



July 22, 2024

To: Plan Holders for SLN Terminal Expansion  
Salina Regional Airport  
Salina, KS  
AIP Project Number 2-20-0072-054/055-2024

Transmitted herewith Addendum No.2 to the Issued for Bid Contract Documents, Specifications and Plans dated July 2, 2024 for improvements to the Salina Regional Airport.

**Schedule I – Preliminary Measures**

**Schedule II – New Hold Room and TSA Screening Construction**

**Schedule III- New TSA Screening Set up; Remove Glass Partitions; Set up Temporary Bag Screening Area in Passenger Screening Area**

**Schedule IV- New Bag Screening/Makeup Area**

**Schedule V- Generator Installation**

**Schedule VI- Front Entry Canopy and Front Roadway Redevelopment**

Sincerely,

**Woolpert, Inc.**

Adam Acree  
Project Manager



**ADDENDUM NO. 4**  
**TO**  
**CONTRACT DOCUMENTS, TECHNICAL SPECIFICATIONS, AND**  
**PLANS**  
**FOR IMPROVEMENTS TO THE**  
**SALINA REGIONAL AIRPORT**  
**SALINA, KS**  
**AIP PROJECT NUMBER 2-20-0072-054/055-2024**

To All Bidders: You are requested to make all changes and/or additions contained in this addendum to the Bidding Documents. Failure to acknowledge this Addendum in Proposal shall result in rejection of bid. Bidders are informed that the above referenced Contract Documents, Technical Specifications, and Plans are modified as follows as of July 22, 2024:

**CONTRACT DOCUMENTS**

**INVITATION FOR BIDS** has been revised.

**Justification:** To provide more time for bidders. The Bid Opening date has been moved to Monday, July 29, 2024 at 2:00 p.m. per Addendum #4.

**SPECIFICATIONS**

**ADDED :**The following Specification sections are being added per Addendum #4.

**Specification D-701 Pipe for Storm Drains and Culverts** has been added. This specification is attached to this addendum in its entirety.

**Justification:** To provide requirements for the PVC storm pipe that will be installed.

**Section: 07 41 13 METAL ROOF PANELS**

**Justification:** For clarification

**Section: 07 54 23 THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING**

**Justification:** For clarification

**PLANS**

**G052 Phasing Plan**

**Justification:** This sheet was revised and is attached to this addendum. The Schedule areas were revised to provide additional information.

**G053 Schedule VI Phasing Plan**

**Justification:** This sheet was revised and is attached to this addendum. Notes were added to clarify the requirements for this schedule.

**C100 Demo plan**

**Justification:** This sheet was revised and is attached to this addendum. Notes were added and areas adjusted for the removal and stockpile of the existing landscape rock.

**C200 Geometry Plan**

**Justification:** This sheet was revised and is attached to this addendum. Several areas were updated and an area of sidewalk, previously a temporary access, was added.

**C250 Typical Sections**

**Justification:** This sheet was revised and is attached to this addendum. Notes were added to clarify the modular trench drain detail.

**C300 Spot Elevations**

**Justification:** This sheet was revised and is attached to this addendum. Additional elevation information was added.

**C400 Utility Installation**

**Justification:** This sheet was revised and is attached to this addendum. Several small pipe runs were added to the project.

**C500 Erosion Control**

**Justification:** This sheet was revised and is attached to this addendum. Additional detail was added to this sheet.

**C700 Marking Plan**

**Justification:** This sheet was revised and is attached to this addendum. The view port was shifted to show the markings on the west side of the terminal.

**C800 Landscape Plan**

**Justification:** This sheet was revised and is attached to this addendum. Additional information for the landscaping of the site was added.

**A121 ROOF PLAN**

**Justification:** Clarification.

**A701 FINISH PLAN**

**Justification:** Corner Guards.

**M601 MECHANICAL SCHEDULES**

**Justification:** Clarification.

**QUESTIONS**

1. *On A701 it says there should be locations of window shades and corner guards, but they are not there. Could you please show those locations?*

**RESPONSE:**

- A. CORNER GUARDS MODIFIED Plan Sheet:** Corner Guards are required for the project. Final Corner locations will be provided in upcoming Addendum 4.

2. *I have a question about the larger U shaped canopy. Currently it is showing no slope and therefore nowhere for the water to drain. The water would start to pool along the building where the canopy and building meet. A slope would be needed for the water to runoff. Are any changes being considered to account for a slope to help with this?*



**RESPONSE:** The Hold Room Canopies shall slope away from the building at 1/8" per foot. A revised structural connection detail will be provide the steel manufacture subcontractor during submittal.

3. *Page 113 of the specifications (Section 80-01 Subletting of Contract). It notes that "The Contractor shall perform, with his organization, an amount of work equal to at least 50 percent of the total contact cost." Does this mean that we must perform 50% of the value of the total work directly (not subcontracted)?*

**RESPONSE:** The general contractor is only required to self-perform 15% of the total work.

4. *I had a rep reach out about using the following MFGs for the listed equipment:*

- Nailor - dampers, air outlets, & air inlets
- Markel - electric unit heaters
- ACME - exhaust fans

**RESPONSE:** All of these manufacturers are acceptable manufacturers to use as long as their products meet the rest of our specifications.

5. *Is "Authority having Jurisdiction" for this project is the City of Salina? If not, who is the AHJ?*

**RESPONSE:** Yes, AHJ is the city of Salina.

6. *Is a building permit fee being required by the AHJ? Can this fee schedule for the AHJ be provided?*

**RESPONSE:** Contractor to provide cost of permit fee after bidding process has been completed. The cost of the permit fee shall be passed through to the Airport for full reimbursement in pay application.

7. *The requirements for duct insulation is conflicting between the individual plan notes and the tables for pipe and duct insulation. Please advise.*

**RESPONSE:** The 1" duct liner will be on the interior main ducts, exposed ducts, & others not mentioned. The interior duct runouts and exterior ducts will have a 1-1/2" duct wrap. The exhaust ducts will have no duct insulation.

8. *Would an extension of the bid date by a minimum of 7 days be considered for time to gather more competitive and DBE bids?*

**RESPONSE:** The Bid Opening has been rescheduled to Monday July 29<sup>th</sup>, 2024 at same location and at 2pm local time. Refer to revised Invitation for Bid provided in Addendum #4.

9. *Can you more clearly state which Schedules may be worked on concurrently? With a schedule of 365 days and 3 separate additions, the schedule may not be feasible.*

**RESPONSE:** All Schedule I work must be completed for safe passenger and airline operations before prior to Schedule II heavy construction. Schedule II mobilization and layout work may begin prior to the completion of Schedule 1, as stated but does not impact passenger safety and airline operations. For example, the temporary walkway, temporary wall at the end of the long corridor and relocated podium, must be complete prior to the demolition to the far end of the corridor of for the new hold room construction. The Owner's Project Manager will work with the contractor for scheduling work as efficiently as possible.



The Schedule IV work can not start until the new TSA screening area is complete and operational. Some work may be able to start to accommodate the contractor if no impacts to airline operations can be determined.

10. *Please confirm that it is the Owner's choice of which of the Schedule's may be picked, and that each Schedule may be chosen individually. This will affect the general conditions for all Schedule.*  
**RESPONSE:** Depending on funding, the schedules will be awarded in order, i.e. schedule I, then sch I and II, then sch I, II, and III, etc. It is recommended that the contractor treat each schedule individually.
11. *Please confirm that the Buy American paperwork is not due at time of bid.*  
**RESPONSE:** If the contractor intends to pursue a type III waiver, this shall be indicated on the proper form and that form included with the bid proposal. The documentation for the type III waiver will be compiled after award of the project has been provided.
12. *For the DBE participation, does that percent need to be for each individual schedule?*  
**RESPONSE:** The percentage would be applied to the total awarded contract. Since the total number of awarded schedule is unknown, meeting the DBE percentage for each schedule will ensure that the overall percentage, regardless of the awarded schedules, is met.
13. *Can you clarify which exterior walls systems are to remain and which are to be replaced with new?*  
**RESPONSE:** Refer to G-055 in Addendum #3. The façades on first and second floor of the existing building will receive the synthetic stucco finish and metal panel over the existing building's façade. The new materials shall be installed per manufacture's recommendation to ensure warranty. If alterations to existing building are required in order to install new materials. Contractor to notify Owner/Architect ahead of proceeding. All exposed CMU in Schedule 2 is intended for improvements per A-002, A-202, and A-203.
14. *Can you provide a specification and supplier for the baggage carrier?*  
**RESPONSE:** Baggage Carousel is intended as a flat plate style with brushed stainless steel finish. Min. 2 HP, 90 FPM for continuous flow. Include overall dimensions per plan.
15. *Can you provide structural foundation and framing plans for the entry canopy?*  
**RESPONSE:** Refer to Addendum 3.
16. *Is furniture by GC or Owner?*  
**RESPONSE:** All furnishings and TSA equipment are NOT required to be provided by the Contractor and are for reference only.
17. *Can you provide a utility plan for the new fire line?*  
**RESPONSE:** The new fire line serving the project will be provided in a separate project being conducted at the Airport. Bids for the Salina Airport Authority Terminal Expansion Waterline Relocation project. Plans & Specifications can be downloaded from the Wilson & Company planroom located at the following link: <https://www.wilsoncoplanroom.com/>
18. *Can you clarify which low voltage are by owner and which by GC?*  
**RESPONSE:** All low voltage wiring is to be provided, installed and terminated by the contractor.



19. *Will a roofing type specification be provided?*

**RESPONSE:** See specifications for TPO Roofing and Metal Roofs in Addendum 4.

20. *Two types of roof deck are added to the roof deck, can you clarify which type is used in which location?*

**RESPONSE:** See A-121 ROOF PLAN in Addendum #4 for clarification of Metal Roof location. The Hold Room addition shall receive Metal Roof. All other locations shall receive TPO membrane roofing. The extent of existing roofing to be intended to remain untouched is shaded in gray. All other areas shall be included as new TPO roofing. Contractor to patch existing roof with compatible

21. *Will the generator require any plumbing (natural gas, propane, fuel oil)??*

**RESPONSE:** This will require Diesel Generator.

22. *See attached redlines for clarification and reference to the following questions from a bidder regarding MEP Phasing:*

**All bidders shall refer to Addendum 4 for M-601.**

- *See attached markup of the mechanical sheets with my notes referencing the phasing as detailed in Addendum 1. Please confirm if the way we are looking at this is accurate.*

**RESPONSE:** This phasing layout is acceptable.

- *Phase 1: The gas line for the relocated PKG-1 is shown to be routed up to the roof of the new Hold Room and TSA Screening Area which isn't being constructed to Phase 2. Are we to assume that we are to route this up to the roof of the enclosed walkway?*

**RESPONSE:** This is an appropriate solution for routing the gas line.

- *Phase 1: Will the duct relocation and reattachment to PKG-1 in the enclosed walkway take place during regular operating hours? Do we need to plan for any overtime/off shift work to complete this? What is the allowable downtime for that unit?*

**RESPONSE:** This unit relocation can be done during standard working hours. This unit being offline is not critical for the building operation. They will have to coordinate with SAA & TSA to work during operable hours.

**\*Questions will no longer be accepted. Sealed bids, subject to the conditions contained herein, for improvements to the Salina Regional Airport, Salina, Kansas, AIP Project No. 3-20-0072-054/055-2024 will be received by the Salina Regional Airport, Administration, 3237 Arnold Ave, Salina, Kansas, 67401, until Monday, July 29, 2024, at 2:00 p.m., and then publicly opened and read aloud.\***

68 **INVITATION FOR BIDS**

69  
70 **Salina Regional Airport**  
71 **Salina, Kansas**  
72 **AIP Project No. 3-20-0072-054/055-2024**  
73

74 Sealed bids, subject to the conditions contained herein, for improvements to the Salina Regional  
75 Airport, Salina, Kansas, AIP Project No. 3-20-0072-054/055-2024 will be received by the Salina  
76 Regional Airport, Administration, 3237 Arnold Ave, Salina, Kansas, 67401, until **Monday, July 29,**  
77 2024, at 2:00 p.m., and then publicly opened and read aloud.

78  
79 The Owner will have the option to select or decline all of the defined schedule/phases of work.  
80 The work involved will include the following:

- 81  
82 Schedule I - Preliminary Measures  
83 Schedule II - New Holdroom and TSA Screening Construction  
84 Schedule III - New TSA Screening Set Up; Remove Glass Partitions; Set up Temporary Bag  
85 Screening Area in Passenger Screening Area  
86 Schedule IV - New Bag Screening/Makeup Area  
87 Schedule V- Generator Installation  
88 Schedule VI- Front Entry Canopy and Front Roadway Redevelopment  
89

90 Construction for this project is expected to take 365 calendar day(s).

91  
92 **Contract Documents.** The complete set of bid documents (Contract Documents, Plan Set,  
93 Specifications, and Addendums) can be downloaded from Quest Construction Data Network (Quest  
94 CDN) at [www.questcdn.com](http://www.questcdn.com) and/or <https://woolpert.com/markets/aviation> by selecting the  
95 “Project Bids” header and inputting **Quest Project # 9180211** on the Project Search page beginning  
96 on July 2, 2024. Interested parties may view the bid documents at no cost prior to deciding to become  
97 a plan holder and bidding on the project. To be considered a plan holder, register with  
98 [www.questcdn.com](http://www.questcdn.com) for a free Regular membership and download the bid documents in digital form  
99 at a cost of twenty-two dollars (\$22.00). Downloading the documents and becoming a plan holder is  
100 required to bid as plan holder’s receive automatic notice of addendum(s) for this project and bid  
101 updates. **It is the bidder’s responsibility to review the site for addendums and changes before**  
102 **submitting their proposal. This includes review for environmental changes. Environmental**  
103 **changes during construction could take up to four weeks for approval.** Contact QuestCDN  
104 Customer Support at 952-233-1632 or [info@QuestCDN.com](mailto:info@QuestCDN.com) for assistance in membership  
105 registration and downloading digital bidding documents.  
106

107 **Pre-Bid Conference.** The pre-bid conference for this project will be held on July 11, 2024 at 10:00  
108 a.m. CST, in Hangar 600, Room 100 at the Salina Regional Airport, 2720 Arnold Court, Salina,  
109 Kansas,. All bidders are required to examine the site to become familiar with all site conditions prior  
110 to submitting their bid.  
111

112 **Bid Conditions.** The bidder is required to provide all information as required within the Contract  
113 Documents. The bidder is required to bid on all items of every schedule or as otherwise detailed in  
114 the Instructions to Bidders.  
115

116 Bids may be held by Salina Regional Airport for a period not to exceed 90 calendar days from the date  
117 of the bid opening for the purpose of evaluating bids prior to award of contract.





## ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS

### DESCRIPTION

**701-1.1** This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

### MATERIALS

**701-2.1** Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

**701-2.2 PIPE.** The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

American Association of State Highway and Transportation Officials (AASHTO) M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter
AASHTO R73	Standard Practice for Evaluation of Precast Concrete Drainage Productions
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM C1479	Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations
ASTM C1577	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers Designed According to AASHTO LRFD
ASTM C1786	Standard Specification for Segmental Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers Designed According to AASHTO LRFD
ASTM C1840	Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe

39	ASTM D3262	Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced
40		Thermosetting-Resin) Sewer Pipe
41	ASTM D4161	Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced
42		Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals
43	ASTM F667	Standard Specification for 3 through 24 in Corrugated Polyethylene Pipe
44		and Fittings
45	ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based
46		on Outside Diameter
47	ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity
48		Sewer Pipe and Fittings Based on Controlled Inside Diameter
49	ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall
50		Sewer and Drain Pipe
51	ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer
52		Pipe with a Smooth Interior and Fittings
53	ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated
54		Pipe
55	ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings
56		for Non-Pressure Drainage and Sewerage
57	ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP)
58		Corrugated Single Wall Pipe and Double Wall Pipe
59	ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene
60		(PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer
61		Applications
62	ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene
63		(PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer
64		Applications
65	ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer
66		Pipe and Fittings

67

68 **701-2.3 CONCRETE.** Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi  
69 (13.8 MPa) at 28 days and conform to the requirements of ASTM C94.

70

71 **701-2.4 RUBBER GASKETS.** Rubber gaskets for rigid pipe shall conform to the requirements of ASTM  
72 C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements  
73 of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the  
74 requirements of ASTM D1056, for the “RE” closed cell grades. Rubber gaskets for steel reinforced  
75 thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

76

77 **701-2.5 JOINT MORTAR.** [ Pipe joint mortar shall consist of one part Portland cement and two parts  
78 sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall  
79 conform to the requirements of ASTM C144.

80

81 **701-2.6 JOINT FILLERS.** Poured filler for joints shall conform to the requirements of ASTM D6690.

82

83 **701-2.7 PLASTIC GASKETS.** Plastic gaskets shall conform to the requirements of ASTM C990.

84

85 **701-2.8. CONTROLLED LOW-STRENGTH MATERIAL (CLSM).** Controlled low-strength material  
86 shall conform to the requirements of Item P-153. When CLSM is used, all joints shall have gaskets.

87

88 **701-2.9 PRECAST BOX CULVERTS.** Manufactured in accordance with and conforming to ASTM  
89 C1433.

90

91 **701-2.10 PRECAST CONCRETE PIPE.** Precast concrete structures shall be furnished by a plant meeting  
92 National Precast Concrete Association Plant Certification Program or American Concrete Pipe Association  
93 QCast Plant Certification program.

## 94 **CONSTRUCTION METHODS**

95

96 **701-3.1 EXCAVATION.** The width of the pipe trench shall be sufficient to permit satisfactory jointing of  
97 the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less  
98 than the external diameter of the pipe plus 12 inches (300 mm) on each side. The trench walls shall be  
99 approximately vertical.

100 The Contractor shall comply with all current federal, state and local rules and regulations governing the safety  
101 of men and materials during the excavation, installation and backfilling operations. Specifically, the  
102 Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA)  
103 relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be  
104 sufficient to permit satisfactory jointing of the pipe and thorough compaction of the bedding material under  
105 the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans  
106 trench detail.

107 Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below  
108 the foundation grade for a depth of at least 8 inch (200 mm) or 1/2 inch (12 mm) for each foot of fill over  
109 the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the  
110 pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

111 Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable  
112 soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width.  
113 The RPR shall determine the depth of removal necessary. The granular material shall be compacted to  
114 provide adequate support for the pipe.

115 The excavation for pipes placed in embankment fill shall not be made until the embankment has been  
116 completed to a height above the top of the pipe as shown on the plans.

117

118 **701-3.2 BEDDING.** The bedding surface for the pipe shall provide a foundation of uniform density to  
119 support the pipe throughout its entire length.

120

121 **a. Rigid pipe.** The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as  
 122 required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6  
 123 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed  
 124 uncompacted material under the middle third of the pipe prior to placement of the pipe.

125

126 **b. Flexible pipe.** For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket  
 127 of sand or fine granular material shall be provided as follows:

128

#### Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	mm	inch	mm
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

129 **c. Other pipe materials.** For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding  
 130 material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches (19 mm). For  
 131 pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 (0.075 mm) sieve.  
 132 For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) sieve. The bedding  
 133 shall have a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extend up around the  
 134 pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

135 **701-3.3 LAYING PIPE.** The pipe laying shall begin at the lowest point of the trench and proceed upgrade.  
 136 The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove  
 137 ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

138 Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment  
 139 coincides with the flow line.

140 Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines  
 141 designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

142

143 **701-3.4 JOINING PIPE.** Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets,  
 144 (4) plastic gaskets, or (5) coupling bands.

145 Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the  
 146 pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain  
 147 the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

148

149 **a. Concrete pipe.** Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at  
 150 joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with  
 151 rubber gaskets meeting ASTM C443 when leak resistant joints are required. Concrete pipe joints shall be  
 152 sealed with butyl mastic meeting ASTM C990 or mortar when soil tight joints are required. Joints shall be  
 153 thoroughly wetted before applying mortar or grout.

154

155 **b. Metal pipe.** Metal pipe shall be firmly joined by form-fitting bands conforming to the requirements of  
156 ASTM A760 for steel pipe and AASHTO M196 for aluminum pipe.

157

158 **c. PVC, Polyethylene, or Polypropylene pipe.** Joints for PVC, Polyethylene, or Polypropylene pipe  
159 shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Joints for PVC  
160 and Polyethylene pipe shall conform to the requirements of AASHTO M304 when soil tight joints are  
161 required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M252 or ASTM  
162 M294. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

163

164 **d. Fiberglass pipe.** Joints and fittings shall be as detailed on the plans and in accordance with the  
165 manufacturers recommendations. Joints shall meet the requirements of ASTM D4161 for flexible elastomeric  
166 seals.

167

168 **701-3.5 EMBEDMENT AND OVERFILL.** Pipes shall be inspected before any fill material is placed; any  
169 pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at  
170 the Contractor's expense.

171

#### 172 **701-3.5-1 EMBEDMENT MATERIAL REQUIREMENTS**

173

174 **a. Concrete Pipe.** Embedment material and compaction requirements shall be in accordance with the  
175 applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM  
176 embedment material is used, it shall conform to the plan details.

177

178 **b. Plastic and fiberglass Pipe.** Embedment material shall meet the requirements of ASTM D3282, A-1,  
179 A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in  
180 the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the  
181 pipe.

182 **c. Metal Pipe.** Embedment material shall be granular as specified in the contract document and  
183 specifications, and shall be free of organic material, rock fragments larger than 1.5 inches in the greatest  
184 dimension and frozen lumps. As a minimum, backfill materials shall meet the requirements of ASTM D3282,  
185 A-1, A-2, or A-3. Embedment material shall extend to 12 inches above the top of the pipe.

186

#### 187 **701-3.5-2 PLACEMENT OF EMBEDMENT MATERIAL**

188 The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the  
189 pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever  
190 is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing  
191 the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

192 When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers  
193 not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm)  
194 above the top of the pipe. All embedment material shall be compacted to a density required under Item P-  
195 152.

196 Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill  
 197 (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints,  
 198 weighing, or placement technique.

199 It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to  
 200 construction equipment operations. The Contractor shall be responsible for installation of any extra strutting  
 201 or backfill required to protect pipes from the construction equipment.

202

### 203 **701-3.6 OVERFILL**

204 Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly  
 205 settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any  
 206 damage to RCP shall be evaluated based on AASHTO R73.

207 Overfill material shall be placed and compacted in layers as required to achieve compaction to at least 95  
 208 percent standard proctor per ASTM D698. The soil shall contain no debris, organic matter, frozen material,  
 209 or stones with a diameter greater than one half the thickness of the compacted layers being placed.

210

### 211 **701-3.7 INSPECTION REQUIREMENTS**

212 An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion  
 213 of installation and final backfill. Clean or flush all lines prior to inspection.

214 Incorporate specific inspection requirements for the various types of pipes beneath the general inspection  
 215 requirements.

216

### **MAXIMUM ALLOWABLE PIPE DEFLECTION**

Type of Pipe	Maximum Allowable Deflection (%)
Corrugated Metal Pipe	5
Concrete Lined CMP	3
Thermoplastic Pipe	5
Fiberglass	5

217

218 If deflection readings in excess of the allowable deflection are obtained, remove the pipe with excessive  
 219 deflection and replace with new pipe. Isolated areas may exceed allowable by 2.5% with concurrence of RPR.  
 220 Repair or replace any pipe with cracks exhibiting displacement across the crack, bulges, creases, tears, spalls,  
 221 or delaminations. The report for flexible pipe shall include as a minimum, the deflection results and final  
 222 post installation inspection report. The inspection report shall include: a copy of all video taken, pipe  
 223 location identification, equipment used for inspection, inspector name, deviation from design line and grade,  
 224 and inspector's notes. ]

225

226 **METHOD OF MEASUREMENT**

227

228 **701-4.1** The length of pipe shall be measured in linear feet (m) of pipe in place, completed, and accepted. It  
 229 shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside  
 230 face of structure, whichever is applicable. The types and size of pipe shall be measured separately. All fittings  
 231 shall be included in the footage as typical pipe sections in the pipe being measured.

232 **BASIS OF PAYMENT**

233

234 **701-5.0** These prices shall fully compensate the Contractor for furnishing all materials and for all preparation,  
 235 excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to  
 236 complete the item.

237 **701-5.1** Payment will be made at the contract unit price per linear foot (meter) for each class and size of pipe.

238 Payment will be made under:

239           Item D-701a                   8" inch Schedule 40 PVC per linear foot

240 **REFERENCES**

241

242 The publications listed below form a part of this specification to the extent referenced. The publications are  
 243 referred to within the text by the basic designation only.

244 American Association of State Highway and Transportation Officials (AASHTO)

245           AASHTO M167           Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated,  
 246   for Field-Bolted Pipe, Pipe-Arches, and Arches

247           AASHTO M190           Standard Specification for Bituminous-Coated Corrugated Metal Culvert  
 248   Pipe and Pipe Arches

249           AASHTO M196           Standard Specification for Corrugated Aluminum Pipe for Sewers and  
 250   Drains

251           AASHTO M219           Standard Specification for Corrugated Aluminum Alloy Structural Plate for  
 252   Field-Bolted Pipe, Pipe-Arches, and Arches

253           AASHTO M243           Standard Specification for Field Applied Coating of Corrugated Metal  
 254   Structural Plate for Pipe, Pipe-Arches, and Arches

255           AASHTO M252           Standard Specification for Corrugated Polyethylene Drainage Pipe

256           AASHTO M294           Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm  
 257   (12- to 60-in.) Diameter

258           AASHTO M304           Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain  
 259   Pipe and Fittings Based on Controlled Inside Diameter

260           AASHTO MP20           Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe,  
 261   300- to 900-mm (12- to 36-in.) Diameter

262	ASTM International (ASTM)	
263	ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for
264		Sewers and Drains
265	ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated,
266		for Field-Bolted Pipe, Pipe-Arches, and Arches
267	ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for
268		Sewers and Drains
269	ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for
270		Corrugated Steel Sewer and Drainage Pipe
271	ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and
272		Drains
273	ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain,
274		and Culvert Pipe
275	ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and
276		Sewer Pipe
277	ASTM C94	Standard Specification for Ready Mixed Concrete
278	ASTM C144	Standard Specification for Aggregate for Masonry Mortar
279	ASTM C150	Standard Specification for Portland Cement
280	ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using
281		Rubber Gaskets
282	ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain,
283		and Sewer Pipe
284	ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm
285		Drain and Sewer Pipe
286	ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm
287		Drain and Sewer Pipe
288	ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast
289		Box Sections Using Preformed Flexible Joint Sealants
290	ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box
291		Sections for Culverts, Storm Drains, and Sewers
292	ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded
293		Rubber
294	ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer
295		Pipe and Fittings
296	ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using
297		Flexible Elastomeric Seals
298	ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced
299		Thermosetting Resin) Sewer Pipe
300	ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for
301		Highway Construction Purposes



302	ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced
303		Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
304	ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for
305		Concrete and Asphalt Pavements
306	ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic
307		Pipe
308	ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe
309		and Fittings
310	ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based
311		on Outside Diameter
312	ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity
313		Sewer Pipe & Fittings Based on Controlled Inside Diameter
314	ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall
315		Sewer and Drain Pipe
316	ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer
317		Pipe with a Smooth Interior and Fittings
318	ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated
319		Pipe
320	ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings
321		for Non-Pressure Drainage and Sewerage
322	ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP)
323		Corrugated Single Wall Pipe and Double Wall Pipe
324	ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene
325		(PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer
326		Applications
327	ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene
328		(PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer
329		Applications
330	National Fire Protection Association (NFPA)	
331	NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and
332		Loading Walkways

333 **END ITEM D-701**

334

## SECTION 07 41 13 METAL ROOF PANELS

### PART 1 GENERAL

#### 1.01 SECTION INCLUDES

- A. Architectural roofing system of preformed steel panels.
- B. Attachment system.
- C. Finishes.
- D. Accessories.

#### 1.02 REFERENCE STANDARDS

- A. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
- B. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- C. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
- D. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.

#### 1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate installation of waterproof membrane over roof sheathing with 06 1000.
  - 2. Coordinate roofing work with provisions for roof drainage, flashing, trim, penetrations, and other adjoining work to assure that the completed roof will be free of leaks.

#### 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Show layout and elevations, dimensions and thickness of panels, connections, details and location of joints, sealants and gaskets, method of anchorage, number of anchors, supports, reinforcement, trim, flashings, and accessories.
  - 1. Indicate panel numbering system.
  - 2. Differentiate between shop and field fabrication.
  - 3. Indicate substrates and adjacent work with which the wall system must be coordinated.
  - 4. Include large-scale details of anchorages and connecting elements.
  - 5. Include large-scale details or schematic, exploded or isometric diagrams to fully explain flashing at a scale of not less than 1-1/2 inches per 12 inches.
  - 6. Include design engineer's stamp or seal on shop drawings for attachments and anchors.
- C. Selection Samples: For each roofing system specified, submit color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each roofing system specified, submit samples of minimum size 12 inches square, representing actual roofing metal, thickness, profile, color, and texture.
- E. Warranty: Submit specified manufacturer's warranty and ensure that forms have been completed in Owner's name and are registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Design Engineer's Qualifications: Design structural supports and anchorages under direct supervision of a Structural Engineer experienced in design of this type of Work and licensed in Wyoming.
- B. Basis of Design: Specifications are based on roof panel types by specified basis of design manufacturer. Roof panel types manufactured by other acceptable manufacturers are permitted, subject to compliance with specified requirements; and provided that deviations in design, weight, and profile are minor, and do not detract substantially from the indicated design intent.
  - 1. Comply with requirements specified in Section 01 4000 and Section 01 6000.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Provide strippable plastic protection on prefinished roofing panels for removal after installation.
- B. Store roofing panels on project site as recommended by manufacturer to minimize damage to panels prior to installation.

1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Finish Warranty: Provide manufacturer's special warranty covering failure of factory-applied exterior finish on metal roof panels and agreeing to repair or replace panels that show evidence of finish degradation, including significant fading, chalking, cracking, or peeling within specified warranty period of five years from Date of Substantial Completion.

**PART 2 PRODUCTS**

2.01 MANUFACTURERS

- A. Basis of Design Manufacturer:
  - 1. Berridge Manufacturing Company; Cee-Lock: [www.berridge.com](http://www.berridge.com).
  - 2. Substitutions: See Section 01 6000 - Product Requirements.
- B. Other Acceptable Manufacturers:
  - 1. ATAS International, Inc.: [www.atas.com/sle](http://www.atas.com/sle).
  - 2. Centria: [www.centria.com](http://www.centria.com).
  - 3. Firestone Building Products LLC: [www.firestonebpco.com](http://www.firestonebpco.com).
  - 4. Metal Sales Manufacturing Corporation: [www.metalsales.us.com](http://www.metalsales.us.com).
  - 5. Morin Corporation, A Kingspan Group Company: [www.morincorp.com](http://www.morincorp.com).
  - 6. Premium Panels, Inc.: [www.premiumpanels.com](http://www.premiumpanels.com).
  - 7. Substitutions: See Section 01 6000 - Product Requirements.

2.02 ARCHITECTURAL METAL ROOF PANELS

- A. Architectural Metal Roofing: Provide complete engineered system complying with specified requirements and capable of remaining weathertight while withstanding anticipated movement of substrate and thermally induced movement of roofing system.
- B. Metal Panels: Factory-formed panels with factory-applied finish.
  - 1. Steel Panels:
    - a. Aluminum-zinc alloy-coated steel conforming to ASTM A792/A792M; minimum AZ50 coating.
    - b. Steel Thickness: Minimum 24 gage (0.024 inch).
  - 2. Profile: Standing seam, with minimum 1.0 inch seam height; concealed fastener system for snap-on application of matching standing seam batten.

3. Texture: Smooth.
4. Length: Maximum possible length to minimize lapped joints. Where lapped joints are unavoidable, space laps so that each sheet spans over three or more supports.
5. Width: Maximum panel coverage of 24 inches.

#### 2.03 ATTACHMENT SYSTEM

- A. Concealed System: Provide manufacturer's standard stainless steel concealed anchor clips designed for specific roofing system and engineered to meet performance requirements, including anticipated thermal movement.

#### 2.04 FABRICATION

- A. Panels: Provide factory fabricated panels with applied finish and accessory items, using manufacturer's standard processes as required to achieve specified appearance and performance requirements.
- B. Joints: Provide captive gaskets, sealants, or separator strips at panel joints to ensure weathertight seals, eliminate metal-to-metal contact, and minimize noise from panel movements.

#### 2.05 FINISHES

- A. Custom Fluoropolymer Coating System: Polyvinylidene fluoride (PVDF) multi-coat thermoplastic fluoropolymer coating system, including minimum 70 percent PVDF color topcoat and minimum total dry film thickness of 0.9 mil; color and gloss as selected from manufacturer's standard line.
  1. Acceptable Products:
    - a. PPG Metal Coatings; Duranar: [www.ppgmetalcoatings.com/#sle](http://www.ppgmetalcoatings.com/#sle).
    - b. Arkema; Kynar: [www.americas.kynar.com](http://www.americas.kynar.com).
    - c. Substitutions: See Section 01 6000 - Product Requirements.

