS SHOWN ARE ABOVE FINISHED FLOOR.
2. COORDINATE ALL CEILING HEIGHTS WITH SECTIONS AND ROOM FINISH SCHEDULE. REPORT ANY DISCREPANCIES TO ARCHITECT.
3. MODIFICATIONS TO THE CEILING GRID LAYOUT AS REQUIRED FOR CLEARANCES OF ALL MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS MUST BE CONFIRMED WITH THE ARCHITECT.
4. ALL ACOUSTICAL CEILING TILE IS TO BE CENTERED WITHIN ROOM UNLESS NOTED OTHERWISE.
5. IN AREAS OF 2'x2' ACT WHERE LESS THAN 4" OF TILE WOULD BE REQUIRED TO FILL SPACE TO THE WALL, PROVIDE MATCHING 2'x4' TILE CUT AS REQUIRED TO FILL SPACE. DO NOT PROVIDE INTERVENING TEE GRID.
6. PROVIDE GYPSUM BOARD CONTROL JOINTS THE FULL LENGTH OF THE CEILING FOR A SPACING OF 30'-0" O.C. MAX.
7. AT AREAS WITH NO CEILING, ALL EXPOSED STRUCTURE, DUCTWORK, PIPING AND CONDUIT IS TO BE PAINTED AS DIRECTED BY AOR. ALL FIRE ALARM CONDUIT AND JUNCTION BOXES SHALL BE PAINTED RED. EXPAND PAINTED AREA TO ENSURE THAT NO UNPAINTED STRUCTURE IS VISIBLE FROM WITHIN SPACE.
8. ALL CONTRACTORS SHALL INSTALL VALVES, JUNCTION BOXES, AND OTHER ITEMS REQUIRING OVERHEAD ACCESS IN AREAS WITH ACT CEILINGS WHEREVER POSSIBLE. NOTIFY ARCHITECT OF CONDITIONS REQUIRING INSTALLATION OVER A HARD CEILING PRIOR TO INSTALLATION.
9. SPRINKLER HEADS TO BE CENTERED IN CEILING TILE UNLESS NOTED OTHERWISE.
10. LOCATE VALVES AND OTHER ITEMS REQUIRING ACCESS OVER ACCESSIBLE CEILINGS. DO NOT PLACE OVER HARD CEILINGS
12. PROVIDE "PLENUM SIGNAGE PER 2012 INTERNATIONAL MECHANICAL CODE WITHIN PLENUM RATED CEILING SPACES.

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

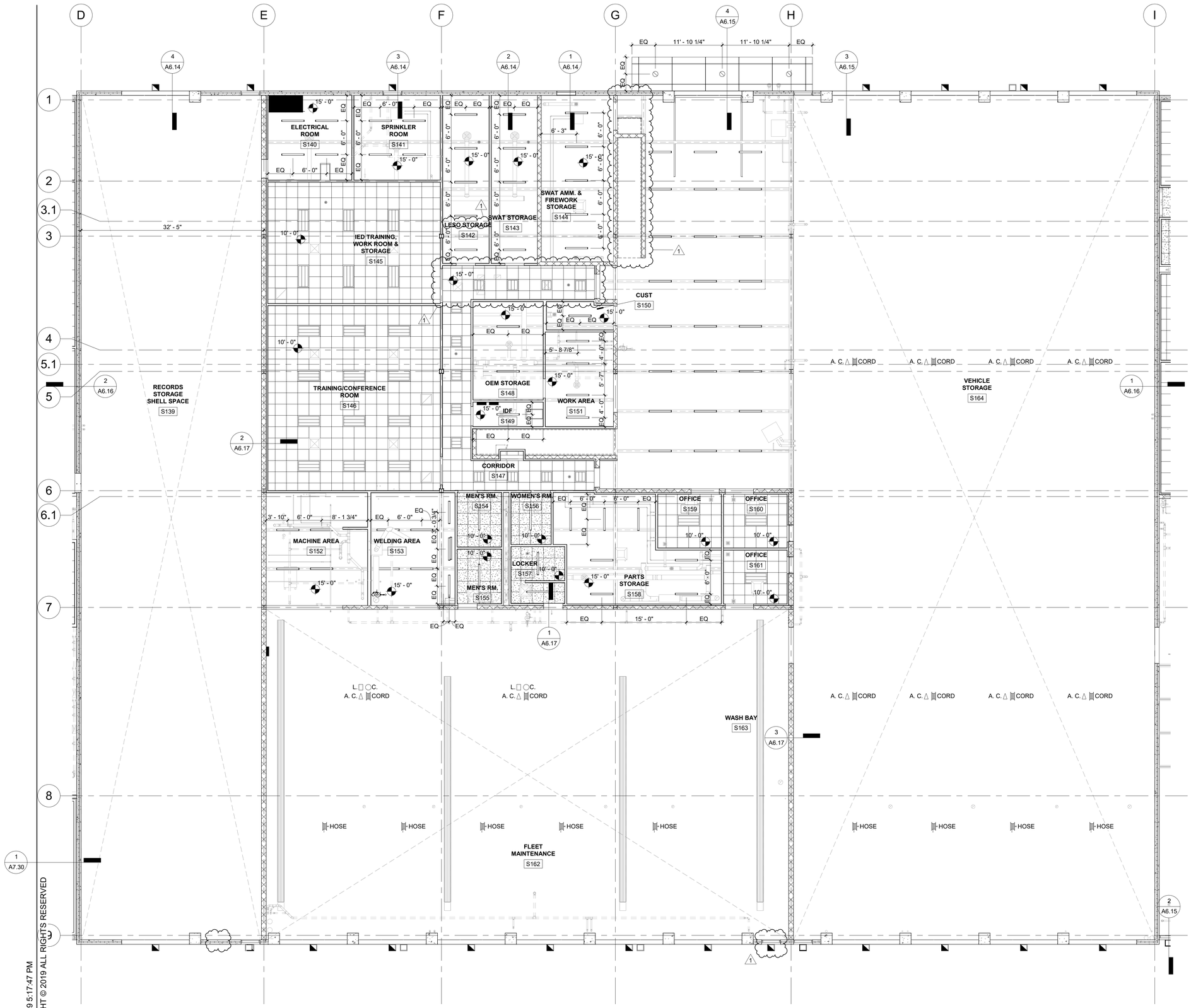
REFLECTED CEILING PLANS
OVERALL - FF

JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A3.1



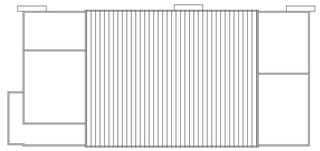
REFLECTED CEILING LEGEND

	2' x 2' ACOUSTICAL CEILING TILES <ACT-01>		WALL MOUNTED UP/DOWN FIXTURE REFER TO ELECTRICAL DRAWINGS
			RECESSED CAN FIXTURE REFER TO ELECTRICAL DRAWINGS
	2' x 2' CLEANABLE ACOUSTICAL CEILING TILES <ACT-02>		INDUSTRIAL FIXTURE REFER TO ELECTRICAL DRAWINGS
			SUPPLY DIFFUSER REFER TO MECHANICAL DRAWINGS
	GYPSUM BOARD CEILING		RETURN GRILLE REFER TO MECHANICAL DRAWINGS
	GYPSUM BOARD CEILING 1 HR FIRE RATED, SEE NOTES		EXHAUST GRILLE REFER TO MECHANICAL DRAWINGS
	NO CEILING PAINTED STRUCTURE - SW 2124-30 IRON MOUNTAIN		EXIT SIGNS REFER TO ELECTRICAL DRAWINGS
	2'x4' RECESSED LIGHT FIXTURE REFER TO ELECTRICAL DRAWINGS		
	SUSPENDED LIGHT FIXTURE REFER TO ELECTRICAL DRAWINGS		

GENERAL CEILING NOTE

GENERAL NOTES

1. ALL CEILING HEIGHTS SHOWN ARE ABOVE FINISHED FLOOR.
2. COORDINATE ALL CEILING HEIGHTS WITH SECTIONS AND ROOM FINISH SCHEDULE. REPORT ANY DISCREPANCIES TO ARCHITECT.
3. MODIFICATIONS TO THE CEILING GRID LAYOUT AS REQUIRED FOR CLEARANCES OF ALL MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS MUST BE CONFIRMED WITH THE ARCHITECT.
4. ALL ACOUSTICAL CEILING TILE IS TO BE CENTERED WITHIN ROOM UNLESS NOTED OTHERWISE.
5. IN AREAS OF 2'x2' ACT WHERE LESS THAN 4" OF TILE WOULD BE REQUIRED TO FILL SPACE TO THE WALL, PROVIDE MATCHING 2'x4' TILE CUT AS REQUIRED TO FILL SPACE. DO NOT PROVIDE INTERVENING TEE GRID.
6. PROVIDE GYPSUM BOARD CONTROL JOINTS THE FULL LENGTH OF THE CEILING FOR A SPACING OF 30'-0" O.C. MAX.
7. AT AREAS WITH NO CEILING, ALL EXPOSED STRUCTURE, DUCTWORK, PIPING AND CONDUIT IS TO BE PAINTED AS DIRECTED BY AOR. ALL FIRE ALARM CONDUIT AND JUNCTION BOXES SHALL BE PAINTED RED. EXPAND PAINTED AREA TO ENSURE THAT NO UNPAINTED STRUCTURE IS VISIBLE FROM WITHIN SPACE.
8. ALL CONTRACTORS SHALL INSTALL VALVES, JUNCTION BOXES, AND OTHER ITEMS REQUIRING OVERHEAD ACCESS IN AREAS WITH ACT CEILINGS WHEREVER POSSIBLE. NOTIFY ARCHITECT OF CONDITIONS REQUIRING INSTALLATION OVER A HARD CEILING PRIOR TO INSTALLATION.
9. SPRINKLER HEADS TO BE CENTERED IN CEILING TILE UNLESS NOTED OTHERWISE.
10. LOCATE VALVES AND OTHER ITEMS REQUIRING ACCESS OVER ACCESSIBLE CEILINGS. DO NOT PLACE OVER HARD CEILINGS
12. PROVIDE "PLENUM SIGNAGE PER 2012 INTERNATIONAL MECHANICAL CODE WITHIN PLENUM RATED CEILING SPACES.



NORTH
KEY PLAN
SCALE: NOT TO SCALE

NORTH
1 ENLARGED CEILING PLAN - SHERIFF AREA
1/8" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

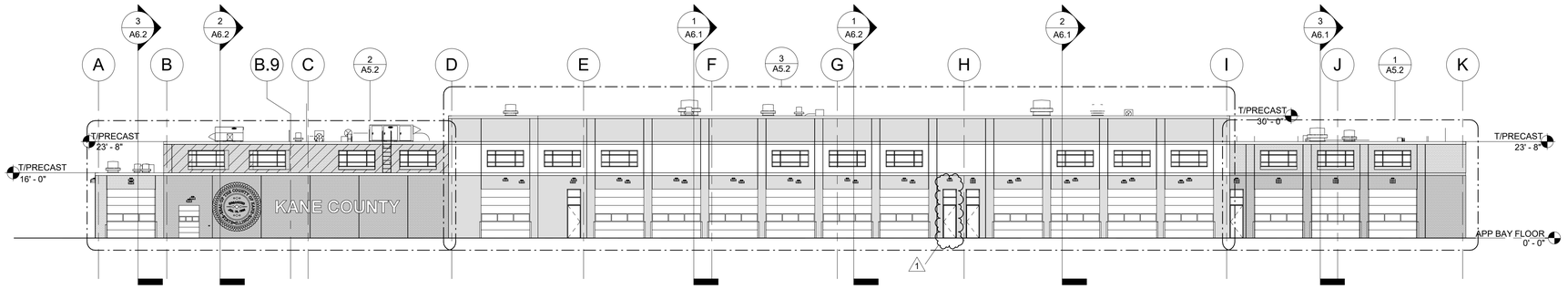
ENL. SHERIFF CEILING PLAN - FIRST FLOOR

JOB NUMBER 19-349
DATE 12.16.2019

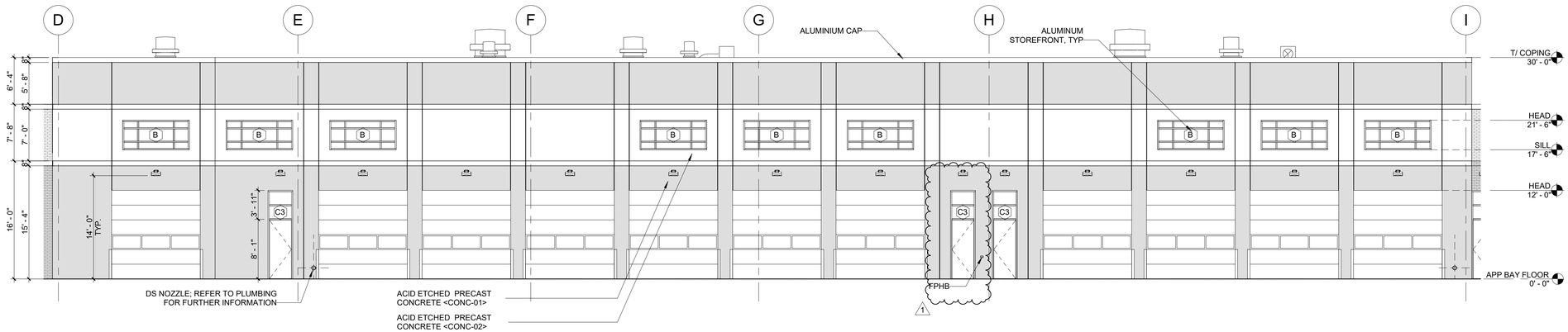
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

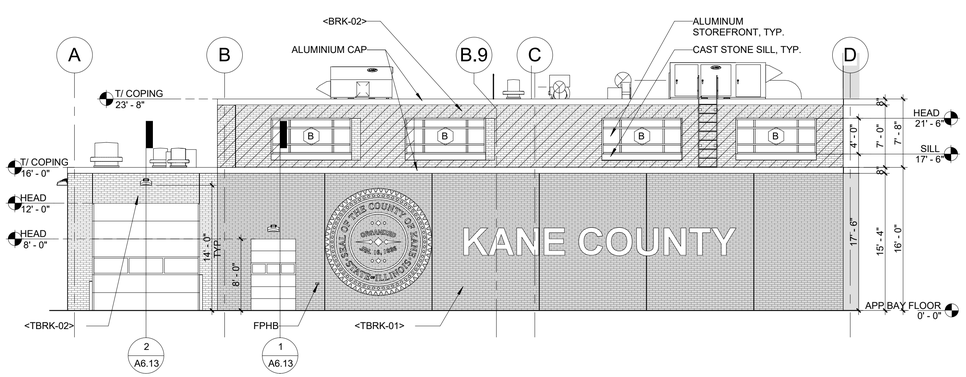
A3.1B



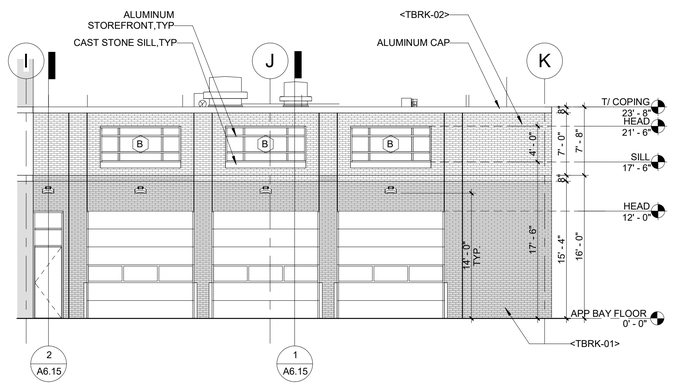
4 SOUTH ELEVATION (REFER TO PRECAST PANEL ELEVATION ON 4/A5.12)
1/16" = 1'-0"



3 ENLARGED SOUTH ELAVATION - SHERIFF AREA (REFER TO PRECAST PANEL ELEVATION ON 3/A5.12)
1/8" = 1'-0"



2 ENLARGED SOUTH ELAVATION - CORONER AREA (REFER TO PRECAST PANEL ELEVATION ON 2/A5.12)
1/8" = 1'-0"



1 ENLARGED SOUTH ELEVATION - FACILITY MANAGEMENT AREA (REFER TO PRECAST PANEL ELEVATION ON 1/A5.12)
1/8" = 1'-0"

ELEVATION FINISH LEGEND

SYMBOL	MEANING
	ACID ETCHED PRECAST CONCRETE WALL PANEL <CONC-01> COLOR TO MATCH <BR-01> * ALTERNATE: 2 - (PER SPEC); COLOR: <PT-01>
	ACID ETCHED PRECAST CONCRETE WALL PANEL <CONC-02> COLOR TO MATCH <BR-02> * ALTERNATE: 2 - (PER SPEC) ; COLOR: <PT-02>
	THIN BRICK VENEER OVER PRECAST CONCRETE PANEL <TBRK-01> TBD * ALTERNATE:2 - ACID ETCHED PRECAST PANEL; COLOR: <CONC-01> * ALTERNATE:3 - PAINTED PRECAST PANEL; COLOR: <PT-01>
	THIN BRICK VENEER OVER PRECAST CONCRETE PANEL <TBRK-02> TBD * ALTERNATE:2 - ACID ETCHED PRECAST PANEL; COLOR: <CONC-02> * ALTERNATE:3 - PER SPEC; COLOR: <PT-02>
	FACE BRICK VENEER <BRK-02> TBD * ALTERNATE: 2 & 3 - PER SPEC; COLOR: TBD
	CAST STONE CAP AND SILL; COLOR: TBD

