

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

ADDENDUM NO. 3

FOR

SOUTH TSA CHECKPOINT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

STATE PROJECT NO. AM1095-10  
AIP PROJECT NO. 3-15-0006-##

SEPTEMBER 5, 2023

This Addendum shall make the following amendments to the Bid Documents:

A. SPECIFICATIONS

1. TABLE OF CONTENTS

- a. Delete TABLE OF CONTENTS and replace with attached TABLE OF CONTENTS dated r9/5/2023.

2. PROPOSAL SCHEDULE

- a. Delete Proposal Schedule, pages P-8 through P-17, and replace with the attached Proposal Schedule, pages P-8 through P-17, dated r9/5/2023.

3. PART 0.C – WAGE RATES

- a. Delete the Federal Wage Rates dated 07/07/2023 in its entirety and replace with the attached Federal Wage Rates dated 07/28/2023.

4. PART 0.E – REQUIRED FEDERAL AIRPORT IMPROVEMENTS PROGRAM (AIP)  
CONTRACT PROVISIONS

- a. Delete Type I, II, III Equipment/Building, and IV Buy American Waivers Issued (As of 7/11/2023) in its entirety and replace with the attached Type I, II, III Equipment/Building, and IV Buy American Waivers Issued (As of 8/22/2023).

5. SECTION 01010 – DESCRIPTION OF WORK

- a. Delete Section 01010 and replace with attached Section 01010 dated r9/5/2023.

6. SECTION 01014 – WORK SEQUENCE
  - a. Delete Section 01014 and replace with attached Section 01014 dated r9/5/2023.
7. SECTION 02722 – SANITARY SEWER SYSTEM
  - a. Delete Section 02722 and replace with attached Section 02722 dated r9/5/2023.
8. SECTION 07951 – EXTERIOR EXPANSION JOINT COVER ASSEMBLIES
  - a. Delete Section 07951 and replace with attached Section 07951 dated r9/5/2023.
9. SECTION 08411 – ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS
  - a. Delete Section 08411 and replace with attached Section 08411 dated r9/5/2023.
10. SECTION 08800 – GLAZING
  - a. Delete Section 08800 and replace with attached Section 08800 dated r9/5/2023.
11. SECTION 14210 – ELECTRIC TRACTION ELEVATORS
  - a. Delete Section 14210 and replace with attached Section 14210 dated r9/5/2023.
12. SECTION 14310 - ESCALATORS
  - a. Delete Section 14310 and replace with attached Section 14310 dated r9/5/2023.
13. SECTION 16055 – PROTECTIVE DEVICE COORDINATION STUDY
  - a. Add and make a part of the specifications the attached SECTION 16055 – PROTECTIVE DEVICE COORDINATION STUDY dated r9/5/2023.
14. SECTION 16100 – ELECTRICAL WORK
  - a. Delete Section 16100 and replace with attached Section 16100 dated r9/5/2023.
15. SECTION 16262 – AUTOMATIC TRANSFER SWITCH/BYPASS–ISOLATION SWITCH
  - a. Add and make a part of the specifications the attached SECTION 16262 – AUTOMATIC TRANSFER SWITCH/BYPASS–ISOLATION SWITCH dated r9/5/2023.
16. SECTION 16410 – LIGHTNING PROTECTION SYSTEM
  - a. Add and make a part of the specifications the attached SECTION 16410 – LIGHTNING PROTECTION SYSTEM dated r9/5/2023.



17. SECTION 16770 – PUBLIC ADDRESS SYSTEM

- a. Delete Section 16770 and replace with attached Section 16770 dated r9/5/2023.

18. SECTION 16771 – PUBLIC ADDRESS VISUAL PAGING SYSTEM

- a. Delete Section 16771 and replace with attached Section 16771 dated r9/5/2023.

B. REVISED DRAWINGS:

1. Delete Drawing C006 and replace with attached revised Drawing C006 with Delta 3 dated 9/5/2023.
  - a. Removed statue pad from drawings.
2. Delete Drawing C102 and replace with attached revised Drawing C102 with Delta 3 dated 9/5/2023.
  - a. Add callout to demolish existing crosswalk striping.
3. Delete Drawing C103 and replace with attached revised Drawing C103 with Delta 3 dated 9/5/2023.
  - a. Add callout to remove existing gate track and replace after paving.
  - b. Show where the existing curb will be demolished for the utility trench work.
4. Delete Drawing C201 and replace with attached revised Drawing C201 with Delta 3 dated 9/5/2023.
  - a. Removed statue pad from drawings and revised hatching.
5. Delete Drawing C202 and replace with attached revised Drawing C202 with Delta 3 dated 9/5/2023.
  - a. Revised hatching in legend.
6. Delete Drawing C301 and replace with attached revised Drawing C301 with Delta 3 dated 9/5/2023.
  - a. Removed statue pad from drawings.
7. Delete Drawing C401 and replace with attached revised Drawing C401 with Delta 3 dated 9/5/2023.
  - a. Revised drain line keynotes.

8. Delete Drawing C404 and replace with attached revised Drawing C404 with Delta 3 dated 9/5/2023.
  - a. Revised profile drain details.
9. Delete Drawing C405 and replace with attached revised Drawing C405 with Delta 3 dated 9/5/2023.
  - a. Profile: Sewer Line A. Change "VCP" to "PVC C-900".
10. Delete Drawing C407 and replace with attached revised Drawing C407 with Delta 3 dated 9/5/2023.
  - a. Add Detail 7 – Sewer line seal at manhole.
11. Delete Drawing C501 and replace with attached revised Drawing C501 with Delta 3 dated 9/5/2023.
  - a. Removed statue pad from drawings.
12. Delete Drawing L003 and replace with attached revised Drawing L003 with Delta 3 dated 9/5/2023.
  - a. Revised quantities.
13. Delete Drawing L100 and replace with attached revised Drawing L100 with Delta 3 dated 9/5/2023.
  - a. Revised notes, callouts, and symbols.
14. Delete Drawing L210 and replace with attached revised Drawing L210 with Delta 3 dated 9/5/2023.
  - a. Removed statue from drawings and irrigation layout.
15. Delete Drawing L211 and replace with attached revised Drawing L211 with Delta 3 dated 9/5/2023.
  - a. Removed statue from drawings and irrigation layout.
16. Delete Drawing L310 and replace with attached revised Drawing L310 with Delta 3 dated 9/5/2023.
  - a. Removed statue from drawings and planting plan.
17. Delete Drawing L311 and replace with attached revised Drawing L311 with Delta 3 dated 9/5/2023.

- a. Removed statue from drawings and planting plan.
18. Delete Drawing A114 and replace with attached revised Drawing A114 with Delta 3 dated 9/5/2023.
  - a. Deleted work related to the existing statue.
19. Delete Drawing A202 and replace with attached revised Drawing A202 with Delta 3 dated 9/5/2023.
  - a. Deleted concrete pad and dimensions.
  - b. Added concrete pad hatch and callout.
20. Delete Drawing A203 and replace with attached revised Drawing A203 with Delta 3 dated 9/5/2023.
  - a. Deleted concrete pad and dimensions.
  - b. Added concrete pad hatch and callout.
21. Delete Drawing A211 and replace with attached revised Drawing A211 with Delta 3 dated 9/5/2023.
  - a. Deleted work related to the relocated statue.
  - b. Revised callout at agriculture screening machines.
22. Drawing A213 and replace with attached revised Drawing A213 with Delta 3 dated 9/5/2023.
  - a. Revised concrete encased columns and dimensions at bollards.
23. Drawing A701 and replace with attached revised Drawing A701 with Delta 3 dated 9/5/2023.
  - a. Revised thickness of PVB.
24. Delete Drawing A842 and replace with attached revised Drawing A842 with Delta 3 dated 9/5/2023.
  - a. Revised Detail 3.
25. Delete Drawing A857 and replace with attached revised Drawing A857 with Delta 3 dated 9/5/2023.
  - a. Detail 1 & 2, revised basis of design notes.
26. Delete Drawing A860 and replace with attached revised Drawing A860 with Delta 3 dated 9/5/2023.

- a. Deleted Detail 5.
  - b. Revised dimensions on Detail 2.
27. Delete Drawing S001 and replace with attached revised Drawing S001 with Delta 3 dated 9/5/2023.
- a. Updated various notes.
28. Delete Drawing S002 and replace with attached revised Drawing S002 with Delta 3 dated 9/5/2023.
- a. Updated Geotech report reference and foundation parameters.
29. Delete Drawing S003 and replace with attached revised Drawing S003 with Delta 3 dated 9/5/2023.
- a. Revised isolation joint note in Detail 2.
  - b. Added slab trench detail.
  - c. Deleted Detail 6.
30. Delete Drawing S004 and replace with attached revised Drawing S004 with Delta 3 dated 9/5/2023.
- a. Revised metal deck edge Detail 1.
31. Delete Drawing S007 and replace with attached revised Drawing S007 with Delta 3 dated 9/5/2023.
- a. Revised Unistrut size in Detail 5.
32. Delete Drawing S008 and replace with attached revised Drawing S008 with Delta 3 dated 9/5/2023.
- a. Added pressure diagram for the canopy.
33. Delete Drawing S009 and replace with attached revised Drawing S009 with Delta 3 dated 9/5/2023.
- a. Added wall to layout.
34. Delete Drawing S210 and replace with attached revised Drawing S210 with Delta 3 dated 9/5/2023.
- a. Updated floor joint layout.
35. Delete Drawing S211 and replace with attached revised Drawing S211 with Delta 3 dated 9/5/2023.

- a. Added joint layout in grade slab.
  - b. Added post callouts for stairway.
  - c. Revised SPECIAL NOTE No. 4 regarding top of footing elevation.
36. Delete Drawing S212 and replace with attached revised Drawing S212 with Delta 3 dated 9/5/2023.
- a. Added joint layout in grade slab.
  - b. Added post callouts for stairway.
  - c. Added retaining wall along "CA".
  - d. Update size of conc equipment pads.
  - e. Revised SPECIAL NOTE No. 4 regarding top of footing elevation.
  - f. Added note about conc encased columns.
37. Delete Drawing S213 and replace with attached revised Drawing S213 with Delta 3 dated 9/5/2023.
- a. Update size of conc equipment pads.
  - b. Added SJs at stair slab.
  - c. Revised SPECIAL NOTE No. 4 regarding top of footing elevation.
  - d. Added note about conc encased columns.
38. Delete Drawing S220 and replace with attached revised Drawing S220 with Delta 3 dated 9/5/2023.
- a. Revised floor opening size.
39. Delete Drawing S221 and replace with attached revised Drawing S221 with Delta 3 dated 9/5/2023.
- a. Update number of shear studs at composite steel beams
  - b. Update floor opening.
40. Delete Drawing S222 and replace with attached revised Drawing S222 with Delta 3 dated 9/5/2023.
- a. Update number of shear studs at composite steel beams
  - b. Update floor opening
  - c. Added section cuts.
  - d. Added callout for W21x44 beam at overhang along grid C6.
41. Delete Drawing S223 and replace with attached revised Drawing S223 with Delta 3 dated 9/5/2023.
- a. Update number of shear studs at composite steel beams
  - b. Updated beam spacing
  - c. Added section cuts.

42. Delete Drawing S231 and replace with attached revised Drawing S231 with Delta 3 dated 9/5/2023.
  - a. Adjusted beam sizes at roof overhang, and along "CA" and "CF"
  - b. Added "\*" to beams that require special ductile moment connection.
43. Delete Drawing S232 and replace with attached revised Drawing S232 with Delta 3 dated 9/5/2023.
  - a. Adjusted beam sizes at roof overhang, and along "CA" and "CF"
  - b. Added "\*" to beams that require special ductile moment connection
  - c. Clarified W8x24 beams as elevator hoist beams
44. Delete Drawing S233 and replace with attached revised Drawing S233 with Delta 3 dated 9/5/2023.
  - a. Adjusted beam sizes at roof overhang, and along "CA" and "CF" and "C12".
  - b. Revised layout of framing at Detail 2 Stud Wall Frame Support Framing Plan.
  - c. Added "\*" to beams that require special ductile moment connection.
45. Delete Drawing S234 and replace with attached revised Drawing S234 with Delta 3 dated 9/5/2023.
  - a. Adjust size of louver screen support.
46. Delete Drawing S301 and replace with attached revised Drawing S301 with Delta 3 dated 9/5/2023.
  - a. Detail 1 – added base plate of rectangular HSS.
  - b. Detail 2 - Ped 3 detail added.
  - c. Detail 5 – footing size revised, pedestal ties extend into footing, slab blockout around column bases reflected in Section B-B.
47. Delete Drawing S401 and replace with attached revised Drawing S401 with Delta 3 dated 9/5/2023.
  - a. Revised sections to reflect stem walls; stair slab and foundation.
48. Delete Drawing S402 and replace with attached revised Drawing S402 with Delta 3 dated 9/5/2023.
  - a. Section revised to reflect slab edge.
49. Delete Drawing S403 and replace with attached revised Drawing S403 with Delta 3 dated 9/5/2023.
  - a. Section revised to reflect slab edges, elevator shaft.

50. Delete Drawing S501 and replace with attached revised Drawing S501 with Delta 3 dated 9/5/2023.
  - a. Diagonal braces added to posts supporting stair landing.
51. Delete Drawing S502 and replace with attached revised Drawing S502 with Delta 3 dated 9/5/2023.
  - a. Section revised to reflect foundation changes.
52. Delete Drawing S503 and replace with attached revised Drawing S503 with Delta 3 dated 9/5/2023.
  - a. Sections revised to reflect slab and foundation changes.
53. Delete Drawing S601 and replace with attached revised Drawing S601 with Delta 3 dated 9/5/2023.
  - a. Detail 1 – Rebar modified.
  - b. Detail 2 – Rebar modified.
  - c. Detail 4 Added.
  - d. Detail 3 Statue foundation is no longer in scope and detail no longer applies.
  - e. Details 5, 6, 7 added for concrete encased columns.
54. Delete Drawing S602 and replace with attached revised Drawing S602 with Delta 3 dated 9/5/2023.
  - a. Detail 3 – Closure plate added.
  - b. Detail 4 – Stiffener plates added.
  - c. Detail 8 – Full pen welds added.
  - d. New details added.
55. Delete Drawing S603 and replace with attached revised Drawing S603 with Delta 3 dated 9/5/2023.
  - a. Closure plate added to Detail 3.
56. Delete Drawing S605 and replace with attached revised Drawing S605 with Delta 3 dated 9/5/2023.
  - a. Added new Details 4, 5, 6.
57. Delete Drawing S606 and replace with attached revised Drawing S606 with Delta 3 dated 9/5/2023.
  - a. Revised Details 4, 5, 7.

58. Delete Drawing S607 and replace with attached revised Drawing S607 with Delta 3 dated 9/5/2023.
  - a. Added Detail 3 for L3x connection.
59. Delete Drawing S608 and replace with attached revised Drawing S608 with Delta 3 dated 9/5/2023.
  - a. Added diagonal braces to support frame.
60. Delete Drawing S609 and replace with attached revised Drawing S609 with Delta 3 dated 9/5/2023.
  - a. Updated details for louver support framing.
61. Delete Drawing S611 and replace with attached revised Drawing S611 with Delta 3 dated 9/5/2023.
  - a. Revised HSS post sizes and added base plate, pedestal and footing callouts.
  - b. Added moment-connection symbols at beam-column connections.
62. Delete Drawing S612 and replace with attached revised Drawing S612 with Delta 3 dated 9/5/2023.
  - a. Added vertical braces at stair landing.
  - b. Added HSS post callouts for elevator guide rails.
63. Delete Drawing S613 and replace with attached revised Drawing S613 with Delta 3 dated 9/5/2023.
  - a. Detail 1 – adjusted size of generator pad.
  - b. Added joints in slab.
  - c. Adjusted size of stair posts.
  - d. Detail 2 – updated layout of the breaklines at the stairs.
64. Delete Drawing S614 and replace with attached revised Drawing S614 with Delta 3 dated 9/5/2023.
  - a. Added details for stair framing connections.
65. Delete Drawing S615 and replace with attached revised Drawing S615 with Delta 3 dated 9/5/2023.
  - a. Added vertical brace between posts at stair landing.
66. Delete Drawing S616 and replace with attached revised Drawing S616 with Delta 3 dated 9/5/2023.



- a. Added details at post base and revised sections.
67. Delete Drawing S617 and replace with attached revised Drawing S617 with Delta 3 dated 9/5/2023.
- a. Added vertical brace between posts at landing.
  - b. Added Detail 2.
68. Delete Drawing S618 and replace with attached revised Drawing S618 with Delta 3 dated 9/5/2023.
- a. Added detail for post base and footing.
  - b. Revised sections.
69. Delete Drawing S619 and replace with attached revised Drawing S619 with Delta 3 dated 9/5/2023.
- a. Revised and added details for stair connections.
70. Delete Drawing S620 and replace with attached revised Drawing S620 with Delta 3 dated 9/5/2023.
- a. Revised details for stair connections.
71. Delete Drawing S621 and replace with attached revised Drawing S621 with Delta 3 dated 9/5/2023.
- a. Revised note for concrete pavement.
72. Delete Drawing S622 and replace with attached revised Drawing S622 with Delta 3 dated 9/5/2023.
- a. Revised pit details and notes.
  - b. Added waterstops.
73. Delete Drawing S623 and replace with attached revised Drawing S623 with Delta 3 dated 9/5/2023.
- a. Revised pit details, pit depth.
  - b. Added waterstops.
74. Delete Drawing S624 and replace with attached revised Drawing S624 with Delta 3 dated 9/5/2023.
- a. Revised pit details, pit depth.
  - b. Added waterstops.
75. Delete Drawing M234 and replace with attached revised Drawing M234 with Delta 3

dated 9/5/2023.

a. Revised note.

76. Delete Drawing M413 and replace with attached revised Drawing M413 with Delta 3 dated 9/5/2023.

a. Revised Detail C.

77. Delete Drawing E001 and replace with attached revised Drawing E001 with Delta 3 dated 9/5/2023.

a. Revised and added symbols.

78. Delete Drawing E101 and replace with attached revised Drawing E101 with Delta 3 dated 9/5/2023.

a. Revised callout notes.

b. Added existing utility.

79. Delete Drawing E201 and replace with attached revised Drawing E201 with Delta 3 dated 9/5/2023.

a. Added connection from new automatic transfer switch to existing Utility Tie breaker.

b. Added indication of existing electrical and communication handholes and ductlines.

80. Delete Drawing E210 and replace with attached revised Drawing E210 with Delta 3 dated 9/5/2023.

a. Added indication of existing Generator Building, existing Elec Room A-2, existing Comm Room A-2, existing Elec Room T-1 and existing TSA Switchgear Room.

81. Delete Drawing E211 and replace with attached revised Drawing E211 with Delta 3 dated 9/5/2023.

a. Added circuiting for luminaires in benches.

b. Moved work for escalator to Sheet E212.

82. Delete Drawing E212 and replace with attached revised Drawing E212 with Delta 3 dated 9/5/2023.

a. Added lighting control equipment, lighting control conduit to Elec Rm T-1, connection from new automatic transfer switch to existing Utility Tie breaker and conduit/wires for generator start/stop controls.

b. Moved fire alarm control panel.

c. Moved work for escalator from Sheet E211 to this sheet.

83. Delete Drawing E312 and replace with attached revised Drawing E312 with Delta 3 dated 9/5/2023.

- a. Added lighting circuiting and controls.
  - b. Added indication of emergency lighting.
84. Delete Drawing E313 and replace with attached revised Drawing E313 with Delta 3 dated 9/5/2023.
- a. Added lighting circuiting.
  - b. Added indication of emergency lighting.
85. Delete Drawing E321 and replace with attached revised Drawing E321 with Delta 3 dated 9/5/2023.
- a. Added lighting circuiting and controls.
  - b. Added indication of emergency lighting.
86. Delete Drawing E322 and replace with attached revised Drawing E322 with Delta 3 dated 9/5/2023.
- a. Added lighting circuiting and controls.
  - b. Added indication of emergency lighting.
87. Delete Drawing E323 and replace with attached revised Drawing E323 with Delta 3 dated 9/5/2023.
- a. Added lighting circuiting and controls
  - b. Added indication of emergency lighting.
88. Delete Drawing E501 and replace with attached revised Drawing E501 with Delta 3 dated 9/5/2023.
- a. Added ducts and cables for generator start/stop controls, automatic transfer switch interlock and lighting controls.
89. Delete Drawing E603 and replace with attached revised Drawing E603 with Delta 3 dated 9/5/2023.
- a. Revised manual transfer switch to automatic transfer switch/bypass isolation switch.
90. Delete Drawing E605 and replace with attached revised Drawing E605 with Delta 3 dated 9/5/2023.
- a. Replaced Lighting Control Diagram.
91. Delete Drawing E606 and replace with attached revised Drawing E606 with Delta 3 dated 9/5/2023.
- a. Added lighting control schematics.
  - b. Deleted Luminaire Control Station Detail.

92. Delete Drawing E607 and replace with attached revised Drawing E607 with Delta 3 dated 9/5/2023.
  - a. Revised Switchboard “4S” and Panel “4S” Schedules.
93. Delete Drawing E608 and replace with attached revised Drawing E608 with Delta 3 dated 9/5/2023.
  - a. Revised Panel “2SA” Schedule.
94. Delete Drawing E609 and replace with attached revised Drawing E609 with Delta 3 dated 9/5/2023.
  - a. Revised Luminaire Type 5.
  - b. Deleted Luminaire Type 11.
95. Delete Drawing T214 and replace with attached revised Drawing T214 with Delta 3 dated 9/5/2023.
  - a. Added telecom outlet for Lighting Control Equipment in Main Elec Room (102).
96. Delete Drawing T506 and replace with attached revised Drawing T506 with Delta 3 dated 9/5/2023.
  - a. Added Sheet Notes 1 & 2.
  - b. Revised EVIDS cabinet elevations in 1st and 2nd Floor State (DOT-A) Comm Rooms to clarify that EVIDS integration equipment provided by existing OGG EVIDS Maintenance Contractor via cost allowance.
97. Delete Drawing T603 and replace with attached revised Drawing T603 with Delta 3 dated 9/5/2023.
  - a. Added Sheet Note 2.
  - b. Revised EVIDS cabinet layout in 1<sup>st</sup> and 2<sup>nd</sup> Floor State (DOT-A) Comm Rooms to clarify that EVIDS integration equipment provided by existing OGG EVIDS Maintenance Contractor via cost allowance.

The following is provided for information:

C. APPROVED SUBSTITUTION REQUESTS

The following items hereinafter listed are approved as equal to the previously specified items, provided all requirements of the contract documents are met.

Approval shall not in any circumstance be construed as an approval for deviation from the contract documents unless the entity seeking such approval has, in writing, specifically call the Architect's or the approving agency's attention to each such deviation at the time of submission. Said entity and/or Contractor shall be responsible for coordination of the work pertinent to affected materials, equipment, and labor to ensure proper execution of the work as per the intent of the contract documents.

<u>Section/Item</u>	<u>Specified Brand</u>	<u>Substitute or Alt Brand</u>	<u>Variant Features</u>
Section 07541 Polyvinyl-Chloride (PVC) Roofing	Preformed roof insulation boards manufactured or approved by PVC manufacturer	Firestone / Elevate, IsoGard CG	None
Section 07951 Exterior Expansion Joint Cover Assemblies	Construction Specialties, SC	Erie Metals Specialties, EWJ-Series	None
Section 07951 Exterior Expansion Joint Cover Assemblies	Construction Specialties, AFW	Erie Metal Specialties, EWCS-Series	None
Section 07951 Exterior Expansion Joint Cover Assemblies	Construction Specialties, SJP	Erie Metal Specialties, ESFC-Series	None
Section 07951 Exterior Expansion Joint Cover Assemblies	Not specified	Erie Metal Specialties, FB-Series	None
Section 15600 Air Condition and Ventilation	Carrier 39MW	Daikin Applied OAH Series Air Handling Units	Unit Cabinet Construction, Unit Starter and Disconnect / VFD, Unit Capacities, Unit Sound Levels (Radiated), Items by Others

<u>Section/Item</u>	<u>Specified Brand</u>	<u>Substitute or Alt Brand</u>	<u>Variant Features</u>
Section 15600 Air Condition and Ventilation	Carrier 42CG	Enviro-Tec HLE Series Fan Coil Unit	Unit Construction Details, Unit Starter and Disconnect / VFD / Motor Type, Unit Capacities, Unit Sound Levels, Items by Others

D. NOT APPROVED SUBSTITUTION REQUEST

<u>Section/Item</u>	<u>Specified Brand</u>	<u>Substitute or Alt Brand</u>
Section 07541 Polyvinyl-Chloride (PVC) Roofing	Sika Sarnafil G410	Firestone / Elevate PVC XR

E. RESPONSES TO REQUESTS FOR INFORMATION (RFIs/QUESTIONS)

The attached Responses to Requests for Information (RFIs/Questions) is provided for information.

Please acknowledge receipt of this Addendum No. 3 by recording the date of its receipt in the space provided on Page P-4 of the Proposal.

*Guy Ichinotsubo*

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GUY ICHINOTSUBO  
Engineering Program Manager

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PART II - TECHNICAL PROVISIONS

DIVISION 1 - GENERAL REQUIREMENTS

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SOUTH TSA CHECKPOINT  
 KAHULUI AIRPORT  
 KAHULUI, MAUI, HAWAII  
 STATE PROJECT NO. AM1095-10  
 AIP PROJECT NO. 3-15-0006-##

PROPOSAL SCHEDULE

Item No.	Description	Quantity	Unit	Unit Price	Total
<u>I. General Requirements</u>					
01500.1	Installation, Maintenance, Monitoring, and Removal of BMP		L.S.	\$ _____	
01561.1	Construction Site Runoff Control Program		L.S.	\$ _____	
01570	Traffic Control Work Zone		L.S.	\$ _____	
01700	Mobilization (Not to Exceed 6% of sum of all items, excluding this item and all allowances)		L.S.	\$ _____	
<u>II. Site Construction</u>					
02070.1	Removal of Structures and Obstructions		L.S.	\$ _____	
02080.1	Protection of Existing Utilities		L.S.	\$ _____	
02210.1	Excavation and Embankment		L.S.	\$ _____	
02210.2	Grading and Compaction		L.S.	\$ _____	
02210.3	Borrow Excavated Material		L.S.	\$ _____	
02221.1	Trench Excavation and Backfill for Drain Pipe		L.S.	\$ _____	
02221.2	Trench Excavation and Backfill for Drain Structures		L.S.	\$ _____	
02221.3	Trench Excavation and Backfill for Water System		L.S.	\$ _____	
02221.4	Trench Excavation and Backfill for Sewer System		L.S.	\$ _____	
02232.1	Aggregate Base Course		L.S.	\$ _____	
02232.2	Aggregate Subbase		L.S.	\$ _____	
02281	Termite Control		L.S.	\$ _____	
02400	Storm Drainage		L.S.	\$ _____	
02411.1	Structure Demolition		L.S.	\$ _____	
02411.2	Structure Demolition - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$ _____	

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Item No.	Description	Quantity	Unit	Unit Price	Total
<u>II. Site Construction (Continued)</u>					
02450	Portland Cement Concrete Sidewalks		L.S.	\$	_____
02513	Asphalt Pavement		L.S.	\$	_____
02528	Concrete Curbs		L.S.	\$	_____
02578	Painted Pavement Markings		L.S.	\$	_____
02713	Water Systems		L.S.	\$	_____
02722	Sanitary Sewer System		L.S.	\$	_____
02810	Sprinkler System		L.S.	\$	_____
02950.1	Landscape Planting		L.S.	\$	_____
02950.2	Landscape Planting - Operations & Maintenance Service	24	Month	\$	_____ *
<u>III. Concrete</u>					
03300	Cast-In-Place Concrete		L.S.	\$	_____
03340	Concrete Floor Finishes		L.S.	\$	_____
03450	Architectural Precast Concrete		L.S.	\$	_____
<u>IV. Masonry</u>					
04200	Unit Masonry		L.S.	\$	_____
<u>V. Metals</u>					
05120.1	Structural Steel		L.S.	\$	_____
05120.2	Structural Steel - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
05210	Steel Joist Framing		L.S.	\$	_____
05300.1	Metal Deck		L.S.	\$	_____
05300.2	Metal Deck - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
05400.1	Cold Formed Metal Framing		L.S.	\$	_____
05400.2	Cold Formed Metal Framing - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
05500.1	Metal Fabrication		L.S.	\$	_____
05500.2	Metal Fabrication - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
05511	Metal Stair		L.S.	\$	_____
05521	Pipe and Tube Railings		L.S.	\$	_____
05581	Column Covers		L.S.	\$	_____

Item No.	Description	Quantity	Unit	Unit Price	Total
<u>V. Metals (Continued)</u>					
05731	Glazed Decorative Metal Railings		L.S.	\$	_____
05750	Decorative Formed Metal		L.S.	\$	_____
<u>VI. Wood and Plastics</u>					
06105.1	Miscellaneous Rough Carpentry		L.S.	\$	_____
06105.2	Miscellaneous Rough Carpentry- Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
06160.1	Sheathing		L.S.	\$	_____
06160.2	Sheathing - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
06202	Interior Finish Carpentry		L.S.	\$	_____
06402	Interior Architectural Woodwork		L.S.	\$	_____
06640	Plastic Paneling		L.S.	\$	_____
<u>VII. Thermal and Moisture Protection</u>					
07111	Bituminous Dampproofing		L.S.	\$	_____
07210.1	Thermal Insulation		L.S.	\$	_____
07210.2	Thermal Insulation - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
07271.1	Modified Bituminous Sheet Air Barriers		L.S.	\$	_____
07271.2	Modified Bituminous Sheet Air Barriers - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
07421.1	Aluminum Flat Plate Panels		L.S.	\$	_____
07421.2	Aluminum Flat Plate Panels - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
07541.1	Polyvinyl-Chloride (PVC) Roofing		L.S.	\$	_____
07541.2	Polyvinyl-Chloride (PVC) Roofing - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
07620.1	Sheet Metal Flashing and Trim		L.S.	\$	_____
07620.2	Sheet Metal Flashing and Trim - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
07810	Applied Fireproofing		L.S.	\$	_____
07841.1	Penetration Firestopping		L.S.	\$	_____




Item No.	Description	Quantity	Unit	Unit Price	Total
<u>VII. Thermal and Moisture Protection (Continued)</u>					
07841.2	Penetration Firestopping - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
07844.1	Joint Firestopping		L.S.		\$ _____
07844.2	Joint Firestopping - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
07920.1	Joint Sealants		L.S.		\$ _____
07920.2	Joint Sealants - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
07921	Acoustical Joint Sealants		L.S.		\$ _____
07951	Exterior Expansion Joint Cover Assemblies		L.S.		\$ _____
<u>VIII. Doors and Windows</u>					
08111	Hollow Metal Doors And Frames		L.S.		\$ _____
08311	Access Doors and Frames		L.S.		\$ _____
08332	Overhead Coiling Doors		L.S.		\$ _____
08411.1	Aluminum-Framed Entrances and Storefronts		L.S.		\$ _____
08411.2	Aluminum-Framed Entrances and Storefronts - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
08422.1	Sliding Automatic Entrances		L.S.		\$ _____
08422.2	Sliding Automatic Entrances - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
08422.3	Sliding Automatic Entrances - Operations & Maintenance Service	24	Month	\$ _____	\$ _____ *
08442	Structural-Sealant-Glazed Curtainwalls		L.S.		\$ _____
08710.1	Door Hardware		L.S.		\$ _____
08710.2	Door Hardware - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
08800.1	Glazing		L.S.		\$ _____
08800.2	Glazing - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
08911.1	Fixed Louvers		L.S.		\$ _____

Item No.	Description	Quantity	Unit	Unit Price	Total
<u>VIII. Doors and Windows (Continued)</u>					
08911.2	Fixed Louvers - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
<u>IX. Finishes</u>					
09221.1	Non-Structural Metal Framing		L.S.		\$ _____
09221.2	Non-Structural Metal Framing - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
09240.1	Cement Plastering		L.S.		\$ _____
09240.2	Cement Plastering - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
09290.1	Gypsum Board		L.S.		\$ _____
09290.2	Gypsum Board - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
09291	Acoustic Isolation Pads		L.S.		\$ _____
09301	Ceramic Tiling		L.S.		\$ _____
09511	Acoustical Panel Ceilings		L.S.		\$ _____
09542	Linear Metal Ceilings		L.S.		\$ _____
09651	Resilient Base And Accessories		L.S.		\$ _____
09653	Resilient Tile Flooring		L.S.		\$ _____
09681	Tile Carpeting		L.S.		\$ _____
09720	Acoustical Wall Panels		L.S.		\$ _____
09911.1	Exterior Painting		L.S.		\$ _____
09911.2	Exterior Painting - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
09912.1	Interior Paint		L.S.		\$ _____
09912.2	Interior Painting - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
09960	High-Performance Coatings		L.S.		\$ _____
<u>X. Specialties</u>					
10260	Wall and Door Protection		L.S.		\$ _____
10440	Signage		L.S.		\$ _____
10441	Fire Protection Cabinets		L.S.		\$ _____
10442	Fire Extinguisher		L.S.		\$ _____
<u>XII. Furnishings</u>					
12241	Roller Window Shades		L.S.		\$ _____


Item No.	Description	Quantity	Unit	Unit Price	Total
<u>XIII. Special Construction (Not Used)</u>					
<u>XIV. Conveying Systems</u>					
3 14210	Electric Traction Elevators		L.S.		\$ _____
14310	Escalators		L.S.		\$ _____
<u>XV. Mechanical</u>					
15400.1	Plumbing		L.S.		\$ _____
15400.2	Plumbing - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
15500.1	Fire Protection Systems		L.S.		\$ _____
15500.2	Fire Protection Systems - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
15600.1	Air Conditioning and Ventilation		L.S.		\$ _____
15600.2	Air Conditioning and Ventilation - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
15600.3	Air Conditioning and Ventilation - Operations & Maintenance Service	24	Month	\$ _____	\$ _____ *
15910.1	Direct Digital Control System		L.S.		\$ _____
15910.2	Direct Digital Control System - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
<u>XVI. Electrical</u>					
16055	Protective Device Coordination Study		L.S.		\$ _____
16100.1	Electrical Work		L.S.		\$ _____
16100.2	Electrical Work - Existing TSA Checkpoint Work (Phase 2)		L.S.		\$ _____
16208.1	Engine Generator		L.S.		\$ _____
16208.2	Engine Generator – Operations & Maintenance Service	24	Month	\$ _____	\$ _____ *
16262	Automatic Transfer Bypass-Isolation Switch		L.S.		\$ _____
16301	Underground Electrical Work		L.S.		\$ _____
16410	Lighting Protection System		L.S.		\$ _____
16510.1	Interior Lighting		L.S.		\$ _____

Item No.	Description	Quantity	Unit	Unit Price	Total
<u>XVI. Electrical (Continued)</u>					
16510.2	Interior Lighting - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
16722.1	Interior Addressable Fire Alarm System		L.S.	\$	_____
16722.2	Interior Addressable Fire Alarm System - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
16740.1	Building Telecommunication Systems		L.S.	\$	_____
16750.1	Access Control System		L.S.	\$	_____
16750.2	Access Control System - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
16770.1	Public Address System		L.S.	\$	_____
16770.2	Public Address System - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____
16771.1	Public Address Visual Paging System		L.S.	\$	_____
16780.1	Visual Surveillances Systems		L.S.	\$	_____
16780.2	Visual Surveillances Systems - Existing TSA Checkpoint Work (Phase 2)		L.S.	\$	_____

XVII. Allowances

 01010	Reinstallation of Existing TSA Screening Equipment at The Existing TSA Checkpoint		Allowance		\$300,000
01500.2	Additional Water Pollution, Dust, and Erosion Control		Allowance		\$30,000
01562.1	Management of Contaminated Materials		Allowance		\$530,000
01565	Security Measures		Allowance		\$250,000
02070.2	Unforeseen Site Demolition		Allowance		\$250,000
02080.2	Removal or Relocation of Unknown Utility		Allowance		\$200,000
02210.4	Excavation of Unsuitable Material		Allowance		\$100,000
10900	Procurement and Installation of Automated External Defibrillators (AEDs)		Allowance		\$10,000
15910.3	DDC Controls Integration				

With Existing System Allowance \$25,000

Item No.	Description	Quantity	Unit	Unit Price	Total
<u>XVII. Allowances (Continued)</u>					
16722.3	Interior Addressable Fire Alarm System Integration with Existing Fire Alarm System		Allowance		\$20,000
16740.2	Cost Allowance - State (DOT-A) Tel/Data Connections		Allowance		\$20,000
16740.3	Cost Allowance - Commercial Utility Tel/CATV Service Charges		Allowance		\$20,000
16750.3	Connection of Access Control System to Existing Access Control Systems		Allowance		\$20,000
16770.3	Public Address System Integration with Existing Public Address System		Allowance		\$25,000
16771.2	Public Address Visual Paging System Integration with Existing System		Allowance		\$25,000 
16780.3	Connection of Video Surveillance Systems to Existing Systems		Allowance		\$20,000
TOTAL AMOUNT FOR COMPARISON OF BIDS					\$ _____

The prices bid herein shall include all labor, materials, equipment, and incidentals necessary to construct all items in place, including installation and testing of equipment, complete and ready for operation, all in accordance with the plans and specifications.

- Note 1: Bid shall include all Federal, State, County and other applicable taxes.
- Note 2: The TOTAL AMOUNT FOR COMPARISON OF BIDS will be used to determine the lowest responsible bidder.
- Note 3: Bidders shall complete all unit prices and amounts. Failure to do so may be grounds for rejection of bid.
- Note 4: If a discrepancy occurs between the unit price and the total, the unit price shall govern.
- Note 5: The State reserves the right to reject any or all Bids and to waive any defects in said Bids in the best interest of the State.
- Note 6: Submission of a Bid is a warranty that the bidder has made an examination of the project site and is fully aware of all conditions to be encountered in performing the work and the requirements of the plans and specifications.
- Note 7: The bidders' attention is directed to Section 2.11 – BID SECURITY and Section 2.24 – REQUIREMENTS OF CONTRACT BONDS of the "General Provisions".
- Note 8: Bidders shall be paid for actual work performed as directed by the Engineer for allowance items. Bidder will not be paid overhead and profit for unused allowance funds.
- Note 9: If the lowest TOTAL AMOUNT FOR COMPARISON OF BIDS is less than, or approximately equal to the funds available for this project, an award will be made to the lowest responsible bidder.
- Note 10: If the TOTAL AMOUNT FOR COMPARISON OF BIDS exceeds the funds available for the project, then the State reserves the right to negotiate with the lowest, responsive, responsible bidder as permitted under Section 103D-302, Hawaii Revised Statutes, to further reduce the scope of work and award a contract thereafter.
- Note 11: Proposal Sheets P-1 through P-32 shall be submitted at the time of bid. Failure to submit all pages shall result in rejection of bid.
- Note 12: The bidder shall submit the proposal in HlePRO. The proposal shall be UPLOADED to HlePRO prior to the bid opening date and time. Proposals received after said due date and time shall not be considered. Original (wet ink) proposal documents are not required to be submitted. The award will be made based on proposals uploaded in HlePRO. Any and all other additional documents explicitly designated and labeled as CONFIDENTIAL OR

PROPRIETARY shall be UPLOADED SEPARATELY to HlePRO. If there is a conflict between this specification and its HlePRO solicitation, the specifications shall govern and control unless otherwise specified.

Note 13: \*The State reserves the right to terminate any Operations & Maintenance Bid Items, with 30 calendar days notice. The bid item amount deducted from the Contract shall be the number of months remaining times the Unit Price amount indicated in the Proposal Schedule. The Contractor shall not claim that General Conditions and/or other mark-ups are included in the Unit Price, such that the bid item amount deducted from the Contract will be less than the number of months remaining times the Unit Price amount indicated in the Proposal Schedule.

Superseded General Decision Number: HI20220001

State: Hawaii

Construction Types: Building, Heavy (Heavy and Dredging), Highway and Residential

Counties: Hawaii Statewide.

BUILDING CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories); HEAVY AND HIGHWAY CONSTRUCTION PROJECTS AND DREDGING

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.



Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	01/27/2023
3	02/17/2023
4	02/24/2023
5	03/10/2023
6	03/17/2023
7	07/07/2023
8	07/28/2023

ASBE0132-001 06/05/2022

	Rates	Fringes
Asbestos Workers/Insulator Includes application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems. Also the application of firestopping material for wall openings and penetrations in walls, floors, ceilings and curtain walls.....	\$ 42.80	25.85

BOIL0627-005 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 37.25	31.25

BRHI0001-001 09/05/2022

	Rates	Fringes
BRICKLAYER Bricklayers and Stonemasons.	\$ 47.24	31.33
Pointers, Caulkers and Weatherproofers.....	\$ 47.49	31.33

BRHI0001-002 09/05/2022

	Rates	Fringes
Tile, Marble & Terrazzo Worker Terrazzo Base Grinders.....	\$ 43.79	33.10
Terrazzo Floor Grinders and Tenders.....	\$ 42.24	33.10
Tile, Marble and Terrazzo Workers.....	\$ 45.60	33.10

CARP0745-001 10/01/2021

	Rates	Fringes
Carpenters: Carpenters; Hardwood Floor Layers; Patent Scaffold Erectors (14 ft. and over); Piledrivers;		

Pneumatic Nailers; Wood Shinglers and Transit and/or Layout Man.....	\$ 51.25	24.84
Millwrights and Machine Erectors.....	\$ 51.50	24.84
Power Saw Operators (2 h.p. and over).....	\$ 51.40	24.84

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 CARP0745-002 10/01/2021

	Rates	Fringes
Drywall and Acoustical Workers and Lathers.....	\$ 51.50	24.84

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 ELEC1186-001 08/22/2022

	Rates	Fringes
Electricians:		
Cable Splicers.....	\$ 60.51	30.90
Electricians.....	\$ 53.55	30.69
Telecommunication worker....	\$ 34.94	13.69

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 ELEC1186-002 08/22/2022

	Rates	Fringes
Line Construction:		
Cable Splicers.....	\$ 60.51	30.90
Groundmen/Truck Drivers.....	\$ 40.16	25.34
Heavy Equipment Operators...	\$ 48.20	28.43
Linemen.....	\$ 53.55	30.69
Telecommunication worker....	\$ 34.94	13.69

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 ELEV0126-001 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 68.08	37.335+a+b

a. VACATION: Employer contributes 8% of basic hourly rate for 5 years service and 6% of basic hourly rate for 6 months to 5 years service as vacation pay credit.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day and Christmas Day.

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 ENGI0003-002 09/03/2018

	Rates	Fringes
Diver (Aqua Lung) (Scuba))		
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)...	\$ 66.00	31.26
Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)..	\$ 56.63	31.26
Stand-by Diver (Aqua Lung) (Scuba).....	\$ 47.25	31.26
Diver (Other than Aqua Lung)		
Diver (Other than Aqua Lung).....	\$ 66.00	31.26
Diver Tender (Other than		

Aqua Lung).....	\$ 44.22	31.26
Stand-by Diver (Other than Aqua Lung).....	\$ 47.25	31.26
Helicopter Work		
Airborne Hoist Operator for Helicopter.....	\$ 45.80	31.26
Co-Pilot of Helicopter.....	\$ 45.98	31.26
Pilot of Helicopter.....	\$ 46.11	31.26
Power equipment operator - tunnel work		
GROUP 1.....	\$ 42.24	31.26
GROUP 2.....	\$ 42.35	31.26
GROUP 3.....	\$ 42.52	31.26
GROUP 4.....	\$ 42.79	31.26
GROUP 5.....	\$ 43.10	31.26
GROUP 6.....	\$ 43.75	31.26
GROUP 7.....	\$ 44.07	31.26
GROUP 8.....	\$ 44.18	31.26
GROUP 9.....	\$ 44.29	31.26
GROUP 9A.....	\$ 44.52	31.26
GROUP 10.....	\$ 44.58	31.26
GROUP 10A.....	\$ 44.73	31.26
GROUP 11.....	\$ 44.88	31.26
GROUP 12.....	\$ 45.24	31.26
GROUP 12A.....	\$ 45.60	31.26
Power equipment operators:		
GROUP 1.....	\$ 41.94	31.26
GROUP 2.....	\$ 42.05	31.26
GROUP 3.....	\$ 42.22	31.26
GROUP 4.....	\$ 42.49	31.26
GROUP 5.....	\$ 42.80	31.26
GROUP 6.....	\$ 43.45	31.26
GROUP 7.....	\$ 43.77	31.26
GROUP 8.....	\$ 43.88	31.26
GROUP 9.....	\$ 43.99	31.26
GROUP 9A.....	\$ 44.22	31.26
GROUP 10.....	\$ 44.28	31.26
GROUP 10A.....	\$ 44.43	31.26
GROUP 11.....	\$ 44.58	31.26
GROUP 12.....	\$ 44.94	31.26
GROUP 12A.....	\$ 45.30	31.26
GROUP 13.....	\$ 42.22	31.26
GROUP 13A.....	\$ 42.49	31.26
GROUP 13B.....	\$ 42.80	31.26
GROUP 13C.....	\$ 43.45	31.26
GROUP 13D.....	\$ 43.77	31.26
GROUP 13E.....	\$ 43.88	31.26

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Fork Lift (up to and including 10 tons); Partsman (heavy duty repair shop parts room when needed).

GROUP 2: Conveyor Operator (Handling building material); Hydraulic Monitor; Mixer Box Operator (Concrete Plant).

GROUP 3: Brakeman; Deckhand; Fireman; Oiler; Oiler/Gradechecker; Signalman; Switchman; Highline Cableway Signalman; Bargeman; Bunkerman; Concrete Curing Machine (self-propelled, automatically applied unit on streets, highways, airports and canals); Leveeman; Roller (5 tons and under); Tugger Hoist.

GROUP 4: Boom Truck or dual purpose ""A"" Frame Truck (5 tons or less); Concrete Placing Boom (Building Construction);

Dinky Operator; Elevator Operator; Hoist and/or Winch (one drum); Straddle Truck (Ross Carrier, Hyster and similar).

GROUP 5: Asphalt Plant Fireman; Compressors, Pumps, Generators and Welding Machines ("Bank" of 9 or more, individually or collectively); Concrete Pumps or Pumpcrete Guns; Lubrication and Service Engineer (Grease Rack); Screedman.

GROUP 6: Boom Truck or Dual Purpose "A" Frame Truck (over 5 tons); Combination Loader/Backhoe (up to and including 3/4 cu. yd.); Concrete Batch Plants (wet or dry); Concrete Cutter, Groover and/or Grinder (self-propelled unit on streets, highways, airports, and canals); Conveyor or Concrete Pump (Truck or Equipment Mounted); Drilling Machinery (not to apply to waterliners, wagon drills or jack hammers); Fork Lift (over 10 tons); Loader (up to and including 3 and 1/2 cu. yds); Lull High Lift (under 40 feet); Lubrication and Service Engineer (Mobile); Maginnis Internal Full Slab Vibrator (on airports, highways, canals and warehouses); Man or Material Hoist; Mechanical Concrete Finisher (Large Clary, Johnson Bidwell, Bridge Deck and similar); Mobile Truck Crane Driver; Portable Shotblast Concrete Cleaning Machine; Portable Boring Machine (under streets, highways, etc.); Portable Crusher; Power Jumbo Operator (setting slip forms, etc., in tunnels); Rollers (over 5 tons); Self-propelled Compactor (single engine); Self-propelled Pavement Breaker; Skidsteer Loader with attachments; Slip Form Pumps (Power driven by hydraulic, electric, air, gas, etc., lifting device for concrete forms); Small Rubber Tired Tractors; Trencher (up to and including 6 feet); Underbridge Personnel Aerial Platform (50 feet of platform or less).

GROUP 7: Crusher Plant Engineer, Dozer (D-4, Case 450, John Deere 450, and similar); Dual Drum Mixer, Extend Lift; Hoist and/or Winch (2 drums); Loader (over 3 and 1/2 cu. yds. up to and including 6 yards.); Mechanical Finisher or Spreader Machine (asphalt), (Barber Greene and similar) (Screedman required); Mine or Shaft Hoist; Mobile Concrete Mixer (over 5 tons); Pipe Bending Machine (pipelines only); Pipe Cleaning Machine (tractor propelled and supported); Pipe Wrapping Machine (tractor propelled and supported); Roller Operator (Asphalt); Self-Propelled Elevating Grade Plane; Slusher Operator; Tractor (with boom) (D-6, or similar); Trencher (over 6 feet and less than 200 h.p.); Water Tanker (pulled by Euclids, T-Pulls, DW-10, 20 or 21, or similar); Winchman (Stern Winch on Dredge).

GROUP 8: Asphalt Plant Operator; Barge Mate (Seagoing); Cast-in-Place Pipe Laying Machine; Concrete Batch Plant (multiple units); Conveyor Operator (tunnel); Deckmate; Dozer (D-6 and similar); Finishing Machine Operator (airports and highways); Gradesetter; Kolman Loader (and similar); Mucking Machine (Crawler-type); Mucking Machine (Conveyor-type); No-Joint Pipe Laying Machine; Portable Crushing and Screening Plant; Power Blade Operator (under 12); Saurman Type Dragline (up to and including 5 yds.); Stationary Pipe Wrapping, Cleaning and Bending Machine; Surface Heater and Planer Operator, Tractor (D-6 and similar); Tri-Batch Paver; Tunnel Badger; Tunnel Mole and/or Boring Machine Operator Underbridge Personnel Aerial Platform (over 50 feet of platform).

GROUP 9: Combination Mixer and Compressor (gunite); Do-Mor

Loader and Adams Elegrader; Dozer (D-7 or equal); Wheel and/or Ladder Trencher (over 6 feet and 200 to 749 h.p.).

GROUP 9A: Dozer (D-8 and similar); Gradesetter (when required by the Contractor to work from drawings, plans or specifications without the direct supervision of a foreman or superintendent); Push Cat; Scrapers (up to and including 20 cu. yds); Self-propelled Compactor with Dozer; Self-Propelled, Rubber-Tired Earthmoving Equipment (up to and including 20 cu. yds) (621 Band and similar); Sheep's Foot; Tractor (D-8 and similar); Tractors with boom (larger than D-6, and similar).

GROUP 10: Chicago Boom; Cold Planers; Heavy Duty Repairman or Welder; Hoist and/or Winch (3 drums); Hydraulic Skooper (Koehring and similar); Loader (over 6 cu. yds. up to and including 12 cu. yds.); Saurman type Dragline (over 5 cu. yds.); Self-propelled, rubber-tired Earthmoving Equipment (over 20 cu. yds. up to and including 31 cu. yds.) (637D and similar); Soil Stabilizer (P & H or equal); Sub-Grader (Gurries or other automatic type); Tractors (D-9 or equivalent, all attachments); Tractor (Tandem Scraper); Watch Engineer.

GROUP 10A: Boat Operator; Cable-operated Crawler Crane (up to and including 25 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (up to and including 1 cu. yd.); Dozer D9-L; Dozer (D-10, HD41 and similar) (all attachments); Gradall (up to and including 1 cu. yd.); Hydraulic Backhoe (over 3/4 cu. yds. up to and including 2 cu. yds.); Mobile Truck Crane Operator (up to and including 25 tons) (Mobile Truck Crane Driver Required); Self-propelled Boom Type Lifting Device (Center Mount) (up to and including 25 tons) (Grove, Drott, P&H, Pettibone and similar); Trencher (over 6 feet and 750 h.p. or more); Watch Engineer (steam or electric).

GROUP 11: Automatic Slip Form Paver (concrete or asphalt); Band Wagon (in conjunction with Wheel Excavator); Cable-operated Crawler Cranes (over 25 tons but less than 50 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (over 1 cu. yd. up to 7 cu. yds.); Gradall (over 1 cu. yds. up to 7 cu. yds.); DW-10, 20, etc. (Tandem); Earthmoving Machines (multiple propulsion power units and 2 or more Scrapers) (up to and including 35 cu. yds., "struck" m.r.c.); Highline Cableway; Hydraulic Backhoe (over 2 cu. yds. up to and including 4 cu. yds.); Leverman; Lift Slab Machine; Loader (over 12 cu. yds); Master Boat Operator; Mobile Truck Crane Operator (over 25 tons but less than 50 tons); (Mobile Truck Crane Driver required); Pre-stress Wire Wrapping Machine; Self-propelled Boom-type Lifting Device (Center Mount) (over 25 tons m.r.c); Self-propelled Compactor (with multiple-propulsion power units); Single Engine Rubber Tired Earthmoving Machine (with Tandem Scraper); Tandem Cats; Trencher (pulling attached shield).

GROUP 12: Clamshell or Dipper Operator; Derricks; Drill Rigs; Multi-Propulsion Earthmoving Machines (2 or more Scrapers) (over 35 cu. yds "struck" m.r.c.); Operators (Derricks, Piledrivers and Cranes); Power Shovels and Draglines (7 cu. yds. m.r.c. and over); Self-propelled rubber-tired Earthmoving equipment (over 31 cu. yds.) (657B and similar); Wheel Excavator (up to and including 750 cu. yds. per hour); Wheel Excavator (over 750 cu. yds. per hour).

GROUP 12A: Dozer (D-11 or similar or larger); Hydraulic Excavators (over 4 cu. yds.); Lifting cranes (50 tons and over); Pioneering Dozer/Backhoe (initial clearing and excavation for the purpose of providing access for other equipment where the terrain worked involves 1-to-1 slopes that are 50 feet in height or depth, the scope of this work does not include normal clearing and grubbing on usual hilly terrain nor the excavation work once the access is provided); Power Blade Operator (Cat 12 or equivalent or over); Straddle Lifts (over 50 tons); Tower Crane, Mobile; Traveling Truss Cranes; Universal, Liebherr, Linden, and similar types of Tower Cranes (in the erection, dismantling, and moving of equipment there shall be an additional Operating Engineer or Heavy Duty Repairman); Yo-Yo Cat or Dozer.