#### 2.06 ACCESSORIES

- A. Miscellaneous Sheet Metal Items: Provide flashings, gutters, downspouts, trim, and closure strips of the same material, thickness, and finish as used for the roofing panels. Items completely concealed after installation may optionally be made of stainless steel.
- B. Rib and Ridge Closures: Provide prefabricated, close-fitting components of steel with corrosion resistant finish.
- C. Underlayment - High-Temperature Type:
  1. Thickness: 40 mil (0.040 inch).
  2. Sheet Width: 36 inches.
  3. Water Vapor Permeance: 0.05 perm, maximum, measured according to ASTM E96/E96M.
  4. Low Temperature Flexibility: Unaffected when tested according to ASTM D1970/D1970M at minus 20 degrees F, 180 degree bend on 1 inch mandrel.
  5. Adhesion to Plywood: 5.0 pounds per inch of width, measured according to ASTM D903.
  6. Adhesives, Sealants, Tapes, and Accessories: As recommended by membrane manufacturer.
  7. Acceptable Products:
    - a. Grace Construction Products; Ice & Water Shield HT: [www.na.graceconstruction.com](http://www.na.graceconstruction.com).
    - b. Polyguard Products, Inc.; Deck Guard HT: [www.polyguard.com](http://www.polyguard.com).
    - c. Substitutions: See Section 01 6000 - Product Requirements.
- D. Breather Mat: Extruded polymer matrix of tangled monofilaments, heat-welded at junctures to form semi-rigid drainage mat.
  1. Mat Thickness: 0.30 inch.

2. Acceptable Product:
  - a. Keene Building Products; Driwall CDR Vent: [www.keenebuilding.com](http://www.keenebuilding.com).
  - b. Substitutions: See Section 01 6000 - Product Requirements.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Do not begin installation of preformed metal roof panels until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

#### **3.02 PREPARATION**

- A. Remove protective film from surface of roof panels immediately prior to installation. Strip film carefully, to avoid damage to prefinished surfaces.
- B. Separate dissimilar metals by applying a bituminous coating, self-adhering rubberized asphalt sheet, or other permanent method approved by roof panel manufacturer.
- C. Install breather mat on substrates in accordance with mat manufacturer's instructions, over other weather barrier membranes.
- D. Where metal will be in contact with wood or other absorbent material subject to wetting, seal joints with sealing compound and apply one coat of heavy-bodied bituminous paint.

#### **3.03 INSTALLATION**

- A. General: Install roofing system in accordance with panel manufacturer's instructions and recommendations, as applicable to specific project conditions. Anchor all components of roofing system securely in place while allowing for thermal and structural movement.
  1. Install roofing system with concealed clips and fasteners, except as otherwise recommended by manufacturer for specific circumstances.
  2. Minimize field cutting of panels. Where field cutting is absolutely required, use methods that will not distort panel profiles. Use of torches for field cutting is absolutely prohibited.
- B. Accessories: Install all components required for a complete roofing assembly, including flashings, gutters, downspouts, trim, moldings, closure strips, preformed crickets, caps, equipment curbs, rib closures, ridge closures, and similar roof accessory items.
- C. Install specified underlayment on roof deck before installing breather mat and preformed metal roof panels. Secure by methods acceptable to roof panel and underlayment manufacturer. Apply from eaves to ridge in shingle fashion, overlapping horizontal joints a minimum of 2 inches and side and end laps a minimum of 3 inches.
- D. Install specified breather mat on underlayment surface before installing preformed metal roof panels. Secure by methods prescribed by underlayment manufacturer, with dimpled studs facing up. Apply from eaves to ridge in vertical runs shingle fashion, overlapping horizontal joints a minimum of 5-1/2 inches and side and end laps a minimum of 5-1/2 inches.
- E. Roof Panels: Install panels in strict accordance with manufacturer's instructions, minimizing transverse joints except at junction with penetrations.
  1. Form weathertight standing seams incorporating concealed clips, using an automatic mechanical seaming device approved by the panel manufacturer.

2. Incorporate concealed clips at panel joints, and apply snap-on battens to provide weathertight joints.
3. Provide sealant tape or other approved joint sealer at lapped panel joints.
4. Install sealant or sealant tape, as recommended by panel manufacturer, at end laps and side joints.

3.04 CLEANING

- A. Clean exposed sheet metal work at completion of installation. Remove grease and oil films, excess joint sealer, handling marks, and debris from installation, leaving the work clean and unmarked, free from dents, creases, waves, scratch marks, or other damage to the finish.

3.05 PROTECTION

- A. Do not permit storage of materials or roof traffic on installed roof panels. Provide temporary walkways or planks as necessary to avoid damage to completed work. Protect roofing until completion of project.
- B. Touch-up, repair, or replace damaged roof panels or accessories before Date of Substantial Completion.

**END OF SECTION**

## **SECTION 07 54 23 - THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING**

### **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. Adhered thermoplastic polyolefin (TPO) roofing system.
  - 2. Roof insulation.
  - 3. Accessories
- B. Section includes installation of sound-absorbing insulation strips in ribs of roof deck. Sound-absorbing insulation strips are furnished under Section 053100 "Steel Decking."

#### **1.3 DEFINITIONS**

- A. Roofing Terminology: Definitions in ASTM D1079 and glossary in NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to Work of this Section.

#### **1.4 PREINSTALLATION MEETINGS**

- A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site.
  - 1. Meet with Construction Manager if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, air barrier Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
  - 3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
  - 5. Review structural loading limitations of roof deck during and after roofing.
  - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
  - 7. Review governing regulations and requirements for insurance and certificates if applicable.

8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

B. Preinstallation Roofing Conference: Conduct conference at Project site

1. Meet with Construction Manager, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, air barrier Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For insulation and roof system component fasteners, include copy of FM Approvals' RoofNav listing.

B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness of insulation.
2. Base flashings and membrane termination details.
3. Flashing details at penetrations.
4. Tapered insulation layout, thickness, and slopes.
5. Roof plan showing orientation of steel roof deck and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
6. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
7. Tie-in with adjoining air barrier.

C. Samples for Verification: For the following products:

1. Roof membrane and flashings, of color required.
2. Walkway pads or rolls, of color required.



- D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Manufacturer Certificates:
  - 1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
    - a. Submit evidence of compliance with performance requirements.
  - 2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- C. Product Test Reports: For roof membrane and insulation, for tests performed by a qualified testing agency, indicating compliance with specified requirements.
- D. Evaluation Reports: For components of roofing system, from ICC-ES.
- E. Field quality-control reports.
- F. Sample Warranties: For manufacturer's special warranties.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.
- B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

#### 1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
  - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
  - 1. Special warranty includes roof membrane, base flashings, roof insulation, fasteners, cover boards, vapor retarder, substrate board, roof pavers, and other components of roofing system.
  - 2. Warranty Period: 20 years from date of Substantial Completion.
- B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section,

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing system and flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roof system and flashings shall remain watertight.

1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
  2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- C. Energy Performance: Roofing system shall have an initial solar reflectance of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.
- D. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- E. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

## 2.2 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

- A. TPO Sheet: ASTM D6878/D6878M, internally fabric- or scrim-reinforced, TPO sheet.
1. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.
  2. Thickness: 60 mils (1.5 mm), nominal.
  3. Exposed Face Color: Provide MFR. standard full color options to Architect.
  4. Acceptable Manufacturers or approved equal:
    - a. GAF: [www.gaf.com](http://www.gaf.com).
    - b. Carlisle Syntech: [www.carlislesyntec.com](http://www.carlislesyntec.com).
    - c. Johns Manville: [www.jm.com](http://www.jm.com).

## 2.3 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard unreinforced TPO sheet flashing, of same color as TPO sheet.
- C. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- D. Roof Vents: As recommended by roof membrane manufacturer.
1. Size: Not less than 4-inch (100-mm) diameter.

- E. Bonding Adhesive: Manufacturer's standard
- F. Vented Base Sheet: ASTM D4897/D4897M, Type II; nonperforated, asphalt-impregnated fiberglass reinforced, with mineral granular patterned surfacing on bottom surface.
- G. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
  - 1. Fasteners: 1-1/2-inch (38-mm) stainless steel fasteners with neoprene washers.
- H. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate, and acceptable to roofing system manufacturer.
- I. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

## 2.4 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by TPO roof membrane manufacturer.
- B. **Polyisocyanurate Insulation: ASTM C1289**, of thickness shown on drawings

## 2.5 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with other roofing system components.
- B. Fasteners: Factory-coated steel fasteners with metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
  - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.

2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."

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

### 3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Perform fastener-pullout tests according to roof system manufacturer's written instructions.

1. Submit test result within 24 hours after performing tests.

- a. Include manufacturer's requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

D. Install sound-absorbing insulation strips according to acoustical roof deck manufacturer's written instructions.

### 3.3 INSTALLATION OF ROOFING, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning Work on adjoining roofing.

C. Install roof membrane and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition and to not void warranty for existing roofing system.

### 3.4 INSTALLATION OF ADHERED ROOFING

A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.

B. Unroll roof membrane and allow to relax before installing.

C. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

- D. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer, and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.
- E. Fabric-Backed Roof Membrane Adhesive: Apply to substrate at rate required by manufacturer, and install fabric-backed roof membrane.
- F. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeter of roofing.
- G. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- H. Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings, to ensure a watertight seam installation.
  - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
  - 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
  - 3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- I. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

### 3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and to inspect substrate conditions, surface preparation, roof membrane application, sheet flashings, protection, and drainage components, and to furnish reports to Architect.

### 3.6 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

### 3.7 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS \_\_\_\_\_ of \_\_\_\_\_, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
1. Owner: <Insert name of Owner>.
  2. Address: <Insert address>.
  3. Building Name/Type: <Insert information>.
  4. Address: <Insert address>.
  5. Area of Work: <Insert information>.
  6. Acceptance Date: \_\_\_\_\_.
  7. Warranty Period: <Insert time>.
  8. Expiration Date: \_\_\_\_\_.
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period Roofing Installer will, at Roofing Installer's own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
- a. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
  - b. vapor condensation on bottom of roofing; and
  - c. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
  3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
  4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
  5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded

basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.

6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

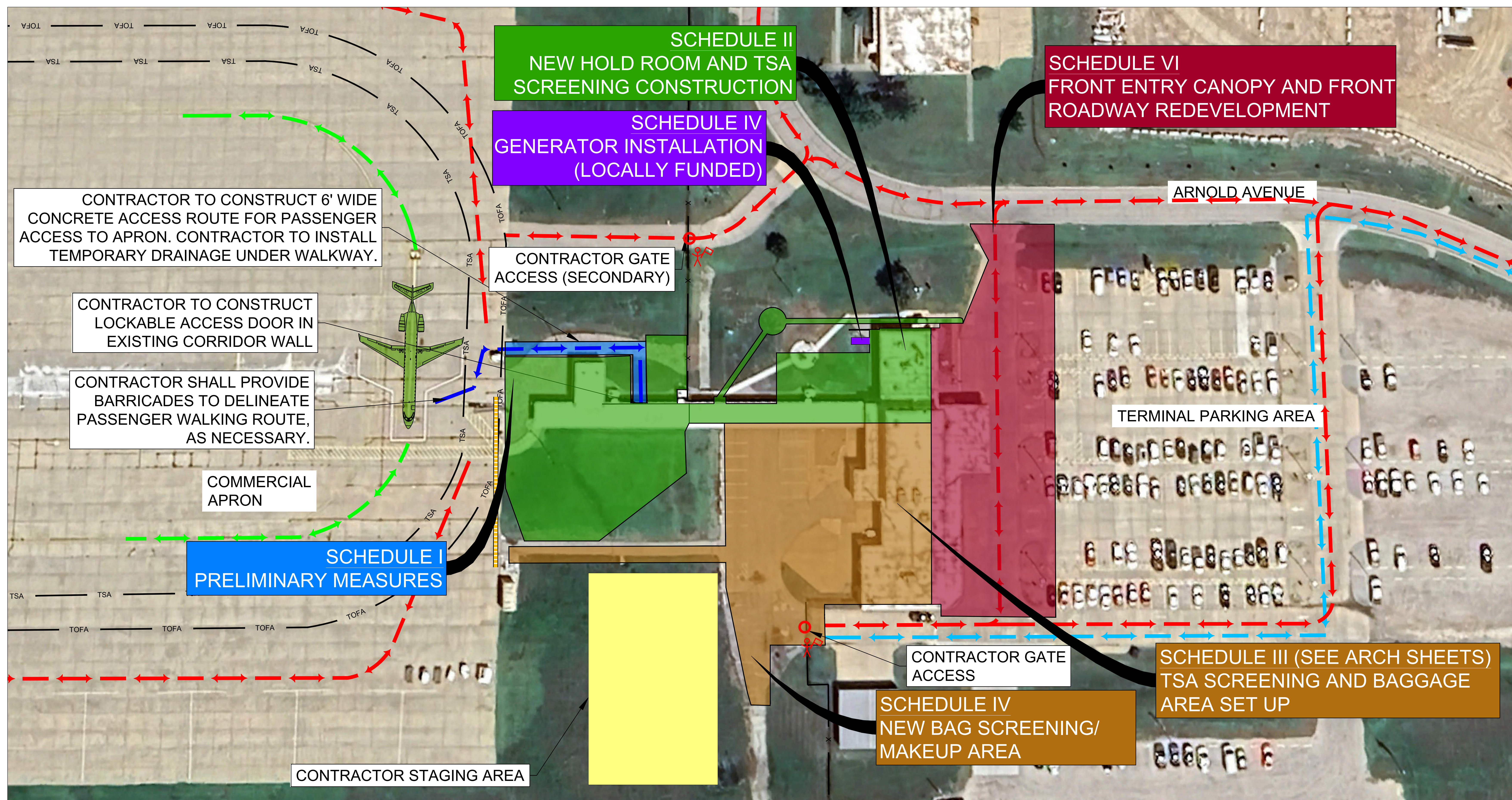
E. IN WITNESS THEREOF, this instrument has been duly executed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

1. Authorized Signature: \_\_\_\_\_.
2. Name: \_\_\_\_\_.
3. Title: \_\_\_\_\_.

END OF SECTION 075423

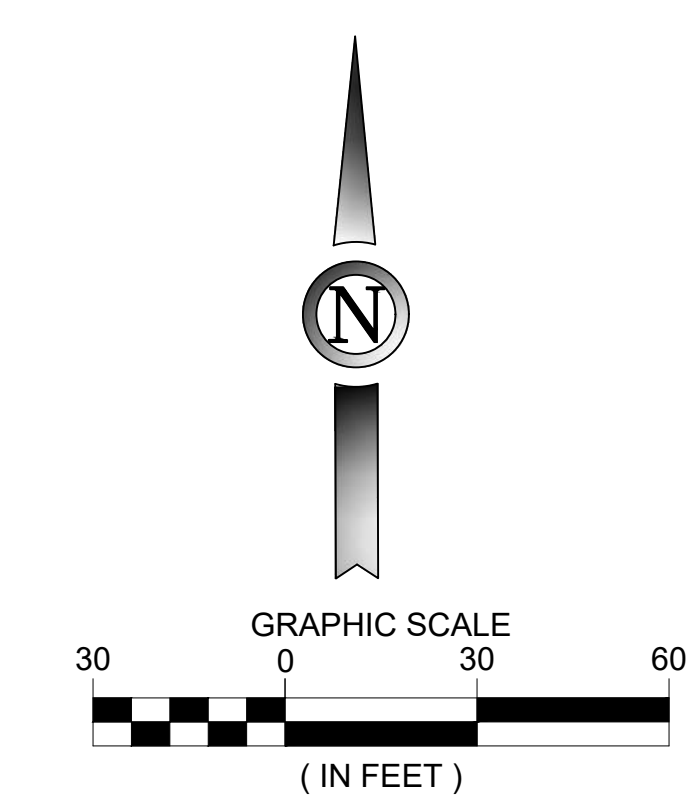


ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
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1	07/19/2024	ISSUED FOR ADDENDUM NO. 4



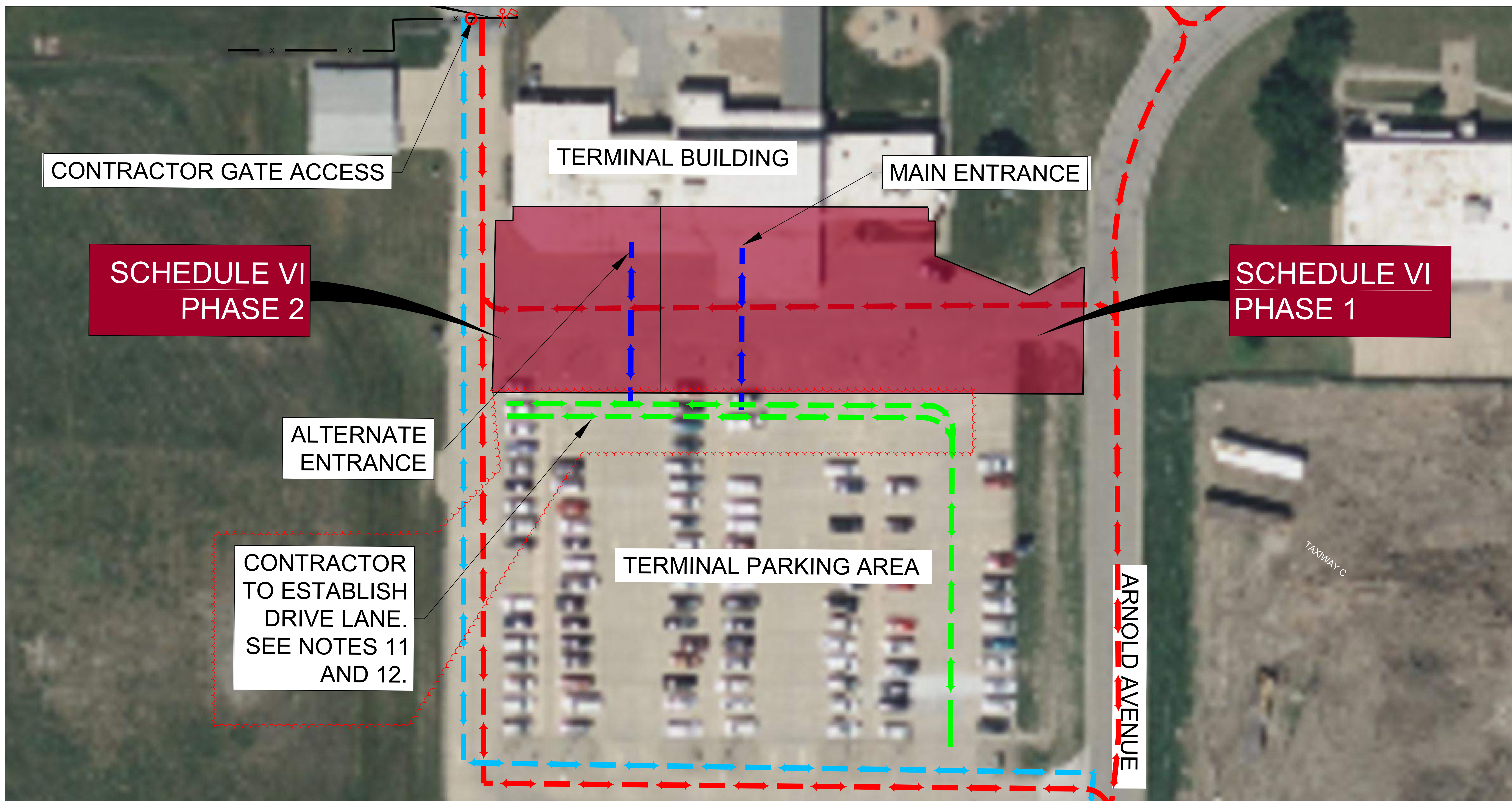
SHEET REISSUED WITH ADDENDUM NO. 4

SCHEDULE I, II, III, IV, V, AND VI	CONSTRUCTION PHASING NOTES
<p><b>DURATION</b> 365 CALENDAR DAYS</p> <p><b>CONTRACTOR ACCESS TIMES</b></p> <ul style="list-style-type: none"> <li>24 HOUR ACCESS TO APPROVED WORK AREAS</li> <li>ALL AIRPORT OPERATION AREAS SHALL BE OPEN AND UNAFFECTED DURING THIS PHASE.</li> <li>THE PHASING OF THE INTERIOR CONSTRUCTION IS SHOWN IN THE ARCHITECTURAL SHEETS.</li> </ul>	<p><b>NOTES</b></p> <ol style="list-style-type: none"> <li>AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) RESPONSE ROUTES SHALL REMAIN CLEAR AND UNOBSTRUCTED AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL YIELD TO EMERGENCY RESPONSE TEAMS IN THE EVENT OF EMERGENCY.</li> <li>BARRICADES SHALL BE PLACED IN ACCORDANCE WITH THESE DRAWINGS AND THE CSPP.</li> <li>THE CONTRACTOR SHALL HAVE A REPRESENTATIVE MONITORING THE AIRPORT'S UNICOM FREQUENCY AT ALL TIMES.</li> <li>WHEN POSSIBLE, THE CONTRACTOR IS TO KEEP CONSTRUCTION TRAFFIC OFF OF THE CONCRETE APRON.</li> <li>A GATE GUARD SHALL BE REQUIRED AT ANY TIME THE CONTRACTOR PLANS TO LEAVE AN AOA ACCESS GATE OPEN.</li> <li>CONTRACTOR SHALL HAVE A SWEEPER ON SITE AT ALL TIMES FOR CLEANING AND REMOVAL OF ANY FOD LEFT ON THE APRON. ANY FOD ON THE APRON SHALL BE IMMEDIATELY REPORTED TO THE RPR/AIRPORT OPERATIONS.</li> <li>UNIDENTIFIED ENVIRONMENTALLY SENSITIVE AREAS MAY EXIST OUTSIDE OF PROJECT AREA DEFINED IN THE PLAN.</li> <li>THE CONTRACTOR IS REQUIRED TO CONFORM TO THE SITE LAYOUT, AS INDICATED IN THE CONSTRUCTION PLANS. THIS INCLUDES: PROJECT WORK LIMITS, HAUL ROUTES, STAGING AREAS, STORAGE AREAS, WASTE AREAS, AND BORROW AREAS.</li> <li>ALL CHANGES TO THE SITE LAYOUT SHALL BE REVIEWED AND APPROVED BY THE RPR PRIOR TO MAKING ANY CHANGES:</li> <li>CONTRACTOR TO SUBMIT, IN WRITING TO THE RPR, A REQUEST TO MODIFY THE SITE LAYOUT (PROJECT WORK LIMITS, HAUL ROUTES, STAGING &amp; STORAGE AREAS, BORROW &amp; WASTE AREAS). IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ENOUGH DOCUMENTATION TO JUSTIFY THE CHANGE.</li> <li>THE PROPOSED CHANGE WILL BE REVIEWED BY THE RPR AND THE AIRPORT.</li> <li>THE RPR WILL COORDINATE WITH FAA ENVIRONMENTAL TO OBTAIN CLEARANCE. ALLOW AT LEAST 2 WEEKS FOR FAA APPROVAL. NO ADDITIONAL DAYS WILL BE PROVIDED FOR THE REVIEW &amp; APPROVAL PERIOD.</li> <li>SHOULD THE FAA DETERMINE THAT ADDITIONAL ENVIRONMENTAL REVIEWS ARE REQUIRED AS A RESULT OF THE PROPOSED CHANGES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST AND COORDINATION FOR ANY ENVIRONMENTAL REVIEWS.</li> <li>A REVISED SITE LAYOUT PLAN WILL BE PRODUCED TO DOCUMENT THE CHANGE.</li> </ol>

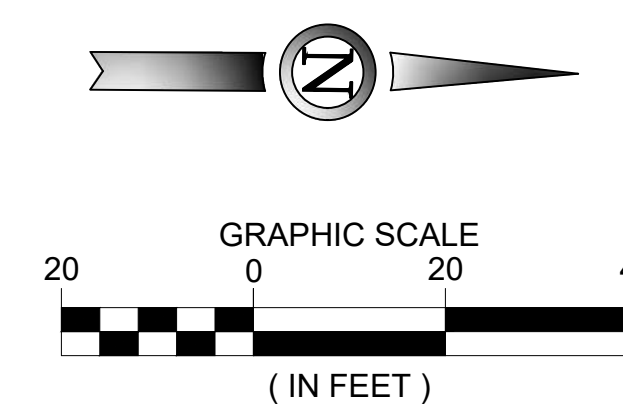


PHASING LEGEND	
	LIFE & SAFETY ROUTE
	CONTRACTOR HAUL ROUTE (2 WAY TRAFFIC)
	AIRCRAFT MOVEMENT
	PASSENGER INGRESS/EGRESS
	TAXIWAY SAFETY AREA
	TAXIWAY OBJECT FREE AREA
	AOA FENCE
	FLASHER BARRICADE
	CONTRACTOR STAGING AREA
	CONTRACTOR GATE ACCESS
	FLAGGER / GATE GUARD

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
1	07/02/2024	ISSUED FOR BIDDING
1	07/19/2024	ISSUED FOR ADDENDUM NO. 4



SCHEDULE VI	CONSTRUCTION PHASING NOTES
<p><b>DURATION</b> 365 CALENDAR DAYS</p> <p><b>CONTRACTOR ACCESS TIMES</b></p> <ul style="list-style-type: none"> <li>24 HOUR ACCESS TO APPROVED WORK AREAS</li> <li>ALL AIRPORT OPERATION AREAS SHALL BE OPEN AND UNAFFECTED DURING THIS PHASE.</li> <li>THE PHASING OF THE INTERIOR CONSTRUCTION IS SHOWN IN THE ARCHITECTURAL SHEETS.</li> </ul>	<p><b>NOTES</b></p> <ol style="list-style-type: none"> <li>AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) RESPONSE ROUTES SHALL REMAIN CLEAR AND UNOBSTRUCTED AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL YIELD TO EMERGENCY RESPONSE TEAMS IN THE EVENT OF EMERGENCY.</li> <li>BARRICADES SHALL BE PLACED IN ACCORDANCE WITH THESE DRAWINGS AND THE CSPP.</li> <li>THE CONTRACTOR SHALL HAVE A REPRESENTATIVE MONITORING THE AIRPORT'S UNICOM FREQUENCY AT ALL TIMES.</li> <li>WHEN POSSIBLE, THE CONTRACTOR IS TO KEEP CONSTRUCTION TRAFFIC OFF OF THE CONCRETE APRON.</li> <li>A GATE GUARD SHALL BE REQUIRED AT ANY TIME THE CONTRACTOR PLANS TO LEAVE AN AOA ACCESS GATE OPEN.</li> <li>CONTRACTOR SHALL HAVE A SWEEPER ON SITE AT ALL TIMES FOR CLEANING AND REMOVAL OF ANY FOD LEFT ON THE APRON. ANY FOD ON THE APRON SHALL BE IMMEDIATELY REPORTED TO THE RPR/AIRPORT OPERATIONS.</li> <li>UNIDENTIFIED ENVIRONMENTALLY SENSITIVE AREAS MAY EXIST OUTSIDE OF PROJECT AREA DEFINED IN THE PLAN.</li> <li>THE CONTRACTOR IS REQUIRED TO CONFORM TO THE SITE LAYOUT, AS INDICATED IN THE CONSTRUCTION PLANS. THIS INCLUDES: PROJECT WORK LIMITS, HAUL ROUTES, STAGING AREAS, STORAGE AREAS, WASTE AREAS, AND BORROW AREAS.</li> <li>THE CONTRACTOR SHALL ESTABLISH A TEMPORARY FENCE AROUND THE CONSTRUCTION AREAS FOR THIS PHASE IN ORDER TO KEEP THE PUBLIC OUT OF THE AREA. THE CONTRACTOR SHALL INSTALL DIRECTIONAL SIGNAGE THAT INDICATES TO THE PUBLIC WHERE THE ENTRANCE TO THE TERMINAL IS LOCATED.</li> <li>ALL CHANGES TO THE SITE LAYOUT SHALL BE REVIEWED AND APPROVED BY THE RPR PRIOR TO MAKING ANY CHANGES.</li> <li>CONTRACTOR TO SUBMIT, IN WRITING TO THE RPR, A REQUEST TO MODIFY THE SITE LAYOUT (PROJECT WORK LIMITS, HAUL ROUTES, STAGING &amp; STORAGE AREAS, BORROW &amp; WASTE AREAS). IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ENOUGH DOCUMENTATION TO JUSTIFY THE CHANGE.</li> <li>THE PROPOSED CHANGE WILL BE REVIEWED BY THE RPR AND THE AIRPORT.</li> <li>THE RPR WILL COORDINATE WITH FAA ENVIRONMENTAL TO OBTAIN CLEARANCE. ALLOW AT LEAST 2 WEEKS FOR FAA APPROVAL. NO ADDITIONAL DAYS WILL BE PROVIDED FOR THE REVIEW &amp; APPROVAL PERIOD.</li> <li>SHOULD THE FAA DETERMINE THAT ADDITIONAL ENVIRONMENTAL REVIEWS ARE REQUIRED AS A RESULT OF THE PROPOSED CHANGES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST AND COORDINATION FOR ANY ENVIRONMENTAL REVIEWS.</li> <li><del>A REVISED SITE LAYOUT PLAN WILL BE PRODUCED TO DOCUMENT THE CHANGE.</del></li> <li>THE CONTRACTOR SHALL ESTABLISH A DRIVE LANE AND A DROP OFF LANE 6' FROM THE EDGE OF CONSTRUCTION. THIS WILL REQUIRE REMOVAL OF THE EXISTING AIRPORT, RENTAL CAR, AND ACCESSIBLE PARKING SIGNS, APPROXIMATELY 20 SIGNS TOTAL. THE SIGNS SHALL BE REMOVED FLUSH WITH THE GROUND. THE EXISTING PARKING LINES SHALL BE REMOVED AND TWO, TWELVE FOOT LANES WILL BE ESTABLISHED USING HATCHED LINES. THE CONTRACTOR SHALL ESTABLISH A 6' PEDESTRIAN WALK WAY BETWEEN THE DROP OFF LANE AND THE LIMITS OF CONSTRUCTION WHERE PASSENGERS CAN LOAD AND UNLOAD.</li> <li>FOR THIS PHASE, 2 WEEKS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SET OUT SIGNS/CONES CLOSING THE AFFECTED AREAS OF THE PARKING LOT. AS VEHICLES VACATE THESE AREAS, THE CONTRACTOR SHALL BLOCK OFF PARKING SPACES. THE CONTRACTOR SHALL ASSUME THAT IT WILL BE NECESSARY TO TOW/RELOCATE UP TO 10 CARS IN ORDER CLEAR THE CONSTRUCTION AREA.</li> <li>THE CONTRACTOR SHALL CONSTRUCT PHASE 1 AND 2 SEPARATELY. PAVED PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES.</li> </ol>



**PHASING LEGEND**

	LIFE & SAFETY ROUTE
	CONTRACTOR HAUL ROUTE (2 WAY TRAFFIC)
	VEHICLE MOVEMENT
	PASSENGER INGRESS/EGRESS
	TSA
	TOFA
	AOA FENCE
	FLASHER BARRICADE
	CONTRACTOR STAGING AREA
	CONTRACTOR GATE ACCESS
	FLAGGER / GATE GUARD

PROJECT NO: 3-20-0072-0XX-2024  
 DATE ISSUED: 07/02/2024  
 DESIGNED BY: M.C.G.  
 DRAWN BY: P.C.V.  
 CHECKED BY: C.L.G.