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

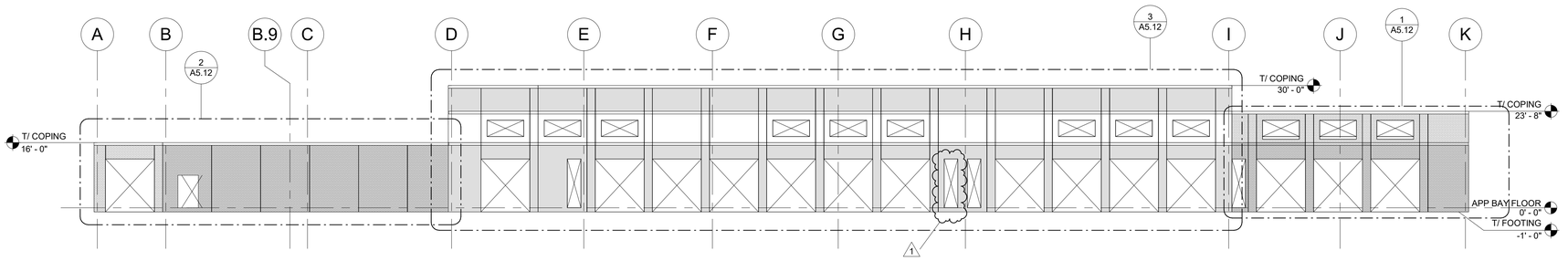
KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

BUILDING ELEVATIONS

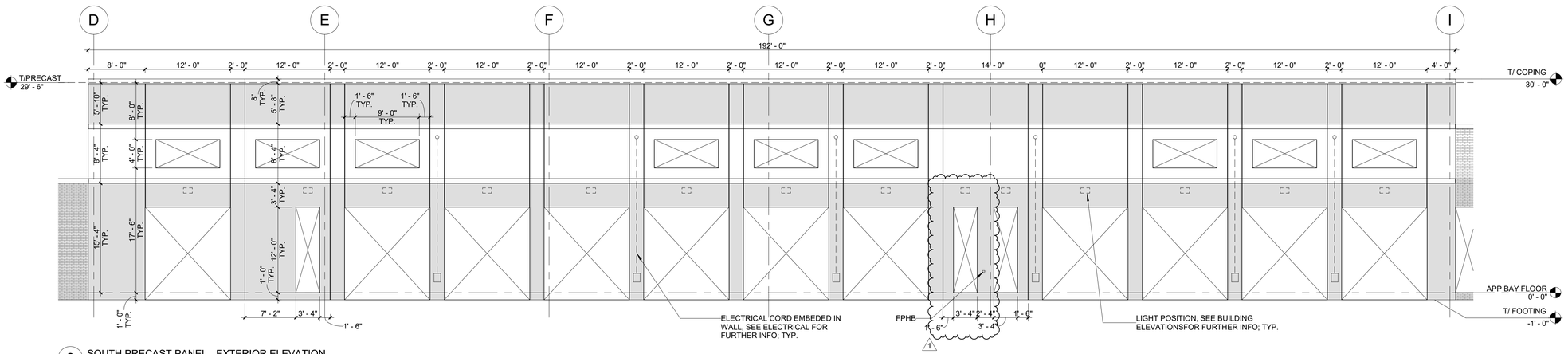
JOB NUMBER 19-349
DATE 12.16.2019
12.30.2019
REVISIONS: 1 ADDENDUM 02

BID / PERMIT SET

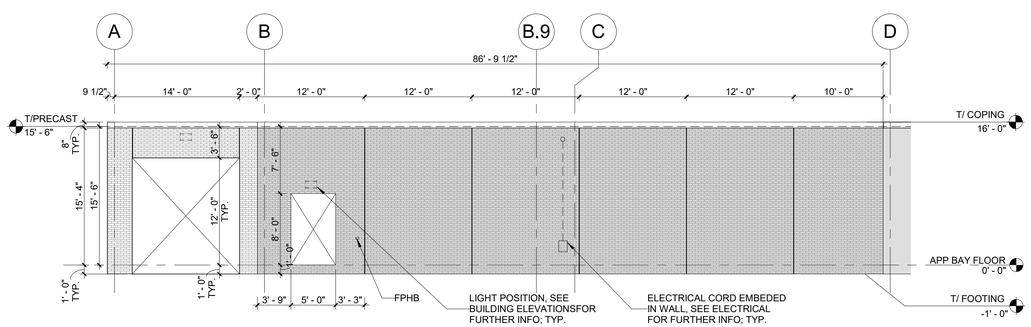
A5.2



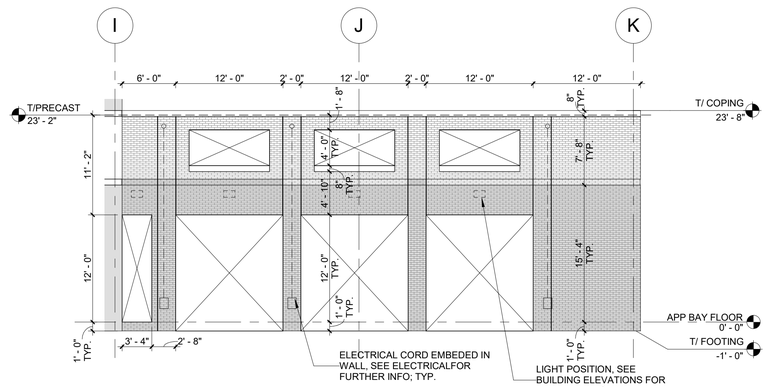
4 SOUTH PRECAST PANEL - EXTERIOR ELEVATION
1/16" = 1'-0"



3 SOUTH PRECAST PANEL - EXTERIOR ELEVATION
1/8" = 1'-0"



2 SOUTH PRECAST PANEL - EXTERIOR ELEVATION
1/8" = 1'-0"



1 SOUTH PRECAST PANEL - EXTERIOR ELEVATION
1/8" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

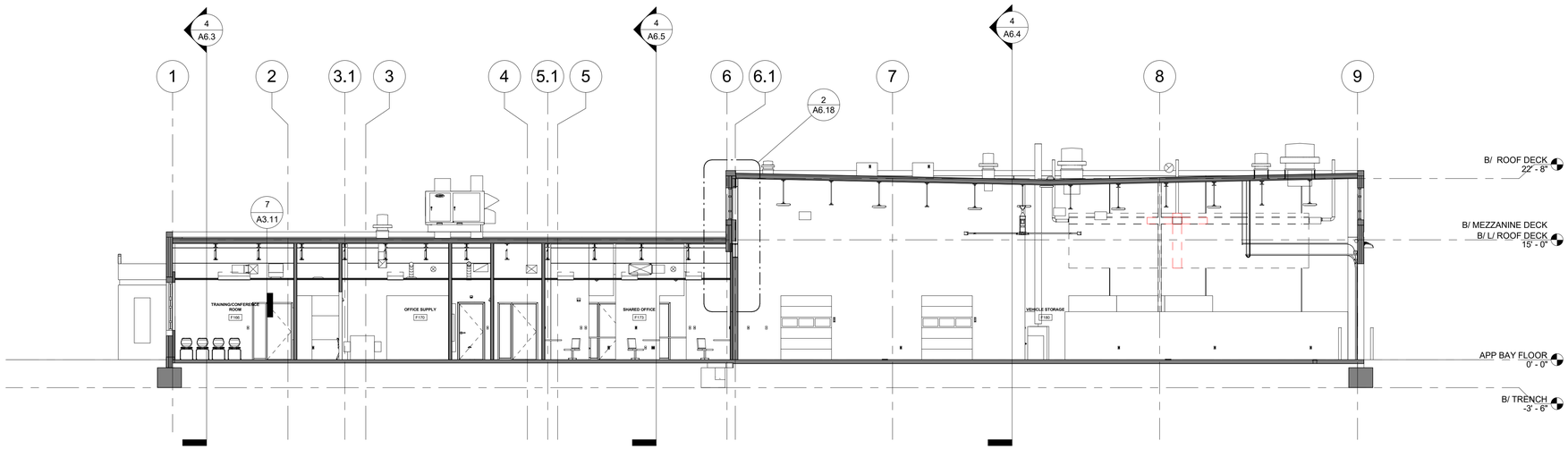
KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

PRECAST ELEVATIONS

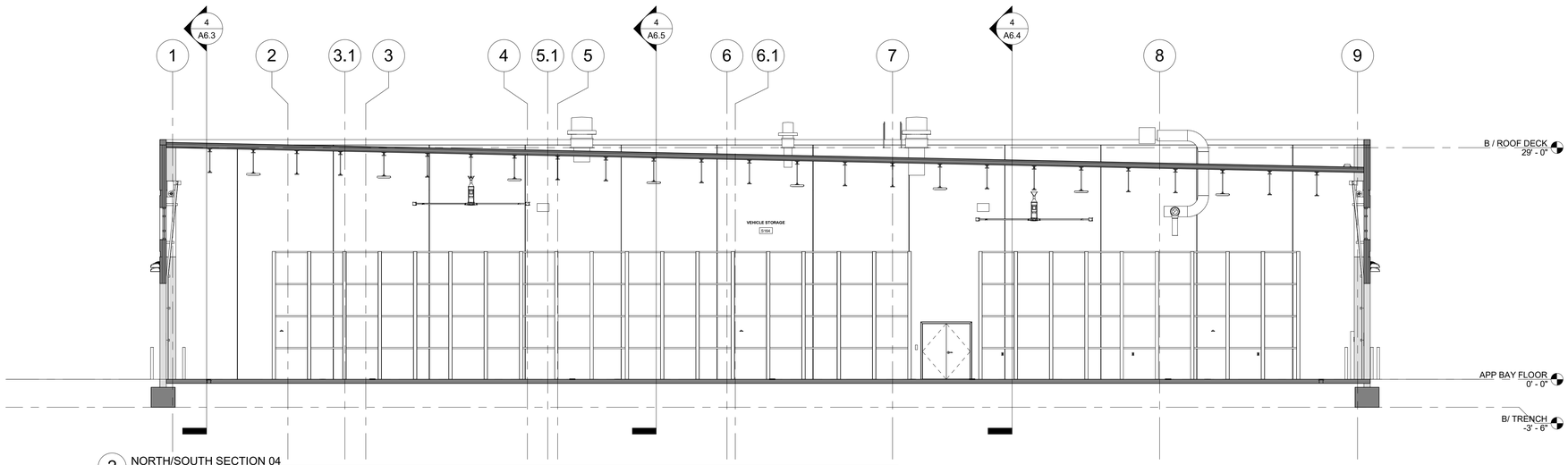
JOB NUMBER 19-349
DATE 12.16.2019
REVISIONS: 12.30.2019
1 ADDENDUM 02

BID / PERMIT SET

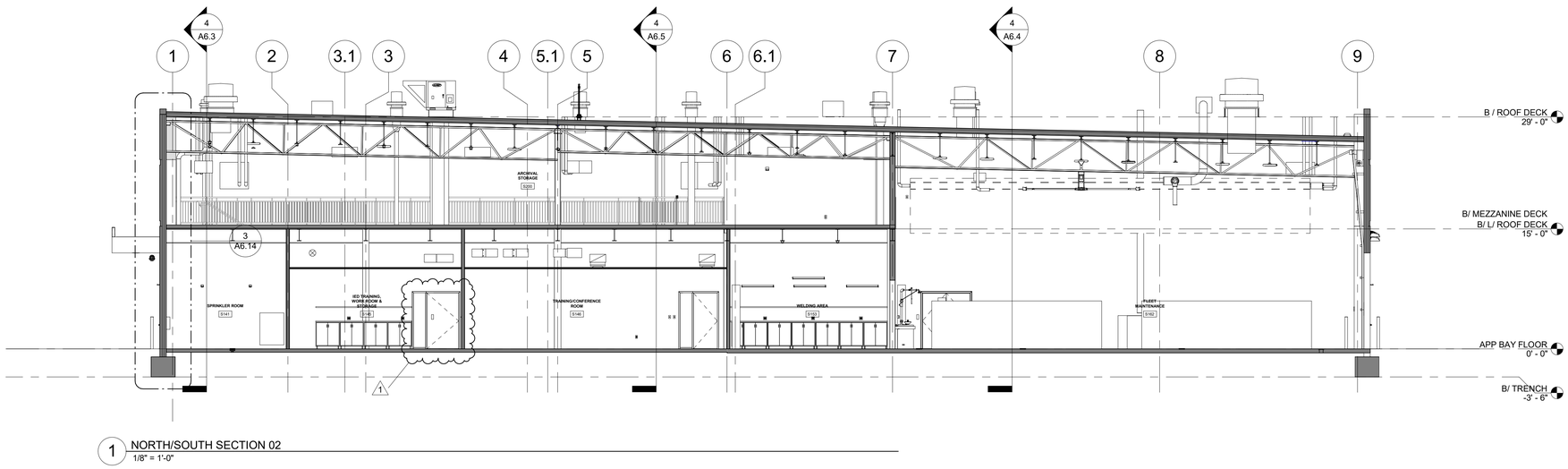
A5.12



3 NORTH/SOUTH SECTION 05
1/8" = 1'-0"



2 NORTH/SOUTH SECTION 04
1/8" = 1'-0"



1 NORTH/SOUTH SECTION 02
1/8" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

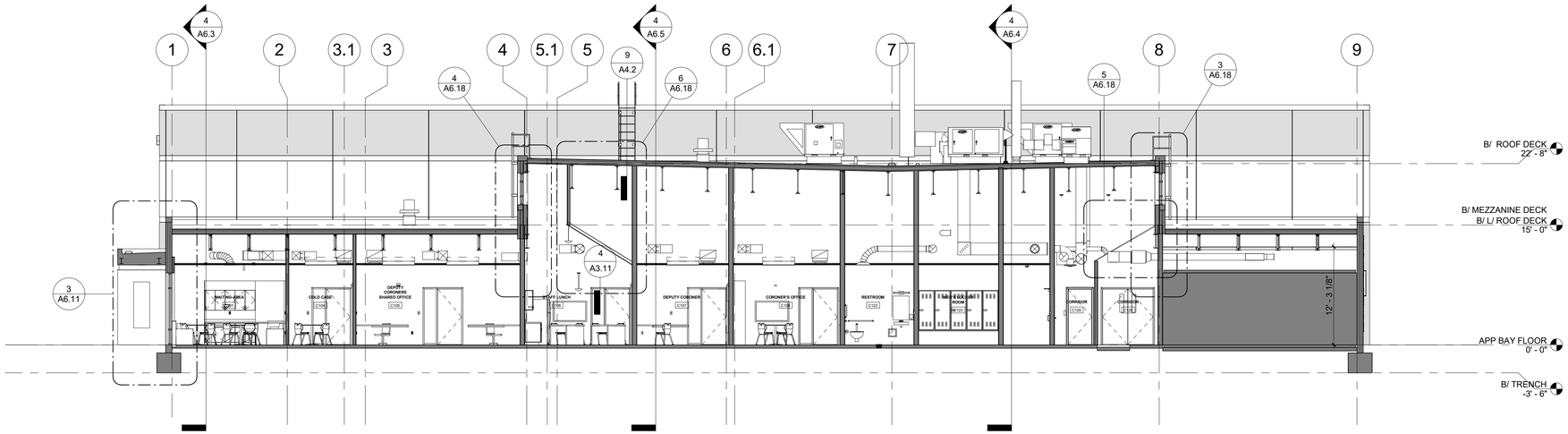
KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

BUILDING SECTIONS

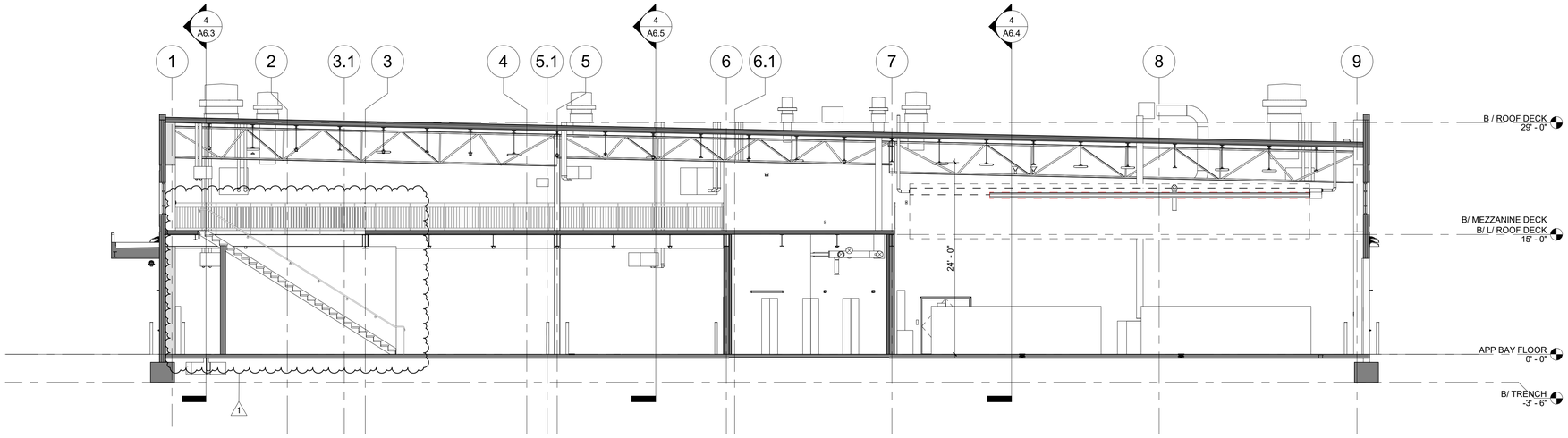
JOB NUMBER 19-349
DATE 12.16.2019
REVISIONS: 1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