GROUP 13: Truck Driver (Utility, Flatbed, etc.)

GROUP 13A: Dump Truck, 8 cu.yds. and under (water level); Water Truck (up to and including 2,000 gallons).

GROUP 13B: Water Truck (over 2,000 gallons); Tandem Dump Truck, over 8 cu. yds. (water level).

GROUP 13C: Truck Driver (Semi-trailer. Rock Cans, Semi-Dump or Roll-Offs).

GROUP 13D: Truck Driver (Slip-In or Pup).

GROUP 13E: End Dumps, Unlicensed (Euclid, Mack, Caterpillar or similar); Tractor Trailer (Hauling Equipment); Tandem Trucks hooked up to Trailer (Hauling Equipment)

BOOMS AND/OR LEADS (HOURLY PREMIUMS):

The Operator of a crane (under 50 tons) with a boom of 80 feet or more (including jib), or of a crane (under 50 tons) with leads of 100 feet or more, shall receive a per hour premium for each hour worked on said crane (under 50 tons) in accordance with the following schedule:

Booms of 80 feet up to but not including 130 feet or Leads of 100 feet up to but not including 130 feet	0.50
Booms and/or Leads of 130 feet up to but not including 180 feet	0.75
Booms and/or Leads of 180 feet up to and including 250 feet	1.15
Booms and/or Leads over 250 feet	1.50

The Operator of a crane (50 tons and over) with a boom of 180 feet or more (including jib) shall receive a per hour premium for each hour worked on said crane (50 tons and over) in accordance with the following schedule:

Booms of 180 feet up to and including 250 feet	1.25
Booms over 250 feet	1.75

	Rates	Fringes
Dredging: (Boat Operators)		
Boat Deckhand.....	\$ 41.22	30.93
Boat Operator.....	\$ 43.43	30.93
Master Boat Operator.....	\$ 43.58	30.93
Dredging: (Clamshell or Dipper Dredging)		
GROUP 1.....	\$ 43.94	30.93
GROUP 2.....	\$ 43.28	30.93
GROUP 3.....	\$ 42.88	30.93
GROUP 4.....	\$ 41.22	30.93
Dredging: (Derricks)		
GROUP 1.....	\$ 43.94	30.93
GROUP 2.....	\$ 43.28	30.93
GROUP 3.....	\$ 42.88	30.93
GROUP 4.....	\$ 41.22	30.93
Dredging: (Hydraulic Suction Dredges)		
GROUP 1.....	\$ 43.58	30.93
GROUP 2.....	\$ 43.43	30.93
GROUP 3.....	\$ 43.28	30.93
GROUP 4.....	\$ 43.22	30.93
GROUP 5.....	\$ 37.88	26.76
Group 5.....	\$ 42.88	30.93
GROUP 6.....	\$ 37.77	26.76
Group 6.....	\$ 42.77	30.93
GROUP 7.....	\$ 36.22	26.76
Group 7.....	\$ 41.22	30.93

CLAMSHELL OR DIPPER DREDGING CLASSIFICATIONS

- GROUP 1: Clamshell or Dipper Operator.
- GROUP 2: Mechanic or Welder; Watch Engineer.
- GROUP 3: Barge Mate; Deckmate.
- GROUP 4: Bargeman; Deckhand; Fireman; Oiler.

HYDRAULIC SUCTION DREDGING CLASSIFICATIONS

- GROUP 1: Leverman.
- GROUP 2: Watch Engineer (steam or electric).
- GROUP 3: Mechanic or Welder.
- GROUP 4: Dozer Operator.
- GROUP 5: Deckmate.
- GROUP 6: Winchman (Stern Winch on Dredge)
- GROUP 7: Deckhand (can operate anchor scow under direction of Deckmate); Fireman; Leveeman; Oiler.

DERRICK CLASSIFICATIONS

- GROUP 1: Operators (Derricks, Piledrivers and Cranes).
- GROUP 2: Saurman Type Dragline (over 5 cubic yards).
- GROUP 3: Deckmate; Saurman Type Dragline (up to and including 5 yards).
- GROUP 4: Deckhand, Fireman, Oiler.

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 ENGI0003-044 09/03/2018

	Rates	Fringes
Power Equipment Operators (PAVING)		
Asphalt Concrete Material Transfer.....	\$ 42.92	32.08

Addendum No. 3  
 8 of 19  
 r9/5/23

Asphalt Plant Operator.....	\$ 43.35	32.08
Asphalt Raker.....	\$ 41.96	32.08
Asphalt Spreader Operator...\$	43.44	32.08
Cold Planer.....	\$ 43.75	32.08
Combination Loader/Backhoe (over 3/4 cu.yd.).....	\$ 41.96	32.08
Combination Loader/Backhoe (up to 3/4 cu.yd.).....	\$ 40.98	32.08
Concrete Saws and/or Grinder (self-propelled unit on streets, highways, airports and canals).....	\$ 42.92	32.08
Grader.....	\$ 43.75	32.08
Laborer, Hand Roller.....	\$ 41.46	32.08
Loader (2 1/2 cu. yds. and under).....	\$ 42.92	32.08
Loader (over 2 1/2 cu. yds. to and including 5 cu. yds.).....	\$ 43.24	32.08
Roller Operator (five tons and under).....	\$ 41.69	32.08
Roller Operator (over five tons).....	\$ 43.12	32.08
Screed Person.....	\$ 42.92	32.08
Soil Stabilizer.....	\$ 43.75	32.08

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IRON0625-001 09/01/2022

	Rates	Fringes
Ironworkers:.....	\$ 45.00	39.00
a. Employees will be paid \$.50 per hour more while working in tunnels and coffer dams; \$1.00 per hour more when required to work under or are covered with water (submerged) and when they are required to work on the summit of Mauna Kea, Mauna Loa or Haleakala.		

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LAB00368-001 09/05/2022

	Rates	Fringes
Laborers:		
Driller.....	\$ 41.00	24.25
Final Clean Up.....	\$ 30.45	19.57
Gunite/Shotcrete Operator and High Scaler.....	\$ 40.50	24.25
Laborer I.....	\$ 40.00	24.25
Laborer II.....	\$ 37.40	24.25
Mason Tender/Hod Carrier...\$	40.50	24.25
Powderman.....	\$ 41.00	24.25
Window Washer (bosun chair).\$	39.50	24.25

LABORERS CLASSIFICATIONS

Laborer I: Air Blasting run by electric or pneumatic compressor; Asphalt Laborer, Ironer, Raker, Luteman, and Handroller, and all types of Asphalt Spreader Boxes; Asphalt Shoveler; Assembly and Installation of Multiplates, Liner Plates, Rings, Mesh, Mats; Batching Plant (portable and temporary); Boring Machine Operator (under streets and sidewalks); Buggymobile; Burning and Welding; Chainsaw, Faller, Logloader, and Bucker; Compactors (Jackson Jumping Jack and similar); Concrete Bucket Dumpman; Concrete Chipping; Concrete Chuteman/Hoseman (pouring concrete) (the handling of the chute from ready-mix trucks for such jobs



as walls, slabs, decks, floors, foundations, footings, curbs, gutters, and sidewalks); Concrete Core Cutter (Walls, Floors, and Ceiling); Concrete Grinding or Sanding; Concrete: Hooking on, signaling, dumping of concrete for tremie work over water on caissons, pilings, abutments, etc.; Concrete: Mixing, handling, conveying, pouring, vibrating, otherwise placing of concrete or aggregates or by any other process; Concrete: Operation of motorized wheelbarrows or buggies or machines of similar character, whether run by gas, diesel, or electric power; Concrete Placement Machine Operator: operation of Somero Hammerhead, Copperheads, or similar machines; Concrete Pump Machine (laying, coupling, uncoupling of all connections and cleaning of equipment); Concrete and/or Asphalt Saw (Walking or Handtype) (cutting walls or flatwork) (scoring old or new concrete and/or asphalt) (cutting for expansion joints) (streets and ways for laying of pipe, cable or conduit for all purposes); Concrete Shovelers/Laborers (Wet or Dry); Concrete Screeding for Rough Strike-Off: Rodding or striking-off, by hand or mechanical means prior to finishing; Concrete Vibrator Operator; Coring Holes: Walls, footings, piers or other obstructions for passage of pipes or conduits for any purpose and the pouring of concrete to secure the hole; Cribbers, Shorer, Lagging, Sheeting, and Trench Jacking and Bracing, Hand-Guided Lagging Hammer Whaling Bracing; Curbing (Concrete and Asphalt); Curing of Concrete (impervious membrane and form oiler) mortar and other materials by any mode or method; Cut Granite Curb Setter (setting, leveling and grouting of all precast concrete or stone curbs); Cutting and Burning Torch (demolition); Dri Pak-It Machine; Environmental Abatement: removal of asbestos, lead, and bio hazardous materials (EPA and/or OSHA certified); Falling, bucking, yarding, loading or burning of all trees or timber on construction site; Forklift (9 ft. and under); Gas, Pneumatic, and Electric tools; Grating and Grill work for drains or other purposes; Green Cutter of concrete or aggregate in any form, by hand, mechanical means, grindstone or air and/or water; Grout: Spreading for any purpose; Guinea Chaser (Grade Checker) for general utility trenches, sitework, and excavation; Headerboard Man (Asphalt or Concrete); Heat Welder of Plastic (Laborers' AGC certified workers) (when work involves waterproofing for waterpools, artificial lakes and reservoir) heat welding for sewer pipes and fusion of HDPE pipes; Heavy Highway Laborer (Rigging, signaling, handling, and installation of pre-cast catch basins, manholes, curbs and gutters); High Pressure Nozzleman - Hydraulic Monitor (over 100# pressure); Jackhammer Operator; Jacking of slip forms: All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Magnesite and Mastic Workers (Wet or Dry)(including mixer operator);Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting): handling, placing and operation of nozzle; Operation, Manual or Hydraulic jacking of shields and the use of such other mechanical equipment as may be necessary; Pavement Breakers; Paving, curbing and surfacing of streets, ways, courts, under and overpasses, bridges, approaches, slope walls, and all other labor connected therewith; Pilecutters; Pipe Accessment in place, bolting and lining up of sectional metal or other pipe including corrugated pipe; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, HDPE,

metallic or non-metallic, conduit, and any other stationary-type of tubular device used for conveying of any substance or element, whether water, sewage, solid, gas, air, or other product whatsoever and without regard to the nature of material from which tubular material is fabricated; No-joint pipe and stripping of same, Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, treating Creosote and similar-type materials (6-inch) pipe and over); Piping: resurfacing and paving of all ditches in preparation for laying of all pipes; Pipe laying of lateral sewer pipe from main or side sewer to buildings or structure (except Contactor may direct work be done under proper supervision); Pipe laying, leveling and marking of the joint used for main or side sewers and storm sewers; Laying of all clay, terra cotta, ironstone, vitrified concrete, HDPE or other pipe for drainage; Placing and setting of water mains, gas mains and all pipe including removal of skids; Plaster Mortar Mixer/Pump; Pneumatic Impact Wrench; Portable Sawmill Operation: Choker setters, off bearers, and lumber handlers connected with clearing; Posthole Digger (Hand Held, Gas, Air and Electric); Powderman's Tender; Power Broom Sweepers (Small); Preparation and Compaction of roadbeds for railroad track laying, highway construction, and the preparation of trenches, footings, etc., for cross-country transmission by pipelines, electrical transmission or underground lines or cables (by mechanical means); Raising of structure by manual or hydraulic jacks or other methods and resetting of structure in new locations, including all concrete work; Ramming or compaction; Rigging in connection with Laborers' work (except demolition), Signaling (including the use of walkie talkie) Choke Setting, tag line usage; Tagging and Signaling of building materials into high rise units; Riprap, Stonepaver, and Rock Slinger (includes placement of stacked concrete, wet or dry and loading, unloading, signaling, slinging and setting of other similar materials); Rotary Scarifier (including multiple head concrete chipping Scarifier); Salamander Heater, Drying of plaster, concrete mortar or other aggregate; Scaffold Erector Leadman; Scaffolds: (Swing and hanging) including maintenance thereof; Scaler; Septic Tank/Cesspool and Drain Fields Digger and Installer; Shredder/Chipper (tree branches, brush, etc.); Stripping and Setting Forms; Stripping of Forms: Other than panel forms which are to be re-used in their original form, and stripping of forms on all flat arch work; Tampers (Barko, Wacker, and similar type); Tank Scaler and Cleaners; Tarman; Tree Climbers and Trimmers; Trencher (includes hand-held, Davis T-66 and similar type); Trucks (flatbed up to and including 2 1/2 tons when used in connection with on-site Laborers' work; Trucks (Refuse and Garbage Disposal) (from job site to dump); Vibra-Screed (Bull Float in connection with Laborers' work); Well Points, Installation of or any other dewatering system.

Laborer II: Asphalt Plant Laborer; Boring Machine Tender; Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Chainman, Rodmen, and Grade Markers; Cleaning, clearing, grading and/or removal for streets, highways, roadways, aprons, runways, sidewalks, parking areas, airports, approaches, and other similar installations; Cleaning or reconditioning of streets, ways, sewers and waterlines, all maintenance work and work of an unskilled and semi-skilled nature; Concrete Bucket Tender (Groundman) hooking and unhooking of bucket; Concrete

Forms; moving, cleaning, oiling and carrying to the next point of erection of all forms; Concrete Products Plant Laborers; Conveyor Tender (conveying of building materials); Crushed Stone Yards and Gravel and Sand Pit Laborers and all other similar plants; Demolition, Wrecking and Salvage Laborers: Wrecking and dismantling of buildings and all structures, with use of cutting or wrecking tools, breaking away, cleaning and removal of all fixtures, All hooking, unhooking, signaling of materials for salvage or scrap removed by crane or derrick; Digging under streets, roadways, aprons or other paved surfaces; Driller's Tender; Chuck Tender, Outside Nipper; Dry-packing of concrete (plugging and filling of she-bolt holes); Fence and/or Guardrail Erector: Dismantling and/or re-installation of all fence; Finegrader; Firewatcher; Flagman (Coning, preparing, stablishing and removing portable roadway barricade devices); Signal Men on all construction work defined herein, including Traffic Control Signal Men at construction site; General Excavation; Backfilling, Grading and all other labor connected therewith; Digging of trenches, ditches and manholes and the leveling, grading and other preparation prior to laying pipe or conduit for any purpose; Excavations and foundations for buildings, piers, foundations and holes, and all other construction. Preparation of street ways and bridges; General Laborer: Cleaning and Clearing of all debris and surplus material. Clean-up of right-of-way. Clearing and slashing of brush or trees by hand or mechanical cutting. General Clean up: sweeping, cleaning, wash-down, wiping of construction facility and equipment (other than "Light Clean up (Janitorial) Laborer. Garbage and Debris Handlers and Cleaners. Appliance Handling (job site) (after delivery unloading in storage area); Ground and Soil Treatment Work (Pest Control); Gunite/Shotcrete Operator Tender; Junk Yard Laborers (same as Salvage Yard); Laser Beam "Target Man" in connection with Laborers' work; Layout Person for Plastic (when work involves waterproofing for waterponds, artificial lakes and reservoirs); Limbers, Brush Loaders, and Pilers; Loading, Unloading, carrying, distributing and handling of all rods and material for use in reinforcing concrete construction (except when a derrick or outrigger operated by other than hand power is used); Loading, unloading, sorting, stockpiling, handling and distribution of water mains, gas mains and all pipes; Loading and unloading of all materials, fixtures, furnishings and appliances from point of delivery to stockpile to point of installation; hooking and signaling from truck, conveyance or stockpile; Material Yard Laborers; Pipelayer Tender; Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, Creosote, and similar-type materials (pipe under 6 inches); Plasterer Laborer; Preparation, construction and maintenance of roadbeds and sub-grade for all paving, including excavation, dumping, and spreading of sub-grade material; Prestressed or precast concrete slabs, walls, or sections: all loading, unloading, stockpiling, hooking on of such slabs, walls or sections; Quarry Laborers; Railroad, Streetcar, and Rail Transit Maintenance and Repair; Roustabout; Rubbish Trucks in connection with Building Construction Projects (excluding clearing, grubbing, and excavating); Salvage Yard: All work connected with cutting, cleaning, storing, stockpiling or handling of materials, all cleanup, removal of debris, burning, back-filling and landscaping of the site; Sandblasting Tender (Pot Tender): Hoses and pots or markers; Scaffolds: Erection, planking and removal of all scaffolds used for

support for lathers, plasters, brick layers, masons, and other construction trades crafts; Scaffolds: (Specially designed by carpenters) laborers shall tend said carpenter on erection and dismantling thereof, preparation for foundation or mudsills, maintenance; Scraping of floors; Screeds: Handling of all screeds to be reused; handling, dismantling and conveyance of screeds; Setting, leveling and securing or bracing of metal or other road forms and expansion joints; Sheeting Piling/trench shoring (handling and placing of skip sheet or wood plank trench shoring); Ship Scalars; Shipwright Tender; Sign Erector (subdivision traffic, regulatory, and street-name signs); Sloper; Slurry Seal Crews (Mixer Operator, Applicator, Squeegee Man, Shuttle Man, Top Man); Snapping of wall ties and removal of tie rods; Soil Test operations of semi and unskilled labor such as filling sand bags; Striper (Asphalt, Concrete or other Paved Surfaces); Tool Room Attendant (Job Site); Traffic Delineating Device Applicator; Underpinning, lagging, bracing, propping and shoring, loading, signaling, right-of-way clearance along the route of movement, The clearance of new site, excavation of foundation when moving a house or structure from old site to new site; Utilities employees; Water Man; Waterscape/Hardscape Laborers; Wire Mesh Pulling (all concrete pouring operations); Wrecking, stripping, dismantling and handling concrete forms an false work.

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 LAB00368-002 09/05/2022

	Rates	Fringes
Landscape & Irrigation Laborers		
GROUP 1.....	\$ 27.25	15.80
GROUP 2.....	\$ 28.25	15.80
GROUP 3.....	\$ 22.15	15.80

LABORERS CLASSIFICATIONS

GROUP 1: Installation of non-potable permanent or temporary irrigation water systems performed for the purposes of Landscaping and Irrigation architectural horticultural work; the installation of drinking fountains and permanent or temporary irrigation systems using potable water for Landscaping and Irrigation architectural horticultural purposes only. This work includes (a) the installation of all heads, risers, valves, valve boxes, vacuum breakers (pressure and non-pressure), low voltage electrical lines and, provided such work involves electrical wiring that will carry 24 volts or less, the installation of sensors, master control panels, display boards, junction boxes, conductors, including all other components for controllers, (b) and metallic (copper, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe including all work incidental thereto, i.e., unloading, handling and distribution of all pipes fittings, tools, materials and equipment, (c) all soldering work in connection with the above whether done by torch, soldering iron, or other means; (d) tie-in to main lines, thrust blocks (both precast and poured in place), pipe hangers and supports incidental to installation of the entire irrigation system, (e) making of pressure tests, start-up testing, flushing, purging, water balancing, placing into operation all irrigation equipment, fixtures and appurtenances installed

under this agreement, and (f) the fabrication, replacement, repair and servicing of landscaping and irrigation systems. Operation of hand-held gas, air, electric, or self-powered tools and equipment used in the performance of Landscape and Irrigation work in connection with architectural horticulture; Choke-setting, signaling, and rigging for equipment operators on job-site in the performance of such Landscaping and Irrigation work; Concrete work (wet or dry) performed in connection with such Landscaping and Irrigation work. This work shall also include the setting of rock, stone, or riprap in connection with such Landscape, Waterscape, Rockscape, and Irrigation work; Grubbing, pick and shovel excavation, and hand rolling or tamping in connection with the performance of such Landscaping and Irrigation work; Sprigging, handseeding, and planting of trees, shrubs, ground covers, and other plantings and the performance of all types of gardening and horticultural work relating to said planting; Operation of flat bed trucks (up to and including 2 1/2 tons):.

GROUP 2. Layout of irrigation and other non-potable irrigation water systems and the layout of drinking fountains and other potable irrigation water systems in connection with such Landscaping and Irrigation work. This includes the layout of all heads, risers, valves, valve boxes, vacuum breakers, low voltage electrical lines, hydraulic and electrical controllers, and metallic (coppers, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe. This work also includes the reading and interpretation of plans and specifications in connection with the layout of Landscaping, Rockscape, Waterscape, and Irrigation work; Operation of Hydro-Mulching machines (sprayman and driver), Drillers, Trenchers (riding type, Davis T-66, and similar) and fork lifts used in connection with the performance of such Landscaping and Irrigation work; Tree climbers and chain saw tree trimmers, Sporadic operation (when used in connection with Landscaping, Rockscape, Waterscape, and Irrigation work) of Skid-Steer Loaders (Bobcat and similar), Cranes (Bantam, Grove, and similar), Hoptos, Backhoes, Loaders, Rollers, and Dozers (Case, John Deere, and similar), Water Trucks, Trucks requiring a State of Hawaii Public Utilities Commission Type 5 and/or type 7 license, sit-down type and "gang" mowers, and other self-propelled, sit-down operated machines not listed under Landscape & Irrigation Maintenance Laborer; Chemical spraying using self-propelled power spraying equipment (200 gallon capacity or more).

GROUP 3: Maintenance of trees, shrubs, ground covers, lawns and other planted areas, including the replanting of trees, shrubs, ground covers, and other plantings that did not "take" or which are damaged; provided, however, that re-planting that requires the use of equipment, machinery, or power tools shall be paid for at the rate of pay specified under Landscape and Irrigation Laborer, Group 1; Raking, mowing, trimming, and runing, including the use of "weed eaters", hedge trimmers, vacuums, blowers, and other hand-held gas, air, electric, or self-powered tools, and the operation of lawn mowers (Note: The operation of sit-down type and "gang" mowers shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer, Group 2); Guywiring, staking, propping, and supporting trees; Fertilizing, Chemical spraying using spray equipment with less than 200 gallon capacity, Maintaining irrigation

and sprinkler systems, including the staking, clamping, and adjustment of risers, and the adjustment and/or replacement of sprinkler heads, (Note: the cleaning and gluing of pipe and fittings shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer(Group 1); Watering by hand or sprinkler system and the performance of other types of gardening, yardman, and horticultural-related work.

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LAB00368-003 09/05/2022

	Rates	Fringes
Underground Laborer		
GROUP 1.....	\$ 40.60	24.25
GROUP 2.....	\$ 42.10	24.25
GROUP 3.....	\$ 42.60	24.25
GROUP 4.....	\$ 43.60	24.25
GROUP 5.....	\$ 43.95	24.25
GROUP 6.....	\$ 44.20	24.25
GROUP 7.....	\$ 44.65	24.25

GROUP 1: Watchmen; Change House Attendant.

GROUP 2: Swamper; Brakeman; Bull Gang-Muckers, Trackmen; Dumpmen (any method); Concrete Crew (includes rodding and spreading); Grout Crew; Reboundmen

GROUP 3: Chucktenders and Cabletenders; Powderman (Prime House); Vibratorman, Pavement Breakers

GROUP 4: Miners - Tunnel (including top and bottom man on shaft and raise work); Timberman, Retimberman (wood or steel or substitute materials thereof); Blasters, Drillers, Powderman (in heading); Microtunnel Laborer; Headman; Cherry Pickerman (where car is lifted); Nipper; Grout Gunmen; Grout Pumpman & Potman; Gunite, Shotcrete Gunmen & Potmen; Concrete Finisher (in tunnel); Concrete Screed Man; Bit Grinder; Steel Form Raisers & Setters; High Pressure Nozzleman; Nozzleman (on slick line); Sandblaster-Potman (combination work assignment interchangeable); Tugger

GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman; Rodman; Groundman

GROUP 6: Shifter

GROUP 7: Shifter (Shaft Work & Raiser)

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PAIN1791-001 01/01/2023

	Rates	Fringes
Painters:		
Brush.....	\$ 41.25	30.84
Sandblaster; Spray.....	\$ 41.25	30.84

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PAIN1889-001 07/01/2023

	Rates	Fringes
Glaziers.....	\$ 44.00	38.37

Addendum No. 3  
15 of 19  
r9/5/23

PAIN1926-001 03/05/2023

	Rates	Fringes
Soft Floor Layers.....	\$ 39.77	33.80

PAIN1944-001 01/01/2023

	Rates	Fringes
Taper.....	\$ 44.60	33.65

PLAS0630-001 09/05/2022

	Rates	Fringes
PLASTERER.....	\$ 45.00	33.58

PLAS0630-002 08/31/2020

	Rates	Fringes
Cement Masons:		
Cement Masons.....	\$ 42.65	32.29
Trowel Machine Operators....	\$ 42.80	32.29

\* PLUM0675-001 07/02/2023

	Rates	Fringes
Plumber, Pipefitter, Steamfitter & Sprinkler Fitter...	\$ 51.73	29.75

ROOF0221-001 11/06/2022

	Rates	Fringes
Roofers (Including Built Up, Composition and Single Ply).....	\$ 43.15	21.21

SHEE0293-001 03/05/2023

	Rates	Fringes
Sheet metal worker.....	\$ 47.37	31.71

\* SUHI1997-002 09/15/1997

	Rates	Fringes
Drapery Installer.....	\$ 13.60 **	1.20
FENCE ERECTOR (Chain Link Fence).....	\$ 9.33 **	1.65

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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\*\* Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all



rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator

(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"



**FAA  
Office of Airports**

**Type I, II, III Equipment / Building, and IV Buy American Waivers Issued  
(As of 8/22/2023)**

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

**NOTICE:** L-823 Connectors do not have independent utility needed to consider it as a component that warrants a Buy American waiver. For purposes of Buy American Preferences, the FAA considers these products as sub-components of the larger airfield lighting equipment being installed.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852G(L) Inpavement Runway Guard Light, model RSRG11XX1NYXX2X1	7/22/2023
Type III Equipment/Building	DBT Transporation Services LLC	AWOS 2	7/22/2023
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 1	7/22/2023
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 3	7/22/2023
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 3P	7/22/2023
Type III Equipment/Building	DBT Transportation Services LLC	AWOS 3PT	7/22/2023
Type III Equipment/Building	DBT Transportation Services LLC	AWOS AV	7/22/2023
Type III Equipment/Building	ADB Safegate Americas, LLC	L-830, Isolation Transformers, 60Hz Model 1STXXX66601001	7/8/2023
Type III Equipment/Building	Crown USA Incorporated	F-AB-297 TT-P-1952F Type II Black Marking Paint	7/8/2023
Type III Equipment/Building	Crown USA Incorporated	F-AG-355 TT-P-1952F Type II Bicycle Green Marking Paint	7/8/2023
Type III Equipment/Building	Crown USA Incorporated	F-AL-397 TT-P-1952F Type II Blue Marking Paint	7/8/2023
Type III Equipment/Building	Crown USA Incorporated	F-LFY-295 TT-P-1952F Type II L.F. Yellow Marking Paint	7/8/2023
Type III Equipment/Building	Crown USA Incorportated	F-AR-399 TT-P-1952F Type II Red Marking Paint	7/8/2023
Type III Equipment/Building	Crown USA Incorportated	F-AR-D-399 TT-P-1952F Type II Dark Red Marking Paint	7/8/2023

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Crown USA Incorporated	F-AW-292 TT-P-1952F Type II White Marking Paint	7/8/2023
Type III Equipment/Building	Hillcrest Industries, Inc.	Reflective Media TTB 1325D Type 1A – Glass Beads	7/8/2023
Type III Equipment/Building	E-One, Inc.	Ecologic Test Cart	7/1/2023
Type III Equipment/Building	NoFoam Systems	NoFoam Tester (Model C) w kits	7/1/2023
Type III Equipment/Building	NoFoam Systems	NoFoam Tester Model P w kits	7/1/2023
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852T LED (L) Omni-directional In-pavement Taxiway Edge Light RSTEX1XP3NXNXXX2	3/25/2023
Type III Equipment/Building	SPX Aids for Aviation	L-863 Portable Runway and Taxiway Lighting AV-70-863-B-SW-CP	3/25/2023
Type III Equipment/Building	SPX Aids to Aviation	L-863 Portable Runway and Taxiway Lighting AC-70-863-B-RF-SW-CP	3/25/2023
Type III Equipment/Building	All Weather Incorporated	Automated Weather Observation System AWOS II	3/6/2023
Type III Equipment/Building	Cherokee Nation 3S	Automated Weather Observation System AWOS-C	3/6/2023
Type III Equipment/Building	All Weather Incorporated	Automated Weather Observation System III P/T	2/25/2023
Type III Equipment/Building	All Weather Incorporated	Automated Weather Observation System III-P	2/25/2023
Type III Equipment/Building	All Weather Incorporated	Automated Weather Observation System AWOS I	2/25/2023

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	All Weather Incorporated	Automated Weather Observation System Altimeter/Visibility (AV)	2/25/2023
Type III Equipment/Building	All Weather Incorporated	Automated Weather Observation System III	2/25/2023
Type III Equipment/Building	Potters Industries (Flex-O-Lite)	Reflective Media TTB 13215D Type IA (Flex-O-Lite) Glass Beads	8/27/2022
Type III Equipment/Building	GBA Components, LLC	Inpavement Light EB-83A Coated Bolts	8/7/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-850D(L) RSRT212XXXFXXXX1 Inpavement Runway Threshold Light	7/30/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852A (LED) Model RSTA21XXXNXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852B (LED) Model RSTB21XXXNXXX2X1 Inpavement Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852C (LED) Model RSTC21XXXNXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852D (LED) Model RSTD21XXXNXXX2X1 Inpavement Centerline Light	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852J (LED) Model RSTJ21XXXCXXX2X1 Inpavement Taxiway Centerline Light	7/17/2022

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852K(LED) Inpavement Taxiway Centerline Light Model RSTK21XXXCXXX2X1	7/17/2022
Type III Equipment/Building	ADB Safegate Americas, LLC	L-852S (LED) Model RSSB21XXXNRNX2X1 Inpavement Stop Bar Light	7/17/2022
Type III Equipment/Building	FLash Technology	L-880 (LED) Precision Approach Path Indicator	7/17/2022
Type III Equipment/Building	Flash Technology	Flash Technology L-881 (LED) Precision Approach Path Indicator	7/17/2022
Type III Equipment/Building	Potters Industries (Flex-O-Lite)	Reflective Media TT-B 1325D Type III (Flex-O-Lite) Glass Beads, 1.9 Index of Refraction	7/17/2022
Type III Equipment/Building	ADB Safegate	L-850A(L) RSRC11XXNXXXXX1 Inpavement Runway Centerline Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850B(L) RSRZ11XX1XWNXXX1 Inpavement Touchdown Zone Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850C (L) RSRE11XXXCXXXXX1 Inpavement Runway Edge Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850D(L) RSRN212XXRXXXXX1 Inpavement Runway End Light	6/18/2022
Type III Equipment/Building	ADB Safegate	L-850T(L) RSRS21XX1NRNRXX1 Runway Status Light	6/18/2022
Type III Equipment/Building	Airport Lighting Company	L-821 Airport Lighting Control Panel	2/26/2022

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Airport Lighting Company	L-880 LED Precision Approach Path Indicator	2/26/2022
Type III Equipment/Building	Airport Lighting Company	L-881 LED Abbreviated Precision Approach Path Indicator	2/26/2022
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge L-862(L) ERES2YW33S00002	11/27/2021
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge Light L-862(L) ERES2GR13SF0002	11/27/2021
Type III Equipment/Building	ADB Safegate	High Intensity Runway Edge Light L-862(L) ERES2WY33S00002	11/27/2021
Type III Equipment/Building	Webasto Charging Systems Incorporated	Posicharge DVS 300 Electric Vehicle Charger	11/27/2021
Type III Equipment/Building	Multi-Electric Manufacturing	LED E Runway Elevated Threshold End Light	9/18/2021
Type III Equipment/Building	Multi-Electric Manufacturing	LED Runway Elevated Edge - L-862 (L)	9/18/2021
Type III Equipment/Building	Airport Lighting Company	L-890 Lighting Control & Monitoring System	7/17/2021
Type III Equipment/Building	Airport Lighting Company	High Intensity Runway Edge Light, L-862 LED	5/8/2021
Type III Equipment/Building	Airport Lighting Company	L-861SE LED Medium Intensity Runway & Taxiway Edge Light	5/8/2021
Type III Equipment/Building	Airport Lighting Company	L-862 E LED High Intensity Runway Threshold Light	5/8/2021
Type III Equipment/Building	Hali-Brite Incorporated	L-801 A (LED) Medium Intensity Beacon	4/24/2021
Type III Equipment/Building	Hali-Brite Incorporated	L-802 A (LED) High Intensity Beacon	4/24/2021



## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Musco Lighting	TLC for LED® Light-Structure System™ Apron Flood Lighting	4/11/2021
Type III Equipment/Building	Flight Light Inc.	L-810 Obstruction Light Single Head LED	4/3/2021
Type III Equipment/Building	Flight Light Inc.	L-810 Obstruction Light Double Head LED	4/3/2021
Type III Equipment/Building	Airport Lighting Company	L-847 Switch, Circuit Selector	3/20/2021
Type III Equipment/Building	ADB Safegate	L-849 -L Runway End Identification Lights - E1101012	8/8/2020
Type III Equipment/Building	Webasto Charging Systems, Incorporated	DVS 400 Electric Charging Station	5/2/2020
Type III Equipment/Building	Webasto Charging Systems, Incorporated	MVS 400 Electric Charging Station	5/2/2020
Type III Equipment/Building	Webasto Charging Systems, Incorporated	MVS 800 Electric Charging Station	5/2/2020
Type III Equipment/Building	Hali-Brite Incorporated	L-893, Lighted Visual Aid to Indicate Temporary Runway Closure LED RCM-D L-893 (L)	4/26/2020
Type III Equipment/Building	Hali-Brite incorporated	L-893, Lighted Visual Aid to Indicate Temporary Runway Closure, LED RCM-D	4/26/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG01S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG01S00100	4/11/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG01SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG02S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0ASL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0BSL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0CSL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2NG0CSM0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG01S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG01SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG02S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG02S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03S00100	4/11/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG03SF0100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG04SF0100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG05S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG05SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG05SC0100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG06SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG07S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG07SC0000	4/11/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG07SF0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG09S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RGOBSM0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RGOCSL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN09SL0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG01S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR01S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR03S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY02S00100	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6WY09S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RG05SC0000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RN05SC0000	4/11/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RR05S00000	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG28SF0002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RN01S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR03S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR35S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR38S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY28S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY31S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY33S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY33S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RY35S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW31S00002	4/11/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW31S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW33S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2WW33S00102	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2YG31SF0002	4/11/2020
Type III Equipment/Building	ADb Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR03S00002	4/11/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN05MI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN05SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN05SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN09MI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN09MI002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN15SF0002	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR08SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR11MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR13MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR13SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR13SM0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR15MF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR15SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR19SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR25MF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR29SF0002	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GW31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GY33SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GY35SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG21SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG23SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG25SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG21MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG21SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG23MF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG23SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG25SF0102	4/4/2020



## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG29SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RN01M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RN05S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RN09M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR01S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR03S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR15S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR25S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RR35S00002	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RW31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY23S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RY35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WG31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WR31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW31S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW33M00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW33S00002	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW33S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW35M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW35S01102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW39M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY31S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY33M00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY33S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY39M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY39S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YG33SF0102	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YG35SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR13S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR31M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR39M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YR39S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW31S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW33M00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW33S00102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW35M00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW39M00002	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW39S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN05SI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN13SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN13SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GN18SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR05SI0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR11SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR11SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR12SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR13SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR15SF0002	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GR18SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY31SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY33SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY33SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2GY35SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG21SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG23SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG23SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2NG28SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG21SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG22SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG23SF0002	4/4/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG23SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RN05S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RR01S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862(L) High Intensity Runway Edge Light EREL2GN13SF0102	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG21SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WW35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2WY35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2YW35S00002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity ERES2RG21SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2RG25SF0002	4/4/2020
Type III Equipment/Building	ADB Safegate	L-826 L L-862 Lights, Runway Edge, High Intensity EREL 24 IN N/G W/ARC 1.5 CPLG 12 FAA	3/15/2020

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 14 IN G/N N/ARC 2 CPLG 11.5	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 14 IN G/N W/ARC 2 CPLG 11.5	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 14 IN G/R W/ARC 2 CPLG 11.5 FAA	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 24 IN G/N W/ARC 1.5 CPLG 12	3/15/2020
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL 24 IN G/Y W/ARC 1.5 CPLG 12 FAA	3/15/2020
Type III Equipment/Building	Crown USA Inc.	Marking TTP-1952F Type I Black	3/15/2020
Type III Equipment/Building	Crown USA Inc.	Marking TTP-1952F Type I Blue	3/15/2020
Type III Equipment/Building	Crown USA Inc.	Marking TTP-1952F Type I Red	3/15/2020
Type III Equipment/Building	Crown USA Inc.	Marking TTP1952F Type I L.F. Yellow	3/15/2020
Type III Equipment/Building	Crown USA Inc.	Marking Type 1952F Type I White	3/15/2020
Type III Equipment/Building	Diamond Vogel	Marking - 7503 Blue Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Diamond Vogel	Marking - UC 1509 White Waterborne Traffic Paint	2/17/2020



## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Diamond Vogel	Marking - UC 3584 Yellow Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Diamond Vogel	Marking - UC 5503 Red Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Diamond Vogel	Marking - UC 9507 Black Waterborne Traffic Paint	2/17/2020
Type III Equipment/Building	Avlite Systems	L-880 LED Precision Approach Path Indicator	1/24/2020
Type III Equipment/Building	Avlite Systems	L-881 LED Abbreviated Precision Approach Path Indicator	1/24/2020
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR01S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR03S00100	12/7/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW01S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW02S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW02S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW05S00100	12/7/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW06S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW09SL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW09SM0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0ASL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0ASM0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0BSL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0BSM0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0CSL0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WW0CSM0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY01S00000	12/7/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY01S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY02S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY02S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY05S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY06S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY07S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WY09S00000	12/7/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG02S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YG04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YN03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YR04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY01S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY01S00100	12/7/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY03S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY03S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY04S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2YY04S00100	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6NG09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6NR09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6RG09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS6WW09S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8RR05SC0000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8WW05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS8WY05S00000	12/7/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RG09SM0000	11/23/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN09SM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0ASL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0ASM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0BSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0BSM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0CSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RN0CSM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR01S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR01S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR02S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR03S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR03S00100	11/23/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR04S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR04S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR07S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RR09S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW09SL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW09SM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0ASL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0ASM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0BSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0BSM0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0CSL0000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2RW0CSM0000	11/23/2019



## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG01S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG01S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG03S00000	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WG03S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861 Lights, Runway & Taxiway Edge, Medium Intensity EMIS2WR04S00100	11/23/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG03S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG03S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG03SF0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG04S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG04S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG07S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG09SL0000	11/16/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NG09SM0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR01S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR01S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR03S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR03S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR04S00000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2NR04S00100	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RGOASL0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RGOASM0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RGOBSL0000	11/16/2019
Type III Equipment/Building	ADB Safegate	L-861(L) Medium Intensity Runway Edge Light EMIS2RGOCSM0000	11/16/2019
Type III Equipment/Building	Vaisala	In-Pavement Stationary Runway Weather Information System RWS200	11/16/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Astronics DME	L-852S Inpavement Taxiway Lights L-R-1-0	10/26/2019
Type III Equipment/Building	Astronics DME	L-852T-L 1 G2 Inpavement Taxiway Lights	10/26/2019
Type III Equipment/Building	Astronics DME	L-852X Inpavement Taxiway Lights L-G2	10/26/2019
Type III Equipment/Building	Astronics DME	L-852X-L G2 Inpavement Taxiway Lights	10/26/2019
Type III Equipment/Building	Astronics DME	L-862L High Intensity runway Edge Lights	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Black Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Green Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Red Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 White Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Franklin Paint Company	P-620 Yellow Waterborne Traffic Paint	10/26/2019
Type III Equipment/Building	Millerbernd Manufacturing Company	L-867 Light Base, Non-Load Bearing	10/26/2019
Type III Equipment/Building	Millerbernd Manufacturing Company	L-868 Light Base, Load Bearing	10/26/2019
Type III Equipment/Building	Millerbernd Manufacturing Company	L-894 Elevated Light Cover 12"	10/26/2019
Type III Equipment/Building	Millerbernd Manufacturing Company	L-894 Elevated Light Cover 16"	10/26/2019
Type III Equipment/Building	Wix Support Equipment	Electric Vehicle Charging Station Cable Mangement System	10/26/2019
Type III Equipment/Building	ADB Safegate	L-862 (L) High Intensity Runway Edge Light EREL2GN13SF0102	10/19/2019

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN13SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN15SF0002	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GN15SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GR15SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2GY33SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-862 Lights, Runway Edge, High Intensity EREL2NG23SF0102	10/19/2019
Type III Equipment/Building	ADB Safegate	L-861 L Runway & Taxiway Edge Medium Intensity Lights	10/1/2019
Type III Equipment/Building	ADB Safegate	L-862 E L Runway Edge High Intensity Lights ERES2WW35S00002	10/1/2019
Type III Equipment/Building	ADB Safegate	L-862 Runway Edge High Intensity Lights EREL2RG21SF0002	10/1/2019
Type III Equipment/Building	ADB Safegate	L-862 Runway Edge High Intensity Lights EREL2WW35S00002	10/1/2019
Type III Equipment/Building	Minit charger, LLC	ALT22-480-1 Altus 22kW Dual Port Charger with BIW Cables	10/1/2019
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 E LED Inpavement Taxiway Light	10/22/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 F LED Inpavement Taxiway Light	10/22/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 S LED Inpavement Taxiway Light	10/22/2018

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 T LED Inpavement Taxiway Light	10/22/2018
Type III Equipment/Building	Astronics DME Corporation	L-804 V Holding Poision Edge Light	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-829 Monitored Constant Current Regulator	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-849 I LED Runway End Indentification Lights	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-850 A LED Runway Inpavement Lights	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-850 B LED Runway Inpavement Lights	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-850 T Runway Inpavement Light	8/27/2018
Type III Equipment/Building	Astronics DME Corporation	L-858 Runway and Taxiway Signs	8/27/2018
Type III Equipment/Building	Kodiack America, LLC	Snow Removal Equipment - Dual Engine Chassis w/ Rwy Broom & Air Blast	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 A LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 B LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 C LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 D LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 E LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-850 T LED Inpavement Runway Light	8/27/2018
Type III Equipment/Building	Ennis-Flint Company	P-620 AirMark Preformed Thermoplastic Pavement Markings	8/4/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 A LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 B LED Inpavement Taxiay Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 C LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 D LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 J LED Inpavement Taxiway Light	7/29/2018

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Multi-Electric Mfg., Inc.	L-852 K LED Inpavement Taxiway Light	7/29/2018
Type III Equipment/Building	Airport Lighting Company	L-828 Constant Current Regulator	7/24/2018
Type III Equipment/Building	Airport Lighting Company	L-829 Monitored Constant Current Regulator	7/24/2018
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 G LED Inpavement Taxiway Light	7/22/2018
Type III Equipment/Building	Hughey & Phillips	L-810 Low Intensity LED , Double, VAC	1/21/2017
Type III Equipment/Building	Hughey & Phillips	L-810 Low Intensity LED, Single, VAC	1/21/2017
Type III Equipment/Building	Astronics DME Corporation	L-858 B LED Runway Runway & Taxiway Signs	10/17/2016
Type III Equipment/Building	Astronics DME Corporation	L-858 L LED Runway & Taxiway Signs	10/17/2016
Type III Equipment/Building	Astronics DME Corporation	L-858 R LED Runway & Taxiway Signs	10/17/2016
Type III Equipment/Building	Eaton Crouse-Hinds	L-850 C Runway Inpavement Lights	10/10/2016
Type III Equipment/Building	Vaisala	AW20, AWOS III	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS A	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS AV	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS I	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS II	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS III	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS IIIIP	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS IIIPT	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS IIIIT	8/1/2016
Type III Equipment/Building	Vaisala	AW20-SPLIT, AWOS IV Z	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS A	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS AV	8/1/2016

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Vaisala	AW20-STA, AWOS II	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS IIIP	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS IIIPT	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS IIIT	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWOS IV Z	8/1/2016
Type III Equipment/Building	Vaisala	AW20-STA, AWS I	8/1/2016
Type III Equipment/Building	Jaquith Industries	L-894 12" Elevated Light Cover Baseplate	5/17/2016
Type III Equipment/Building	Jaquith Industries	L-894 16" Elevated Light Cover Baseplate	5/17/2016
Type III Equipment/Building	Jaquith Industries	L-895 Light Mounting Stake	5/17/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, 1952, TT-P-Hotline Waterborne Durable Type III - White Marking Paint TM2452	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, 1952, TT-P-Hotline Waterborne Durable Type III - Yellow Marking Paint TM2453	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P- 1952, Hotline Waterborne Type I/II - Yellow Marking Paint TM2259	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Hotline Waterborne Type I/II w Algaecide, Fungicide, & Rust Inhibitor - Red Marking Paint TM2544	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Hotline Waterborne Type I/II - White Marking Paint TM2152	5/14/2016

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952 Hotline Waterborne Type III w Algacide, Fungicide, & Rust Inhibitor - White Marking Paint TM2564	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Black Marking Paint TM2140	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Blue Marking Paint TM2142	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Green Marking Paint TM2143	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Durable Type III - Red Marking Paint TM2141	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Black Marking Paint TM2221	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Blue Marking Paint TM2224	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Green Marking Paint TM2226	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Red Marking Paint TM2222	5/14/2016



## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II - Yellow Marking Paint TM2153	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type I/II w Algaecide, Fungicide, & Rust Inhibitor - Black Marking Paint TM2543	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type III w Algaecide, Fungicide, & Rust Inhibitor - Blue Marking Paint TM2545	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne Type III w Algaecide, Fungicide, & Rust Inhibitor - Yellow Marking Paint TM2565	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Hotline Waterborne, Type I/II - White Marking Paint TM2248	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Type III w Algaecide & Rust Inhibitor - Black Marking Paint TM2540	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Type III w Algaecide, Fungicide & Rust Inhibitor - White Marking Paint TM2538	5/14/2016
Type III Equipment/Building	The Sherwin-Williams Company	P-620, TT-P-1952, Type III w Algaecide, Fungicide, & Rust Inhibitor - Yellow Marking Paint TM2539	5/14/2016

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Boshchung America, LLC	Airport Winter Safety and Operations, RWIS	1/2/2016
Type III Equipment/Building	Astronics DME Corporation	L-804 Holding Position Edge Light	8/4/2015
Type III Equipment/Building	ADB Safegate	L-806 LED, Wind Cones-Frangible	5/15/2015
Type III Equipment/Building	ADB Safegate	L-806 Wind Cones - Frangible	5/15/2015
Type III Equipment/Building	ADB Safegate	L-850 D, Incandescent Inpavement Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-850 E, Incandescent Inpavement Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-850 F, Incandescent Inpavement Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-861 E, LED Runway Edge, Medium Intensity Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-861 LED, Medium Intensity Runway Edge Lights	5/15/2015
Type III Equipment/Building	ADB Safegate	L-804 LED, Holding Position Edge Light	5/5/2015
Type III Equipment/Building	ADB Safegate	L-810 LED, Obstruction Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-849 C, LED, Runway End Identification Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-849 E, LED, Runway End Identification Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 A, Q/I, Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 B, Q/I Runway, Inpavement Lights	5/5/2015

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-850 C LED, Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 C, Q/I Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-850 D, LED Runway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 A, LED, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 A, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 B, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 B, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 C, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 C, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 D, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 D, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 E, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 G, LED, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 G, Q, Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 J, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-852 S, Q, Taxiway, Inpavement Lights	5/5/2015

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-852 T, LED Taxiway, Inpavement Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-858, LED, Runway and Taxiway Signs	5/5/2015
Type III Equipment/Building	ADB Safegate	L-861 SE, Q, Runway Edge, Medium Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-861 T, LED Taxiway Edge, Medium Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-861, Q, Runway Edge, Medium Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-861E, Q, Runway Edge, Medium Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-862 E, Q, Runway Edge, High Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-862, Q, Runway Edge, High Intensity Lights	5/5/2015
Type III Equipment/Building	ADB Safegate	L-880 LED, Precision Approach Path Indicator	5/5/2015
Type III Equipment/Building	ADB Safegate	L-881 LED, Abbreviated Precision Approach Path Indicator	5/5/2015
Type III Equipment/Building	Atg Airports, Ltd.	L-850 B Runway Inpavement Lights	2/2/2015
Type III Equipment/Building	Atg Airports, Ltd.	L-850 A Runway Inpavement Lights	1/20/2015
Type III Equipment/Building	Atg Airports, Ltd.	L-850 C Runway Inpavement Lights	1/17/2015
Type III Equipment/Building	Astronics DME Corporation	L-849 A LED Runway End Identification Lights	10/27/2014
Type III Equipment/Building	Rheinmetall Defence	DEBRA FOD	10/21/2014

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Black Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Blue Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Red Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B White Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	A-A-2886B Yellow Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Black Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Black Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Blue Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Blue Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Green Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Green Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Red Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Red Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E White Type I/II Fast Dry Runway Marking Paint	8/16/2014

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E White Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Yellow Type I/II Fast Dry Runway Marking Paint	8/16/2014
Type III Equipment/Building	Ennis-Flint Company	TT-P-1952E Yellow Type III Runway Marking Paint	8/16/2014
Type III Equipment/Building	Manairco	L-861 T LED Runway & Taxiway Edge, Medium Intensity Lights	6/27/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-850 A LED Runway Inpavement Lights	6/16/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-850 B LED Runway Inpavement Lights	6/16/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 10,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 12,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 15,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 2,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 20,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 25,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 30,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Containment Solutions	CSI Tank 10 - 35,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 4 - 1,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 4 - 600 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 4,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 2,500 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 3,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 5,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 6 - 6,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 - 12,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 - 8,000 Gallon DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 -15,000 Gallon Tank DWT Fuel Storage Tank	5/13/2014
Type III Equipment/Building	Containment Solutions	CSI Tank 8 -5,000 Gallon DWT Fuel Storage Tank	5/13/2014

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Service Wire Company	L-824, Underground Electrical Cables for Airfield Circuits	5/4/2014
Type III Equipment/Building	Airport Lighting Company	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	3/29/2014
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Black Runway Marking Paint (5385)	3/24/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 A LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 B LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 C LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 D LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 J LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Eaton Crouse-Hinds	L-852 K LED Taxiway Inpavement Lights	2/25/2014
Type III Equipment/Building	Astronics DME Corporation	L-852 B LED Taxiway, Inpavement Lights	11/16/2013
Type III Equipment/Building	Astronics DME Corporation	L-852 C LED Taxiway, Inpavement Lights	11/16/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 E LED Runway & Taxiway Edge, Medium Intensity Lights	11/16/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 SE LED Runway & Taxiway Edge, Medium Intensity Lights	11/16/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Black Runway Marking Paint (5383)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Blue Runway Marking Paint (5274)	10/19/2013



## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Blue Runway Marking Paint (5344)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Blue Runway Marking Paint (5384)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Green Runway Marking Paint (5376)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Green Runway Marking Paint (5386)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Red Runway Marking Paint (5345)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Red Runway Marking Paint (5375)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B White Runway Marking Paint (5281)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Yellow Runway Marking Paint (5342)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Yellow Runway Marking Paint (5372)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	A-A-2886B Yellow Runway Marking Paint (5382)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	IL SPEC Red Runway Marking Paint (5408)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	IL SPEC Yellow Runway Marking Paint (4636)	10/19/2013

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Blue Runway Marking Paint (4834)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Green Runway Marking Paint (5192)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Red Runway Marking Paint (4836)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Yellow Runway Marking Paint (4477)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Yellow Runway Marking Paint (8511)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type II Yellow Runway Marking Paint (9511)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Blue Runway Marking Paint (5433)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Green Runway Marking Paint (5435)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Red Runway Marking Paint (5434)	10/19/2013
Type III Equipment/Building	Davies Imperial Coatings, Inc.	TT-P-1952E Type III Yellow Runway Marking Paint (5431)	10/19/2013
Type III Equipment/Building	Airport Lighting Company	L-804, Holding Position Edge Light	9/21/2013
Type III Equipment/Building	Honeywell Airport Systems	L-828 F20 Constant Current Regulator	9/21/2013
Type III Equipment/Building	Honeywell Airport Systems	L-828 W10 Constant Current Regulator	9/21/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829 S04 Constant Current Regulator with Monitor	9/21/2013