SHEET NAME:  
**CONSTRUCTION PHASING PLAN SCHEDULE IV**

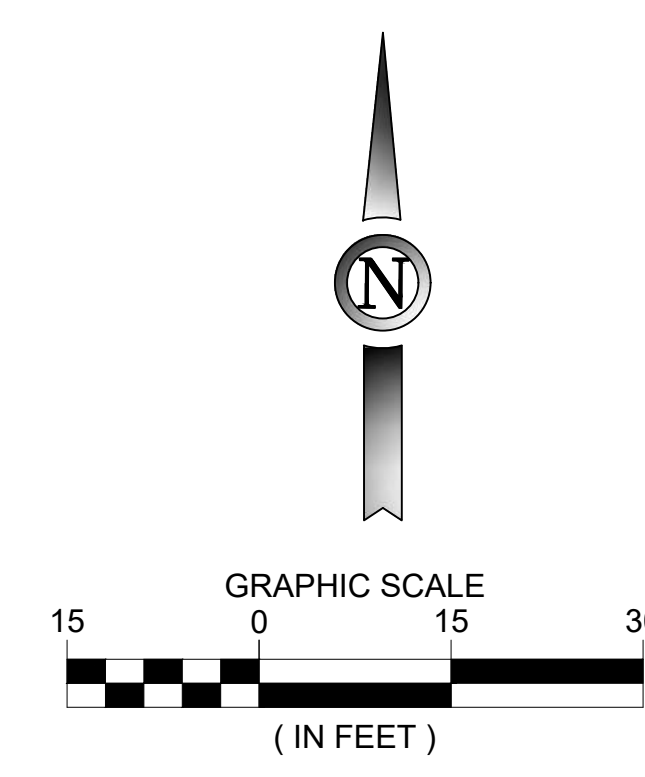
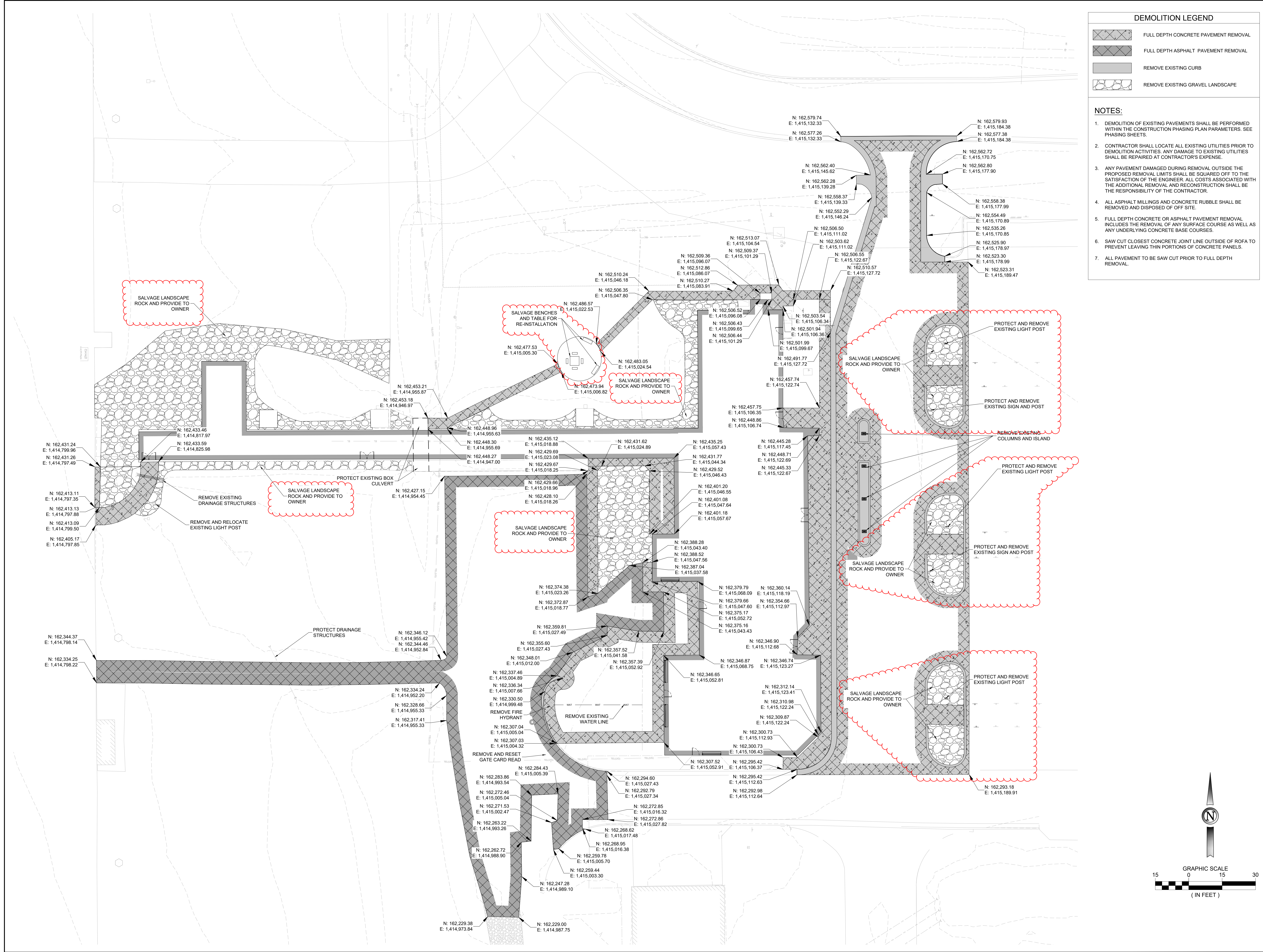
SHEET NO:  
 G053

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
1	07/02/2024	ISSUED FOR BID
1	07/02/2024	ISSUED FOR ADDENDUM NO. 4

**DEMOLITION LEGEND**

	FULL DEPTH CONCRETE PAVEMENT REMOVAL
	FULL DEPTH ASPHALT PAVEMENT REMOVAL
	REMOVE EXISTING CURB
	REMOVE EXISTING GRAVEL LANDSCAPE

- NOTES:**
- DEMOLITION OF EXISTING PAVEMENTS SHALL BE PERFORMED WITHIN THE CONSTRUCTION PHASING PLAN PARAMETERS. SEE PHASING SHEETS.
  - CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO DEMOLITION ACTIVITIES. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
  - ANY PAVEMENT DAMAGED DURING REMOVAL OUTSIDE THE PROPOSED REMOVAL LIMITS SHALL BE SQUARED OFF TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH THE ADDITIONAL REMOVAL AND RECONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
  - ALL ASPHALT MILLINGS AND CONCRETE RUBBLE SHALL BE REMOVED AND DISPOSED OF OFF SITE.
  - FULL DEPTH CONCRETE OR ASPHALT PAVEMENT REMOVAL INCLUDES THE REMOVAL OF ANY SURFACE COURSE AS WELL AS ANY UNDERLYING CONCRETE BASE COURSES.
  - SAW CUT CLOSEST CONCRETE JOINT LINE OUTSIDE OF ROFA TO PREVENT LEAVING THIN PORTIONS OF CONCRETE PANELS.
  - ALL PAVEMENT TO BE SAW CUT PRIOR TO FULL DEPTH REMOVAL.



**SALINA Airport Authority**

**TERMINAL RENOVATION**  
SALINA, KANSAS  
A PROJECT FOR  
**SALINA REGIONAL AIRPORT**

PROJECT NO: 3-20-0072-0XX-2024  
DATE ISSUED: 07/02/2024  
DESIGNED BY: M.C.G.  
DRAWN BY: P.C.V.  
CHECKED BY: C.L.G.

SHEET NAME:  
**DEMOLITION PLAN**  
SHEET NO:  
C100

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
1	07/02/2024	ISSUED FOR BID
2	07/02/2024	ISSUED FOR ADDENDUM NO. 4



**TERMINAL RENOVATION**  
 SALINA, KANSAS  
 A PROJECT FOR  
**SALINA REGIONAL AIRPORT**

PROJECT NO: 3-20-0072-0XX-2024  
 DATE ISSUED: 07/02/2024  
 DESIGNED BY: M.C.G.  
 DRAWN BY: P.C.V.  
 CHECKED BY: C.L.G.

SHEET NAME:

**GEOMETRY PLAN**

SHEET NO:  
**C200**

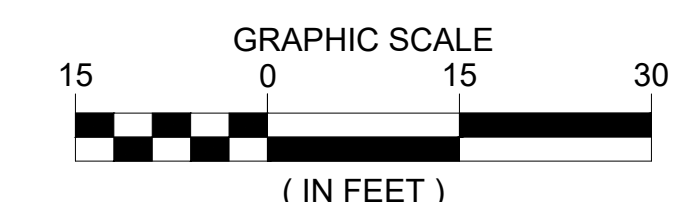
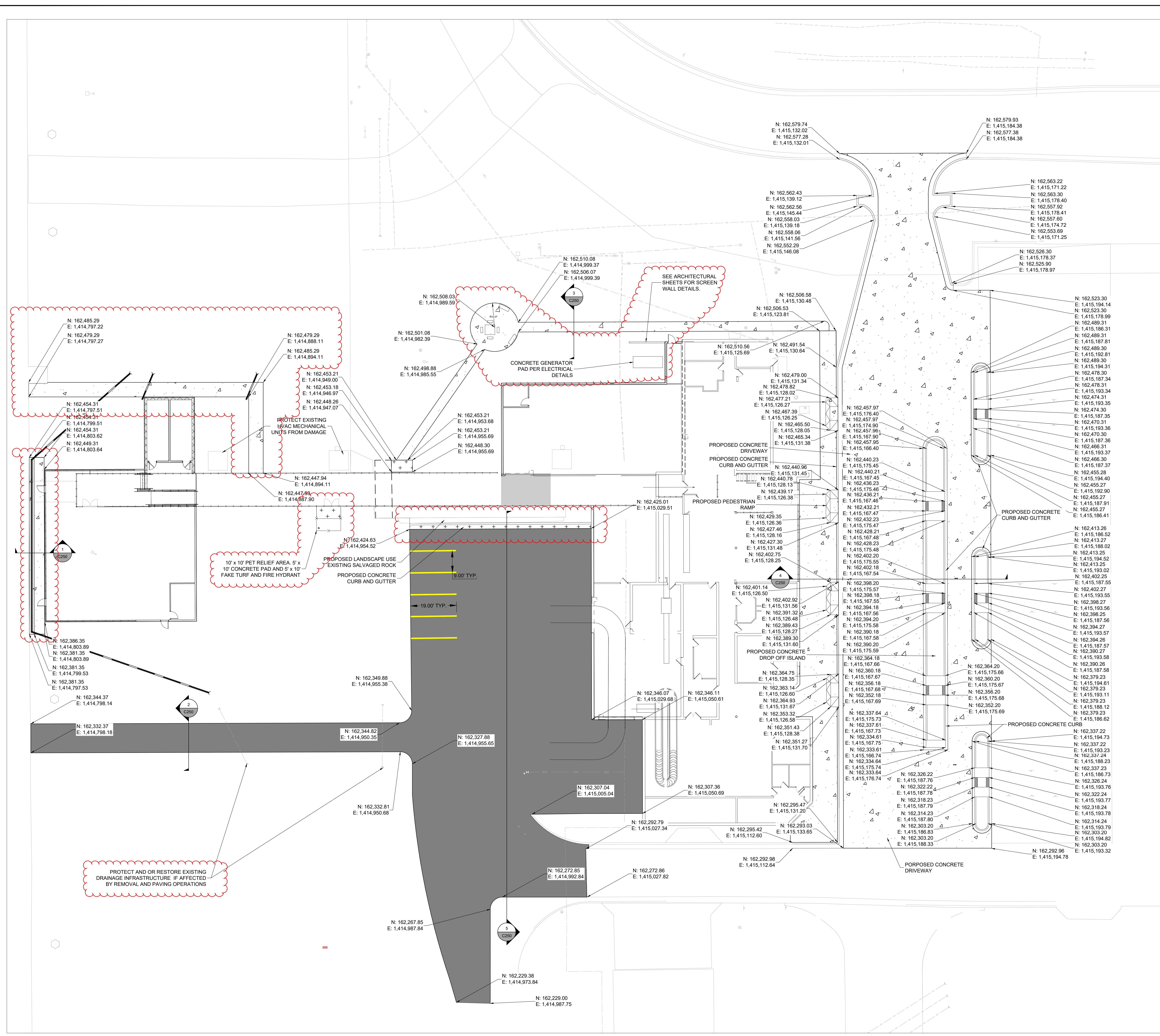
**GEOMETRY LEGEND**

	PROPOSED ASPHALT
	PROPOSED CONCRETE
	PROPOSED CONCRETE CURB AND GUTTER

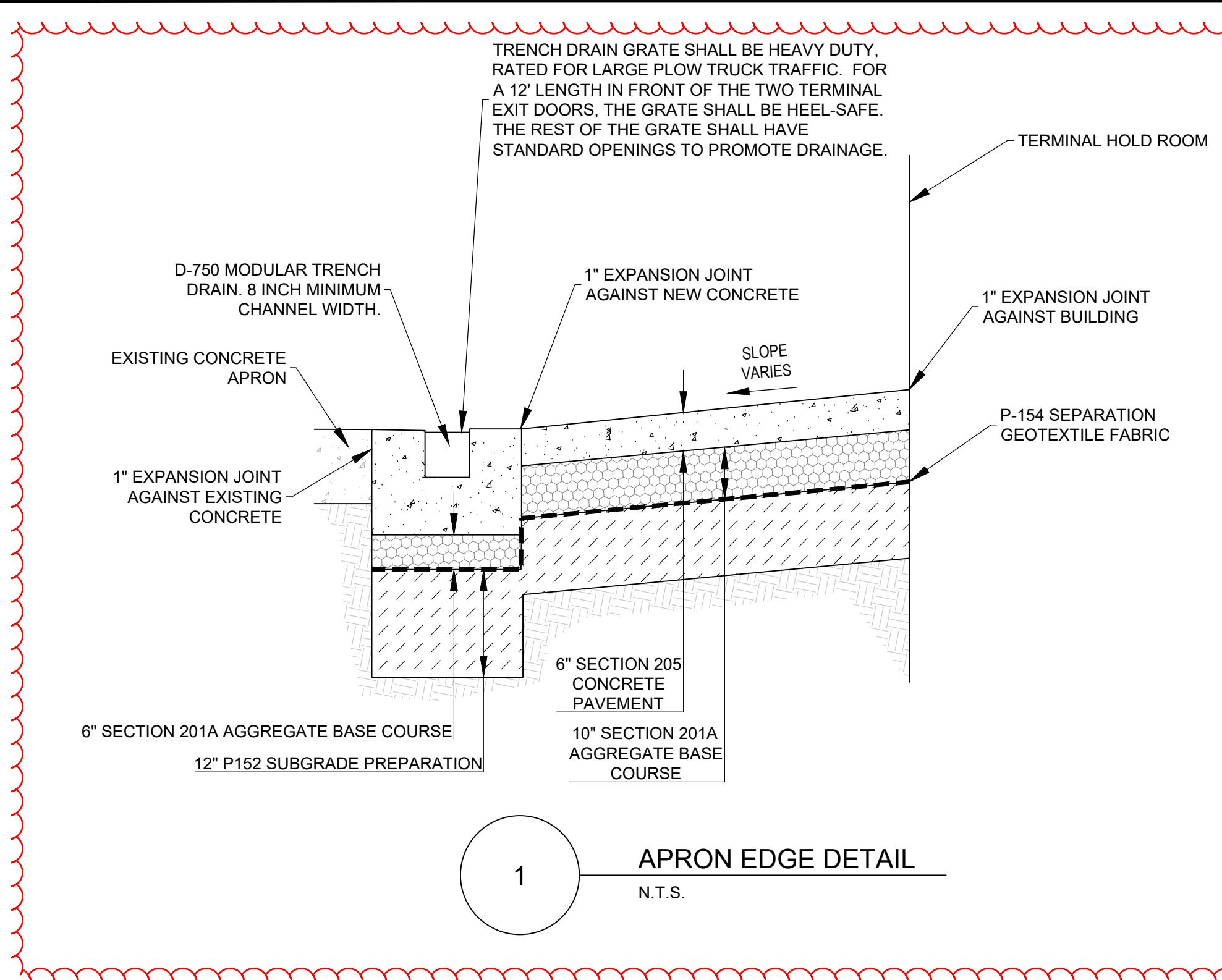
**NOTES**

- CONTRACTOR TO USE SURVEY CONTROL POINTS AS SHOWN ON SHEET SURVEY CONTROL LAYOUT.
- ALL LINE AND CURVE CALLOUTS ARE AT EDGE OF CONCRETE PAVEMENT AND AT THE BACK OF CURB UNLESS OTHERWISE NOTED.
- THE GEOMETRY SHOWN ON THESE SHEETS REPRESENT THEORETICAL PAVEMENT EDGES.
- SEE SHEETS C700 PAVEMENT MARKING INFORMATION.
- ANY PAVEMENT DAMAGE DURING CONSTRUCTION OUTSIDE THE PROPOSED PROJECT REMOVAL LIMITS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH RECONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES.
- LIMITS OF GRADING ARE APPROXIMATE AND DO NOT CONSTITUTE LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE ALL AREAS DISTURBED BY CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE SPONSOR.
- CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY HIS OPERATIONS OUTSIDE OF THE GRADING LIMITS, INCLUDING ENGINEER IDENTIFIED STAGING AREAS, STOCKPILES AREAS, AND HALL ROUTES. ALL RESTORATION SHALL BE AT CONTRACTOR'S EXPENSE AND INCLUDES, BUT IS NOT LIMITED TO, MINOR GRADING, TEMPORARY AND PERMANENT EROSION CONTROL MEASURES WITH HYDROMULCHING AND SEEDING (T-901).
- PROPOSED CONTOURS REFLECT FINAL DESIGN ELEVATIONS.
- ALL INLETS, MANHOLES, PULL BOXES, AND LIKE, SHALL BE PROTECTED FROM INFILTRATION OF SILT AND WATER WITHIN OR ADJACENT TO CONTRACTOR'S GRADING OPERATIONS.
- SEE C300 FOR SPOT ELEVATION SHEET.
- CONTRACTOR TO VERIFY EXISTING TIE POINTS PRIOR TO CONSTRUCTION & NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

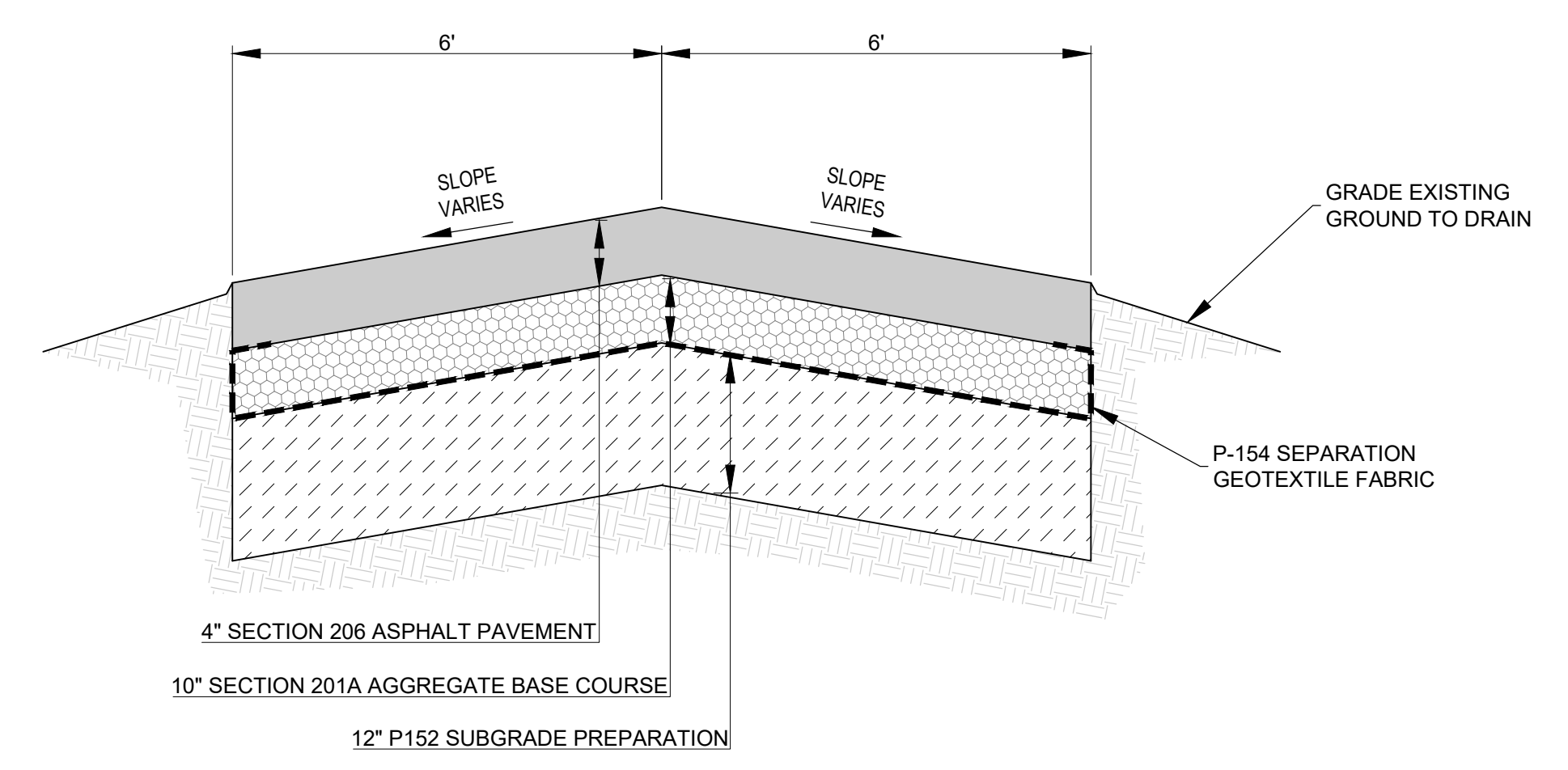
**SHEET REISSUED WITH ADDENDUM NO. 4**



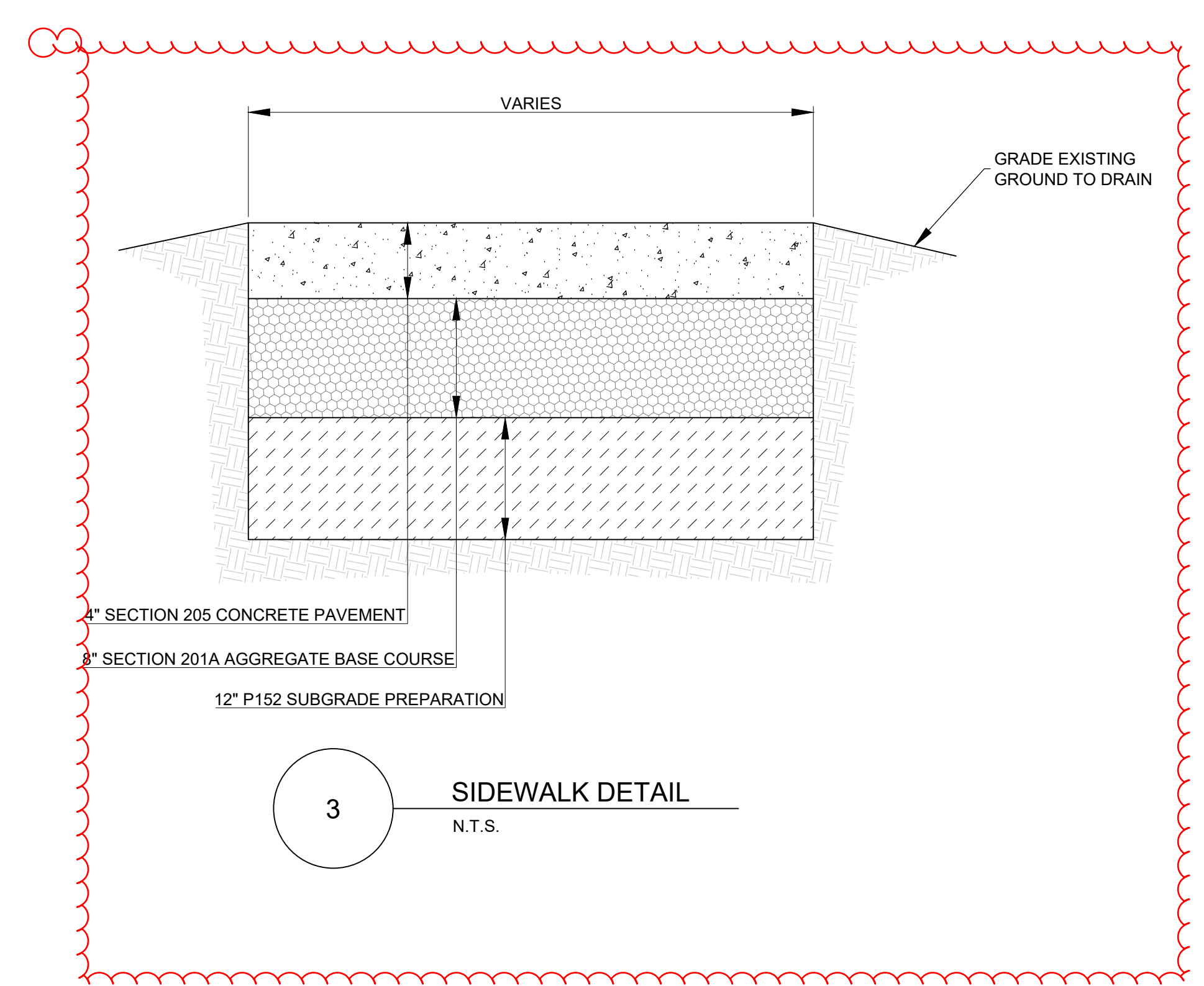
ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
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2	07/02/2024	ISSUED FOR ADDENDUM NO. 4



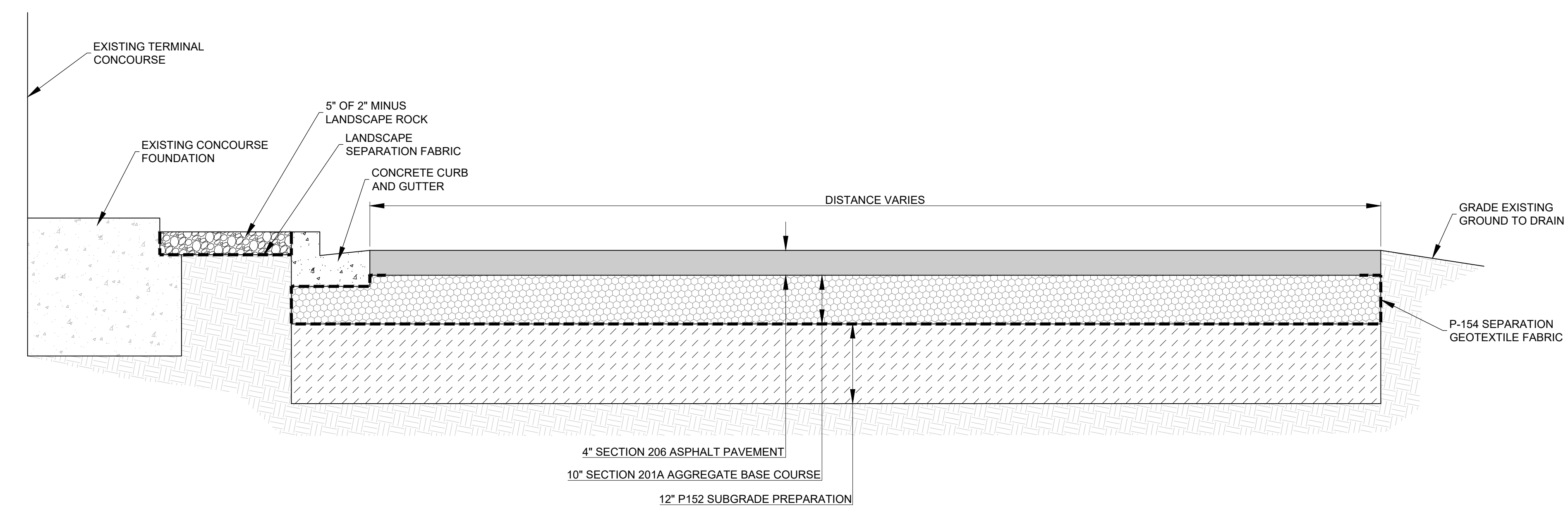
1 APRON EDGE DETAIL  
N.T.S.



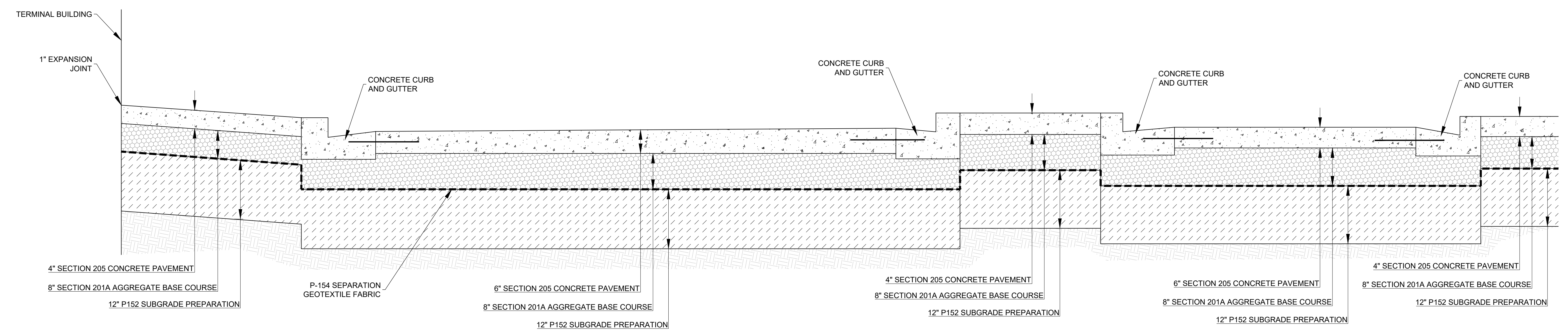
2 APRON ACCESS ROAD DETAIL  
N.T.S.



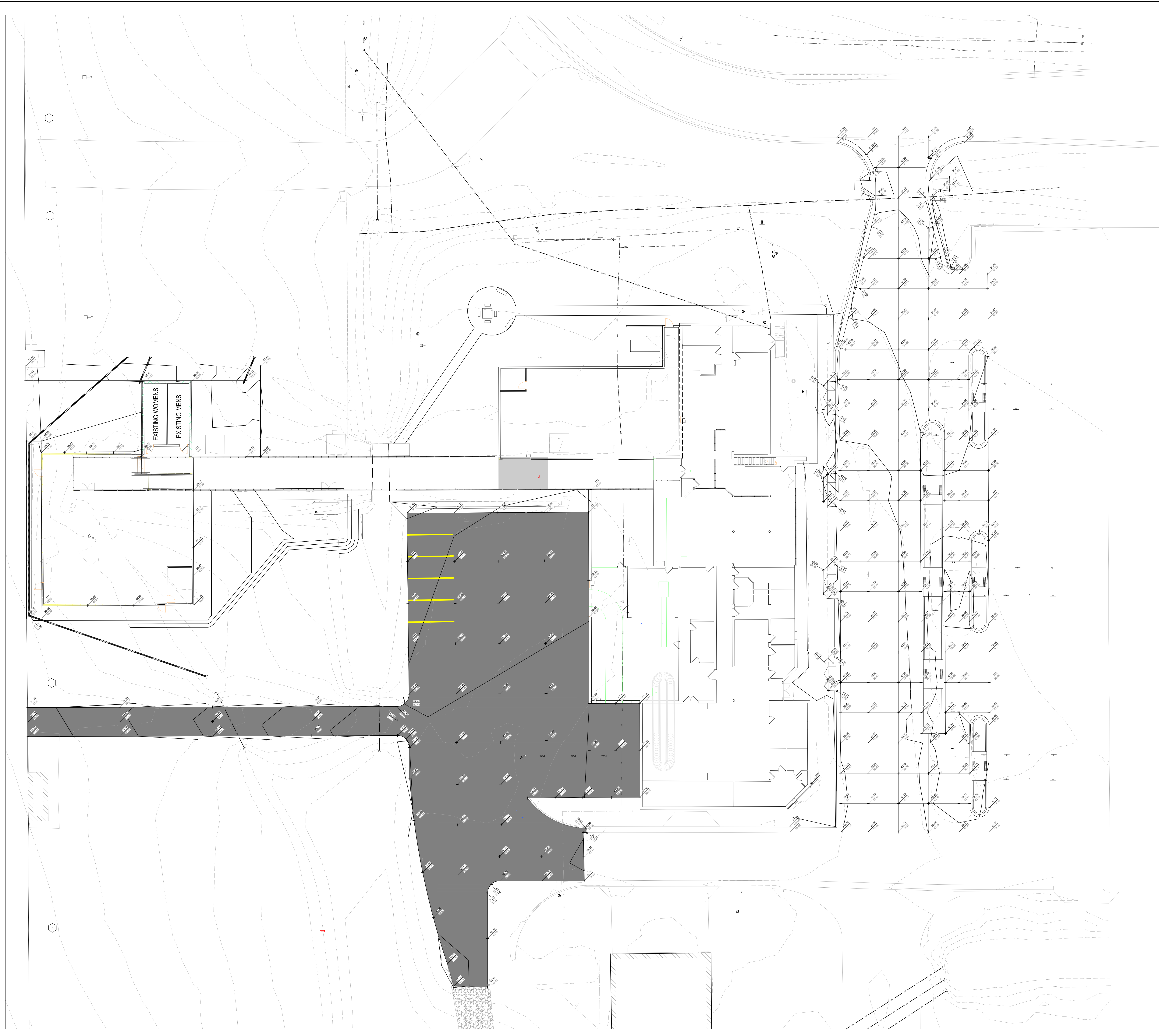
3 SIDEWALK DETAIL  
N.T.S.



4 BAGGAGE HANDLING AREA DETAIL  
N.T.S.



5 DROPOFF LANES DETAIL  
N.T.S.



EXISTING WOMENS  
EXISTING MENS

**SPOT LEGEND**

	PROPOSED ASPHALT
	PROPOSED CONCRETE
	TRUNCATED SPOT ELEVATION

- NOTES**
1. ALL SPOT ELEVATIONS ARE AT TOP OF ASPHALT UNLESS NOTED OTHERWISE.
  2. THE CONTRACTOR SHALL REPAIR ALL AREAS DISTURBED BY THEIR OPERATIONS OUTSIDE OF THE GRADING LIMITS AT THEIR OWN EXPENSE.
  3. GRADING AREA LIMIT SHALL BE GRADED TO 5% TO TIE-IN TO THE EXISTING GRADE.

SHEET REISSUED WITH ADDENDUM NO. 4

ALEXANDER J. NODICH XXXXX 07/02/2024

ISSUANCE SCHEDULE

NUMBER	DATE	DESCRIPTION
1	07/02/2024	ISSUED FOR BID
1	07/19/2024	ISSUED FOR ADDENDUM NO. 4



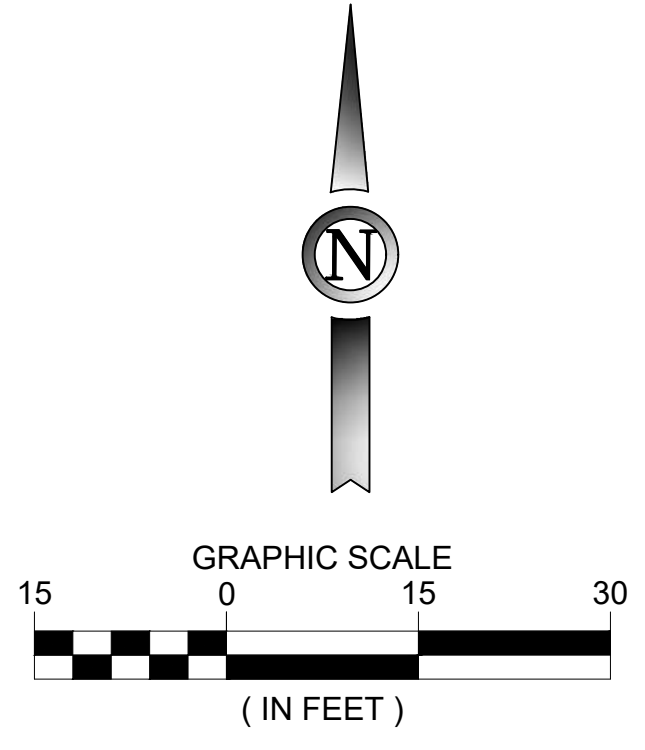
**TERMINAL RENOVATION**  
 SALINA, KANSAS  
 A PROJECT FOR  
 SALINA REGIONAL AIRPORT

PROJECT NO: 3-20-0072-0XX-2024  
 DATE ISSUED: 07/02/2024  
 DESIGNED BY: M.C.G.  
 DRAWN BY: P.C.V.  
 CHECKED BY: C.L.G.