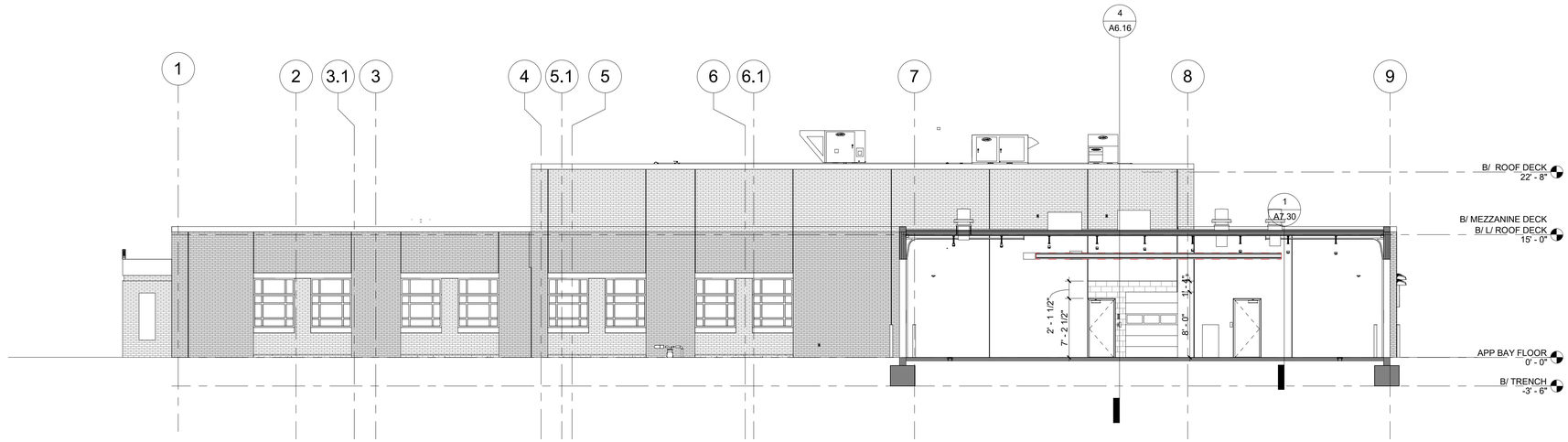
A6.1



2 NORTH/SOUTH SECTION 01
1/8" = 1'-0"



1 NORTH/SOUTH SECTION 03
1/8" = 1'-0"



3 NORTH/SOUTH SECTION 01
1/8" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

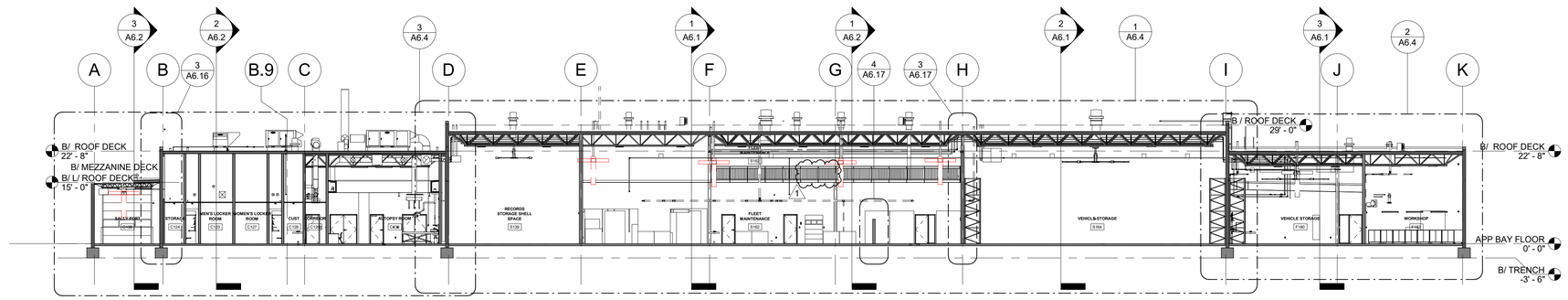
BUILDING SECTIONS

JOB NUMBER 19-349
DATE 12.16.2019

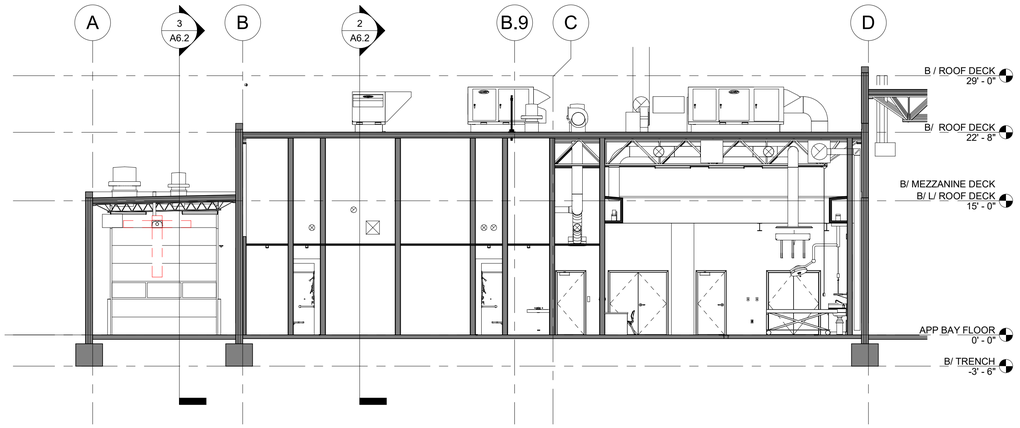
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

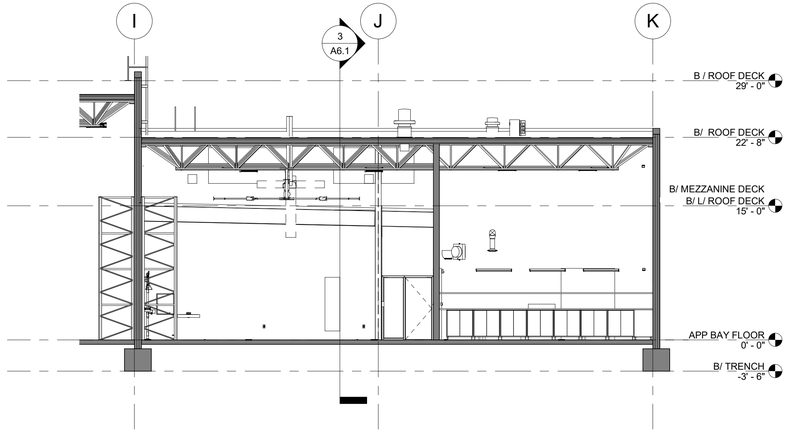
A6.2



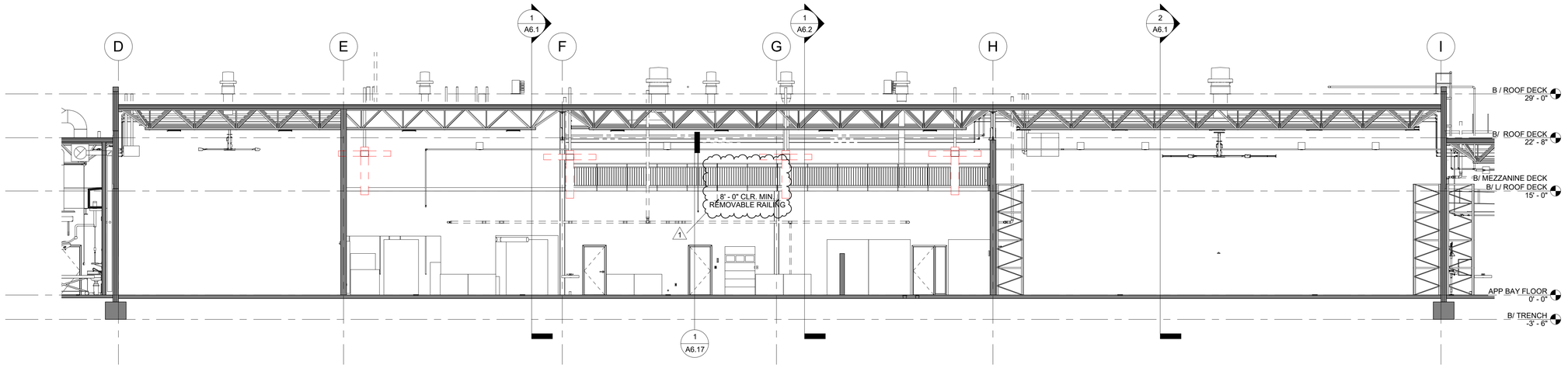
4 EAST/WEST SECTION 02
1/16" = 1'-0"



3 EAST/WEST SECTION 02-A
1/8" = 1'-0"



2 EAST/WEST SECTION 02-C
1/8" = 1'-0"



1 EAST/WEST SECTION 02-B
1/8" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

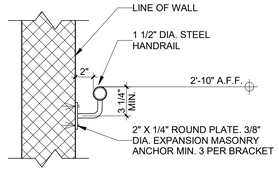
BUILDING SECTIONS

JOB NUMBER 19-349
DATE 12.16.2019

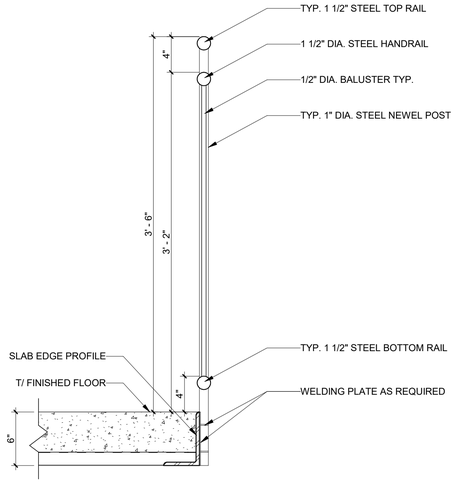
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

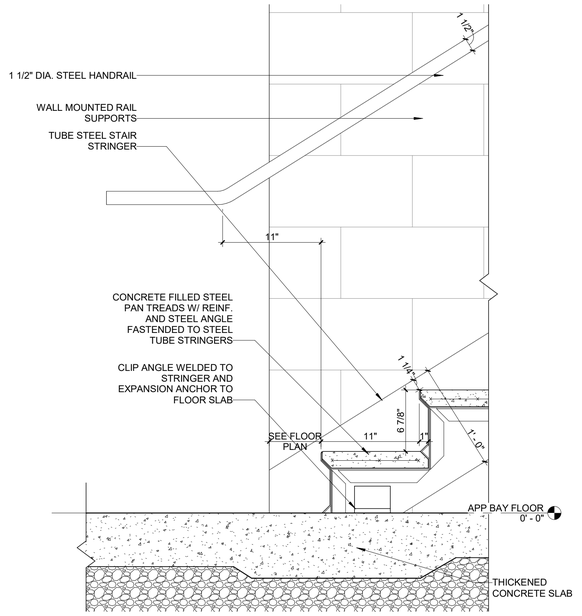
A6.4



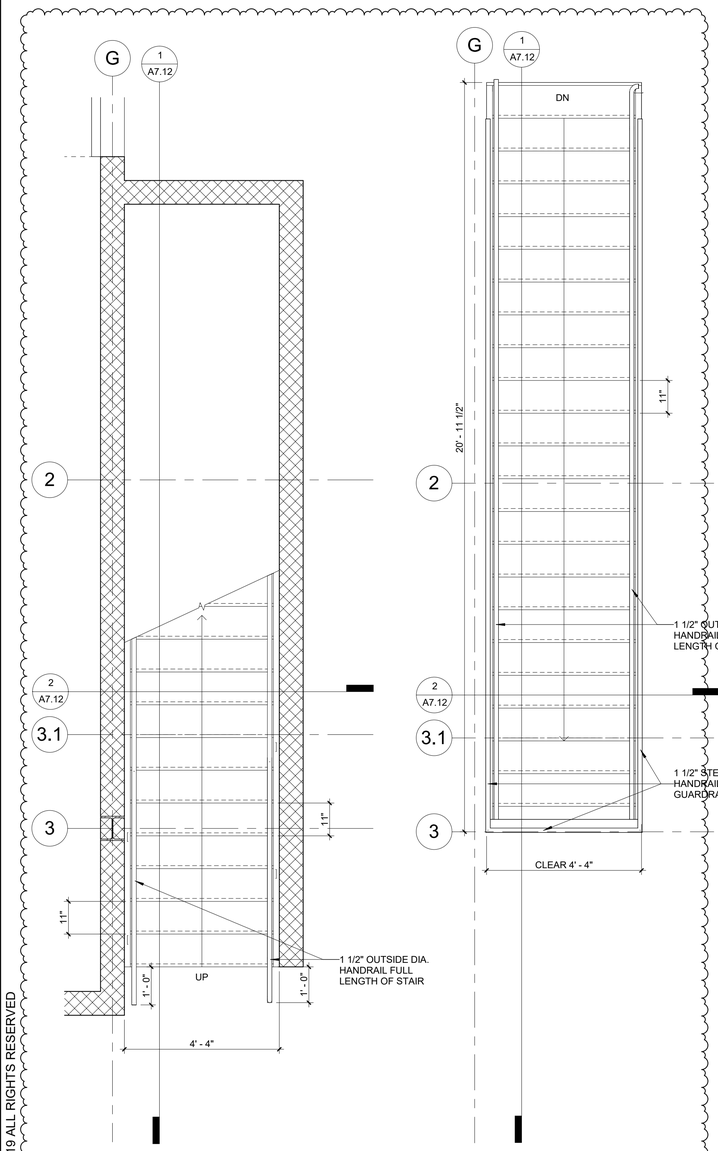
7 TYP. WALL MOUNTED HANDRAIL
1 1/2" = 1'-0"



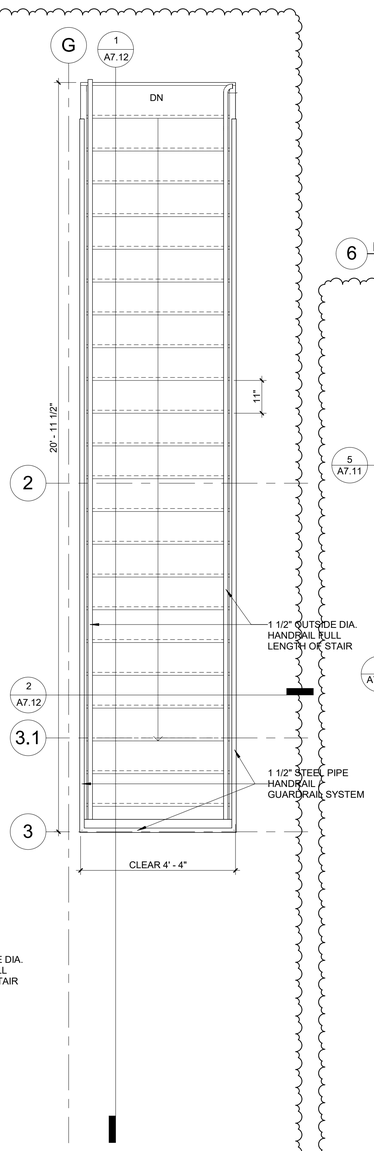
6 MEZZANINE DETAIL HANDRAIL, TYP
1 1/2" = 1'-0"



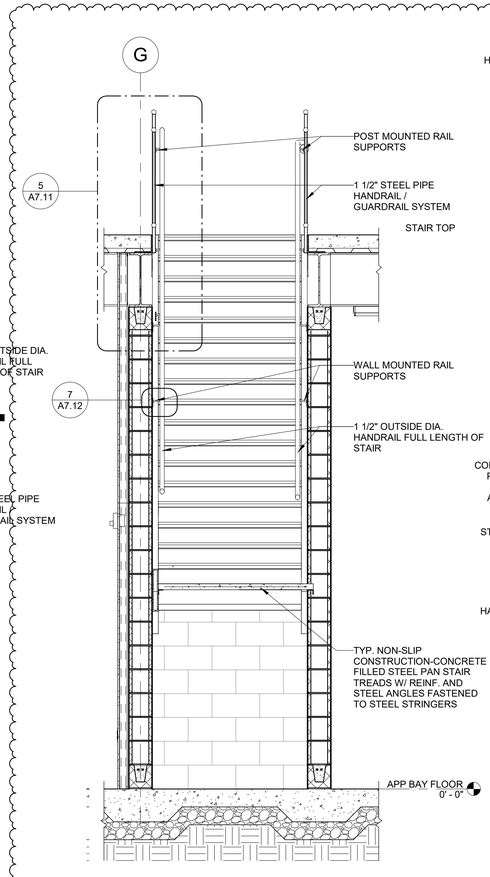
5 STAIR DETAIL AT BOTTOM, TYP.
1 1/2" = 1'-0"