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Honeywell Airport Systems	L-829-F04, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-F30, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-F70, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-S30, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Honeywell Airport Systems	L-829-S70, Constant Current Regulator	9/9/2013
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-16 Isolation Transformer, 60Hz, 10/15 Watts, 6.6/6.6 Amperes	7/9/2013
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-17 Isolation Transformer, 60Hz, 20/25 Watts, 6.6A/6.6A Amperes	7/9/2013
Type III Equipment/Building	Astronics DME Corporation	L-852 D LED Taxiway, Inpavement Lights	7/7/2013
Type III Equipment/Building	Astronics DME Corporation	L-852 A LED Taxiway, Inpavement Lights	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 E Halogen Edge Light	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 Halogen Lights	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 T - Halogen Taxiway Light	3/26/2013
Type III Equipment/Building	Astronics DME Corporation	L-861 T LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Point Light Corporation	L-861 E LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Point Light Corporation	L-861 SE LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Point Light Corporation	L-861 T LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Point Light Corporation	L-862 E LED Runway & Taxiway Edge, Medium Intensity Lights	3/26/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 10" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 4" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 6" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	Advanced Drainage Systems (ADS)	D-705 8" Pipe Underdrain w/sock	3/10/2013
Type III Equipment/Building	DME (Astronics)	L-852T-L-X LED, Inpavement, OMNI	3/9/2013
Type III Equipment/Building	Vaisala	AWOS A	1/6/2013
Type III Equipment/Building	Vaisala	AWOS A/V	1/6/2013
Type III Equipment/Building	Vaisala	AWOS I	1/6/2013
Type III Equipment/Building	Vaisala	AWOS II	1/6/2013
Type III Equipment/Building	Vaisala	AWOS III, III-T, III-P, III-PT, III-PTZ	1/6/2013
Type III Equipment/Building	Kodiack America, LLC	Snow Blower & Runway Broom Equipment	10/10/2012
Type III Equipment/Building	ADB Safegate	L-830, Isolation Transformer, 60Hz	7/28/2012
Type III Equipment/Building	TREX Aviation Systems	FOD Finder XM-Mobile	5/25/2012
Type III Equipment/Building	Stratech Systems Limited	iFerret TM FOD System	5/5/2012
Type II - Insufficient Quantity and/or Quality	Eaton Crouse-Hinds	L-852 J LED Taxiway Inpavement Lights	5/4/2012
Type II - Insufficient Quantity and/or Quality	Metalite Aviation Lighting	L-880, Precision Approach Path Indicator, LEDs	5/4/2012
Type II - Insufficient Quantity and/or Quality	Metalite Aviation Lighting	L-881, Abbreviated Precision Approach Path Indicator, LEDs	5/4/2012

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-849 A, LED Runway End Identification Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-850 A, LED Runway Inpavement Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-850 B, LED Runway Inpavement Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-852 K, LED Taxiway Inpavement Lights	5/4/2012
Type III Equipment/Building	ADB Safegate	L-852 S, LED Taxiway Inpavement Lights	5/4/2012
Type III Equipment/Building	Vaisala	Inpavement Runway Sensors	5/4/2012
Type III Equipment/Building	Precision Control Systems	L-890, Lighting Control & Monitoring System	4/3/2012
Type III Equipment/Building	All Weather, Inc.	AWOS I - 900 Series	11/27/2011
Type III Equipment/Building	All Weather, Inc.	AWOS II - 900 Series	11/27/2011
Type III Equipment/Building	All Weather, Inc.	AWOS III - 3000 Series	11/27/2011
Type III Equipment/Building	All Weather, Inc.	AWOS III - 900 Series	11/27/2011
Type III Equipment/Building	FlexStake, Inc.	L-853, Retro reflective Markers	9/11/2011
Type III Equipment/Building	QinetiQ	Tarsier FOD System	9/11/2011
Type III Equipment/Building	TREX Aviation Systems	FOD Finder XF -Fixed	9/11/2011
Type III Equipment/Building	X-Sight	FODetect Systems	7/26/2011
Type III Equipment/Building	Flash Technology	L-856, High Intensity Obstruction Lights	3/28/2011
Type III Equipment/Building	Flash Technology	L-864, Red Obstruction Lights	3/28/2011
Type III Equipment/Building	Sherwin Industries, Inc.	L-893, Lighted Visual Aid for Runway Closure	3/28/2011

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-854, Radio Controls	2/1/2011
Type III Equipment/Building	ADB Safegate	L-860, Low Intensity Runway Edge Lights	2/1/2011
Type III Equipment/Building	Flight Light	L-810, Lights-Obstruction (Various Types)*	1/18/2011
Type III Equipment/Building	Flight Light	L-828, Constant Current Regulators (Various Types)*	1/18/2011
Type III Equipment/Building	Flight Light	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	1/18/2011
Type III Equipment/Building	Southwire Company	L-824, Underground Electrical Cables for Airfield Circuits	1/16/2011
Type III Equipment/Building	Nehring Electrical Works	L-824, Underground Electrical Cables for Airfield Circuits	11/23/2010
Type III Equipment/Building	Point Light Corporation	L-806, Wind Cones-Frangible	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-807, Wind Cones-Rigid	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-810, Lights-Obstruction	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-862, Runway Edge-Threshold-Stop Bar Lights	11/20/2010
Type III Equipment/Building	Point Light Corporation	L-864, Red Obstruction Lights	11/20/2010
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-1, Isolation Transformer, 60Hz 30/45 Watts, 6.6/6.6A	9/19/2010
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-10, Isolation Transformer, 60Hz 300 Watts, 6.6/6.6A	9/19/2010

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-18, Isolation Transformer, 60Hz 150 Watts, 6.6/6.6A	9/19/2010
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-3, Isolation Transformer, 60Hz 65 Watts, 6.6/6.6A	9/19/2010
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-4, Isolation Transformer, 60Hz 100 Watts, 6.6/6.6A	9/19/2010
Type III Equipment/Building	Amerace - Thomas & Betts Corporation	L-830-6, Isolation Transformer, 60Hz 200 Watts, 6.6/6.6A	9/19/2010
Type III Equipment/Building	Tenco Industries Inc.	202 LMM Snow Blower	8/27/2010
Type III Equipment/Building	Flash Technology	L-865, White Obstruction Lights	8/17/2010
Type III Equipment/Building	Rural Electric	L-854, Radio Controls	8/17/2010
Type III Equipment/Building	ADB Safegate	L-821, Airport Lighting Control Panel	8/7/2010
Type III Equipment/Building	Flash Technology	L-849, Runway End Identification Lights	6/21/2010
Type III Equipment/Building	Flash Technology	L-859, Flashing Omnidirectional Lights	6/21/2010
Type III Equipment/Building	Airport Lighting Company	L-880, Precision Approach Path Indicator	4/27/2010
Type III Equipment/Building	Airport Lighting Company	L-881, Abbreviated Precision Approach Path Indicator	4/27/2010
Type III Equipment/Building	Neubert Aero Corp	Dynamic Friction Decelerometer	4/27/2010
Type III Equipment/Building	Neubert Aero Corp	Dynamic Friction Tester	4/27/2010
Type III Equipment/Building	Rural Electric	L-821, Airport Lighting Control Panel	4/27/2010
Type III Equipment/Building	Rural Electric	L-890, Lighting Control & Monitoring System	4/27/2010
Type III Equipment/Building	Safe-Hit	L-853, Retroreflective Markers	3/20/2010
Type III Equipment/Building	Daimler	Freightliner M2 Carrier Vehicle	1/12/2010

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Millard Towers Limited	L-891 - Low Impact Resistant Structures	12/22/2009
Type III Equipment/Building	Millard Towers Limited	L-892 - Frangible Support Structure	12/22/2009
Type II - Insufficient Quantity and/or Quality	OCEM	L-852 S LED Taxiway Inpavement Lights	12/1/2009
Type III Equipment/Building	Prysmian Cables and Systems, Inc.	L-824, Underground Electrical Cables for Airfield Circuits	10/4/2009
Type III Equipment/Building	Airport Lighting Company	L-861 Runway & Taxiway Edge, Medium Intensity Lights	9/13/2009
Type III Equipment/Building	Airport Lighting Company	L-862, Runway Edge-Threshold-Stop Bar Lights	9/13/2009
Type III Equipment/Building	Strobe Approach Lighting Technology, LLC	L-849, Runway End Identification Lights	8/25/2009
Type III Equipment/Building	Strobe Approach Lighting Technology, LLC	L-859, Flashing Omnidirectional Lights	8/25/2009
Type III Equipment/Building	LoneStar	P-632, Bituminous Pavement Rejuvenator	8/17/2009
Type III Equipment/Building	Pavement Rejuvenation International, LP	P-632, Bituminous Pavement Rejuvenator	8/16/2009
Type III Equipment/Building	Soundproof Windows	Single Hung 36 X 72 Window	8/14/2009
Type III Equipment/Building	ADB Safegate	L-828, Constant Current Regulators	7/28/2009
Type III Equipment/Building	ADB Safegate	L-829, Monitored Constant Current Regulators	7/28/2009
Type III Equipment/Building	ADB Safegate	L-890, Lighting Control & Monitoring System	7/28/2009



## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Airfield Guidance Sign Manufacturers, Inc.	L-858, Runway & Taxiway Signs	7/28/2009
Type III Equipment/Building	Rural Electric	L-867, Non-Load Bearing Light Box	7/24/2009
Type III Equipment/Building	Rural Electric	L-868, Load Bearing Light Box	7/24/2009
Type III Equipment/Building	ADB Safegate	L-890, Lighting Control & Monitoring System	7/20/2009
Type III Equipment/Building	Olson Industries	L-867, Non-Load Bearing Light Box	7/19/2009
Type III Equipment/Building	Olson Industries	L-868, Load Bearing Light Box	7/19/2009
Type III Equipment/Building	Standard Signs, Inc.	L-858, Runway & Taxiway Signs	7/10/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-890, Lighting Control & Monitoring System	6/30/2009
Type III Equipment/Building	Airport Lighting Equipment	L-867, Non-Load Bearing Light Box	6/29/2009
Type III Equipment/Building	Airport Lighting Equipment	L-868, Load Bearing Light Box	6/29/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-801, Beacons-Medium Intensity	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-802, Beacons-High Intensity	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-804 Holding Position Edge Light	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-806, Wind Cones-Fragible	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-807, Wind Cones-Rigid	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-823, Primary Connector Kits	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-828, Constant Current Regulators	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-829, Regulators, Constant Current with Monitor	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-830, Isolation Transformers, 60Hz	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-847, Circuit Selector Switch	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-852, Taxiway Inpavement Lights	6/28/2009

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	Eaton Crouse-Hinds	L-858, Runway & Taxiway Signs	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-862, Runway Edge-Threshold-Stop Bar Lights	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-880, Precision Approach Path Indicator	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-881, Abbreviated Precision Approach Path Indicator	6/28/2009
Type III Equipment/Building	Eaton Crouse-Hinds	L-884, Power & Control Unit	6/28/2009
Type III Equipment/Building	ADB Safegate	L-804, Holding Position Edge Light	6/26/2009
Type III Equipment/Building	ADB Safegate	L-807, Wind Cones-Rigid	6/26/2009
Type III Equipment/Building	ADB Safegate	L-810, Lights-Obstruction	6/26/2009
Type III Equipment/Building	ADB Safegate	L-827, Monitors-Regulator	6/26/2009
Type III Equipment/Building	ADB Safegate	L-828, Constant Current Regulators	6/26/2009
Type III Equipment/Building	ADB Safegate	L-829, Monitored Constant Current Regulators	6/26/2009
Type III Equipment/Building	ADB Safegate	L-847, Circuit Selector Switch	6/26/2009
Type III Equipment/Building	ADB Safegate	L-853, Retroreflective Markers	6/26/2009
Type III Equipment/Building	ADB Safegate	L-858, Runway & Taxiway Signs	6/26/2009
Type III Equipment/Building	ADB Safegate	L-861 Runway & Taxiway Edge, Medium Intensity Lights	6/26/2009
Type III Equipment/Building	ADB Safegate	L-862, Runway Edge-Threshold-Stop Bar Lights	6/26/2009

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	ADB Safegate	L-880, Precision Approach Path Indicator	6/26/2009
Type III Equipment/Building	ADB Safegate	L-881, Abbreviated Precision Approach Path Indicator	6/26/2009
Type III Equipment/Building	ADB Safegate	L-884, Power & Control Unit	6/26/2009
Type III Equipment/Building	Halibrite	L-801, Beacons-Medium Intensity	6/23/2009
Type III Equipment/Building	Halibrite	L-802, Beacons-High Intensity	6/23/2009
Type III Equipment/Building	Halibrite	L-806, Wind Cones-Frangible	6/23/2009
Type III Equipment/Building	Halibrite	L-807, Wind Cones-Rigid	6/23/2009
Type III Equipment/Building	Halibrite	L-893, Lighted Visual Aid for Runway Closure	6/23/2009
Type III Equipment/Building	Manairco	L-801, Beacons-Medium Intensity	6/23/2009
Type III Equipment/Building	Manairco	L-828, Constant Current Regulators	6/23/2009
Type III Equipment/Building	Manairco	L-861 Runway & Taxiway Edge, Medium Intensity Lights	6/23/2009
Type III Equipment/Building	Multi-Electric	L-804, Holding Position Edge Light	6/23/2009
Type III Equipment/Building	Multi-Electric	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	6/23/2009
Type III Equipment/Building	Multi-Electric	L-862, Runway Edge-Threshold-Stop Bar Lights	6/23/2009
Type III Equipment/Building	Multi-Electric	L-880, Precision Approach Path Indicator	6/23/2009
Type III Equipment/Building	Multi-Electric	L-881, Abbreviated Precision Approach Path Indicator	6/23/2009

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.

Waiver Type	Manufacturer	Product	Effective Date
Type III Equipment/Building	DME	L-861 LED Runway & Taxiway Edge, Medium Intensity Lights	6/21/2009
Type III Equipment/Building	DME	L-862, Runway Edge-Threshold-Stop Bar Lights	6/21/2009
Type III Equipment/Building	Integro	L-830, Isolation Transformers, 60Hz	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-867, Non-Load Bearing Light Box	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-868, Load Bearing Light Box	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-891 - Low Impact Resistant Structures	6/21/2009
Type III Equipment/Building	Jaquith Industries	L-892 - Frangible Support Structure	6/21/2009

The following components or subcomponents are steel or manufactured goods that have an FAA specification number and have been determined to be 1) 100% United States product and 2) produced in the United States.

Waiver Type	Manufacturer	Product	Effective Date
100% US and US Final Assembly	Integro	L-823 Plug and Receptacle, Cable Connectors	6/10/2009
100% US and US Final Assembly	MCB Industries	EB-83 bolts	1/31/2011
100% US and US Final Assembly	MCB Industries	2-part washers (used with 3/8" x 16 by various length bolts)	10/14/2015
100% US and US Final Assembly	MCB Industries	18-8 fasteners (various length bolts)	12/27/2016

## Type I, II, III Equipment / Building, and IV Buy American Waivers Issued (As of 8/22/2023)

*The following manufacturer's equipment was issued a Buy American Waiver under 49 U.S.C. 50101(b) and can be used on AIP Funded Projects.*

## DIVISION 1 - GENERAL REQUIREMENTS

### SECTION 01010 - DESCRIPTION OF WORK

#### PART I - GENERAL

##### 1.01 RELATED DOCUMENTS

The General Provisions for Construction Projects (2016), Special Provisions and General Requirements of the Specifications, apply to the work specified this Section.

##### 1.02 SUMMARY

###### A. Section Includes:

1. Location of the work
2. Hours of work
3. Safety
4. Operation of airport facilities during construction
5. Disposal of excess soil materials
6. Construction stakes, lines and grades
7. Special project requirements

##### 1.03 VEHICLE PARKING

Subject to availability of space and approval by the Airport Manager, parking may be made available at a designated parking structure for vehicle parking. The General Contractor shall submit the parking request to the Airport Manager through the State Engineer for review. The State Engineer will verify the list against the General Contractor's approved subcontractor list and forward it to Airport Manager for approval. Upon approval by the Airport Manager, two (2) temporary parking passes per subcontractor and three (3) passes for the General Contractor will be issued at no charge. At the Airport Manager's discretion, the parking passes are good for either three (3) months or six (6) months and must be renewed before the passes expire.

All passes will be signed out and become the responsibility of the General Contractor. The General Contractor will distribute the parking passes among their subcontractors.

Additional parking passes beyond the temporary parking passes may be purchased at a monthly rate of \$100.00. These passes are subject to approval by the Airport Manager and availability of parking spaces. All costs associated with obtaining parking passes shall be the responsibility of the Contractor.

1.04 PROVISIONS FOR FIELD OFFICE/STORAGE SPACE

- A. Pending the availability of space on airport property, the State will issue Revocable Permit(s) to the Contractor for the use of the space, assessed at a monthly fee of \$25 for each Revocable Permit issued. The space(s) may be used for a field office, staging of materials and equipment, vehicle parking or other uses subject to the approval of the State. All spaces shall be subject to the requirements of Section 01561 - CONSTRUCTION SITE RUNOFF CONTROL PROGRAM.
- B. Since space on airport property is extremely limited, the State does not guarantee that space(s) provided to the Contractor will be in close proximity to the project site. The State will make every effort to provide the Contractor with space on airport property, however, should the State determine that no space is available for such use(s), the responsibility shall then be on the Contractor to find space outside of airport property.
- C. The Contractor shall be responsible to provide a minimum of two field office trailers. Each trailer shall be at a minimum twelve feet wide and forty feet long. One trailer shall be for the exclusive use of the Contractor with the second trailer for the exclusive use of the Construction Manager and the State Engineer. The Contractor shall provide each trailer with necessary utilities (electricity, air conditioning, phone and internet) and furniture (minimum three desks with chairs, two eight foot folding tables with ten chairs, and three-four drawer filing cabinets) as required for proper execution of the project. Computers, printers and associated hardware shall be provided by the Contractor for the Contractor trailer only. The Construction Manager shall be responsible for providing computers and printers for the use of the Construction Manager; however the Contractor will provide a high speed internet connection for the use of the Construction Manager

1.05 LOCATION OF THE WORK

- A. The work to be performed under this contract is located at Kahului Airport, Maui, Hawaii.
- B. Conditions:
  - 1. The Main Terminal and airport roadways shall remain operational at all times. Any damages to existing areas caused by the Contractor shall be repaired by the Contractor at no cost to the State.
  - 2. Upon award of the contract, the Contractor, at their cost, shall obtain all permits required for this project.

1.06 HOURS OF WORK

- A. Work can be performed at the construction site at any time over a 24-hour period without considerable disruption to airport operations or other adjacent

tenants. Noise, including demolition work, shall occur from 12:00 a.m. to 5:00 a.m., and water proofing shall be done from 1:30 p.m. to 10:00 p.m. Contractor shall coordinate other work activities with the State Engineer for the hours between 5:00 a.m. to 12:00 a.m. The Contractor shall discuss their work with Airport Operations prior to finalizing the schedule to determine the scope that needs to be done after hours. Submit a proposed construction schedule to State Engineer for review and approval within 14 calendar days prior to start of work. Work in progress can be rescheduled for after hours if it is deemed disruptive to Airport Operations. Odors, crane operations, concrete pours and concrete pumping operations, hazardous material testing and handling can also be considered disruptive and may require after hours work. The Contractor shall coordinate their schedule with the State Engineer if rescheduling of work or intermittent work is required, such work shall be performed at no extra cost to the State. If the Contractor elects to work overtime, compensation for State employees and for construction management consultant as authorized by the State shall be the Contractor's obligation to pay in accordance with Section 7.6 – "Overtime and Night Payment for State Inspection Services" of the General Provisions of Construction Projects (2016).

- B. Contractor shall clean work areas at the end of each working shift. Rubbish, loose materials, etc. shall be disposed of daily. **Tools and equipment shall not be left unattended during work hours.** This includes tools left in unlocked vehicles, in the bed of pickup trucks, or in unlocked job sites. TSA citations may result in fines in excess of \$13,000 per violation and the confiscation of AOA badges. Materials shall be safely secured and stored in an area designated by the Airport Manager.

#### 1.07 SAFETY

- A. The Contractor shall take the necessary precautions to protect his workers and other personnel from injuries. The rules and regulations promulgated by the Occupational Safety and Health Acts are applicable and made a part of these specifications.
- B. Barricades and warning signs shall be erected by the Contractor in the work area to properly protect all personnel in the area.
- C. During the progress of the work debris, empty crates, waste, material drippings, etc., shall be removed by the Contractor at the end of each work day, and the work area shall be left clean and orderly.

#### 1.08 OPERATION OF AIRPORT FACILITIES DURING CONSTRUCTION

- A. The Contractor shall coordinate the phases of work under this contract with the State Engineer to permit the continuing operation of existing Airport facilities and to minimize disruption to pedestrian and vehicular traffic.
- B. Utility Maintenance: During the construction of this contract, existing utility



services serving occupied or used facilities shall not be disrupted except where authorized in writing by authorities having jurisdiction. Contractor shall provide temporary services during interruptions to existing utilities, as acceptable to the State Engineer. Damages to the existing utility facilities by the Contractor will be repaired at the Contractors expense.

- C. Outages for water, power, communications, air conditioning or any other utility, if necessary, shall be kept to a minimum and scheduled for off-peak hours, generally from 12:00 a.m. to 5:00 a.m. The Contractor shall submit written requests to the State Engineer for such outages no later than fourteen (14) calendar days in advance. The request shall include a description of work and the duration of the outage. The Contractor shall not proceed with such outages until written approval is received from the State.

#### 1.09 DISPOSAL OF EXCESS SOIL MATERIALS

- A. At the State Engineer' discretion, excess usable soil materials may be disposed of by filling areas within the Airport.
- B. Off-Site Disposal of Excess Soil Material

Any excess soil material and rubbish disposed of outside the Airport property shall be the responsibility of the Contractor. The Contractor shall make all arrangements and bear all costs involved therewith.

#### 1.10 CONSTRUCTION STAKES, LINES AND GRADES

- A. The Contractor shall perform all construction layout and reference staking necessary for the proper control and satisfactory completion of all structures, grading, paving, drainage, sewer, water, and all other appurtenances required for the completion of the work.
- B. Existing horizontal and vertical survey control points for the project are shown on the plans. The Contractor shall verify the location of all control points prior to the start of construction.
- C. The Department will not be responsible for delays in setting stakes and marks.
- D. All control points and stakes or marks which the State Engineer may set shall be preserved by the Contractor. If such control points, stakes or marks are destroyed or disturbed by the Contractor, the cost of replacing such stakes or marks will be charged against the Contractor and deducted from payments due the Contractor.
- E. The Contractor shall be responsible for the placement and preservation of adequate ties to all control points whether established by the Contractor or by the State Engineer.

- F. All original, additional or replacement stakes, marks, references and batter-boards which may be required for the construction operations, shall be furnished, set and properly referenced by the Contractor. The Contractor shall be solely and completely responsible for the accuracy of the line and grade of all features of the work. Any errors or apparent discrepancies found in previous surveys, the plans and specifications shall be called to the State Engineer's attention by the Contractor for correction or interpretation prior to proceeding with the work.
- G. Before construction is started on any structure which is referenced to an existing structure or topographical feature, the Contractor shall check the pertinent locations and grades of the existing structures or topographical features to determine whether the locations and grades shown on the plans are correct.
- H. All construction staking shall be performed by qualified personnel under the direct supervision of a person with an engineering background who is experienced in the direction of such work and is acceptable to the State Engineer.
- I. All stakes and markers used for control staking shall be of the same quality as used by the Department for this purpose. For slope limits, pavement edges, gutter lines, et cetera, where so called "working" stakes are commonly used, stakes of different quality may be acceptable.
- J. The Department may check the Contractor's control of the work at any times as the work progresses. The Contractor will be informed of the results of these checks, but the Department by doing so will in no way relieve the Contractor of his responsibility for the accuracy of the layout work. The Contractor shall at his expense correct or replace any deficient or inaccurate layout and construction work. If, as a result of these deficiencies or inaccuracies, the Department is required to make further studies, redesign, or both, all expenses incurred by the Department due to such deficiencies or inaccuracies, will be deducted from any payments due the Contractor.
- K. The Contractor shall furnish all necessary personnel, engineering equipment and supplies, materials, and transportation incidental to the accurate and satisfactory completion of this work.

Unless otherwise provided, all requirements imposed by this section and performed by the Contractor shall be considered incidental to the various contract items and not separate or additional payment will be made thereof.

#### 1.11 SPECIAL PROJECT REQUIREMENTS

- A. Upon receipt of the Contract, the Contractor shall process and return the Contract to the State's Contract Office within five (5) calendar days.
- B. The State intends to issue the Notice to Proceed immediately after execution of

the contract.

1.12 REINSTALLATION OF EXISTING TSA SCREENING EQUIPMENT AT THE EXISTING TSA CHECKPOINT

- A. The work at the existing checkpoint requires the TSA screening equipment to be removed and stored for the duration of the Phase 2 work at the existing TSA checkpoint. The removal and storage of existing screening equipment shall be part of contractor’s bid price. After the Phase 2 work is completed, the reinstallation work of existing TSA equipment must be performed by qualified installer approved by the TSA and this work will be paid for by the allowance item.



PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section, except for Reinstallation of Existing TSA Screening Equipment at the Existing Checkpoint will not be measured nor paid for separately but shall be considered incidental to and included in the bid prices for the various items of work in this project.

Work for Reinstallation of Existing TSA Screening Equipment at the Existing Checkpoint required by the State shall be paid for under allowance items in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the State Engineer. The Contractor shall be allowed to include overhead, profit, insurances and/or any other mark-ups, as stipulated in Section 9.5 of the General Provisions.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
01010	Reinstallation of Existing TSA Screening Equipment at the Existing TSA Checkpoint	Allowance

The allowance is an estimate, and the amount shall not exceed the maximum amount shown in the proposal schedule.



END OF SECTION

## SECTION 01014 – WORK SEQUENCE

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions, and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 TENANTS ADJACENT TO CONSTRUCTION AREA

- A. The User Agencies and their operations will be adjacent to the construction area throughout the construction period. The Contractor shall minimize inconvenience to them and their clientele and shall continue to provide the following for these occupants:
1. Continuity of utility services.
  2. Means of ingress and egress.
  3. All measures to ensure their safety and health.
  4. All measures to ensure the required security in the secure areas.
- B. Official communications and coordination with the User Agencies and operations shall be made through the State Engineer.

#### 1.03 SEQUENCE OF WORK

- A. Work under the entire project shall be completed within specified calendar days from the date indicated in the Notice to Proceed from the State.
- B. Work shall proceed in tasks of construction to facilitate and ensure the continued operations and functions of the existing terminal facilities. Work to be accomplished within each task of construction is described and the areas affected are shown on drawings.

Each task of the work shall be completed within the specified number of calendar days. Specific language relating to the sequence of work is defined below.

1. **Scheduled Start Day:** The day designated as the beginning of a particular task; the number listed is the number of calendar days from which work for that particular task is to be completed.
2. **Completion Day:** The day designated as the end of a given task with completion and acceptance of work as assigned and shown in the drawings.
3. The total number of calendar days for all stages of work shall equal the number of calendar days established for the entire project.

- C. The work shall be performed in phases in the following order, with each phase substantially complete prior to commencement of the next phase. See the Drawings for more information.
1. Phase 1: Construction of the South TSA Checkpoint. The Work includes installation of site barricades and shifting of the SIDA line fence to make the greater portion of the work area “landside”. Site clearing follows, along with the installation and relocation of site utilities. As site utilities are completed and connected, the existing utilities under the building can be demolished. Utilities must be kept operational during the construction to serve the airport. Foundation work starts and the steel frame is erected. Work shall start along the west and move east. As the work edges closer to the east towards the existing holdroom building, at least one lane of the access road (the portion located parallel to the holdroom building) must be kept operational. Flagmen shall be used to allow safe access for airport/airline staff through the work area at this access road. Work outside the construction barriers shall be performed off-hours unless approved in advance by the State Engineer. Work on the building enclosure starts. As the work progresses, the construction barricades shall shrink along the east to allow full use of the access road (two lanes) under the building. When both lanes of the access road are available, then the flagmen are no longer required. Work continues inside the building with systems and finishes being installed. Commissioning and training of the systems are completed, and the building is turned over to the Airport / TSA. **After TSA checkpoint is operational, Phase 2 can commence.**
  2. Phase 2: Construction on the existing TSA Checkpoint. This checkpoint can only be closed for use after the South Checkpoint is operational. Barricades are installed. The existing security equipment is inventoried and moved off-site to the Contractor’s secure location by the Contractor. Selective demolition of the existing checkpoint can begin, and the mechanical systems and new building enclosure (storefront system) are installed. Contractor shall phase the roofing demolition to minimize the time the building is without a roof. Contractor shall protect the existing structure with tarps, etc. during the time the building is without the roof. Work outside the construction barriers shall be performed off-hours unless approved in advance by the State Engineer. After the mechanical system is commissioned, then the security equipment can be brought back in and reconnected.
- D. Prior to commencement of the work for each phase, the Contractor shall submit a schedule detailing the sequence, commencement and completion dates for all phases of the work. The Contractor shall provide requested dates for Airport personnel and tenant personnel, including security forces to vacate facilities to be removed for all phases of the work within the submitted schedule. The Contractor shall provide the dates when completed facilities will be ready for occupancy by the Airport for all phases of the work within the submitted schedule.

1.04 OPERATION OF AIRPORT FACILITIES DURING CONSTRUCTION

- A. The Contractor shall coordinate all tasks of work under this contract with the Engineer to permit the continuing operation of existing airport facilities.
- B. The Contractor shall take precaution to protect people and property from injury and damage. Construction, including barricades as specified in Section 01533 - BARRICADES shall be sequenced to minimize the duration of disruption and appropriate signing be provided to aid the public and airport pedestrian and vehicular traffic around his work areas.
- C. The Contractor shall limit the delivery of materials and equipment and hauling of debris material during non-peak Airport operational hours. Contractor shall obtain prior approval of planned schedule of delivery of material and hauling of debris from the State Engineer.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the price bid for the various items of work in this project.

END OF SECTION

## SECTION 02722 - SANITARY SEWER SYSTEM

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 DESCRIPTION OF WORK

Furnish all labor, materials, equipment and tools to construct the exterior sewer system up to 5 feet from the building as indicated on the drawings and herein specified, including, but not limited to, the following items.

##### A. Section Includes:

1. PVC sewer pipe and fittings.
2. Clean Out to Grade
3. Bedding and backfill materials.

##### B. Related Work Specified Elsewhere: Section 02221 – TRENCHING AND BACKFILL.



#### 1.03 REFERENCE STANDARDS

State of Hawaii "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" dated 2005.

#### 1.04 QUALITY ASSURANCE

Perform work in accordance with Section 105 of the State of Hawaii "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" dated 2005.

#### 1.05 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Shop Drawings: Submit shop drawings of sanitary sewer system items showing dimensioned plans and elevations, large scale details, attachment devices and other components.

PART 2 - PRODUCTS


2.01 MATERIALS

All materials shall be in accordance to the State of Hawaii “STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION” dated 2005 except as amended in the plans and/or specifications herein paragraphs of Measurements and Payments in the Sections are not applicable to this project.

Bed Course Materials for Crushed Rock Cradle ..... 703.16

Trench Backfill Material ..... 703.21

Joint Mortar for Pipe.....705.11

PVC for Sewer System .....706.09 

PART 3 - EXECUTION

3.01 INSTALLATION

Perform work in accordance with Section 625 of the State of Hawaii “STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION” dated 2005.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
02722	Sanitary Sewer System	Lump Sum

END OF SECTION



PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section includes exterior and interior building expansion joint cover assemblies.

1.03 SUBMITTALS

- A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for expansion joint cover assemblies.
- B. Shop Drawings: For each expansion joint cover assembly.
  - 1. Include plans, elevations, sections, details, splices, block-out requirement, attachments to other work, and line diagrams showing entire route of each expansion joint.
  - 2. Where expansion joint cover assemblies change planes, provide isometric or clearly detailed drawing depicting how components interconnect.
- C. Samples for Verification: For each type of expansion joint cover assembly, full width by 6 inches long in size.
- D. Expansion Joint Cover Assembly Schedule: Prepared by or under the supervision of the supplier. Include the following information in tabular form:
  - 1. Manufacturer and model number for each expansion joint cover assembly.
  - 2. Expansion joint cover assembly location cross-referenced to Drawings.
  - 3. Nominal, minimum, and maximum joint width.
  - 4. Movement direction.
  - 5. Materials, colors, and finishes.
  - 6. Product options.
  - 7. Fire-resistance ratings.

- E. Product Test Reports: For each fire-resistance-rated expansion joint cover assembly, for tests performed by manufacturer and witnessed by a qualified testing agency.
- F. LEED Submittals: Submit LEED submittal requirements according to Section 01352 – LEED REQUIREMENTS, Paragraph 1.06, Item F, LEED Documentation Submittals.

#### 1.04 QUALITY ASSURANCE

- A. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.
  - 1. Build mockup of each expansion joint cover assembly.
  - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless the State Engineer specifically approves such deviations in writing.
  - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.01 ASSEMBLY DESCRIPTION

- A. Furnish units in longest practicable lengths to minimize field splicing.
- B. Include factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion joint cover assemblies.

#### 2.02 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Expansion joint cover assemblies shall withstand the effects of earthquake motions determined according to 2018 IBC.
- B. Expansion Joint Design Criteria: Type of Movement: Seismic. Joint Movement: As indicated on Drawings.

## 2.03 EXPANSION JOINT COVERS

### A. General.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - a. Construction Specialties (C/S Group), Inc. Basis of Design
  - b. Architectural Art Manufacturing Inc.; a division of Pittcon Architectural Metals, LLC.
  - c. Balco; a CSW Industrials Company.
  - d. BASF Corp. - Watson Bowman Acme Corp.
  - e. MM Systems Corporation.
  - f. Nystrom.
  - g. Or approved equal.

### B. **Exterior Elastomeric-Seal Joint Cover: C/S Group model Series SC.** Assembly consisting of elastomeric seal anchored to surface-mounted frames fixed to sides of joint gap.

1. Application: Wall to wall.
2. Installation: Recessed.
3. Exposed Metal:
  - a. Aluminum: Mill.
  - b. Stainless steel: No. 2B.
4. Seal: Preformed elastomeric membrane or extrusion.
  - a. Color: Selected from manufacturers full range.

### C. Exterior Roof Joint Cover: C/S Group Model Series SRJ. Assembly consisting of aluminum coverplate, self-centering with turnbar and vapor barrier. Provide factory transitions for weather-tight assembly. Furnish with 1-hour rated Fire Barrier.

### D. Interior Wall Joint Cover: C/S Group Model Series AFW. Assembly consisting of free-floating aluminum cover plate sliding between aluminum retainers.

### E. Interior Ceiling Joint Cover: C/S Group Model Series AFW. Assembly consisting of free-floating aluminum cover plate sliding between aluminum retainers.

- F. Interior Floor Joint Cover: C/S Group Model Series SJP. Assembly consisting of surface-mounted aluminum coverplate, self-centering with turnbar. Provide factory transitions for weather-tight assembly. Furnish with 2-hour rated Fire Barrier.
- G. Fire Barrier: Third party listed for installation.

#### 2.04 MATERIALS

- A. Aluminum: ASTM B221, Alloy 6063-T5 for extrusions; ASTM B209, Alloy 6061-T6 for sheet and plate. Apply manufacturer's standard protective coating on aluminum surfaces to be placed in contact with cementitious materials.
- B. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304 for plates, sheet, and strips.
- C. Elastomeric Seals: Manufacturer's standard preformed elastomeric membranes or extrusions to be installed in metal frames.
- D. Moisture Barrier: Manufacturer's standard, flexible elastomeric material.

#### 2.05 ALUMINUM FINISHES

- A. Mill finish.

#### 2.06 STAINLESS-STEEL FINISHES

- A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
  - 1. Run grain of directional finishes with long dimension of each piece.
  - 2. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
  - 3. Directional Satin Finish: No. 4.
- C. Bright, Cold-Rolled, Unpolished Finish: No. 2B.

#### 2.07 ACCESSORIES

- A. Moisture Barriers: Manufacturer's standard continuous, waterproof membrane within joint and attached to substrate on sides of joint.

- B. Manufacturer's stainless-steel attachment devices. Include anchors, clips, fasteners, set screws, spacers, and other accessories compatible with material in contact, as indicated or required for complete installations.

### PART 3 - EXECUTION

#### 3.01 EXAMINATION

- A. Examine surfaces where expansion joint cover assemblies will be installed for installation tolerances and other conditions affecting performance of the Work.
- B. Notify the State Engineer where discrepancies occur that will affect proper expansion joint cover assembly installation and performance.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.02 PREPARATION

- A. Prepare substrates according to expansion joint cover assembly manufacturer's written instructions.
- B. Coordinate and furnish anchorages, setting drawings, and instructions for installing expansion joint cover assemblies. Provide fasteners of metal, type, and size to suit type of construction indicated and to provide for secure attachment of expansion joint cover assemblies.

#### 3.03 INSTALLATION

- A. Comply with manufacturer's written instructions for storing, handling, and installing expansion joint cover assemblies and materials unless more stringent requirements are indicated.
- B. Metal Frames: Perform cutting, drilling, and fitting required to install expansion joint cover assemblies.
  - 1. Install in true alignment and proper relationship to joints and adjoining finished surfaces measured from established lines and levels.
  - 2. Adjust for differences between actual structural gap and nominal design gap due to ambient temperature at time of installation.
  - 3. Cut and fit ends to accommodate thermal expansion and contraction of metal without buckling of frames.
  - 4. Install frames in continuous contact with adjacent surfaces. Shimming is not permitted.

5. Locate anchors at interval recommended by manufacturer, but not less than 3 inches from each end and not more than 24 inches o.c.
- C. Seals: Install elastomeric seals and membranes in frames to comply with manufacturer's written instructions. Install with minimum number of end joints.
    1. Provide in continuous lengths for straight sections.
    2. Seal transitions. Vulcanize or heat-weld field-spliced joints as recommended by manufacturer.
    3. Installation: Mechanically lock seals into frames or adhere to frames with adhesive or pressure-sensitive tape as recommended by manufacturer.
  - D. Install with hairline mitered corners where expansion joint cover assemblies change direction or abut other materials.
  - E. Terminate exposed ends of expansion joint cover assemblies with field- or factory-fabricated termination devices.
  - F. Moisture Barrier Drainage: Provide drainage fitting and connect to drains.

#### 3.04 CONNECTIONS

- A. Transition to Roof Expansion Joint Covers: Coordinate installation of exterior wall and soffit expansion joint covers with roof." Install factory-fabricated units at transition between exterior walls and soffits and roof expansion joint cover assemblies.

#### 3.05 PROTECTION

- A. Do not remove protective covering until finish work in adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's written instructions.

Protect the installation from damage by work of other Sections.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
07951	Exterior Expansion Joint Cover Assemblies	Lump Sum

END OF SECTION

## SECTION 08411 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

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

#### 1.02 SUMMARY

- A. Section Includes: Storefront framing.

#### 1.03 SUBMITTALS

- A. Submit in accordance with Section 01300 "Submittals."
- B. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- C. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.
  - 1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
  - 2. Include full-size isometric details of each type of vertical-to-horizontal intersection of aluminum-framed entrances and storefronts, showing the following:
    - a. Joinery, including concealed welds.
    - b. Anchorage.
    - c. Expansion provisions.
    - d. Glazing.
    - e. Flashing and drainage.
  - 3. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
- D. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.
- E. Delegated-Design Submittal: For aluminum-framed entrances and storefronts indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer, licensed in the State of Hawaii, responsible for their preparation.



- F. Qualification Data: For Installer.
- G. Energy Performance Certificates: For aluminum-framed entrances and storefronts, accessories, and components, from manufacturer. Basis for Certification: NFRC-certified energy performance values for each aluminum-framed entrance and storefront.
- H. Product Test Reports: For aluminum-framed entrances and storefronts, for tests performed by manufacturer and witnessed by a qualified testing agency or a qualified testing agency.
- I. Quality-Control Program: Developed specifically for Project, including fabrication and installation, according to recommendations in ASTM C 1401. Include periodic quality-control reports.
- J. Source quality-control reports.
- K. Field quality-control reports.
- L. Sample Warranties: For special warranties.
- M. Maintenance Data: For aluminum-framed entrances and storefronts to include in maintenance manuals.
- N. LEED Submittals: Submit LEED submittal requirements according to Section 01352 – LEED REQUIREMENTS, Paragraph 1.06, Item F, LEED Documentation Submittals.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated.
- C. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Do not change intended aesthetic effects, as judged solely by the State Engineer, except with the State Engineer's approval. If changes are proposed, submit comprehensive explanatory data to the State Engineer for review.

1.05 SPECIAL WARRANTY

- A. Special Warranty: Manufacturer and Installer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
    - a. Structural failures, including, but not limited to, excessive deflection.
    - b. Noise or vibration created by wind and thermal and structural movements.
    - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
    - d. Water penetration through fixed glazing and framing areas.
    - e. Failure of operating components.
  2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.
1. Deterioration includes, but is not limited to, the following:
    - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
    - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
  2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Source Limitations: Obtain all components of aluminum-framed entrance and storefront system, including framing and accessories, from single manufacturer.

2.02 PERFORMANCE REQUIREMENTS

- A. Delegated Design Responsibility: Provide structural design of complete system, including all components. Prepare Shop Drawings, design calculations, and other structural data. Engineer licensed in State of Hawaii shall perform engineering analysis, and seal and sign documentation. When

required by jurisdiction having authority, submit engineering data and obtain separate permit for Work.

- B. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.
  - 1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
  - 2. Failure also includes the following:
    - a. Thermal stresses transferring to building structure.
    - b. Glass breakage.
    - c. Noise or vibration created by wind and thermal and structural movements.
    - d. Loosening or weakening of fasteners, attachments, and other components.
    - e. Failure of operating units.
- C. Structural Loads:
  - 1. Wind Loads: As indicated on Drawings.
  - 2. Other Design Loads: As indicated on Drawings.
- D. Deflection of Framing Members: At design wind pressure, as follows:
  - 1. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans of up to 13 feet 6 inches and to 1/240 of clear span plus 1/4 inch for spans greater than 13 feet 6 inches or an amount that restricts edge deflection of individual glazing lites to 3/4 inch, whichever is less.
  - 2. Deflection Parallel to Glazing Plane: Limited to 1/360 of clear span or 1/8 inch, whichever is smaller.
- E. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:
  - 1. Fixed Framing and Glass Area: Maximum air leakage of 0.06 cfm/sq. ft. at a static-air-pressure differential of 6.24 lbf/sq. ft..
  - 2. Entrance Doors: Single Doors: Maximum air leakage of 0.5 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft..
- F. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows: No evidence of water penetration through fixed glazing and framing areas, including entrance doors, when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 15 lbf/sq. ft..

- G. Water Penetration under Dynamic Pressure: Test according to AAMA 501.1 as follows:
1. No evidence of water penetration through fixed glazing and framing areas when tested at dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 15 lbf/sq. ft..
  2. Maximum Water Leakage: No uncontrolled water penetrating assemblies or water appearing on assemblies' normally exposed interior surfaces from sources other than condensation. Water leakage does not include water controlled by flashing and gutters, or water that is drained to exterior.
- H. Seismic Performance: Aluminum-framed entrances and storefronts shall withstand the effects of earthquake motions determined according to applicable Code.
- I. Energy Performance: Certify and label energy performance according to NFRC as follows:
1. Thermal Transmittance (U-factor): Fixed glazing and framing areas as a system shall have U-factor of not more than 0.57 Btu/sq. ft. x h x deg F as determined according to NFRC 100.
  2. Condensation Resistance: Fixed glazing and framing areas as a system shall have an NFRC-certified condensation resistance rating of no less than 55 as determined according to NFRC 500.
- J. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.
- K. Performance for Hurricane and Missile: Provide entrances and storefront systems, that complies with ASTM E 1996. All glazing shall be impact-resistant or protected with an impact-resistant covering meeting the requirements of an approved impact-resisting standard or the requirements of Large Missile Test of ASTM E 1996.



## 2.03 STOREFRONT SYSTEMS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Arcadia, Inc.
  2. EFCO Corporation.
  3. Kawneer North America, an Arconic company.
  4. Oldcastle BuildingEnvelope.
  5. Vistawall Architectural Products.
  6. Or approved equal.

- B. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.
  - 1. Exterior Framing Construction: Nonthermal .
  - 2. Glazing System: Retained mechanically with gaskets on four sides and Retained mechanically with gaskets on two sides and structural sealant on two sides, as indicated on Drawings.
  - 3. Glazing Plane: Front.
  - 4. Finish: High-performance organic finish. Color: As indicated in "Finish Legend" on Drawings
  - 5. Fabrication Method: Unitized system.
  - 6. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
  - 7. Steel Reinforcement: As required by manufacturer.
- C. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.
- D. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.
- E. Sill Pans: Manufacturer's standard.

#### 2.04 GLAZING

- A. Glazing: Comply with Section 08800 "Glazing."
- B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
- C. Glazing Sealants: Comply with Section 08800 "Glazing."
- D. Structural Glazing Sealants: ASTM C 1184 chemically curing silicone formulation that is compatible with system components with which it comes in contact; specifically formulated and tested for use as structural sealant and approved by structural-sealant manufacturer for use in storefront system indicated. Color: Black.

#### 2.05 MATERIALS

- A. Sheet and Plate: ASTM B 209.
- B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
- C. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.

D. Steel Reinforcement:

1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.
4. Primer: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.

2.06 ACCESSORIES

- A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
  2. Reinforce members as required to receive fastener threads.
  3. Use exposed fasteners with countersunk Phillips screw heads, fabricated from 300 series stainless steel.
- B. Anchors: Three-way adjustable anchors with minimum adjustment of 1 inch that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123/A 123M or ASTM A 153/A 153M requirements.
- C. Concealed Flashing: Dead-soft, 0.018-inch-thick stainless steel, complying with ASTM A 240/A 240M, of type recommended by manufacturer.
- D. Bituminous Paint: Cold-applied asphalt-mastic paint containing no asbestos, formulated for 30-mil thickness per coat.
- E. Rigid PVC Filler.

2.07 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

- C. Fabricate components that, when assembled, have the following characteristics:
  - 1. Profiles that are sharp, straight, and free of defects or deformations.
  - 2. Accurately fitted joints with ends coped or mitered.
  - 3. Physical and thermal isolation of glazing from framing members.
  - 4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
  - 5. Provisions for field replacement of glazing from exterior.
  - 6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- E. Storefront Framing: Fabricate components for assembly using shear-block system.
- F. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

## 2.08 ALUMINUM FINISHES

- A. High-Performance Organic Finish: Three-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions. Color and Gloss: SPEC-03, as indicated in "Finish Legend" on Drawings; (use at storefront doors in curtainwall at new security checkpoint building).
- B. Anodic Finish all exposed areas of aluminum panel and components with electrolytically deposited color in accordance with Aluminum Association Designation AA-M10C2144, Architectural Class I (0.7 mils minimum). Color and Gloss: ANOD-01, as indicated in "Finish Legend" on Drawings (storefront systems and storefront doors at existing security checkpoint).

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.02 PREPARATION

- A. Prepare surfaces that are in contact with structural sealant according to sealant manufacturer's written instructions, to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.

### 3.03 INSTALLATION

#### A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Seal perimeter and other joints watertight unless otherwise indicated.

#### B. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

#### C. Set continuous sill members and flashing in full sealant bed, as specified in Section 07920 "Joint Sealants," to produce weathertight installation.

#### D. Install components plumb and true in alignment with established lines and grades.

#### E. Install glazing as specified in Section 08800 "Glazing."

#### F. Install weatherseal sealant according to Section 07920 "Joint Sealants" and according to sealant manufacturer's written instructions to produce weatherproof joints. Install joint filler behind sealant as recommended by sealant manufacturer.

### 3.04 ERECTION TOLERANCES

#### A. Erection Tolerances: Install aluminum-framed entrances and storefronts to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet; 1/4 inch in 40 feet.
2. Level: 1/8 inch in 20 feet; 1/4 inch in 40 feet.
3. Alignment:



- a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch wide, limit offset from true alignment to 1/16 inch.
  - b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch wide, limit offset from true alignment to 1/8 inch.
  - c. Where surfaces are separated by reveal or protruding element of 1 inch wide or more, limit offset from true alignment to 1/4 inch.
4. Location: Limit variation from plane to 1/8 inch in 12 feet; 1/2 inch over total length.

### 3.05 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Field Quality-Control Testing: Perform the following test on representative areas of aluminum-framed entrances and storefronts.
  1. Water-Spray Test: Before installation of interior finishes has begun, areas designated by the State Engineer shall be tested according to AAMA 501.2 and shall not evidence water penetration.
    - a. Perform a minimum of three tests in areas as directed by the State Engineer.
    - b. Perform tests in each test area as directed by the State Engineer. Perform at least three tests, prior to 10, 35, and 70 percent completion.
- C. Structural-Sealant Adhesion: Test structural sealant according to recommendations in ASTM C 1401, Destructive Test Method A, "Hand Pull Tab (Destructive)," Appendix X2.
  1. Test a minimum of six areas on each building facade.
  2. Repair installation areas damaged by testing.
- D. Aluminum-framed entrances and storefronts will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
08411.1	Aluminum-Framed Entrances and Storefronts	Lump Sum
08411.2	Aluminum-Framed Entrances and Storefronts - Existing TSA Checkpoint Work (Phase 2)	Lump Sum

END OF SECTION

## SECTION 08800 - GLAZING

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

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

#### 1.02 SUMMARY

- A. Section includes:
  - 1. Glass for curtainwall and storefront windows, doors, and interior borrowed lites.
  - 2. Glazing sealants and accessories.

#### 1.03 DEFINITIONS

- A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
- B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.
- C. IBC: International Building Code.
- D. Interspace: Space between lites of an insulating-glass unit.

#### 1.04 COORDINATION

- A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

#### 1.05 SUBMITTALS

- A. Submit in accordance with Section 01300 "Submittals."
- B. Product Data: For each type of product.

- C. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches square.
  - 1. Tinted glass.
  - 2. Coated glass.
  - 3. Laminated glass.
  - 4. Insulating glass.
- D. Glazing Accessory Samples: For sealants, in 12-inch lengths. Install sealant Samples between two strips of material representative in color of the adjoining framing system.
- E. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.
- F. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- G. Qualification Data: For manufacturers of insulating-glass units with sputter-coated, low-E coatings.
- H. Product Certificates: For glass. Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
- I. Product Test Reports: For coated glass, insulating glass, and glazing sealants, for tests performed by a qualified testing agency. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.
- J. Sample Warranties: For special warranties.
- K. LEED Submittals: Submit LEED submittal requirements according to Section 01352 – LEED REQUIREMENTS, Paragraph 1.06, Item F, LEED Documentation Submittals.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved by coated-glass manufacturer.
- B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

- C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.
- D. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
- E. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.
  - 1. Install glazing in mockups specified in Section 08442 "Structural Sealant Glazed Curtainwalls" to match glazing systems required for Project, including glazing methods.
  - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.08 FIELD CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 deg F.

1.09 WARRANTY

- A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating. Warranty Period: 10 years from date of Substantial Completion.
- B. Manufacturer's Special Warranty for Laminated Glass: Manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period.

Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard. Warranty Period: Five years from date of Substantial Completion.

- C. Manufacturer's Special Warranty for Insulating Glass: Manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass. Warranty Period: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. AGC Glass Company North America, Inc.
  - 2. Gardner Glass, Inc.
  - 3. Guardian Glass; SunGuard.
  - 4. Oldcastle BuildingEnvelope.
  - 5. Pilkington North America.
  - 6. Viracon, Inc..
  - 7. Or approved equal.
- B. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type. Obtain reflective-coated glass from single source from single manufacturer.
- C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

## 2.02 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Delegated Design Responsibility: Provide structural design of glazing, including all components. Prepare Shop Drawings, design calculations, and other structural data. Engineer licensed in State of Hawaii shall perform engineering analysis, and seal and sign documentation. When required by jurisdiction having authority, submit engineering data and obtain separate permit for Work Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined according to the IBC and ASTM E 1300.
1. Design Wind Pressures: As indicated on Drawings.
  2. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.
  3. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.
- C. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.
- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
1. For monolithic-glass lites, properties are based on units with lites 6 mm thick.
  2. For laminated-glass lites, properties are based on products of construction indicated.
  3. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
  4. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
  5. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
  6. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

## 2.03 GLASS PRODUCTS, GENERAL

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.
  - 1. GANA Publications: "Laminated Glazing Reference Manual" and "Glazing Manual."
  - 2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."
- B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.
- D. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.
  - 1. Minimum Glass Thickness for Exterior Lites: 6 mm.
  - 2. Thickness of Tinted Glass: Provide same thickness for each tint color indicated throughout Project.
- E. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

## 2.04 GLASS PRODUCTS

- A. Clear Annealed Float Glass: ASTM C 1036, Type I, Class 1 (clear), Quality-Q3.
- B. Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.



- C. Heat-Strengthened Float Glass: ASTM C 1048, Kind HS (heat strengthened), Type I, Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.
- D. Reflective-Coated Vision Glass: ASTM C 1376.

2.05 LAMINATED GLASS

- A. Laminated Glass: ASTM C 1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
  - 1. Construction: Laminate glass with polyvinyl butyral interlayer to comply with interlayer manufacturer's written instructions.
  - 2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
  - 3. Interlayer Color: Clear unless otherwise indicated.

2.06 INSULATING GLASS

- A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190.
  - 1. Sealing System: Dual seal, with manufacturer's standard primary and secondary sealants.
  - 2. Perimeter Spacer: Manufacturer's standard spacer material and construction Aluminum with black, color anodic finish.
  - 3. Desiccant: Molecular sieve or silica gel, or a blend of both.

## 2.07 GLAZING SEALANTS

### A. General:

1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: As selected by State Engineer from manufacturer's full range.

### B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

## 2.08 GLAZING TAPES

### A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

## 2.09 MISCELLANEOUS GLAZING MATERIALS

- ### A. General: Provide products of material, size, and shape complying with referenced glazing standard, with requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- ### B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- ### C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

- D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

## 2.10 FABRICATION OF GLAZING UNITS

- A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.
- B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.
- C. Grind smooth and polish exposed glass edges and corners.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:
  - 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
  - 2. Presence and functioning of weep systems.
  - 3. Minimum required face and edge clearances.
  - 4. Effective sealing between joints of glass-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.02 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

- B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that leave visible marks in the completed Work.

### 3.03 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.
- C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- F. Provide spacers for glass lites where length plus width is larger than 50 inches.
  - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
  - 2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.
- H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

- J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
- K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

### 3.04 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until right before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

### 3.05 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting

dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

- D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- E. Install gaskets so they protrude past face of glazing stops.

### 3.06 SEALANT GLAZING (WET)




- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

### 3.07 CLEANING AND PROTECTION

- A. Immediately after installation remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.
- C. Remove and replace glass that is damaged during construction period.