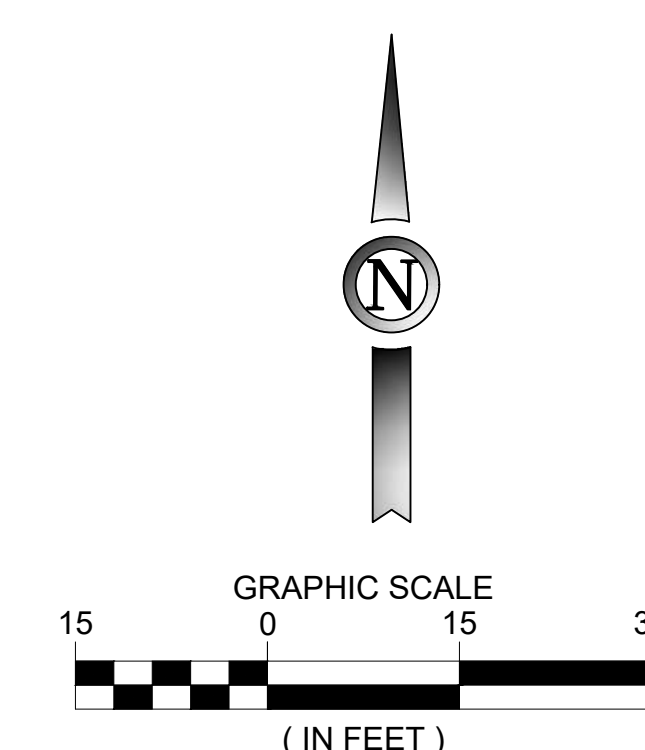
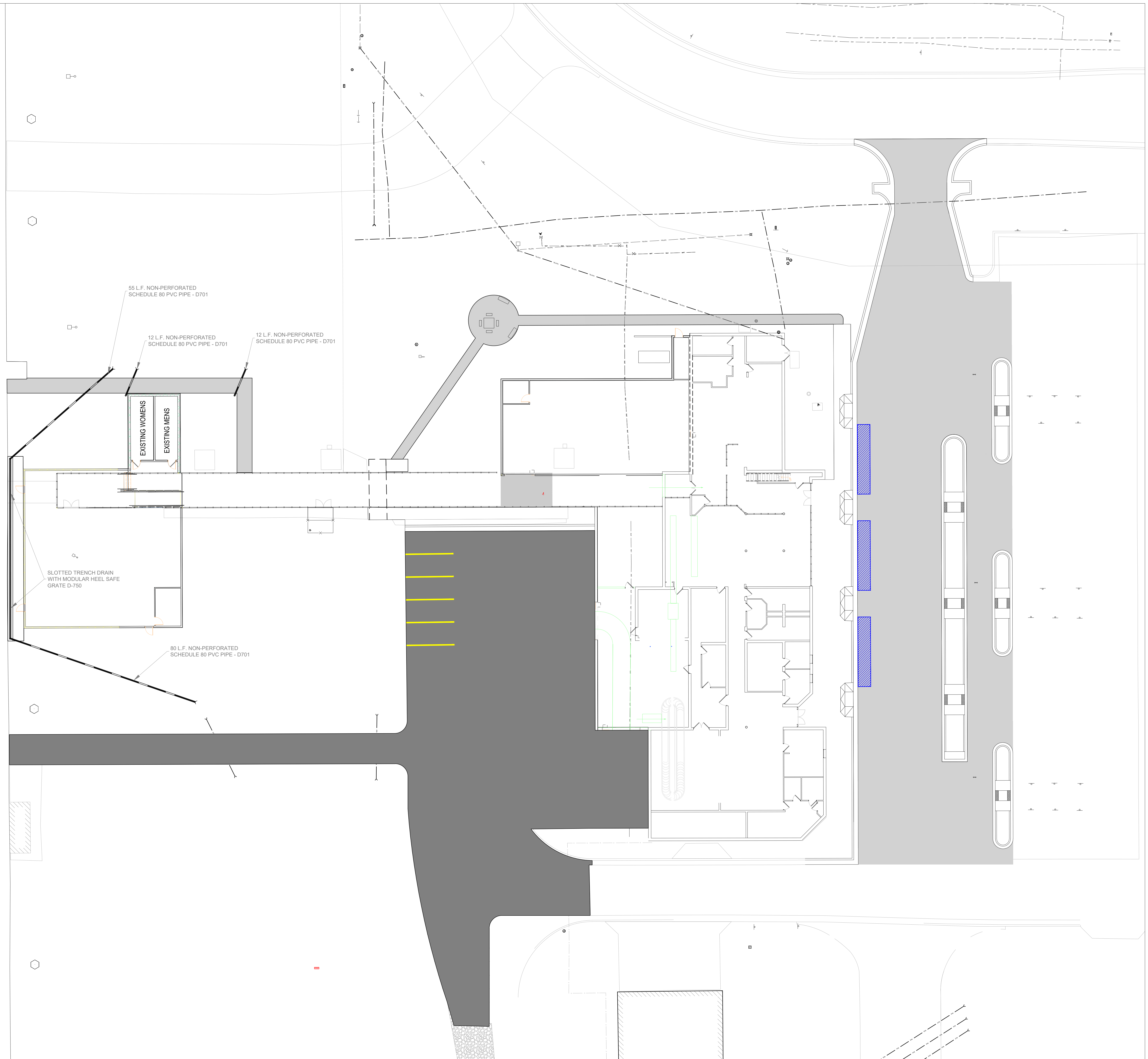
SHEET NAME:

SPOT ELEVATION

SHEET NO: C300



ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
1	07/02/2024	ISSUED FOR BID
2	07/02/2024	ISSUED FOR ADDENDUM NO. 1



**TERMINAL RENOVATION**  
SALINA, KANSAS

A PROJECT FOR  
**SALINA REGIONAL AIRPORT**

PROJECT NO: 3-20-0072-0XX-2024  
DATE ISSUED: 07/02/2024  
DESIGNED BY: M.C.G.  
DRAWN BY: P.C.V.  
CHECKED BY: C.L.G.

SHEET NAME:  
**UTILITY INSTALLATION**

SHEET NO:  
**C400**

ISSUANCE SCHEDULE	
NUMBER	DATE
1	07/02/2024
2	07/02/2024
3	07/02/2024
4	07/02/2024
5	07/02/2024
6	07/02/2024
7	07/02/2024
8	07/02/2024
9	07/02/2024
10	07/02/2024
11	07/02/2024
12	07/02/2024
13	07/02/2024
14	07/02/2024
15	07/02/2024
16	07/02/2024
17	07/02/2024
18	07/02/2024
19	07/02/2024
20	07/02/2024



**TERMINAL RENOVATION**  
 SALINA, KANSAS  
 A PROJECT FOR  
**SALINA REGIONAL AIRPORT**

PROJECT NO: 3-20-0072-0XX-2024  
 DATE ISSUED: 07/02/2024  
 DESIGNED BY: M.C.G.  
 DRAWN BY: P.C.V.  
 CHECKED BY: C.L.G.

SHEET NAME:  
**EROSION CONTROL PLAN**

SHEET NO:  
**C500**

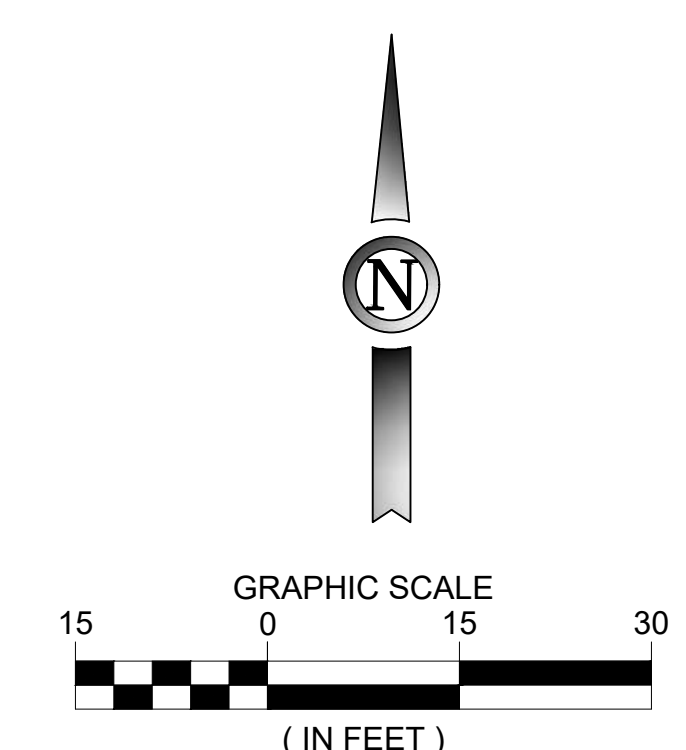
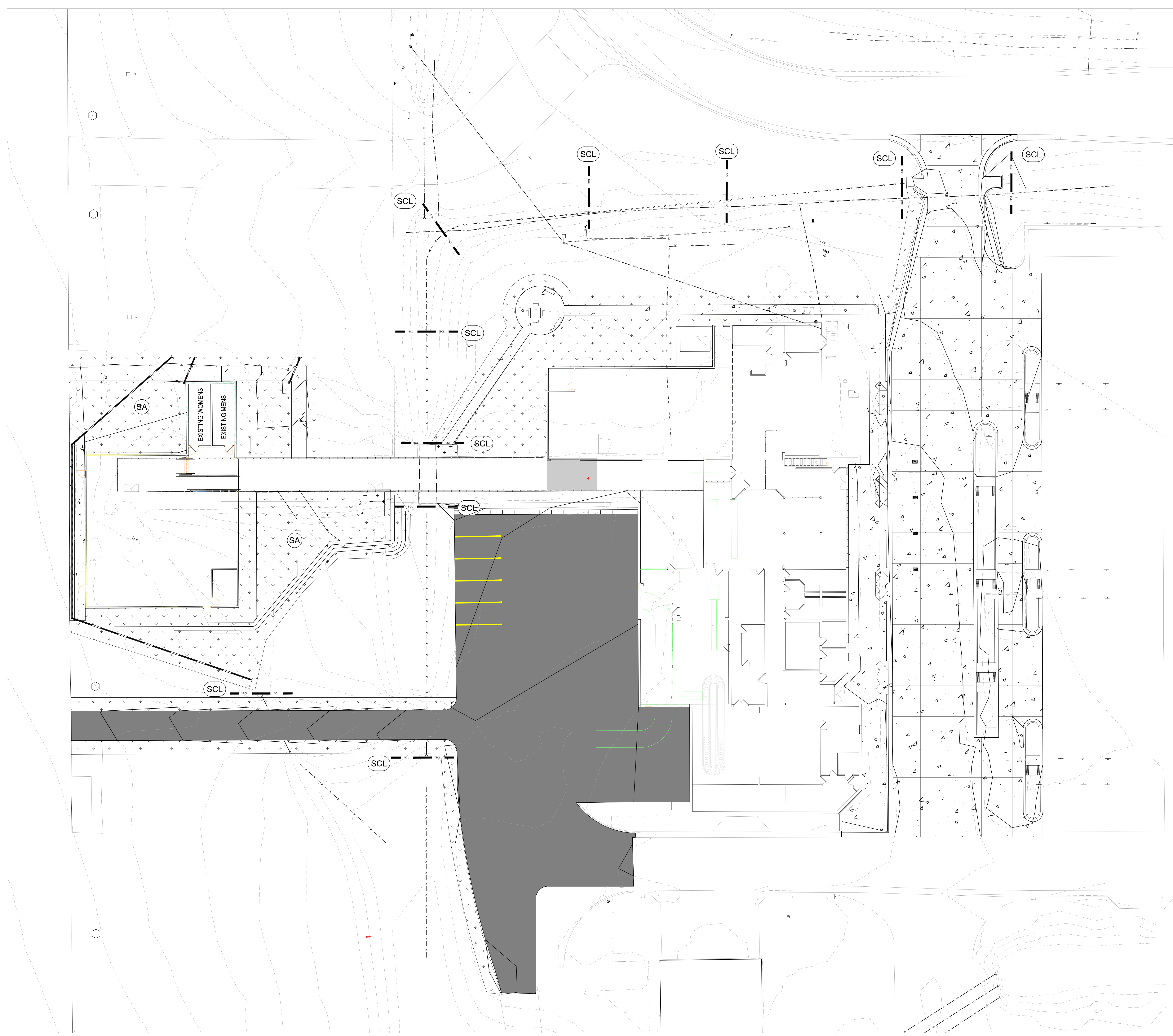
**EROSION CONTROL LEGEND**

	1220	EXISTING MAJOR CONTOUR
	1221	EXISTING MINOR CONTOUR
	1220	PROPOSED MAJOR CONTOUR
	1221	PROPOSED MINOR CONTOUR
		APPROX. GRADING LIMITS
		SWALE FLOW LINE
	SA	SOD AREA
	SCL	SEDIMENT CONTROL LOG

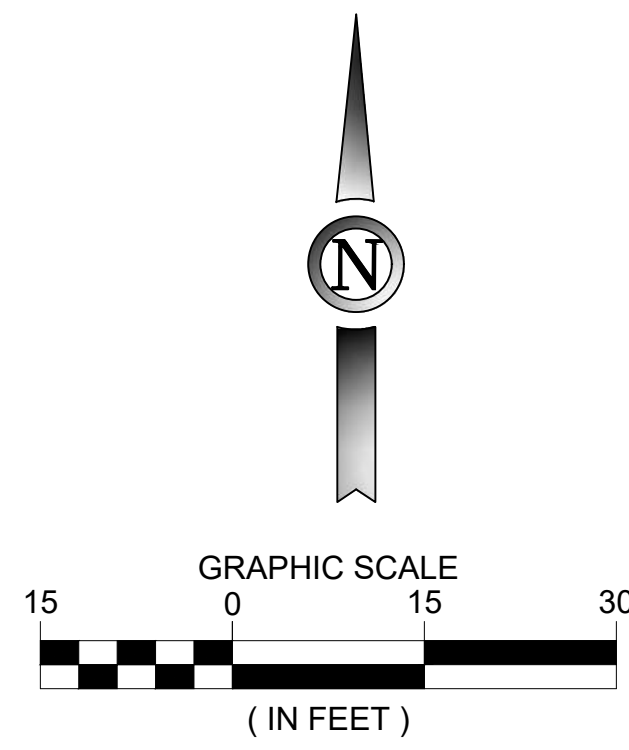
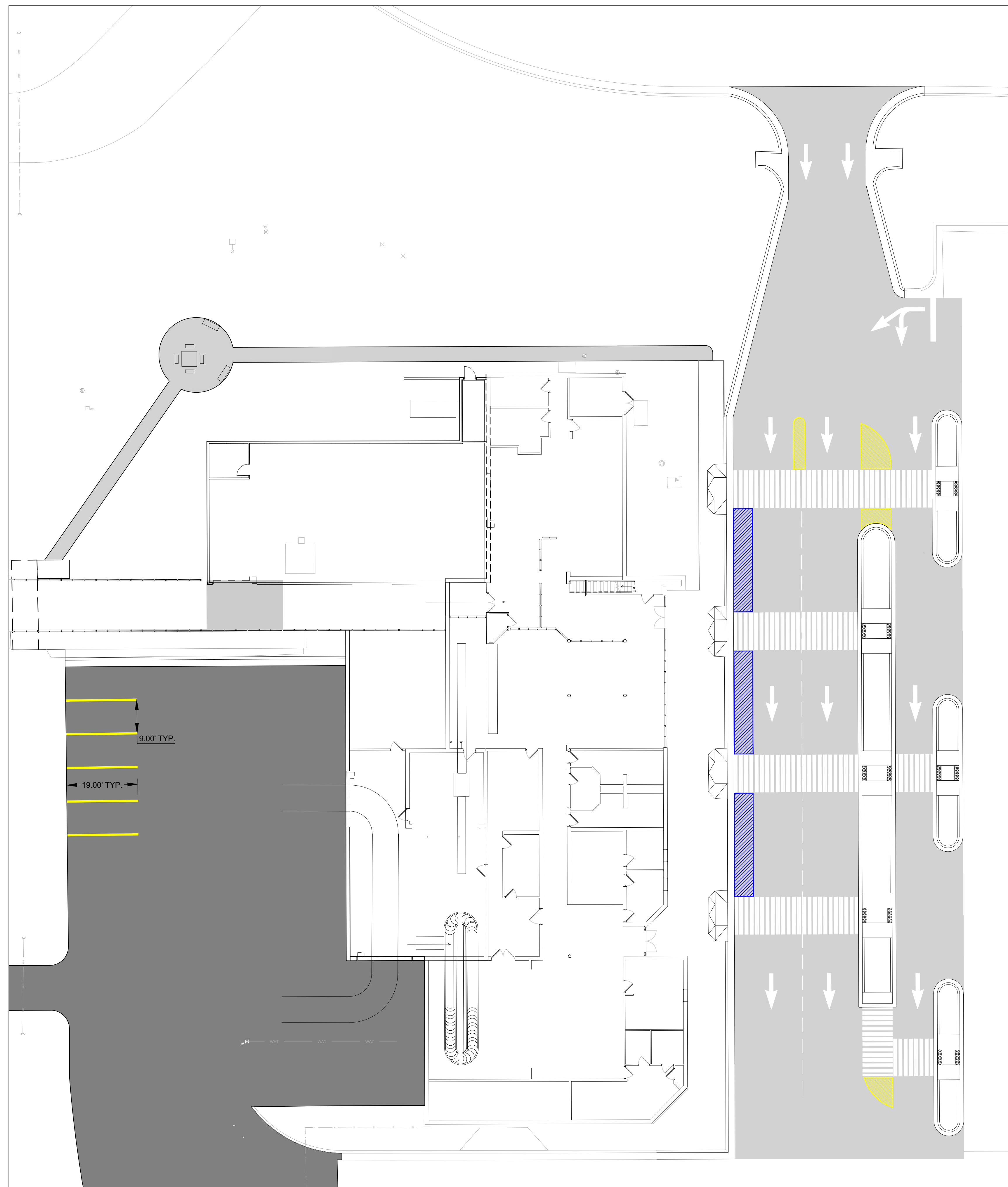
**EROSION CONTROL NOTES**

- LIMITS OF GRADING ARE APPROXIMATE AND DO NOT CONSTITUTE LIMITS OF DISTURBANCE. CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE ALL ADDITIONAL AREAS DISTURBED BY CONSTRUCTION OPERATIONS AT NO COST TO SPONSOR. THIS INCLUDES, BUT IS NOT LIMITED TO, MINOR GRADING, TOPSOILING, TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
- ANY ADDITIONAL ITEMS REQUIRED FOR INSTALLATION OR MAINTENANCE OF TEMPORARY OR PERMANENT EROSION CONTROL MEASURES SHALL NOT BE PAID SEPARATELY BUT SHALL BE INCIDENTAL TO VARIOUS ITEMS.
- TEMPORARY AND PERMANENT EROSION CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING THE CONSTRUCTION PHASES AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
- ALL DISTURBED SURFACE AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE APPROVED SWMP/EROSION CONTROL PLAN OR APPROVED AMENDMENTS AND SHALL BE REVIEWED ONSITE BY THE SWMP ADMINISTRATOR.
- IF CONTRACTOR DEVIATES FROM CONSTRUCTION DRAWINGS (FOR HAUL ROUTES, GRADING LIMITS, ETC.) CONTRACTOR MUST INSTALL APPROVED BMP'S TO ACCOMMODATE CHANGE TO THE APPROVAL OF THE RPR. CONTRACTOR MUST REVISE SWMP PLAN FOR THESE CHANGES.
- ALL CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE PROJECT SITE AT APPROVED DESIGNATED AREAS. ACCESS INTO OR OUT OF NON-PAVED AREAS WILL ONLY BE ALLOWED WHERE A VEHICLE TRACKING CONTROL (VTC) HAS BEEN PROPERLY INSTALLED.
- ANY SEDIMENT TRACKED ONTO PAVED SECTIONS, REGARDLESS OF LOCATION OR QUANTITY, SHALL BE IMMEDIATELY CLEANED.
- ALL LIMITS OF SEEDING ARE APPROXIMATE.
- TEMPORARY EROSION CONTROL BMP'S MUST REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED.
- CONTRACTOR WILL BE REQUIRED TO RE-GRADE ALL ERODED AREAS AND VERIFY ALL SEEDING HAS SUBSTANTIAL GROWTH THE FOLLOWING SPRING. AREAS NOT SHOWING SUSTAINED GROWTH SHALL BE RE-SEEDING AT CONTRACTORS EXPENSE.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AND DISPOSED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED, OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, WHICHEVER OCCURS EARLIEST, OR AS AUTHORIZED BY THE LOCAL GOVERNING JURISDICTION. TRAPPED SEDIMENT AND DISTURBED SOIL AREAS RESULTING FROM THE DISPOSAL OF TEMPORARY MEASURES MUST BE RETURNED TO FINAL PLAN GRADES AND PERMANENTLY STABILIZED TO PREVENT FURTHER SOIL EROSION.

SHEET REISSUED WITH  
ADDENDUM NO. 4



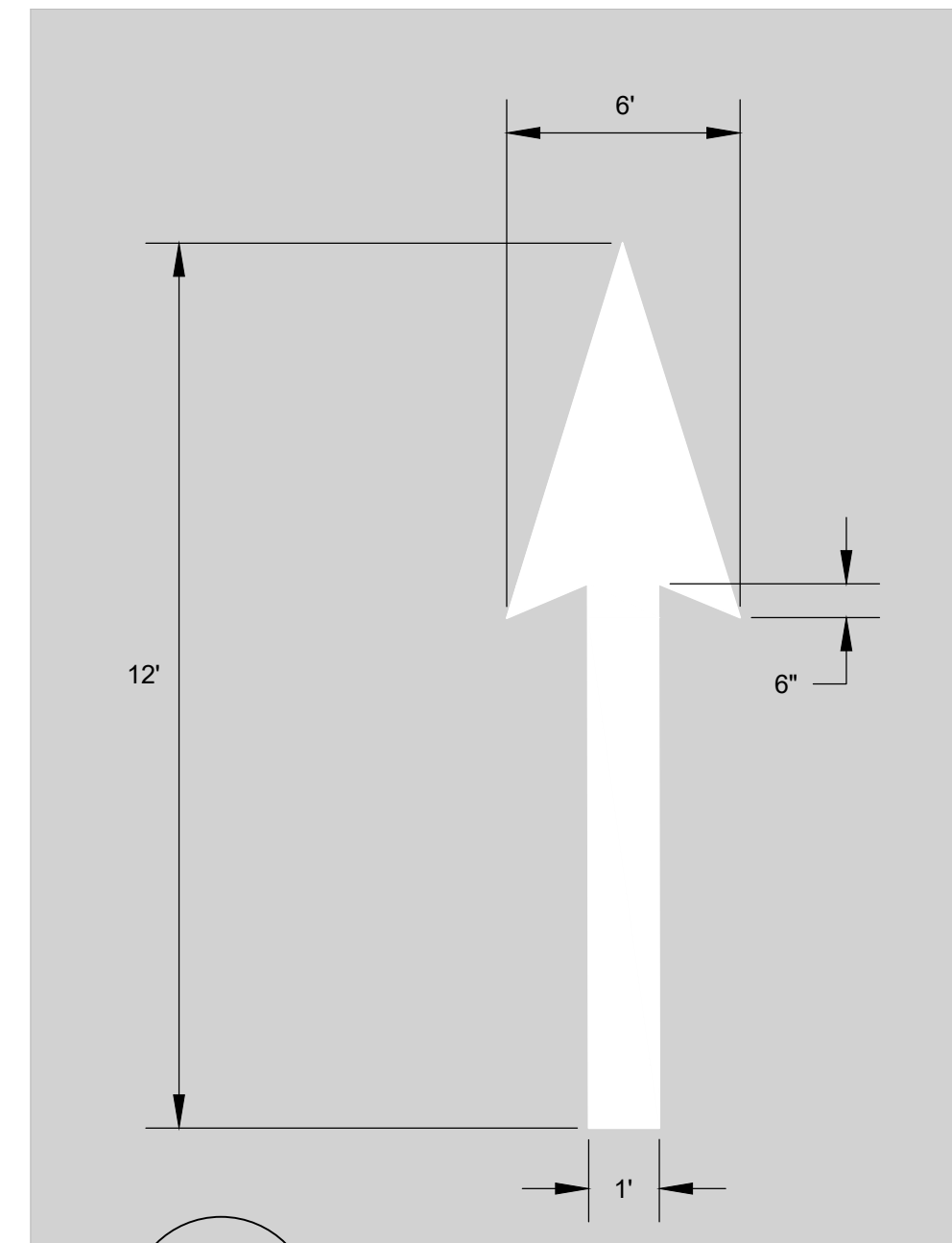




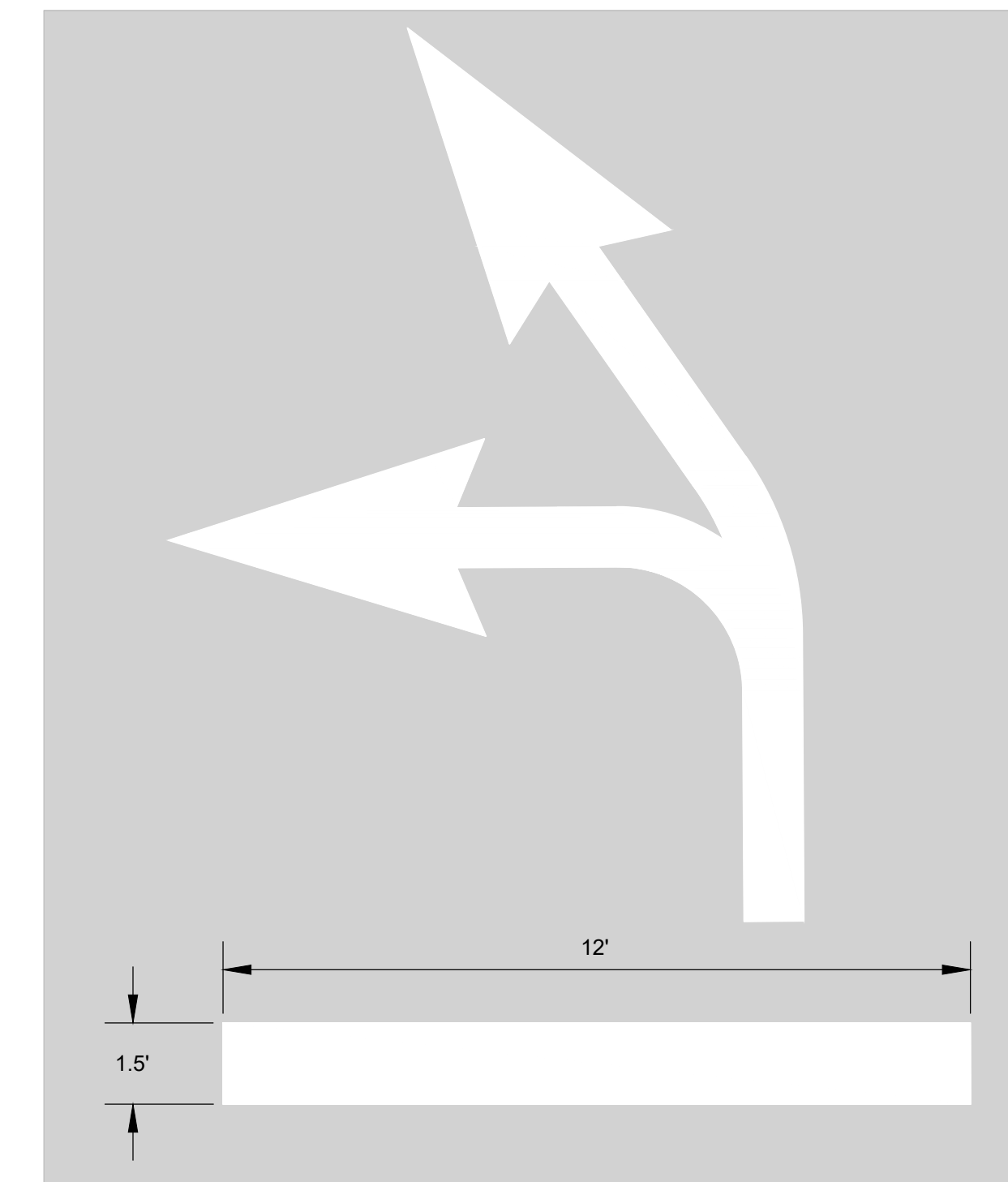
**NOTES**

1. CONTRACTOR TO USE SURVEY CONTROL POINTS AS SHOWN ON SHEET SURVEY CONTROL LAYOUT.
2. ANY PAVEMENT DAMAGE DURING CONSTRUCTION OUTSIDE THE PROPOSED PROJECT REMOVAL LIMITS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH RECONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
1	07/02/2024	ISSUED FOR BID
1	07/19/2024	ISSUED FOR ADDENDUM NO. 4



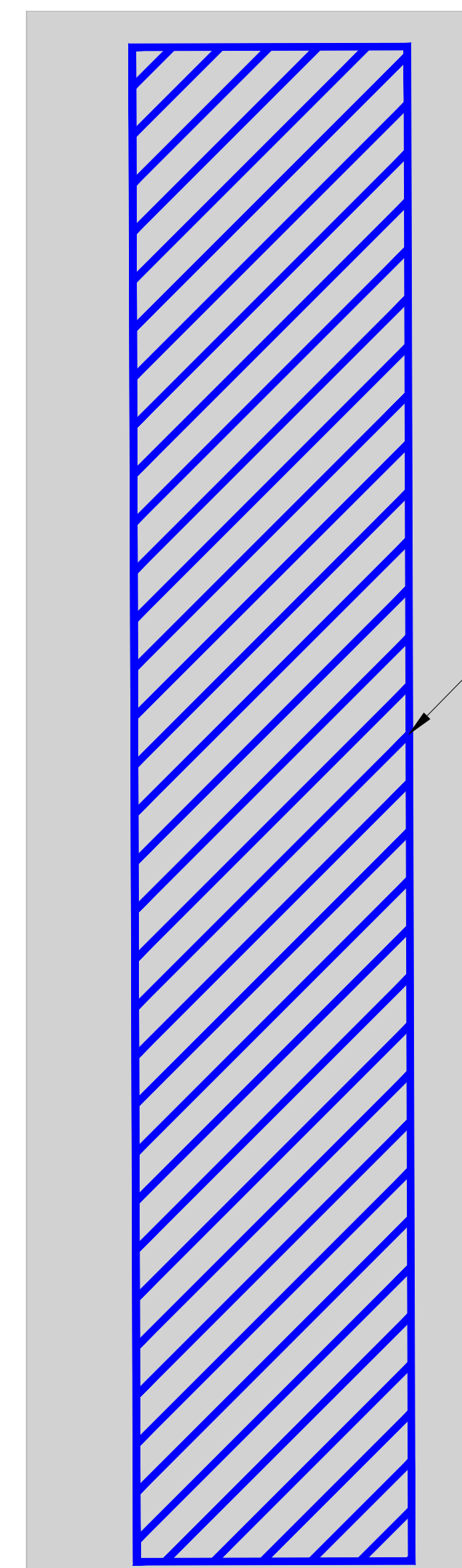
1 DIRECTIONAL TRAFFIC ARROW DETAIL  
NOT TO SCALE