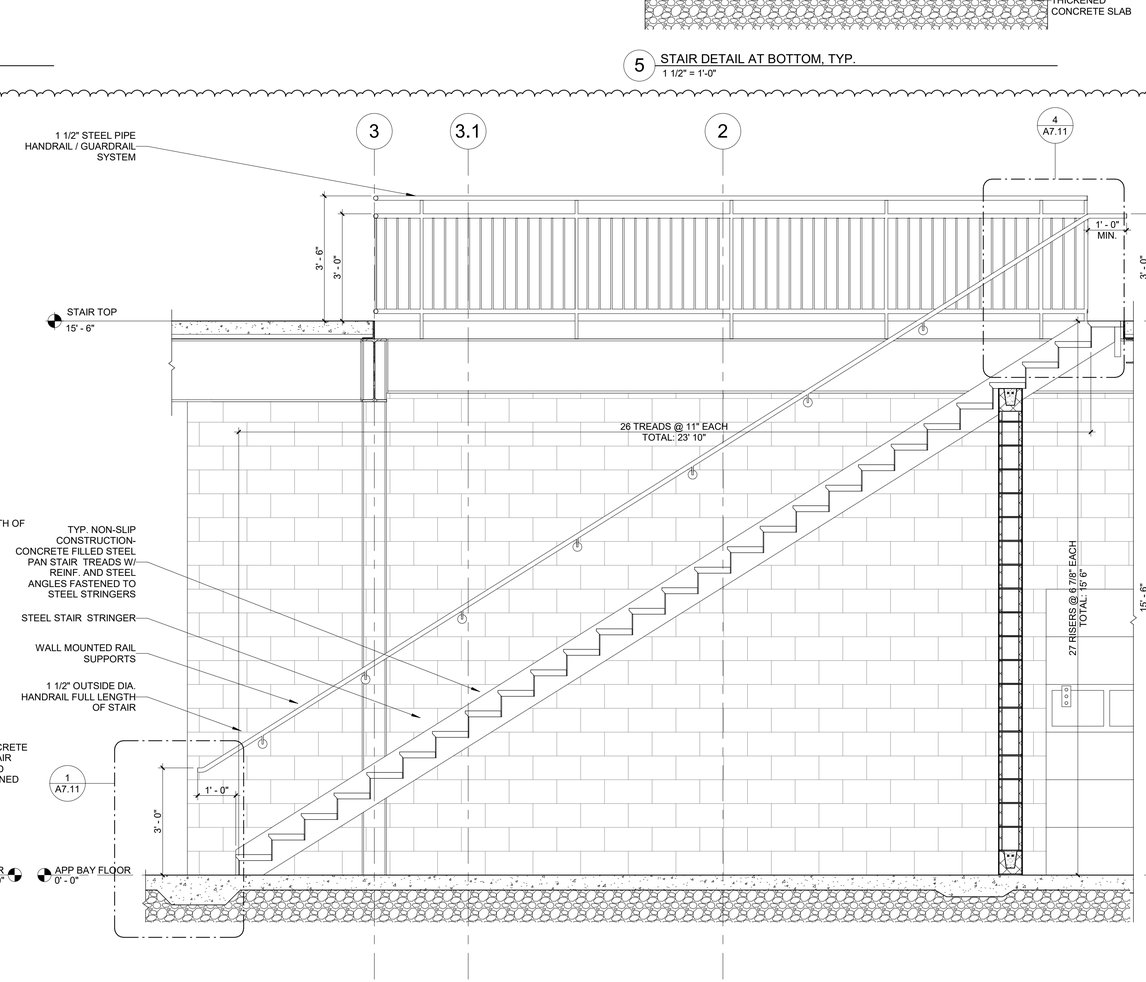
4 ENLARGED PLAN STAIR BOTTOM
1/2" = 1'-0"



3 ENLARGED PLAN STAIR TOP
1/2" = 1'-0"



2 ELEVATION STAIR
1/2" = 1'-0"



1 SECTION STAIR
1/2" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

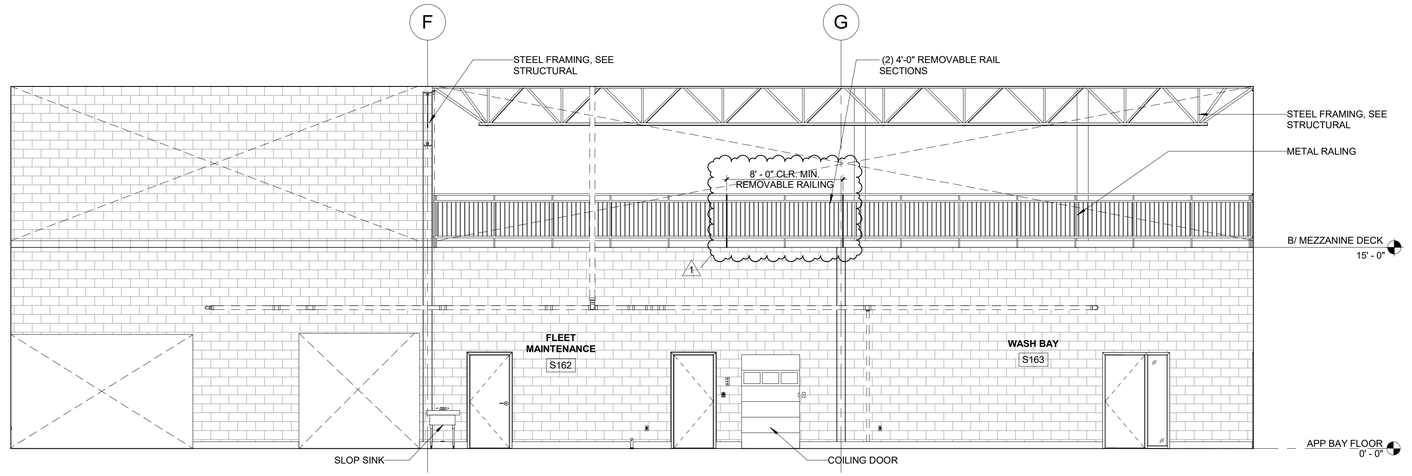
STAIR SECTION AND HANDRAIL DETAILS

JOB NUMBER 19-349
DATE 12.16.2019

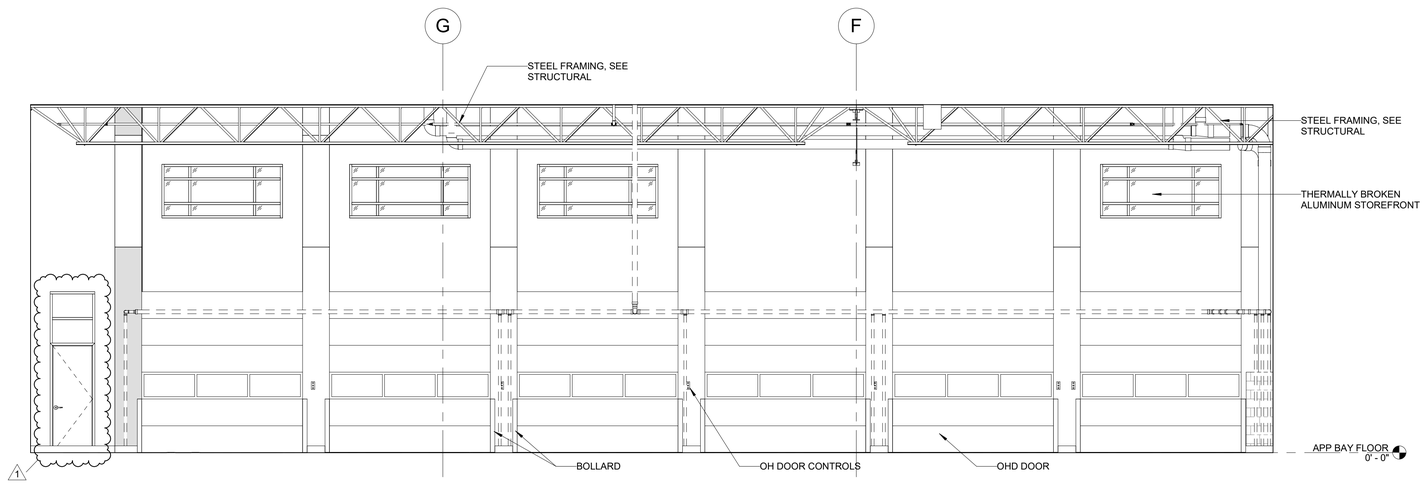
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A7.12



2 FLEET MAINTENANCE - NORTH WALL
3/16" = 1'-0"



1 FLEET MAINTENANCE - SOUTH WALL
3/16" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

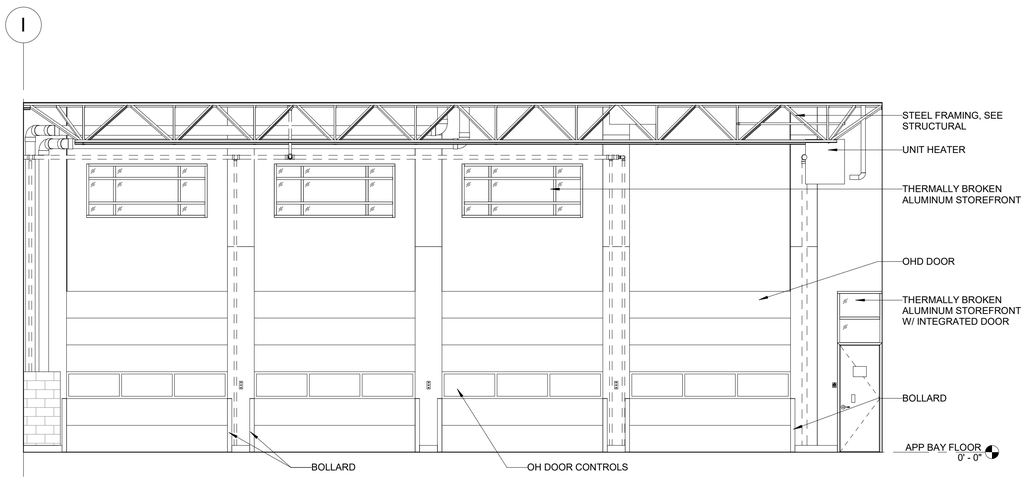
INTERIOR ELEVATIONS

JOB NUMBER 19-349
DATE 12.16.2019

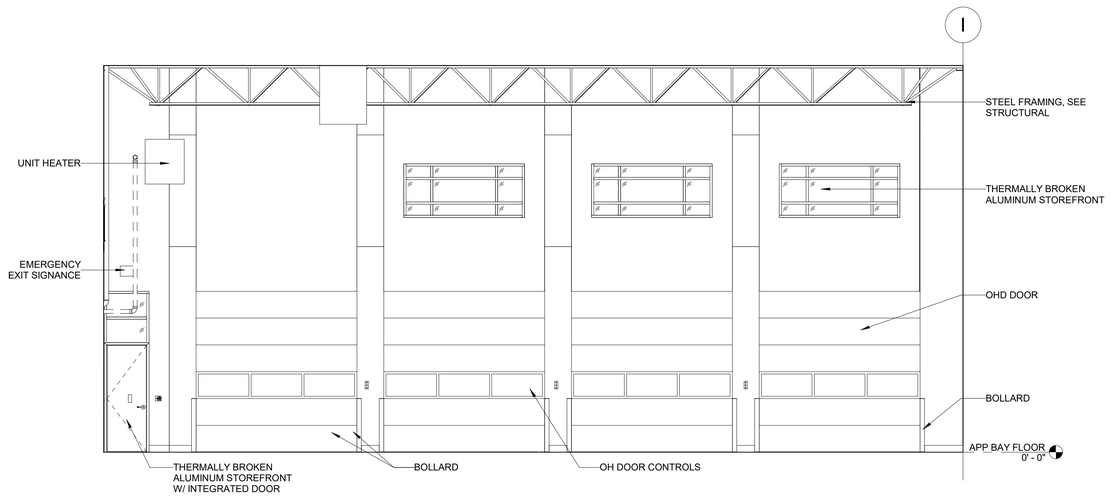
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

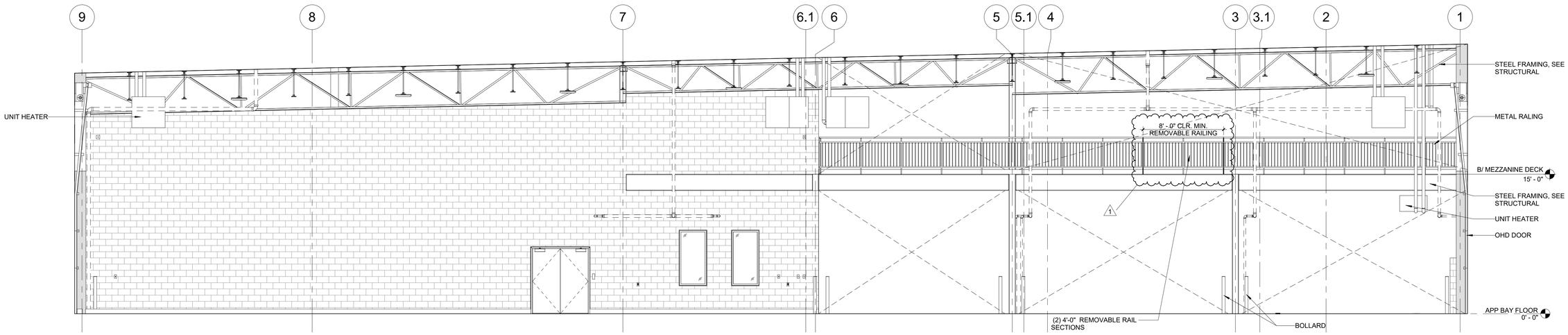
A8.2



3 VEHICLE STORAGE - SOUTH WALL
3/16" = 1'-0"



2 VEHICLE STORAGE - NORTH WALL
3/16" = 1'-0"



1 VEHICLE STORAGE - WEST WALL
3/16" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

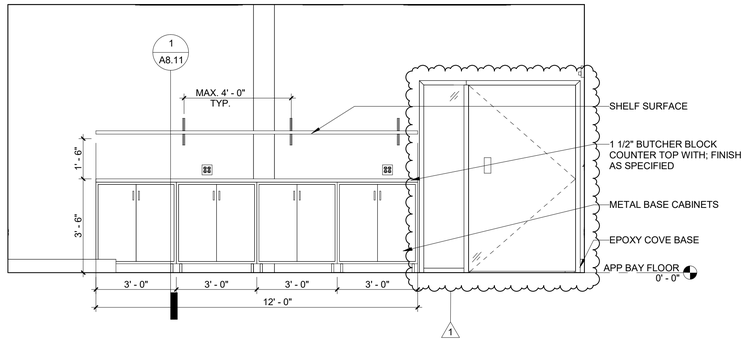
INTERIOR ELEVATIONS

JOB NUMBER 19-349
DATE 12.16.2019

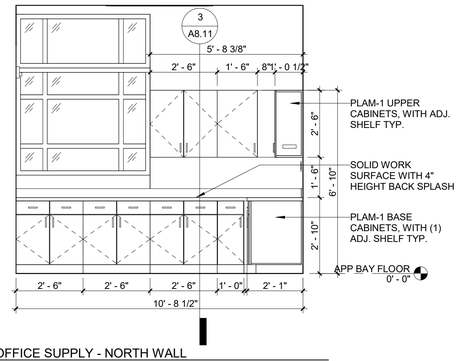
REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

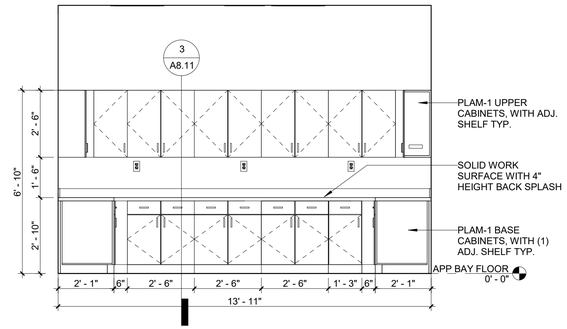
A8.3



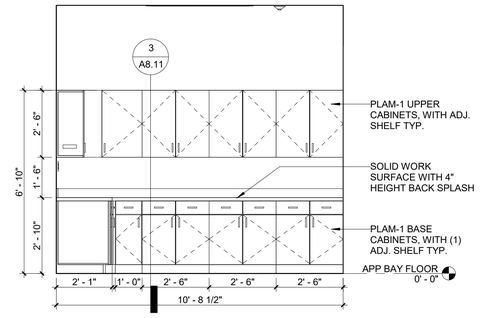
9 IED TRAINING, WORK ROOM & STORAGE - EAST WALL
3/8" = 1'-0"