- D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

### 3.08 GLASS SCHEDULE

- A. Basis of Design Assemblies: Assembly characteristics are based on products manufactured by Viracon. Subject to compliance with requirements, provide indicated products or comparable products from an approved equal.
- B. Glass Type GL-01 (Vision, Laminated): Glass in doors. 
1. Overall Unit Thickness: **9/16 inch**.
  2. Laminated Assembly: 2 plies: ¼ inch. Clear, heat-strengthened float glass.
  3. Interlayer Thickness: **0.090 inch**
- C. Glass Type GL-02 (Vision, Insulated, Laminated): Vision Glass, laminated insulating glass assembly. 
1. Overall Unit Thickness: 1 3/8 inch.
  2. Outdoor Lite: Thickness: 5/16 inch. Clear, fully tempered.
  3. Interspace Width: ½ inch.
  4. Interspace Content: Air
  5. Indoor Lite: Laminate assembly; 2 plies, Clear, heat-strengthened float glass. Thickness of Each Glass Lite: ¼ inch (6.0mm)
  6. Interlayer Thickness: **0.090 inch**
- D. Glass Type GL-03 (Vision, Insulated, Laminated): Vision Glass, laminated insulating glass assembly. Provide architect's sample Viracon VZE1-42 glazing assembly, or equal, as follows: 
1. Overall Unit Thickness: 1-3/8 inch.
  2. Outdoor Lite: Thickness: 5/16 inch. Tinted "VE-42 on #2 surface," heat-strengthened float glass.
  3. Interspace Width: 1/2 inch.
  4. Interspace Content: Argon gas.
  5. Indoor Lite: Laminated assembly; 2 plies. Clear, heat-strengthened float glass, tinted VZE-SC on #3 surface. Thickness of Each Glass Lite: ¼ inch (6.0 mm).
  6. Interlayer Thickness: **0.090 inch**
  7. Visible Light Transmittance: 32 percent minimum.
  8. Winter Nighttime U-Factor: 0.24 maximum.
  9. Summer Daytime U-Factor: 0.20 maximum.
  10. Solar Heat Gain Coefficient: 0.24 maximum.
  11. Shading Coefficient: 0.27.
  12. Light to Solar Gain Ratio: 1.33.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
08800.1	Glazing	Lump Sum
08800.2	Glazing - Existing TSA Checkpoint Work (Phase 2)	Lump Sum

END OF SECTION



DIVISION 14 – CONVEYING SYSTEMS

SECTION 14210 – ELECTRIC TRACTION ELEVATORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The General Provisions, Special Provisions and General Requirements of the Specifications apply to the work specified in this section.

1.02 DESCRIPTION OF WORK

- A. Section Includes: Machine-Room Less Elevators.
- B. Related Work Specified Elsewhere:
  - 1. Section 01352- LEED REQUIREMENTS.
  - 2. Section 03300- CAST-IN-PLACE CONCRETE.
  - 3. Section 05500- METAL FABRICATION.
  - 4. DIVISION 15- MECHANICAL.
  - 5. DIVISION 16- ELECTRICAL.

1.03 DESCRIPTION OF ELEVATOR

- A. Elevator Manufacturers: Basis of Design KONE .
  - 1. Otis
  - 2. Schindler
  - 3. Thyssen Krup
  - 4. Or Approved Equal
- B. Type: Machine Room Less
- C. Drive: Regenerative.
- D. Quantity of Elevators: 2 (OGG 22 and 23)
- E. Landings: 2.
- F. Openings: 2 Front Openings, 0 Back Openings.
- G. Travel: Elevators 1 (OGG 22) thru 2 (OGG 23)- 18'-2".
- H. Rated Capacity: Elevators 1 (OGG 22) thru 2 (OGG 23)- 5000 lbs.

- I. Rated Speed: 150 fpm.
- J. Clear Inside Cab Dimensions (W x D):  
Elevators 1 (OGG 22) thru 2 (OGG 23): 5'-9 1/2" x 9'-0 1/2".
- K. Cab Height: 8'-0"
- L. Clear Height Under Suspended Ceiling: 7'-5".
- M. Entrance Width and Type:  
Elevators 1 (OGG 22) thru 2 (OGG 23) – 4'-6" Right & Left Opening
- N. Entrance Height: 7'-0.
- O. Main Power Supply: 480 Volts + 5%, three-phase.
- P. Operation: Elevators 1 (OGG 22) thru 2 (OGG 23)- Duplex.
- Q. Machine Location: Inside the hoistway mounted on car guide rail.
- R. Control Space Location: Remote Closet.
- S. Elevator equipment shall conform to the requirements of seismic zone:  
Seismic Zone 'D'.



#### 1.04 PERFORMANCE REQUIREMENTS

- A. Car Performance:
  - 1. Car Speed +/- 5% of contract speed under any loading condition or direction of travel.
  - 2. Car Capacity: Safely lower, stop and hold (per code) up to 125% of rated load.
- B. System Performance:
  - 1. Vertical Vibration (Maximum): 15 mg.
  - 2. Horizontal Vibration (Maximum): 12 mg.
  - 3. Jerk Rate (Maximum): 3.3 ft/sec<sup>3</sup>.
  - 4. Acceleration (Maximum): 1.3 ft/sec<sup>2</sup>.
  - 5. In Car Noise: =55 dB(A).
  - 6. Leveling Accuracy: +/- 0.2 inches.
  - 7. Starts Per Hour (Maximum): 240.

## 1.05 SUBMITTALS

- A. Submit in accordance with SECTION 01300 - SUBMITTALS.
- B. Product Data: Submit manufacturer's product literature for each proposed system.
1. Cab design, dimensions and layout.
  2. Layout, finishes, and accessories and available options.
  3. Controls, signals and operating system.
  4. Color selection charts for cab and entrances.
- C. Shop Drawings:
1. Clearances and travel of car.
  2. Clear inside hoistway and pit dimensions.
  3. Location and layout of equipment and signals.
  4. Car, guide rails, buffers and other components in hoistway.
  5. Maximum rail bracket spacing.
  6. Maximum loads imposed on building structure.
  7. Hoist beam requirements.
  8. Location and sizes of access doors.
  9. Location and details of hoistway door and frames.
  10. Electrical characteristics and connection requirements.
- D. Operation and Maintenance Data: Provide manufacturer's standard maintenance and operation manual.
- E. Diagnostic Tools: Prior to seeking final acceptance for the completed project as specified by the Contract Documents, the Elevator Contractor shall furnish all specialty, diagnostic, programming, calibration and adjustment tools, passwords, fault codes solutions, laptop computers with all of the most current software packages and manuals with drawings and diagrams that are required for complete maintenance, repair, trouble shooting, adjustments and performing safety tests of the installed elevators for the State's use at no additional cost and shall be turned over to the State Engineer.
- This shall include any specialized tool(s) required for monitoring, inspection and/or maintenance where the means of suspension other than conventional wire ropes are furnished and installed by the Elevator Contractor. Any and all such tool(s) shall become property of the State. Any diagnostic tool provided to the State Engineer by the Elevator Contractor shall be configured to perform all levels of diagnostics, systems adjustment and parametric software changes which are available to the Elevator Contractor.
- In those cases where diagnostic tools provided to the State Engineer require periodic recalibration/or re-initiation, the Elevator Contractor shall perform such tasks at no additional cost to the State for a period equal to the term of the maintenance agreement from the date of final acceptance of the competed project During those intervals in which the State Engineer might find it necessary to surrender a diagnostic tool for re-calibration, re-initiation, or repair,

the Elevator Contractor shall provide a temporary replacement for the tool at no additional cost to the State.

The Elevator Contractor shall deliver to the State Engineer, printed instructions for the proper use of any tool that may be necessary to perform diagnostic evaluations, system adjustment, and/or parametric software changes on any unit of microprocessor- based elevator control equipment and means of suspension other than standard elevator steel cables furnished and install by the Elevator Contractor.

Accompanying the printed instructions shall be any and all access codes, password, or other proprietary information that is necessary to interface with the microprocessor-control equipment.

- F. LEED Submittals: Submit LEED submittal requirements according to Section 01352 – LEED REQUIREMENTS, Paragraph 1.06, Item F, LEED Documentation Submittals.

#### 1.06 QUALITY ASSURANCE

- A. Manufacturer: Minimum of fifteen years experience in the fabrication, installation, and service of elevators of the type and performance of the specified. The manufacturer shall have a documented quality assurance program.
- B. Installer: The equipment manufacturer shall install the elevator.
- C. Inspection and Testing: In accordance with requirements of local jurisdiction, obtain required permits, inspections, and tests.
- D. The elevators provided as part of this Contract shall be serviceable by any maintenance and repair contractor licensed to perform such maintenance in the State of Hawaii. Systems shall not possess proprietary parts which cannot be obtained by maintenance contractors outside of the original equipment manufacturer's own forces.
- D. Elevator Contractor must certify that he has installed and maintained similar elevators to those specified and which have given satisfactory service; has been in successful operation for at least five (5) years; maintains an adequate stock of parts for replacement or emergency purposes locally and has available qualified persons to do the work.
- E. The controls shall not have any software embedded that shuts the elevator down if the equipment is not malfunctioning and forces the State to call the Manufacturer for service.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. If the construction site is not prepared to receive the elevator equipment at the

agreed ship date, the General Contractor shall be responsible for providing a safe, dry, and easily accessible storage area on or off the premises. Additional labor costs for double handling will be the responsibility of the general contractor.

- B. Delivered elevator materials shall be stored in a protected environment in accordance with manufacturer recommendations. A minimum storage area of 10 feet by 20 feet is required adjacent to the hoistway.

#### 1.08 WARRANTY

- A. Provide manufacturer warranty for a period of one year. The warranty period is to begin upon Substantial Completion of the Contract. Warranty covers defects in materials and workmanship. Damage due to ordinary use, vandalism, improper or insufficient maintenance, misuse, or neglect do not constitute defective material or workmanship.

#### 1.09 REPLACEMENT PARTS

- A. Replacement parts shall be produced by the original equipment manufacturer.
- B. The manufacturer must have locally stocked parts, representation and an authorized service organization within 500 miles of the site of installation and has serviced manufacturer's units of comparable type, size and capacity installed in the State of Hawaii for a minimum of 5 years immediately prior to bid opening.

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#### 1.10 PARTS AND PRINTED CIRCUIT BOARDS

- A. Contractor guarantees they will sell all parts, including but not limited to items such as printed circuit boards, programmed microprocessors/computers and all software updated/upgrades to the State and the State's maintenance contractor. The same shall not be dependent on an exchange component.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURER

- A. Provide AC gearless machine room-less elevator systems subject to compliance with the design and performance requirements of this specification. Elevator manufacturers may include but are not limited to one of the following:
  1. Basis of Design: traction elevators by KONE, Inc. (www.kone.com).
  2. Otis Elevator Company

3. Schindler Elevator Corp.
4. Thyssen Krupp Elevator

## 2.02 EQUIPMENT: CONTROL COMPONENTS AND CONTROL SPACE

- A. Controller: Provide microcomputer based control system to perform all of the functions.
  1. All high voltage (110 V or above) contact points inside the controller cabinet shall be protected from accidental contact in a situation where the controller doors are open.
  2. Controller shall be separated into two distinct halves; Motor Drive side and Control side. High voltage motor power conductors shall be routed and physically segregated from the rest of the controller.
  3. Provide a serial cardrack and main CPU board containing a non erasable EPROM and operating system firmware.
  4. Variable field parameters and adjustments shall be contained in a non-volatile memory module.
- B. Drive: Provide Variable Voltage Variable Frequency AC drive system to develop high starting torque with low starting current. The drive will be set up for regeneration of AC power back into the building grid.
- C. Controller Location: Within 100'-0" Controller(s) shall be located in a remote cabinet or room within 140"-0" wire feet of the elevator machine.

## 2.03 EQUIPMENT: HOISTWAY COMPONENTS

- A. Machine: AC gearless machine, with permanent magnet synchronous motor, direct current electro-mechanical disc brakes and integral traction drive sheave, mounted to the car guide rail at the top of the hoistway.
- B. Governor: Friction type over-speed governor rated for the duty of the elevator specified.
- C. Buffers, Car and Counterweight: Polyurethane buffer.
- D. Hoistway Operating Devices:
  1. Emergency stop switch in the pit.
  2. Terminal stopping switches.
  3. Emergency stop switch on the machine.
- E. Positioning System: System consisting of magnets and proximity switches.
- F. Guide Rails and Attachments: Steel rails with brackets and fasteners.

## 2.04 EQUIPMENT: HOISTWAY ENTRANCES

- A. Hoistway Entrances:
  - 1. Sills: Extruded.
  - 2. Doors: Hollow metal construction with vertical internal channel reinforcements.
  - 3. Fire Rating: Entrance and doors shall be UL fire-rated for 1-1/2 hour.
  - 4. Entrance Finish: Elevators 1 (OGG 22) thru 2 (OGG 23) - Satin Stainless Steel.
  - 5. Entrance Markings Jamb Plates: Provide standard entrance jamb tactile markings on both jambs, at all floors. Plate Mounting: Refer to manufacturer drawings. *Comply with ADAAG 407.2.3 Hoistway Signs: Signs at elevator hoistway shall comply with 407.2.3.*

## 2.05 EQUIPMENT: CAR COMPONENTS

- A. Car Frame: Provide car frame with adequate bracing to support the platform and car enclosure.
- B. Platform: Platform shall be all steel construction.
- C. Car Guides: Provide guide-shoes mounted to top and bottom of both car and counterweight frame. Each guide-shoe assembly shall be arranged to maintain constant contact on the rail surfaces. Provide retainers in areas with Seismic design requirements.
- D. Steel Cab:
  - 1. Car Wall Finish: Elevators 1 (OGG 22) thru 2 (OGG 23) -  
Side Walls – See interior elevations  
Rear Walls – See interior elevations
  - 2. Car Front Finish: Brushed stainless steel.
  - 3. Skirting: Brushed stainless steel.
  - 4. Car Door Finish: Brushed stainless steel.
  - 5. Ceiling:
    - a. Elevators 1 (OGG 22) thru 2 (OGG 23)- : Polygal Translucent three panel suspended ceiling with T-5 Fluorescent lighting and Brushed Stainless Steel frame..
  - 6. Handrail: Round, straight ends – Brushed stainless steel - 2 in. Rails to be located on side and rear walls of car enclosure.
  - 7. Bumper Rail: Brushed stainless steel 4 in. flat rail located on side and rear walls of car enclosure.
  - 8. Flooring: Rubber Flooring (RBF-01)
  - 9. Threshold: Aluminum.

E. Emergency Car Signals:

1. Emergency Siren: Siren mounted on top of cab that is activated when the alarm button in the car operating panel is engaged. Siren shall have rated sound pressure level of 80 dB(A) at a distance of three feet from device. Siren shall respond with a delay of not more than one second after activation of alarm button.
2. Emergency Car Lighting: Provide emergency power unit employing a 12-volt sealed rechargeable battery and totally static circuits shall illuminate the elevator car and provide current to the alarm bell in the event of building power failure.
3. Emergency Exit Contact: An electrical contact shall be provided on the car-top exit.

F. Ventilation: Fan.

2.06 EQUIPMENT: SIGNAL DEVICES AND FIXTURES

A. Car Operating Panel: Provide car operating panel with all push buttons, key switches, and message indicators for elevator operation.

1. Car Operating Panel Elevators 1 (OGG 22) thru 2 (OGG 23): Comply with ADAAG 407.2.3 Call Controls: Where elevator call buttons or keypads are provided, they shall comply with 407.2.1 and 309.4. The car operating panel shall contain a bank of round, mechanical, illuminated buttons marked to correspond to landings served, emergency call button, door open button, door close button, and key switches for lights, inspection, and exhaust fan. Buttons have amber illumination (halo). All buttons to have raised text and Braille marking on left hand side. The car operating display panel shall be amber DOT-matrix. All texts, when illuminated, shall be amber. The car operating panel shall have a brushed stainless steel finish.
2. Additional features of car operating panel shall include:
  - a. Car Position Indicator within operating panel (amber).
  - b. Elevator Data Plate marked with elevator capacity and car number on car top.
  - c. Help buttons with raised markings.
  - d. In car stop switch per local code.
  - e. Firefighter's hat
  - f. Firefighter's Phase II Keyswitch.
  - g. Call Cancel Button.
  - h. Pre-programmed integrated ADA phone (complete description of krms features included as standard).
  - i. Help Button/Communicator. Activation of help button will initiate two-way communication between car and a location inside the building, switching over to alternate location if call is unanswered, where



- personnel are available to take the appropriate action. Visual indicators are provided for call initiation and call acknowledgement.
- j. Firefighter's Phase II emergency in-car operating instructions.
  - k. Landing Passing Signal: A chime bell shall sound in the car to signal that the car is either stopping at or passing a floor served by the elevator.
- B. Hall Fixtures: Comply with ADAAG 407.2.2 Hall Signals: Hall signals, including in-car signals, shall comply with 407.2.2. Wall mounted hall fixtures shall be provided with necessary push buttons and key switches for elevator operation. Wall mounted hall fixtures for Elevators 1 (OGG 22) thru 2 (OGG 23) shall have a brushed stainless steel finish. Hall fixtures shall feature round, mechanical, buttons in applied mount face frame. Hall fixtures shall correspond to options available from that landing. Buttons shall be in a vertically mounted fixture. Hall fixtures shall not be jamb-mounted.
- C. Car Lantern and Chime: A directional lantern visible from the corridor shall be provided in the car entrance. When the car stops and the doors are opening, the lantern shall indicate the direction in which the car is to travel and a chime will sound. The chime will sound once for up and twice for down. Elevator doors shall comply with ADAAG 407.3.5 Door Delay: Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

## 2.07 EQUIPMENT: ELEVATOR OPERATION AND CONTROLLER

- A. Elevator Operation:
- 1. Elevators 1 (OGG 22) thru 2 (OGG 23): Duplex Collective Operation (two cars): Using a microprocessor-based controller, the operation shall be automatic by means of the car and hall buttons. In the absence of system activity, one car can be made to park at the pre-selected main landing. The other car shall remain at the last landing served. Only one car shall respond to a hall call. If either car is removed from service, the other car shall immediately answer all hall calls, as well as its own car calls.
  - 2. Zoned Car Parking
  - 3. Relative System Response Dispatching.
- B. Standard Operating Features to include:
- 1. Full Collective Operation.
  - 2. Fan and Light Control.
  - 3. Load Weighing Bypass.
  - 4. Ascending Car Uncontrolled Movement Protection.
  - 5. Top of Car Inspection Station.
- C. Additional Operating Features to include:

1. Hoistway Access Bottom Landing
  2. Emergency Battery Power Supply: When the main line power is lost for longer than 5 seconds the emergency battery power supply provides power automatically to the elevator controller. The elevator will rise or lower to the first available landing, open the doors, and shut down. The elevator will return to service upon the return of normal main line power. An auxiliary contact on the main line disconnect and shunt trip breaker ( if used ) will be provided by others.
- D. Elevator Control System for Inspections and Emergency:
1. Provide devices within controller to run the elevator in inspection operation.
  2. Provide devices on car top to run the elevator in inspection operation.
  3. Provide within controller an emergency stop switch to disconnect power from the brake and prevents motor from running.
  4. Provide the means from the controller to electrically lift and control the elevator brake to safely bring car to nearest available landing when power is interrupted.
  5. Provide the means from the controller to reset the governor over speed switch and also trip the governor.
  6. Provide the means from the controller to reset the emergency brake when set because of an unintended car movement or ascending car over speed.
  7. Provide the means for the control to reset elevator earthquake operation.

## 2.08 EQUIPMENT: DOOR OPERATOR AND CONTROL

- A. Door Operator: A closed loop permanent magnet VWF high-performance door operator shall be provided to open and close the car and hoistway doors simultaneously. Door movement shall be cushioned at both limits of travel. Electro-mechanical interlock shall be provided at each hoistway entrance to prevent operation of the elevator unless all doors are closed and locked. An electric contact shall be provided on the car at each car entrance to prevent the operation of the elevator unless the car door is closed.
- B. The door operator shall be arranged so that, in case of interruption or failure of electric power, the doors can be readily opened by hand from within the car, in accordance with applicable code. Emergency devices and keys for opening doors from the landing shall be provided as required by local code.
- C. Doors shall open automatically when the car has arrived at or is leveling at the respective landings. Doors shall close after a predetermined time interval or immediately upon pressing of a car button. A door open button shall be provided in the car. Momentary pressing of this button shall reopen the doors and reset the time interval.
- D. Door hangers and tracks shall be provided for each car and hoistway door.

Tracks shall be contoured to match the hanger sheaves. The hangers shall be designed for power operation with provisions for vertical and lateral adjustment. Hanger sheaves shall have polyurethane tires and pre-lubricated sealed-for-life bearings.

- E. Electronic Door Safety Device. The elevator car shall be equipped with an electronic protective device extending the full height of the car. The doors shall remain open as long as the flow of traffic continues. Electronic door safety device shall comply with ADAAG 407.3.3.3 Duration: Door reopening devices shall remain effective for 20 seconds minimum.

## 2.09 ADAAG REQUIREMENTS

ADAAG 206.6 Elevators provided for passengers shall comply with 407.

## 2.10 PROPRIETARY EQUIPMENT

Proprietary equipment shall not be allowed. All equipment installed shall be maintainable by any licensed elevator mechanic.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Field measure and examine substrates, supports, and other conditions under which elevator work is to be performed.
- B. Do not proceed with work until unsatisfactory conditions are corrected.
- C. Prior to start of Work, verify hoistway is in accordance with shop drawings. Dimensional tolerance of hoistway from shop drawings: -0 inches +2 inches. Do not begin work of this section until dimensions are within tolerances.
- D. Prior to start of Work, verify projections greater than 2 inches (4 inches if ASME A17.1/CSA 844 2000 applies) must be beveled not less than 75 degrees from horizontal.
- E. Prior to start of Work, verify landings have been prepared for entrance sill installation. Traditional sill angle or concrete sill support shall not be required.
- F. Prior to start of Work, verify elevator pit has been constructed in accordance with requirements, is dry and reinforced to sustain vertical forces, as indicated in approved submittal. Verify that sumps or sump pumps located within pit will not interfere with installed elevator equipment.
- G. Prior to start of Work, verify control space has been constructed in accordance with requirements, with access coordinated with elevator shop drawings,

including Sleeves and penetrations.

- H. Verify installation of GFCI protected 20-amp in pit and adjacent to each signal control cabinet in control space.

### 3.02 PREPARATION

- A. Coordinate installation of anchors, bearing plates, brackets and other related accessories.

### 3.03 INSTALLATION

- A. Install equipment, guides, controls, car and accessories in accordance with manufacturer installation methods and recommended practices.
- B. Properly locate guide rails and related supports at locations in accordance with manufacturer's recommendations and approved shop drawings. Anchor to building structure using isolation system to minimize transmission of vibration to structure.
- C. All hoistway frames shall be securely fastened to fixing angles mounted in the hoistway. Coordinate installation of sills and frames with other trades.
- D. Lubricate operating system components in accordance with manufacturer recommendations.
- E. Perform final adjustments, and necessary service prior to substantial completion.

### 3.04 CONSTRUCTION

- A. Interface with Other Work:
  - 1. Guide rail brackets attached to steel shall be installed prior to application of fireproofing.
  - 2. Coordinate construction of entrance walls with installation of door frames and sills. Maintain front wall opening until elevator equipment has been installed.
    - a. Ensure adequate support for entrance attachment points at all landings.
    - b. Coordinate wall openings for hall push buttons, signal fixtures and sleeves. Each elevator requires sleeves within the hoistway wall.
    - c. Coordinate emergency power transfer switch and power change pending signals as required for termination at the primary elevator signal control cabinet in each group.
    - d. Coordinate interface of elevators and fire alarm system.

- e. Coordinate interface of dedicated telephone line.

3.05 TESTING AND INSPECTIONS

- A. Perform recommended and required testing in accordance with authority having jurisdiction.
- B. Obtain required permits and provide originals to State Engineer.

3.06 DEMONSTRATION

- A. Prior to substantial completion, instruct State Engineer on the proper function and required daily maintenance of elevators. Instruct personnel on emergency procedures.

3.07 LOCAL TECHNICAL SUPPORT

- A. The conveying equipment supplier shall have a Hawaii office, staffed with factory trained engineers fully capable of providing instruction, routine maintenance and emergency maintenance service on all system components.
- B. The control system supplier shall have a Hawaii office, staffed with factory trained engineers fully capable of providing instruction, routine maintenance and emergency maintenance service on all system components.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
14210	Electric Traction Elevators	Lump Sum



END OF SECTION

## SECTION 14310 - ESCALATORS

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions and General Requirements of the Specifications, apply to the work specified in this section.

#### 1.02 DESCRIPTION OF WORK

- A. Section Includes: Escalators.
- B. Related Work Specified Elsewhere:
  - 1. Section 01352- LEED REQUIREMENTS.
  - 2. Section 03300 - CAST-IN-PLACE CONCRETE.
  - 4. Section 05500- METAL FABRICATION.
  - 6. DIVISION 15- MECHANICAL.
  - 7. DIVISION 16- ELECTRICAL.

#### 1.03 DESCRIPTION OF ESCALATOR

- A. Quantity: 2, Escalator 1 (OGG 24) and Escalator 2 (OGG 25)
- B. Arrangement: Parallel without common center deck.
- C. Vertical Rise: 18'-2".
- D. Speed: Nominal speed of 100 feet/minute (0.5 M/sec.) ascending and descending.
- E. Nominal Step Width: 40".
- F. Horizontal Steps: 2.
- G. Transition Radius: 1.5m/1.0m.
- H. Power Supply: 3 Phase, 60Hz, 460V, 120V.
- I. Step Load / Dynamic Brake Load / Motor Duty Load / Step Chain Load: 264 lbs. / step
- J. Balustrade Type: Inclined Solid Balustrade
- K. Operation Mode: Continuous operation.

#### 1.04 SUBMITTALS

- A. Submit in accordance with Section 01300- SUBMITTALS.
- B. Product Data: Submit manufacturer's product literature for each proposed system.
  - 1. Layout, finishes, and accessories and available options.
  - 2. System capacity and performance.
  - 3. Controls, signals and operating system.
- C. Shop Drawings:
  - 1. Maximum loads imposed on the building structure at all support points.
  - 2. Rise of escalator and required clearances.
  - 3. Dimensions of escalator and related systems.
  - 4. Electrical characteristics and connection requirements.
- D. Samples:
  - 1. Balustrade
  - 2. Skirts
  - 3. Decking
  - 4. Handrails
- E. Manufacturer's operation and maintenance manuals.
- F. Inspection Certificates and Permits.
- G. Specialty Tools: Provide to the State all specialty tools, computers, software, diagnostic equipment, user manuals, specialty materials, and any other items required for any licensed elevator mechanic to perform full diagnostics, troubleshooting, maintenance, and repairs to any escalators installed as part of this Contract. This includes, but is not limited to computer terminals, software, specialty tools, manuals, cables, proprietary adapters, etc.
- H. LEED Submittals: Submit LEED submittal requirements according to Section 01352 – LEED REQUIREMENTS, Paragraph 1.06, Item F, LEED Documentation Submittals.

#### 1.05 QUALITY ASSURANCE

- A. Manufacturer: Shall have a minimum of 10 years experience in the fabrication, installation and service of escalators. Manufacturer shall be ISO 9001 and 14001 certified, and have a documented quality assurance program.
- B. Installer: Manufacturer shall install Escalators or a manufacturer recommended installer with a minimum 5 years experience in the installation and service of escalators.

- C. Inspection and Testing: In accordance with requirements of local jurisdiction, obtain required permits, inspections and tests.
- D. The escalators provided as part of this Contract shall be serviceable by any maintenance and repair contractor licensed to perform such maintenance in the State of Hawaii. **Systems shall not possess proprietary parts which cannot be obtained by maintenance contractors outside of the original equipment manufacturer's own forces.**



1.06 DELIVERY, STORAGE AND HANDLING

- A. Coordinate delivery of escalator material.
- B. Store escalator materials in protected environment in accordance with manufacturer recommendations.

1.07 WARRANTY

Provide Manufacturer warranty for a period of one year. Warranty period to begin upon escalator final acceptance. Warranty covers defects in materials and workmanship. Damage due to ordinary use, vandalism, improper or insufficient maintenance, misuse, or neglect do not constitute defective material or workmanship.

1.08 REPLACEMENT PARTS

- A. **The manufacturer must have locally stocked parts, representation, and an authorized service organization within 500 miles of the site of installation and has serviced manufacturer's units of comparable type, size and capacity installed in the State of Hawaii for a minimum of 5 years immediately prior to bid opening.**
- B. **Contractor guarantees they will sell all parts, including but not limited to items such as printed circuit boards, programmed microprocessors/computers and all software updated/upgrades to the State and the State's maintenance contractor. The same shall not be dependent on an exchange component.**



PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Provide Escalators 1 thru 2 (OGG 24 and OGG 25) subject to compliance with the design and performance requirements of this specification.
  - 1. Basis of Design Manufacturer: KONE, Inc.  
(www.kone.com).



2. Other acceptable escalator manufacturers:
  - a. OTIS Elevator Co.
  - b. Schindler Elevator Corp.
  - c. Thyssen Krupp Elevator
  - d. Approved equal.

## 2.02 COMPONENTS

### A. Truss:

1. The escalator trusses shall be designed to accommodate the loadings and factors referred to in the latest edition of ASME A17.1. The trusses shall not deflect greater than 1:750 of the distance between supports under a live uniformly distributed passenger loading of 5 kN/my (load area = width of escalator step x distance between supports). The truss shall be designed to accommodate the load without intermediate (center) supports.
2. The trusses shall be constructed of rolled steel sections, continuously welded where appropriate, and treated with an approved rust inhibitor.
3. The trusses shall include all the frames, supports and reinforcements necessary for the support and fastening of the mechanical parts of the escalators.
4. There shall be no cross members on the soffit of the truss, either inside or outside. The soffit plate shall be 3/16" minimum thickness and welded and sealed to ensure it is oil tight.
5. All the necessary steelwork, trimming angles and bearing plates to support the escalators from the building structure are to be provided and fitted by the building contractor.
6. Side cladding - by Division: Truss side cladding shall be provided and installed per Section 05750.
7. Soffit cladding - by Division: Truss soffit cladding shall be provided and installed per Section 05750.

- B. Isolation Mounting: Upper and lower end supports shall be isolated from building structure using a fabricated assembly of rubber and steel.

Standard Support Type: The truss supports at each end shall be provided with isolation (anti-vibration) pads, which dampen vibration and prevent structure-borne noise being transmitted to the building structure.

### C. Escalator Drive:

1. Worm Gear: The drive unit is located outside the step band, at the upper end of the escalator. The chain sprockets of the step band and the handrail driving wheels are driven via a duplex chain by a compact worm gear with an electric motor, flange-mounted at the gearbox. The main driving shaft supports the chain sprockets for the step band. The main driving shaft supports the handrail driving shaft via handrail chain and handrail wheels. The drive system assures that the handrails are moved

- synchronously with the step band.
- 2. Upper Reversing Station: Precision-machined step chain sprocket mounted on the machine output shaft and rotating on bearings.
- 3. Lower Reversing Station: Machined floating track system designed to maintain proper tension on the step chain by use of springs.

D. Drive Motor:

- 1. The drive motor shall be continuously rated and of adequate size for the duty concerned in both directions of travel. The drive shall be positive and quiet. **Include details of the motor in the submittal.**
- 2. **Provide a list of protection which shall preferably be by means of temperature sensitive devices in the motor windings with a magnetically operated overload device to cater for stall conditions.** The motor shall be provided with class F insulation and a minimum ingress protection class of NEMA 12.

3

E. Brake:

- 1. The escalator shall have a "fail-safe" operational braking system which shall be capable of bringing an unloaded and loaded escalator to rest within the stopping distances given in the latest edition of ASME A17.1 and maintaining it in a stationary position. The action of the brake shall be smooth so that the step band is brought to a standstill without subjecting the passengers to sudden deceleration forces.
- 2. The brake shall be released by application of electric power and mechanically applied via compression spring(s) upon removal of electric power. Provision shall be available for temporary release of the brake by means requiring a continuously applied manual release force.
- 3. The escalator shall stop automatically in the event of the operation of any safety device or electrical power failure.
- 4. Each escalator shall have the facility to lock the step band in position to enable work to be carried out safely within the step band.

F. Handrail Drive- C Handrail: To ensure the handrail runs synchronously with the step band, within a speed tolerance of 0% to 2%, a chain from the main drive shaft to the handrail shaft shall be used. A positive drive and proper tensioning of the handrail shall be achieved at all times. At the newel ends there shall be adequate sized rollers to guide the handrail around the newels. Each roller shall be fitted with sealed ball bearings and be grease lubricated.

G. Handrails - C Handrail: The endless rubber handrails shall be pre-stretched and provided with a nylon lining on the running faces and suitably reinforced with steel or cord tension members to enhance service life. The minimum breaking strength of the handrails shall be 27 kN. The color of the handrail shall be Black, and suitable for use outdoors.

H. Step Chains - Lubrication-Free Chain: The step chains shall be specifically designed for escalator applications and be of the roller type with heat-treated links to satisfy the requirements of ASME A17.1. In the interests of the

environment and fire prevention, the step chains shall be of the sealed-for-life, lubrication-free type which require no external oil lubrication. The links, pins and bushes shall be suitable treated to prevent corrosion (e.g. zinc plated).

- I. Step Chain Tension Carriage: A step chain tension device shall be provided in an easily accessible position in the lower machine pit. The tension carriage assembly shall be mounted on rollers with adequate lateral guidance to prevent skewing and shall be fitted with adjustable pressure springs to ensure uniform tensioning of the step chains.
- J. Steps:
  - 1. Black Aluminum: The black painted steps shall be of an interchangeable design of rigid high tensile die cast aluminum, incorporating grooved tread plates and risers, and shall be capable of being removed and replaced without removing the skirtings or inside balustrade. Multi-piece step assemblies are not acceptable.  
The step rollers shall have sealed ball bearings which are permanently grease lubricated. The steps are of distortion-resistant design, made of high tensile, die-cast aluminum. The tread plates have narrow grooves. The inner width between the cleats is 1/4" (average). Similar to the tread plate, the step riser is grooved vertically. Each step is provided with two step rollers of 3" diameter with encased, sealed-for-life ball bearings.
  - 2. Step Demarcation- Yellow Plastic Inserts: Provide step demarcation inserts at sides and rear of each step. Inserts to be fabricated from reinforced structural plastic, and easily replaced. Attach inserts to step with concealed fasteners. Demarcation inserts shall be yellow.
- K. Step Combs - Comb Segment Material - Powder Coated Aluminum: Step combs shall be easily replaceable. The escalator must incorporate step guides of wear-resistant material to ensure precise lateral entrance of the step into the comb. Safety switches shall be fitted to the comb plate, acting both vertically and horizontally, to stop the escalator in the event of an object becoming entrapped between the steps and the combs.
- L. Skirts- Brushed satin stainless steel skirt with clear anti-friction coating: Rigid brushed stainless steel skirting panels, minimum 11 gauge, shall be provided adjacent to the steps. They shall be coated with a clear long-wearing friction reduction compound and adequately supported to prevent bending or deflection. Flexible skirting panels with micro-switches shall not be accepted.
- M. Brush Guards - Black Anodized Aluminum with Single Brush: Single brush guards shall be provided to protect the step/skirting gap. They shall follow the nose line of the steps, running continuously throughout the length of the moving step band and terminating 2" before the comb plates at both ends. At each end of the brush guard there shall be a smooth tapered aluminum leading piece to ensure that there are no sharp edges, which may be a hazard to passengers. The holder/basis shall be made of black anodized aluminum.
- N. Floor Cover Plates - Natural Ribbed Aluminum: Single panel covers of aluminum

shall be provided at the escalator entrances, covered with ribbed aluminum flooring. The covers shall be removable for maintenance purposes.

O. Balustrades:

1. **Solid panel – inclined solid balustrade:** The balustrades shall be of solid panel construction, stainless steel resistant type. Their minimum thickness shall be 1/2-inch and the panels shall be self-supporting without the need for mullions. The vertical height of the balustrade, both on the incline and the ends, shall be minimum 40 inches.
2. **Satin polished stainless steel front plates:** Satin polished stainless steel front plates shall be provided at upper and lower ends, designed to include the handrail inlet device.



P. Deck- Brushed Stainless Steel: The inner/outer decking and the handrail profile shall be of brushed stainless steel. The joints of all sections shall be of the flush butted type.

Q. Control Cabinet- Position of the Controller Cabinet- Inside Truss: The controller for the escalators shall be in a sheet metal cabinet located within the top machine compartment and shall be removable for maintenance purposes. The controller shall incorporate all devices for controlling the direction of travel of the escalator and all overload and safety devices. The controller cabinet shall be protected with the following class NEMA1.



R. Operational Mode - Continuous: The escalator shall be started by a key switch and shall run continuously in the selected direction until stopped by a key switch or by an emergency stop.

S. Safety Devices: The escalators shall be equipped with the following safety devices/features:

1. **Reversal Stop Device:** Provide controller sensitive device to automatically stop the escalator should its direction reverse while operating in the ascending direction.
2. **Broken Step Chain Device:** Provide device on each chain as a component of the lower reversing station assembly a device to bring escalator to controlled stop when activated.
3. **Step Up Thrust Device:** Provide device each side of the lower curve track on the lower end of each escalator, that should a step be displaced against the upthrust track, will cause the escalator to come to a controlled stop.
4. **Comb-step Impact Device:** Provide device at the upper and lower comb plates, impact between comb segments and step will cause the escalator to come to a controlled stop.
5. **Skirt Obstruction Device:** Provide devices on each side of the balustrade at upper and lower ends within the skirt panels. Device shall activate should an obstruction occur between the step and skirt panel. Switches shall be of the plunger, self-resetting type, adjustable to maintain the required position and clearance from the skirts.
6. **Missing Step Device:** Provide device to detect missing step or steps at the

- upper or lower ends of the escalator. Upon activation, the escalator will come to a controlled stop.
7. Step Demarcation Lights: Provide demarcation lights at top and bottom of each escalator. Light shall be mounted below the track system where the step leaves or enters the combplate, light shall be visible between the steps and the step/comb segment. Provide two independent green fluorescent lamps, capable of lighting the entire width of the step.
  8. Handrail Entry Device: Provide device at the handrail inlet in the newel. The escalator will come to a controlled stop should an object enter the handrail inlet area.
  9. Handrail Speed Monitoring Device: Provide magnetic sensor to sound an alarm, when the speed of the handrail deviates from that of the step band by a minimum fifteen percent. If the deviation lasts for more than two seconds, device will cause the escalator to come to a controlled stop.
  10. Emergency Stop Buttons: Provide buttons to cut electrical power supply to the motor upon activation.
    - a. Locate emergency stop button at each landing in the newel upper radius quadrant, 45 degrees above horizontal. The stop button shall be red in color.
    - b. The button shall be housed under a clear, high impact resistant plastic, self-closing cover. Instructions for operating shall be imprinted on the cover in accordance with ASME/ANSI A17.1. When the cover is lifted, an audible alarm shall sound until returned to its closed position.
  11. Safety Signs: In accordance with ASME/ANSI A17.1 provide pictorial sign at upper and lower landings.
  12. Stop Switch in the Machinery Spaces: Provide stop switch in the upper and lower pits, upon activation of either switch escalator will come to a controlled stop.
  13. Step Level Devices: Provide level devices at upper and lower ends of escalator. Devices shall detect downward displacement of the step prior to reaching the combplates. Upon activation the escalator will come to a controlled stop.
  14. Step Guards: Provide guards in the upper and lower pit to protect maintenance personnel from step band.
  15. Step Band Lock: A locking device, with mechanical and electrical protection, to lock the step band in position for when it is necessary to work within the step band.
  16. Voice Announcement System: Provide an automated system with enunciator and speakers to continually narrate safety messages along the escalator to hold on to handrail. Confirm safety message with State Engineer.
- T. Wiring: This includes the laying of all cables and conductors from the main circuit breaker in the control cubicle to the individual controls, lighting, and safety devices inside the escalator. All the electrical installation material must be suitable for humid conditions. The cables, switching elements and electrical

devices must be in accordance with NEII requirements.

- U. Control Switches: The control switch shall be mounted at the lower end of the escalator and shall be key operated.
- V. Bearings: All bearings of rotating shafts are to be of a high quality, high precision and self aligning, and ball or roller type as appropriate. All bearings are to be selected to give, under an appropriate load profile for applications, a minimum calculated design life of 100,000 hours (L10h) based on the ISO definition of life rating.
- W. Lubrication: **Contractor shall define the method of lubrication and state by what means oil and other debris are removed from the escalators at periodic intervals.**   
Where a drive chain is used to couple the drive unit to the main drive shaft, an electronic automatic lubrication system shall be provided with sufficient oil capacity for at least one month's operation.
- X. Notices/Signs: A caution sign shall be located at the top and bottom landing of each escalator, readily visible to the boarding passengers. The sign shall include the following wording:
  - 1. Caution
  - 2. Passengers only.
  - 3. Hold handrail.
  - 4. Attend children.
  - 5. Avoid sides.
- Y. Electrical Supplies - Electrical Service: A 460 V, 3-phase, 4-wire, 60 Hz supply shall be provided by other parties. This supply shall be terminated in a junction box, adjacent to the control cabinet, and be used for the main motor power required. **Contractor shall detail the load requirements of each supply and the preferred locations of the incoming cables.** 
- Z. Proprietary equipment shall not be allowed. All equipment shall be maintainable by any licensed escalator mechanic.

## 2.03 FACILITY SERVICES REQUIREMENTS REQUIRED BY ELECTRICAL

- A. Provide for connection to 460VAC/3 phase/60Hertz electrical power, including a fused disconnect switch and equipment-grounding conductor. Switch and grounding conductor shall terminate at the escalator controller terminal block.
- B. Provide for connection to single (1) phase, 120 volt, 60 hertz, 15 amps electrical power supply including a grounding conductor terminating receptacle. Receptacle to be located within the machine space. Single-phase receptacles within wellways shall have ground-fault circuit-interrupter protection.
- C. Provide for connection to dedicated phone line, located at upper end pit area at the escalator controller.

## 2.04 FABRICATION

Escalators shall be partially pre-assembled prior to delivery to the job site.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Field measure and examine substrates, supports, and other conditions under which escalator work is to be performed. Conditions may include, but are not limited to:
  - 1. Installation of required permanent enclosures including railings and smoke baffles for the well ways.
  - 2. Well ways are clear of conduit, piping, ducts, sprinkler systems and any other utilities.
- B. Do not proceed with work until unsatisfactory conditions are corrected.

### 3.02 PREPARATION

- A. Protect floor openings adjacent to and in the general area of escalator installation.
- B. Install barricades a minimum of 48" high (1219 mm), for the duration of the escalator erection period.

### 3.03 INSTALLATION

- A. Properly locate truss and required intermediate supports at locations in accordance with manufacturer's recommendations and approved shop drawings. Anchor to building structure.
- B. Install escalator components in strict accordance with manufacturer installation methods.

### 3.04 ADJUSTING

Adjust components to provide a smooth start, which shall prevent undue strain on drive components. As directed by manufacturer literature, adjust and lubricate operating parts in compliance with manufacturer recommended equipment-operating standards.

3.05 DEMONSTRATION

Prior to final escalator acceptance, make a final check of each escalator operation with the State Engineer present. Manufacturer representative shall be present to determine that control systems and operating device are functioning properly.

3.06 PROTECTION

Escalator shall be protected from damage throughout the remainder of the construction period. Contractor shall not put escalator into service until final escalator acceptance.

3.07 LOCAL TECHNICAL SUPPORT

- A. The conveying equipment supplier shall have a Hawaii office, staffed within factory trained engineers fully capable of providing instruction, routine maintenance and emergency maintenance service on all system components.
- B. The control system supplier shall have a Hawaii office, staffed with factory trained engineers fully capable of providing instruction, routine maintenance and emergency maintenance service on all system components.

PART 4- MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
14310	Escalators	Lump Sum



END OF SECTION



## SECTION 16055 - PROTECTIVE DEVICE COORDINATION STUDY

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 SUMMARY

Section 16011 - GENERAL ELECTRICAL REQUIREMENTS applies to this section with additions and modifications specified herein.

#### 1.03 APPLICABLE PUBLICATIONS

The publications cited within this specification form a part of this specification to the extent referenced. Unless otherwise indicated, most recent edition of the publication with current revisions and amendments will be enforced.

#### 1.04 SUBMITTALS

- A. Submit shop drawings and catalog cuts of the following equipment for approval in accordance with Section 01300 - SUBMITTALS. Each submittal shall be prepared with a summary sheet attached to each copy identifying all items included in the submittal. **Incomplete submittals and those without summary sheets will be returned without review.**
1. Qualification data for firms and persons specified in QUALITY ASSURANCE hereinbelow to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Engineer and City, and other specified information.
  2. One-line diagram of the system.
  3. The final report shall contain individual, tabbed sections for each section. Each tabbed section shall contain the information as outlined in PART 2 of this section. The report shall include the manufacturer's name, address, general business phone number, after hours service phone number and spare parts phone number; distributor's name, address, general business phone number, after hours service phone number and spare parts phone number.
  4. Electronic format in PDF, MS Word and SKM shall be included in the final submittal package.

1.05 DESCRIPTION

- A. Provide an engineering analysis and coordination study for the entire electrical distribution system. The basic analysis shall include a short-circuit study, a protective device coordination study, load-flow/voltage drop study, and arc flash study.
- B. The study shall begin at the point of connection for the new facility and continue down through the system, to all downstream distribution and branch panelboards.

1.06 RELATED STANDARDS

All studies shall be performed in accordance with the latest applicable IEEE and ANSI standards.

1.07 QUALITY ASSURANCE

- A. Preparer Qualifications: Firm experienced in the analysis, evaluation and coordination of electrical distribution systems and similar to the system for this project. Firm must have a minimum 4-year record of successful in-service performance.
- B. The studies shall be prepared in accordance with the latest edition of NETA Standard ATS, NFPA 70B, NEC, ANSI C2 National Electrical Safety Code and ANSI/IEEE guidelines, as well as manufacturer recommendations.
- C. Short-Circuit Analysis and Coordination Study shall be performed by a registered Professional Electrical Engineer licensed in the United States. Study shall be signed and sealed by the Engineer. The Engineer shall have a minimum of 4 years experience in the analysis, evaluation and coordination of electrical distribution systems.

PART 2 - PRODUCTS

2.01 SHORT-CIRCUIT ANALYSIS WITH PROTECTIVE DEVICE EVALUATION

- A. Systematically calculate fault currents based on the available fault current at the facility service entrance. Study preparer shall obtain the available fault current from the City.
- B. Short-circuit calculations shall be prepared by means of a digital computer utilizing commercially available software package SKM, ETAP, Paladin, Easy Power or approved substitute. Motor contribution shall be incorporated in determining fault levels. Results of short-circuit calculations shall be presented

in tabular form and shall include momentary and interrupting fault values for three-phase and phase-to-ground faults.

- C. Analyze the short-circuit currents by preparing a tabulation comparing the fault levels to the device interrupting ratings. The following information shall be included in the tabulation.
  - 1. Bus identification number.
  - 2. Location identification.
  - 3. Voltage.
  - 4. Manufacturer and type of equipment.
  - 5. Device rating.
  - 6. Calculated short-circuit current.

## 2.02 PROTECTIVE DEVICE COORDINATION STUDY

- A. Prepare coordination time-current characteristic curves to determine the required settings/sizes of the protective devices to maximize selectivity. The utility upstream protective device feeding the facility shall be maintained as the upper limit for coordination. These settings shall be obtained by the preparer, along with any other protective device setting requirements. The coordination curves shall be prepared on log-log paper and illustrate adequate clearing times. The curves shall be created through the use of the same study software package used for the short-circuit calculations but must reflect actual protective devices to be installed. Adequate time-current curves shall be generated to depict coordination. In addition, protective device characteristics shall be suitable determined to reflect calculated short-circuit levels at that location.
- B. A narrative analysis shall accompany each coordination curve sheet and describe the coordination and protection in explicit detail. All curve sheets shall be multi-color for improved clarity. Areas lacking complete coordination shall be highlighted and reasons provided for allowing condition to remain or provide solution to resolve situation. System coordination, recommended ratings, and setting of protective devices shall be accomplished by a registered professional electrical engineer with a minimum of four years of current experience in the coordination of electrical power systems.
- C. The following information shall be provided on all curve sheets:
  - 1. Device identification and associated settings/size.
  - 2. Voltage at which curves are plotted.
  - 3. Current multiplier.
  - 4. ANSI frequent fault damage curve.
  - 5. Cable insulation damage curves.
  - 6. Transformer inrush point.
  - 7. Single-line for the portion of the system.
  - 8. Motor starting profiles (where applicable).

### 2.03 LOAD-FLOW/VOLTAGE DROP STUDY

A load-flow and voltage drop study will be performed to determine the steady-state loading profile of the system. From the results of the load-flow/voltage drop calculations, an analysis will be prepared, based on the NEC to indicate areas of overloaded conductors/load centers and areas of excessive voltage drop in the conductors. The load-flow/voltage drop study calculations must be performed using a digital computer utilizing commercially available software.

### 2.04 ARC FLASH ANALYSIS

An arc flash analysis shall be performed based on short circuit values indicated in the SHORT CIRCUIT ANALYSIS. The results from the short circuit study will be used to determine arc energy levels at each identified location in the facility for a specified working distance. Based on the arc energy at each defined point, the proper PPE will be determined and if the arc energy level exceeds available PPE ratings, the locations will be noted. Labels shall be provided for each evacuation location that lists the hazard levels along with the required PPE while working in that area. The arc flash analysis shall be performed using the same software package used for the short-circuit calculations.

### 2.05 HARMONICS ANALYSIS

The harmonic analysis shall be performed by a computer aided circuit simulation of the distribution system specific to the project.

### 2.06 SINGLE LINE DIAGRAM

The final report shall include a multi-color, single-line diagram of the electrical distribution system within the scope of the project. The single-line diagram shall include:

1. Feeder cable phase, neutral and ground sizes, length of cable, conductor material and conduit size and type.
2. Switchgear, panelboards, circuit breakers, and dry transformer equipment ratings including nameplate data and impedances.
3. Detailed legend indicating device type identification and other significant details.

## PART 3 - EXECUTION

### 3.01 SUMMARY

- A. The results of the system studies shall be summarized in a final report. Submit copies of the final report to the Officer-in-Charge and Engineer for acceptance.

3.02 FIELD SETTINGS

- A. The contractor shall engage the manufacturer's service group or alternately qualified independent testing firm to perform field adjustments of the protective devices as required for placing the equipment in final operating condition. The settings shall be in accordance with the approved short circuit study and protective device evaluation/coordination study.
- B. Necessary field settings of devices and adjustments and minor modifications to equipment to accomplish conformance with the approved short-circuit and protective device coordination study, shall be carried out by the manufacturer's representative.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16055	Protective Device Coordination Study	Lump Sum

END OF SECTION

## SECTION 16100 - ELECTRICAL WORK

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 SUMMARY

Section 16011 - GENERAL ELECTRICAL REQUIREMENTS, applies to this section with additions and modifications specified herein.

#### 1.03 APPLICABLE PUBLICATIONS

The publications cited within this specification form a part of this specification to the extent referenced. Unless otherwise indicated, most recent edition of the publication with current revisions and amendments will be enforced.

#### 1.04 SUBMITTALS

- A. Submit shop drawings and catalog cuts of the following equipment for approval in accordance with Section 01300 - SUBMITTALS. Each submittal shall be prepared with a summary sheet attached to each copy identifying all items included in the submittal. **Incomplete submittals and those without summary sheets will be returned without review.**

1. Shop Drawings: Panelboards.
2. Manufacturer's Data:
  - a. Overcurrent protection devices.
  - b. Panelboards.
  - c. Cabinets.
  - d. Safety switches.
  - e. Dry-type transformers.
  - f. Fuses.

- B. LEED Submittals: Submit LEED submittal requirements according to Section 01352 – LEED REQUIREMENTS, Paragraph 1.06, Item F, LEED Documentation Submittals.

## PART 2 - PRODUCTS

### 2.01 GENERAL

- A. Materials shall be new and those items listed by the Underwriters' Laboratories shall bear "UL" label of approval.
- B. Brand names, manufacturer's names and catalog numbers indicate standard of design and quality required. Acceptable manufacturers for electrical apparatus include General Electric, Siemens, Square D, and Eaton/Cutler-Hammer. All apparatus supplied shall bear the name of the approved manufacturer on its nameplates. Substitute materials may be used if pre-qualified prior to bidding by the Owner.
- C. Electrical equipment and luminaires shall be supplied through the manufacturer's designated representative by a local distributor.
- D. Proof of compliance shall be furnished when shop drawings are submitted.
- E. All apparatus shall be of the same manufacture.
- F. Where electrical apparatus is to be installed outside of totally enclosed rooms, NEMA 4X Type 316 stainless steel housings shall be provided.

### 2.02 RACEWAYS

- A. Rigid Steel Conduit: Rigid steel, zinc-coated inside and outside, for use with threaded fittings. ANSI C80.1.
- B. Intermediate Metal Conduit (IMC): Rigid steel, zinc-coated inside and outside, for use with threaded fittings. UL 1242.
- C. Electrical Metal Tubing (EMT): Thin walled steel tubing, zinc-coated. ANSI C80.3.
- D. Flexible Metal Conduit: Flexible steel conduit; zinc-coated inside and outside, smooth inside walls, liquid-tight with factory fittings for liquid-tight installation. Provide bushings with bonding jumper lugs for flexible conduit in excess of six feet in length. UL 360.
- E. Innerduct: Thin wall corrugated High Density Polyethylene (HDPE), sized as noted, 0.035-inch minimum wall thickness, orange, integral pullstring. Carlon Corrugated HDPE or equivalent.