2 DIRECTIONAL TRAFFIC ARROW AND STOP BAR DETAIL  
NOT TO SCALE

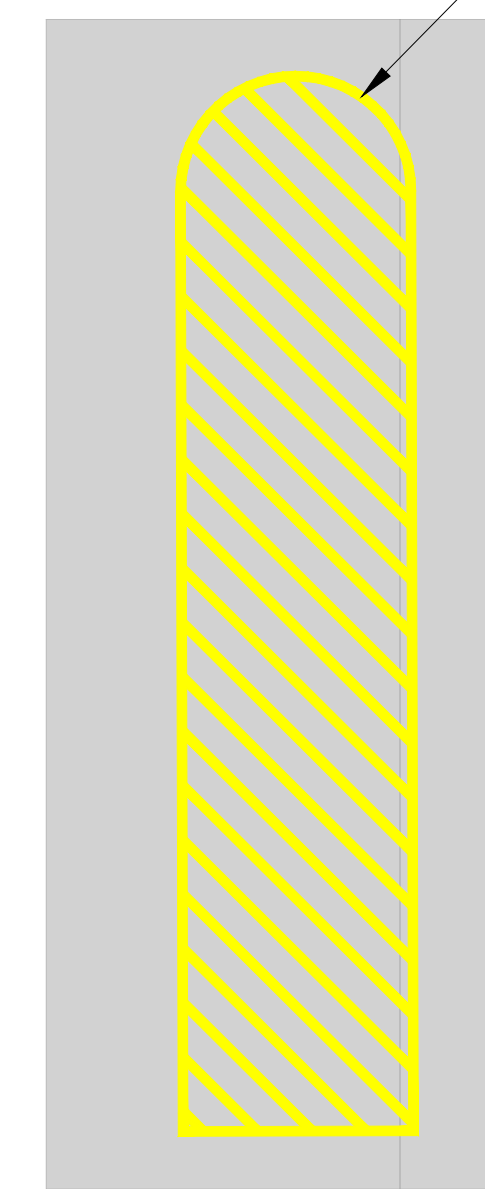
**MARKING NOTES**

1. CONTRACTOR TO USE CITY OF SALINA ROADWAY MARKING STANDARDS AND MARKING TEMPLATES.



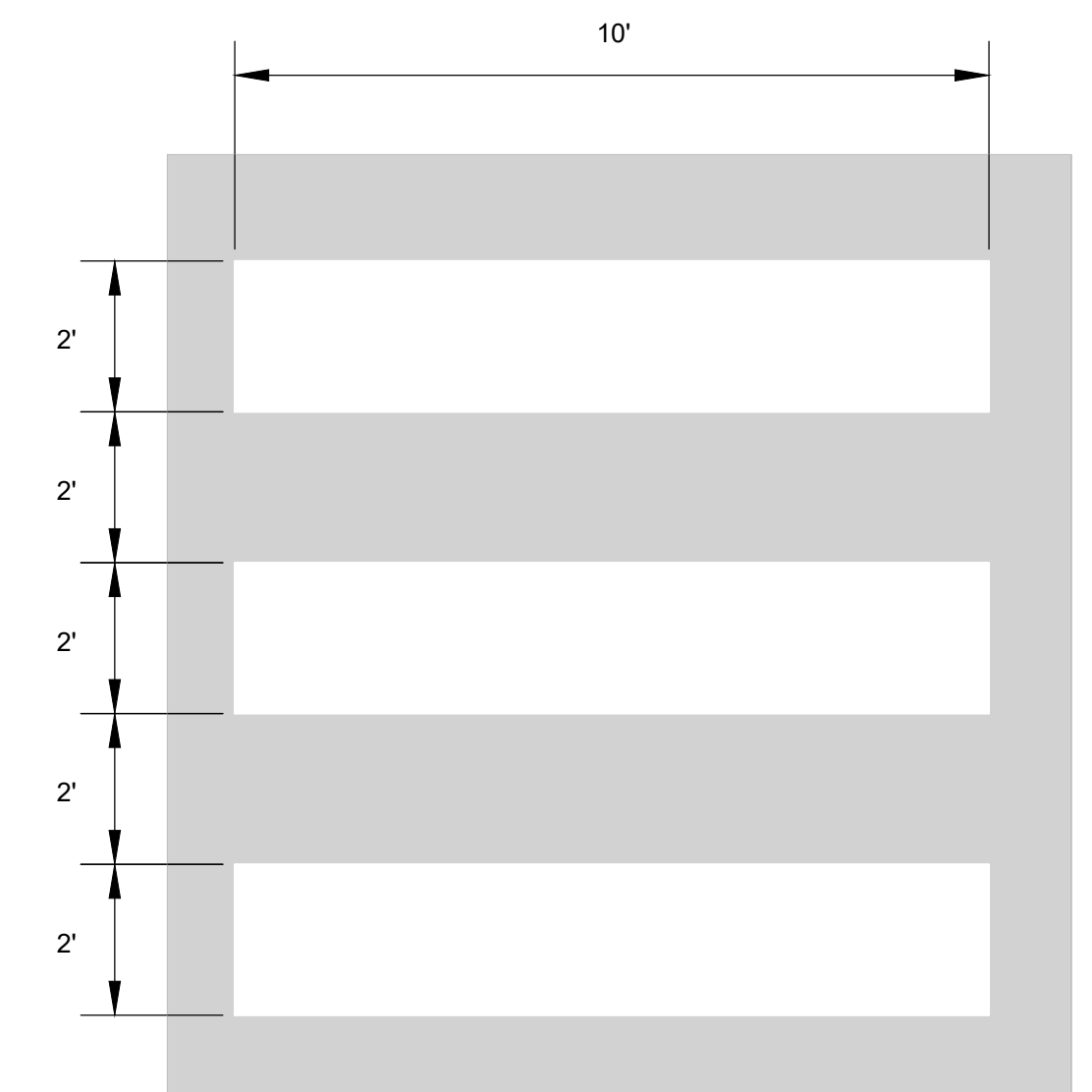
3 ADA PASSENGER DROP OFF / PICKUP MARKING DETAIL  
NOT TO SCALE

ALL BLUE MARKINGS AT 4" WIDTH, DIAGONAL MARKINGS AT 45°



4 TRAFFIC CONTROL MARKING DETAIL  
NOT TO SCALE



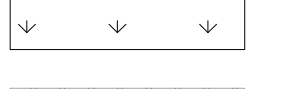
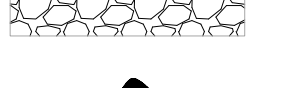

ALL YELLOW MARKINGS AT 4" WIDTH, DIAGONAL MARKINGS AT 45°



5 PEDESTRIAN CROSSING MARKING DETAIL  
NOT TO SCALE

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
1	07/02/2024	ISSUED FOR BID
2	07/02/2024	ISSUED FOR ADDENDUM NO. 4

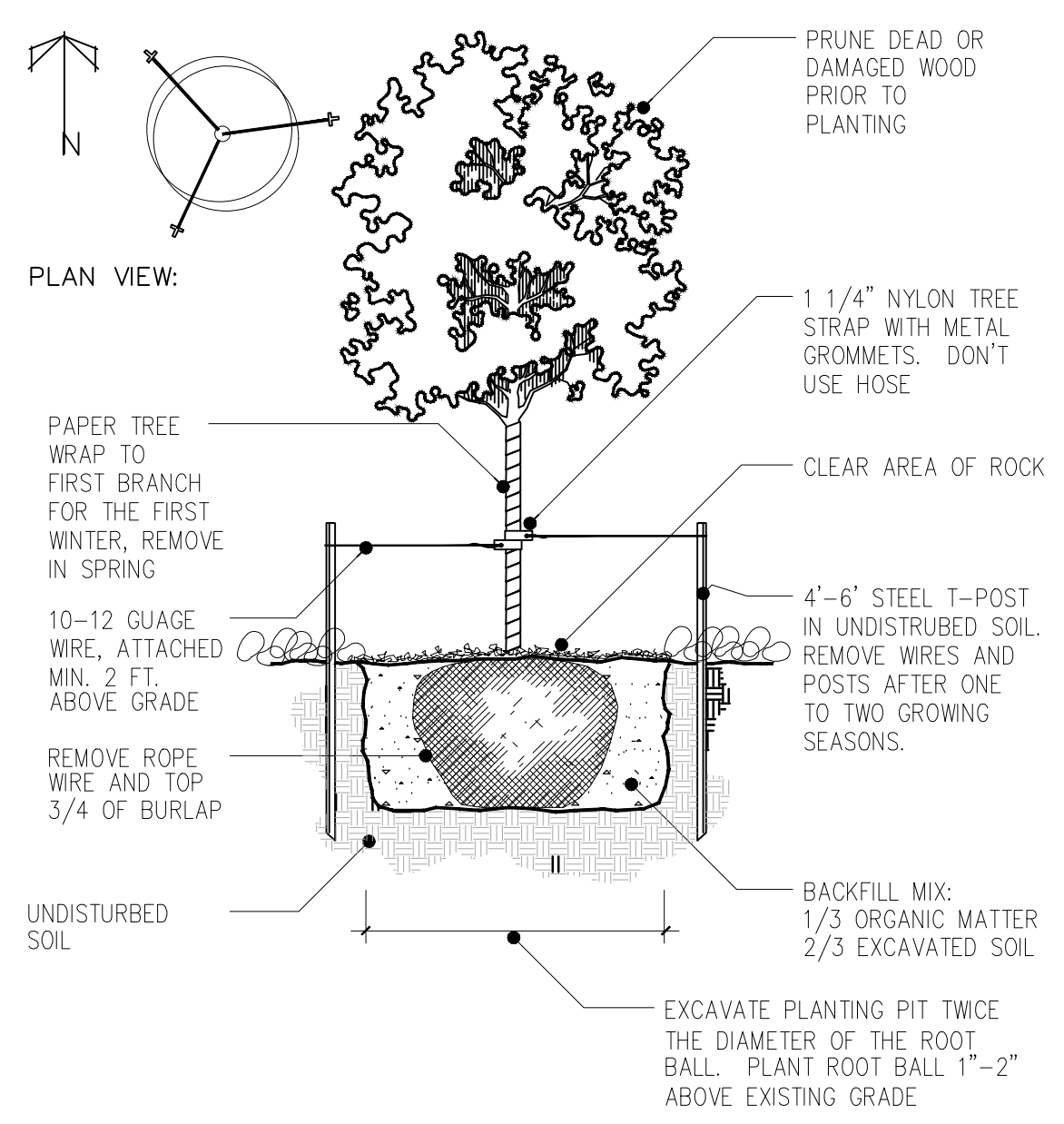
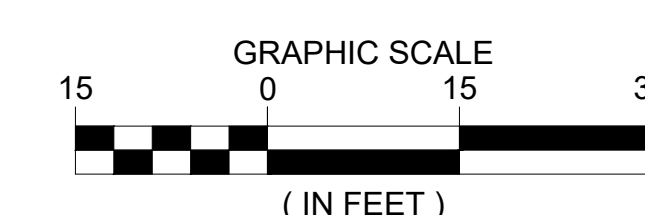
**LANDSCAPE LEGEND**

	DECIDUOUS TREE (2.5' - 4' 0")
	SHRUBS 36" HIGH
	LAWN GRASS / SOD
	3" DECORATIVE ROCK
	LANDSCAPE BOULDERS

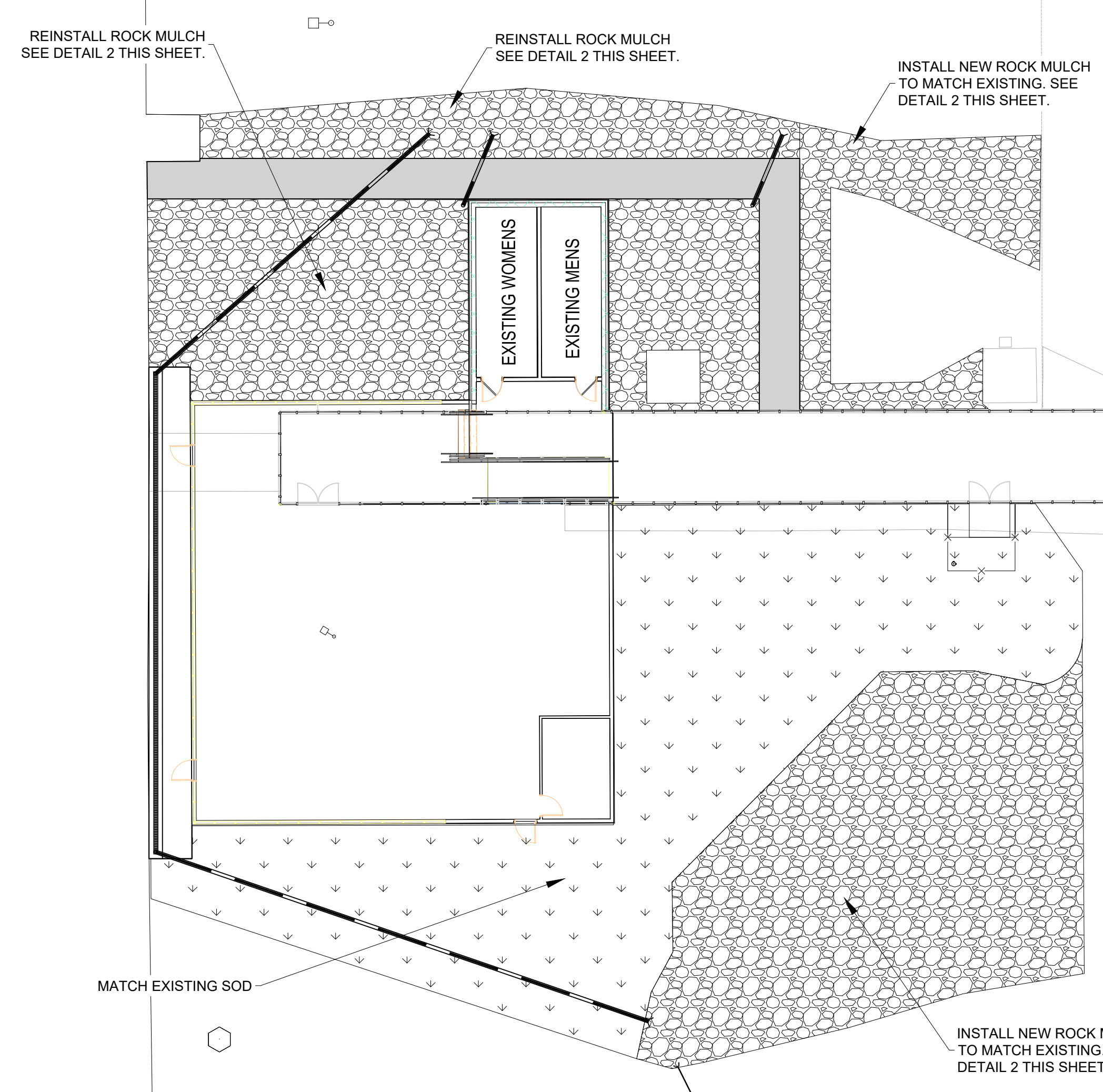
**LANDSCAPE NOTES**

- SEE SHEETS C500 AND C550 FOR EROSION CONTROL DETAILS.
- LIMITS OF GRADING ARE APPROXIMATE AND DO NOT CONSTITUTE LIMITS OF DISTURBANCE. CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE ALL ADDITIONAL AREAS DISTURBED BY CONSTRUCTION OPERATIONS AT NO COST TO SPONSOR. THIS INCLUDES, BUT IS NOT LIMITED TO, MINOR GRADING, TOPSOILING, TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
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- TEMPORARY EROSION CONTROL BMPs MUST REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED.
- CONTRACTOR WILL BE REQUIRED TO RE-GRADE ALL ERODED AREAS AND VERIFY ALL SEEDING HAS SUBSTANTIAL GROWTH THE FOLLOWING SPRING. AREAS NOT SHOWING SUSTAINED GROWTH SHALL BE RE-SEED AT CONTRACTORS EXPENSE.
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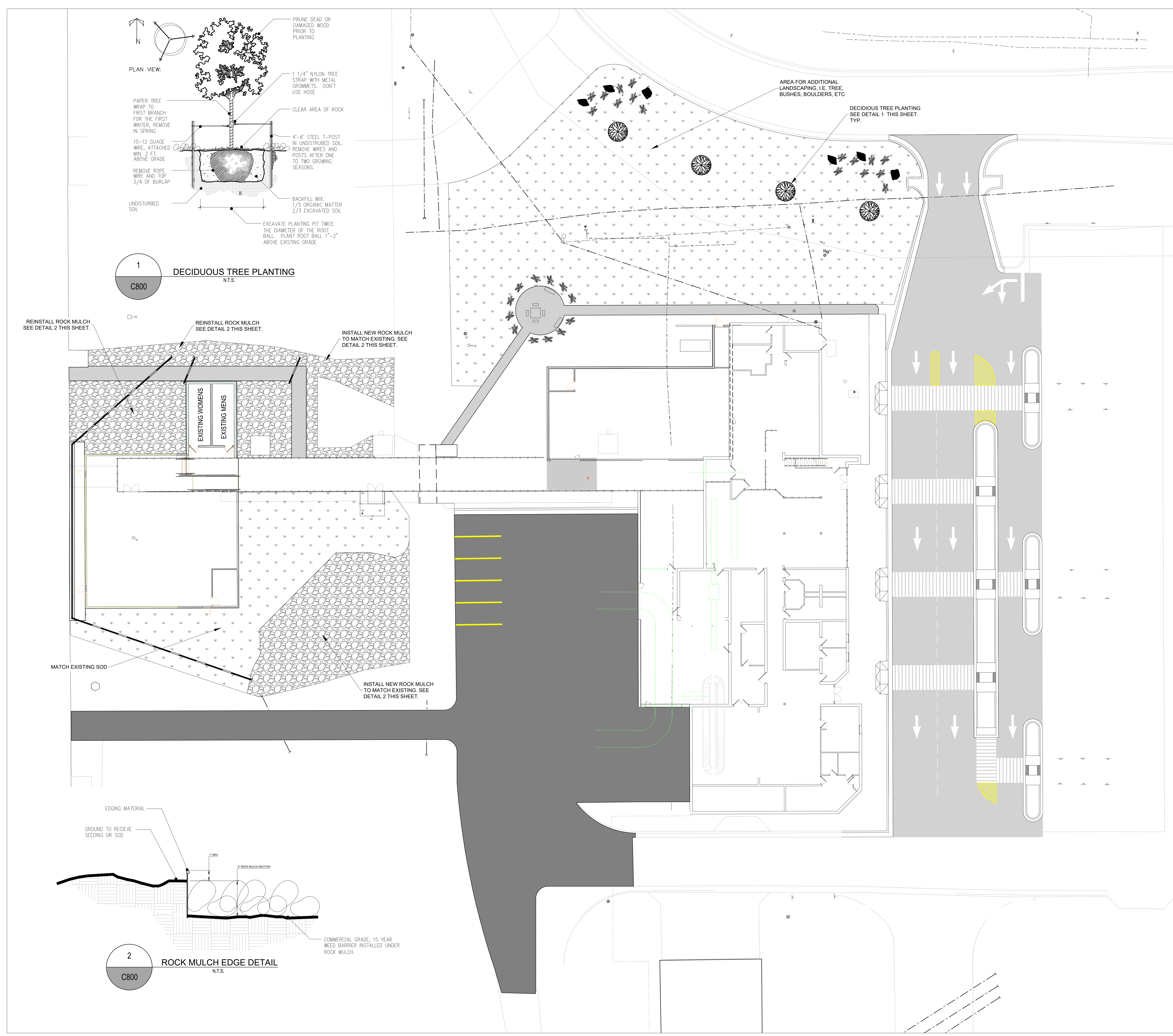
**SHEET REISSUED WITH ADDENDUM NO. 4**



**1**  
C800  
**DECIDUOUS TREE PLANTING**  
N.T.S.



**2**  
C800  
**ROCK MULCH EDGE DETAIL**  
N.T.S.



GENERAL SHEET NOTES:

- A. ALL ROOF SURFACES TO BE 1/4" VERTICAL PER 1'-0" HORIZONTAL MINIMUM U.N.O.
- B. PROVIDE ALL CRICKETS, SADDLES, FLASHING AND RELATED COMPONENTS AS REQUIRED TO PREVENT PONDING AND CREATE A COMPLETE ROOFING SYSTEM.
- C. PROVIDE CRICKETS AT ROOF CURBS AND/OR EQUIPMENT WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE TO ROOF DRAINS.
- D. COORDINATE W/ WALL SECTIONS AND STRUCTURAL FOR THE FOLLOWING ELEVATIONS:
  - a. GAVE HEIGHT
  - b. TRUSS BEARING ELEVATION
  - c. BOTTOM OF MTL. DECK
  - d. TOP OF MASONRY
- E. ALL ROOFTOP MECHANICAL, ELECTRICAL AND/OR PLUMBING EQUIPMENT SHOWN FOR REFERENCE ONLY. REFER TO MEP DOCUMENTS FOR SPECIFIC DESIGN INFO.
- F. REFER TO STRUCTURAL DRAWINGS FOR ROOF PENETRATIONS AND FRAMING REQUIREMENTS IN ROOFS.
- G. ALL TARGET ELEVATION MARKERS ARE TO TOP OF STEEL U.N.O.
- H. REFER TO LIGHTNING PROTECTION DRAWINGS FOR AIR TERMINAL DEVICES ON ROOF AND PARAPETS.
- I. REFER TO SHEET A-321 FOR TYPICAL ROOF DETAILS.
- J. REFER TO M-501 FOR ROOF CURB AND UNIT MOUNTING DETAIL.

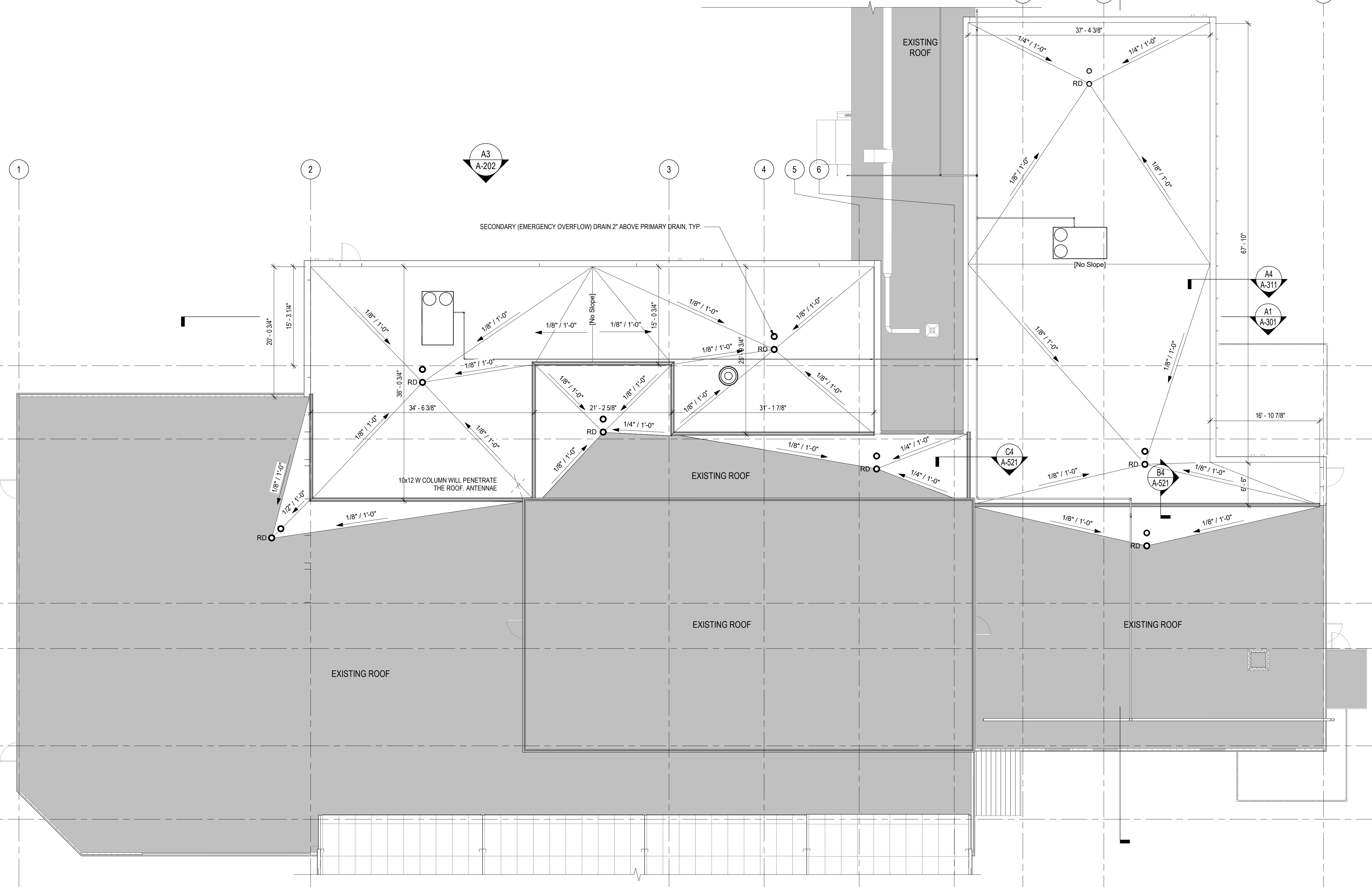
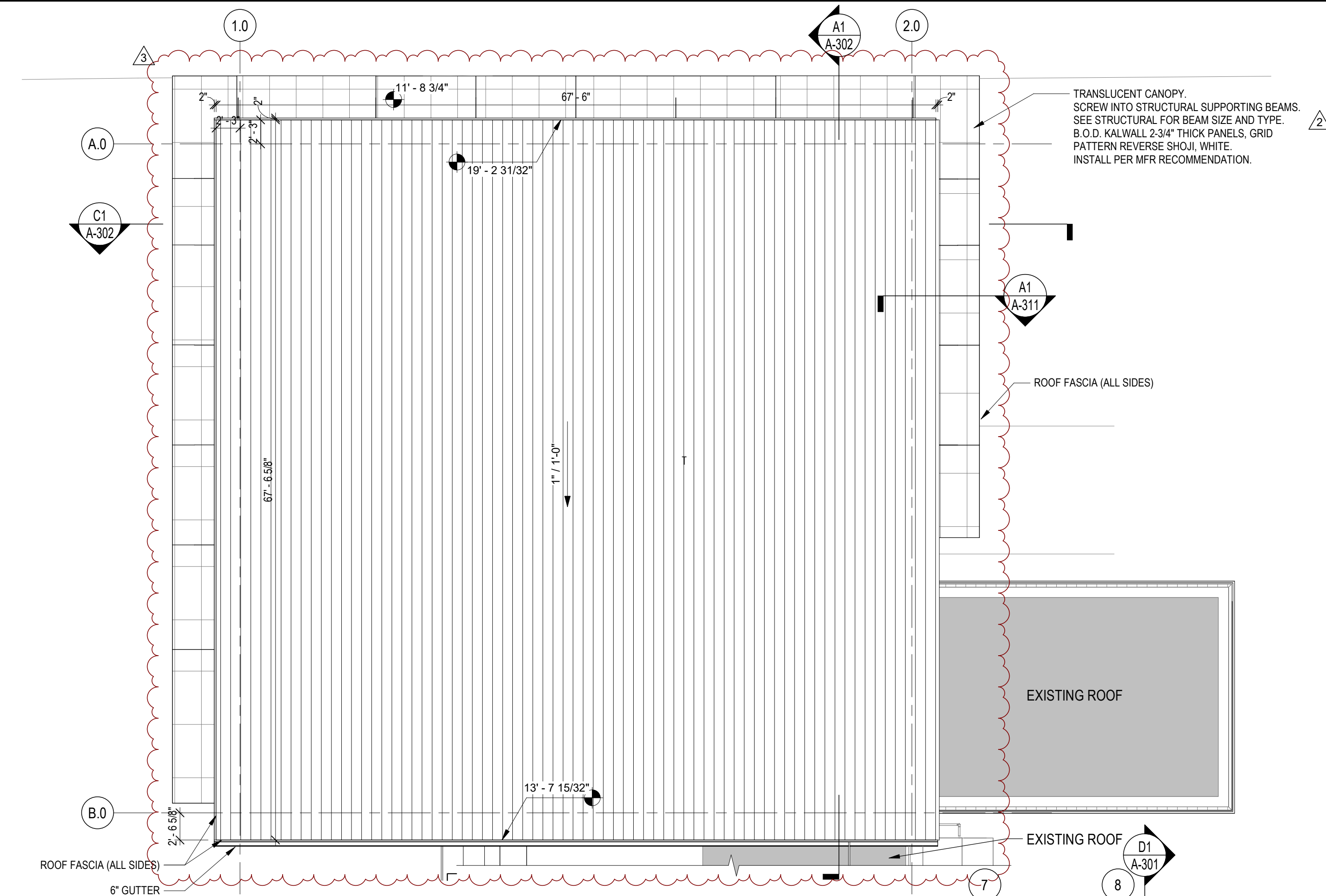
100%  
SUBMITTAL

ANDREW J. REMSTAD XXXXX XXXX/2024

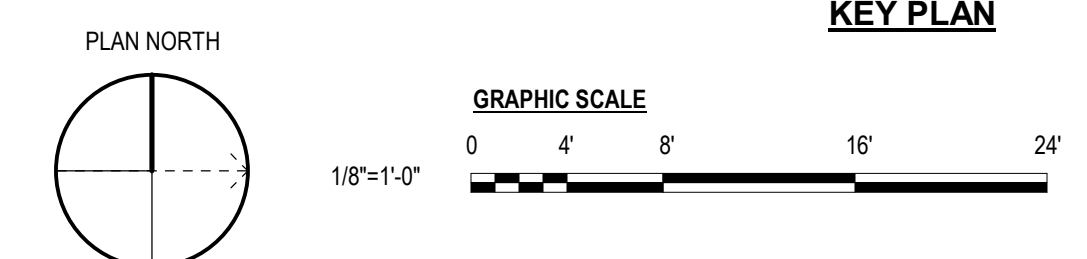
LEGEND:

- EXISTING BUILDING TO REMAIN
- NEW BUILDING ADDITION - TPO ROOFING - WHITE
- DS ALUMINUM DOWNSPOUT
- DIRECTION OF ROOF SLOPE TO ROOF DRAIN. NEW ROOF SLOPES INDICATED.
- RD ROOF DRAIN AND OVERFLOW DRAIN. REFER TO PLUMBING DRAWINGS
- VTR VENT THRU ROOF. REFER TO PLUMBING DRAWINGS
- RTU ROOFTOP MECHANICAL UNIT. REFER TO MECHANICAL DRAWINGS
- RH 36"x48" ROOF HATCH
- F FLUE STACK. REFER TO MECHANICAL DRAWINGS
- RV ROOF TOP VENTILATOR. REFER TO MECHANICAL DRAWINGS
- EF EXHAUST FAN. REFER TO MECHANICAL DRAWINGS
- CU CONDENSING UNIT. REFER TO MECHANICAL DRAWINGS
- SCH THRU-WALL SCUPPER WITH ALUMINUM CONDUCTOR HEAD AND 4"x4" ALUMINUM DOWNSPOUT
- STANDING SEAM METAL ROOFING SYSTEM

ISSUANCE SCHEDULE NUMBER	DATE	ISSUE FOR BID	DESCRIPTION
1	07/02/2024		BID ADD 3
2	07/18/2024		BID ADD 3
3	07/22/2024		BID ADD 4



A1 LOWER ROOF  
A-202 1/8" = 1'-0"



**TERMINAL RENOVATION**  
 3237 ARNOLD AVENUE SALINA, KANSAS 67401  
 A PROJECT FOR:  
**SALINA AIRPORT AUTHORITY**

PROJECT NO: 2021\_SLN\_02  
 DATE ISSUED: 04/26/2024  
 DESIGNED BY: AMA  
 DRAWN BY: RCS  
 CHECKED BY: AJR

SHEET NAME:  
ROOF PLAN

SHEET NO:  
**A-121**

### FINISH LEGEND

TAG	MATERIAL	MANUFACTURER	STYLE / TYPE / COLOR	FINISH	SIZE	INSTALLATION	REMARKS
ACT1	ADJUSTABLE CEILING TILE	ARMSTRONG CEILINGS	DUNE 1802 / BEVELLED TEGULAR / WHITE	-	24"X24"X5/8"	MECHANICALLY FASTENED, 4" A.F.F.	
CG1	CORNER GUARD (S ANLESS STEEL)	CONSTRUCTION SPECIALTIES	CO SERIES / CO-3	#4 SATIN FINISH	3" LEE X 5H	ADHESIVE METHOD	
CPT1	CARPET TILE - FIELD	PATCRAFT	CHARCOAL 1054 / METRIC 5 TEXTURED / IND000 00490	-	24"X24"X2/8"	ADHESIVE METHOD	
CPT2	CARPET TILE - TRANSITION	PATCRAFT	10204 / COLOR CHOICE 24X24 / LAVA 00549	-	24"X24"X2/8"	ADHESIVE METHOD	
MC1	MCM PANEL	CEI MATERIALS	R3000 / ALUCOBOND FACE / DUSTY CHARCOAL PVDF 3	-	-	-	
PNT1	PAINT - WALLS	SHERWIN WILLIAMS	SW 7004 SNOWBOUND	EGGSHELL	-	-	
PNT2	PAINT - CEILINGS	SHERWIN WILLIAMS	SW 7757 HIGH REFLECTIVE WHITE	FLAT	-	-	
PNT3	PAINT - HM DOORS AND FRAMES	SHERWIN WILLIAMS	SW 7600 SLUMMIT GRAY	-	-	-	
RB1	RUBBER BASE	TARKETT	JOHNSONITE / BASEWORKS THERMOSET RUBBER / 20 CHARCOAL	-	4H	-	
SC1	SEALED CONCRETE	SEE SPECS	-	-	-	-	
TR1	TRANSITION - CARPET TO CONCRETE	TARKETT	REDUCER 3/8" CRS-XX-B / BLACK	-	-	FIELD VERIFY	
TR2	TRANSITION - CARPET TO CARPET	TARKETT	WHEELED TRAFFIC TRANSITION / CTA-XX-M / BLACK	-	-	FIELD VERIFY	

### FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL MATERIAL	WALL FINISH	CEILING MATERIAL	CEILING FINISH	NOTES
101	TSA BAG SCREEN	SC1	RB1	GWB / CMU	PNT1	-	PNT2	
103	FIRE RISER ROOM	SC1	RB1	GWB	PNT1	-	PNT2	
104	TSA S.S.C.P.	CPT1	RB1	GWB	PNT1	ACT1	-	
105	ENCLOSED WALKWAY	EXIST.	RB1	GWB	PNT1	ACT1	-	FINISHES ON NEW WALLS ONLY.
105A	ARRIVAL CORRIDOR	EXIST.	RB1	GWB	PNT1	ACT1	-	FINISHES ON NEW WALLS ONLY.
108	MECH / ELEC	SC1	RB1	GWB	PNT1	-	PNT2	
110	HOLDROOM	CPT1	RB1	GWB	PNT1	-	PNT2	
111	SKYWEST STORAGE	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	
112	BAGGAGE PICK-UP	EXIST. / CPT2	EXIST.	EXIST.	EXIST.	ACT1	-	SEE PLAN FOR CPT2 LOCATION
112	ATO	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	
113	FLEX SPACE	SC1	RB1	GWB / CMU	PNT1	-	PNT2	
114	PRIVATE SCREENING ROOM	CPT1	RB1	GWB	PNT1	ACT1	-	
115	PET RELIEF AREA	-	-	-	-	-	-	EXTERIOR SPACE
117	BAGGAGE HANDLING	CPT1	RB1	GWB / CMU	PNT1	EXIST.	PNT2	ADD 5/8" GWB TO EXISTING CMU