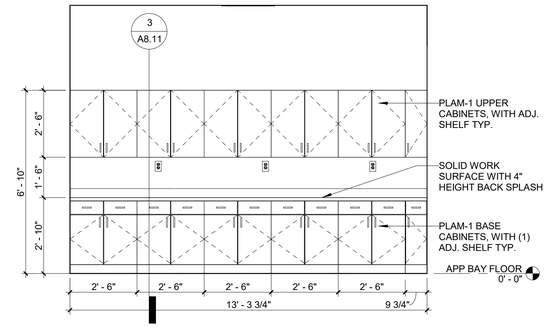
8 OFFICE SUPPLY - NORTH WALL
3/8" = 1'-0"



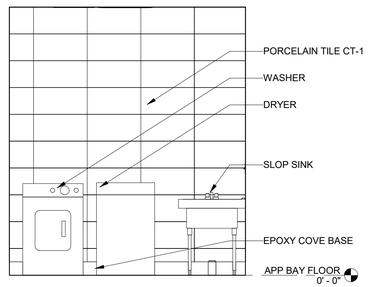
7 OFFICE SUPPLY - EAST WALL
3/8" = 1'-0"



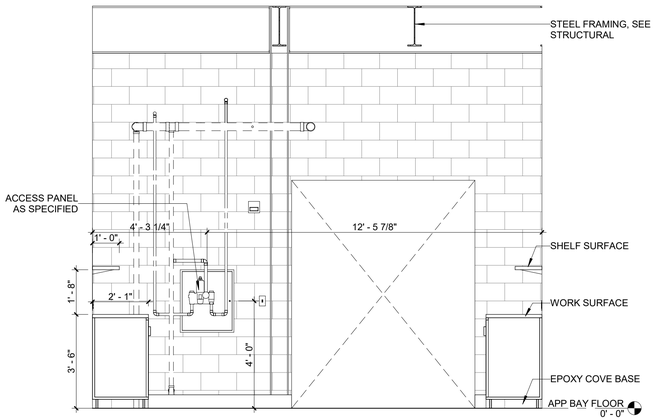
6 OFFICE SUPPLY - SOUTH WALL
3/8" = 1'-0"



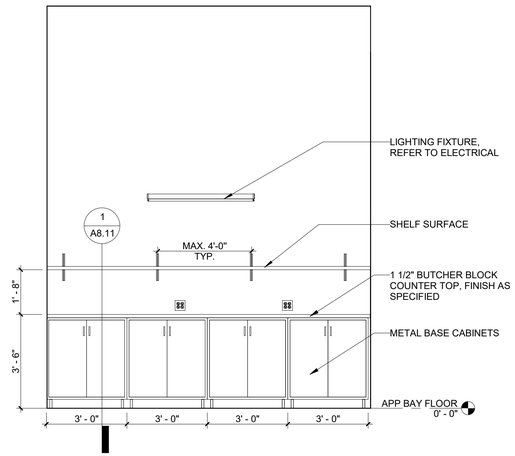
5 OFFICE SUPPLY - WEST WALL
3/8" = 1'-0"



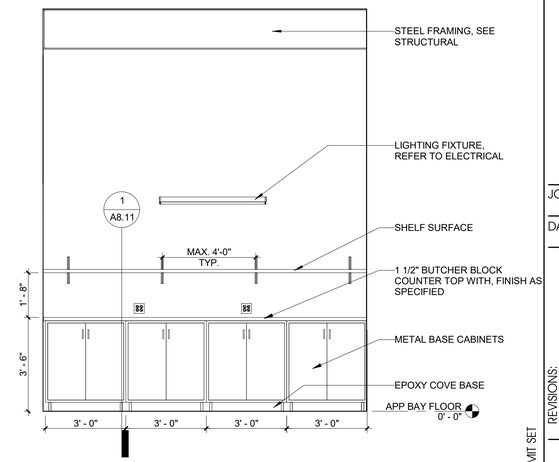
4 LAUNDRY - EAST WALL
3/8" = 1'-0"



3 WORK AREA - EAST WALL
3/8" = 1'-0"



2 WORK AREA - NORTH WALL
3/8" = 1'-0"



1 WORK AREA - SOUTH WALL
3/8" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

INTERIOR ELEVATIONS

JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A8.5

DOOR SCHEDULE

DOOR NO.	DOOR W	DOOR H	DOOR T	DOOR TYPE	DOOR MAT	DOOR FIN	FRAME TYPE	FRAME MAT	FRAME FIN	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	FIRE RATING LABEL	DOOR HARDWARE SET	REMARKS
C100	6' - 0"	7' - 0"	2"	D6	AL/GL	FF	C-1	AL	FF	10/A9.3	4/A7.1 & 5/A7.1	4/A6.21		1.0	CARD READER ON BOTH SIDES
C101	3' - 0"	7' - 0"	2"	D2	AL/GL	FF	C-2	AL	FF	10/A9.3	4/A7.1	2/A6.24		2.0	CARD READER ON BOTH SIDES
C104	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C105	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C106	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C107	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C108	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C109	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	3/4" UNDERCUT
C110	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	3/4" UNDERCUT
C111	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C112	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C113	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C114	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
C115	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		16.0	
C116	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		11.0	
C117	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		10.0	3/4" UNDERCUT
C118	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		8.0	3/4" UNDERCUT
C120A	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		8.0	CARD READER ON BOTH SIDES. WELL SEALED DOOR
C120B	3' - 0"	7' - 0"	1 3/4"	D8	HM/GL	PT	F1	HM	PT	6/A9.3	4/A9.2 & 1/A9.3	1/A9.2		8.0	CARD READER ON BOTH SIDES
C120C	6' - 4"	8' - 0"	2"	OH-2	STL	PREFIN	--	--	--	2/A9.2 SIM	6/A7.3	9/A6.21 SIM		19.0	CARD READER ON BOTH SIDES
C120D	6' - 4"	7' - 0"	2"	D5	HM/GL	PT/FF	F2	HM	PT	6/A9.2	3/A9.2	1/A9.2		7.0	CARD READER ON BOTH SIDES. WELL SEALED DOOR
C122	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	
C123	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		18.0	
C124	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		10.0	
C125	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	
C127	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		18.0	
C128	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		10.0	3/4" UNDERCUT
C130A	3' - 0"	7' - 0"	1 3/4"	D8	HM/GL	PT	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		6.0	CARD READER ON BOTH SIDES. WELL SEALED DOOR
C130B	6' - 4"	7' - 0"	2"	D5	HM/GL	PT/FF	F2	HM	PT	6/A9.2	3/A9.2	1/A9.2		17.0	CARD READER ON BOTH SIDES. WELL SEALED DOOR
C130C	5' - 8"	7' - 0"	1 3/4"	D4	WD	ST	F2	HM	PT	6/A9.2	3/A9.2	1/A9.2		17.0	CARD READER ON BOTH SIDES
C131	6' - 4"	7' - 0"	1 3/4"	D4	WD	ST	F2	HM	PT	6/A9.2	3/A9.2	1/A9.2		15.0	
C132	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		16.0	
C133	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		5.0	CARD READER ON BOTH SIDES. WELL SEALED DOOR
C134	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	3/4" UNDERCUT
C135A	5' - 0"	8' - 0"	2"	OH-2	STL	PREFIN	--	--	--		7/A7.3			19.0	CARD READER ON BOTH SIDES. WELL SEALED DOOR
C135B	5' - 0"	8' - 0"	2"	OH-2	STL	PREFIN	--	--	--	2/A6.22	6/A7.3	9/A6.21 SIM		19.0	CARD READER ON BOTH SIDES
C135C	3' - 0"	7' - 0"	1 3/4"	D8	HM/GL	PT	F1	HM	PT	6/A9.3	1/A9.3	1/A9.2		8.0	CARD READER ON BOTH SIDES
C136	6' - 4"	7' - 0"	2"	-	HM	MFR	MFR	--	--	6/A8.14	8/A7.1	3/A8.14		17.0	TO BE PROVIDED BY THE MANUFACTURER
C137	6' - 4"	7' - 0"	2"	-	HM	MFR	MFR	--	--	6/A8.14	8/A7.1	3/A8.14		17.0	TO BE PROVIDED BY THE MANUFACTURER
C138A	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	6/A6.22	1/A7.3	8/A6.22		19.0	CARD READER AND PEDESTAL
C138B	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	6/A6.22	1/A7.3	8/A6.22		19.0	CARD READER AND PEDESTAL
C138C	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		3.0	CARD READER ON BOTH SIDES
F165	3' - 0"	7' - 0"	2"	D2	AL/GL	FF	C-2	AL	FF	10/A9.3	4/A7.1	2/A6.24		2.0	CARD READER ON BOTH SIDES
F166	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		16.0	
F167	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		10.0	3/4" UNDERCUT
F168	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	3/4" UNDERCUT
F169	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	3/4" UNDERCUT
F171	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		10.0	3/4" UNDERCUT
F172	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
F174	6' - 0"	7' - 0"	2"	D6	AL/GL	FF	C-1	AL	FF	10/A9.3	4/A7.1 & 5/A7.1	4/A6.21		1.0	CARD READER ON BOTH SIDES
F175	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
F176	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
F177	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
F178	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
F179	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		12.0	
F180A	3' - 0"	7' - 0"	1 3/4"	F4	WD	ST	F3	HM	PT	7/A9.2	12/7.1 & 5/A9.2	1/A9.2		16.0	CARD READER ON BOTH SIDES. WELL SEALED DOOR
F180B	6' - 0"	7' - 0"	1 3/4"	D4	HM	PT/FF	F2	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2	2HR	9.0	CARD READER ON BOTH SIDES
F180C	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		3.0	CARD READER ON BOTH SIDES
F180D	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	4A6.22	2/A7.3 & 1/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
F180E	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	4A6.22	2/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
F181A	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		11.0	WELL SEALED DOOR
F181B	6' - 4"	8' - 0"	2"	OH-2	STL	PREFIN	--	--	--	2/A9.2	9/A7.3			19.0	
F182	6' - 4"	8' - 0"	2"	OH-2	STL	PREFIN	--	--	--	2/A9.2	9/A7.3			19.0	
F183	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	4/A6.22	2/A7.3 & 1/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S139A	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3 & 5/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S139B	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		3.0	CARD READER ON BOTH SIDES
S139C	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3 & 5/A7.3	8/A6.21		19.0	ONLY GARAGE DOOR OPENERS
S139D	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		3.0	CARD READER ON BOTH SIDES
S139E	3' - 0"	7' - 0"	1 3/4"	D1	HM	PT/FF	F1	HM	PT	6/A9.3	5/A9.3	5/A6.21	2HR	8.0	CARD READER ON BOTH SIDES
S140	3' - 0"	7' - 0"	1 3/4"	D1	HM	PT/FF	F1	HM	PT	1/A6.23	4/A9.2	1/A9.2	2HR	11.0	WELL SEALED DOOR
S141	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		4.0	
S142	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		5.0	CARD READER ON BOTH SIDES
S143	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		5.0	CARD READER ON BOTH SIDES

DOOR SCHEDULE

DOOR NO.	DOOR W	DOOR H	DOOR T	DOOR TYPE	DOOR MAT	DOOR FIN	FRAME TYPE	FRAME MAT	FRAME FIN	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	FIRE RATING LABEL	DOOR HARDWARE SET	REMARKS
S144	5' - 0"	8' - 0"	2"	OH-2	STL	PREFIN	--	--	--	2/A9.2	9/A7.3			19.0	CARD READER ON BOTH SIDES
1 S145	4' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		5.0	CARD READER ON BOTH SIDES
1 S146	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	6/A9.2	3/A9.2 & 5/A9.2	1/A9.2		5.0	CARD READER ON BOTH SIDES
1 S147A	4' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	1/A6.23 SIM	6/A9.3	1/A9.2		11.0	WELL SEALED DOOR
S147B	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	1/A6.23 SIM	6/A9.3	1/A9.2		5.0	WELL SEALED DOOR
S148	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		11.0	
S149	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		10.0	3/4" UNDERCUT
S150	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	7/A9.2	4/A9.2	1/A9.2		10.0	3/4" UNDERCUT
S154	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	3/4" UNDERCUT
S155	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	1/A6.23	6/A9.3 SIM	1/A9.2		14.0	
S156	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2		14.0	3/4" UNDERCUT
S157	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F1	HM	PT	1/A6.23	6/A9.3 SIM	1/A9.2		18.0	
S158	4' - 4"	7' - 0"	2"	OH-2	STL	PREFIN	--	--	--	2/A9.2 SIM	10/A7.3			19.0	
S159	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	1/A6.23	6/A9.3 & 5/A9.2	1/A9.2		12.0	
S160	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	1/A6.23	6/A9.3 & 5/A9.2	1/A9.2		12.0	
S161	3' - 0"	7' - 0"	1 3/4"	D1	WD	ST	F3	HM	PT	1/A6.23	6/A9.3 & 5/A9.2	1/A9.2		13.0	
S162A	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S162B	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S162C	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S162D	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S162E	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S163A	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S163B	6' - 0"	7' - 0"	1 3/4"	D4	HM	PT/FF	F2	HM	PT	6/A9.3	5/A9.3	1/A9.2		7.0	CARD READER ONLY ON VEHICLE STORAGE SIDE
1 S163C	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		3.0	CARD READER ON BOTH SIDES
S164A	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	7/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164B	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		3.0	CARD READER ON BOTH SIDES
S164C	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164D	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164E	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164F	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3 & 5/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164G	3' - 0"	8' - 0"	1 3/4"	D1	HM	PT/FF	C-3	HM	PT	11/A9.3	6/A7.1	5/A6.21		3.0	CARD READER ON BOTH SIDES
S164H	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164I	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164J	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S164K	12' - 0"	12' - 0"	2"	OH-1	STL	PREFIN	--	--	--	3/A6.22	3/A7.3 & 5/A7.3	8/A6.22		19.0	ONLY GARAGE DOOR OPENERS
S201A	6' - 0"	7' - 0"	2"	D7	HM	PT/FF	F2	HM	PT	6/A9.2	3/A9.2	1/A9.2		9.0	12" X 12" LOUVER THE BOTTOM ON EACH DOOR
S201B	3' - 0"	7' - 0"	1 3/4"	D3	HM	PT/FF	F1	HM	PT	6/A9.2	3/A9.2	1/A9.2			

DOOR & FRAME LEGEND

AL	ALUMINUM	STN	STAIN - PREFINISHED
GL	SOLID GLAZING	WD	SOLID CORE WOOD
HM	HOLLOW METAL	FF	FACTORY FINISH
PR	PAIR	STL	STEEL
PREFIN	PREFINISHED	MFR	PER MANUFACTURER
PT	PAINT		

DOOR AND HARDWARE NOTES:

1. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.

2. JANITOR CLOSETS, MECHANICAL ROOMS, ELECTRICAL ROOMS SHALL BE IDENTIFIED IN ACCORDANCE WITH ANSI 4273, WITH KNURLED LEVERS.

3. ALL DOOR HARDWARE SHALL COMPLY WITH ALL APPLICABLE BUILDING AND ACCESSIBILITY CODES.

4. ACCESSIBILITY SIGNAGE AT ACCESSIBLE ENTRANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE ILLINOIS ACCESSIBILITY CODE. SIGN SHALL BE INSTALLED ON LATCH SIDE OF THE DOOR.