## 2.03 BOXES

- A. Outlet and Small Junction Boxes: Nominal 4 inches square by 2-1/8 inches minimum depth exclusive of plaster ring, pressed steel, galvanized for corrosion protection. Exposed boxes and boxes exposed to the weather shall be cast steel, Type FS.
- B. Extension Rings for Outlet Boxes: Pressed steel, zinc-coated for corrosion protection.

## 2.04 CONDUCTORS

- A. Solid or stranded copper, sizes according to American Wire Gauge Wire, as shown on Drawings and #12 AWG minimum unless otherwise indicated. Solid conductors only for #10 AWG and smaller. All wiring shall be color-coded.
- B. Branch Circuits: Type THWN.
- C. Luminaire Wires: Per NEC.
- D. Conductors Larger than #8 AWG: XHHW-2.
- E. Conductors for Equipment Connection: Stranded flexible type.
- F. Low-Voltage Connectors and Terminals: Wire connectors and terminals for use with copper conductors shall conform to UL 486A.

## 2.05 WIRING DEVICES

- A. Switches: Ivory, 20A, 120/277V, non-mercury quiet type specification grade with nylon body.
- B. Duplex Convenience Receptacles: UL 498 and NEMA WD 1, Ivory, 20A, 125V, nylon body, specification grade, grounding type, unless otherwise noted. Special color for special applications as noted. 
- C. Quadruplex Convenience Receptacles: Ivory, 20A, 125V, nylon body, specification grade, grounding type, unless otherwise noted. Special color for special applications as noted.
- D. Ticket Counter Technology Receptacles: Orange, 20A, 125V, nylon body, specification grade, grounding type, unless otherwise noted.
- E. Ground Fault Interrupters: Receptacle type similar to duplex convenience receptacle except UL listed per UL 943 with 6 milliampere ground fault sensing circuit. Feed-through type with test and reset buttons.



2.06 DEVICE PLATES

- A. Stainless steel (302) plate for all areas, unless otherwise indicated.
- B. For Exterior Use: Flip-open covers, high grain non-metallic, plastic or fiberglass. Color to match adjacent finish. Cover shall be capable of closing with a plug cap connected to the receptacle.

2.07 PANELBOARDS

- A. Mounting, voltage rating, main bus capacity, breaker complement and lugs as specified on drawings, complete with housing, door, trim, lock and typewritten circuit directory. Provide ground bus for all panels.
- B. Panelboards should have copper bussing with bolt-on, molded case circuit breakers. Provide 1-inch-per-pole breakers, half-size breakers not allowed. Circuit breaker complement short circuit ratings shall be fully rated. Use of series rated equipment will not be permitted.
- C. All locks shall be common-key type. Furnish 6 sets of keys to the Owner.
- D. Panel housing and entire circuit breaker complement shall be of the same manufacture.
- E. Distribution panelboards shall be 30-inch minimum width.

2.08 ENCLOSED CIRCUIT BREAKERS, SAFETY SWITCHES AND MANUAL TRANSFER SWITCH

- A. Circuit breakers, unless otherwise shown, shall be molded case, toggle mechanism operated, with no-fuse ambient-compensated thermal-magnetic overload automatic trip units for overcurrent and short-circuit protection, interchangeable trip units when available and contacts rated to interrupt short-circuit currents as specified on Drawings. Non-automatic breakers shall have short circuit withstand ratings as specified on Drawings. Provide shunt trip and key interlocking accessories where indicated. Multi-pole breakers shall have single, common operating handle for all poles.
- B. Safety switches shall be heavy-duty grade, horsepower rated and sized as indicated or as to match branch circuit overcurrent device rating.
- C. Manual transfer switch be heavy-duty grade, horsepower rated and sized as indicated or as to match feeder circuit overcurrent device rating.
- D. Enclosures for breakers and switches to be NEMA 1, for interior locations and NEMA 4X Type 316 stainless steel for locations designated weatherproof.

## 2.09 DRY TRANSFORMERS

- A. General: Dry transformers shall be totally metal enclosed ventilated two winding type, with six 2-1/2 percent taps, 2-FCAN, 4-FCBN unless otherwise noted. Temperature rise shall be 115 degrees C on a 220 degree C insulation system, and the transformer shall be rated and labeled for 10 percent continuous overload. Oversize or derated transformers not acceptable. Sound ratings shall not exceed NEMA Standards for nominal size indicated. Provide K-factor rated transformers as indicated. All dry type transformers shall be TP-1 rated for energy efficiency.
- B. Vibration Mounts: All transformers shall be provided with internal vibration isolators. Transformers rated 30kVA and larger shall be provided with external vibration isolators between the transformer and mounting surface.
- C. Transformer Connections: Provide flexible conduit connections to transformer casing for primary and secondary feeders.


## 2.10 HARDWARE, SUPPORTS, BACKING, ETC.

- A. Provide all hardware, supports, backing and other accessories necessary to install electrical equipment. Wood materials shall be treated against termite, iron or steel materials shall be galvanized for corrosion protection, and non-ferrous materials shall be brass or bronze.
- B. Bolts, nuts, washers, and screws used for outside shall be high quality stainless steel or brass.
- C. Ground Rods: Ground rods shall be copper clad steel type, 3/4-inch diameter, 10 feet long, sectional type, and conform to UL 467.

## PART 3 - EXECUTION

### 3.01 RACEWAYS

- A. Use conduits with approved coupling and connectors. All cuts square, using saw. Ream the ends. Bends made with approved tools. Reject flattened or crushed conduit. No running thread. Bushing and two locknuts at connection to boxes and enclosures.
- B. All raceways shall be blown and swabbed after installation to remove any water, then immediately sealed to prevent water infiltration during construction. Raceways must remain sealed except when pulling conductors. If water is discovered during the warranty period, the Contractor shall remove water from raceways and associated boxes at no additional cost to the State.

- C. Exposed conduit runs to be parallel and/or perpendicular to architectural and structural elements. Galvanized rigid steel conduit or IMC only permitted for installation up to 7 feet above finished interior floor.
- D. Electrical Metallic Tubing (EMT): Acceptable for exposed, indoor installation as indicated above and for all concealed indoor installations with the following exceptions:
  - 1. EMT permitted for exposed branch circuit installation indoors of electrical rooms and vault only, above 7 feet.
  - 2. EMT not permitted for feeder circuits between electrical rooms.
  - 3. EMT not permitted in/under grade slab.
  - 4. EMT not permitted in walls that are in contact with earth.
  - 5. EMT not permitted for circuits higher than 600-volt class.
  - 6. EMT not permitted for exposed installation in baggage handling areas.
  - 7. Provide factory-made transitions between rigid conduit and EMT. Use only compression type, concrete tight couplings.
  - 8. Field-paint exposed tubing with corrosion-resistant paint.
- E. Minimum conduit diameter shall be 3/4-inch trade size except that 1/2-inch conduit will be permitted for branch circuit (non-signal) raceways with a maximum of two current carrying conductors #10 AWG and smaller.
- F. Provide nylon pullstring of 200-pound minimum tensile strength in all empty conduits in excess of 15 feet in length.
- G. Conceal all raceways unless otherwise noted on the drawings.
- H. Conduits crossing expansion joints shall be provided with appropriate couplings or flexible conduit jumpers as required to accommodate a one-inch movement between structural elements in all horizontal directions from the static, design position.
- I. EMT shall not be used in exterior locations. Areas under cover with no walls on at least one side, such as from Column Line C1 to C5 and C8 to C12 are considered as exterior locations. 

### 3.02 BOXES

- A. Plumb and securely fasten. Flush boxes - exactly flush; apply form oil so that stray concrete can be removed readily. Remove all debris from interior.
- B. Install boxes serving opposite sides of walls a minimum of 6 inches apart to minimize noise transmission.

### 3.03 CONDUCTORS

- A. Lubricants: Non-wax type, chemically neutral to insulation and sheath. Mechanical means for pulling to be torque-limiting type and not be used for #2 AWG and smaller wires.
- B. No-solder pressure connectors or crimp connections for #8 AWG and larger wires. Remove all sharp points that can pierce tape. Reinsulate according to wire manufacturer's directions.
- C. Clean all raceways, boxes, and enclosures before pulling wires and cables. Form neatly in enclosures for minimum of cross-overs.
- D. Cables used for fire alarm and other electronic equipment shall be clearly and permanently tagged to show junction and destination. Cables shall be pulled and fastened securely so as to avoid sharp bends and prevent rubbing against sharp corners and shall be fastened to suitable hardware in a manner to prevent injury or physical distortion of cable. Splices, fittings, and connectors shall be indicated on the system layout to facilitate system servicing.

### 3.04 MISCELLANEOUS DETAILS

- A. Provide necessary foundations, supports, backing, etc., for all raceways and equipment. Attach to wood and steel by screws or bolts. Attach to concrete by expansion anchors. Powder charge driven studs and anchors shall not be used.
- B. Clean all surfaces of enclosures and equipment.
- C. Close all unused knockout holes.

### 3.05 PAINTING

- A. Wipe clean of dirt, oil, grease, etc., with rag and solvent, prime and finish to match surrounding finish. Do not paint over nameplate. Paint as specified in Section 09911 – EXTERIOR PAINTING and Section 09912 – INTERIOR PAINTING.
- B. All surface-mounted boxes, enclosures, exposed raceways, and signal backboards shall be painted to match the color of surrounding or as otherwise designated by the Owner.
- C. Do Not field-paint metering equipment, circuit breakers, panelboards, and safety switches.

### 3.06 IDENTIFICATION

- A. All overcurrent protection devices, enclosures, and cabinets shall be provided with plastic plate identifying itself and its use.
  - 1. Identify all panelboards, switchboard breakers, self-contained breakers, and safety switches where not mounted on equipment.
  - 2. Time Switches, Contactors, Cabinets and Junction boxes 12-inches and larger. (i.e. RELAY "2A", "Time Switch")
- B. Plastic plate shall be laminated black and white, engraved 1/4-inch high lettering to expose black layer. Identification plates for emergency system shall be laminated red and white plastic plate. Plate shall be riveted to the cover and located directly below device handle, or top side of door.
- C. CAUTION SIGNS shall be provided as required by Ordinances and/or by OSHA.
- D. Provide computer printed system identification label for all exposed power and communication distribution conduits (2-inches and larger) within baggage handling area to match existing labeling scheme. Minimum one-inch high lettering indicating designated system. Coordinate exact wording of signage with Owner prior to installation. Provide at termination points and at not more than 100 LF on center along the length of the exposed conduit.

### 3.07 TESTING

- A. Upon completion of this portion of work, and prior to its acceptance by the State, make all required tests and secure all required approval from agencies having jurisdiction. Any deficiencies found shall be rectified and work affected by such deficiencies shall be completely retested at Contractor's expense. Written notification of all proposed tests shall be provided to the Owner a minimum of 14 days prior to the date of the test.
- B. Perform an operational test after completion of the installation in the presence of the Owner, to assure proper operation of all items of work. Remove all grounds and shorts. Balance feeder loads.
- C. Measure resistance of grounding system and furnish 3 copies of results to the Owner.
- D. Distribution Conductors 600 Volt Class: Test all 600-volt class conductors to verify that no short circuits or accidental grounds exist. Make tests using an instrument which applies a voltage of approximately 500 volts to provide a direct reading in resistance.
- E. Test Report: Provide three copies of each test report to the Owner.
  - 1. 600-volt cables (identify each cable and test result).

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16100.1	Electrical Work	Lump Sum
16100.2	Electrical Work - Existing TSA Checkpoint Work (Phase 2)	Lump Sum

END OF SECTION

## SECTION 16262 - AUTOMATIC TRANSFER SWITCH/BYPASS-ISOLATION SWITCH

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 SUMMARY

Provide automatic transfer/bypass-isolation switch and 3-way manual transfer switch for standby power distribution system.

#### 1.03 RELATED WORK

- A. Section 16011 - GENERAL ELECTRICAL REQUIREMENTS applies to this section with additions and modifications as specified herein.
- B. Section 16100 - ELECTRICAL WORK applies to this section with additions and modifications as specified herein.
- C. Section 16208 - ENGINE GENERATORS applies to this section with additions and modifications as specified herein.

#### 1.04 STANDARDS AND CODES

- A. The equipment covered by this specification shall be designed, tested, and assembled in accordance with the applicable standards of ASTM, ANSI, IEEE and NEMA, as minimum requirements for all items.
- B. The equipment shall comply with NEC, OSHA and all pertinent Federal and Local Codes, regulations, and ordinances, including UL approval.

#### 1.05 SUBMITTALS

- A. Submit in accordance with Section 01300 - SUBMITTALS.
- B. Submit catalog data for the automatic transfer/bypass-isolation switch and manual transfer switch. Provide complete product specifications of all equipment including outline drawings showing approximate dimensions, weights, and complete performance data.

- C. A statement is required that the equipment to be furnished will be in accordance with this specification. Any exceptions to it must be listed in detail.
- D. Shop Drawings:
  - 1. System configuration with single-line/three-line diagram showing all components, detailed layouts of all metering, alarm, and mimic panels.
  - 2. Front elevation, sections showing equipment and buswork, relays, fuses, etc. and cable lug quantities, sizes and location, and any information required for complete identification and location.
  - 3. Floor plan showing materials, sizes, anchoring, location of power and control conduit entries above and below.
  - 4. Performance characteristics including time-current curves for all overcurrent protective devices such as fuses, overload relays, etc.
  - 5. Schematic and wiring diagrams of all power, control, monitoring, metering, and any other circuits.
  - 6. Wiring diagrams showing interconnections among automatic transfer switch, manual transfer switch, utility power, generator, etc.
- E. Terminal block and lug numbers for all external connections shall be the same as shown on the elementary diagrams and shall be identified in a manner to distinguish them from internal interconnecting points.
- F. Seismic Qualification Certification:
  - 1. Submit certification that the transfer switches will withstand seismic forces as required for the site conditions. Seismic certification shall be third-party certified and based on testing.
  - 2. Dimensioned Outline Drawings of Equipment: Identify center of gravity and locate and describe mounting and anchorage provisions.
  - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- G. Operating Instructions: Submit operating instructions as stipulated in item entitled "OPERATING INSTRUCTIONS" hereinbelow.
- H. Warranty: Submit warranty as stipulated in item entitled "WARRANTY" hereinbelow.
- I. Maintenance Service Contract: Submit maintenance service contract as stipulated in item entitled "MAINTENANCE SERVICE CONTRACT" hereinbelow.

1.06 OPERATING INSTRUCTIONS

- A. Submit in accordance with Section 01300 - SUBMITTALS. The instruction book shall include the following:



1. Operating instructions and maintenance procedures for all components.
  2. Recommended spare parts list containing information of components, manufacturer's name, and catalog number.
  3. Approved and certified shop drawings.
  4. Test results.
- B. Four sets of instruction books shall accompany the equipment.

#### 1.07 PROTECTION

All material, equipment and component parts shall be adequately protected to prevent corrosion or entry of foreign matter during shipment, during storage in an unheated indoor dusty atmosphere and damage during shipment. The Contractor shall make good at his own expense, all damage due to improper preparation and/or storage of equipment and component parts.

#### 1.08 WARRANTY

- A. The Contractor shall warranty all equipment which he furnishes for a period of one year from the date of successfully completed final acceptance testing of the standby power system, including generator equipment.
- B. The Contractor shall promptly correct any deficiencies in the equipment he furnished which occur during the warranty period at the site at no additional cost to the State. This shall include all costs for material and labor.

#### 1.09 MAINTENANCE SERVICE CONTRACT

- A. The Contractor shall provide extended testing and maintenance services for the engine generator system for a period of one year from the date of final project acceptance.
- B. The Contractor shall include all material, equipment, and labor costs for performing maintenance work in his Bid.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS AND MATERIALS

- A. The switches and all major items of auxiliary equipment shall be manufactured in the U.S. by manufacturers currently engaged in the production of such equipment. The unit shall be factory assembled and tested by the manufacturer and shipped to the job site by his authorized dealer having a parts

and service facility in the area. ASCO, Russelectric, Caterpillar, or approved substitute. Circuit breaker switches are not acceptable.

- B. All materials, equipment, and parts comprising the units specified herein, shall be new and unused, of current manufacture and of highest grade.
- C. All automatic transfer switches (ATS) and bypass-isolation switches in the project shall be the product of one manufacturer and be completely factory assembled and tested as a single unit. ATS and bypass-isolation switch shall be mounted in a front accessible only enclosure. The interconnections between the switches shall be bussed or cabled by the manufacturer so that the Contractor will be required to make only the power connections to complete the installation.

## 2.02 RATING

The automatic transfer, bypass-isolation, and manual transfer switches shall be rated for continuous duty at the indicated amperes, 4-poles, for normal and emergency source of 480/277 volts, three-phase, 4-wire, 60 Hertz with minimum withstand current rating and continuous current rating as indicated.

## 2.03 AUTOMATIC TRANSFER SWITCH

- A. The ATS shall detect a power failure automatically and trigger controls to start an engine generator set. When generator reaches proper voltage and frequency, the switch then transfers loads from normal power to generator. When the normal source is ready to supply power again, the ATS senses it and retransfers the load back to the normal source and triggers the control to shut down the engine generator.
- B. ATS shall include, but is not limited to the following features:
  - 1. Selective normal switch mounted on enclosure door to select either source to be considered as the normal
  - 2. Mechanically held, electrically operated.
  - 3. Single solenoid operating mechanism.
  - 4. Contacts shall be readily accessible for easy inspection and maintenance.
  - 5. Silver-plated copper bus.
  - 6. In-phase controls for transfer and retransfer.
  - 7. One second time delay on transfer.
  - 8. Adjustable time delay (0-30 minutes) on re-transfer, preset at 15 minutes.
  - 9. Auxiliary contacts (N.C. and N.O.) For engine start, gold plated, rated 25 amperes, 48 volts DC.
  - 10. Close differential relays and transfer control relay to measure normal source voltage. Set to drop out at 83-85 percent, pick-up at 92-95 percent frequency.

11. Emergency source voltage and frequency sensing relay, set to pickup at 90 percent voltage, 95 percent frequency.
12. Auxiliary contacts at ATS failure for remote indication.
13. Test switch to simulate power failure.
14. Unload running time relay for emergency generator cool-down, adjustable from 0-5 minutes, factory set at 5 minutes.
15. Auxiliary contacts of normal and emergency position for remote indication and control interfaces with other systems.
16. Pilot lights on hinged door for normal and remote indication.
17. Power management meter with digital display to monitor load conductors. Digital display shall be flush mounted in the automatic transfer switch door and shall provide monitoring of phase voltages (line-line), phase current kilowatts, KVA, kilowatt-hours, kilowatt demand, kilovar and total harmonic distortion.
18. Selective switch for the generator start signal select either the permanent or portable engine generator set. Provide selective switch nameplates indicating "PORTABLE EG" and "STATION EG" positions.

#### 2.04 BYPASS AND ISOLATION SWITCHES

- A. A load break, 2 source bypass-isolation switch shall be provided with the automatic transfer switch. The switch shall provide a safe and convenient means for manually bypassing and isolating the ATS for maintenance or repair. Operation of the bypass-isolation switch shall be assured regardless of the position of the ATS. Indicating lights and auxiliary contacts shall be provided to show the bypass-isolation switch in the bypass position and in the fully isolated position. Bypass to normal source and bypass to generator source annunciated separately with separate auxiliary contacts. Positive sequencing of all contacts, with no possible intermediate position shall be accomplished through the manual operators from a dead front location. Testing during maintenance of the ATS for normal electrical operation shall be possible with the bypass handle in the bypass position and the isolating handle in the normal position. Inherent double throw (break-before-make) operation shall provide positive assurance against accidental short-circuiting of the normal and emergency power sources. Arrangements utilizing interlocking of single-throw devices are not acceptable. The operating speed of the contacts shall be independent of the speed at which the handle is moved. The switch shall be fully manually operated and shall not be dependent upon electrical operators, relays, or interlocks for operation.
- B. The main contacts and operating linkage shall be identical to the ATS except that the operation shall be manual. The switch shall have the same electrical ratings of ampacity, voltage, short circuit withstand, and temperature rise capability as the associated ATS, and shall be the load break type. Inspection and replacement of the contacts shall be possible from the front of the panel without removal of the switch from its enclosure. The main contacts shall be mechanically locked in, both the normal and bypass positions, without the use

of hooks, latches, magnets, or springs and shall be silver tungsten alloy protected by arcing contacts with magnetic blowouts on each pole. The switching mechanism shall provide “quick-make” and “quick-break” operation of the contacts.

- C. Necessary controls shall be provided to assure that the “engine run” circuit remains closed when the switch is in the bypass to emergency position, even though the associated transfer switch is in the “normal” position or completely removed from the enclosure. The bypass-isolation switch shall have a 3-pole configuration. A solenoid interlock shall be provided to prevent the operator from switching the bypass-isolation switch to a dead source of power.

## 2.05 PORTABLE GENERATOR CONNECTION CABINET

- A. UL 1008. Completely factory assembled, wired and tested. Molded case breaker type. Knife switch or fused switches not acceptable.
- B. Manual transfer switch shall consist of two (2) mechanically-interlocked molded case circuit breakers, male cam-style inlet connectors, power distribution blocks and grounding terminals, all housed within a padlockable enclosure.
- C. Transfer switch enclosure shall be Type 316 stainless steel, NEMA Type 3R. The main access shall be through an interlocked hinged door that extends the full height of the enclosure. Access for portable generator cables with female cam-style plugs shall be via drawn flange cable entry openings in the bottom of the enclosure. A hinged flap door shall allow cable entry only after the main access door has been opened.
- D. Cam-style male connectors shall be UL listed, single-pole separable type and rated 400 amps at 600 VAC. All cam-style connectors shall be color coded. Cam-style connectors shall be provided for each phase, neutral and ground. Each of the phase cam-style connectors shall be factory wired to a molded case circuit breaker. The ground cam-style connector shall be bonded to the enclosure and a ground lug shall be provided for connection of the facility ground conductors. None of the cam-style connectors shall be accessible unless all two (2) molded case circuit breakers are in the “OFF” position and the main access door is open.
- E. A power distribution block shall be provided for load-side field wiring. The power distribution block shall be factory wired to the molded case circuit breakers.
- F. Molded case circuit breakers shall be UL listed with AIC ratings as indicated. One molded case breaker shall control the connection between the load and the automatic transfer switch. The second circuit breaker shall control the connection between the load and the portable generator male cam-style

connectors. The two (2) molded case circuit breakers shall be safety interlocked as follows:

1. With the breaker controlling the connection between the load and automatic transfer switch in the "ON" position, the other breaker cannot be turned to the "ON" position.
2. With the breaker controlling the connection between the load and the automatic transfer switch in the "OFF" position, the other breaker can be turned "ON" or "OFF".
3. With the breaker controlling the connection between the load and the automatic transfer switch in the "OFF" position, and with the other in the "ON" position, the breaker controlling the connection between the permanent generator and load cannot be turned "ON."

G. ESL Storm Switch or approved substitute.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION

Installation shall conform to the requirements of the NFPA 70 and manufacturer's recommendations.

#### 3.02 PREREQUISITES FOR FUNCTIONAL ACCEPTANCE TESTING

- A. Completion of the following requirements is mandatory prior to scheduling functional acceptance tests for the automatic transfer switch.
- B. Performance of Acceptance Checks and Tests: Complete as specified in paragraph entitled "Acceptance Checks and Tests" hereinbelow.
- C. Test Equipment: All test equipment and instruments shall be on hand prior to scheduling field tests, or subject to State Engineer's approval, evidence shall be provided to show that arrangements have been made to have the necessary equipment and instruments on site prior to field testing.

#### 3.03 FIELD QUALITY CONTROL

- A. Give State Engineer 10 working day advance notice of dates and times scheduled for tests which require the presence of the State Engineer. The State Engineer will coordinate with the using agency and schedule a time that will eliminate or minimize interruptions and interference with the activity operations. The contractor shall be responsible for costs associated with conducting tests outside of normal working hours and with incorporating special arrangements and procedures, including temporary power conditions. The

contractor shall provide labor, equipment, apparatus, including test load, and consumables required for the specified tests. Calibration of all measuring devices and indicating devices shall be certified. Perform the following field tests in accordance with the manufacturer's recommendations and include the following visual and mechanical inspections and electrical tests, performed in accordance with NETA ATS.

B. Acceptance Checks and Tests:

1. Visual and Mechanical Inspection:

- a. Compare equipment nameplate data with specifications and approved shop drawings.
- b. Inspect physical and mechanical condition.
- c. Confirm correct application of manufacturer's recommended lubricants.
- d. Verify that manual transfer warnings are attached and visible.
- e. Verify tightness of all control connections.
- f. Verify tightness of accessible bolted connections by calibrated torque-wrench method. Thermographic survey is not required.
- g. Perform manual transfer operation.
- h. Verify positive mechanical interlocking between normal and alternate sources.

2. Electrical Tests:

- a. Measure contact-resistance.
- b. Perform insulation-resistance on each pole, phase-to-phase and phase-to-ground with switch closed, and across each open pole for one minute. Perform tests in both source positions.
- c. Verify settings and operations of control devices.
- d. Calibrate and set all relays and timers.

C. Functional Acceptance Tests: Shall include simulating power failure and demonstrating the following operations for each automatic transfer switch. Contractor shall show by demonstration in service that the automatic transfer switches are in good operating condition, and function not less than 5 times.

1. Coordinate acceptance tests with the requirements of Section 16208 - ENGINE GENERATORS.

2. Perform Automatic Transfer Tests:

- a. Simulate loss of normal/preferred power.
- b. Return to normal/preferred power.
- c. Simulate loss of emergency power.
- d. Simulate all forms of single-phase conditions.

3. Verify correct operational and timing of the following functions:

- a. Normal source voltage-sensing relays.
- b. Engine start sequence.
- c. Time delay upon transfer.
- d. Alternate source voltage-sensing relays.
- e. Automatic transfer operation.
- f. Interlocks and limit switch function.
- g. Time delay and retransfer upon normal power restoration.

3.04 EXTENDED OPERATIONAL TESTING AND MAINTENANCE SERVICE

- A. Extended operational testing and maintenance service work shall be provided by the Contractor for a one year period from project acceptance. All materials, equipment, and labor to perform the prescribed testing and maintenance shall be included in the Bid.
- B. The Contractor shall include in his bid the service of vendor's authorized field service technician to provide quarterly and annual testing and maintenance interval work as outlined below. Work performed shall include the listed items in addition to any recommended work identified in the Operations and Maintenance Manual for the equipment. Coordinate all services with operational testing and maintenance work associated with the engine-generator set.
- C. Quarterly Requirements:
  1. Perform all quarterly testing and maintenance procedures per Operations and Maintenance Manual.
  2. Electrically operate the transfer switch from the standard (normal power) position to the alternate (emergency power) position and then a return to the standard position.
- D. Annual Requirements:
  1. Perform all quarterly testing and maintenance procedures as described above.
  2. Clean and inspect enclosures.
  3. Inspect transfer switch contacts. Replace pitted or worn contacts.
  4. Maintain transfer switch lubrication.
  5. Inspect all cable connections and retighten if necessary.

3.05 TRAINING COURSE

- A. The Contractor shall conduct an on-site training course for operating staff and maintenance personnel as designated by the State.

- B. The training period shall consist of a total of 4 hours of normal working time.
- C. The initial training sessions shall be 2 hours in duration and shall start after the system is functionally completed but prior to final acceptance tests.
- D. The remaining 2 hours of instruction time shall be scheduled at the discretion of the State within one year of initial operation and acceptance of the equipment.
- E. Training shall concentrate on operation, maintenance, and troubleshooting procedures of the installed system.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16262	Automatic Transfer Switch/ Bypass-Isolation Switch	Lump Sum

END OF SECTION



## SECTION 16410 - LIGHTNING PROTECTION SYSTEM

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions, Special Provisions and General Requirements of the Specifications, apply to the work specified in this Section.

#### 1.02 SUMMARY

Section 16011 - GENERAL ELECTRICAL REQUIREMENTS applies to this section with additions and modifications specified herein.

#### 1.03 APPLICABLE PUBLICATIONS

The publications cited within this specification form a part of this specification to the extent referenced. Unless otherwise indicated, most recent edition of the publication with current revisions and amendments will be enforced.

#### 1.04 SUBMITTALS

- A. Submit shop drawings and catalog cuts of the following equipment for approval in accordance with Section 01300 - SUBMITTALS. Each submittal shall be prepared with a summary sheet attached to each copy identifying all items included in the submittal. **Incomplete submittals and those without summary sheets will be returned without review.**

1. Shop Drawings:
  - a. Overall Lightning Protection System
  - b. Each Major Component
2. Test Reports:
  - a. Lightning Protection and Grounding System Test Plan.
  - b. Grounding Systems Testing.
3. Certificates:
  - a. Component UL Listed and Labeled.
  - b. Lightning Protection System Inspection Certificate.
  - c. Roof Manufacturer's Warranty.

## 1.05 RELATED REQUIREMENTS

- A. Verification of Dimensions: Confirm all details of work, verify all dimensions in field, and advise Contracting Officer of any discrepancy before performing work. Obtain prior approval of Contracting Officer after engineering approval and before making any departures from the design.
- B. System Requirements: Provide a system furnished under this specification consisting of the latest products of a manufacturer regularly engaged in production of lightning protection system components. Products must be UL listed for use on lightning protection systems unless this rating does not exist for items in question.

## 1.06 QUALITY ASSURANCE

In each standard referred to herein, consider the advisory provisions to be mandatory, as though the word "shall" or "must" has been substituted for "should," wherever it appears. Interpret references that require LPS expertise in these standards to mean Base Civil Engineer (BCE) or BCE-designated representative with LPS training certification.

1. Component UL Listed and Labeled: Submit proof of compliance that components are UL Listed and Labeled for use on lightning protection systems. Listing alone in UL Electrical Construction, which is the UL Electrical Construction Directory, is not acceptable evidence. In lieu of Listed and Labeled, submit written certificate from an approved, nationally-recognized testing organization equipped to perform such services, stating that items have been tested and conform to requirements and testing methods of Underwriters Laboratories (UL).
2. Lightning Protection and Grounding System Test Plan: Provide lightning protection system and grounding system test plans in compliance with NFPA 780. As a minimum, include a sketch of the facility and surrounding lightning protection system as part of the specific test plan. Include the requirements as "Testing of Integral Lightning Protection System" in the test plan. Lightning protection systems for installations with a high strike density as indicated in the NOAA Strike Density Maps. This may be accomplished by Computer Aided Design (CAD). Integral systems are discouraged on explosives and communications facilities because it has the potential to bring lightning closer to what is being protected. For explosives facilities, record drawings with materials description (wire size, air terminal material, etc.) is required by the base Weapons Safety Office. Testing of Surge Protective Devices must comply with UL 1449 and annual inspection.
3. Lightning Protection System Inspection Certificate of Qualifications: Provide an approved third-party inspector who meets training certification requirements for final acceptance of the LPS. Inspection and certification of the LPS must be completed and certified in writing, before occupancy of the building. Signed Certificate of Qualifications must be placed in the

LPS records. Note that the Contracting Officer may not accept the LPS system without a recommendation from a qualified person identified in the project documents.

#### 1.07 SITE CONDITIONS

Confirm all details of work, verify all dimensions in the field, and advise the Contracting Officer of any discrepancy before starting any work, if known at that time, or when it becomes known while performing work. Obtain prior approval of the BCE or BCE-designated representative with LPS training certification before design changes are made.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

Materials shall comply with NFPA 70 and NFPA 780. Do not use a combination of materials that forms an electrolytic couple of such nature that corrosion is accelerated in the presence of moisture unless moisture is permanently excluded from the junction of such metals. Where unusual conditions exist which would cause corrosion of conductors, provide conductors with protective coatings, such as tin or lead, or oversize conductors. Where a mechanical hazard is involved, increase conductor size to compensate for the hazard or protect conductors. When metallic conduit or tubing is provided, electrically bond conductor to conduit or tubing at the upper and lower ends by clamp type connectors or welds (including exothermic). All lightning protection components, such as bonding plates, air terminals, air terminal supports and braces, chimney bands, clips, connector fittings, and fasteners are to comply with the requirements of UL 96 classes, as applicable.

1. Main and Bonding Conductors: Main and Bonding Conductors should be NFPA 780 and UL 96 Class I or Class II materials, as applicable.
2. Conductors: Provide copper conductors, as applicable. See NFPA 780.

#### 2.02 COMPONENTS

- A. Air Terminals: Provide solid air terminals. Tubular air terminals are not permitted. Support air terminals more than 24 inches in length by suitable brace, supported at not less than one-half the height of the terminal.
- B. Ground Rods: Provide ground rods conforming to NFPA 780. Provide ground rods that are not less than 5/8 inch in diameter and 8 feet in length. Do not mix ground rods of copper-clad steel and solid copper on the job.
- C. Connections and Terminations: Provide connectors for splicing conductors that conform to UL 96, class as applicable. Conductor connections can be made by

compression clamps or welds (including exothermic). Provide style and size connectors required for the installation.

- D. Connector Fittings: Provide connector fittings for "end-to-end", "Tee", or "Y" splices that conform to NFPA 780 and UL 96.

## PART 3 - EXECUTION

### 3.01 LIGHTNING PROTECTION SYSTEMS

Provide a lightning protection system that meets the requirements of NFPA 780 and UFC 3-575-01.

#### 1. Integral Lightning Protection System:

- a. The lightning protection system consists of air terminals, roof conductors, down conductors, ground connections, grounding electrodes and ground ring electrode conductor for the purpose of carrying lightning current from a direct strike to ground in a manner that will protect assets and personnel. Expose all conductors on the structures except where exterior down conductors are required to be in protective sleeves for prevention of mechanical damage (6 feet above grade level). Do not run down conductors inside columns or other methods which will prevent visual access for required inspections. Visual access is required by NFPA 780 so that the annual visual inspection may be performed on all LPS components.
- b. Make interconnections within side-flash distances between down conductors and metallic equipment mounted on the exterior or interior of a facility, at or below the level of the grounded metallic parts. Calculate side-flash distances in accordance with NFPA 780. Be aware of side flashes that may occur through exterior walls.

#### 1) Roof-Mounted Components:

- a) Coordinate with the roofing manufacturer and provide certification that the roof manufacturer's warranty is not violated by the installation methods for air terminals and roof conductors. Adhesive fasteners may be used on the roof if the installation is observed by base-qualified personnel to be compliant with manufacturer's instructions. Installation must be observed until the observer is satisfied that the proper methods for preparing the surface are being performed. These fasteners will be added and considered a test point in Base records and must be part of the annual inspection. Observer must date and sign the test record.

- b) No connection or physical attachment is allowed to any coping system on the roof as this violates the integrity and warranty of the coping system.
  - 2) Air Terminals: Use of adhesive fasteners, when installing air terminals on "rubber" (EPDM) type roofs, should be in accordance with adhesive and roof manufacturer's recommendations. See paragraph ROOF-MOUNTED COMPONENTS.
  - 3) Roof Conductors: Roof conductors should comply with NFPA 780.
2. Down Conductors: A minimum of two paths to ground shall be provided on any system. This may be by two down conductors or with a down conductor in combination with other metallic connections to ground. Protect exposed down conductors from physical damage from ground level up to 6 feet. If this protection is a metal conduit, both ends must be bonded to the down conductor passing through it. For Schedule 80 conduit providing this protection, no bonding at both ends is necessary. Schedule 80 conduit or metallic conduit may be painted to match the surrounding surface. NO CONNECTIONS OR FASTENERS OF ANY LIGHTNING PROTECTION SYSTEM MAY BE PAINTED because this affects the ease with which lightning current can pass to ground.
3. Ground Connections:
- a. Attach each down conductor and ground ring electrode to a ground rod below grade by exothermic weld for all buried connections and exothermic weld or compression connectors for connections inside test wells. Terminate all down conductors to a grounding electrode inside a test well. Test connections and record resistances and continuity readings prior to covering.
  - b. Accessible connections above ground level and in test wells can be grounded with mechanical clamping, meeting installation requirements in NFPA 780.
4. Installation of Grounding Electrodes (Ground Rods): Extend driven ground rods vertically into the existing undisturbed earth for a distance of not-less-than 8 feet if exothermic welds are used for bonds. Inside test wells, the 5/8 inch by 8 foot rod may be driven to a point above the base of the test well, that will provide working/testing access to the mechanically-fastened bond. Set ground rods not less than 3 feet nor more than 6 feet (see NFPA 780) from the structural foundation, and at least 3 feet beyond the drip line for the facility. After the completed installation, measure the total resistance to ground using the fall-of-potential method described in IEEE 81. Maximum allowed resistance of a single driven ground rod is 25 ohms (NFPA 70). If resistance-to-ground of a single ground rod for the lightning protection system exceeds 25 ohms and another ground rod is driven in accordance with NFPA 780, 25

ohms does not apply to this test point. See NFPA 70 exception to Article 250.53.

### 3.02 INTERFACE WITH OTHER STRUCTURES

Fences: Bond metal fence and gate systems to the lightning protection system at the point where the fence, any fence post, or gate is within 6 feet of any part of the lightning protection system (usually a down conductor) in accordance with ANSI C2 and NFPA 780.

### 3.03 RESTORATION

Where sod has been removed, replace sod as soon as possible after completing the backfilling. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work, to original condition. Overfill the trench to accommodate for settling. Include necessary topsoil, fertilizing, liming, seeding, sodding, sprigging, or mulching in any restoration, to match existing. Maintain disturbed surfaces and replacements until final acceptance. Return to site after six months to fill in compacted surface.

### 3.04 FIELD QUALITY CONTROL

#### A. Lightning Protection Systems Testing:

1. A 100 percent test point test and inspection is required by all services.
2. Identify test points for lightning protection system connections and bonds. Provide a sketch (NTS) with identified test points as part of the contract acceptance. Number points in a manner consistent with the installation (Base or Post) nomenclature for existing lightning protection systems; for example, use letters or numbers to track the test results. Test each lightning protection system connection to ensure continuity across each connection or bond is 1 ohm or less and record the value.

- a. Comply with UL 96A. A third-party inspector (not the designer and not the installer) must be present for the 100 percent inspection and data documentation by the contractor. This is to take place prior to project acceptance. Note that in many cases Air Force personnel have been trained to inspect and accept projects as the third-party inspector. Verify this before contract award.

#### B. Grounding Systems Testing: A 100 percent test point resistance test and inspection is required. Identify all test points for grounding system connections and bonds. Provide a sketch (NTS) with identified test points as part of the contract acceptance. Use letters or numbers to track the test results. Test each grounding system connection or bond to ensure resistance-to-ground is 25 ohms or less or as excepted by NFPA 70 or NFPA 780. Record the resistance measurement. Test the ground rod for resistance to ground before

making connections to the rod. Tie the grounding system together and test for resistance to ground. Make resistance measurements in dry weather, and not earlier than 48 hours after rainfall. Include in the written report: locations of test points, measured values for continuity and ground resistances, and soil conditions at the time that measurements were made. Submit results of each test to the Contracting Officer.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section will not be measured for payment but will be paid for at the Contract Lump Sum Price.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16410	Lightning Protection System	Lump Sum

END OF SECTION

## SECTION 16770 – PUBLIC ADDRESS SYSTEM

### PART 1 – GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the specifications, apply to the work specified in this section.

The requirements in Section 16771 – Public Address Visual Paging System shall also apply to this section.

The airport operational information contained within the FIDS database will be integrated and used by the PA System when performing automated, announcements.

#### 1.02 SUMMARY

- A. This section includes administrative and procedural requirements for coordinating and installation of the public address systems.
  - 1. The Contractor shall be certain that all existing public address systems outside of the Project Limits remain operational at all times. Any damages caused by the Contractor to the existing public address systems outside of the Project Limits shall be repaired by the Contractor at no cost to the State.

#### 1.03 SCOPE OF WORK

- A. Work covered by these specifications and related documents consists of providing all shop drawings, paging microphone stations, preamplifiers, announcement control system hardware and software, parametric equalizers, power amplifiers, loudspeakers, interconnecting wiring, documentation, technical supervision, labor, transportation, permits, user training, and testing, as required, to upgrade, install, and maintain a Public Address (PA) System at the Kahului Airport (OGG), in strict accordance with the Contract Documents, and subject to the terms and conditions of the contract.
- B. All descriptions included herein are general and it shall be understood that all optional equipment, accessories, fasteners, anchorage devices, protective finishes, trip pieces and the like for complete installations be provided as specified. The Contractor shall submit a bid that is completely workable without the necessity to add additional items after submission of the bid.



- C. The intent of the PA System is to serve the new South TSA SSCP extension with an ADA compliant PA System as well as to connect to the existing SITA PA System. Connection to the existing SITA PA System requires the necessary inclusion of SITA recommended components as specified in order to provide compatibility with the existing PA (and video information) system.
- D. Provide distribution points in State (DOT-A) Comm Rooms on the ground and concourse levels with FO backbone interface tie back to existing SITA network infrastructure at existing Comm Room "A-2" in the existing terminal building. This audio subsystem must be able to operate independently in a local mode in the event of loss of system server(s).
- E. The Work in general consists of, but is not limited to, the following items to the extent that they are required to comply with ADA regulations:
  - 1. All labor, equipment, hardware, and software required for the integration, installation, wiring, adjustment, and testing for a complete and working PA System.
    - a. Where existing equipment is to be reused and integrated into the PA System by the Contractor as indicated in the plans, the Contractor shall verify that the existing equipment is operating properly prior to commencement of work.
    - b. Coordinate all electronic switching, data storage and control, server, and monitoring equipment hardware and software required for the PA System coverage in the new South TSA SSCP extension.
  - 2. All loudspeakers in the TSA queueing/screening areas and adjacent circulation areas on the ground and concourse levels.
  - 3. All telecommunications, networking hardware, and interconnecting cables, equipment, connectors, and receptacles between existing and new PA System equipment, and equipment power wiring from the A.C. power receptacles provided.
  - 4. All cables shall be neatly wrapped and bundled using approved cable straps and be clearly identified using permanent labels which are manufactured for that purpose. Telecommunications or network cables shall be documented and labeled in accordance with TIA 606-D.
  - 5. All externally powered equipment shall include a chassis grounding wire when operating directly from A.C. power, shall be fused, and shall be the latest standard product of a manufacturer who is regularly engaged in the manufacture of such equipment. All equipment shall be installed so as to insure the safety of the operators.
  - 6. All electronic circuitry shall be of solid state design. Equipment operating at audio signal levels below -20 dBm shall be interconnected with shielded, twisted pair, color coded, and stranded conductor cables. All interconnections between equipment items shall be made through the use of approved mating connectors.
  - 7. "Scatter Wired" panels will not be acceptable. All markings, including markings on knobs, shall be deeply etched and filled or engraved to reveal a

contrast in color. Silk screening or other temporary marking methods will not be acceptable. All rotary knobs shall be secured with socket headed set screws in metal inserts.

- F. Work and equipment associated with integrating new PA system with existing SITA PA system shall be done by the existing OGG EVIDS Maintenance Contractor to ensure compatibility with existing system. The work and equipment provided by the existing OGG EVIDS Maintenance Contractor to support the interface/integration shall be covered under the cost allowance in this Section.



#### 1.04 REFERENCES

- A. The Electronic Industries Association (EIA) publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1. RS-160 Sound Systems
2. RS-174 Audio Transformers for Electronic Equipment
3. RS-219 Audio Facilities for Radio Broadcasting Systems
4. RS-297-A Cable Connectors for Audio Facilities for Radio Broadcasting
5. RS-310-C Racks, Panels and Associated Equipment
6. RS-426-A Loudspeakers, Power Rating, Full Range
7. RS-433 Standard for Magnetic Tape Records: Compact Cassette (EIA RS-399-A) with Four-Track Mono/Stereo Compatible Records at 1.875 IN/S
8. RS-470 Telephone Instruments with Loop Signaling for Voiceband Applications
9. RS-490 Standard Test Methods of Measurement for Audio Amplifiers
10. SE-101-A Amplifiers for Sound Equipment
11. SE-103 Speakers for Sound Equipment
12. SE-105 Microphones for Sound Equipment

- B. Additional publications and standards listed below form a part of this specification to the extent referenced.

1. 28 CFR Part 36 ADA Standards for Accessible Design
2. TIA 568.1-E Commercial Building Telecommunications Cabling Standard
3. TIA 568.2-D Balanced Twisted Pair Telecommunications Cabling and Components Standard.
4. TIA 568.3-E Optical Fiber Cabling and Components Standard.
5. TIA 569-E Telecommunications Pathways and Spaces.
6. TIA 606-D Administrative Standard for Telecommunications Infrastructure.
7. IEEE 802 Series Local Area Network (LAN) Standards
8. ANSI S-83-596 Fiber Optic Premises Distribution Cable

## 1.05 OVERALL SYSTEM PERFORMANCE REQUIREMENTS

- A. Interface the new PA system with the existing SITA head-end via network connections as shown in the drawings. **Interface/integration work with existing SITA head-end equipment by OGG EVIDS Maintenance Contractor.**
- B. Environmental: System components shall operate as specified under the following environmental conditions:
1. Dry Bulb Temperature: 65 deg. to 85 deg. F normally; 90 deg. F intermittently.
  2. Relative Humidity: 25 to 60 percent normally; 10 to 90% intermittently.
  3. Ventilation Air: No forced ventilation is to be provided within equipment enclosures by DOT-A.
  4. A.C. Power Voltage Fluctuation: Normally plus/minus 10% of 118 VAC. Voltage transients during power outages and switchover to backup power may also occur intermittently.
  5. A.C. Power Frequency Fluctuation: Normally plus/minus 3% of 60 Hz.
  6. Electromagnetic and Electrostatic Fields: As applicable for the facility location, within one mile of radio and radar transmitters, and in close proximity to electrical and mechanical equipment, including high intensity discharge lamps.
- C. System Life: The service life of the PA System shall be a minimum of fifteen (15) years. The Contractor shall indicate the periodic maintenance required in the Handbooks of Operating Instructions in order to provide the fifteen (15) year service life.
- D. System Reliability: The system shall be capable of being operated 24 hours a day and seven (7) days per week, with a Mean-Time Between-Failure (MTBF) greater than six (6) calendar months. All data file servers and system control units shall be connected to Uninterruptible Power Supplies, and all system control units and hard drives shall be configured for automatic backup via hot swap with fault notification.
- E. System Automation: The PA System shall be automatic, and not require continuous operator attention for adjusting microphone gain controls, listening level, or page zone assignments. The system shall also monitor and report the status of each page zone amplification chain on a daily basis and alert the operator at Central Communications and PA System maintenance personnel when system faults are detected and indicate the probable location(s) of the detected fault. Automatic adjustment of system volumes to preset daytime and nighttime levels at each zone is required of the system. The system will automatically indicate to the user when access to the paging system is possible for announcements, and shall prioritize all announcements, fixed messages, and assembled messages in accordance with the assigned priority level on a First-In, First-Out basis. Timeouts of paging station microphones will also be automatically performed in accordance with maximum preset durations of inactive and active microphone usage periods. The system will also provide



password accessible emergency override capabilities from any microphone paging station which is programmed by the System Control Console located at Central Communications. Automatic muting of a switching unit and pages originating from that unit will also occur upon activation of a local fire alarm switch closure. Automatic answering capability and paging access via standard, touch-tone telephone instruments and PBX trunk lines shall also be provided to any zone or zone group of the PA System.

- F. System Accessibility: Primary user access to the PA System shall be via keypad and network microphone stations located throughout the airport complex. Capability for user selection of paging zone groups based on employee user groups shall be provided at the microphone stations. Secondary user access to the PA System shall be provided via hand-held, plug-in, microphones at the keypad and network microphone stations, as well as via ten (10) PBX trunk lines using standard, touch-tone telephone instruments.
- G. ADA Compliant Paging Features: Each networked microphone paging station shall be capable of automatically initiating actual human voice paging announcements. Announcements shall be selectable by type and shall be automatically assembled using prerecorded human voice and stored text plus the applicable operational information contained in the flight information database.
1. These announcements shall include:
    - a. Flight Arrival.
    - b. Baggage Availability.
    - c. Aircraft Boarding.
    - d. Final Call.
    - e. Delayed Flight Arrival.
    - f. Delayed Flight Departure.
    - g. Departure Gate Change.
    - h. Arrival Gate Change.
    - i. Departure Canceled Flight.
    - j. Arrival Canceled Flight.
    - k. Immigration Check-In Procedures.
    - l. Customs Processing Procedures.
    - m. General airport-wide announcements.
  1. Voice and text message libraries shall be included for English, Japanese, Korean, and Chinese languages.
  2. Network Plus (or text-entry) microphone stations shall be capable of producing any and all types of synthesized voice paging announcements of the announcements whenever the announcements contain names, places, objects, or times which are not normally stored in the flight information or PA System message libraries. These announcements shall be assembled at the Network Plus microphone stations using announcement text assembly and entry devices. Examples of these announcements include report of item left at security checkpoint, message for an individual to report to a gate, security check point, ticket lobby, or hold room counter, or shall message for an

individual to claim lost baggage. All announcements shall be stored and organized for automatic or selective repeat execution without reentry of the announcement text.

3. The speech-to-text engine shall be of the highest quality available at the time of factory acceptance testing. Voice and text engines shall be provided for English, Japanese, Korean, and Chinese languages.
  4. All PA System announcements which are directed toward airport or airlines operations personnel rather than the general or traveling public shall be preceded with a software selectable chime or other signaling preamble prior to commencement of the announcement.
- H. System Monitoring, Supervision, and Control: Monitoring, supervision, and control of the entire PA System shall be possible from a System Control Console located at Central Communications or from any of the existing sound system equipment rooms. Automatic monitoring, supervision, and control tasks shall be delegated to a total of five (5) programmable redundant CPU Announcement Control Systems located at the various terminals of the airport complex. The entire PA System shall be controllable and software programmable by trained airport administrative personnel, such that changes to microphone station setup, announcement class priority, user group access, groupings of loudspeaker zones into zone groups, visual information system controls, PBX trunk line access, and microphone station ON/OFF status and setup may be made without hardware modifications. In addition, intermittent or continuous audio monitoring of any loudspeaker zone of the PA System shall be possible at Central Communications. An Executive Microphone Station shall also be provided at Central Communications for paging any combination or all speaker zones of the entire PA System. Access priority for that as well as all paging stations in the system shall be established by employee user group as defined by the administrator. Emergency level access shall be available at any system paging station with the login at that station of an emergency level user password and pin number. The control of music channel assignments, as well as daytime and nighttime PA System output levels shall also be possible from the System Control Console.
- I. System Logging: The Announcement Control System shall log announcements and messages played through the system. This information shall include user logged in, paging station location, time, length of message, message number (if not a live page), zone maps played to, and buss utilized. This activity information must have the ability to be sorted for discovery and managerial purposes and shall be stored in the system archive for a minimum of thirty (30) days.
- J. Page Zone Groupings and Assignments: All PA System loudspeakers shall be hardwired to one of many speaker zones, each of which shall be powered by a separate power amplifier. Page area selection shall be possible from each microphone paging station, in accordance with programmed zone groupings at the switching system to route the page announcement to the correct speaker zone or the group of speaker zones assigned to that selected page area. All microphone stations shall be connected via the common Ethernet Network (provided under this contract) and loudspeaker zone feed lines shall be

hardwired to the power amplifiers. Each of these five (5) Announcement Control Systems shall route an announcement or message request from any connected microphone station to any and all combinations of separately powered speaker zones which are also connected to that Announcement Control System, or to speaker zone groups connected to any or all of the other announcement control systems, all under preprogrammed operating system control. If a user selected speaker zone is being paged by others (or busy), or if all signal channels of the Announcement Control System are processing ongoing pages, the system shall automatically record and store the announcement. Upon release of resources (speaker zone groups) the recorded announcement shall immediately play into the desired speaker zone group in accordance with the assigned priority level. If all eight (8) channels (per announcement control system) of digital recorders are busy, the system shall indicate the "busy" status at the waiting microphone station. Upon availability of a page channel or the previously active speaker zone, a "ready" status indicator shall be provided at the waiting microphone station, and the announcement shall be processed and routed to the selected page zone group. Creation of loudspeaker zone groups and user shall be programmed by the Contractor in accordance with drawings and instructions from the Engineer.

- K. Background Music: The PA System shall have the capability of distributing one of three background music sources to each of the terminals of the airport complex. Under programmed control by the Executive Unit, any music source may be distributed to one or any combination of speaker zones of the PA System. All three background music source channels shall include an AGC amplifier to maintain the long-term average music level of each channel at a constant value. Background music levels at each speaker zone shall be adjustable separately from message announcement levels.
- L. Modularity and Future Expansion Capabilities: The PA Announcement Control Systems shall have the capability of accommodating a 50 percent increase in the number of microphone paging stations and speaker zones by the addition of plug-in electronic modules, and without requiring a rewiring or replacement of the basic system delivered under this Contract.
- M. Fail Safe Provisions: A.C. power outages, breaks in shields or signal wires, and wire breaks/shorts shall not result in component failures. All components shall be protected from failure due to operator misadjustment of component controls.
- N. System Security: Access to PA System data files, configuration modifications, automatic paging functions, and network connected devices shall be controlled using a hierarchical access system which is supervised, logged, and recorded by the PA System. Activation of microphone stations, access to the PA System network, and access to PA System modification, control, supervision, and testing functions shall be via Individual Password and PIN Number which allow each user a defined degree of access to PA System functions. All access to the PA System shall be recorded and stored for a minimum of thirty (30) days, with date, time, identification of user, system access device, and system parameter changes recorded. An unlimited number of access levels shall be provided

throughout the entire PA System. In addition, modification of PA System data, parameters, and functions will be controlled by additional pass code screening within each access level.