### EQUIPMENT SCHEDULE

QTY	TAG	DESCRIPTION	CFCI	GFCI	OFCI	OFQI	REQUIRES POWER / DATA	REQUIRES PLUMBING	REQUIRES BLOCKING	MANUFACTURER / MODEL	COMMENTS
1	ADAG	ADA GATE									EXISTING TO BE RELOCATED BY TSA
1	AIT	ADVANCED IMAGING TECHNOLOGY						X			EXISTING TO BE RELOCATED BY TSA
1	AVS	ALTERNATE VIEWING STATION						X			EXISTING TO BE RELOCATED BY TSA
3	B1	BENCH - 72L									EXISTING TO BE RELOCATED BY TSA
5	BAR48	BARRIER - 48L									EXISTING TO BE RELOCATED BY TSA
1	BC	BAGGAGE CAROUSEL	X				X				FLAT PLATE CAROUSEL. PROVIDE STAINLESS STEEL BRUSHED FINISH.
1	BLS	BOTTLED LIQUIDS SCANNERS						X			EXISTING TO BE RELOCATED BY TSA
2	BP	BOARDING PODIUM									SEE DETAILS
4	CG1	CORNER GUARD	X								SEE FINISH LEGEND
1	CR	COMPENSATE ROLLERS									EXISTING TO BE RELOCATED BY TSA
2	EB	EMPTY BINS									EXISTING TO BE RELOCATED BY TSA
1	EDS	EXPLOSIVE DETECTION SYSTEMS						X			EXISTING TO BE RELOCATED BY TSA
2	ETD	ELECTRONIC TRACE DETECTION						X			EXISTING TO BE RELOCATED BY TSA
1	OC	OPERATOR CART						X			EXISTING TO BE RELOCATED BY TSA
2	PM	PASSENGER INSPECTION MAT									EXISTING TO BE RELOCATED BY TSA
1	QS	QUEUING STANCHIONS									EXISTING TO BE RELOCATED BY TSA
1	WTMD	WALK-THROUGH METAL DETECTOR						X			EXISTING TO BE RELOCATED BY TSA

### FURNITURE SCHEDULE

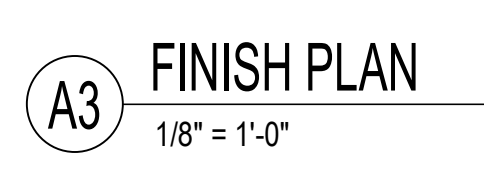
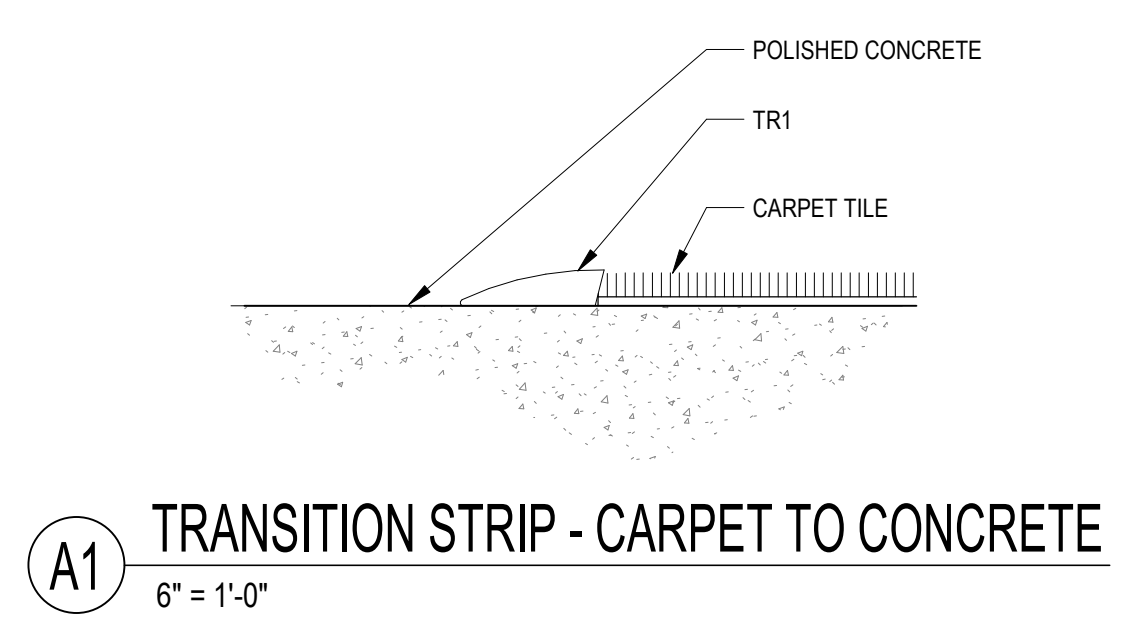
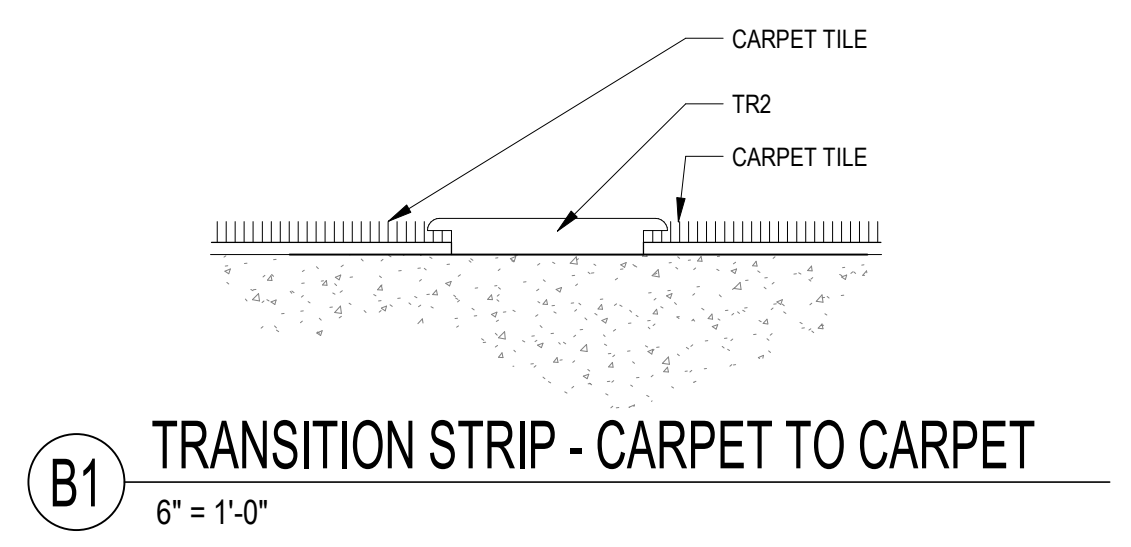
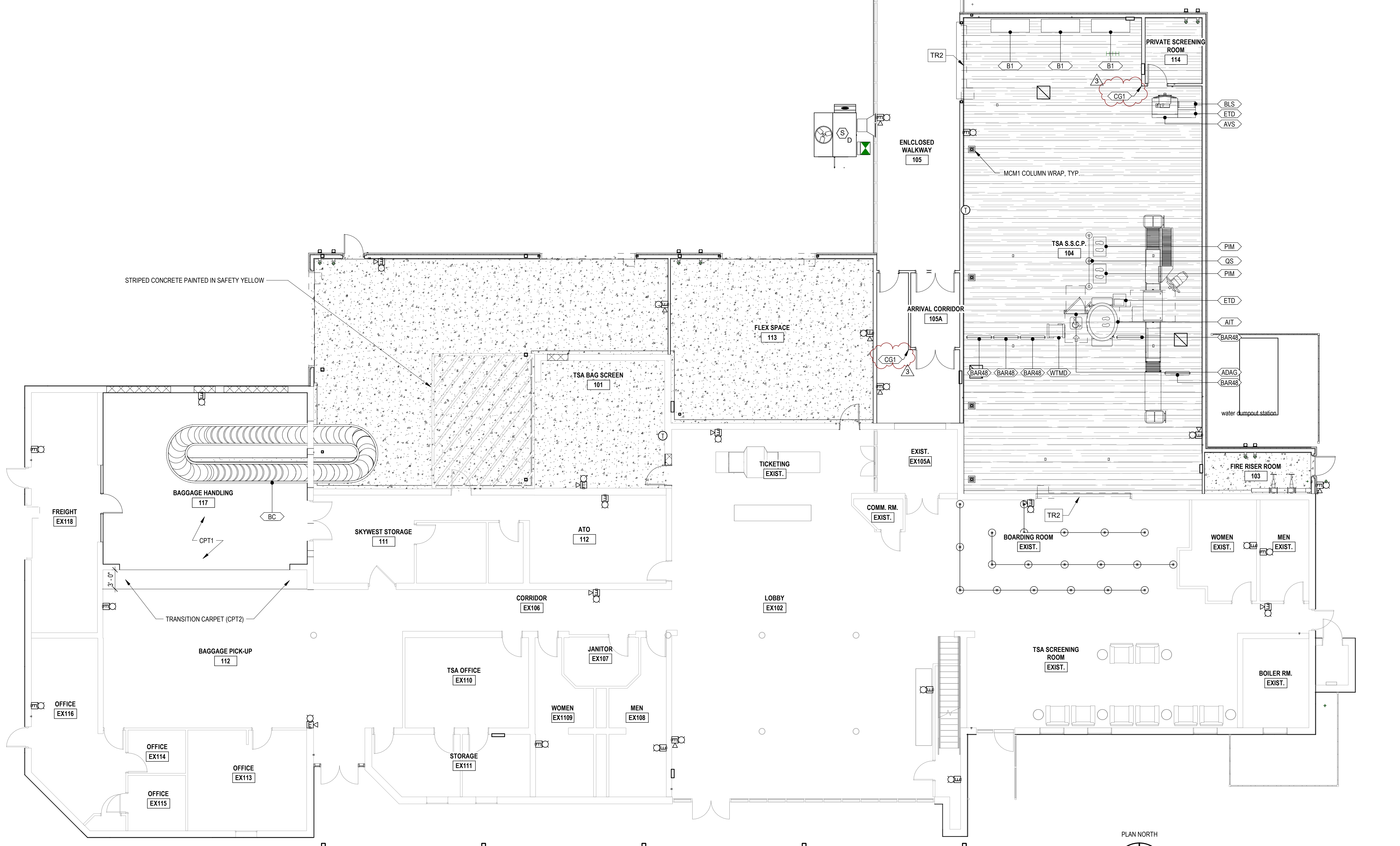
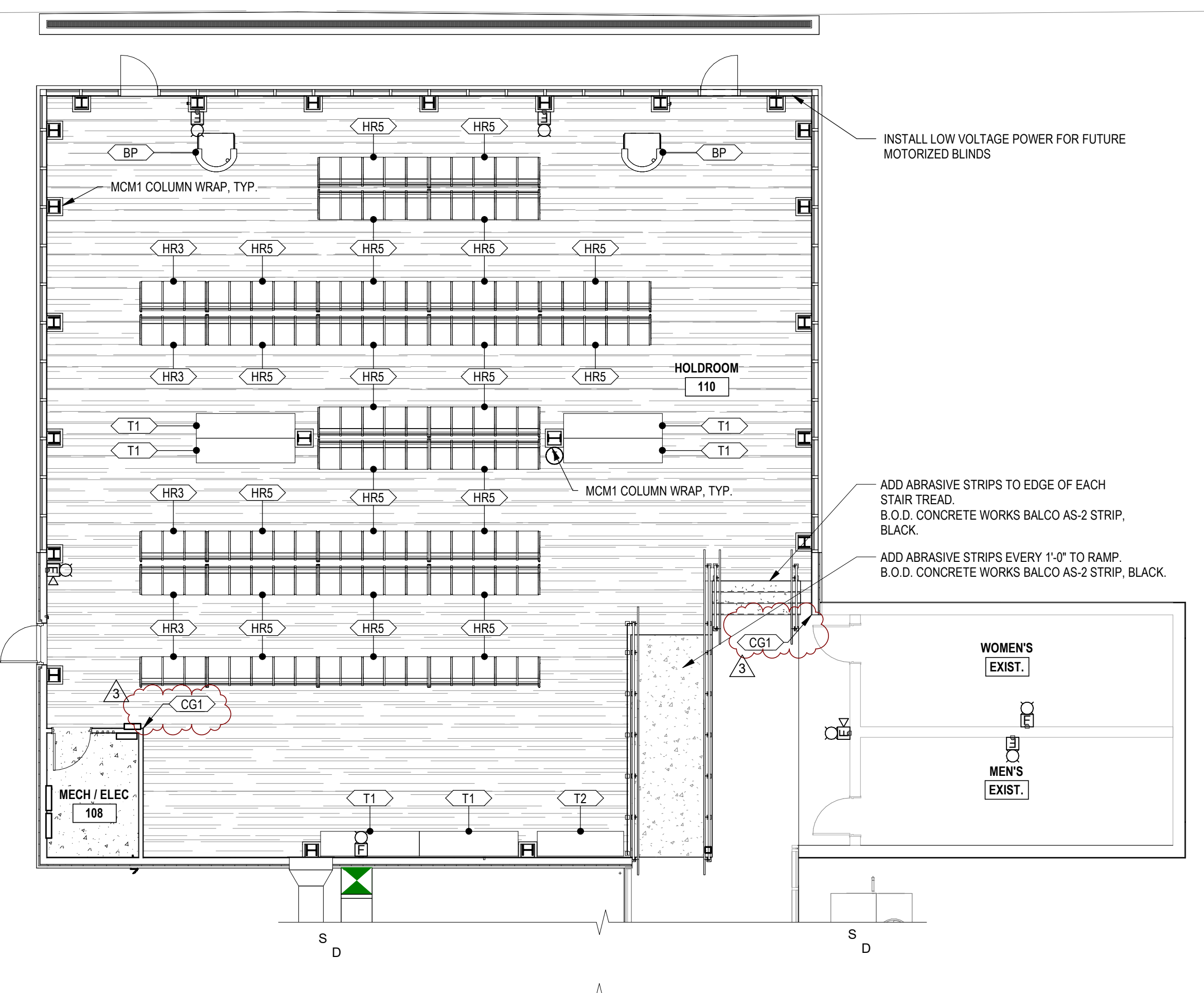
QTY	TAG	DESCRIPTION	OFQ	MANUFACTURER	NOTES
5	HR3	HOLD ROOM SEATING - 5 SEATER	X	ACTIU BERBEGAL Y FORMAS S.A.	
25	HRS	HOLD ROOM SEATING - 5 SEATER	X	ACTIU BERBEGAL Y FORMAS S.A.	
6	T1	TABLE - 96"L X 24"W X 42"H	X		
1	T2	TABLE - 84"L X 24"W X 42"H	X		

### GENERAL SHEET NOTES:

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
- REFERENCE THE EQUIPMENT SCHEDULE ON SHEET A-701 FOR ALL ITEMS TAGGED WITH THE FOLLOWING SYMBOL.
- ALL FLOOR FINISH TRANSITIONS THAT OCCUR AT DOOR THRESHOLDS SHALL BE CONCEALED BY A CLOSED DOOR.
- ALL NEW WALLS TO RECEIVE PNT1 U.N.O. BY FINISH PLANS AND FINISH SCHEDULE.

### LEGEND:

- CPT1
- SC1
- EXISTING



ISSUANCE SCHEDULE	NUMBER	DATE	DESCRIPTION
	1	07/02/2024	ISSUE FOR BID
	3	07/19/2024	BID ADD. 4

### FINISH LEGEND

TAG	MATERIAL	MANUFACTURER	STYLE / TYPE / COLOR	FINISH	SIZE	INSTALLATION	REMARKS
ACT1	ADJUSTABLE CEILING TILE	ARMSTRONG CEILINGS	DUNE 1802 / BEVELED TEGULAR / WHITE	-	24"X24"X5/8"	MECHANICALLY FASTENED, 4" A.F.F.	
CG1	CORNER GUARD (S ANLESS STEEL)	CONSTRUCTION SPECIALTIES	CO SERIES / CO-3	#4 SATIN FINISH	3" LEE X 5H	ADHESIVE METHOD	
CPT1	CARPET TILE - FIELD	PATCRAFT	CHARCOAL 1054 / METRIC 5 TEXTURED / IND000 00490	-	24"X24"X26"	ADHESIVE METHOD	
CPT2	CARPET TILE - TRANSITION	PATCRAFT	10204 / COLOR CHOICE 24X24 / LAVA 00549	-	24"X24"X26"	ADHESIVE METHOD	
MC1	MCM1 PANEL	CEI MATERIALS	R3000 / ALUCOBOND FACE / DUSTY CHARCOAL PVDF 3	-	-	-	
PNT1	PAINT - WALLS	SHERWIN WILLIAMS	SW 7004 SNOWBOUND	EGGSHELL	-	-	
PNT2	PAINT - CEILINGS	SHERWIN WILLIAMS	SW 7575 HIGH REFLECTIVE WHITE	FLAT	-	-	
PNT3	PAINT - HM DOORS AND FRAMES	SHERWIN WILLIAMS	SW 7600 SUMMIT GRAY	-	-	-	
RB1	RUBBER BASE	TARKETT	JOHNSONITE / BASEWORKS THERMOSET RUBBER / 20 CHARCOAL	-	4H	-	
SC1	SEALED CONCRETE	SEE SPECS	-	-	-	-	
TR1	TRANSITION - CARPET TO CONCRETE	TARKETT	REDUCER 3/8" CRS-XX-B / BLACK	-	-	FIELD VERIFY	
TR2	TRANSITION - CARPET TO CARPET	TARKETT	WHEELED TRAFFIC TRANSITION / CTA-XX-M / BLACK	-	-	FIELD VERIFY	

### FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL MATERIAL	WALL FINISH	CEILING MATERIAL	CEILING FINISH	NOTES
101	TSA BAG SCREEN	SC1	RB1	GWB / CMU	PNT1	-	PNT2	
103	FIRE RISER ROOM	SC1	RB1	GWB	PNT1	-	PNT2	
104	TSA S.S.C.P.	CPT1	RB1	GWB	PNT1	ACT1	-	
105	ENCLOSED WALKWAY	EXIST.	RB1	GWB	PNT1	ACT1	-	FINISHES ON NEW WALLS ONLY.
105A	ARRIVAL CORRIDOR	EXIST.	RB1	GWB	PNT1	ACT1	-	FINISHES ON NEW WALLS ONLY.
108	MECH/ELEC	SC1	RB1	GWB	PNT1	-	PNT2	
110	HOLDROOM	CPT1	RB1	GWB	PNT1	-	PNT2	
111	SKYWEST STORAGE	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	
112	BAGGAGE PICK-UP	EXIST. / CPT2	EXIST.	EXIST.	EXIST.	ACT1	-	SEE PLAN FOR CPT2 LOCATION
112	ATO	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	
113	FLEX SPACE	SC1	RB1	GWB / CMU	PNT1	-	PNT2	
114	PRIVATE SCREENING ROOM	CPT1	RB1	GWB	PNT1	ACT1	-	
115	PET RELIEF AREA	-	-	-	-	-	-	EXTERIOR SPACE
117	BAGGAGE HANDLING	CPT1	RB1	GWB / CMU	PNT1	EXIST.	PNT2	ADD 5/8" GWB TO EXISTING CMU

### EQUIPMENT SCHEDULE

QTY	TAG	DESCRIPTION	CFCI	GFCI	OFCI	OFQI	REQUIRES POWER / DATA	REQUIRES PLUMBING	REQUIRES BLOCKING	MANUFACTURER / MODEL	COMMENTS
1	ADAG	ADA GATE									EXISTING TO BE RELOCATED BY TSA
1	AIT	ADVANCED IMAGING TECHNOLOGY					X				EXISTING TO BE RELOCATED BY TSA
1	AVS	ALTERNATE VIEWING STATION					X				EXISTING TO BE RELOCATED BY TSA
3	B1	BENCH - 72L									EXISTING TO BE RELOCATED BY TSA
5	BAR48	BARRIER - 48L									EXISTING TO BE RELOCATED BY TSA
1	BC	BAGGAGE CAROUSEL	X				X				FLAT PLATE CAROUSEL. PROVIDE STAINLESS STEEL BRUSHED FINISH.
1	BLS	BOTTLED LIQUIDS SCANNERS					X				EXISTING TO BE RELOCATED BY TSA
2	BP	BOARDING PODIUM									SEE DETAILS
4	CG1	CORNER GUARD	X								SEE FINISH LEGEND
1	CR	COMPENSATE ROLLERS									EXISTING TO BE RELOCATED BY TSA
2	EB	EMPTY BINS									EXISTING TO BE RELOCATED BY TSA
1	EDS	EXPLOSIVE DETECTION SYSTEMS					X				EXISTING TO BE RELOCATED BY TSA
2	ETD	ELECTRONIC TRACE DETECTION					X				EXISTING TO BE RELOCATED BY TSA
1	OC	OPERATOR CART					X				EXISTING TO BE RELOCATED BY TSA
2	PM	PASSENGER INSPECTION MAT									EXISTING TO BE RELOCATED BY TSA
1	QS	QUEUING STANCHIONS									EXISTING TO BE RELOCATED BY TSA
1	WTMD	WALK-THROUGH METAL DETECTOR					X				EXISTING TO BE RELOCATED BY TSA

### FURNITURE SCHEDULE

QTY	TAG	DESCRIPTION	OFQI	MANUFACTURER	NOTES
5	HR3	HOLD ROOM SEATING - 5 SEATER	X	ACTIU BERBEGAL Y FORMAS S.A.	FURNISHED BY OWNER
25	HRS	HOLD ROOM SEATING - 5 SEATER	X	ACTIU BERBEGAL Y FORMAS S.A.	FURNISHED BY OWNER
6	T1	TABLE - 96"L X 24"W X 42"H	X		FURNISHED BY OWNER
1	T2	TABLE - 84"L X 24"W X 42"H	X		FURNISHED BY OWNER

### GENERAL SHEET NOTES:

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
- REFERENCE THE EQUIPMENT SCHEDULE ON SHEET A-701 FOR ALL ITEMS TAGGED WITH THE FOLLOWING SYMBOL.
- ALL FLOOR FINISH TRANSITIONS THAT OCCUR AT DOOR THRESHOLDS SHALL BE CONCEALED BY A CLOSED DOOR.
- ALL NEW WALLS TO RECEIVE PNT1 U.N.O. BY FINISH PLANS AND FINISH SCHEDULE.

### LEGEND:

- CPT1
- SC1
- EXISTING

**WOOLPERT**  
720 South Colorado Blvd, Suite 1200-S  
Glendale, CO 80246  
303.524.3030

**100%**  
SUBMITTAL

ANDREW J. REMSTAD XXXXX XXXX/2024

ISSUANCE SCHEDULE	NUMBER	DATE	DESCRIPTION
	1	07/10/2024	ISSUE FOR BID
	3	07/22/2024	BID ADD 4

**SALINA Airport Authority**

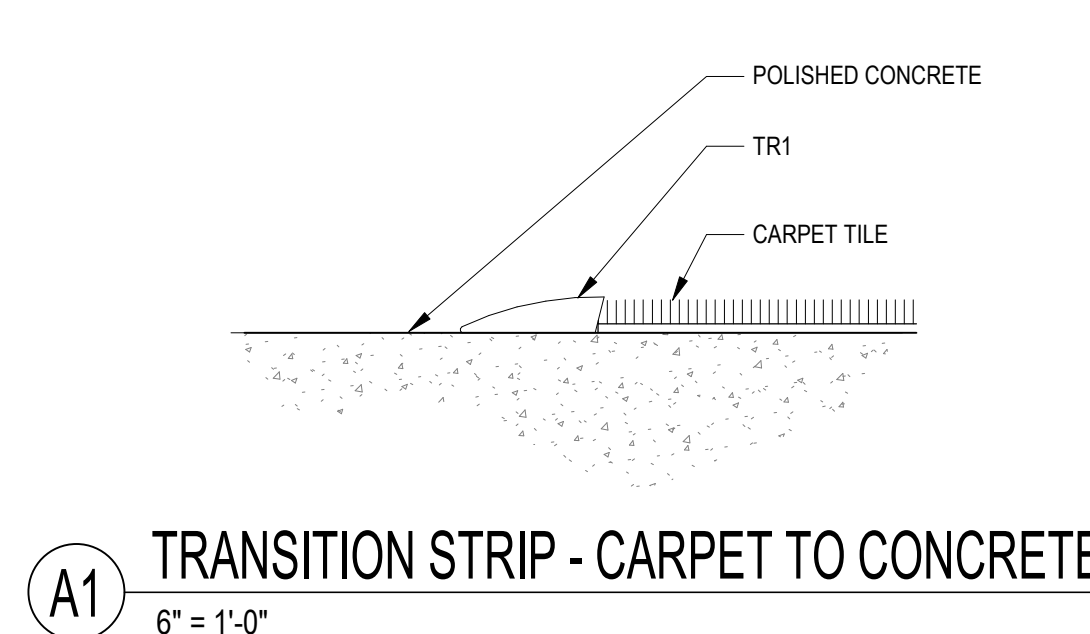
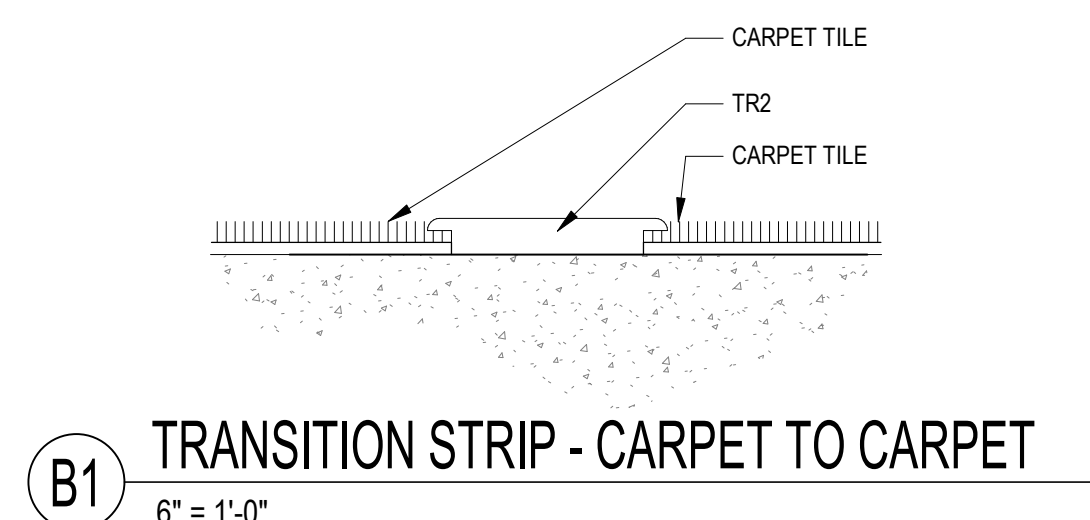
**TERMINAL RENOVATION**  
3237 ARNOLD AVENUE SALINA, KANSAS 67401  
A PROJECT FOR:  
**SALINA AIRPORT AUTHORITY**

PROJECT NO: 2021\_SLN\_02  
DATE ISSUED: 04/26/2024  
DESIGNED BY: AMA  
DRAWN BY: Author  
CHECKED BY: AJR

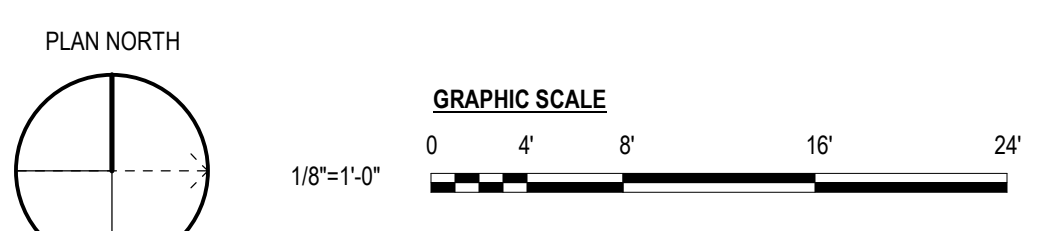
SHEET NAME:  
**FINISH AND EQUIPMENT PLAN AND SCHEDULES**

SHEET NO:

**A-701**



**A3** FINISH PLAN  
1/8" = 1'-0"



7/22/2024 3:03:35 PM Autodesk Docs:\salina-sj-n-Terminal Renovation\SLN - Terminal Improvements - ARCH - R23.rvt

PACKAGE UNIT SCHEDULE (GAS/DX COOLING)																		
MARK	NO.	MANUFACTURER / MODEL NO.	TYPE	SUPPLY FAN				COOLING DESIGN				HEATING DESIGN		ELECTRICAL			REMARKS	
				CFM	FRESH AIR (CFM)	ESP (IN. W.C.)	HP	EAT DB (°F)	EAT WB (°F)	TOTAL MBH	SENSIBLE MBH	INPUT MBH	OUTPUT MBH	VOLT	PHASE	MCA		MCCP
PKG	1	EXISTING																
PKG	2	EXISTING																
PKG	3	EXISTING																
PKG	4	LENNOX / LGM180U5		5750	575	0.75	5.00	80	67	182.5	136.8	260	211	208	3	79	90	A,B,C,D,F,G
PKG	5	LENNOX / LGM092U5E		3,000	300	0.75	3.75	80	67	91.1	86.2	180	144	208	3	39	50	A,B,C,D,E,G
PKG	6	LENNOX / LGM092U5E		3,000	300	0.75	3.75	80	67	91.1	86.2	180	144	208	3	39	50	A,B,C,D,E,G

- GENERAL NOTES:**
1. NOISE SITE EVALUATION = 300 FT.
  2. COOLING LOADS INCLUDE SUPPLY FAN MOTOR HEAT.
  3. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND ENTIRE UNIT.
  4. PROVIDE WITH HINGED ACCESS DOORS.
  5. DUCT MOUNTED SMOKE DETECTORS SHALL BE LOCATED IN SUPPLY. COORDINATE WITH FIRE ALARM CONTRACTOR & ELECTRICAL.
  6. FURNISH STANDARD COIL WITH HAIL GUARDS, UNIT MOUNTED NON-FUSED DISCONNECT AND POWERED CONVENIENCE OUTLET.
- REMARKS:**
- A. PROVIDE FACTORY INSTALLED HUMIDIDITROL HOT GAS REHEAT HUMIDITY CONTROL.
  - B. PROVIDE SINGLE ENTHALPY ECONOMIZER CONTROL.
  - C. FURNISH WITH FACTORY INSTALLED GFI, FIELD WIRED.
  - D. PROVIDE WITH FACTORY INSTALLED NON-FUSED DISCONNECT.
  - E. PROVIDE WITH ROOF CURB.
  - F. UNIT MOUNTED ON 26" HORIZONTAL DISCHARGE CURB FOR CONCRETE EQUIPMENT PAD INSTALLATION.
  - G. 100% BAROMETRIC RELIEF THROUGH UNIT.

AIR DEVICE SCHEDULE						
MARK	MANUFACTURER / MODEL NO.	SERVICE	FACE SIZE	TYPE	MATERIAL	REMARKS
A	TITUS / TMS-AA	SUPPLY	24"x24"	CEILING MOUNTED	ALUMINUM	
B	TITUS / 50F	RETURN	24"x24"	CEILING MOUNTED	ALUMINUM	
C	TITUS / 55FL	RETURN	SEE PLANS	SURFACE MOUNTED	ALUMINUM	
D	TITUS / S300FS	SUPPLY	18"x4"	DUCT MOUNTED	ALUMINUM	
E	TITUS / 250-AA	SUPPLY	16"x10"	DUCT MOUNTED	ALUMINUM	
F	TITUS / TMR-AA	SUPPLY	6"	DUCT MOUNTED	ALUMINUM	

- GENERAL NOTES:**
1. SEE HVAC PLANS FOR LOCATIONS AND QUANTITIES OF EACH AIR DEVICE.
  2. ALL AIR DEVICES SHALL BE TESTED IN ACCORDANCE WITH ASHRAE STANDARD 70-91.
  3. ALL DIFFUSERS SHALL BE TESTED IN ACCORDANCE WITH AIR DIFFUSION COUNCIL (ADC) CODE 1062R4. SOUND DATA FOR DIFFUSERS SHALL BE CALCULATED IN ACCORDANCE WITH INTERNATIONAL STANDARD ISO 3741 FOR COMPARISON.
  4. MAXIMUM NOISE CRITERIA (NC) SHALL BE 35 OR LESS UNLESS OTHERWISE NOTED.
  5. ALL OPPOSED BLADE AND/OR EXTRACTOR DAMPERS SHALL BE INTEGRAL TO THE DIFFUSERS AND GRILLES. CONTRACTOR SHALL VERIFY THE SURFACE TYPE AND SUBSTITUTE APPROPRIATE DIFFUSER/FRAME WHERE NECESSARY.
  6. PLENUMS AND NECKS SHALL BE CONSTRUCTED OF ALUMINUM IN ROUND NECK SIZES. ALL DIFFUSERS SHALL BE INSTALLED WITH GALVANIZED STEEL ELBOWS AT CONNECTION TO DIFFUSER AND BRANCH DUCT BALANCING DAMPERS.
  7. COORDINATE FINAL FINISH WITH ARCHITECT.