5. CONTRACTOR SHALL VERIFY ALL HARDWARE SESTS WITH OWNER PRIOR TO ORDERING.

6. ALL EXTERIORS OVERHEAD DOORS AND ACCESS DOORS SHALL BE THERMALLY SEALED AS SPECIFIED.

7. ALL INTERIOR OVERHEAD DOORS SHALL BE THERMALLY SEALED.

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

DOOR SCHEDULE

JOB NUMBER 19-349
DATE 12.16.2019
12.30.2019
REVISIONS:
1 ADDENDUM 02

BID / PERMIT SET

A9.1

ROOM FINISH SCHEDULE

ROOM	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING	REMARKS
				MAT	FIN	MAT	FIN	MAT	FIN	MAT	FIN	MAT	
C100	SECURED VEST.	CPT-2	RB-1	GL	--	GL	--	GYP	PT-1	GYP	PT-1	GYP	
C101	WAITING AREA	LVT-1	EPX-1	GL	--	--	--	GYP	PT-1	GL	--	ACT	
C102	ADMINISTRATIVE AREA	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	--	--	ACT	
C103	OFFICE SUPPLY	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C104	COLD CASE	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C105	DEPUTY CORONERS SHARED OFFICE	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	CT-1	ACT	
C106	STAFF LUNCH	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	
C107	DEPUTY CORONER	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C108	CORONER'S OFFICE	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C109	MEN'S RM.	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
C110	WOMEN'S RM.	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
C111	QUIET ROOM	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C112	AUTOPSY OFFICE	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C113	INTERVIEW & DEPOSITION ROOM	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C114	MEDICAL OFFICE	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C115	TRAINING/CONFERENCE ROOM	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C116	CORONERS ARCHIVES STORAGE	SEALED CONCRETE	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	--	
C117	IDF	SEALED CONCRETE	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C118	AUTOPSY SUPPLY STORAGE	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C119	CORRIDOR	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C120	CORRIDOR	EPX-1	EPX-1	GYP	PT-1 (1)	GYP	PT-1	GYP	PT-1 (1)	GYP	PT-1	ACT/ GYP	
C121	SHOWER RM	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	--	--	CT-1	CT-1	GYP	
C122	RESTROOM	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
C123	MEN'S LOCKER ROOM	EPX-1	EPX-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C124	STORAGE	EPX-1	EPX-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C125	RESTROOM	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
C126	SHOWER ROOM	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	1 1/2"	-- (1)	CT-1	CT-1	GYP	
C127	WOMEN'S LOCKER ROOM	EPX-1	EPX-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C128	CUST	EPX-1	EPX-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
C129	VESTIBULE	EPX-1	EPX-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	
C130	AUTOPSY ROOM	EPX-2	EPX-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	--	
C131	X-RAY	EPX-2	EPX-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	ACT	
C132	LAUNDRY	EPX-2	EPX-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	ACT	
C133	VIEWING/FAMILY ROOM	EPX-2	EPX-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	ACT	
C134	UNISEX RESTROOM	EPX-2	EPX-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	CT-2	ACT	
C135	HAZ. MAT. STORAGE / AUXILLIARY AUTOPSY	EPX-2	EPX-2	GYP	CT-2	GYP	PT-1 /CT-2	CONC	PT-1	CONC/ GYP	PT-1 /CT-2	--	
C136	FREEZER	SEALED CONCRETE	--	GYP	PT-1	CONC	PT-1	CONC	PT-1	GYP	PT-1	--	
C137	COOLER	SEALED CONCRETE	--	GYP	PT-1	CONC	PT-1	CONC	PT-1	CONC	PT-1	--	
C138	SALLY PORT	HP-1	--	CONC	EP	BRK	BRK	CONC	EP	CONC	EP	--	
F165	WORK AREA	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F166	TRAINING/CONFERENCE ROOM	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F167	CUST	SEALED CONCRETE	RB-1	GYP	PT-1	CONC	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F168	WOMEN'S RM.	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
F169	MEN'S RM.	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
F170	OFFICE SUPPLY	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F171	IDF	SEALED CONCRETE	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F172	STAFF LOUNGE	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F173	SHARED OFFICE	LVT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F174	SECURED VESTIBULE	CPT-2	RB-1	GL	--	GYP	PT-1	GYP	PT-1	GL	--	GYP	
F175	EXECUTIVE DIRECTOR	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F176	ADMINISTRATIVE ASSISTANT	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F177	OFFICE COORDINATOR	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F178	ADMINISTRATIVE ASSISTANT	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F179	DIRECTOR OF BUILDING OPERATION'S OFFICE	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
F180	VEHICLE STORAGE	HP-1	--	CMU	PT-1	CMU	PT-1	CONC	PT-1	CONC	PT-1	--	
F181	BUILDING MANAGEMENT STORAGE	SEALED CONCRETE	--	GYP	PT-1	CONC	PT-1	GYP	PT-1	GYP	PT-1	--	
F182	WORKSHOP	HP-1	--	GYP	PT-1	CONC	PT-1	GYP	PT-1	GYP	PT-1	--	
F183	WASH BAY	HP-1	--	CMU	PT-1	CONC	PT-1	CONC	PT-1	CMU	PT-1	--	
S139	RECORDS STORAGE SHELL SPACE	SEALED CONCRETE	--	CONC	PT-1	CMU	PT-1	CONC	PT-1	CONC	PT-1	--	
S140	ELECTRICAL ROOM	SEALED CONCRETE	RB-1	CONC	PT-1	GYP	PT-1	GYP	PT-1	CMU	PT-1	--	
S141	SPRINKLER ROOM	SEALED CONCRETE	RB-1	CONC	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	--	
S142	LESO STORAGE (1)	SEALED CONCRETE	RB-1	CONC	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	--	
S143	SWAT STORAGE	SEALED CONCRETE	RB-1	CONC	PT-1	CMU	PT-1	GYP	PT-1	GYP	PT-1	--	
S144	SWAT AMM. & FIREWORK STORAGE	SEALED CONCRETE	RB-1	CONC	PT-1	CMU	PT-1	CMU	PT-1	CMU	PT-1	--	

ROOM FINISH SCHEDULE

ROOM	ROOM NAME	FLOOR	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING	REMARKS
				MAT	FIN	MAT	FIN	MAT	FIN	MAT	FIN	MAT	
S145	IED TRAINING, WORK ROOM & STORAGE	SEALED CONCRETE	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
S146	TRAINING/CONFERENCE ROOM	CPT-1	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
S147	CORRIDOR	LVT-1	RB-1	GYP/C MU	PT-1/E P	GYP/C MU	PT-1 /EP	GYP	PT-1	GYP	PT-1	--	
S148	OEM STORAGE	SEALED CONCRETE	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	--	
S149	IDF	SEALED CONCRETE	RB-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	--	
S150	CUST	SEALED CONCRETE	RB-1	CT-1/C MU	CT-1/E P	CMU	EP	CT-1	CT-1	CT-1	CT-1	--	
S151	WORK AREA	HP-1	--	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	--	
S152	MACHINE AREA	HP-1	--	GYP	PT-1	GYP	PT-1	CMU	PT-1	CMU	PT-1	--	
S153	WELDING AREA	HP-1	--	GYP	PT-1	GYP	PT-1	GYP/C MU	PT-1	GYP	PT-1	--	
S154	MEN'S RM.	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
S155	MEN'S RM.	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
S156	WOMEN'S RM.	EPX-1	EPX-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	CT-1	ACT	
S157	LOCKER	EPX-1	EPX-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
S158	PARTS STORAGE	SEALED CONCRETE	--	GYP/C MU	PT-1	GYP	PT-1	CMU	PT-1	GYP	PT-1	--	
S159	OFFICE	EPX-2	EPX-2	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
S160	OFFICE	EPX-2	EPX-2	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
S161	OFFICE	EPX-2	EPX-2	GYP	PT-1	GYP	PT-1	GYP	PT-1	GYP	PT-1	ACT	
S162	FLEET MAINTENANCE	HP-1	--	CMU	PT-1	CMU	PT-1	CONC	PT-1	CMU	PT-1	--	
S163	WASH BAY	HP-1	--	CMU	PT-1	CMU	PT-1	CONC	PT-1	CMU	PT-1	--	
S164	VEHICLE STORAGE	HP-1	--	CONC	PT-1	CMU	PT-1	CONC	PT-1	CMU	PT-1	--	
S200	ARCHIVAL STORAGE	SEALED CONCRETE	--	CONC	EP	CMU	EP	--	--	CMU	EP	--	
S201	BOILER ROOM	SEALED CONCRETE	--	GYP	PT-1	CONC	PT-1	GYP	PT-1	GYP	PT-1	--	

FINISH MATERIAL LEGEND

CARPET

CPT-1
MANUF: MANNINGTON MILLS; INC.
STYLE: MODULAR CARPET TILE
COLOR: TBD
SIZE: 24" X 24"
PATTERN: TBD

CPT-2
MANUF: SHAW CONTRACT
STYLE: WALK OFF CARPET TILE
COLOR: TBD
SIZE: 24" X 24"
PATTERN: TBD

LUXURY VINYL TILE

LVT-1
MANUF: MANNINGTON MILLS, INC.
SIZE: 6" X 36"
PATTERN: TBD
NOTE:

RUBBER BASE

RB-1
MANUF: SEE SPECIFICATION
STYLE: TBD
COLOR: TBD
SIZE: 4" HIGH; 1/8" THICK

EPOXY

EPX-1
MANUF: GENERAL PLYMERS
STYLE: AQUA ARMOR CERAMIC CARPET
COLOR: TBD
NOTE:

EPX-2
MANUF: GENERAL PLYMERS
STYLE: AQUA ARMOR CERANMIC CARPET
COLOR: TBD
NOTE:

CERAMIC PORCELAIN TILE

CT-1
MANUF: MIRAGE USA
STYLE: UNGLAZED; 12" X 24". THK: 3/8"
COLOR: TBD
NOTE:

CT-2
MANUF: MIRAGE USA
STYLE: GLAZED; 3" X 6" MODULAR SIZE; THK: 5/16"
COLOR: TBD; SEMI-GLOSS / GLOSS GLAZE
NOTE:

GENERAL PAINT

PT-01
MANUF: AS SPECIFIED
COLOR: TBD
FINISH: TBD
NOTE:

HIGH PERFORMANCE FLOOR COATING

HP-01
MANUF: AS SPECIFIED
COLOR: TBD
FINISH: TBD
NOTE:

NOTE: PAINT ALL EXPOSED COLUMNS, BOLLARDS WITH PT-2, HIGH PERFORMANCE COATING PER SPECIFICATIONS

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4878
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

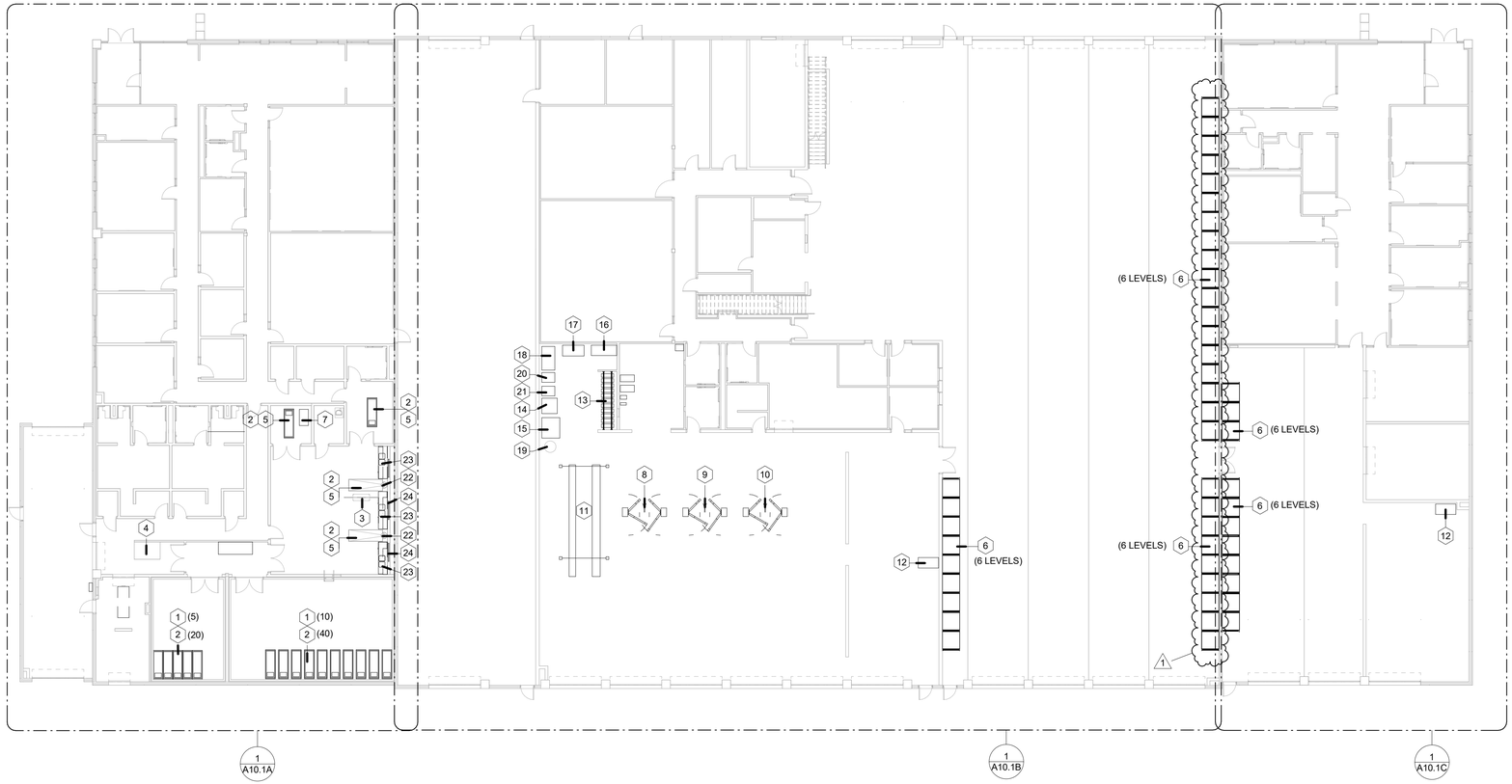
ROOM FINISH SCHEDULE

JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A9.11



NORTH 1 FIRST FLOOR PLAN
1/16" = 1'-0"

EQUIPMENT SCHEDULE

KEYNOTE	EQUIPMENT	MANUFACTURES AND MODEL
1	CADAVER RACK	MOPEC IF23401, 81.5" L x 27.25" W x 73.2" H; 14.5" BODY CLEARANCE BETWEEN TRAYS.
2	CADAVER TRAY	MOPEC JC027, 77.5" L x 27" W x 2.75" H.
3	OVERHEAD MOTORIZED LIFT	THE ULTIMATE 1000 LIFT. 46" L x 18" W x 8.5" D. CEILING MOUNTED; WITH STEEL TRACK SYSTEM. 1000 POUNDS LIFTING CAPACITY.
4	SCALE PLATFORM	RUGGED FLOOR SCALE METTLER TOLEDO. DIM.: 6' x 4'. RECESSED IN FLOOR
5	CADAVER LIFT	MOPED RED WING MODEL JD5000. ADJUSTABLE HYDRAULIC LIFT SYSTEMS. DIMENSIONS: 95.2" L X 29.2 - 33.2" W. ELEVATION RANGE: 13.3" - 76.7"
6	PALLET RACKING	HEAVY DUTY ONE PIECE 13 GAUGE STEEL UPRIGHTS WITH 2" ALLOWABLE HEIGHT ADJUSTMENTS AT 2" INCREMENTS. HIGH STRENGTH 15 GAUGE STEEL BEAMS WITH STEP BEAM DESIGN THAT ACCOMMODATES CROSS BARS AND DECKING. FLOOR WELDED BRACE. 12 GAUGE WELDED BASE PLATE ANCHORS. FINISH EPOXY FINISH; COLOR: TBD. BASIS OF DESIGN - GLOBAL INDUSTRIAL , MODEL # 796600, WITH 6 LEVELS OF RACKS.
7	XRAY	GE DEFINIUM AMX 700 PORTABLE X-RAY MACHINE. OVERALL DIMENSIONS: 45.5" L X 25.5" W X 76" H.
8	VEHICLE LIFT	MODEL AT07 7,000LBS. CAPACITY. ASYMMETRICAL ROTATED COLUMN DESIGN, STANDARD 2-STAGE ARMS. HEIGHT OVERALL: 11' 10 7/8". WIDTH OVERALL: 10' 2 7/8".
1 9	VEHICLE LIFT	PROVIDED AND INSTALLED BY OWNER. SPOA10 TRIO. TWO-POST LIFT SERIES. 10,000LBS. CAPACITY. ASYMMETRICAL ROTATED COLUMN DESIGN, 3-STAGE ARMS.
1 10	VEHICLE LIFT	PROVIDED AND INSTALLED BY OWNER. MOHAWK LIFT MODEL LMF-12. 12,000LBS. CAPACITY. HEAVY DUTY SERVICE. DO NOT USE HEIGHT RESTRICTIVE OVERHEAD CABLE COVERS THAT LIMIT LIFTING HEIGHT.
11	VEHICLE LIFT	SM18-EL ROTARY. 18,000LBS. CAPACITY. FOUR-POST LIFT. 25' 11" L x 137 11/16" W x 6' 5 3/4" H.
12	PRESSURE WASHER	HG SERIES. HOT WATER - NATURAL GAS/LP – BELT DRIVE. MODEL HG-3004-3208. DIMENSIONS: 56.5" L x 29" W x 49.75" H. 1

EQUIPMENT SCHEDULE

KEYNOTE	EQUIPMENT	MANUFACTURES AND MODEL
13	TIRE RACK	TIRE RACKS - HEAVY DUTY TIRE RACK TO BE ATTACHED TO WALL, WITH HEAVY DUTY 12 GAUGE BEAM CONNECTORS, 3 HOOKS AT EACH END, 14 GAUGE UPRIGHTS MEASURING 1'-3/4" X 1'-3/4". FINISH - GRAY POWDER COAT. BASIS OF DESIGN: GLOBAL INDUSTRIAL MODEL # 613139
1 14	TIRE CHANGER	PROVIDED AND INSTALLED BY OWNER. HUNTER TC3700 FAMILY. DIMENSIONS: 43" W x 43" D x 72" H.
1 15	WHEEL BALANCER	PROVIDED AND INSTALLED BY OWNER. COATS 1250 SERIES 3D. 57" W x 50" D. WEIGHT: 680LBS.
16	COMPRESSOR	FIXED SPEED ROTATORY SCREW COMPRESSORS. INGERSOLL RAND. AIR SYSTEM: UP6-5TAS-150. BASE PLATE AND RECEIVER MOUNTED UNITS: 80 GALLON RECEIVER TANK: 70.2" L x 29" W x 56.6" H.
17	LUBRICANT TANK	BY OWNER
1 18	OIL FILTER CRUSHERS	PROVIDED AND INSTALLED BY OWNER. RP-20FC RANGER. PNEUMATIC OIL FILTER CRUSHER, 10 TON CAPACITY. 17" W x 17" D x 29.5" H, WEIGHT: 228LBS. INCLUDES STANDS: 27.75" W x 17.75" D x 42" H, WEIGHT: 72 LBS.
19	55 GALLON GREASE DRUM CART	BY OWNER
20	ENGINE OIL TANK	BY OWNER
21	TRANS FLUID TANK	BY OWNER
22	HANGING SCALE	DIGITAL HANGING SCALE CCI HS-6
23	SINK AND COUNTER	CUSTOM STAINLESS STEEL COUNTER AND INTEGRAL SINK PER SPECIFICATION SECTIONS 123570 AND 123553.13
24	WALL MOUNT TV	55" CLASS 4K ULTRA HD, HDR SMART QLED WALL MOUNT TV WITH COMPATIBLE WALL MOUNT BRACKET (WMN-M12EB/ZA)

NOTES:

1. ALL EQUIPMENT PROVIDED BY CONTRACTOR.
2. CONTRACTOR TO LOCATE/MOUNT EQUIPMENT PER OWNERS DIRECTION.
3. EQUIPMENT LOCATIONS ARE FOR REFERENCE ONLY.
4. PROVIDE ALL NECESSARY MATERIAL, COMPONENTS, ETC. FOR A COMPLETE AND FUNCTIONING INSTALLATION AS REQUIRED. NO EXCEPTIONS.