- O. Inter Changeability of Components: All components and plug-in modules supplied for the PA System shall be of identical type and manufacturer for the functional use intended, unless specified as unique delivery components. These components include microphone paging stations, visual display devices, Announcement Control System plug-in modules, connectors, central processing unit (CPU) and memory hard drive cards, equalizers, power amplifiers, speakers, and impedance matching/isolation transformers.
- P. Freedom from Parasitic Oscillation, Electromagnetic and Electrostatic Pickup, Hum, Buzzes, Rattles, Objectionable Distortions and Other Objectionable Noises: All PA System components shall not produce parasitic oscillation, electromagnetic and electrostatic interference, hum, buzzes, rattles, or objectionable distortion.
- Q. Dynamic Range: The PA System shall have a minimum usable linear dynamic range of 40 dB without adjustment of equipment gain controls. System Signal-to-Noise Ratio shall be greater than 80 dB.
- R. Impedances: Balanced impedances shall be used throughout the PA System for microphone and line level conductors. Balanced impedances between equipment shall be maintained as necessary to insure that degradation of system frequency response, signal-to-noise ratios, and dynamic range do not occur. Balanced line impedances of 600 ohms shall be used when interconnecting Announcement Control System zone outputs to power amplifier inputs with lines of run lengths in excess of 50 FT.
- S. Frequency Response: System frequency response, from live microphone output to power amplifier input, shall be flat (within 1 dB) from 20 Hz to 20,000 Hz for all combinations of page zones.
- T. Total Harmonic Distortion: Less than 0.1% distortion at all line level outputs shall be introduced by the PA System at +24 dBm line levels, from 20 Hz to 20,000 Hz.
- U. Equivalent Input Noise: Equivalent Input Noise Level at all microphone inputs shall not exceed -125 dBV.
- V. House Curves: The final House Curves for the TSA Queuing and screening areas shall be flat (within 3 dB) between 150 Hz and 8,000 Hz and shall exhibit a 6 dB/Octave roll-off below 150 Hz and a 3 dB/Octave roll-off above 8,000 Hz, both within the frequency range of 40 to 16,000 Hz.
- W. Conservative Operation: No integrated circuits, transistors, capacitors, resistors, or transformers anywhere in the system shall be operated in excess of eighty

percent of their maximum ratings specified by the manufacturer for the class of operation involved.

- X. System Maintainability: All equipment provided under the Project shall be capable of meeting maintainability requirements as follows:
1. Provide for the capability of removal of component items within each piece of equipment with minimal requirement for removal of other items to gain access to a specified item.
  2. Reduce the need for special tools, test equipment, and extender boards, to a minimum.
  3. Be designed to utilize available and proven general purpose tools and test equipment to a maximum.
  4. Be self-sufficient to the extent that performance can be verified, failures detected and located, and calibration performed with a minimum of externally applied tools and test equipment.
  5. Incorporate features which shall reduce the following maintenance practices to a minimum of time: preventive maintenance; repair of failures; and verification of system performance.
  6. Provide test extender cards, standard connectors, and cables to assist in maintenance operations and access to all circuits (electrical and mechanical) requiring maintenance.
  7. Provide self-test calibration and diagnostic measurements which localize probable system faults to a specific equipment or cable in the amplification and distribution chain of each paging zone.
  8. Provide automatic PA System failure messages via email to as many as four designated addresses when faults or problems are detected in the PA System. Also provide for high-speed internet access to the PA System for remote system monitoring and troubleshooting by manufacturer or authorized maintenance personnel, and for downloading or uploading PA System software and data by manufacturer or authorized maintenance personnel.

#### 1.06 SUBMITTALS

- A. Submit manufacturer's product data, installation instructions, project specific shop drawings, operation and maintenance manual as indicated within SECTION 01300 – SUBMITTALS.
- B. List of Materials: The material list of items supplied under this contract shall include catalog numbers, catalog cuts and diagrams, specifications data, and other descriptive data as may be required.
1. Submittals for all electronic equipment, and architecturally exposed microphone stations, cables, connectors, and equipment mounting hardware shall be provided.
  2. Approval of material will be based upon manufacturer's published data and ratings and will be tentative subject to submission of complete shop drawings.



3. Where performance ratings are not supplied by the manufacturer, tentative approval of material may be provided, subject to final acceptance testing and completed PA System performance requirements.
- C. Shop Drawings: Complete shop drawings and other such descriptive data as may be required to demonstrate compliance with the contract documents shall be submitted prior to installation.
1. Shop drawings shall include an overall system block diagram, indicating the relationship of all PA System equipment on a one diagram and showing power and controls, impedances, interconnections, and mounting details for co-located equipment, microphones, loudspeakers, and exposed surface mounted receptacles and switches.
  2. All shop drawings shall be submitted comprehensively to demonstrate that these items of equipment have been properly integrated and will function properly. If departures from the shop drawing are deemed necessary by the Contractor, details of such departures, including changes in related portions and reasons therefore, shall be submitted. Approved departures shall be made at no additional cost to the State.
- D. Field Posted As-Built Drawings: Complete and submit wiring diagrams and operating and maintenance documentation as indicated within SECTION 01300 - SUBMITTALS.
1. Field posted as-built drawings shall include documentation and diagrams of the interconnection of all new equipment included under this contract with existing equipment not included in this contract, as well as a list, indicating quantities, of equipment supplied but not installed.
  2. Field posted as-built drawings shall also include annotated plans delineating speaker zone boundaries and identification symbols, and table delineating pre-programmed groupings of speaker zones into microphone page zones.

#### 1.07 QUALITY ASSURANCE

- A. The Contractor and the primary equipment manufacturer shall meet the following technical requirements:
1. Be an established installer of sound systems as evidenced by the fact that they have installed at least two (2) ADA compliant sound systems of similar size, configuration and complexity to that proposed for the project.
  2. Have a minimum of five (5) years' experience in the installation and servicing of sound systems of similar size and complexity.
  3. Have an established and current service department in State of Hawaii, with the capability of providing parts and support and shall have locally available service personnel.
  4. Personnel assigned to the Project shall be experienced electronic technicians with a minimum of two (2) years or 60 credit hours of formal academic

training in analog and digital electronics theory plus two (2) years of work experience in repair and maintenance of sound systems.


5. Personnel assigned to the Project shall be available to respond to repair service calls within one (1) working day of receipt of malfunction report from the State and/or DOT-A.
6. Additionally, the Contractor shall have an office in State of Hawaii and staffed with factory-trained personnel fully capable of installing, testing, operating, and maintaining the PA System, as well as providing the DOT-A training and emergency repair.

#### 1.08 WARRANTIES

- A. Comply with SECTION 01300 – SUBMITTALS.
- B. The Contractor shall warrant the completed PA System components supplied and/or installed under this Contract to be free of defects in materials and workmanship for a period of one year. The Contractor's warranty shall not include repairs resulting from vandalism, theft, negligent use, or misuse of equipment.
- C. The Contractor shall also provide maintenance and repair service, including the replacement of parts, without charge to the State within the warranty period.
  1. The Contractor shall warrant that any repair and replacement of parts or assemblies necessary to keep the equipment in proper operating condition, will be performed commencing within one (1) working day by qualified electronics repair/maintenance personnel following notification to the Contractor that the equipment is in need of repair. The Contractor shall retain those personnel on the job until all necessary repair tasks are completed and the PA System is operational in its entirety. The Contractor shall advise the State, in writing, when it is determined that the PA System outages are not related to this contract, and the reasons for the determinations.
  2. In the event the Contractor fails to respond satisfactorily to the notification for repair, the State shall have the right to employ, immediately after the 24-hour period, labor and equipment for each repair task and charge the Contractor for the cost thereof. The repairs shall be completed by the parties starting the repair tasks. In the event the Contractor performs the repair tasks after the 24-hour period, all charges incurred by the State and resulting from the failure of the Contractor to respond during the 24-hour period shall be charged to the Contractor.
- D. The maintenance and repair work for the equipment installed under this contract shall not be sublet to a company which was not involved in the original equipment installation. All repair work performed shall be in accordance with original equipment manufacturers' standards and specifications, and substitutions of replacement parts which are not explicitly approved by the manufacturer will not be allowed.

## PART 2 – PRODUCTS

### 2.01 MATERIALS

- A. General: All products must be compatible with the existing SITA PA system currently installed at OGG. Products will need to be reviewed/approved by SITA for installation within and connection to their existing PA system at OGG.
- B. Modular Power Amplifier: Each speaker zone shall be provided with a separate power amplifier of minimum RMS power output rating of 300 watts. Power amplification requirements for each speaker zone shall be provided by combining identical modular power amplifier units as required to meet the load requirements. All power amplifiers shall be configured for balanced input impedance, rated at less than 0.5 percent total harmonic distortion at rated output for the applicable frequency response band, have a minimum signal-to-noise ratio of 80 dB at rated output, have a minimum input sensitivity of 0.8 VRMS to achieve rated output, and shall be 19-inch rack mountable. Power output ratings shall be based upon continuous sine wave output into a matched, resistive load, and amplifiers shall be configured for balanced and regulated 70-volt output. Frequency response of amplifiers at rated power shall be 35 to 20,000 Hz, flat within 1 dB. Common mode rejection shall be at least 85 dB at 60 Hz, and cross-talk ratio shall be at least 70 dB at 1,000 Hz. Power ON/OFF and output level controls, and ON/OFF indicator shall be provided. Primary Amplifier: Crown 8-channel 300N or approved equivalent, Secondary Amplifier: Crown 2-channel or 4-channel 300N or approved equivalent.
- C. Ceiling Mounted Loudspeaker: PA System flush mounted ceiling loudspeakers shall have full range type, 93 dB (SPL at 1-meter with 1 watt pink noise input) sensitivity with four (0.75W, 1.5W, 3W and 6W) transformer taps in 70V operation, 60 Hz to 18,000 Hz frequency response, 130 degree dispersion angle; and with nominal 4-inch overall diameter. JBL 8124 or approved equivalent. 
- D. Pendant Loudspeaker: PA System pendant loudspeakers shall have full range type, with 2.25-inch low frequency reproducer, 87 dB (SPL at 1-meter with 1 watt pink noise input) sensitivity with 8W and 16W transformer taps in 70V operation, 95 Hz to 16,000 Hz frequency response, 130 degree dispersion angle; and with nominal 5.9-inch overall diameter. Bose Freespace FS2P or approved equivalent.
- E. Line Level Conductors: Microphone and line level conductors shall be minimum No. 22 AWG, stranded, tinned copper, polypropylene or polyethylene insulated, twisted pair, 100 percent shield coverage of individual twisted pairs with common stranded tinned copper drain wire, and with vinyl or PVC jacket. Twisted pairs shall be individually shielded.
- F. Replacement Speaker Sense Line Conductors: Conductors used to sense zone output levels at the speaker at the far end of the speaker feed system shall be No. 20 AWG, stranded, tinned copper, polypropylene or polyethylene insulated,

twisted pair, 100 percent shield coverage of individual twisted pairs with common stranded tinned copper drain wire, and with vinyl or PVC jacket.

- G. Spare Modules: Provide a sufficient inventory of spare modules on site to properly maintain and repair the PA System, and in particular, the Announcement Control System and modular power amplifiers, so that prolonged system outages will not result from the lack of replacement parts. A minimum of two spare modules for each of the field replaceable plug-in types shall be provided. Provide one spare Announcement Control System micro-processor motherboard. The Contractor shall also maintain a sufficient inventory of spare parts at his place of business to properly maintain and repair the PA System.



## 2.02 FIELD POSTED AS-BUILT DRAWINGS

- A. The Contractor shall also furnish six (6) copies of a PA System Maintenance Manual which includes the following items:
1. An as-built system block diagram for the PA System, giving essentials of the installation and their functional relations.
  2. A wiring diagram showing the location and number of all power amplifiers, loudspeakers, and microphone stations covered by each PA Announcement Control System. The location and routing of all loudspeaker feed system loops and loudspeaker sense wiring, as well as system monitor point wiring, shall be included in the wiring diagrams.
  3. Complete field posted as-build drawings, interconnection wiring lists and plans with terminal and cable identification. The locations of all test and monitoring points, modules, and system component groups shall be included in these plans to simplify maintenance.
  4. Complete table of installed system calibration levels at all monitor and speaker sense points.
  5. Recommended daily and routine monitoring and maintenance procedures for verifying PA System operation and for detecting problems and faults within two minutes of their occurrence so as to reconstruct probable cause of problem or fault.
  6. Complete fault diagnostic instructions and procedures using the operating system status messages and monitor point calibration levels, so as to isolate problems to a single module or circuit.
  7. Original Equipment Manufacturers' Warranties on all materials supplied.

## PART 3 – EXECUTION

### 3.01 PREPARATION

- A. The Contractor shall be responsible for verifying the completeness, correctness, and the overall suitability of the equipment to meet the overall PA System performance requirements of this specification. In the event the Contractor

discovers any errors or discrepancies, the Contractor shall immediately notify the State for further direction.

- B. The Contractor shall coordinate the Work with all other trades with which this work overlaps or is dependent upon, verify all dimensions before proceeding, obtain measurements at the Project Site for all work required to be accurately fitted to other construction, coordinate selection of architectural finishes, materials, and installation methods with the State.

### 3.02 PRE-INSTALLATION TEST

- A. Tests to verify the proper operation of existing equipment to be reused shall be performed by the Contractor in the presence of the State and the Engineer prior to installation. The Contractor shall arrange for the time of these tests, provide the State and the Engineer with two-day notice, and supply test equipment and operating personnel as required.
- B. If the status of the existing sound system equipment is not determined prior to commencement of installation by tests in the presence of the Engineer, the Contractor will have waived any future claims regarding the suitability of existing equipment which are to be incorporated into this work, and replacement of the existing equipment shall be at the Contractor's expense.
- C. Where the Contractor has determined that existing equipment requires replacement, the State and the Engineer shall be notified of the deficiencies. Performance tests of the equipment shall be conducted by the Contractor in the presence of the State and the Engineer.

### 3.03 FACTORY ACCEPTANCE TESTING AND DEMONSTRATION

- A. Prior to delivery and installation of the PA System's equipment, factory acceptance testing and demonstration of a mockup system shall be performed at the factory or other mutually agreed upon location. The intent of the factory acceptance testing and demonstration is to confirm that the hardware and software to be installed is capable of complying with the requirements of this specification, and that no serious deficiencies are present in the hardware and software to be supplied prior to installation.
- B. As a minimum, the equipment and software required to implement the deliverables shall be tested and demonstrated as indicated within this specification section in the presence of the State prior to delivery and installation.
- C. When the system provided will be an extension of an existing system and the new equipment will be of the same manufacturer as the existing equipment, documentation from the equipment manufacturer certifying that the equipment provided will be compatible with the existing system components will be accepted in lieu of a pre-construction demonstration.

### 3.04 INSTALLATION

- A. All equipment shall be firmly held in place. Fastenings and supports shall be adequate to support their loads with a safety factor of at least three (3). All switches, connectors, jacks, receptacles, cables, and cable terminations shall be clearly, logically, and permanently marked and documented.
- B. All display and data entry devices shall be securely mounted to deter theft. Use of security screws and/or locking devices shall be used for devices not located in secure equipment rooms.
- C. The Contractor shall perform all wiring, installations, and interconnections in accordance with standard broadcast practices, EIA and IEEE standards, manufacturer's recommendations, and the National Electric Code. The Contractor must take such precautions as are necessary to protect and guard against electrostatic and electromagnetic pickup, and to provide safety for the operators.
- D. Microphone lines (levels below -20 dBm), line level circuits (up to +30 dBm), and speaker circuits (above +30 dBm) shall be run in separate conduits. Speaker sense conductors may be run in common conduits with speaker conductors if shielded, twisted pair, conductors are used for the sense lines. All lines shall be electrically insulated from the conduit and from each other over the entire conduit length. Microphone and line level circuit conductors in conduits shall not be spliced unless prior approval is obtained from the Engineer. The Contractor shall indicate all locations for proposed splices of microphone and line level conductors in the shop drawings. All joints and connections shall be made with approved mechanical connectors or terminal blocks. Stranded wire ends shall not be tinned with solder when installed in compression type screw terminals.
- E. Announcement Control System and power amplifier equipment shall be installed in 19-inch racks in the spaces as shown in the plans. System Control Computer Console and desk top Network Paging Station shall be installed in the vicinity of the existing paging microphone in Central Communications. The Multi-Play Compact Disc Player shall be installed on a new shelf provided by the Contractor above the desk top microphone. The Contractor shall install quick disconnect cable connectors between equipment as necessary to facilitate equipment removal and installation.
- F. All loudspeakers shall be wired in phase and in parallel when connected to a common loop feed circuit. Branch circuits shall not be allowed in any speaker zone. Loudspeaker cables installed in non-metallic conduits shall be shielded. Zones of loudspeakers shall be individually wired as indicated in the plans. Each zone of loudspeakers shall be powered by separate power amplifiers and shall be monitored for proper operation of the entire speaker distribution line out to the furthest loudspeaker from the amplifier.
- G. Assignments of microphone stations to loudspeaker zones shall be performed by the Announcement Control System as indicated in the drawings, or as amended

by the Engineer prior to completion of PA System installation. Background music assignments to each loudspeaker zone shall also be programmed by the Announcement Control System. Levels of background music shall be initially adjusted to be 15 dBA below the average paging levels in each loudspeaker zone.

- H. Programmed attenuator and power amplifier adjustments shall be performed by the Contractor to set speaker zone levels for the daytime and nighttime levels. The Contractor shall initially adjust daytime average page levels to be approximately 20 dB above background ambient noise within the speaker zone under condition of normal occupancy. Programmed nighttime average page (and music) levels shall be initially set to approximately 10 dB below daytime levels in each page zone. The daytime period shall be defined as from 6:00 AM to 12:00 Midnight. The Engineer shall be notified if any of these initial settings produce unacceptably high or low page or music levels.
- I. The Contractor shall provide PA System connection blocks for the one commercial music and ten telephone trunk line circuits which are external to the PA System. The Contractor will restore all connections to these circuits which were removed during his PA System installation work.
- J. Final Adjustments: The Contractor is responsible for performing all final adjustment and system software parameter changes to meet the requirements of this specification. All adjustments and final parameter settings shall be recorded by the Contractor in the final system As-Built drawings and documentation. All final adjustments shall be performed prior to Acceptance Testing by the State.

### 3.05 ON-SITE TESTING AND DEMONSTRATION

- A. All tests and demonstrations shall be performed by the Contractor. The Contractor shall furnish all equipment necessary to perform these tests and perform all work required to modify the performances of the PA System required by the specifications. Electronic Industry Association standards RS-219 and RS-160 shall be followed in performing these tests.
- B. Loudspeaker Feed Line Impedance: The Contractor shall measure the impedance of each loudspeaker line entering the equipment racks, without power amplifier connected, but with all loudspeakers and transformer taps connected. The absolute value shall be measured at 400 Hz and recorded. Any deviations which indicate possible speaker line abnormalities shall be checked by the Contractor prior to connection of the power amplifiers.
- C. Loudspeaker Phasing: Checks of loudspeaker phasing for distributed loudspeakers in each speaker zone shall be performed by using a phase and polarity testing device such as that manufactured by GoldLine (model APTf2) or Neutrik. Verify positive polarity from each speaker in each zone. Correct wiring as necessary to achieve in phase polarity of every speaker in the system.

- D. Freedom from Parasitic Oscillation, Interference, and Radio Frequency Pickup: The Contractor shall check to ensure that all microphone stations, telephone answering stations, and speaker zones are free from spurious oscillation and radio frequency pickup, both in the absence of any audio input signal and also when the system is driven to full output at 200 Hz. The Contractor shall employ an oscilloscope having at least a 5 MHz bandwidth for these checks.
- E. Freedom from Buzzes, Rattles and Objectionable Distortion: The Contractor shall apply a high-quality music signal to each speaker, adjusting the system for frequent peaks (A-weight, SLOW) of 90 dB sound pressure level, and listen carefully for buzzes, rattles and objectionable distortion. The Contractor shall correct any causes of these defects, unless the cause is clearly outside his system equipment and installation, in which case the cause shall be brought to the attention of the State and the State's agent.
- F. Hum and Noise Level: The equivalent input hum and noise level shall be measured for each microphone and music channel. Microphone and line level inputs shall be terminated with shielded resistors of 150 and 600 ohms, respectively, for these measurements.
- G. Demonstration of PA System Paging and Visual Display Capabilities: The Contractor or their agent shall demonstrate the operation of each major component and feature, and of the complete installation, using each microphone furnished, all required microphone and telephone stations, all music sources, and all other PA System equipment and capabilities. Demonstration shall include programming and modifications of system zone and source assignments, paging via a standard telephone, EMERGENCY ALL PAGE to all zones of the airport complex from Central Communications, EMERGENCY TERMINAL AREA PAGE to all zones of a terminal area switching unit, selective zone pages from Central Communications, paging during "Busy" periods, automatic timeout of microphone stations due to long page or quiet periods, automatic daytime/nighttime level attenuation changes, system aural monitoring, system failure sensing and reporting, and system boot and start-up procedures. ADA compliant announcements from standard network keypad and network plus microphone stations and their resulting visual displays shall be demonstrated.
- H. Listening Tests: These tests may include subjective tests by observers at various positions, listening under various operating conditions. Speech intelligibility surveys may be part of this testing procedure.
- I. Equipment Tests: Tests may be performed on any item of equipment or group of items to determine whether it meets the pertinent specifications. Any measurements deemed necessary by the State or the State's agent may be made for frequency response, distortion, noise or other characteristics, with the support and cooperation of the Contractor.
- J. Adjustments: In case the need for further adjustments becomes evident during the demonstration and testing, the Contractor's work shall be continued until the installation operates properly.



3.06 TRAINING

- A. There is no new user interfacing equipment in the system upgrade, only amplifiers, loudspeakers, and noise sensors to add new listening zones to the existing system. As the system is already in place with the users trained on the system, there is a minimal training requirement other than identifying the new zones which are addressable by the existing system. Training is limited to 4, ½ hour sessions to user groups up to 10 people at a time, as needed.

PART 4 - MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

Work under this Section, except for Public Address System Integration with existing Public Address System, will not be measured for payment but will be paid for at the Contract Lump Sum Price.

Work for added Public Address System Integration with existing Public Address System required by the State shall be paid for under allowance items in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the State Engineer. The Contractor shall not be allowed to include overhead, profit, insurances and/or any other mark-ups which shall be considered incidental to and included in the LUMP SUM PRICE.

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16770.1	Public Address System	Lump Sum
16770.2	Public Address System - Existing TSA Checkpoint Work (Phase 2)	Lump Sum
16770.3	Public Address System Integration with Existing Public Address System	Allowance

The allowance is an estimate and the amount shall not exceed the maximum amount shown in the proposal schedule. Additional charges by the Contractor for overhead, coordination, profit, insurances and other incidental expenses shall not be allowed. These shall be included in the Contractor's LUMP SUM PRICE.

END OF SECTION

## SECTION 16771 - PUBLIC ADDRESS VISUAL PAGING SYSTEM

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

The General Provisions of the contract, including General and Special Provisions and General Requirements of the specifications, apply to the work specified in this section.

The requirements in Section 16770 – Public Address System shall also apply to this section.

The airport operational information contained within the FIDS data base will be integrated and used by the PA System when performing automated, announcements.

#### 1.02 APPLICABLE PUBLICATIONS

The Electronic Industries Alliance (EIA) publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

EIA-160	Sound Systems
EIA-174	Audio Transformers for Electronic Equipment
EIA-219	Audio Facilities for Radio Broadcasting Systems
EIA-297-A	Cable Connectors for Audio Facilities for Radio Broadcasting
EIA-310-D	Cabinets, Racks, Panels and Associated Equipment
EIA-426-B	Loudspeakers, Optimum Amplifier Power
EIA-560	Method for Measurement for Compact Disc Players
EIA-470-B	Telephone Instruments with Loop Signaling for Voiceband Applications
EIA-490	Standard Test Methods of Measurement for Audio Amplifiers
SE-101-A	Amplifiers for Sound Equipment
SE-103	Speakers for Sound Equipment
SE-105	Microphones for Sound Equipment

Additional publications and standards listed below form a part of this specification to the extent referenced.

28 CFR Part 36	ADA Standards for Accessible Design
ANSI 568-B	Commercial Building Telecommunications Cabling Standard (General Requirements, Balanced Twisted Pair, and Optical Fiber)
IEEE 802 Series	Local Area Network (LAN) Standards

### 1.03 SCOPE OF WORK

#### A. General

Work covered by these specifications and related documents consists of providing all shop drawings, Public Address (PA) System hardware and software related to the visual paging system, visual displays, interconnecting wiring, documentation, technical supervision, labor, transportation, permits, user training, and testing, as required, to install, and maintain a Public Address System at the new South TSA SSCP extension in the Kahului Airport (OGG), in strict accordance with these specifications and the contract drawings, and subject to the terms and conditions of the Contract.

#### B. Work Items

The work in general consists of, but is not limited to, the following items to the extent that they are required to comply with ADAAG Chapter 7: Communication Elements and Features:

1. All visual displays, and monitoring equipment hardware and software required for the visual paging function of the Public Address System in the renovated area. The Public Address System in the renovated area shall be an extension of the existing Public Address System at OGG.
2. All telecommunications, network, and interconnecting cables, equipment, connectors, and receptacles for the new visual paging equipment, and equipment power wiring from the A.C. power receptacles.
3. All labor, hardware, and software required for the integration, installation, wiring, adjustment, and testing of the visual paging portion of the Airport Public Address System. Where existing equipment is to be integrated into the Airport Public Address System by the Contractor as indicated in the plans, the Contractor shall verify that the existing equipment is operating properly prior to commencement of work on this project.
4. Complete As-Built documentation, wiring diagrams, and operating instructions on the visual paging portion of the Public Address System installed under this contract. As-Built documentation to include documentation and diagrams of the interconnection of new equipment included under this contract with existing equipment not included in this contract, as well as a list, indicating quantities, of equipment supplied but not installed.
5. Minimum one (1) year warranty on the new Public Address System hardware and software components supplied and/or installed under this Contract, including all maintenance services, replacement parts, and repair services required during the one (1) year warranty period. The Contractor shall not

be responsible for acts of vandalism, theft, or loss of PA System equipment attributable to others.

6. Notwithstanding the detailed information contained in this performance specification, it is the responsibility of the Contractor to supply a properly working Public Address System, and to warrant it for a period of one year. The Contractor is responsible for verifying the completeness of the functional equipment list and overall suitability of the equipment to meet the performance requirements of this specification. Any additional equipment, labor and testing needed in order to meet the system performance requirements stated shall be supplied by the Contractor without claim for additional payment.

C. Work and equipment associated with integrating new FIDS/PA visual system with existing SITA PA system shall be done by the existing OGG EVIDS Maintenance Contractor to ensure compatibility with existing system. The work and equipment provided by the existing OGG EVIDS Maintenance Contractor to support the interface/integration shall be covered under the cost allowance in this Section.



#### 1.04 SOUND SYSTEM CONTRACTOR QUALIFICATIONS

##### A. Qualifications

In order to be considered qualified, the primary PA equipment manufacturer shall meet the following technical requirements:

1. Be an established installer of sound systems as evidenced by the fact that he has installed at least two ADA compliant sound systems of similar configuration and complexity to that proposed for the project.
2. Have a minimum of five years experience in the installation and servicing of sound systems of similar size and complexity.
3. Have or shall establish a Service Department in Hawaii, with the capability of providing parts support.
4. Have locally available service personnel.
  - a. Personnel assigned to this job shall be experienced electronic technicians with a minimum of two (2) years or 60 credit hours of formal academic training in analog and digital electronics theory plus two (2) years of work experience in repair and maintenance of sound systems.
  - b. Personnel assigned to this job shall be available to respond to repair service calls within 1 hour after notification of a trouble report from the State of Hawaii.
5. The following suppliers are qualified. All other suppliers shall be qualified through the Substitution Request process.
  - a. SITA.

B. Business Office and Licenses

Additionally, the Contractor shall have or establish an office in the Maui County, State of Hawaii, staffed with factory-trained personnel fully capable of installing, testing, operating, and maintaining the PA System, as well as providing owner training and emergency repair service. The Contractor shall possess a General Excise Tax License and a business license for the State of Hawaii.

1.05 OVERALL SYSTEM PERFORMANCE REQUIREMENTS

A. Environmental

System components shall operate as specified under the following environmental conditions:

1. Dry Bulb Temperature: 65 deg. to 85 deg. F normally; 95 deg. F intermittently.
2. Relative Humidity: 25 to 60 percent normally; 10 to 90% intermittently.
3. Ventilation Air: No forced ventilation is to be provided within equipment enclosures by the State.
4. A.C. Power Voltage Fluctuation: Normally plus/minus 10% of 118 VAC. Voltage transients during power outages and switchover to backup power may also occur intermittently.
5. A.C. Power Frequency Fluctuation: Normally plus/minus 3% of 60 Hz.
6. Electromagnetic and Electrostatic Fields: As applicable for the facility location, within one mile of radio and radar transmitters, and in close proximity to electrical and mechanical equipment, including high intensity discharge lamps.

B. Paging Features compliant with ADAAG Chapter 7: Communication Elements and Features

Each microphone paging station shall be capable of automatically initiating actual human voice paging announcements with simultaneous and synchronized visual text display of the announcements in matching zones. Announcements shall be selectable by type, and shall be automatically assembled using prerecorded human voice and stored text plus the applicable operational information contained in the FIDS data base. There should not be audible clues which allow the listener to determine that the announcements were assembled using prerecorded voice passages or takes. These announcements include: Flight Arrival; Baggage Availability; Aircraft Boarding; Final Call; Delayed Flight Arrival; Delayed Flight Departure; Departure Gate Change; Arrival Gate Change; Departure Canceled Flight; Arrival Canceled Flight; Immigration Check-In Procedures; and Customs Processing Procedures. Voice and text message libraries shall be included for English, Hawaiian, Japanese, Korean, and Chinese languages.

Network Plus (or equivalent text-entry) microphone stations shall be capable of producing any and all types of synthesized voice paging announcements with

simultaneous and synchronized visual display of the announcements whenever the announcements contain names, places, objects, or times which are not normally stored in the flight information or public address system message libraries. These announcements shall be assembled at the Network Plus microphone stations using announcement text assembly and entry devices. Examples of these announcements include: Report of item left at security checkpoint; message for an individual to report to a gate, security check point, ticket lobby, or hold room counter; or message for an individual to claim lost baggage. All announcements shall be stored and organized for automatic or selective repeat execution without reentry of the announcement text. The speech-to-text engine shall be of the highest quality available at the time of the factory acceptance testing. Voice and text engines shall be provided for English, Hawaiian, Japanese, Korean, and Chinese languages.

Visual displays which are used for displaying announcement text in real time shall meet ADA requirements for minimum "X" character height of 3 inches; 3:5 to 1:1 width-to-height ratio; 1:5 to 1:10 stroke-width-to-height ratio; non-glare finish; and maximum contrast (light characters on dark background) requirements. Visual displays which are used for displaying announcement text in real time shall be synchronized line for line with the voice audio announcements from the speaker system.

Visual displays which are used for displaying announcement text in real time shall display a flashing preamble of minimum 3 seconds duration prior to commencement of the announcement. Use of this feature shall be administrator selectable at the time of installation.

All PA System announcements which are directed toward airport employees or airlines' employees and operations personnel rather than the general or traveling public shall be preceded with a software selectable chime or other signaling preamble prior to commencement of the announcement.

Visual displays which are used as message storage boards (bulletin boards) shall store announcements and continuously display those announcements in vertical scrolling display format on a first-in, first-out basis. The types of messages stored and the duration of the storage period for each message shall be software selectable. Minimum character height for these message storage board displays shall be 1 inch.

### C. Page Zone Groupings and Assignments

Visual display assignments to the various speaker zones shall be programmed by the Contractor and coordinated with the PA system speaker zone assignments.

D. Fail Safe Provisions

A.C. power outages, breaks in shields or signal wires, and wire breaks/shorts shall not result in component failures. All components shall be protected from failure due to operator misadjustment of component controls.

E. System Security

Access to PA System data files, configuration modifications, automatic paging functions, and network connected devices shall be controlled using a hierarchical access system which is supervised, logged, and recorded by the PA System.

F. Interchangeability of Components

All components and plug-in modules supplied for the Public Address System shall be of identical type and manufacturer for the functional use intended, unless specified as unique delivery components. These components include visual display devices, Public Address Subsystem plug-in modules, and connectors,

G. Conservative Operation

No integrated circuits, transistors, capacitors, resistors, or transformers anywhere in the system shall be operated in excess of eighty percent of their maximum ratings specified by the manufacturer for the class of operation involved.

H. System Maintainability

All equipment provided under the Contract shall be capable of meeting maintainability requirements as follows:

1. Provide for the capability for removal of component items within each piece of equipment with minimal requirement for removal of other items to gain access to a specified item.
2. Reduce the need for special tools, test equipment, and extender boards, to a minimum.
3. Be designed to utilize available and proven general purpose tools and test equipment to maximum.
4. Be self sufficient to the extent that performance can be verified, failures detected and located, and calibration performed with a minimum of externally applied tools and test equipment.
5. Incorporate features which shall reduce the following maintenance practices to a minimum of time: preventive maintenance; repair of failures; and verification of system performance.
6. Provide test extender cards, standard connectors, and cables to assist in maintenance operations and access to all circuits (electrical and mechanical) requiring maintenance.
7. Provide automatic PA System failure messages via email to as many as four designated addresses when faults or problems are detected in the PA System. Also provide for high speed Internet access to the PA System for

remote system monitoring and troubleshooting by manufacturer or authorized maintenance personnel, and for downloading or uploading PA System software and data by manufacturer or authorized maintenance personnel.

#### 1.06 GENERAL INTENT

The intent of these specifications is to specify high grade standard equipment and it is not the intent of these specifications to exclude or limit the products of any responsible manufacturer, if such products are equal or better in every respect as specified herein. Whenever an article or any class of material is specified by the trade name or by the name of any particular patentee, manufacturer, or dealer, it shall be taken as intending to mean and specify the article or material described or any other serviceable item, for the purpose of which it or they are intended.

Item Descriptions: All descriptions included herein are general and it shall be understood that all optional equipment, accessories, fasteners, anchorage devices, protective finishes, trip pieces and the like for complete installations be provided as specified. The Contractor shall submit a bid that is completely workable without the necessity to add additional items after submission of the bid.

All externally powered equipment shall include a chassis grounding wire when operating directly from A.C. power, shall be fused, and shall be the latest standard product of a manufacturer who is regularly engaged in the manufacture of such equipment. All equipment shall be installed so as to insure the safety of the operators.

All electronic circuitry shall be of solid state design. Equipment operating at audio signal levels below -20 dBm shall be interconnected with shielded, twisted pair, color coded, and stranded conductor cables. All interconnections between equipment items shall be made through the use of approved mating connectors.

"Scatter Wired" panels will not be acceptable. All markings, including markings on knobs, shall be deeply etched and filled or engraved to reveal a contrast in color. Silk screening or other temporary marking methods will not be acceptable. All rotary knobs shall be secured with socket headed set screws in metal inserts. All cables shall be neatly wrapped and bundled using approved cable straps, and be clearly identified using permanent labels which are manufactured for that purpose. Telecommunications or network cables shall be documented and labeled in accordance with EIA 606-A.

#### 1.07 SUBMITTALS

##### A. List of Materials

The Material List of items supplied under this contract shall include: catalog numbers, cuts and diagrams, specifications data, and other descriptive data as



may be required. Submittals for all electronic equipment, and architecturally exposed microphone stations, visual displays, cables, connectors, and equipment mounting hardware shall be provided. Approval of material will be based upon manufacturer's published data and ratings, and will be tentative subject to submission of complete shop drawings. Where performance ratings are not supplied by the manufacturer, tentative approval of material may be provided subject to final acceptance testing and completed Public Address System performance in accordance with this specification.

#### B. Shop Drawings

Complete shop drawings and other such descriptive data as may be required to demonstrate compliance with the contract documents shall be submitted prior to installation. Shop drawings shall include an overall system block diagram, indicating the relationship of all Public Address System equipment on one diagram and showing power and controls, impedances, interconnections, and mounting details for co-located equipment, visual paging displays and exposed surface mounted receptacles and switches. All shop drawings shall be submitted at one time to demonstrate that these items of equipment have been properly integrated and will function properly. If departures from the shop drawing are deemed necessary by the Contractor, details of such departures, including changes in related portions and reasons therefore, shall be submitted. Approved departures shall be made at no additional cost to the Owner.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

##### A. Visual Information System For ADA Compliant Announcements

The Public Address System shall be provided with hardware and software for creating, storing, and distributing visual messages for display in text form onto display devices simultaneously with prerecorded or assembled voice pages or with synthetic voice pages generated by text-to-speech software. Announcements originating from speaking into the push-to-talk and gooseneck microphones, and from the telephone interface stations may be disregarded by the Visual Information System. For prerecorded or assembled voice pages and for synthetic voice pages generated by text-to-speech software, the Visual Information System shall be synchronized line for line with the audio announcements emanating from the PA System speakers in that zone, and shall provide the text replica of the audio announcements on a word-for-word basis. Capability for visual display of typed-in text messages, while disabling the text-to-speech software and using the push-to-talk or gooseneck microphones for paging compliant with ADAAG 708: Two-Way Communication Systems shall also be provided at all Network Plus microphone stations equipped with keyboard terminals. The Visual Information System shall also provide for picture-in-picture capabilities at gate, holding room, and baggage claim area displays, and time

sharing of the display devices with flight information, advertising, and visual messages. The Visual Information System shall also be capable of storing text messages on a first-in-first-out basis for display on scrolling (or Bulletin Board) display units. The types of messages to be stored and their individual storage times shall be software selectable. All visual messages shall be automatically routed to the display devices which are located within the speaker zones which also reproduce the same announcements in audio form. Visual displays at gate, holding room, and baggage claim areas shall display current airline flight information and status applicable to their respective locations when not being engaged in paging announcements. Standard logos, symbols, and seals used by airlines, Hawaii State Department of Transportation, Department of Homeland Security, etc. shall be used when displaying flight or instructional information. Visual announcements in English, Hawaiian, Japanese, Korean, and Chinese languages are to be included.

#### B. LCD Visual Display Devices

Provide 50" diagonal LCD, flat screen, 4K displays with required a.c. power conditioning unit, network interface and display driver electronics, anti-glare screen, and mounting hardware for use as multipurpose displays. Displays shall commercial grade specifically designated for use as digital signage. The following minimum capabilities are required: 170 degree horizontal and vertical viewing angle; 16:9 screen aspect ratio; 450 cd/m<sup>2</sup> brightness; 600:1 contrast ratio; 23 ms response time; 16 million display colors; 1920x1080 native resolution; and VGA, SVGA, XGA, SXGA, and UHD TV display resolutions and formats. Each display shall include remote control functions for: Power ON/OFF; OSM (On Screen Manager); color, tint, sharpness, contrast, and brightness; picture size and position; and input signal select. Each display shall also be able to transmit display status information such as: Power supply status; display status; and accumulated ON time. Display devices shall also meet requirements of Flight Information Display System (FIDS) if used in multipurpose applications. The ON/OFF times of the displays located at Gate Holding Rooms and Baggage Claim areas shall be software programmable. Displays in these service areas shall be automatically turned ON within 1.5 hours (or as selected by the Engineer) of the next scheduled operation at the respective service area, and remain ON until 1 hour (or as selected by the Engineer) past the last scheduled flight operation time, and then be automatically turned OFF if future scheduled operations are not anticipated at the respective service area within the next 1.5 hours (or as selected by the Engineer). Displays located at Security Check Points, and shown as "S" displays in the plans, shall display Security Check Point Instructions to Travelers, except when "ducked" during real time visual page announcements. Samsung QMB Series or approved equivalent.

#### C. System Automation, Integration, Control, Testing, and Monitoring Capabilities

The audio and visual information systems shall be integrated with each other and with the Flight Information Display System (FIDS), and shall be interconnected via private network communication cables. Operational flight information in the PA System database shall be automatically updated from the FIDS server. The

PA System database shall be accessed when assembling and producing ADA compliant paging announcements from the standard network keypad and Network Plus microphone stations. Normal operations of audio paging and ADA compliant visual paging shall not require continuous response from the FIDS server to operate. In addition, typed-in messages from the Network Plus microphone stations with keyboard terminals shall be processed through the text-to-speech engine, and synchronized line for line during announcements on the display devices and speakers. All typed-in messages involving paging for named individuals shall include fill-in blank areas for the individuals' names. The system will also include a provision for storing and displaying the typed-in names of the individuals on software assignable displays with picture-in-picture capabilities. Audio announcements routed to certain software selectable speaker zones shall be stored and displayed on software assignable scrolling (Type "Vs" or Bulletin Board) displays.

## 2.02 AS-BUILT DOCUMENTATION

### A. PA System Maintenance Manuals

The Contractor shall also furnish 6 copies of a PA System Maintenance Manual which includes the following items:

1. An as-built system block diagram for the Public Address System, giving essentials of the installation and their functional relations.
2. A wiring diagram showing the location and number of all visual display devices. The location and routing of all system monitor point wiring shall be included in the wiring diagrams.
3. Complete, as-built, interconnection wiring lists and plans with terminal and cable identification. The locations of all test and monitoring points, modules, and system component groups shall be included in these plans to simplify maintenance.
4. Recommended daily and routine monitoring and maintenance procedures for verifying PA System operation and for detecting problems and faults within two minutes of their occurrence so as to reconstruct probable cause of problem or fault.
5. Complete fault diagnostic instructions and procedures using the operating system status messages and monitor point calibration levels, so as to isolate problems to a single module or circuit.
6. Original Equipment Manufacturers' Warranties on all materials supplied.

## PART 3 - EXECUTION

### 3.01 PREPARATION

The Contractor shall be responsible for verifying the completeness, correctness, and the overall suitability of the equipment to meet the overall Public Address

System performance requirements of this specification. In the event he discovers any errors or discrepancies, the Contractor shall immediately notify the Engineer.

The Contractor shall coordinate this work with all other trades with which this work overlaps or is dependent upon, verify all dimensions before proceeding, obtain measurements at the site for all work required to be accurately fitted to other construction, and coordinate selection of architecturally sensitive finishes, materials, and installation methods with the Engineer.

### 3.02 PRE-INSTALLATION TESTS

Tests to verify the proper operation of existing equipment to be reused shall be performed by the Contractor in the presence of the Engineer prior to installation. The Contractor shall arrange for the time of these tests, provide the Engineer with two-day notice, and supply test equipment and operating personnel as required.

If the status of the existing sound system equipment is not determined prior to commencement of installation by tests in the presence of the Engineer, the Contractor will have waived any future claims regarding the suitability of existing equipment which are to be incorporated into this work, and replacement of the existing equipment shall be at the Contractor's expense.

Where the Contractor has determined that existing equipment (indicated as Allowance Items in the Proposal Schedule) requires replacement, the Engineer shall be notified of the deficiencies. Performance tests of the equipment shall be conducted by the Contractor in the presence of the Engineer if required by the Engineer. All existing equipment to be replaced by the Contractor shall require the approval of the Engineer prior to their replacement as Allowance Items.

### 3.03 FACTORY ACCEPTANCE TESTING AND DEMONSTRATION

Prior to delivery and installation of the PA System equipment at Kahului Airport, factory acceptance testing and demonstration of a mockup system shall be performed at the factory or other mutually agreed upon location. The intent of the factory acceptance testing and demonstration is to confirm that the hardware and software to be installed is capable of complying with the requirements of this specification, and that no serious deficiencies are present in the hardware and software to be supplied prior to installation.

As a minimum, the equipment and software required to implement the deliverables identified in Paragraphs 1.05.D, 1.05.E, 1.05.F, 1.05.G, 1.05.H, 1.05.I, 1.05.J, 1.05.K, 1.05.L, 1.05.M, and 2.01.A through 2.01.C shall be tested and demonstrated in the presence of the Engineer prior to delivery and installation.

When the system provided will be an extension of an existing system and the new equipment will be of the same manufacturer as the existing equipment, documentation from the equipment manufacturer certifying that the equipment provided will be compatible with the existing system components will be accepted in lieu of a pre-construction demonstration.

### 3.04 INSTALLATION

All equipment shall be firmly held in place. Fastenings and supports shall be adequate to support their loads with a safety factor of at least 3. All switches, connectors, jacks, receptacles, cables, and cable terminations shall be clearly, logically, and permanently marked and documented. PA System equipment and cables installed shall be clearly marked and identified as "PA System" equipment in all equipment closets and rooms.

All display and data entry devices shall be securely mounted to deter theft. Use of security screws and/or locking devices shall be used for devices not located in secure equipment rooms.

The Contractor shall perform all wiring, installations, and interconnections in accordance with standard broadcast practices, EIA and IEEE standards, manufacturer's recommendations, and the National Electric Code. The Contractor must take such precautions as are necessary to protect and guard against electrostatic and electromagnetic pickup, and to provide safety for the operators.

The Contractor shall sequence his work such that outages of the audio sections of the PA System do not occur during aircraft boarding operations at the gates and holding rooms. In all other areas, outages of the audio sections of the PA System shall be limited to the period from 10:00 pm to 5:00 am. If such outages are unavoidable, the Contractor shall provide acceptable portable PA Systems for use during these outages.

Final Adjustments: The Contractor is responsible for performing all final adjustment and system software parameter changes to meet the requirements of this specification. All adjustments and final parameter settings shall be recorded by the Contractor in the final system As-Built drawings and documentation. All final adjustments shall be performed prior to Acceptance Testing by the Owner.

### 3.05 ON-SITE TESTING AND DEMONSTRATION

All tests and demonstrations shall be performed by the Contractor. The Contractor shall furnish all equipment necessary to perform these tests and perform all work required to modify the performances of the Public Address System required by the specifications. Electronic Industry Association standards RS-219 and RS-160 shall be followed in performing these tests.

Equipment Tests: Tests shall be performed on any item of equipment or group of items to determine whether it meets the pertinent specifications. Any measurements deemed necessary by the Engineer shall be made for frequency response, distortion, noise or other characteristics, with the support and cooperation of the Contractor.

Adjustments: In case the need for further adjustments becomes evident during the demonstration and testing, the Contractor's work shall be continued until the installation operates properly.

#### PART 4 - MEASUREMENT AND PAYMENT

##### 4.01 BASIS OF MEASUREMENT AND PAYMENT

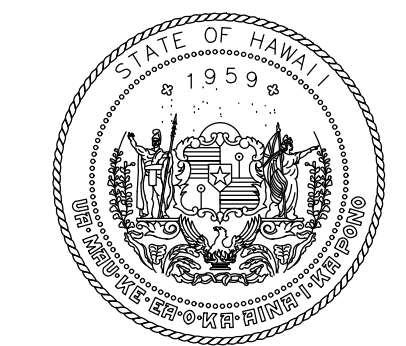
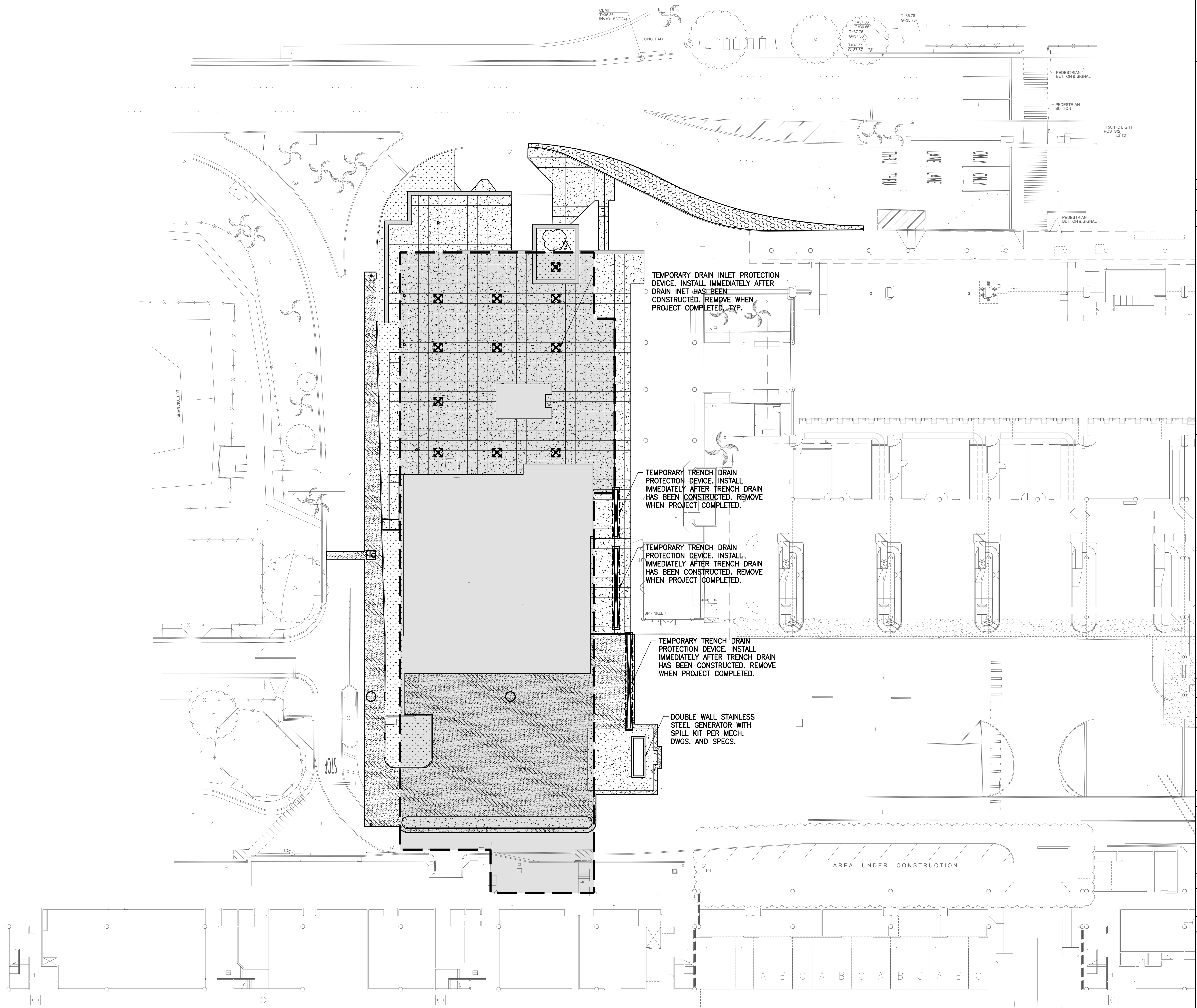
Work under this Section, except for Public Address Visual Paging System Integration with Existing System will not be measured for payment but will be paid for at the Contract Lump Sum Price.

Work for Public Address Visual Paging System Integration with Existing System required by the State shall be paid for under allowance items in the Proposal Schedule. Payment shall be the actual cost as invoiced by the Contractor and approved by the State Engineer. The Contractor shall not be allowed to include overhead, profit, insurances and/or any other mark-ups which shall be considered incidental to and included in the LUMP SUM PRICE.

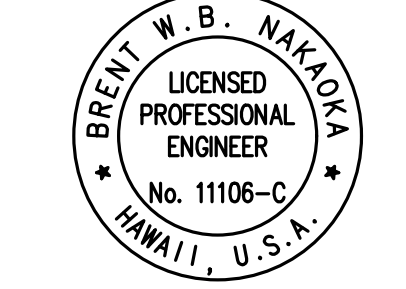
<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
16771.1	Public Address Visual Paging System	Lump Sum
16771.2	Public Address Visual Paging System Integration with Existing System	Allowance

The allowance is an estimate and the amount shall not exceed the maximum amount shown in the proposal schedule. Additional charges by the Contractor for overhead, coordination, profit, insurances and other incidental expenses shall not be allowed. These shall be included in the Contractor's LUMP SUM PRICE.