UNIT HEATER SCHEDULE (ELECTRIC)									
MARK	NO.	MANUFACTURER / MODEL NO.	AREA SERVED	CFM	ELECTRICAL				REMARKS
					VOLT	PHASE	KW	AMPS	
EUH	1	QMARK / LFK240F	FIRE RISER ROOM	100	208	1	1.5	7.2	

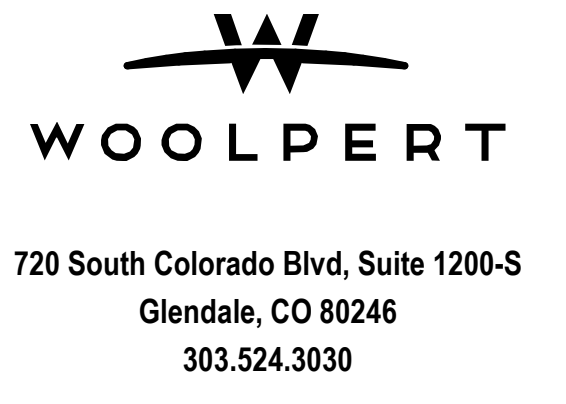
EXHAUST FAN SCHEDULE												
MARK	NO.	MANUFACTURER / MODEL NO.	LOCATION	TYPE	CFM	SONES	ELECTRICAL					REMARKS
							VOLT	PHASE	WATTS	HP	MCA	
EF	1	GREENHECK / CUE-095-G	SEE PLANS	UPBLAST	511	6.4	120	1	--	1/12	--	

PIPE INSULATION SCHEDULE - MECHANICAL									
PIPING SYSTEM	INSULATION TYPE	JACKET TYPE	VAPOR BARRIER MASTIC	PIPE INSULATION THICKNESS (INCHES) FOR NOMINAL PIPE DIAMETERS (INCHES)					REMARKS
				< 1"	1" TO < 1-1/2"	1-1/2" TO < 4"	4" TO < 8"	> 8"	
DOMESTIC COLD WATER	CELLULAR FOAM	ALL SERVICES	YES	1"	1"	1"	1"	1"	A
REFRIGERANT LIQUID	CELLULAR FOAM	ALL SERVICES	YES	1/2"	1"	1"	1"	1"	A
REFRIGERANT SUCTION	CELLULAR FOAM	ALL SERVICES	YES	1/2"	1/2"	1"	1"	1-1/2"	A
ROOF DRAIN PIPING	FIBERGLASS	ALL SERVICE JACKET	YES	-	-	1/2"	1/2"	1/2"	A

- GENERAL NOTES:**
1. REFER TO SPECIFICATIONS FOR FURTHER DETAILS ON PIPE MATERIAL, JACKETS AND INSULATION.
  2. ALL EXTERIOR PIPING AND PIPING EXPOSED WITHIN INTERIOR SPACES SHALL BE INSTALLED WITH EMBOSSED ALUMINUM JACKET.
- REMARKS:**
- A. PIPING SHALL BE INSULATED IN ACCORDANCE WITH IECC SECTION C403.11.3.

DUCTWORK MATERIAL AND INSULATION SCHEDULE				
DUCT SYSTEM	DUCT MATERIAL	DUCT INSULATION TYPE	DUCT INSULATION THICKNESS	REMARKS
EXHAUST	GALVANIZED STEEL	NONE	NONE	A,B
RETURN	GALVANIZED STEEL	DUCT LINER	1"	A,B,C
RETURN - RECTANGULAR - OUTSIDE AIR	GALVANIZED STEEL	DUCT WRAP	2"	A,B,C
SUPPLY - RECTANGULAR - EXTERIOR	GALVANIZED STEEL	DUCT WRAP	2"	A,B,C
SUPPLY - RECTANGULAR - INTERIOR	GALVANIZED STEEL	DUCT LINER	1"	A,B,C
SUPPLY - RUN OUTS	FLEXIBLE DUCT	FLEXIBLE GLASS FIBER	1-1/2"	A,B,C
SUPPLY - SPIRAL EXPOSED	GALVANIZED STEEL	DUCT LINER	1"	A,B,C,D
TRANSFER AIR	GALVANIZED STEEL	DUCT LINER	1"	A,B,C

- GENERAL NOTES:**
1. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS ON DUCT MATERIAL AND INSULATION.
- REMARKS:**
- A. DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND SMACNA STANDARDS.
  - B. JOINTS, SEAMS AND CONNECTIONS SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS, OR TAPES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
  - C. DUCTS AND PLENUMS SHALL BE INSULATED IN ACCORDANCE WITH IECC SECTION C403.11.1.
  - D. PROVIDE PAINT GRIP FINISH.



**100%**  
SUBMITTAL

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	06/25/2024	ISS SUBMITTAL
B	06/07/2024	ISS SUBMITTAL
C	07/02/2024	ISSUED FOR BID
D	07/22/2024	BID ADDENDUM #4



**TERMINAL IMPROVEMENTS**  
3237 ARNOLD AVENUE SALINA, KANSAS 67401  
A PROJECT FOR:  
**SALINA AIRPORT AUTHORITY**

PROJECT NO: 2021\_SLN\_02  
DATE ISSUED: 06/10/24  
DESIGNED BY: C. CROW  
DRAWN BY: B. MARTIN  
CHECKED BY: M. WENTZEL

SHEET NAME:  
MECHANICAL SCHEDULES

SHEET NO:  
**M-601**

BID ADDENDUM REDLINES FOR REFERENCE ONLY TO QUESTION #22

**100%**  
SUBMITTAL

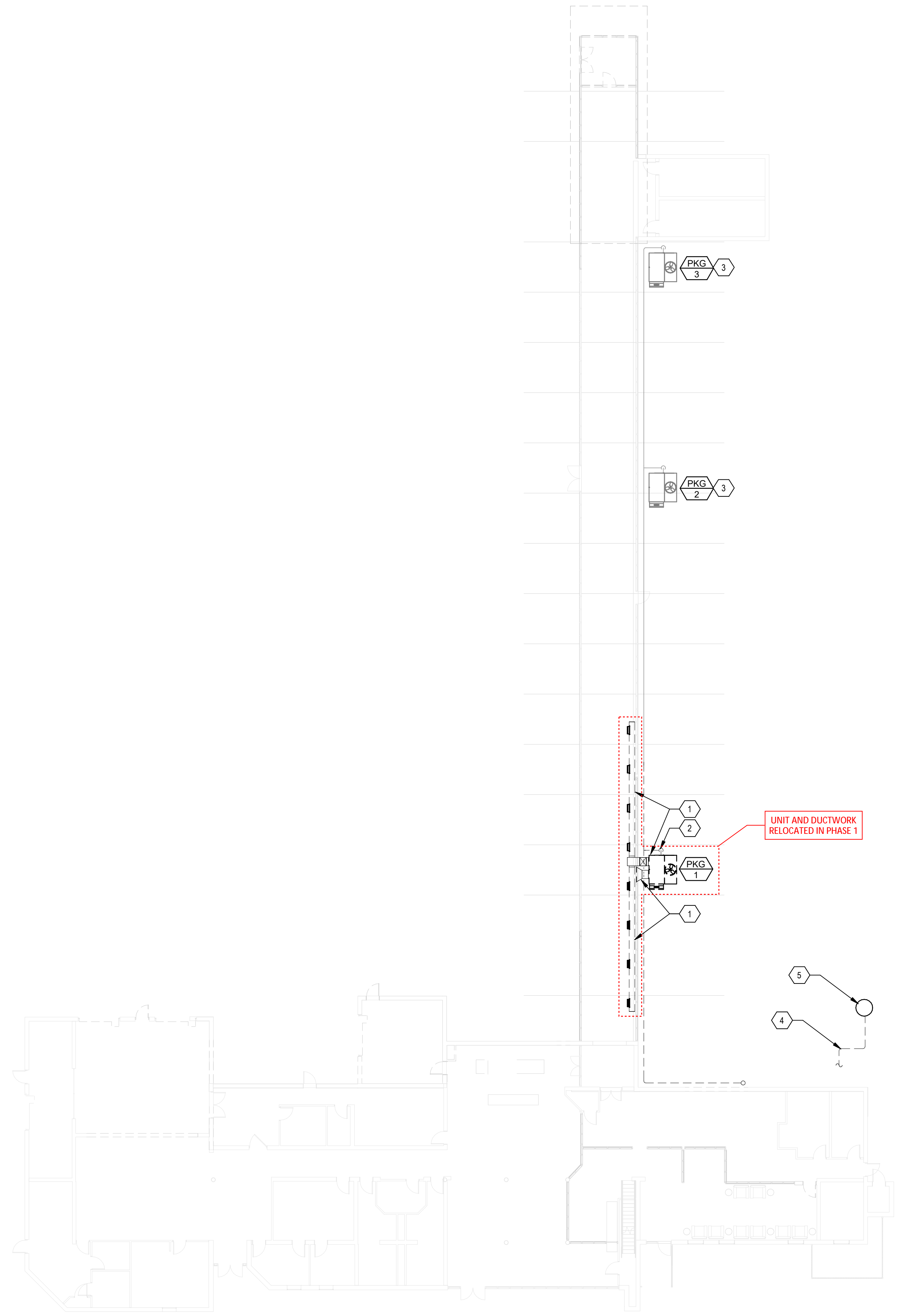
**GENERAL SHEET NOTES:**

- A. A LICENSED AND BONDED CONTRACTOR SHALL BE USED FOR INSTALLATION. UFC, UMC AND LOCAL CODES SHALL BE FOLLOWED DURING INSTALLATION.
- B. CONTRACTOR TO VERIFY AND COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- C. CONTRACTOR TO LOCATE AND VERIFY LOCATION OF EXISTING PIPING, VALVES, EQUIPMENT, AND ALL HVAC RELATED MATERIALS WITHIN THE SCOPE OF WORK. DIMENSIONS AND LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. ALL DUCT, PIPING, WIRING, EQUIPMENT TO BE DEMOLISHED MAY INCLUDE MORE THAN WHAT IS SHOWN ON THE PLANS. CONTRACTOR IS RESPONSIBLE FOR DEMOLISHING ALL HVAC-RELATED MATERIAL IN THE AREAS SHOWN, DESPITE WHETHER OR NOT THESE ITEMS ARE GRAPHICALLY SHOWN.
- D. CONTRACTOR IS RESPONSIBLE FOR EFFECTIVELY REMOVING ALL EQUIPMENT AND MATERIALS WITHOUT DAMAGING EXISTING MATERIALS OR STRUCTURES THAT ARE TO REMAIN. IF SUCH DAMAGE OCCURS, CONTRACTOR SHALL REPAIR AND/OR REPLACE DAMAGED MATERIALS WITH NO COST TO THE OWNER. ANY SYSTEMS/EQUIPMENT/DUCT/ETC THAT TRAVERSE THIS DEMOLITION AREA AND SERVE ADJACENT OCCUPIED SPACES SHALL REMAIN. CONTRACTOR SHALL VERIFY ALL SUCH SCENARIOS WITH MECHANICAL ENGINEER.
- E. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL REMOVED EQUIPMENT AND MATERIAL.
- F. CONTRACTOR TO VERIFY AND COORDINATE W/ ELECTRICAL ENGINEER AND CONTRACTOR FOR WIRING AND POWER REQUIRED.
- G. ALL PIPING, EQUIPMENT AND HVAC RELATED MATERIALS SHOWN TO REMAIN WITHIN THE SCOPE OF WORK SHALL BE INSPECTED AND REPAIRED TO ENSURE DUCT WORK IS FREE OF LEAKS AND SYSTEMS ARE OPERATING AS ORIGINALLY INTENDED.
- H. SEE SHEET M-801 FOR MECHANICAL DIAGRAMS AND SCHEDULES.

**SHEET KEYNOTES:**

- 1. REMOVE AND RETAIN FOR REINSTALL.
- 2. DISCONNECT GAS LINE BACK TO MAIN AND CAP.
- 3. EXISTING UNIT TO REMAIN.
- 4. DEMO EXISTING WATER SUPPLY TO BUILDING FROM EXISTING METER PIT TO BUILDING. FIELD VERIFY EXACT LOCATION.
- 5. APPROXIMATE METER PIT LOCATION. FIELD VERIFY EXACT LOCATION.

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	04/25/2024	65% SUBMITTAL
B	06/07/2024	90% SUBMITTAL
C	07/02/2024	ISSUED FOR BID



**TERMINAL IMPROVEMENTS**  
3237 ARNOLD AVENUE SALINA, KANSAS 67401  
A PROJECT FOR:  
**SALINA AIRPORT AUTHORITY**

PROJECT NO: 2021\_SLN\_02  
DATE ISSUED: 06/10/24  
DESIGNED BY: C. CROW  
DRAWN BY: B. MARTIN  
CHECKED BY: M. WENTZEL

SHEET NAME:  
**MECHANICAL DEMOLITION PLAN**

SHEET NO:  
**MD-101**

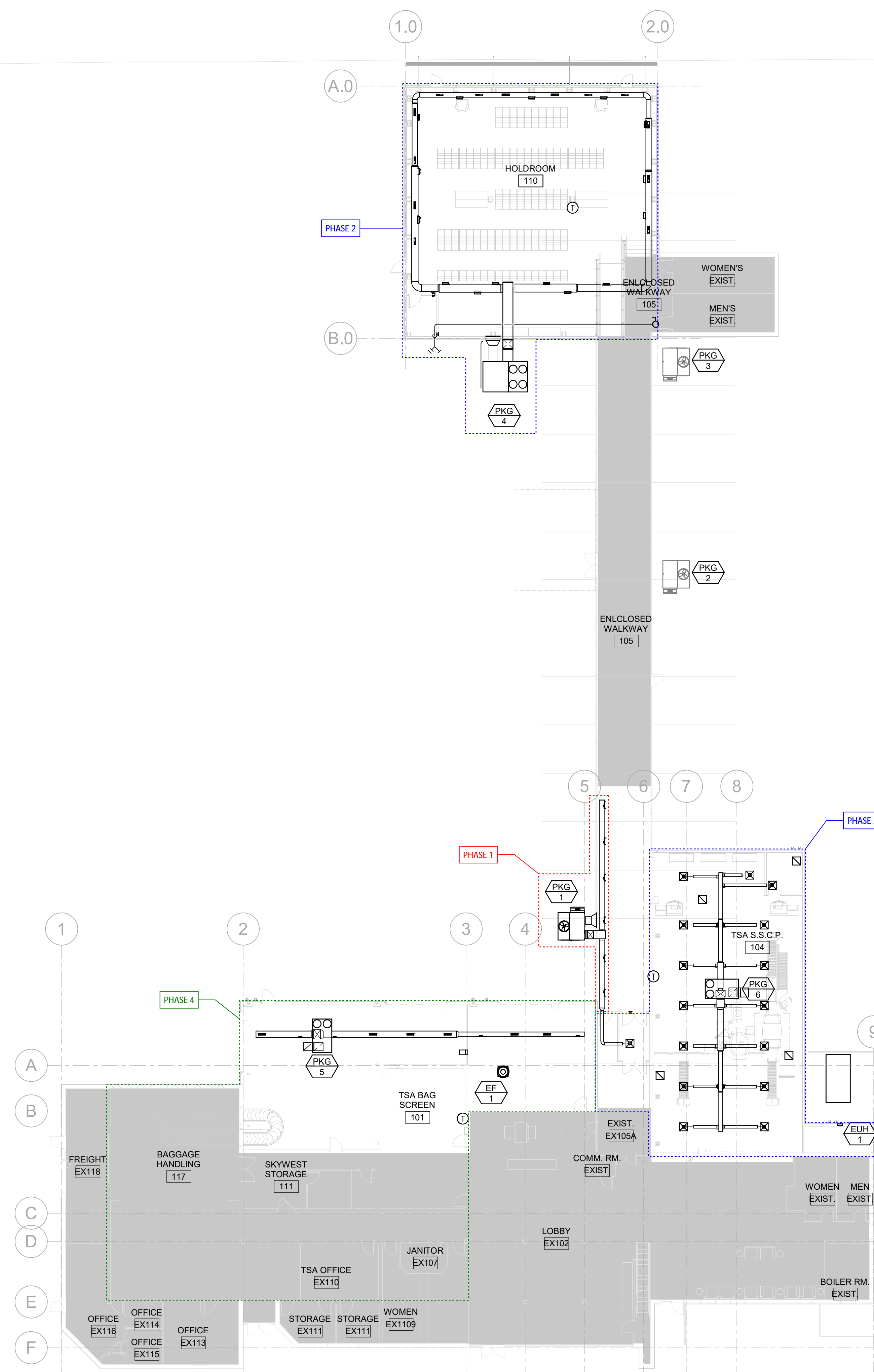
**A4** MECHANICAL DEMO PLAN  
NTS



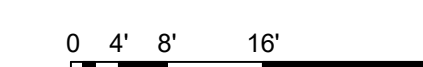
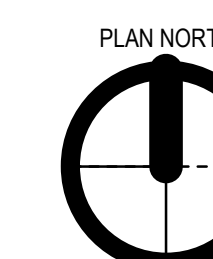
ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	04/25/2024	65% SUBMITTAL
B	06/07/2024	90% SUBMITTAL
C	07/02/2024	ISSUED FOR BID

**GENERAL SHEET NOTES:**

- A. DO NOT ROUTE PLUMBING, PIPING, DUCTWORK, ETC. OVER ELECTRICAL PANELS.
- B. PROVIDE TURNING VANES IN RECTANGULAR ELBOWS.
- C. PROVIDE FLEXIBLE CONNECTION ON EQUIPMENT.
- D. CONTRACTOR TO COORDINATE DUCT LOCATIONS WITH JOIST LAYOUT AND STRUCTURAL.
- E. SEE M-500 SHEETS FOR MECHANICAL DETAILS. SEE M-600 SHEETS FOR MECHANICAL SCHEDULES.
- F. COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- G. ENSURE MECHANICAL UNITS, VALVES, FIRE DAMPERS AND EQUIPMENT INSTALLED ARE INSTALLED WITH PROPER MAINTENANCE ACCESS.
- H. COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION OF THERMOSTATS AND CONTROLS. CONTRACTOR SHALL NOTIFY ARCHITECT OF CHANGES IN ORDER TO VERIFY FUNCTIONALITY.
- I. DIFFUSER NECK SIZE SHALL MATCH DUCT RUN-OUT SIZE, OTHERWISE NOTED ON PLANS, TYPICAL.
- J. PROVIDE MANUAL BALANCING DAMPER FOR DUCT RUNOUTS, TYPICAL.



**A4 MECHANICAL OVERALL PLAN**  
1/16" = 1'-0"



**KEY PLAN**



ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	06/25/2024	65% SUBMITTAL
B	06/07/2024	80% SUBMITTAL
C	07/02/2024	ISSUED FOR BID

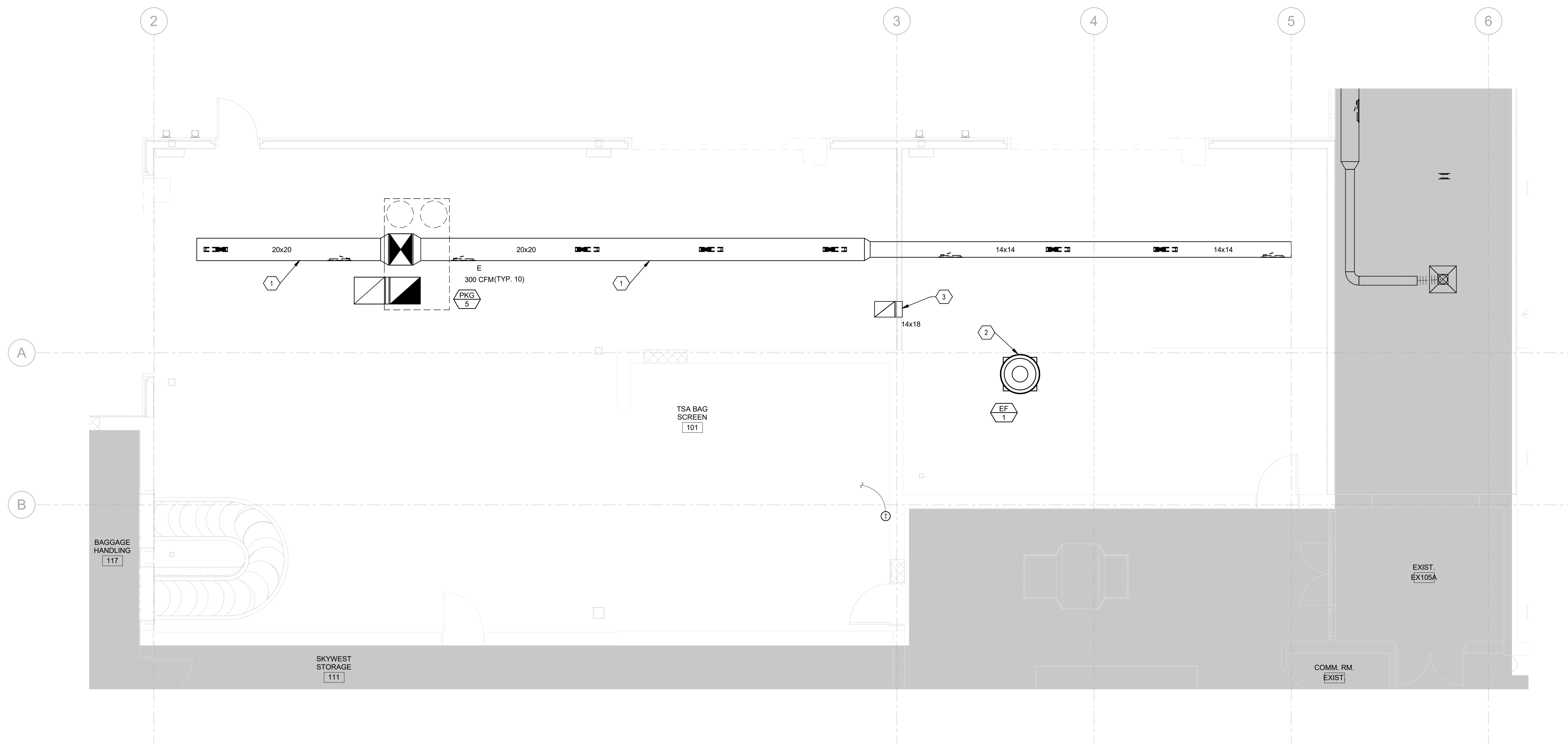
**GENERAL SHEET NOTES:**

- DO NOT ROUTE PLUMBING, PIPING, DUCTWORK, ETC. OVER ELECTRICAL PANELS.
- PROVIDE TURNING VANES IN RECTANGULAR ELBOWS.
- PROVIDE FLEXIBLE CONNECTION ON EQUIPMENT.
- CONTRACTOR TO COORDINATE DUCT LOCATIONS WITH JOIST LAYOUT AND STRUCTURAL.
- SEE M-500 SHEETS FOR MECHANICAL DETAILS. SEE M-600 SHEETS FOR MECHANICAL SCHEDULES.
- COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- ENSURE MECHANICAL UNITS, VALVES, FIRE DAMPERS AND EQUIPMENT INSTALLED ARE INSTALLED WITH PROPER MAINTENANCE ACCESS.
- COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION OF THERMOSTATS AND CONTROLS. CONTRACTOR SHALL NOTIFY ARCHITECT OF CHANGES IN ORDER TO VERIFY FUNCTIONALITY.
- DIFFUSER NECK SIZE SHALL MATCH DUCT RUN-OUT SIZE, OTHERWISE NOTED ON PLANS, TYPICAL.
- PROVIDE MANUAL BALANCING DAMPER FOR DUCT RUNOUTS, TYPICAL.

**SHEET KEYNOTES:**

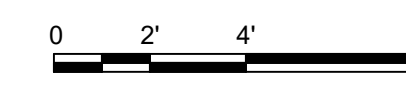
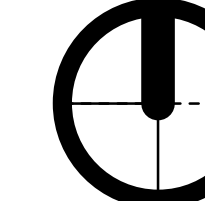
- MOUNT SUPPLY DUCT TIGHT TO STRUCTURE.
- EXHAUST FAN MOUNTED ON ROOF.
- TRANSFER AIR DUCT THRU WALL.

ALL WORK ON THIS SHEET DURING PHASE 4



**A1** MECHANICAL HVAC PLAN - TSA BAG SCREEN  
1/4" = 1'-0"

PLAN NORTH



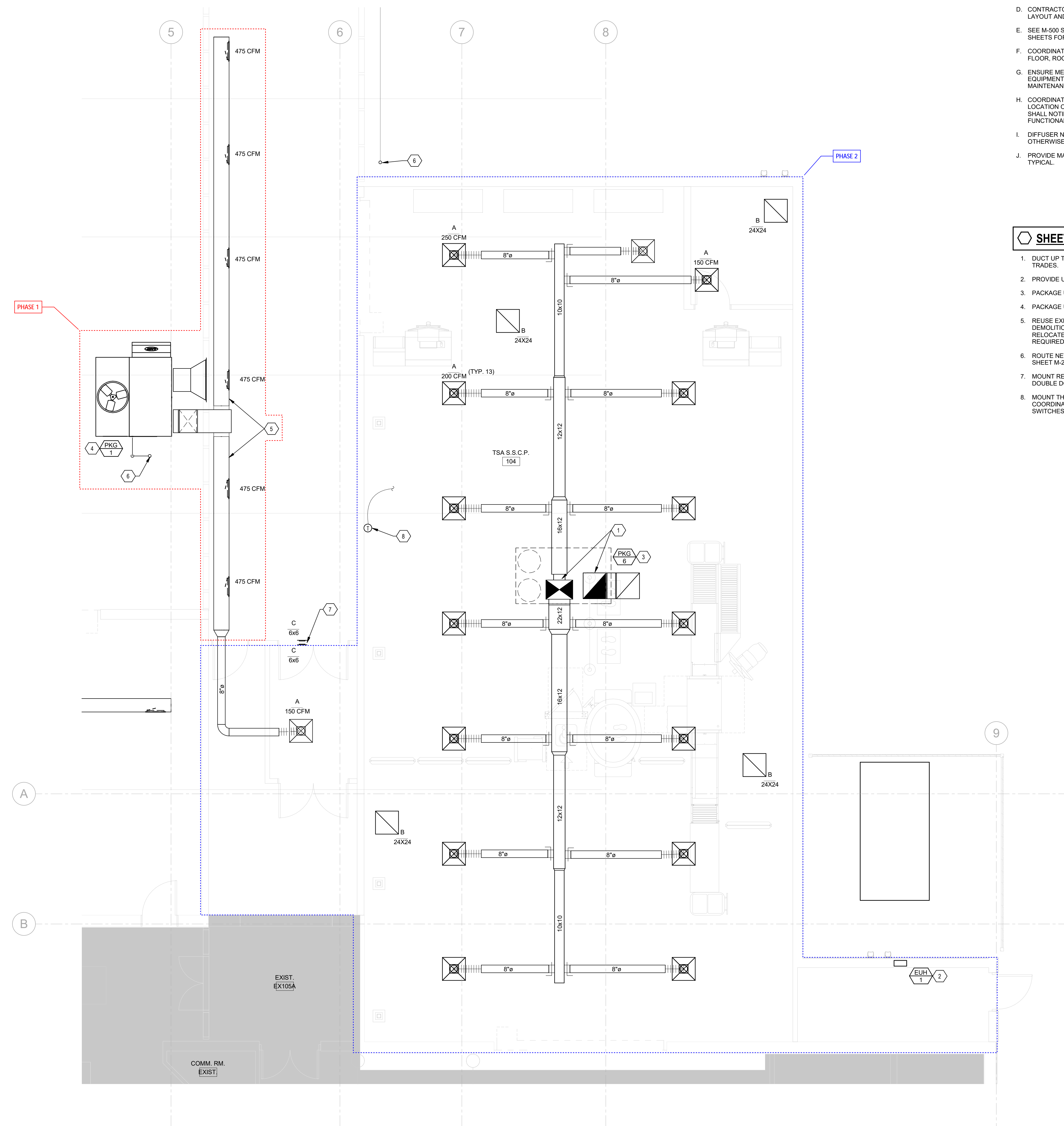
ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	04/25/2024	ISS SUBMITTAL
B	06/10/2024	ISS SUBMITTAL
C	07/02/2024	ISSUED FOR BID

**GENERAL SHEET NOTES:**

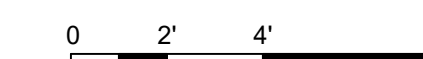
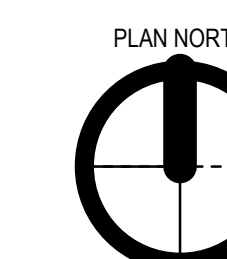
- DO NOT ROUTE PLUMBING, PIPING, DUCTWORK, ETC. OVER ELECTRICAL PANELS.
- PROVIDE TURNING VANES IN RECTANGULAR ELBOWS.
- PROVIDE FLEXIBLE CONNECTION ON EQUIPMENT.
- CONTRACTOR TO COORDINATE DUCT LOCATIONS WITH JOIST LAYOUT AND STRUCTURAL.
- SEE M-500 SHEETS FOR MECHANICAL DETAILS. SEE M-600 SHEETS FOR MECHANICAL SCHEDULES.
- COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- ENSURE MECHANICAL UNITS, VALVES, FIRE DAMPERS AND EQUIPMENT INSTALLED ARE INSTALLED WITH PROPER MAINTENANCE ACCESS.
- COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION OF THERMOSTATS AND CONTROLS. CONTRACTOR SHALL NOTIFY ARCHITECT OF CHANGES IN ORDER TO VERIFY FUNCTIONALITY.
- DIFFUSER NECK SIZE SHALL MATCH DUCT RUN-OUT SIZE, OTHERWISE NOTED ON PLANS, TYPICAL.
- PROVIDE MANUAL BALANCING DAMPER FOR DUCT RUNOUTS, TYPICAL.

**SHEET KEYNOTES:**

- DUCT LIP THRU ROOF COORDINATE WITH OTHER TRADES.
- PROVIDE UNIT MOUNTED THERMOSTAT.
- PACKAGE UNIT MOUNTED ON ROOF.
- PACKAGE UNIT MOUNTED ON GRADE.
- REUSE EXISTING SUPPLY DUCT FROM DEMOLITION. MOUNT AS HIGH AS POSSIBLE. RELOCATE EXISTING THERMOSTAT AS REQUIRED FOR NEW CONSTRUCTION.
- ROUTE NEW NG LINE UP TO ROOF PLAN. SEE SHEET M-201 FOR CONTINUATION.
- MOUNT RETURN AIR GRILLES HIGH ABOVE DOUBLE DOORS.
- MOUNT THERMOSTAT IN LOCKABLE COVER. COORDINATE INSTALLATION HEIGHT WITH LIGHT SWITCHES.



**A3** MECHANICAL HVAC PLAN - TSA S.S.C.P.  
1/4" = 1'-0"



**KEY PLAN**

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	04/25/2024	65% SUBMITTAL
B	06/07/2024	90% SUBMITTAL
C	07/02/2024	ISSUED FOR BID

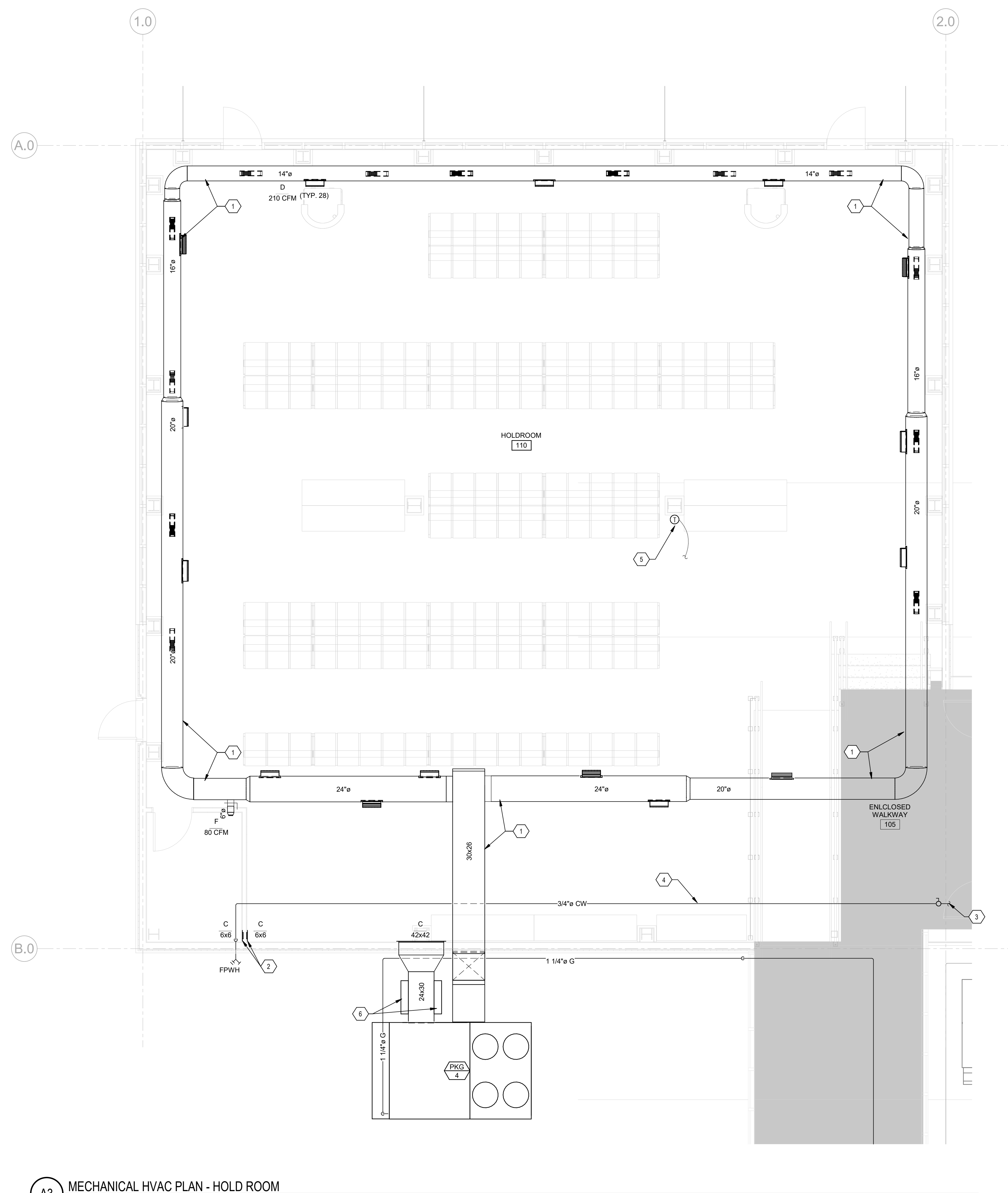
**GENERAL SHEET NOTES:**

- DO NOT ROUTE PLUMBING, PIPING, DUCTWORK, ETC. OVER ELECTRICAL PANELS.
- PROVIDE TURNING VANES IN RECTANGULAR ELBOWS.
- PROVIDE FLEXIBLE CONNECTION ON EQUIPMENT.
- CONTRACTOR TO COORDINATE DUCT LOCATIONS WITH JOIST LAYOUT AND STRUCTURAL.
- SEE M-500 SHEETS FOR MECHANICAL DETAILS. SEE M-600 SHEETS FOR MECHANICAL SCHEDULES.
- COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- ENSURE MECHANICAL UNITS, VALVES, FIRE DAMPERS AND EQUIPMENT INSTALLED ARE INSTALLED WITH PROPER MAINTENANCE ACCESS.
- COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION OF THERMOSTATS AND CONTROLS. CONTRACTOR SHALL NOTIFY ARCHITECT OF CHANGES IN ORDER TO VERIFY FUNCTIONALITY.
- DIFFUSER NECK SIZE SHALL MATCH DUCT RUN-OUT SIZE, OTHERWISE NOTED ON PLANS, TYPICAL.
- PROVIDE MANUAL BALANCING DAMPER FOR DUCT RUNOUTS, TYPICAL.