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Bridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38.

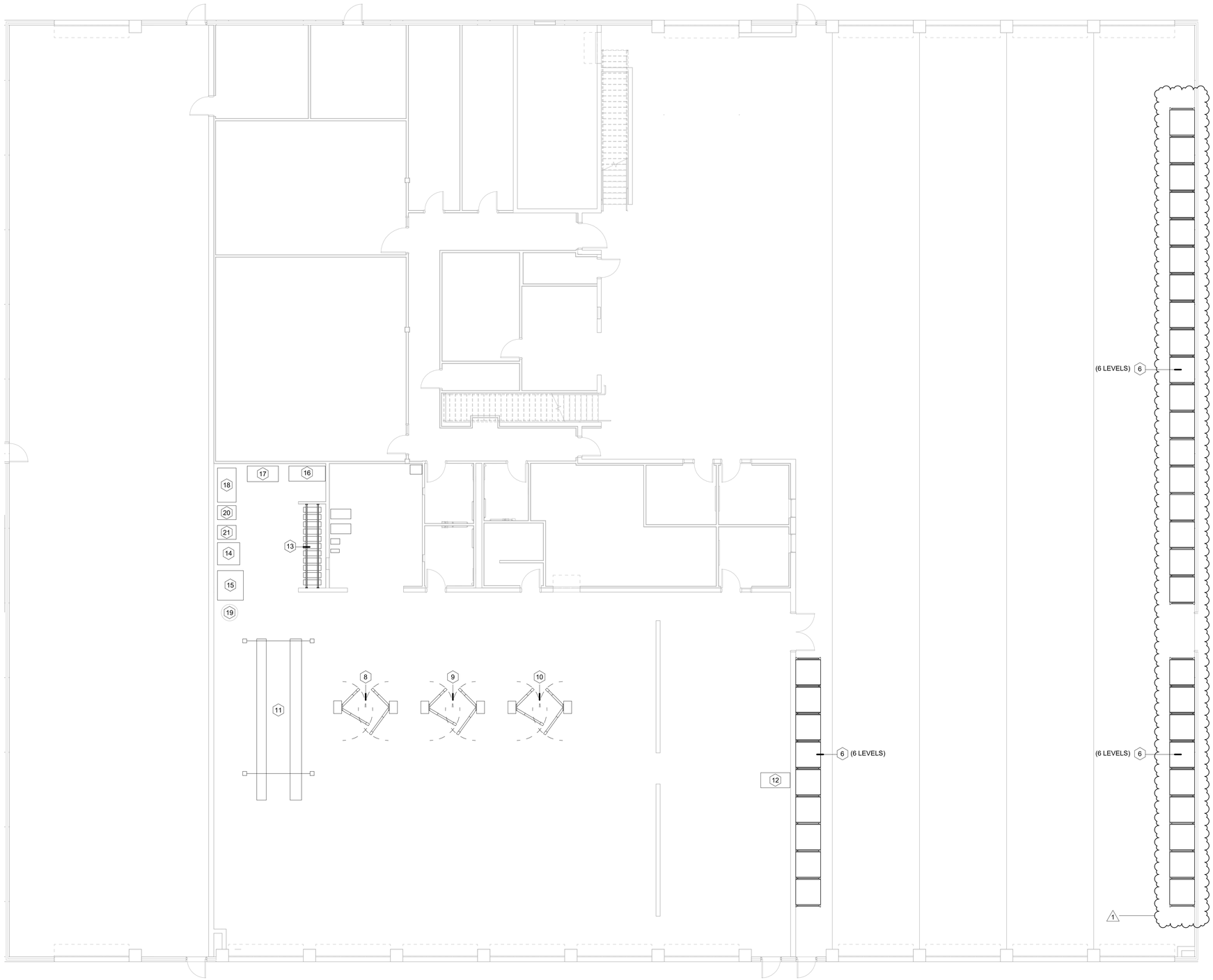
OVERALL EQUIPMENT FLOOR PLAN

JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A10.1

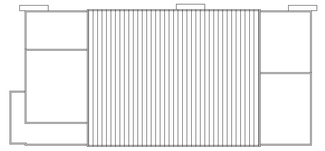


EQUIPMENT SCHEDULE

KEYNOTE	EQUIPMENT	MANUFACTURES AND MODEL
6	PALLET RACKING	HEAVY DUTY ONE PIECE 13 GAUGE STEEL UPRIGHTS WITH 2" ALLOWABLE HEIGHT ADJUSTMENTS AT 2" INCREMENTS. HIGH STRENGTH 15 GAUGE STEEL BEAMS WITH STEP BEAM DESIGN THAT ACCOMMODATES CROSS BARS AND DECKING. FLOOR WELDED BRACE. 12 GAUGE WELDED BASE PLATE ANCHORS. FINISH EPOXY FINISH; COLOR: TBD. BASIS OF DESIND - GLOBAL INDUSTRIAL , MODEL # 796600, WITH 6 LEVELS OF RACKS.
8	VEHICLE LIFT	MODEL AT07 7,000LBS. CAPACITY. ASYMMETRICAL ROTATED COLUMN DESIGN, STANDARD 2-STAGE ARMS. HEIGHT OVERALL: 11' 10 7/8", WIDTH OVERALL: 10' 2 7/8".
1 / 9	VEHICLE LIFT	PROVIDED AND INSTALLED BY OWNER. SPOA10 TRIO. TWO-POST LIFT SERIES. 10,000LBS. CAPACITY. ASYMMETRICAL ROTATED COLUMN DESIGN, 3-STAGE ARMS.
1 / 10	VEHICLE LIFT	PROVIDED AND INSTALLED BY OWNER. MOHAWK LIFT MODEL LMF-12. 12,000LBS. CAPACITY. HEAVY DUTY SERVICE. DO NOT USE HEIGHT RESTRICTIVE OVERHEAD CABLE COVERS THAT LIMIT LIFTING HEIGHT.
11	VEHICLE LIFT	SM18-EL ROTARY. 18,000LBS. CAPACITY. FOUR-POST LIFT. 25' 11" L x 137 11/16" W x 6' 5 3/4" H.
12	PRESSURE WASHER	HG SERIES: HOT WATER - NATURAL GAS/LP – BELT DRIVE. MODEL HG-3004-3208. DIMENSIONS: 56.5" L x 29" W x 49.75" H.
13	TIRE RACK	TIRE RACKS - HEAVY DUTY TIRE RACK TO BE ATTACHED TO WALL, WITH HEAVY DUTY 12 GAUGE BEAM CONNECTORS, 3 HOOKS AT EACH END, 14 GAUGE UPRIGTHS MEASURING 1'-3/4" X 1'-3/4". FINISH - GRAY POWDER COAT. BASIS OF DESIGN: GLOBAL INDUSTRIAL MODEL # 613139
1 / 14	TIRE CHANGER	PROVIDED AND INSTALLED BY OWNER. HUNTER TC3700 FAMILY. DIMENSIONS: 43" W x 43" D x 72" H.
1 / 15	WHEEL BALANCER	PROVIDED AND INSTALLED BY OWNER. COATS 1250 SERIES 3D. 57" W x 50" D. WEIGHT: 680LBS.
16	COMPRESSOR	FIXED SPEED ROTATORY SCREW COMPRESSORS. INGERSOLL RAND. AIR SYSTEM: UP6-5TAS-150. BASE PLATE AND RECEIVER MOUNTED UNITS: 80 GALLON RECEIVER TANK: 70.2" L x 29" W x 56.6" H.
17	LUBRICANT TANK	BY OWNER
1 / 18	OIL FILTER CRUSHERS	PROVIDED AND INSTALLED BY OWNER. RP-20FC RANGER. PNEUMATIC OIL FILTER CRUSHER, 10 TON CAPACITY. 17" W x 17" D x 29.5" H, WEIGHT: 228LBS. INCLUDES STANDS: 27.75" W x 17.75" D x 42" H, WEIGHT: 72 LBS.
19	55 GALLON GREASE DRUM CART	BY OWNER
20	ENGINE OIL TANK	BY OWNER
21	TRANS FLUID TANK	BY OWNER

NOTES:

1. ALL EQUIPMENT PROVIDED BY CONTRACTOR.
2. CONTRACTOR TO LOCATE/MOUNT EQUIPMENT PER OWNERS DIRECTION.
3. EQUIPMENT LOCATIONS ARE FOR REFERENCE ONLY.
4. PROVIDE ALL NECESSARY MATERIAL, COMPONENTS, ETC. FOR A COMPLETE AND FUNCTIONING INSTALLATION AS REQUIRED. NO EXCEPTIONS.



NORTH KEY PLAN
SCALE: NOT TO SCALE

NORTH 1 ENLARGED PLAN - SHERIFF AREA - EQUIPMENT
1/8" = 1'-0"

CORDOGAN CLARK & ASSOCIATES INC.
ARCHITECTS • ENGINEERS
Chicago
716 North Wells Street
Chicago, Illinois 60654
Tel 312.943.7200
Fax 312.943.4771
Aurora
900 Ridgeway Avenue
Aurora, Illinois 60506
Tel 630.896.4678
Fax 630.896.4987

KANE COUNTY MULTI-USE FACILITY
KANE COUNTY
37W655 Illinois 38,

ENL. SHERIFF AREA EQUIPMENT FLOOR PLAN

JOB NUMBER 19-349
DATE 12.16.2019

REVISIONS:
1 ADDENDUM 02 12.30.2019

BID / PERMIT SET

A10.1B

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
1	FQC Construction Management	We may be interested in submitting our bid for card access portion of this project, but the bid documents do not include any specifications in Division 28 for access control. Please clarify with Owner / Architect if this is a design-build project or if there are (or will be) any requirements for a brand-name specific product and model.		281500 (New section added herewith)	12.17.19	Electrical	12.30.19	Specification section 281500 added
2	FQC Construction Management	Address Plaque: 8" x 16" x 1/4" Cast Aluminum Plaque; Mill finished raised areas; travertine background; Beveled border; concealed mount; [Manufacturer: Gemini] Specs and drawings differ on details of border, background finish and mounting methods of both plaques	5/A8.12		12.17.19	Arch	12.30.19	Background finish, border and mounting method to match drawings. Text: TBD Quantity: 1
3	FQC Construction Management	Aluminum Plaque: 36" x 24" x 1/4" Cast Aluminum Plaque; Mill finished raised areas; travertine background; Beveled border; concealed mount; [Manufacturer: Gemini] Specs and drawings differ on details of border, background finish and mounting methods of both plaques	4/A8.12		12.17.19	Arch	12.30.19	Background finish, border and mounting method to match drawings. Text: TBD Quantity: 1

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
4	FQC Construction Management	Halo Lit Fabricated Letters, Clear Anodized finish; Arial Bold font; projected stud mount. Are the Halo Lit letters the same as the ASI Fabricated Letters or different?	1/A5.1, 2/A5.1, 3/A5.1 and 2/A5.2	101419 and 104300	12.17.19	Arch	12.30.19	Canopy Letters - Dimensional Letter Signage over all canopies on North Side as shown on 1/A5.1, 2/A5.1, and 3/A5.1 is per specification section 101419 Dimensional Letter Signage – 2.2 Dimensional Characters, sub section: A. Fabricated Channel Characters <DL-01> with Characters Height: 14” high and text as shown on the drawings and as follows: SHERIFF, FACILITIES MANAGEMENT and CORONER; Fastening method: Freestanding with concealed base bracket assembly Building Letters and Logo - Dimensional Letter Signage over precast panel on North Side as shown on 3/A5.1 between grid lines D and F is per specification section 101419 Dimensional Letter Signage – 2.2 Dimensional Characters, sub section: B. Fabricated Channel Characters <DL-02> with Characters Height: 36” high for letters spelled as “KANE COUNTY” and 14” high for letter spelled as “MULTI USE FACILITY”; Client Logo size: 2'-5" diameter; Fastening method: Projecting studs Vinyl Cut Letters and Logo - Dimensional Signage Letters on precast panel on the South Side as shown on 2/A5.2 between grid B.9 and D is per specification section 104300, Digitally cut Vinyl Letters adhered to the surface with pressure sensitive adhesive; Characters height: 36” high for letters spelled as “KANE COUNTY”. Client Logo – digitally cut vinyl logo, adhered with pressure sensitive adhesive; Logo size: 12’-0” Diamater
5	FQC Construction Management	4" x 4" x 1/8" thick MP Plastic Room ID signs; tape mount; EVERY ROOM, Specs mentions "Refer to signage schedule and drawings for sizes, locations and layout of signage types, sign text copy and graphics" there is no sign schedule		101423.16	12.17.19	Arch	12.30.19	G.C. to provide room signs for every room. Room names and numbers to match floor plan.
6	FQC Construction Management	Fabricated Letters by ASI LTV series Digitally cut vinyl letters. Fabricated Logo as above; Are the ASI LTV letters just vinyl? Or are they face lit fabricated letters with digitally printed vinyl? Or something else altogether?		104300	12.17.19	Arch	12.30.19	Refer to response in item #4

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
7	FQC Construction Management	Who is providing the Salt Dome, Storage Bins, and Fueling Station, are these all being provided by the Owner, what if any is required by the general contractor?			12.17.19	Arch	12.30.19	Salt Dome: To be provided by G.C. MFR: Dome Corp of North America; Dome Size: 32'-0" Dia; Dome Floor Area: 824 SF; Product Height: 22'-0", Dome Height: 36'-4"; Dome Capacity 502 U.S. Tons (465 Cu. Yards) Storage Bins: Provide 2'x2'x6' pre-cast concrete retaining interlocking blocks @ 3'-0" high around storage bins. Fuel Station: TBD in future addendum
8	FQC Construction Management	Qty (01) plaque: 8” x 16” x ¼” Cast Aluminum “2021” Qty (01) plaque: 24” x 36” x ¼” Cast Aluminum, unknown text Room ID at every door minimum 4” x 4” x 1/8” MP Plastic signs (am I supposed to come up with a signage series and schedule using floor plans?) I don’t know which spec goes with what drawing for the following: * Fabricated Letters and Logos by ASI * Halo Lit Letters * Fabricated Letters Will this include tactile exit signs, Window signs for changeable copy, Permanent room ID, And Restroom signage?			12.17.19	Arch	12.30.19	Refer to response in item # 2, #3, #4 and #5. provide tactile exit signs at all exterior access doors as required (exclude Overhead Doors). No window signs required.
9	FQC Construction Management / CCI Flooring Inc.	I have a quick question regarding the actual project. Room C101 waiting area has LVT as floor designation with EPX-1 as the base. Do they really want epoxy cove base with the lvt or was this a typo.	A9.11		12.18.19	Arch	12.30.19	Wall Base in Room C101 shall be RB-1; Refer to Finish Material Legend on A9.11 for further information on RB-1.
10	FQC Construction Management / CCI Flooring Inc.	Looking at the epoxy flooring. Will we need to figure epoxy on the floor of the shower and will this require us to pitch the epoxy? The plumbing details show that there is a trench drain going in the shower I believe the notation was TR2. This is what is making me think we will need to pitch those areas. The plans are pretty vague giving details.			12.18.19	Arch	12.30.19	Floor Finish – EPX-1 as listed on the Floor Finish Schedule; Refer to Finish Material Legend on A9.11 for further information on EPX-1. Drain - Showers to receive drain TR-02 as scheduled on P2.0A and per Plumbing Fixture Schedule Shower Floor shall be pitched to the drain to maintain accessible slope requirements, per applicable Illinois Accessibility Code.