END OF SECTION



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Brent N. Nakoa*  
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No. 11105-C  
HAWAII, U.S.A.  
04/30/2024  
License Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
CD	CD	BN	BN

**KEY PLAN / NOTES:**

**LEGEND**

	A.C. PAVT.
	CONC. WALKWAY
	LANDSCAPE
	BENCH
	ROOF
	TEMPORARY DRAIN INLET/TRENCH DRAIN PROTECTION DEVICE

NO.	DATE	REVISION
1	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

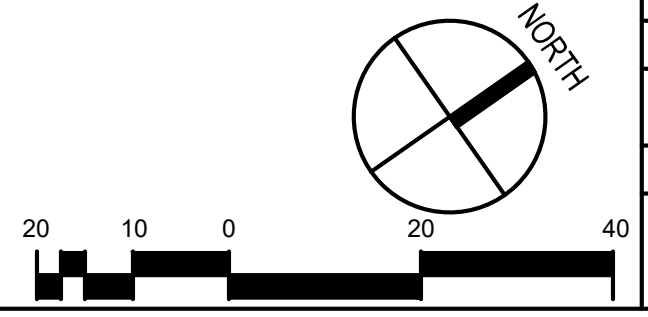
**AM1095-10**

SHEET TITLE:

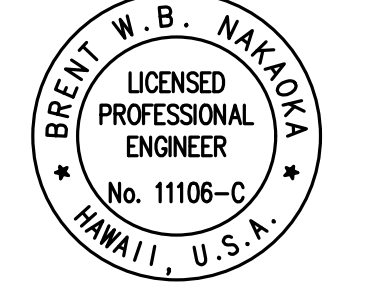
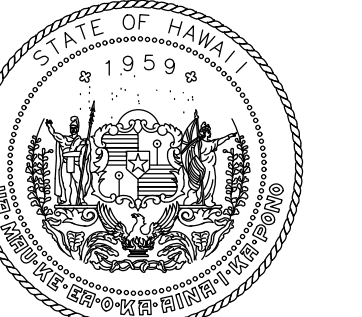
POST CONSTRUCTION BEST MANAGEMENT PRACTICES PLAN

DATE:	DWG. NO.
MAY 26, 2023	<b>C006</b>
SHEET:	
22 OF 333 SHEETS	

**1** POST CONSTRUCTION BEST MANAGEMENT PRACTICES PLAN  
1" = 20'-0"







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04/30/2024  
License Expiration Date

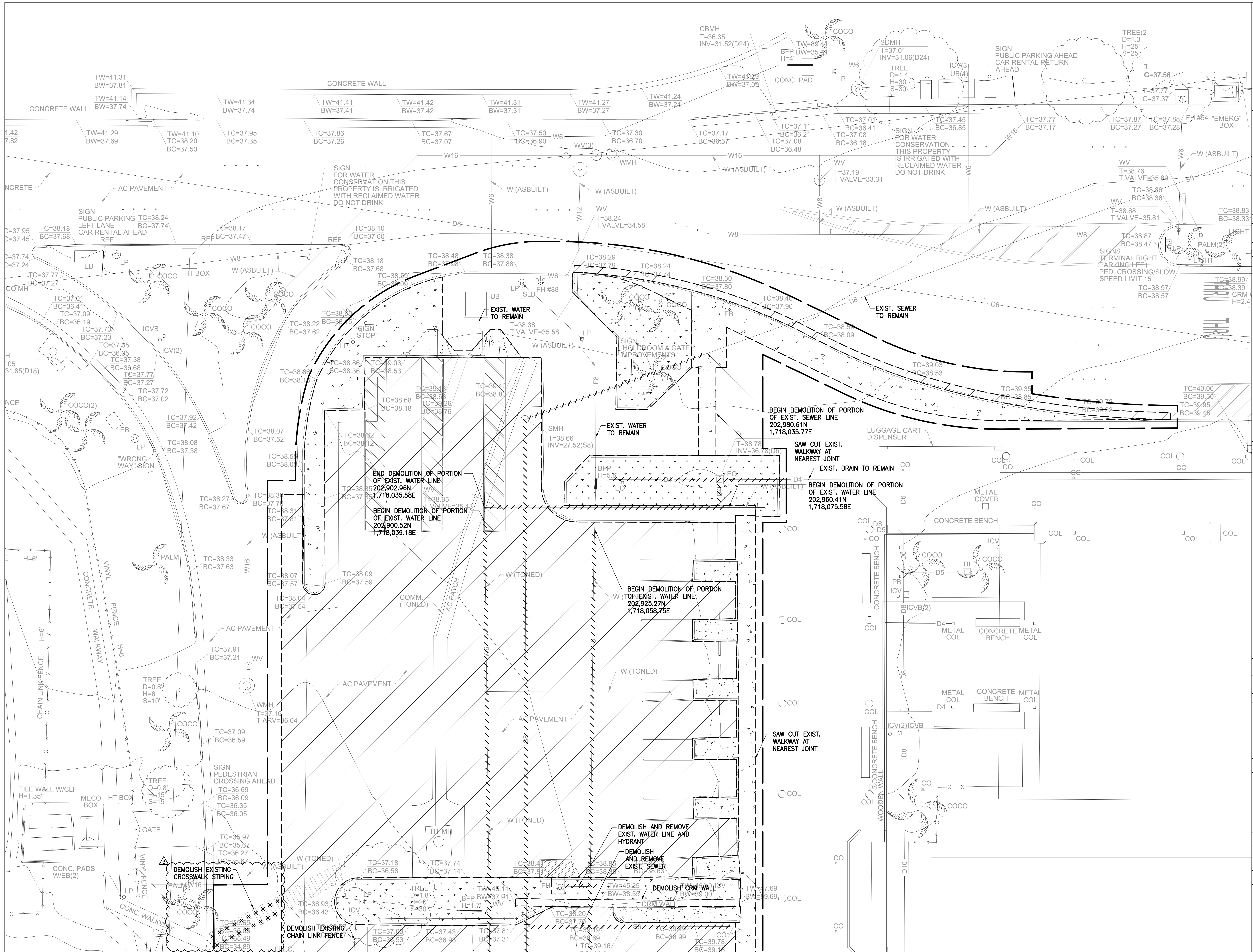
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DSGN	DRWN	CHKD	APPD
CD	CD	BN	BN

**KEY PLAN / NOTES:**

**LEGEND**

	A.C. PAVT. TO BE DEMOLISHED
	CONC. TO BE DEMOLISHED
	LANDSCAPING TO BE DEMOLISHED
	LIMITS OF DEMOLITION
	DEMOLISH UTILITY



MATCHLINE — SEE SHEET C103

1 DEMOLITION PLAN - 1  
1" = 10'-0"

NO.	DATE	REVISION
9/5/2023	ADDENDUM #3	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHALUI AIRPORT  
KAHALUI, MAUI, HAWAII

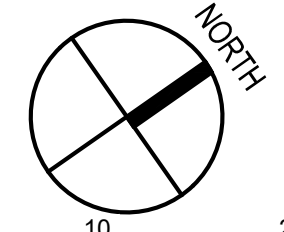
PROJECT NO:

**AM1095-10**

SHEET TITLE:

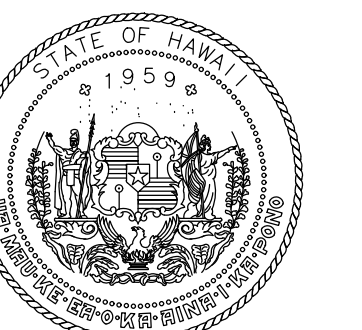
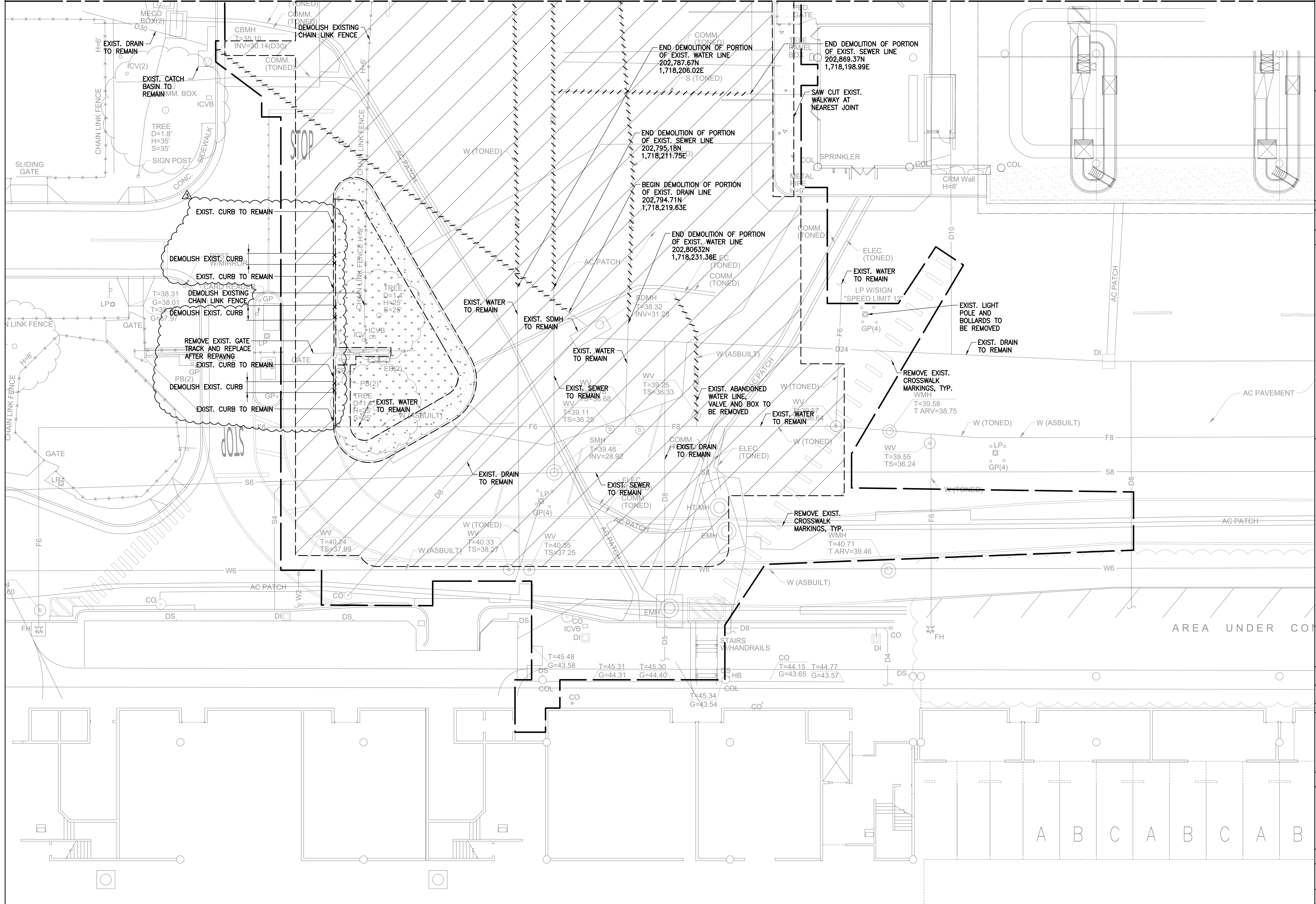
DEMOLITION PLAN - 1

DATE:	DWG. NO.
MAY 26, 2023	<b>C102</b>
SHEET:	25 OF 333 SHEETS

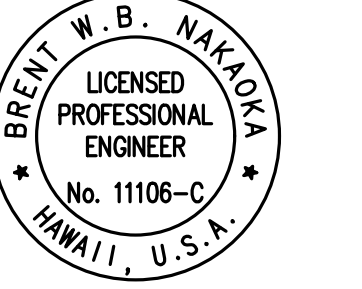




MATCHLINE - SEE SHEET C102



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AIRPORTS



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CD	CD	BN	BN

KEY PLAN / NOTES:

- LEGEND**
- A.C. PAVT. TO BE DEMOLISHED
  - CONC. TO BE DEMOLISHED
  - LANDSCAPING TO BE DEMOLISHED
  - LIMITS OF DEMOLITION
  - DEMOLISH UTILITY

NO.	DATE	ADDENDUM #3	REVISION
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**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

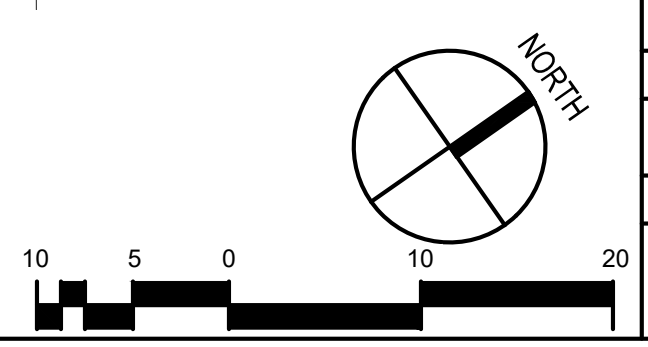
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SHEET TITLE:

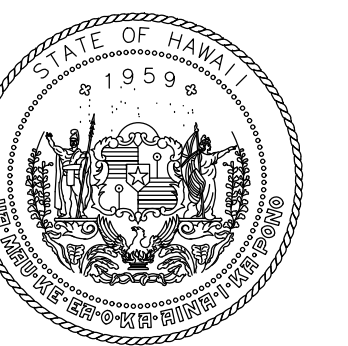
DEMOLITION PLAN - 2

DATE:	DWG. NO.
MAY 26, 2023	<b>C103</b>
SHEET:	26 OF 333 SHEETS

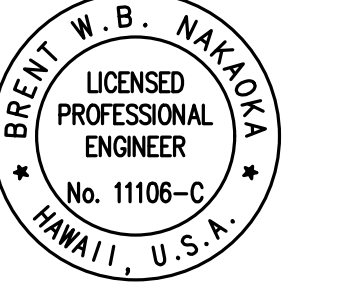
1 DEMOLITION PLAN - 2  
1" = 10'-0"







STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Brett W. Nakota*  
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License Expiration Date

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CD	CD	BN	BN

**KEY PLAN / NOTES:**

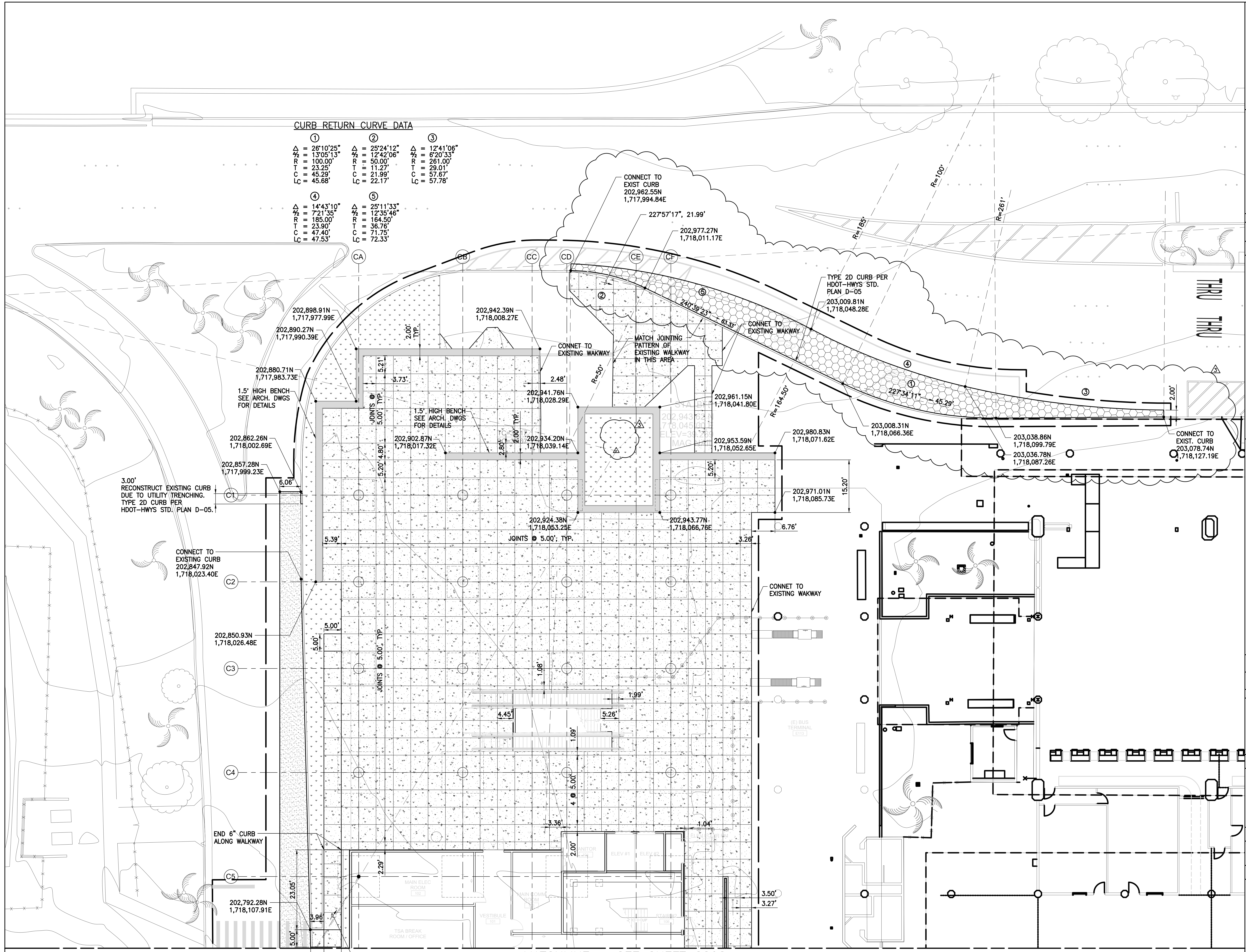
LEGEND	
	A.C. PAVT. (AIRPORT ACCESS ROAD) SEE DET. SHT. C203
	A.C. PAVT. (SERVICE ROAD AND ROAD LEADING TO AOA GATE) SEE DET. SHT. C203
	CONC. WALKWAY SEE DET. SHT. C203
	LANDSCAPE
	LIMITS OF WORK

**CURB RETURN CURVE DATA**

①	②	③
$\Delta = 26^{\circ}10'25''$	$\Delta = 25^{\circ}24'12''$	$\Delta = 12^{\circ}41'06''$
$\frac{1}{2} = 13^{\circ}05'13''$	$\frac{1}{2} = 12^{\circ}42'06''$	$\frac{1}{2} = 6^{\circ}20'33''$
$R = 100.00'$	$R = 50.00'$	$R = 261.00'$
$T = 23.25'$	$T = 11.27'$	$T = 29.01'$
$C = 45.29'$	$C = 21.99'$	$C = 57.67'$
$LC = 45.68'$	$LC = 22.17'$	$LC = 57.78'$

④	⑤
$\Delta = 14^{\circ}43'10''$	$\Delta = 25^{\circ}11'33''$
$\frac{1}{2} = 7^{\circ}21'35''$	$\frac{1}{2} = 12^{\circ}35'46''$
$R = 185.00'$	$R = 164.50'$
$T = 23.90'$	$T = 36.76'$
$C = 47.40'$	$C = 71.75'$
$LC = 47.53'$	$LC = 72.33'$



MATCHLINE - SEE SHEET C202

1 SITE PLAN - 1  
1" = 10'-0"

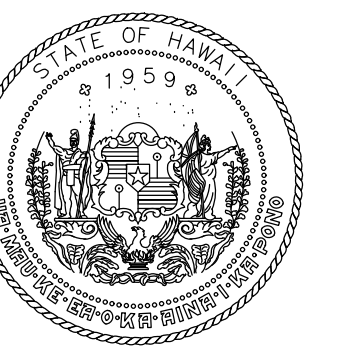
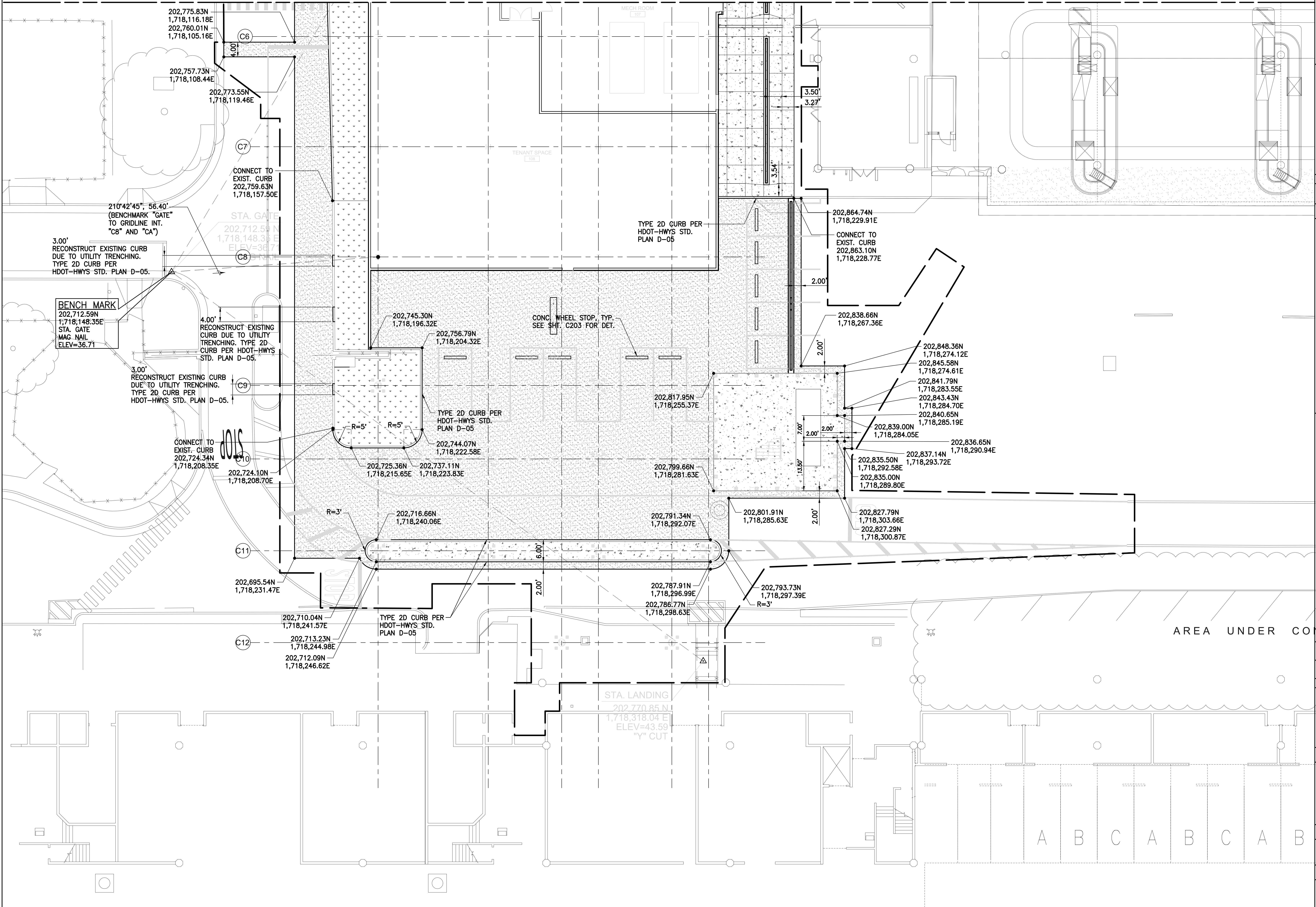
DATE: MAY 26, 2023  
SHEET: 27 OF 333 SHEETS

DWG. NO. **C201**

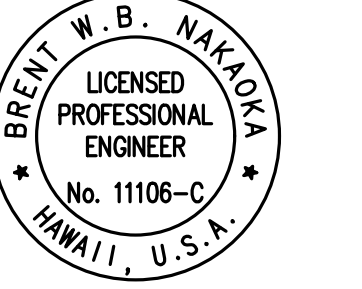
SITE PLAN - 1



MATCHLINE - SEE SHEET C201



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



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License Expiration Date

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CD	CD	BN	BN

KEY PLAN / NOTES:

- LEGEND**
- A.C. PAVT. (SERVICE ROAD AND ROAD LEADING TO AOA GATE) SEE DET. SHT. C203
  - CONC. WALKWAY SEE DET. SHT. C203
  - LANDSCAPE
  - LIMITS OF WORK

NO.	DATE	REVISION
1	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

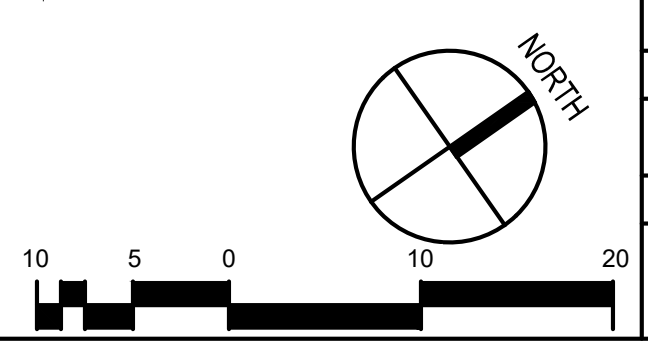
**AM1095-10**

SHEET TITLE:

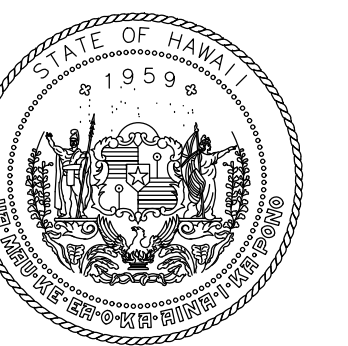
SITE PLAN - 2

DATE:	DWG. NO.
MAY 26, 2023	<b>C202</b>
SHEET:	28 OF 333 SHEETS

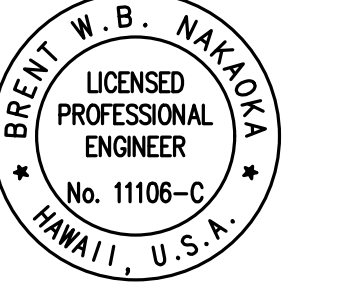
1 SITE PLAN - 2  
1" = 10'-0"







STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



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04/30/2024  
License Expiration Date

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DSGN	DRWN	CHKD	APPD
CD	CD	BN	BN

**KEY PLAN / NOTES:**

- LEGEND**
- 49.53 FINISHED ELEVATION
  - 47.64 FINISHED ELEVATION
  - TC=51.00 TOP CURB ELEVATION
  - BC=50.50 BOTTOM CURB ELEVATION
  - 40 FINISHED CONTOUR
  - GRADE BREAK
  - TB=51.00 TOP BENCH ELEVATION
  - BB=50.50 BOTTOM BENCH ELEVATION
  - RETAINING WALL

NO.	DATE	REVISION
1	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

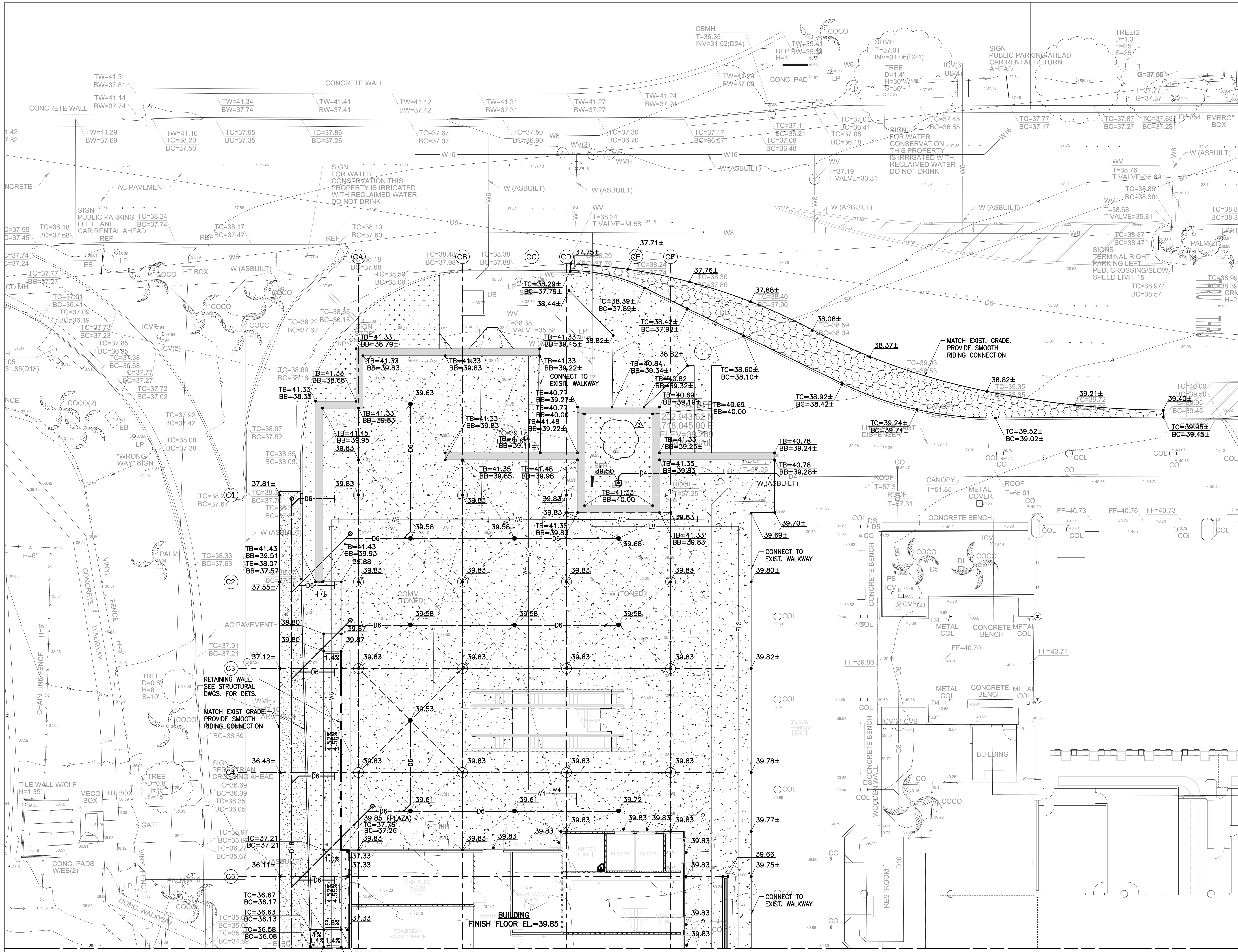
PROJECT NO:

**AM1095-10**

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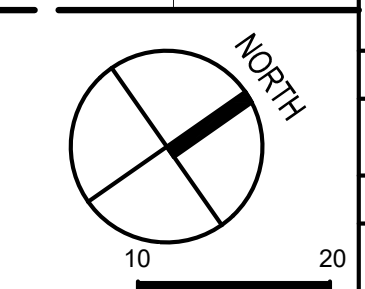
GRADING PLAN - 1

DATE:	DWG. NO.
MAY 26, 2023	<b>C301</b>
SHEET:	30 OF 333 SHEETS

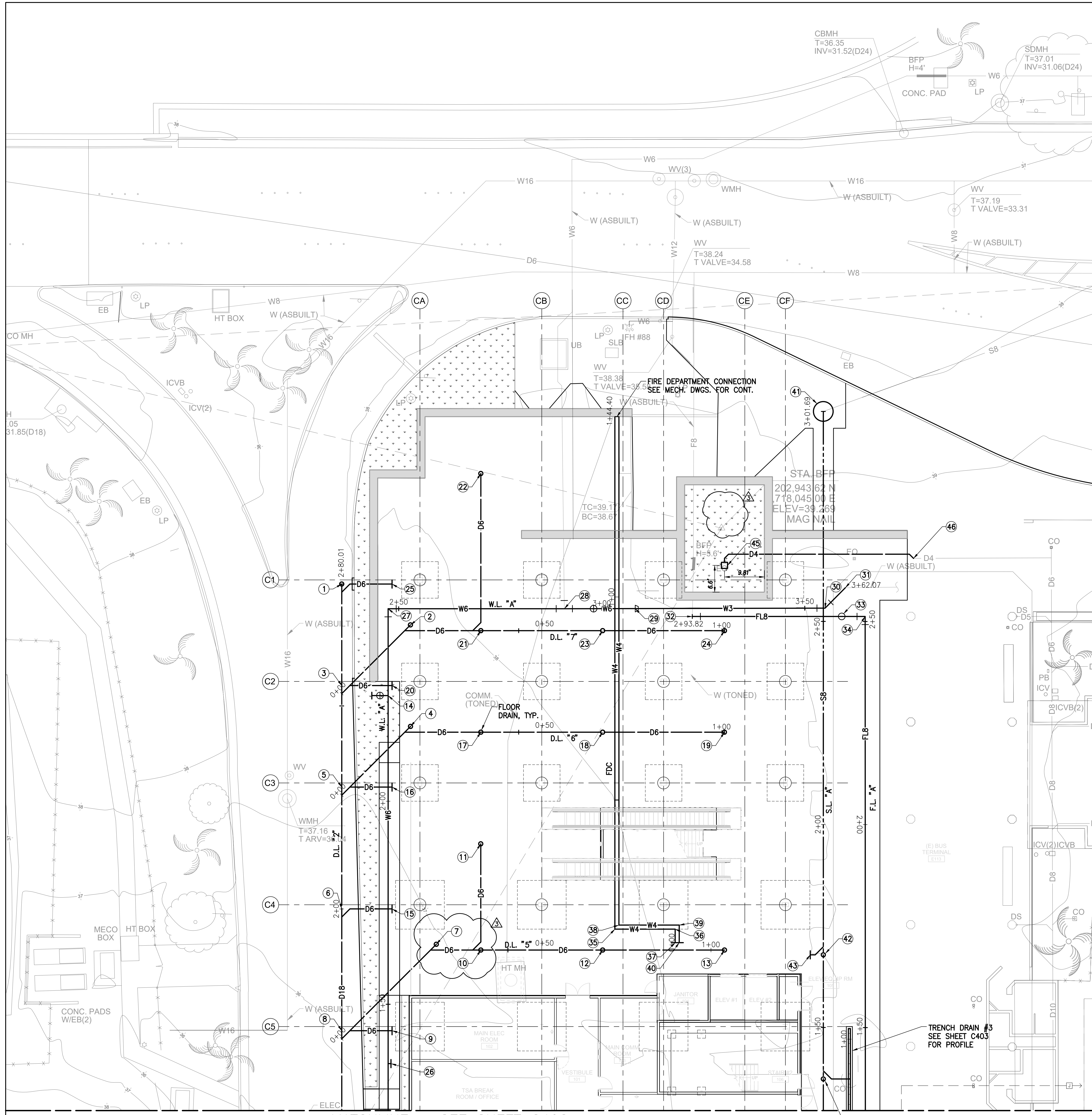


MATCHLINE - SEE SHEET C302

1 GRADING PLAN - 1  
1" = 10'-0"



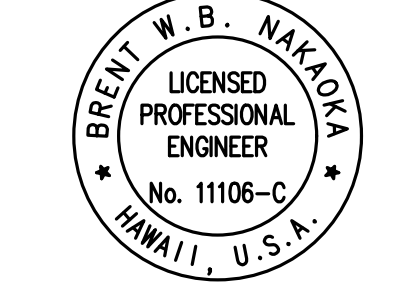




- 1 202,859.01N  
1,718,002.87E  
2+80.01 D.L. "2"  
1-18"X6" WYE  
1-COTG  
INV=30.98 (D18)
- 2 0+21.94 D.L. "7"  
1-6"X6" WYE  
1-COTG.  
INV=31.86 (D6)
- 3 2+55.01 D.L. "2"  
1-18"X6" WYE  
INV=30.86 (D18)
- 4 0+21.95 D.L. "6"  
1-6"X6" WYE  
1-COTG.  
INV=31.73 (D6)
- 5 2+30.01 D.L. "2"  
1-18"X6" WYE  
INV=30.73 (D18)
- 6 2+00.00 D.L. "2"  
1-18"X6" WYE  
INV=30.58 (D18)
- 7 0+30.95 D.L. "5"  
1-6"X6" WYE  
1-COTG.  
INV=31.68 (D6)
- 8 1+70.00 D.L. "2"  
1-18"X6" WYE  
INV=30.43 (D18)
- 9 INV=31.05  
SEE PLUMB.  
DWGS. FOR CONT.
- 10 0+43.32 D.L. "5"  
1-6"X6" WYE  
1-6"X6" TEE  
1-6" DRAIN RISER  
INV=36.40 (D6)  
INV=31.98 (D6)
- 11 1-4" DRAIN RISER  
INV.=32.26 (D6)
- 12 0+73.33 D.L. "5"  
1-4" DRAIN RISER  
INV=36.55 (D6)
- 13 1+03.33 D.L. "5"  
1-4" DRAIN RISER  
INV=36.70 (D6)
- 14 2+25 WATER LINE "A"  
1-6"X3" TEE  
1-3" GATE VALVE  
1-VALVE BOX  
INV=36.00 (W6)  
SEE LANDSCAPE DWGS.  
FOR CONT.
- 15 INV=31.20 (D6)  
SEE PLUMB.  
DWGS. FOR CONT.
- 16 INV=31.35 (D6)  
SEE PLUMB.  
DWGS. FOR CONT.
- 17 0+40.68 D.L. "6"  
1-6"X6" TEE  
1-6" DRAIN RISER  
INV=37.00 (D6)  
INV=32.16 (D6)
- 18 0+70.68 D.L. "6"  
1-4" DRAIN RISER  
INV=37.15 (D6)
- 19 1+00.67 D.L. "6"  
1-4" DRAIN RISER  
INV=37.30 (D6)
- 20 INV=31.48 (D6)  
SEE PLUMB.  
DWGS. FOR CONT.
- 21 0+40.68 D.L. "7"  
1-6"X6" WYE  
1-6"X6" TEE  
1-6" DRAIN RISER  
INV=37.10 (D6)  
INV=32.29 (D6)
- 22 1-4" DRAIN RISER  
INV.=32.67 (D6)
- 23 0+70.68 D.L. "7"  
1-4" DRAIN RISER  
INV=37.25 (D6)
- 24 1+00.68 D.L. "7"  
1-4" DRAIN RISER  
INV=37.40 (D6)
- 25 INV=31.60 (D6)  
SEE PLUMB.  
DWGS. FOR CONT.
- 26 1+35.37 WATER LINE "A"  
1-6"X1" TEE  
1-CONC. BLOCK  
INV=32.81 (W6)  
SEE MECH.  
DWGS. FOR CONT.
- 27 2+47.40 WATER LINE "A"  
202,864.91N  
1,718,014.38E  
1-6" 1/4 BEND (H)  
1-CONC. BLOCK
- 28 2+90.79 WATER LINE "A"  
CONN. TO EXIST. W6  
MATERIALS FOR CONN.  
1-6"X6" TEE  
1-CONC. BLOCK WITH  
STRUC. STRUTS  
1-6" GV, 150# W/  
ANCHOR BLOCK  
1-VALVE BOX
- 29 3+08.25 WATER LINE "A"  
1-6"X3" REDUCER
- 30 3+55 WATER LINE "A"  
202,953.28N  
1,718,075.76E  
1-3" 1/8 BEND (H)  
1-CONC. BLOCK
- 31 3+62.07 WATER LINE "A"  
CONN. TO EXIST. W3  
MATERIALS FOR CONN.  
1-3" 1/8 BEND (H)  
1-CONC. BLOCK WITH  
STRUC. STRUTS
- 32 2+93.82 FIRE LINE "A"  
202,925.27N  
1,718,058.75E  
CONN. TO EXIST. W8  
MATERIALS FOR CONN.  
1-8" 1/4 BEND (H)  
1-CONC. BLOCK WITH  
STRUC. STRUTS
- 33 2+57 FIRE LINE "A"  
1-3/4" ARV  
WP=\_\_\_ PSI
- 34 2+51.24 FIRE LINE "A"  
202,960.21N  
1,718,083.09E  
1-8" 1/4 BEND (H)  
1-CONC. BLOCK
- 35 0+18.69 FDC  
202,865.62N  
1,718,111.04E  
1-4" 1/4 BEND (H)  
1-CONC. BLOCK
- 36 0+3.83 FDC  
202,877.82N  
1,718,119.54E  
1-4" 1/4 BEND (H)  
1-CONC. BLOCK
- 37 0+00 FDC  
202,875.91N  
1,718,122.27E  
CAP AND MARK W4  
INV.=38.35  
SEE MECH.  
DWGS. FOR CONT.
- 38 0+18.69 FDC  
202,867.01N  
1,718,110.79E  
1-4" 1/4 BEND (H)  
1-CONC. BLOCK
- 39 0+3.83 FDC  
202,879.21N  
1,718,119.29E  
1-4" 1/4 BEND (H)  
1-CONC. BLOCK
- 40 0+00 FDC  
202,876.73N  
1,718,122.84E  
CAP AND MARK W4  
INV.=38.35  
SEE MECH.  
DWGS. FOR CONT.
- 41 3+01.69 S.L. "A"  
202,980.60N  
1,718,035.77E  
CONN. TO EXIST. S8  
SMH#3  
TOP=38.72  
INV.=27.24 (E/S8 & S8)
- 42 1+67.89 S.L. "A"  
1-8"X4" WYE  
1-COTG  
INV.=27.87 (S8)
- 43 CAP AND MARK S4  
202,901.49N  
1,718,143.73E  
INV.=28.10 (S4)  
SEE PLUMB. DWGS.  
FOR CONT.
- 44 1+37.32 S.L. "A"  
1-8"X4" WYE  
1-COTG  
INV.=28.01 (S8)
- 45 18" CATCH BASIN  
NDS #1882GRKIT  
WITH 4" UNIVERSAL  
OUTLET OR  
APPROVED EQUAL  
INV.=38.10
- 46 CONNECT TO  
EXIST. D4. NEW  
D4 PIPE SHALL  
BE THE SAME  
MATERIAL AS THE  
EXIST.

MATCHLINE - SEE SHEET C402

1 UTILITY PLAN - 1  
1" = 10'-0"



Brent W. B. Nakoa  
LICENSED PROFESSIONAL ENGINEER  
No. 11105-C  
HAWAII, U.S.A.  
04/30/2024  
License Expiration Date

This work was prepared by me or under my supervision.

DGSN.	DRWN.	CHKD.	APPD.
CD	CD	BN	BN

KEY PLAN / NOTES:

9/5/2023	ADDENDUM #3	
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

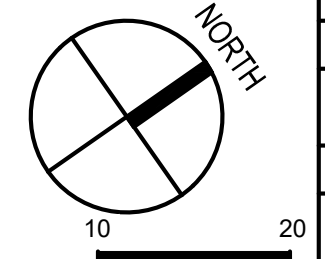
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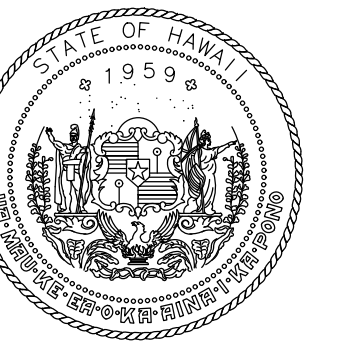
**AM1095-10**

SHEET TITLE:

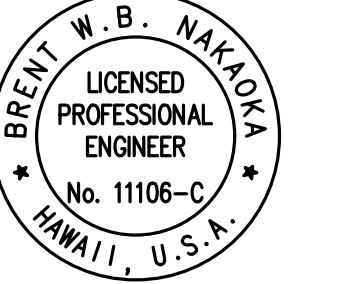
UTILITY PLAN - 1

DATE:	DWG. NO.
MAY 26, 2023	<b>C401</b>
SHEET:	
32 OF 333 SHEETS	





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



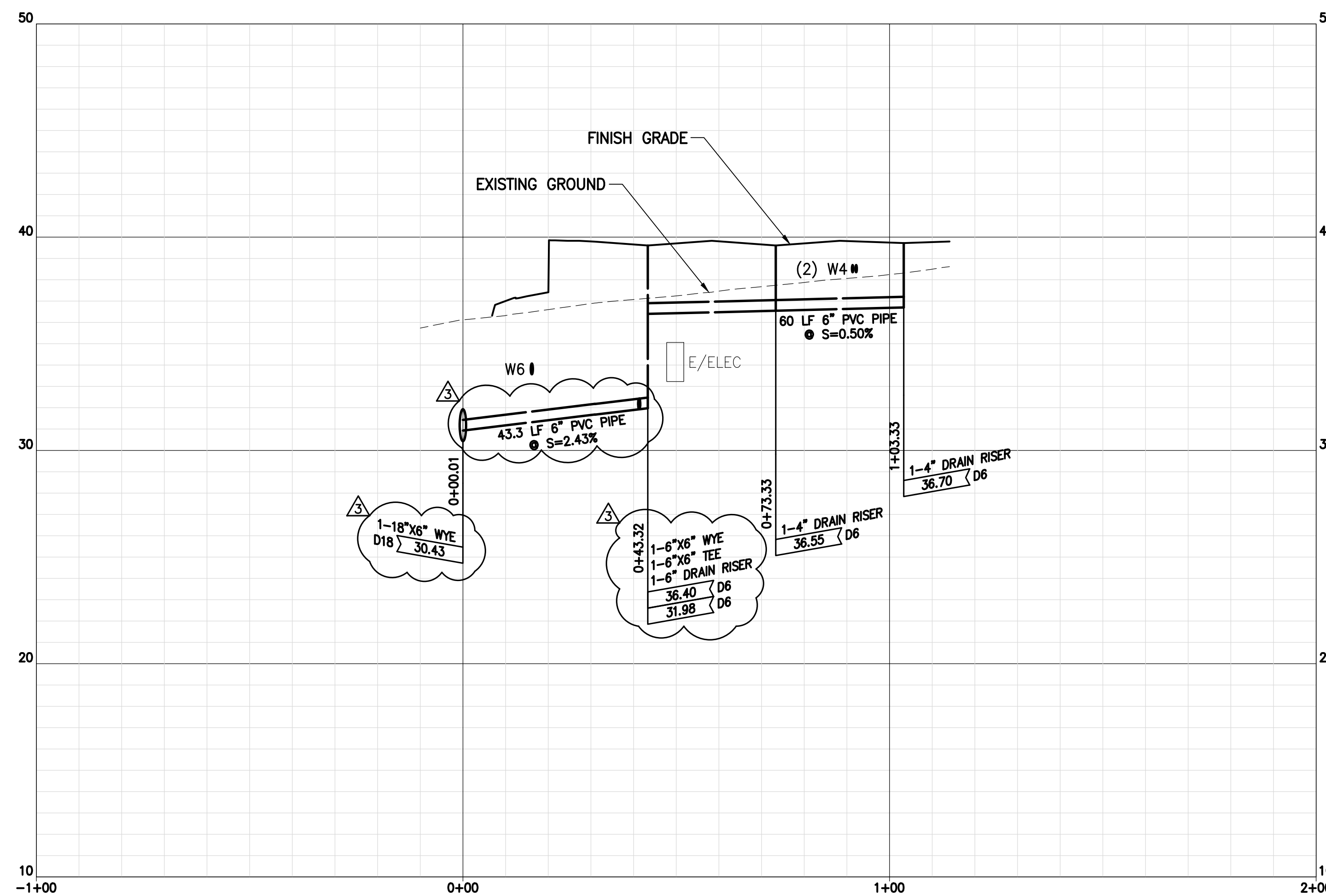
*Brent W. B. Nakoa*  
BRENT W. B. NAKOA  
LICENSED PROFESSIONAL ENGINEER  
No. 11105-C  
HAWAII, U.S.A.

04/30/2024  
License Expiration Date

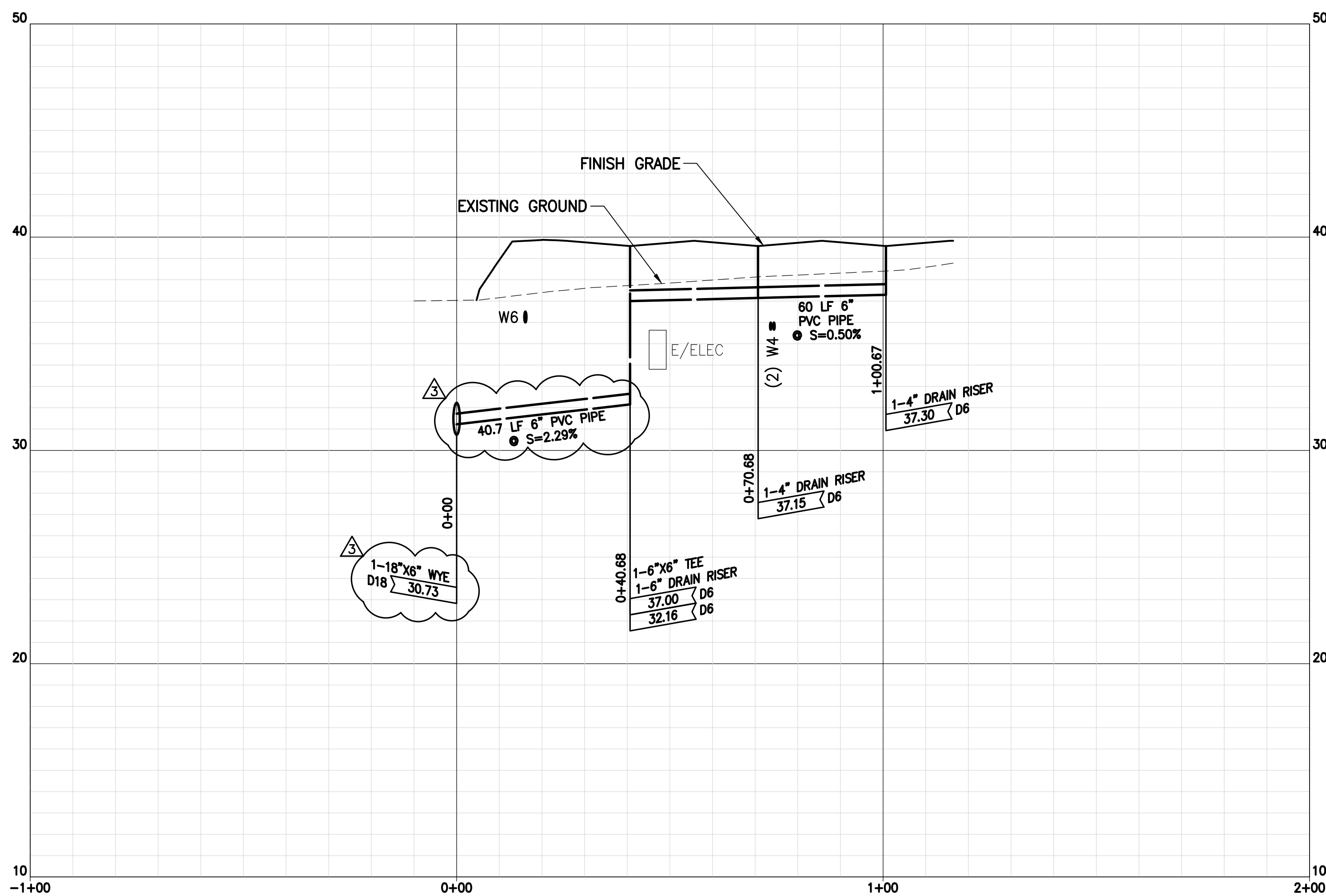
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DSGN.	DRWN.	CHKD.	APPD.
CD	CD	BN	BN

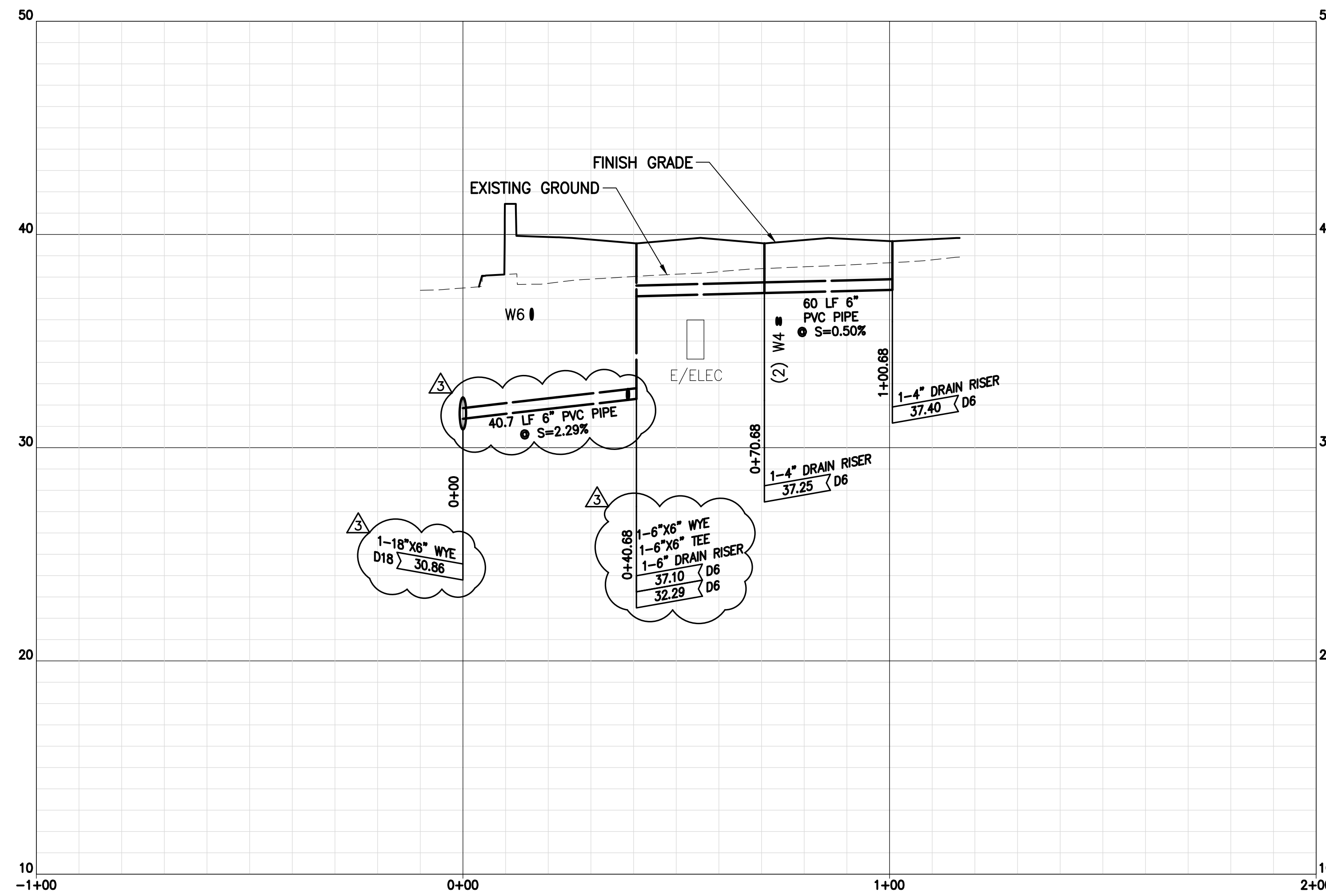
**KEY PLAN / NOTES:**



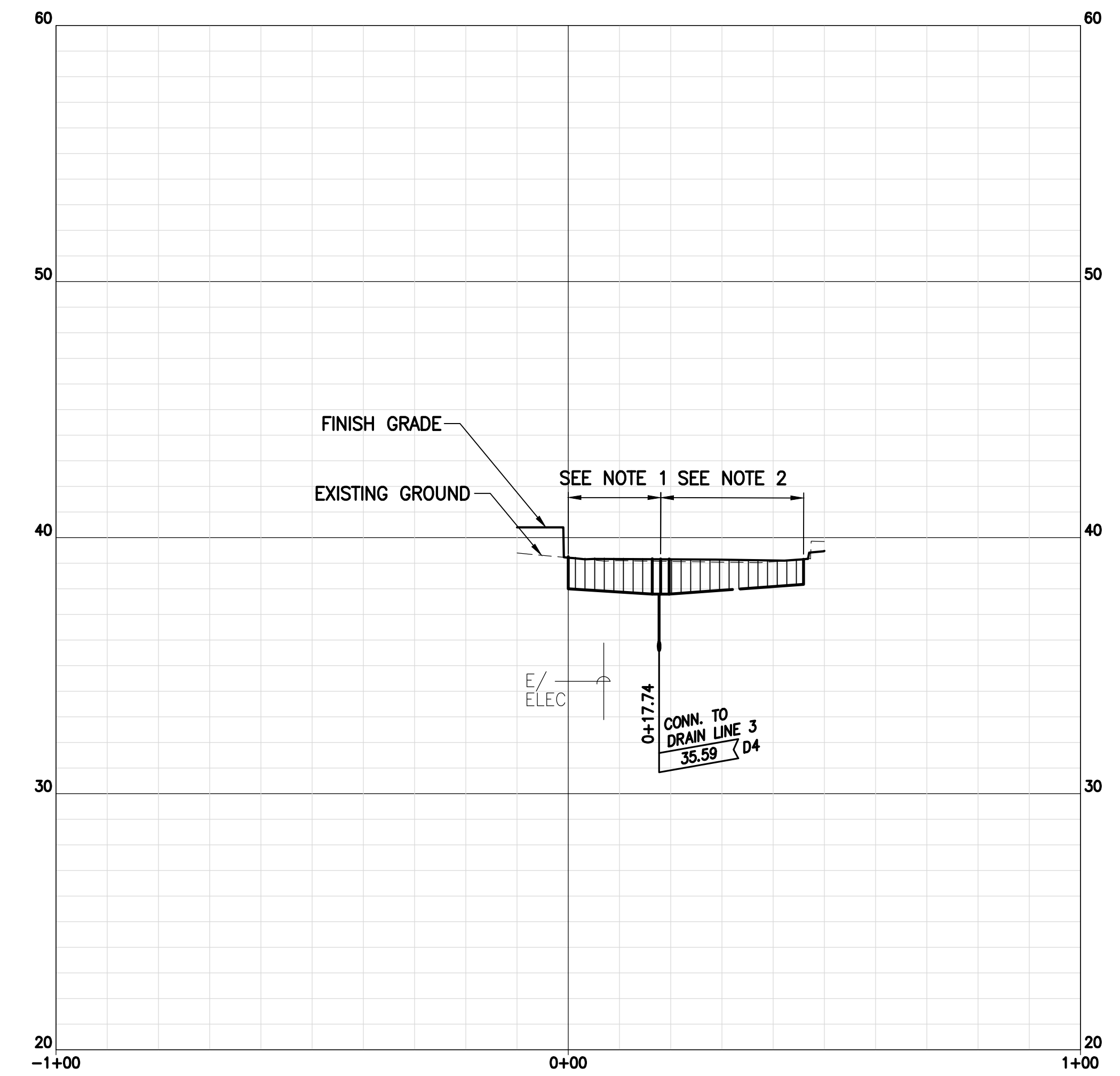
**PROFILE: DRAIN LINE '5'**  
SCALES: HOR: 1" = 20'  
VERT: 1" = 4'



**PROFILE: DRAIN LINE '6'**  
SCALES: HOR: 1" = 20'  
VERT: 1" = 4'

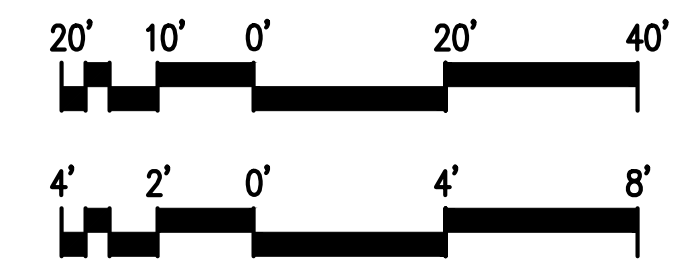


**PROFILE: DRAIN LINE '7'**  
SCALES: HOR: 1" = 20'  
VERT: 1" = 4'



**PROFILE: TRENCH DRAIN '1'**  
SCALES: HOR: 1" = 20'  
VERT: 1" = 4'

- NOTE:**
- ACO DRAIN KLASSIKDRAIN KS100 PART NO. 74416 TO 74420 (DEPTH 6.89" TO 7.87") AND 74446 (DEPTH 7.87") WITH 4" ROUND OUTLET OR APPROVED EQUAL.
  - ACO DRAIN KLASSIKDRAIN KS100 PART NO. 74413 TO 74420 (DEPTH 6.30" TO 7.87") AND 74446 (DEPTH 7.87") WITH 4" ROUND OUTLET OR APPROVED EQUAL.