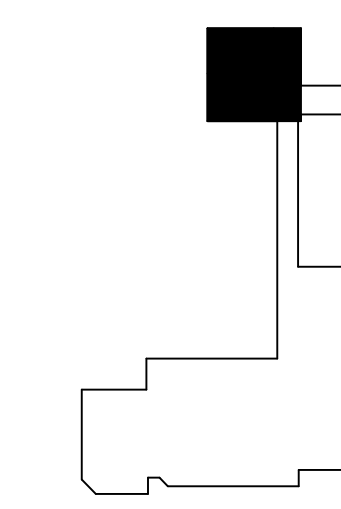
**SHEET KEYNOTES:**

- DUCT WORK ROUTED AS HIGH AS POSSIBLE PARALLEL TO ROOF.
- MOUNT RETURN AIR GRILLES LOW IN MECHANICAL ROOM & HIGH IN HOLD ROOM.
- CONNECT NEW 3/4" CW LINE TO EXISTING CW LINE IN RESTROOM. FIELD VERIFY EXISTING LOCATION. ROUTE NEW 3/4" CW LINE TO FPWH AS SHOWN.
- CONCEAL CW PIPING IN STRUCTURE - PAINT TO MATCH SURROUNDING MATERIALS.
- MOUNT THERMOSTAT IN LOCKABLE COVER. COORDINATE INSTALLATION HEIGHT WITH LIGHT SWITCHES.
- PROVIDE (2) 30X14 BAROMETRIC RELIEF HOODS ON EACH SIDE OF THE RA DUCT.

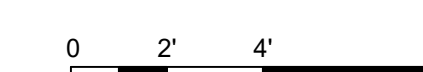
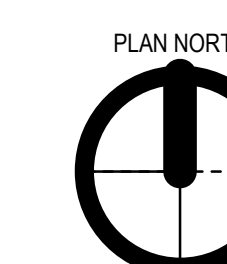
ALL WORK ON THIS SHEET DURING PHASE 2



**A3 MECHANICAL HVAC PLAN - HOLD ROOM**  
1/4" = 1'-0"



**KEY PLAN**



ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	04/25/2024	65% SUBMITTAL
B	06/07/2024	90% SUBMITTAL
C	07/02/2024	ISSUED FOR BID

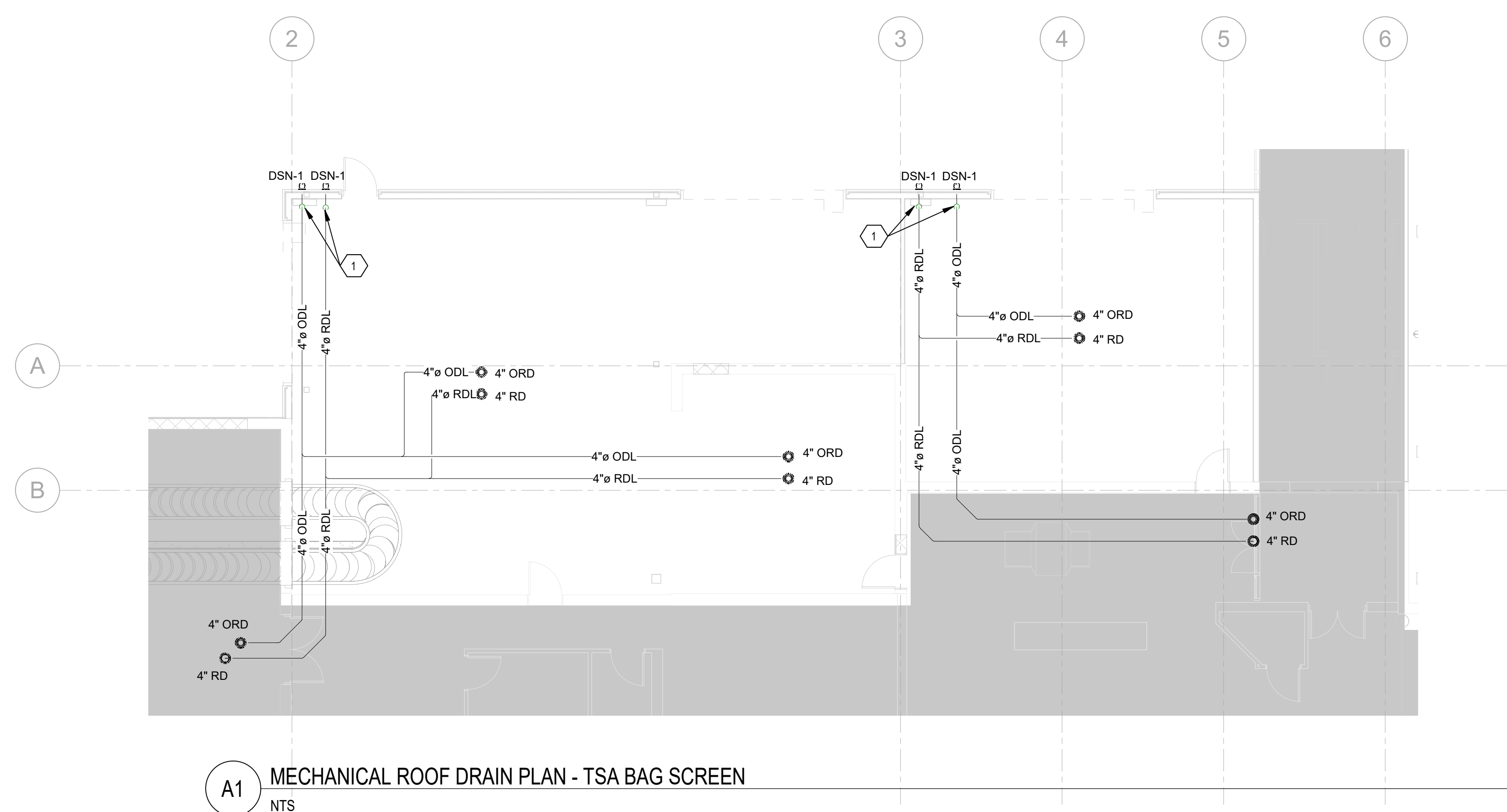
**GENERAL SHEET NOTES:**

- A. DO NOT ROUTE PLUMBING, PIPING, DUCTWORK, ETC. OVER ELECTRICAL PANELS.
- B. PROVIDE TURNING VANES IN RECTANGULAR ELBOWS.
- C. PROVIDE FLEXIBLE CONNECTION ON EQUIPMENT.
- D. CONTRACTOR TO COORDINATE DUCT LOCATIONS WITH JOIST LAYOUT AND STRUCTURAL.
- E. SEE M-500 SHEETS FOR MECHANICAL DETAILS. SEE M-600 SHEETS FOR MECHANICAL SCHEDULES.
- F. COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- G. ENSURE MECHANICAL UNITS, VALVES, FIRE DAMPERS AND EQUIPMENT INSTALLED ARE INSTALLED WITH PROPER MAINTENANCE ACCESS.
- H. COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION OF THERMOSTATS AND CONTROLS. CONTRACTOR SHALL NOTIFY ARCHITECT OF CHANGES IN ORDER TO VERIFY FUNCTIONALITY.
- I. DIFFUSER NECK SIZE SHALL MATCH DUCT RUN-OUT SIZE, OTHERWISE NOTED ON PLANS, TYPICAL.
- J. PROVIDE MANUAL BALANCING DAMPER FOR DUCT RUNOUTS, TYPICAL.

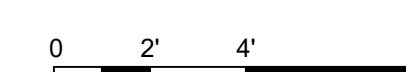
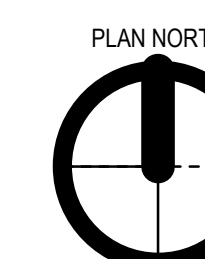
**SHEET KEYNOTES:**

- 1. ROUTE DRIN LINES TIGHT TO EXTERIOR WALLS. MOUNT DOWN SPOUT NOZZLE AT 18" ABOVE FINISHED GRADE. (TYP.)

ALL WORK ON THIS SHEET DURING PHASE 4



**A1** MECHANICAL ROOF DRAIN PLAN - TSA BAG SCREEN  
NTS



**100%**  
SUBMITTAL

ISSUANCE SCHEDULE NUMBER	DATE	DESCRIPTION
A	04/25/2024	65% SUBMITTAL
B	06/07/2024	90% SUBMITTAL
C	07/02/2024	ISSUED FOR BID

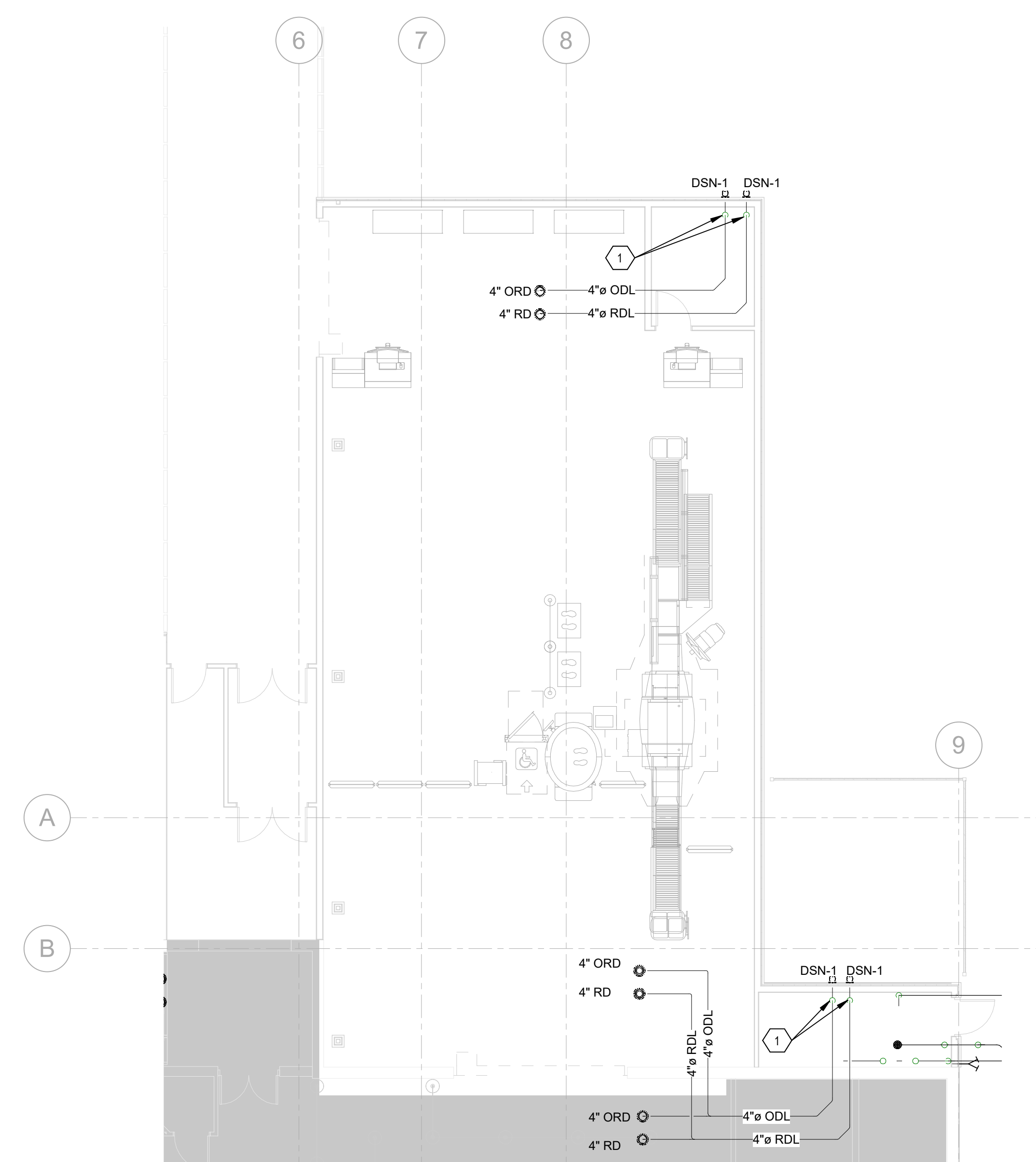
**GENERAL SHEET NOTES:**

- A. DO NOT ROUTE PLUMBING, PIPING, DUCTWORK, ETC. OVER ELECTRICAL PANELS.
- B. PROVIDE TURNING VANES IN RECTANGULAR ELBOWS.
- C. PROVIDE FLEXIBLE CONNECTION ON EQUIPMENT.
- D. CONTRACTOR TO COORDINATE DUCT LOCATIONS WITH JOIST LAYOUT AND STRUCTURAL.
- E. SEE M-500 SHEETS FOR MECHANICAL DETAILS. SEE M-600 SHEETS FOR MECHANICAL SCHEDULES.
- F. COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- G. ENSURE MECHANICAL UNITS, VALVES, FIRE DAMPERS AND EQUIPMENT INSTALLED ARE INSTALLED WITH PROPER MAINTENANCE ACCESS.
- H. COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION OF THERMOSTATS AND CONTROLS. CONTRACTOR SHALL NOTIFY ARCHITECT OF CHANGES IN ORDER TO VERIFY FUNCTIONALITY.
- I. DIFFUSER NECK SIZE SHALL MATCH DUCT RUN-OUT SIZE, OTHERWISE NOTED ON PLANS, TYPICAL.
- J. PROVIDE MANUAL BALANCING DAMPER FOR DUCT RUNOUTS, TYPICAL.

**SHEET KEYNOTES:**

- 1. ROUTE DRIN LINES TIGHT TO EXTERIOR WALLS. MOUNT DOWN SPOUT NOZZLE AT 18" ABOVE FINISHED GRADE. (TYP.)

ALL WORK ON THIS SHEET DURING PHASE 2



**A3** MECHANICAL ROOF DRAIN PLAN - TSA S.S.C.P.  
NTS



0 2' 4' 8'

**SALINA Airport Authority**

**WILSON & COMPANY**

**TERMINAL IMPROVEMENTS**  
3237 ARNOLD AVENUE SALINA, KANSAS 67401  
A PROJECT FOR:  
SALINA AIRPORT AUTHORITY

PROJECT NO: 2021\_SLN\_02  
DATE ISSUED: 06/10/24  
DESIGNED BY: C. CROW  
DRAWN BY: B. MARTIN  
CHECKED BY: M. WENTZEL

SHEET NAME:  
MECHANICAL ROOF DRAIN PLAN - TSA SECURITY

SHEET NO:  
**M-106**

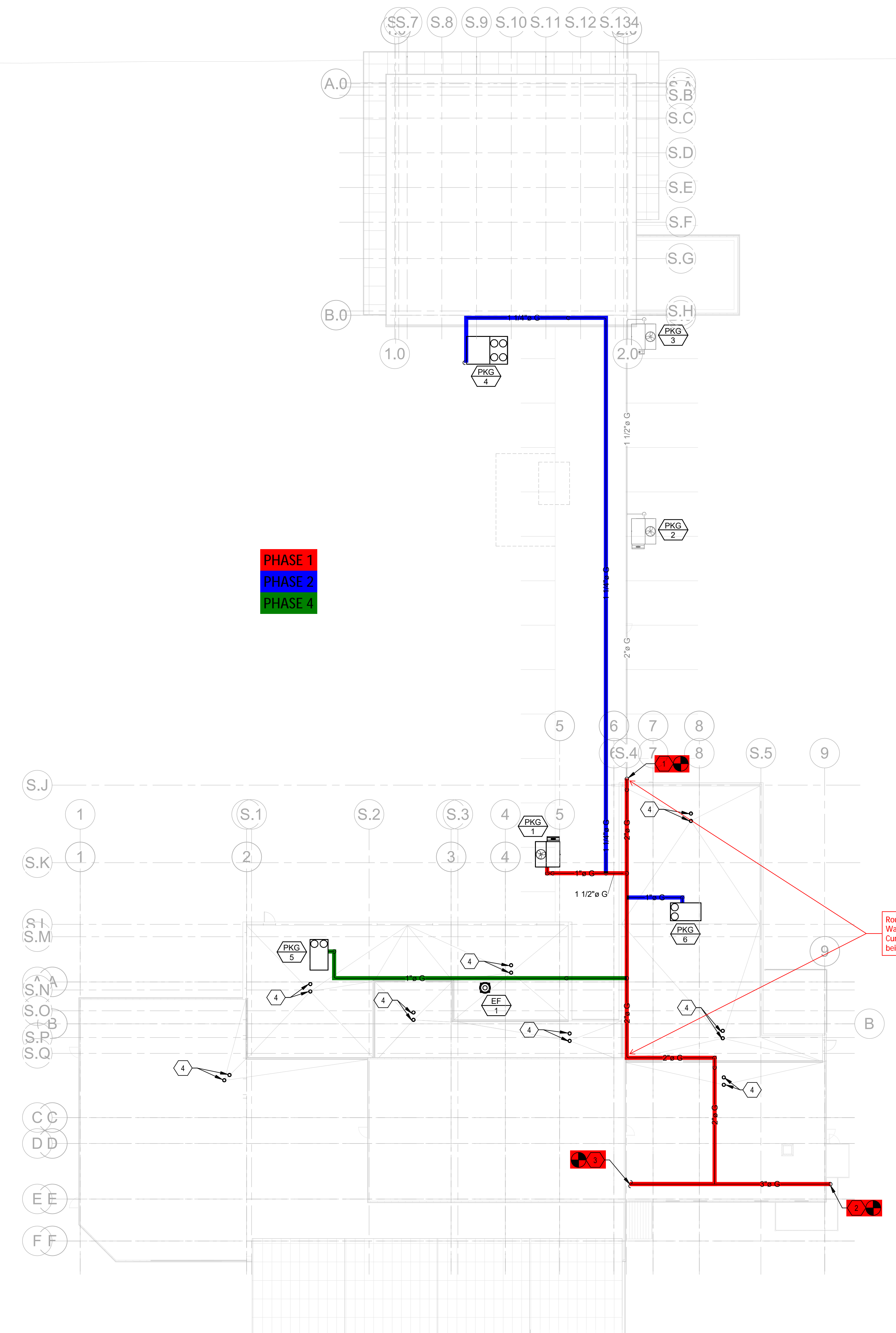
**GENERAL SHEET NOTES:**

- A. DO NOT ROUTE PLUMBING, PIPING, DUCTWORK, ETC. OVER ELECTRICAL PANELS.
- B. PROVIDE TURNING VANES IN RECTANGULAR ELBOWS.
- C. PROVIDE FLEXIBLE CONNECTION ON EQUIPMENT.
- D. CONTRACTOR TO COORDINATE DUCT LOCATIONS WITH JOIST LAYOUT AND STRUCTURAL.
- E. SEE M-500 SHEETS FOR MECHANICAL DETAILS. SEE M-600 SHEETS FOR MECHANICAL SCHEDULES.
- F. COORDINATE STRUCTURAL SUPPORT AND OPENINGS IN FLOOR, ROOF AND WALLS.
- G. ENSURE MECHANICAL UNITS, VALVES, FIRE DAMPERS AND EQUIPMENT INSTALLED ARE INSTALLED WITH PROPER MAINTENANCE ACCESS.
- H. COORDINATE WITH OWNER AND ARCHITECT FOR EXACT LOCATION OF THERMOSTATS AND CONTROLS. CONTRACTOR SHALL NOTIFY ARCHITECT OF CHANGES IN ORDER TO VERIFY FUNCTIONALITY.
- I. PROVIDE ROLLER PIPE SUPPORTS FOR ALL NATURAL GAS PIPING.

**SHEET KEYNOTES:**

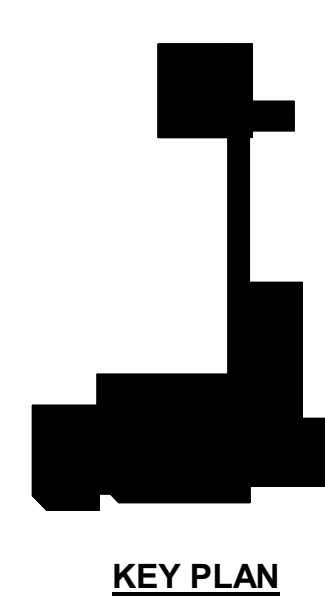
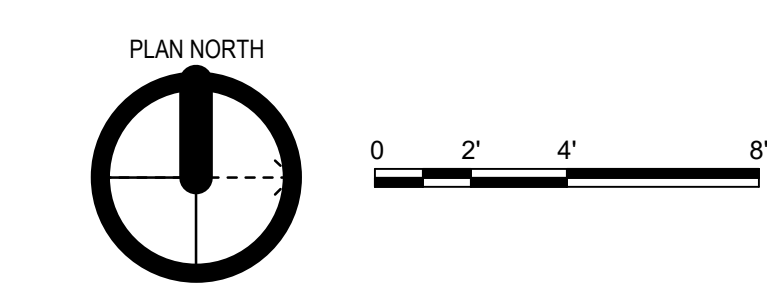
- 1. CONNECT TO EXISTING UNDERGROUND GAS LINE AS SHOWN.
- 2. CONNECT NEW 3" NG LINE TO EXISTING 3" NG PIPE ON SITE. ROUTE NEW NG LINE AS SHOWN ON ROOF.
- 3. CONNECT NEW 3" NG LINE TO EXISTING GAS LINE ON ROOF SERVING EXISTING RTUS.
- 4. 4" RD & 4" ORD.

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A	06/25/2024	65% SUBMITTAL
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Route main on roof of Enclosed Walkway during Phase 1? Current routing is on roof being built in Phase 2.

**a4 MECHANICAL ROOF PLAN**  
1/16" = 1'-0"



02-Jun-24 10:47:16 Autodesk Docs://vialon-sln - Terminal Renovation/SLN - Terminal Improvements - MEP - R23.rvt

PACKAGE UNIT SCHEDULE (GAS/DX COOLING)																		
MARK	NO.	MANUFACTURER / MODEL NO.	TYPE	SUPPLY FAN				COOLING DESIGN				HEATING DESIGN		ELECTRICAL		REMARKS		
				CFM	FRESH AIR (CFM)	ESP (IN. W.C.)	HP	EAT DB (°F)	EAT WB (°F)	TOTAL MBH	SENSIBLE MBH	INPUT MBH	OUTPUT MBH	VOLT	PHASE		MCA	MOCP
PKG	1	EXISTING																
PKG	2	EXISTING																
PKG	3	EXISTING																
PKG	4	LENNOX / LGM180U4		5750	575	0.75	5.00	80	67	182.5	136.8	200	211	208	3	80	90	A,B,C,D,F,G
PKG	5	LENNOX / LGM092U4E		3,000	300	0.75	3.75	80	67	91.1	66.2	180	144	208	3	40	50	A,B,C,D,E,G
PKG	6	LENNOX / LGM092U4E		3,000	300	0.75	3.75	80	67	91.1	66.2	180	144	208	3	40	50	A,B,C,D,E,G

**RELOCATE IN PHASE 1**

**GENERAL NOTES:**  
1. JOB SITE ELEVATION = 1,309 FT.  
2. COOLING LOADS INCLUDE SUPPLY FAN MOTOR HEAT.  
3. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE CLEARANCE AROUND ENTIRE UNIT.  
4. PROVIDE WITH HINGED ACCESS DOORS.  
5. DUCT MOUNTED SMOKE DETECTORS SHALL BE LOCATED IN SUPPLY. COORDINATE WITH FIRE ALARM CONTRACTOR & ELECTRICAL.  
6. FURNISH STANDARD COIL WITH HAIL GUARDS, UNIT MOUNTED NON-FUSED DISCONNECT AND POWERED CONVENIENCE OUTLET.

**REMARKS:**  
A. PROVIDE FACTORY INSTALLED HUMIDIDITROL HOT GAS REHEAT HUMIDITY CONTROL.  
B. PROVIDE SINGLE ENTHALPY ECONOMIZER CONTROL.  
C. FURNISH WITH FACTORY INSTALLED GFCI, FIELD WIRED.  
D. PROVIDE WITH FACTORY INSTALLED NON-FUSED DISCONNECT.  
E. PROVIDE WITH ROOF CURB.  
F. UNIT MOUNTED ON 26" HORIZONTAL DISCHARGE CURB FOR CONCRETE EQUIPMENT PAD INSTALLATION.  
G. 100% BAROMETRIC RELIEF THROUGH UNIT.

PHASE 1  
PHASE 2  
PHASE 4

AIR DEVICE SCHEDULE						
MARK	MANUFACTURER / MODEL NO.	SERVICE	FACE SIZE	TYPE	MATERIAL	REMARKS
A	TITUS / TMS-AA	SUPPLY	24"x24"	CEILING MOUNTED	ALUMINUM	
B	TITUS / 50F	RETURN	24"x24"	CEILING MOUNTED	ALUMINUM	
C	TITUS / 55FL	RETURN	SEE PLANS	SURFACE MOUNTED	ALUMINUM	
D	TITUS / S300FS	SUPPLY	18"x4"	DUCT MOUNTED	ALUMINUM	
E	TITUS / 250-AA	SUPPLY	16"x10"	DUCT MOUNTED	ALUMINUM	
F	TITUS / TMR-AA	SUPPLY	6"	DUCT MOUNTED	ALUMINUM	

**GENERAL NOTES:**  
1. SEE HVAC PLANS FOR LOCATIONS AND QUANTITIES OF EACH AIR DEVICE.  
2. ALL AIR DEVICES SHALL BE TESTED IN ACCORDANCE WITH ASHRAE STANDARD 70-91.  
3. ALL DIFFUSERS SHALL BE TESTED IN ACCORDANCE WITH AIR DIFFUSION COUNCIL (ADC) CODE 1062R4. SOUND DATA FOR DIFFUSERS SHALL BE CALCULATED IN ACCORDANCE WITH INTERNATIONAL STANDARD ISO 3741 FOR COMPARISON.  
4. MAXIMUM NOISE CRITERIA (NC) SHALL BE 35 OR LESS UNLESS OTHERWISE NOTED.  
5. ALL OPPOSED BLADE AND/OR EXTRACTOR DAMPERS SHALL BE INTEGRAL TO THE DIFFUSERS AND GRILLES. CONTRACTOR SHALL VERIFY THE SURFACE TYPE AND SUBSTITUTE APPROPRIATE DIFFUSER/FRAME WHERE NECESSARY.  
6. PLENUMS AND NECKS SHALL BE CONSTRUCTED OF ALUMINUM IN ROUND NECK SIZES. ALL DIFFUSERS SHALL BE INSTALLED WITH GALVANIZED STEEL ELBOWS AT CONNECTION TO DIFFUSER AND BRANCH DUCT BALANCING DAMPERS.  
7. COORDINATE FINAL FINISH WITH ARCHITECT.

UNIT HEATER SCHEDULE (ELECTRIC)									
MARK	NO.	MANUFACTURER / MODEL NO.	AREA SERVED	CFM	ELECTRICAL			REMARKS	
					VOLT	PHASE	KW		AMPS
EUH	1	QMARK / LFK240F	FIRE RISER ROOM	100	208	1	1.5	7.2	

EXHAUST FAN SCHEDULE												
MARK	NO.	MANUFACTURER / MODEL NO.	LOCATION	TYPE	CFM	SONES	ELECTRICAL				REMARKS	
							VOLT	PHASE	WATTS	HP		MCA
EF	1	GREENHECK / CUE-095-G	SEE PLANS	UPBLAST	511	6.4	120	1	--	1/12	--	

PIPE INSULATION SCHEDULE - MECHANICAL									
PIPING SYSTEM	INSULATION TYPE	JACKET TYPE	VAPOR BARRIER MASTIC	PIPE INSULATION THICKNESS (INCHES) FOR NOMINAL PIPE DIAMETERS (INCHES)					REMARKS
				< 1"	1" TO < 1-1/2"	1-1/2" TO < 4"	4" TO < 8"	> 8"	
DOMESTIC COLD WATER	CELLULAR FOAM	ALL SERVICES	YES	1"	1"	1"	1"	1"	A
REFRIGERANT LIQUID	CELLULAR FOAM	ALL SERVICES	YES	1/2"	1"	1"	1"	1"	A
REFRIGERANT SUCTION	CELLULAR FOAM	ALL SERVICES	YES	1/2"	1/2"	1"	1"	1-1/2"	A
ROOF DRAIN PIPING	FIBERGLASS	ALL SERVICE JACKET	YES	-	-	1/2"	1/2"	1/2"	A

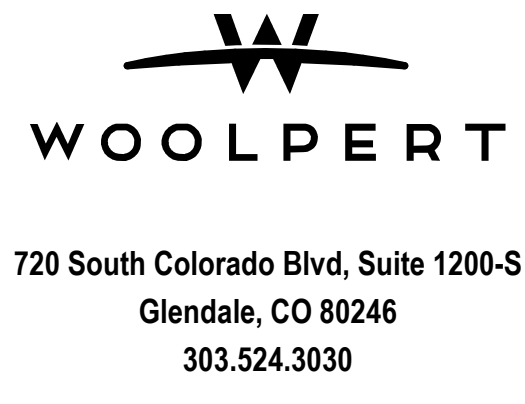
**GENERAL NOTES:**  
1. REFER TO SPECIFICATIONS FOR FURTHER DETAILS ON PIPE MATERIAL, JACKETS AND INSULATION.  
2. ALL EXTERIOR PIPING AND PIPING EXPOSED WITHIN INTERIOR SPACES SHALL BE INSTALLED WITH EMBOSSED ALUMINUM JACKET.

**REMARKS:**  
A. PIPING SHALL BE INSULATED IN ACCORDANCE WITH IECC SECTION C403.11.3.

DUCTWORK MATERIAL AND INSULATION SCHEDULE				
DUCT SYSTEM	DUCT MATERIAL	DUCT INSULATION TYPE	DUCT INSULATION THICKNESS	REMARKS
EXHAUST	GALVANIZED STEEL	NONE	NONE	A,B
RETURN	GALVANIZED STEEL	DUCT LINER	1"	A,B,C
RETURN - RECTANGULAR - OUTSIDE AIR	GALVANIZED STEEL	DUCT WRAP	2"	A,B,C
SUPPLY - RECTANGULAR - EXTERIOR	GALVANIZED STEEL	DUCT WRAP	2"	A,B,C
SUPPLY - RECTANGULAR - INTERIOR	GALVANIZED STEEL	DUCT LINER	1"	A,B,C
SUPPLY - RUN OUTS	FLEXIBLE DUCT	FLEXIBLE GLASS FIBER	1-1/2"	A,B,C
SUPPLY - SPIRAL EXPOSED	GALVANIZED STEEL	DUCT LINER	1"	A,B,C,D
TRANSFER AIR	GALVANIZED STEEL	DUCT LINER	1"	A,B,C

**GENERAL NOTES:**  
1. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS ON DUCT MATERIAL AND INSULATION.

**REMARKS:**  
A. DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND SMACNA STANDARDS.  
B. JOINTS, SEAMS AND CONNECTIONS SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS, OR TAPES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.  
C. DUCTS AND PLENUMS SHALL BE INSULATED IN ACCORDANCE WITH IECC SECTION C403.11.1.  
D. PROVIDE PAINT GRIP FINISH.



100%  
SUBMITTAL

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B	06/07/2024	90% SUBMITTAL
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TERMINAL IMPROVEMENTS  
3237 ARNOLD AVENUE SALINA, KANSAS 67401  
A PROJECT FOR:  
SALINA AIRPORT AUTHORITY

PROJECT NO: 2021\_SLN\_02  
DATE ISSUED: 06/10/24  
DESIGNED BY: C. CROW  
DRAWN BY: B. MARTIN  
CHECKED BY: M. WENTZEL

SHEET NAME:  
MECHANICAL SCHEDULES

SHEET NO:  
M-601