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
11	Interstate Electronic Company	I would like the opportunity to bid the fire alarm for this project using Autocall FA by Johnson Controls. It is basically a Simplex System for JCI and is non-proprietary.			12.18.19	Electrical	12.30.19	Provide bid per contract documents
12	FQC Construction Management	Performance requirements for Freezer/Cooler Two critical pieces of information relating to the "Prefabricated Cold Storage Rooms" are being requested as part of this RFI. 1. Request that the temperature and, if relevant, humidity, set points for the walk-in cooler (Room C137) and the Walk-in Freezer (Room C136) be provided. Neither the Section 130380 specifications not the Cooler/Freezer Schedule on Drawing M4.1 identify the desired operating temperature/humidity conditions. 2. Requested that the Temperature Uniformity & Humidity Performance requirements outlined in Paragraph 3.3C and 3.3D of the section 130380 specifications be updated/clarified to include desired temperature uniformity requirements (eg. +/- 1˚ C) and if applicable, acceptable relative humidity range (e.g. +/- 5%)	M4.1 - Cooler / Freezer Schedule	130380 - Paragraph 3.3C and 3.3D	12.19.19	Mechanical/ Arch	Additional Mechanical response will be addressed in Addendum to be issued on 1.13.20	Desired Operating Temperature – * Freezer – (-) 4˚F * Cooler – (+) 40˚ F Temperature uniformity desired for both Freezer and Cooler – (+/-) 4˚F
13	FQC Construction Management	Another question on the far west side is the utility trench behind the curb or in the road. I'm looking at sheet C2.0 * Can you verify if the storm piping is in the roadway or behind the curb on the far west side of sheet C2.0, to me it looks to be under the curb? * Looks like we'll need complete curb removal and replacement, is this correct? * Or is the work west of the east ring road not part of this work, maybe existing? * If we are to do the pathing and piping work can you tell us what is existing to match?	C2.0		12.19. 2019	Civil	Civil response will be addressed in future addendum	
14	FQC Construction Management	Can you provided specification of Pavement thickness for the Trash Enclosure Area as well as for the Transformer / generator area onb C2.1	A1.01 (revised and attached herewith) and A1.1A (new sheet - attached herewith)		12.19.19	Arch	12.30.19	Sketch/detail attached. Sheet A1.1A added.
15	ACO	I was hoping to get some information on the 56 LF of external trench drain from the civil pages. According to the plans it says "see detail". However, I'm unable to locate the trench drain detail. Can you please advise what is spec'd?			12.19.19	Civil	Civil response will be addressed in future addendum	

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
16	ACO	In addition, are you accepting additional manufactures other than what is spec'd for the internal (plumbing) trench drain?			12.19.19	Arch	12.30.19	Provide bid per contract documents.
17	FQC Construction Management	can you please provide specifications regarding the barrier arm gates? Not sure what functions are needed along with who's the existing manufacturer.			12.19.19	Civil	Civil response will be addressed in future addendum	
18	Osman Construction Corporation	There are a few specifications where it is indicated that the contractor shall provide testing. One such specification is steel decking 053100. Is this correct?		053100	12.20.19	Arch	12.30.19	Provide testing per contract documents.
19	Osman Construction Corporation	In specification section 051200 it states that the fabricator and installer need to be AISC certified. Can this requirement for AISC certification be waived?		051200	12.20.19	Arch / Structure	12.30.19	Yes, AISC certification can be waived.
20	Osman Construction Corporation	In specification section 280500 there is no equipment identified. Is the access control and security system equipment furnished and installed by owner and we are only to provide conduit and boxes? If we are to provide the equipment is it an open specification or will there be an addendum issued for the equipment specification.		280500 (new sections - included herewith)	12.20.19	Electrical	12.30.19	Division 281500 Access Control – Included herewith
21	L.J Morse	I would need more information about Exterior characters and logos on A5.1 and A5.2. Dimensional Lettering -- I am seeing what appears to be dimensional lettering on Plan Sheets A5.1 & A5.2 in the form of lettering mounted to the top of 3 canopies and grand-scale lettering & logos attached to the front of the building in 2 places. None have any measurements and no indication on which are DL-1 and which are DL-2. Please advise.	A5.1 and A5.2		12.20.19 12.23.19	Arch	12.30.19	Refer to response for items # 2, #3 and #4
22	L.J Morse	Also, could you please provide an interior signage schedule. Panel Signage -- The specs give a little info on substrate but the only dimensions I see are "min 4" x 4". There is not enough information to determine exactly how the architect envisions the signs. Can we get a little more detail on what they are planning? Are we to match what is installed in the existing part of the building? If so, can we get images of these pieces? We are happy to develop signage details and schedules, but that is usually done by consulting fee or as part of a contracted job. If the architect will provide a little more info, I am happy to do estimating take-offs.		101423.16	12.20.19 12.23.19	Arch	12.30.19	Refer to item #5; Size: 6" x 8"

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
23	Vissering Construction Company	There are 2 spec sections numbered 075423 in the Spec Book. Is one or the other not supposed to be in there, or is there supposed to be 2 with that number, but different kind of roofing?		075423	12.23.19	Arch	12.30.19	Polyvinyl-Chloride (PVC) with (KEE) Roofing shall be Division 075419 instead of 075423. Thermoplastic Polyolefin (TPO) Roofing shall be Division 075423 and is listed correctly.
24	Osman Construction Corporation	Spec section 033543 Polished Concrete is in the spec book but not indicated in any of the rooms on the room finish schedule sheet A 9.11. Should this be at the flooring surfaces identified as sealed concrete?	A9.11	033543	12.23.19	Arch	12.30.19	Yes.
25	Osman Construction Corporation	Primex clock system is specified in section 275313, but there aren't any designations on the drawing for clock locations. Can you provide the clock locations?		275313	12.23.19	Arch	12.30.19	Clock System: Provide 12 single face clocks to be placed as directed by client.
26	L.J Morse	Plaques -- There is enough info in the specs and Plan Sheet A8.12 for us to provide a quote for the two plaques that appear to be in this project (building number and dedication plaque). Please confirm that this is all they need.	A8.12		12.23.19	Arch	12.30.19	Refer to response for item # 2, and #3
27	L.J Morse	Per Specs: *4. General Coordination procedures* *a. Coordinating Contractor shall retain a third-party consultant specializing in building Information Model generation and coordination and shall perform three-dimensional…* Are we responsible for hiring the BIM contractor? If so, please confirm what discipline do you need, HVAC? Plumbing? Electrical?		013100	12.23.19	Arch	12.30.19	The G.C. is responsible for retaining the BIM generation and coordination consultant for all critical building systems as per LOD level 350 as defined by bimforum.org
28	Vissering Construction Company	Table of Contents says 221123 -Domestic Water Pumps Spec included says 221123B (not in table of contents) Domestic Water Booster Pumps Table of Contents says 221123A Domestic Water Circulation Pumps (does not appear to be included in the spec.). Please Clarify		221123, 221123B and 221123A	12.23.19	Plumbing	Will be addressed in the addendum to be issued on 1.13.20	
29	Scheffler Electric Corp.	after looking through the lighting plans. There are two fixtures on the drawing that are not on the schedule F4S and F14. Please provide a spec.			12.23.19	Electrical	Will be addressed in the addendum to be issued on 1.13.20	

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
30	Vissering Construction Company	Table of Contents – 235523.13 – Low Intensity Gas Fired Radiant Heaters. This spec section does not appear to be in the spec book.		235523.13	12.23.19	Mechanical	Will be addressed in the addendum to be issued on 1.13.20	
31	Vissering Construction Company	Spec book contains – 260573.13 – Short Circuit Studies - Not listed in table of contents. Should this be included?		260573.13	12.23.19	Electrical	Will be addressed in the addendum to be issued on 1.13.20	
32	Vissering Construction Company	DRAWINGS: C5.3 is in the set, not in the index E4.7 is in the index, not in the set E4.7A is in the set, not in the index E4.7B is in the set, not in the index E4.7C is in the set, not in the index.			12.23.19	Arch	12.30.19	This is correct
33	Accurate Glass, Inc.	RFI regarding glass & glazing: Please clarify frame type C-3. Is this frame to be hollow metal as shown on the door schedule or aluminum with a hollow metal doors as shown at detail 11/A9.3 and storefront elevations on sheet 9/A9.2. Please advise.	11/A9.3 and 9/A9.2		12.23.19	Arch	12.30.19	Frame Type C-3 to be hollow metal frame with a hollow metal door. Door and frame elevations to remain. Frame, Door and Hardware schedule will be revised in future addendum.
34	Mill Concrete Construction	After reviewing the plans I believe there may be a page missing. I need the existing grades east of the existing building where the new building and roads are going. The proposed grading on C4.0 & C4.1 have white space covering the existing grades, and I don't believe the existing grades I need to calculate cut & fill quantities are on C1.0-C1.2A either.	C4.0, C4.1, C1.0 thru C1.2A		12.24.19	Civil	Civil response will be addressed in future addendum	
35	L.J. Morse Construction	The architect has not selected styles for the ceramic tile, LVT, or carpet tile. They have only listed the manufacturer and sizes of these products. In order to price the job we will need the styles of all of these products. I will assume this information will be coming out in an addenda.		093013, 096723 and 096813 - revised and attached herewith	12.24.19	Arch	12.3.019	093013, 096723 and 096813 - revised and attached herewith
36	CKI, Inc.	Spec 101419 ,1.2 A—which letters are illuminate? Which are not? Appears to be at least 4 sets of letters in question. What are the sizes? Not shown on prints. Spec 101423 . Cannot locate a signage schedule, or a detail sheet identifying sign types and sizes. Please advise as to all details for interiors.		101419 and 101423	12.24.19	Arch	12.30.19	Refer to response for item # 4 and #5

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
37	CKI, Inc.	Print A5.1 Letters on canopy. Factory recommends tie backs for bottom mounted letters. They are not shown in any of the details. If it is insisted there be no tie backs, manufacturers will not warranty. If they don't warranty, we cannot warranty. How will this be handled?			12.24.19	Arch	12.30.19	Provide bid per contract documents.
38	CKI, Inc.	Spec 101423 2.4 installation call out both mechanical fasteners and 2 sided tape. Which is correct? Cannot be both.		101423	12.24.19	Arch	12.30.19	Mount signs with 2 sided tape
39	CKI, Inc.	Print A5.1 detail 4- plaque next to letters Kane . What is it? Material, thickness, height?			12.24.19	Arch	12.30.19	Refer to response for item #4
40	CKI, Inc.	Print A 5.2 detail 2- County seal. What is it? Size, height & thickness? Material? Desired mounting method? Bricks show through on the drawings. Are all the plaque details individual pieces or is the plaque supposed to be 1 solid piece?			12.24.19	Arch	12.30.21	Refer to item #4. Client Logo is one solid piece
41	CKI, Inc.	Spec 101423 interior signage. – there is no signage schedule listed. Nor is there a sheet identifying sign type, sign sizes. Please advise where this detail can be located.		101423	12.24.19	Arch	12.30.219	Refer to item #5
42	The George Sollitt Construction Co.	The project documents do not contain any Site Work specifications such as earthwork, site utilities, site paving, etc. Will any specifications be provided for the site work required on this project?			12.26.19	Civil	Civil response will be addressed in future addendum	
43	L.J. Morse Construction	The drawing A2.2A shows North and East partitions in the Boiler room as a drywall partitions. This is the walls with doors S201A and S201B. Please clarify type of this partitions.	A2.2A		12.27.19	Arch	12.30.19	This wall type is correct
44	Osman Construction Corporation	On sheet A 2.11 wall partition type E-3 calls for insulated CMU 8", 10". What type of insulation is to be used?	A2.11	042200 - revised and included herewith	12.27.19	Arch	12.30.19	Division 042200 - revised and included herewith
45	F.H. Paschen	Drawings A6.15 detail 4 show the canopy that is above the OHD and refers to detail 7/A6.22. The other canopies on drawings A6.12 and A6.11 don't have a detail. Would they follow the same detail on 7/A6.22?	A6.15, 7/A6.22, A6.12 and A6.11		12.27.19	Arch	12.30.19	Detail on 7/A6.22 is a typical canopy detail applicable to canopies at all locations
46	F.H. Paschen	ACM panels are missing their specification. What type of ACM is needed?		074213.23 - new section; included herewith	12.27.19	Arch	12.30.19	Division 074213.23 Metal Composite Material Wall panels - included herewith

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
47	F.H. Paschen	Finish Schedule on A9.11 and Wall Finish Plan on A9.14A references Ceramic Tile CT-3 which is not listed on the Finish Material Legend. Please provide specifications for this tile type.	A9.11 (revised and included herewith) and A9.14A	093013 - revised and included herewith	12.27.19	Arch	12.30.19	CT-3 not used. Room C11221 and C126 shall receive CT-1. Refer to revised specification section 093013 - attached herewith
48	F.H. Paschen	Spec Section 112100 Building Equipment section 2.1D equipment tag D, more information is required for the Mettler Toledo floor scale. Please provide a specific model number required for bid.		112100, sub-section 2.1D	12.27.19	Arch	12.30.19	Model # 2256 VLP Stainless Steel; Capacity: 2,500 lbs, Finish: 304 Smooth SS
49	F.H. Paschen	The equipment schedule on drawing A10.1B, keynote 12, lists two Mi-T-N models of pressure washers. The two models have different electrical voltage requirements. The electrical equipment schedule on E4.4 shows both power washers having the same electrical requirements. Please clarify which model is correct.	A10.1B (revised and included herewith) and E4.4		12.27.19	Arch / KC	12.30.19	Model # HG-3004-3208
50	F.H. Paschen	The project manual didn't include a specification for the countertops. What type of countertop, how thick, and what kind of edges?			12.27.19	Arch	12.30.19	Refer to Contract Documents.
51	F.H. Paschen	SS-1 is missing in the finish schedule. What type of countertop is SS-1?		123616	12.27.19	Arch	12.30.19	Refer to following specification section: 123616 Metal Countertops
52	F.H. Paschen	Per the Glazing Schedule on Sheet A9.2, glass type MG-1 is to be ½" clear tempered glass. Glazing Spec 088000 Section 3.6A lists this same glass type as 6mm (i.e. ¼") clear annealed glass. Please confirm required glass type/specifications for MG-1.	A9.2	088000, sub-section 3.6A	12.27.19	Arch	12.30.19	MG-1 shall be 1/2" as per drawings
53	F.H. Paschen	Please confirm specifications for glass type IG-2 as it is not listed in Glazing Spec 088000.		088000	12.27.19	Arch	12.30.19	IG-2 - Full Vision Insulated Tempered Glazing at overhead doors, as per manufacturer specifications
54	F.H. Paschen	Glazing Specification 088000 Section 3.6B calls out glass type MG-2 though it is not listed on the Glazing Schedule and we can't seem to find this in the drawings. Please clarify where this glass type is to be used		088000, sub-section 3.6B	12.27.19	Arch	12.30.19	MG-2 is not used
55	F.H. Paschen	Per Sheet A7.27 Det. 2 & 5 we are to provide safety glass panels to protect the TV's in the Autopsy room. Please provide specifications on what glass type is to be used for these locations.	2 and 5 / A7.27	088000, sub-section 3.6A	12.27.19	Arch	12.30.19	Use glazing type MG-1
56	F.H. Paschen	Please confirm material for frame type C4. Should it be hollow metal or aluminum?			12.27.19	Arch	12.30.19	Frame Type C4 is hollow metal
57	F.H. Paschen	Frame type C3 is identified as hollow metal with hollow metal doors on Door Schedule but on elevations/details (Sheets 6.13/4, 6.14/3, & 6.15/2) it is shown as aluminum storefront. Please clarify materials.	4/A6.13, 3/A6.14 and 2/A6.15		12.27.19	Arch	12.30.19	Frame Type C-3 to be hollow metal frame with a hollow metal door. Door and frame elevations to remain. Frame, Door and Hardware schedule will be revised in future addendum.
58	F.H. Paschen	For Aluminum Storefront frame type A please confirm, is there an operable awning or vent as called out on detail 1/A6.11?	1/A6.11		12.27.19	Arch	12.30.19	This is a typo; the note shall read as "Thermally broken aluminum storefront"

RFI AND RESPONSE LOG

RFI NO.	CONTRACTOR	CONTRACTOR'S QUESTION	DRAWING REFERENCE	SPEC REFERENCE	DATE REC'D.	DISCIPLINE	DATE RETURNED	RESPONSE
59	F.H. Paschen	Are we required to use the old construction entrance off Peck Road (marked in red) or can we use the main entrance road off Route 38 for construction traffic (marked in blue)? See the attached sketch.			12.27.19	Arch	12.30.19	The contractors shall use either the existing construction access road off of Bircher or they can build a new access road as shown on the civil drawings for the optional stormwater basin expansion Alternate. No construction access shall use the government campus access roads without approval from the owner and architect.
60	Kewaunee Scientific Corporation	The attached work table is shown on sheet A8.12, but it's not shown on the floor plans. Can you please confirm on how many instances this work table occurs.	1, 2 and 3 / A8.12		12.27.19	Arch	12.30.19	Work Table to be located in Work Area F165, excat location TBD. Quantity: 1, refer to E2.1C
61	L.J.Morse	Specification 0951113 calling for AP-1-Tectum 1"x48"x96" direct attached panels. I don't see it on Reflected Ceiling plans or interior elevations. Please clarify if it is any on this project.		095113	12.27.19	Arch	12.30.19	Tectum panels are to be provided In lieu of Acoustical roof deck in areas indicated in Deduct Alternate 6 in Division 012300 Alternates, sub-setion 3.1, E.2