NO.	DATE	REVISION
△	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

SOUTH TSA CHECKPOINT

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

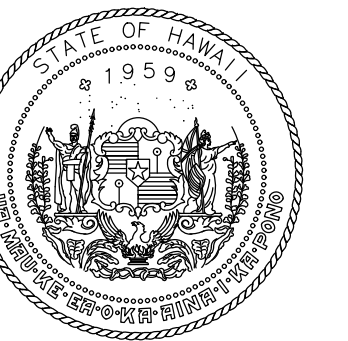
PROJECT NO:

**AM1095-10**

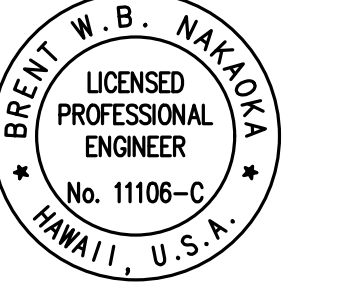
SHEET TITLE:

UTILITIES PROFILES - 2

DATE:	DWG. NO.
MAY 26, 2023	<b>C404</b>
SHEET:	
35 OF 333 SHEETS	



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



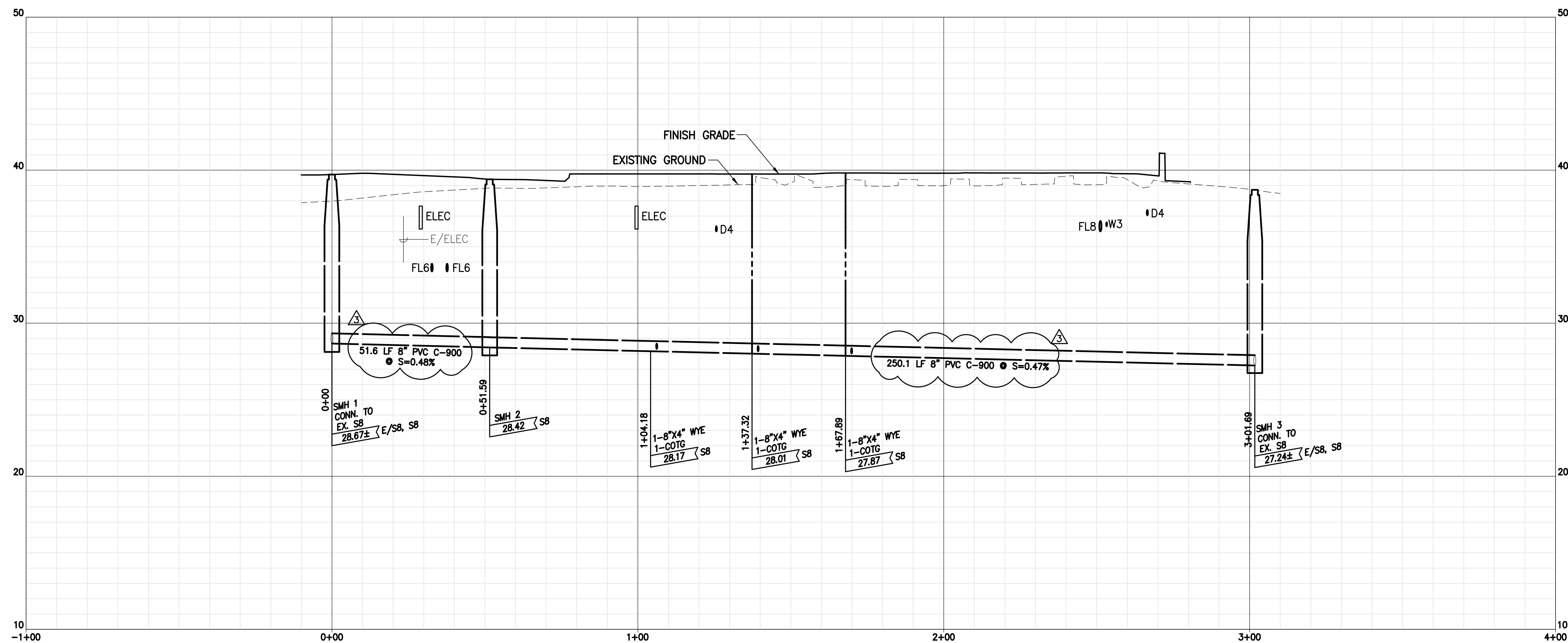
Brent W. B. Nakoa  
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No. 11105-C  
HAWAII, U.S.A.

04/30/2024  
License Expiration Date

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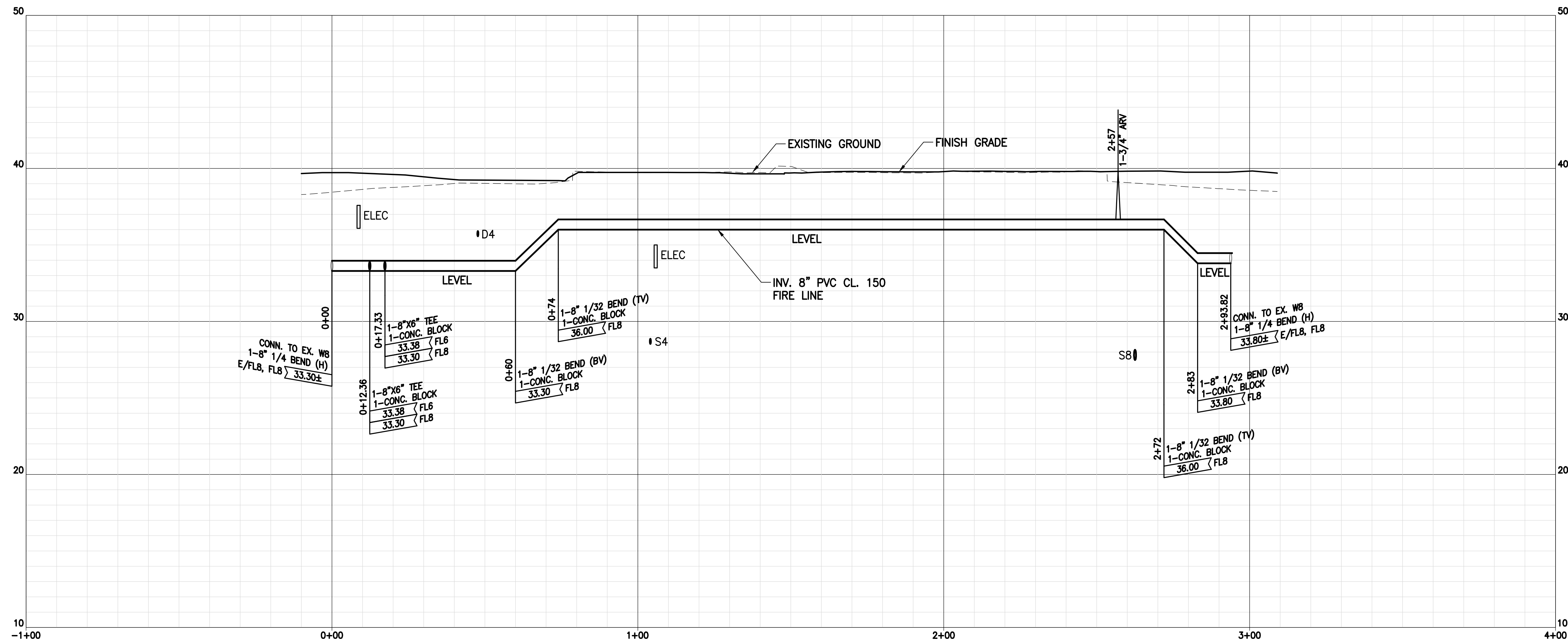
DSGN.	DRWN.	CHKD.	APPD.
CD	CD	BN	BN

KEY PLAN / NOTES:



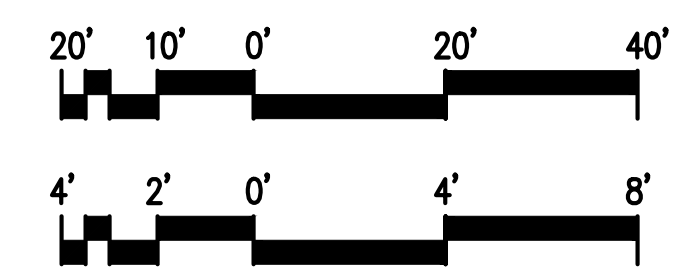
**PROFILE: SEWER LINE 'A'**

SCALES: HOR: 1" = 20'  
VERT: 1" = 4'



**PROFILE: FIRE LINE 'A'**

SCALES: HOR: 1" = 20'  
VERT: 1" = 4'



NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

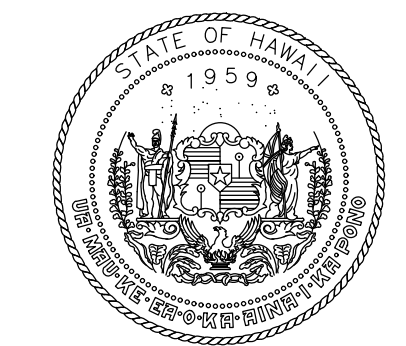
**AM1095-10**

SHEET TITLE:

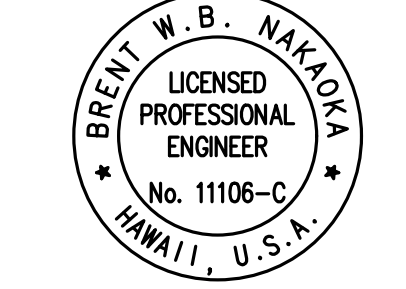
UTILITIES PROFILES - 3

DATE:	DWG. NO.
MAY 26, 2023	<b>C405</b>
SHEET:	36 OF 333 SHEETS





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



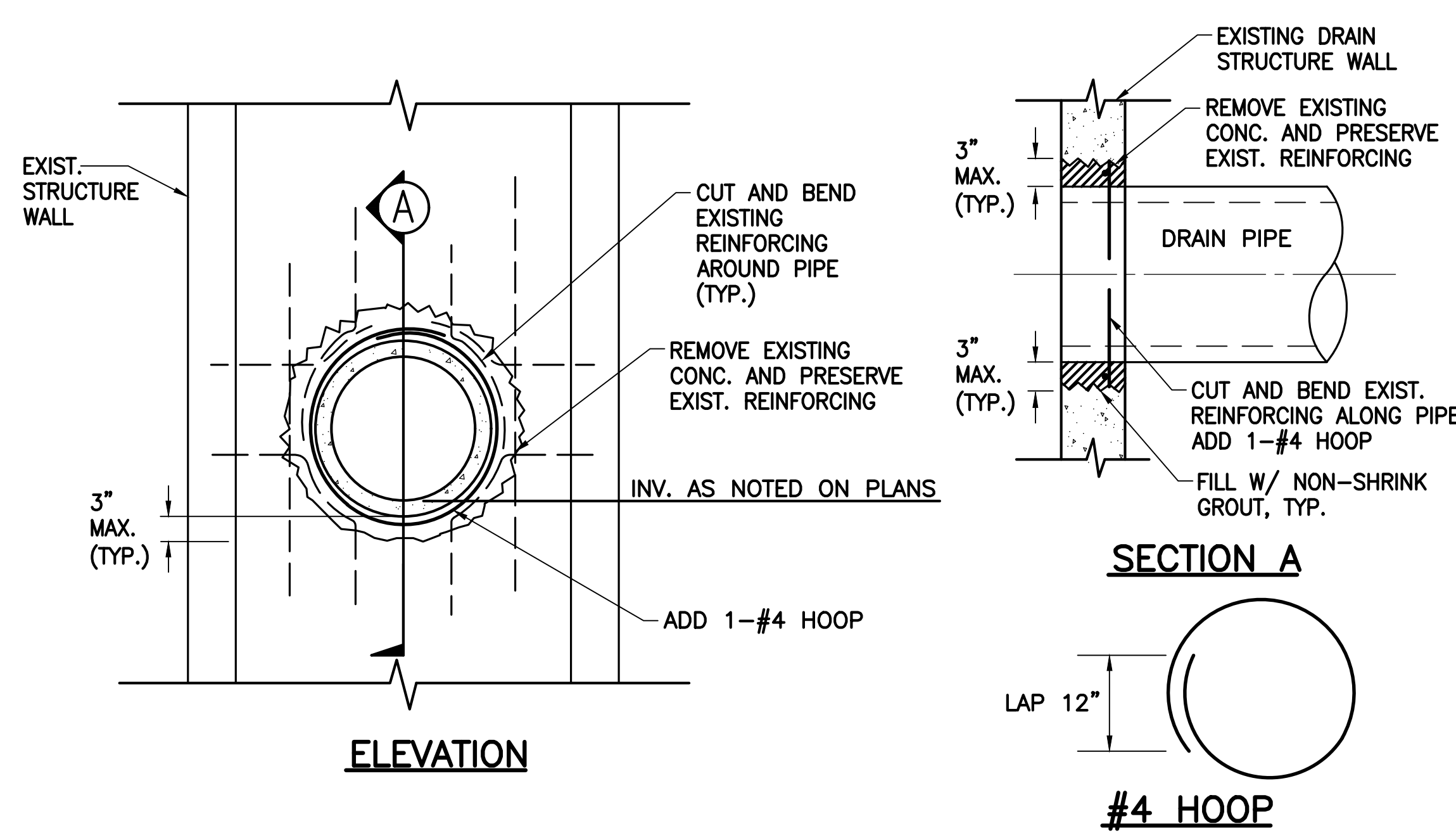
Brent Akai  
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HAWAII, U.S.A.

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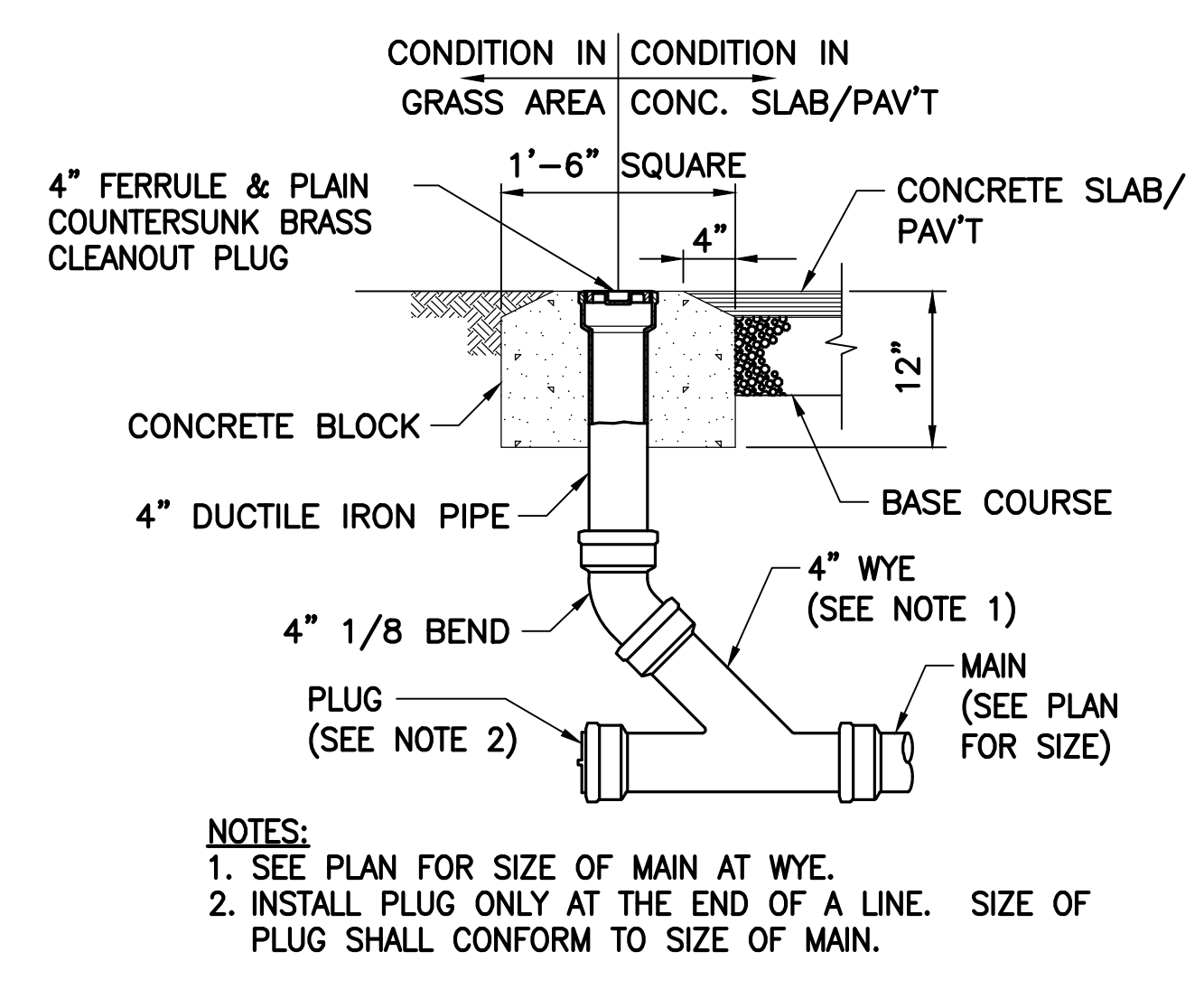
DSGN.	DRWN.	CHKD.	APPD.
CD	CD	BN	BN

KEY PLAN / NOTES:

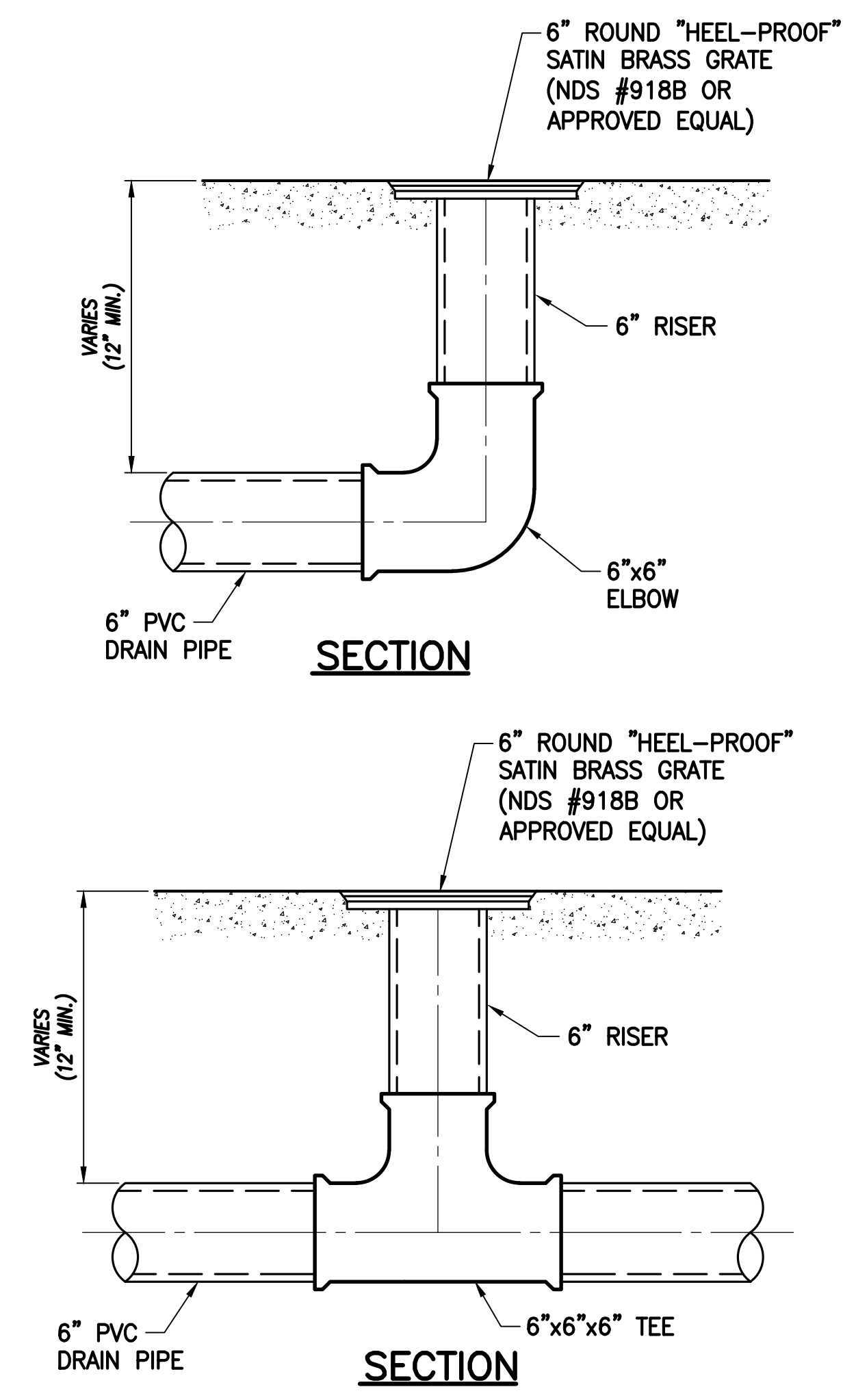
NOTES:  
1. SEALS SHALL BE PLACED 10 FT. UPSTREAM AND DOWNSTREAM FROM EACH MANHOLE.  
2. THE CONTRACTOR SHALL COMPACT S4C MATERIAL BY PONDING AND DRAINING. UPON DRAINING, A VIBRATORY MACHINE SHALL BE USED UNTIL NO VISIBLE EVIDENCE OF FURTHER CONSOLIDATION EXISTS.  
3. SEALS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO CRUSHED ROCK CRADLE.



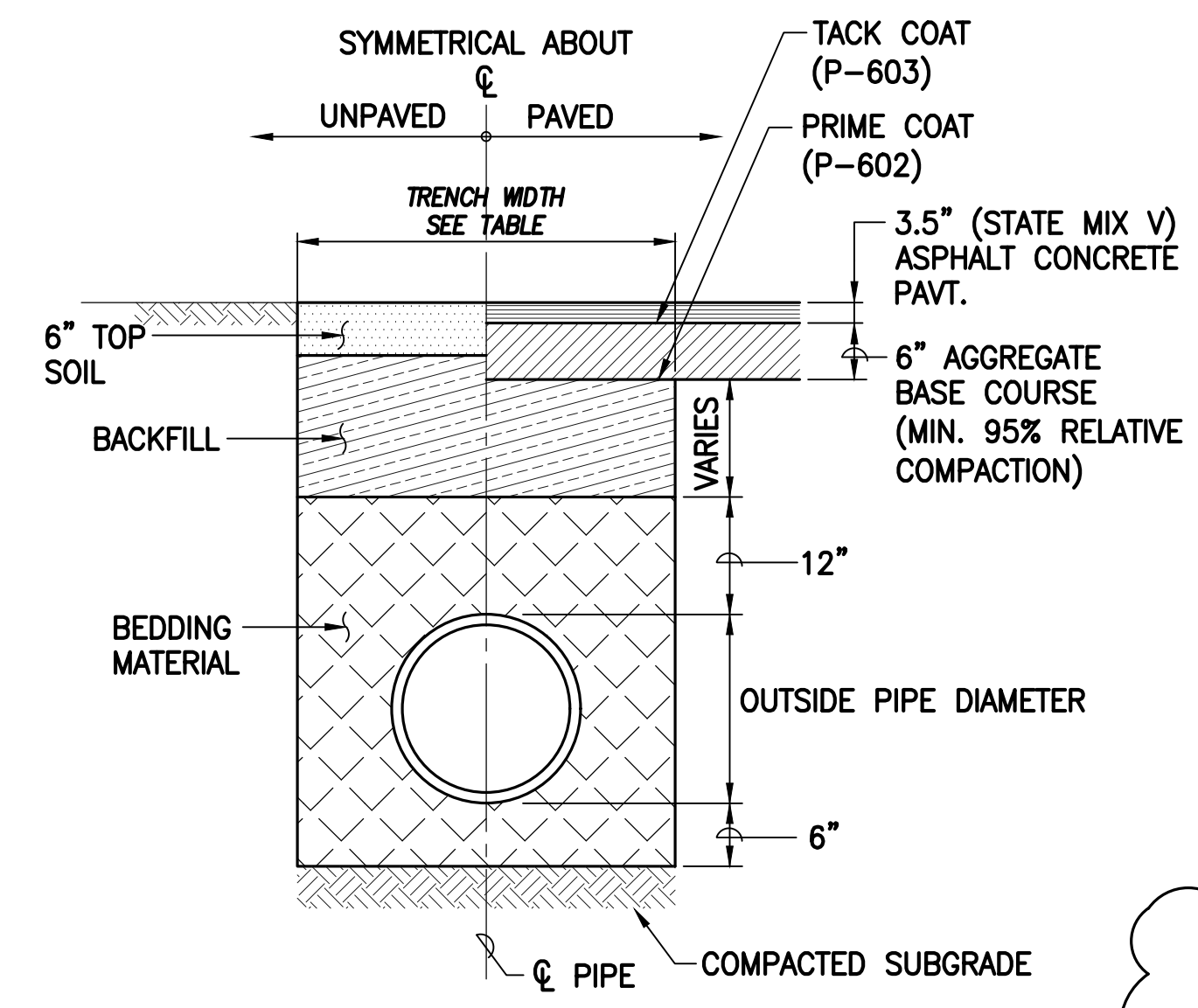
**1 CONNECTION TO EXISTING STRUCTURE**  
C407 NOT TO SCALE



**2 DRAIN CLEANOUT TO GRADE**  
C407 NOT TO SCALE



**3 TYPICAL AREA DRAIN**  
C407 NOT TO SCALE



NOTES:  
BEDDING MATERIAL SHALL BE OPEN-GRADED GRAVEL (ASTM C33, NO. 67 GRADATION)

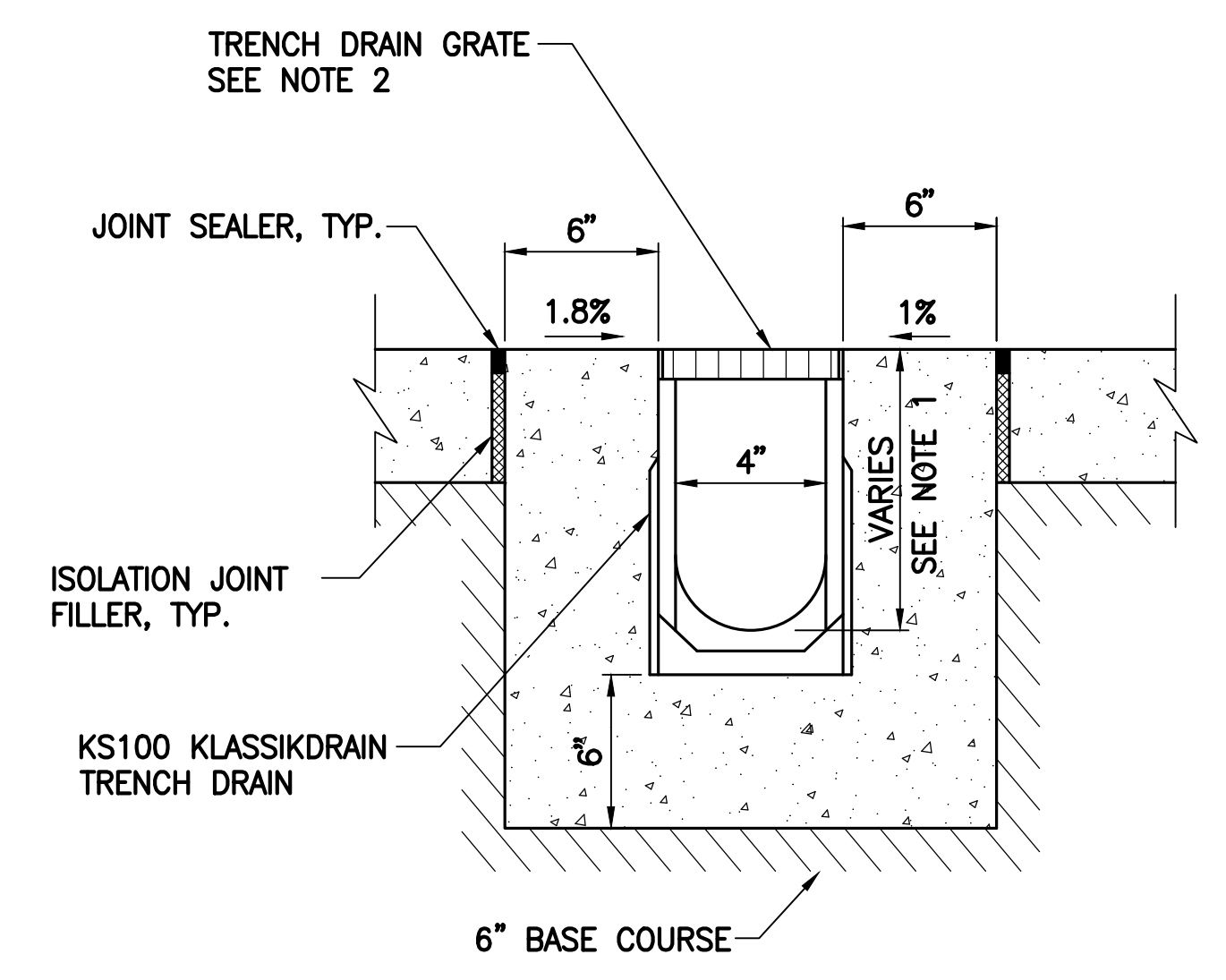
PIPE SIZE	TRENCH WIDTH
4"	3'-0"
6"	3'-0"
8"	3'-0"
12"	3'-0"
18"	3'-0"
24"	4'-0"
30"	4'-8"

TYPICAL TRENCH WIDTHS

BACKFILL NOTES:

1. THE UPPER PORTION OF THE BACKFILL FROM THE LEVEL 12" ABOVE THE PIPES TO THE TOP OF THE SUBGRADE OR FINISHED GRADE SHOULD CONSIST OF WELL-GRADED GRANULAR MATERIALS LESS THAN 6" IN MAXIMUM PARTICLE SIZE.
2. THE BACKFILL SHOULD BE MOISTURE-CONDITIONED, PLACED IN ABOUT 8" LEVEL LOOSE LIFTS, AND MECHANICALLY COMPACTED TO 90% MIN. RELATIVE COMPACTION PER ASTM D1557.
3. WHERE TRENCHES ARE LOCATED IN PAVED AREAS, THE UPPER 3 FEET OF THE BACKFILL BELOW THE PAVEMENT GRADE SHOULD BE COMPACTED TO 95% MIN. RELATIVE COMPACTION PER ASTM D1557.

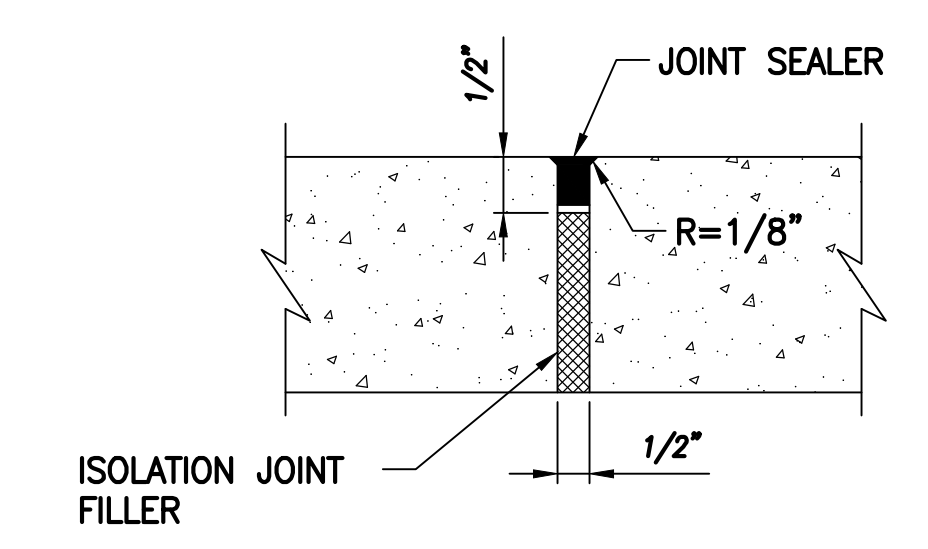
**4 TYPICAL DRAIN TRENCH SECTION**  
C407 NOT TO SCALE



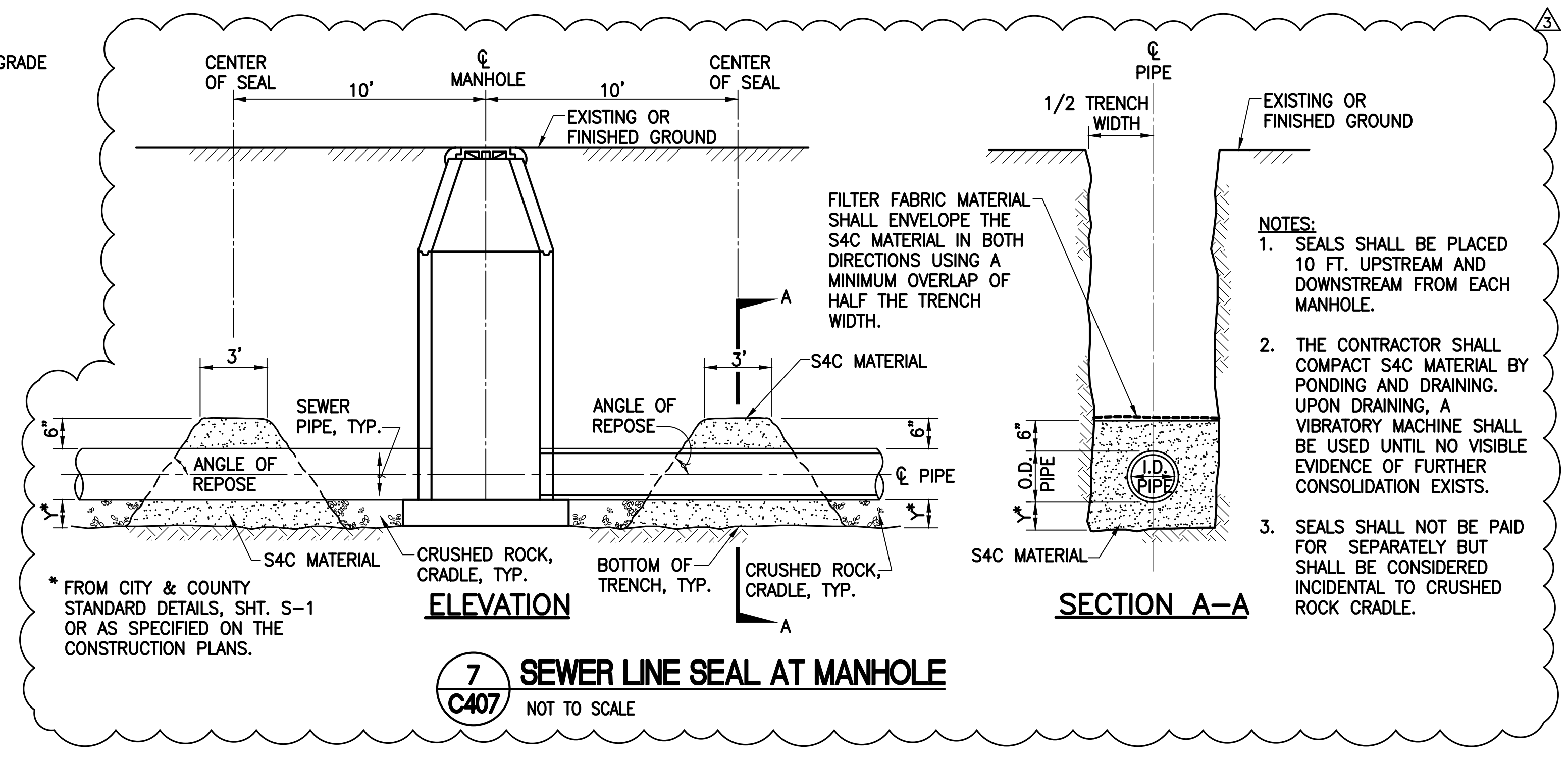
NOTES:

1. SEE SHEETS C401 TO C404 FOR MODEL NUMBERS AND DEPTHS.
2. TRENCH DRAIN GRATE SHALL BE STAINLESS STEEL (TYPE 447Q PART NO. 98971 OR APPROVED EQUAL)
3. JOINT LINES ALONG CONCRETE ENCASEMENT OF TRENCH DRAIN SHALL MATCH JOINT LINES OF WALKWAY. SEE SHEETS C201 & C202.

**5 TRENCH DRAIN DETAIL**  
C407 NOT TO SCALE



**6 ISOLATION JOINT**  
C407 NOT TO SCALE



**7 SEWER LINE SEAL AT MANHOLE**  
C407 NOT TO SCALE

\* FROM CITY & COUNTY STANDARD DETAILS, SH. S-1 OR AS SPECIFIED ON THE CONSTRUCTION PLANS.

NO.	DATE	REVISION
9/5/2023	ADDENDUM #3	

CONSTRUCTION DOCUMENTS  
MAY 26, 2023  
DATE

PROJECT TITLE:

SOUTH TSA CHECKPOINT

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

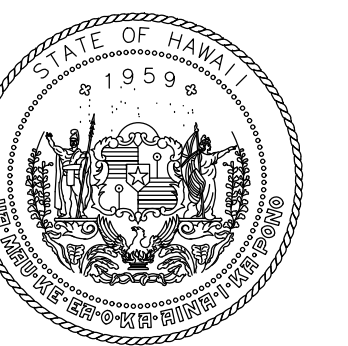
AM1095-10

SHEET TITLE:

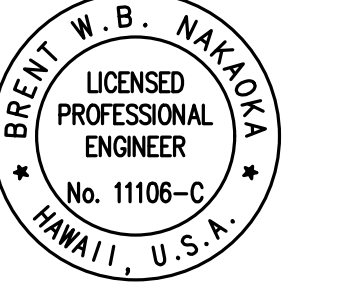
UTILITY DETAILS - 1

DATE:	DWG. NO.
MAY 26, 2023	C407
SHEET:	
38 OF 333 SHEETS	





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

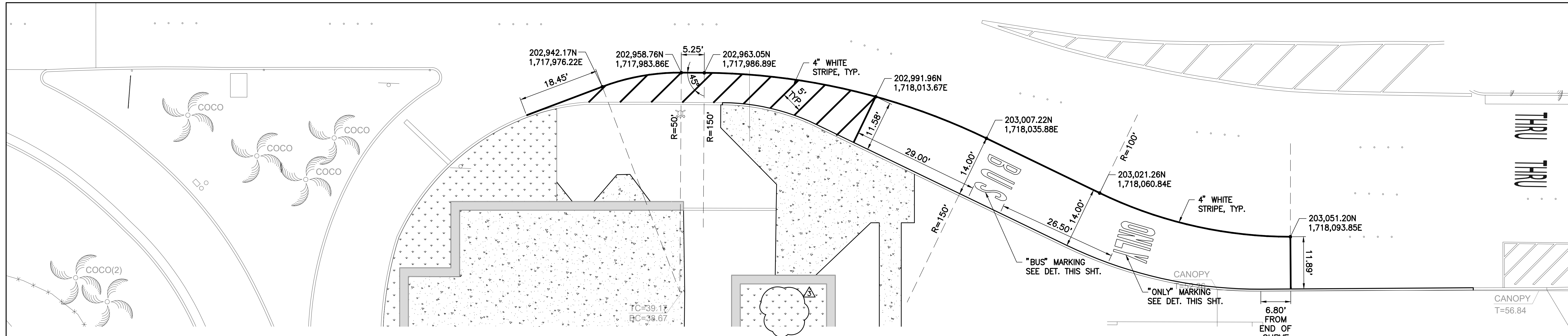


Brent W. B. Nakota  
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No. 11105-C  
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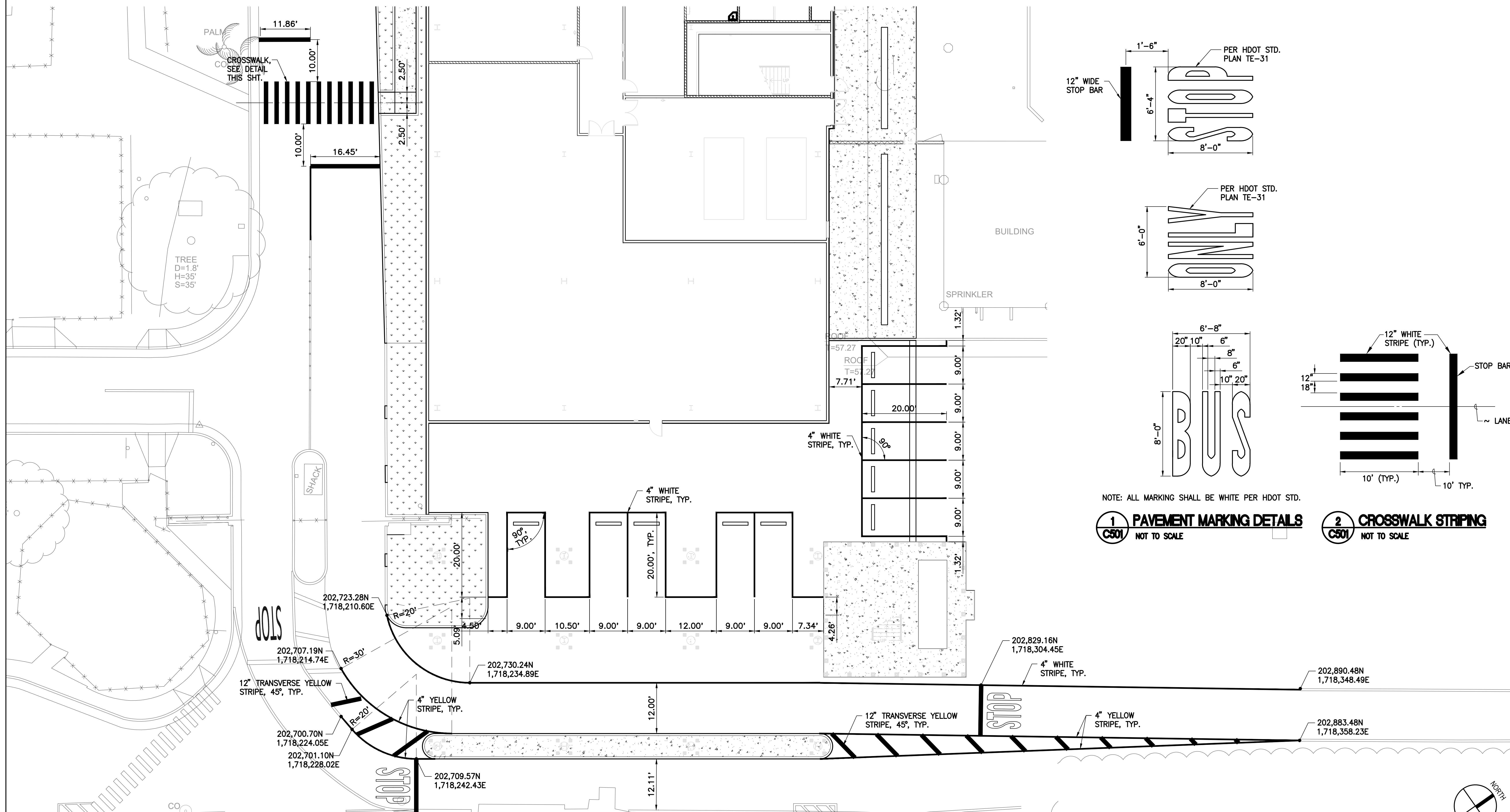
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DSGN.	DRWN.	CHKD.	APPD.
CD	CD	BN	BN

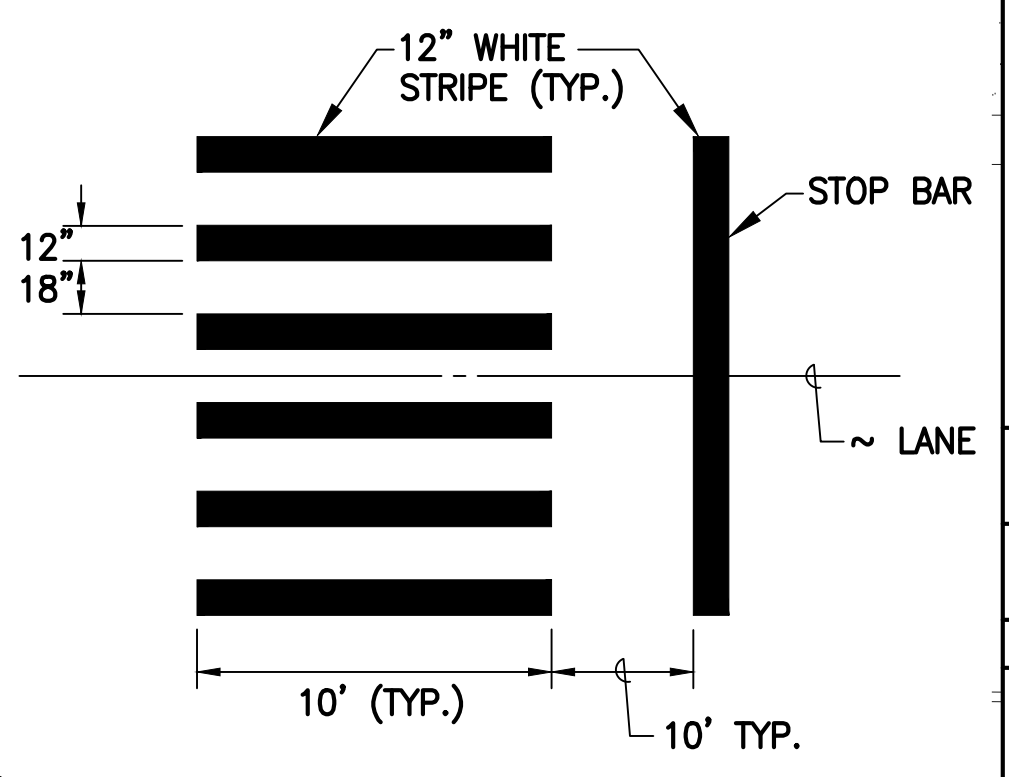
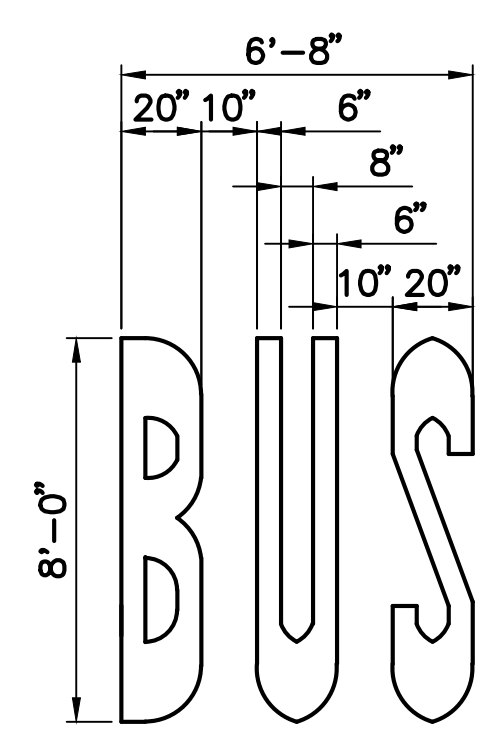
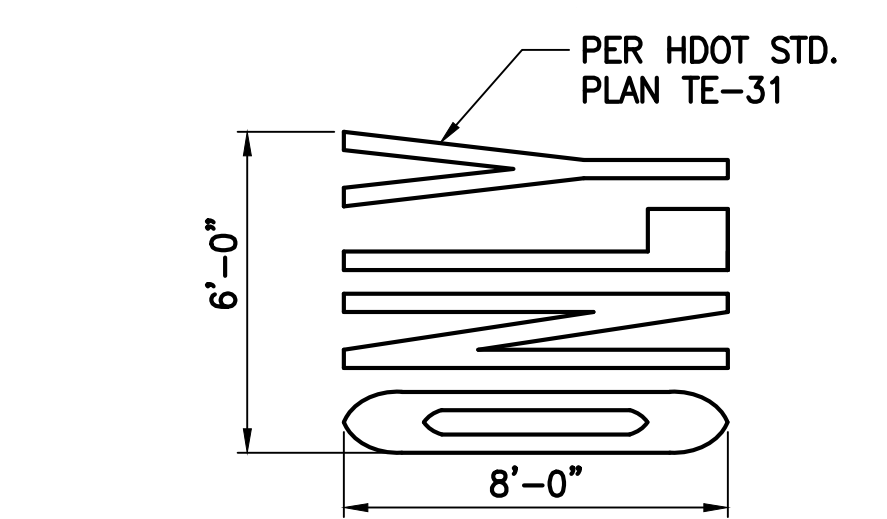
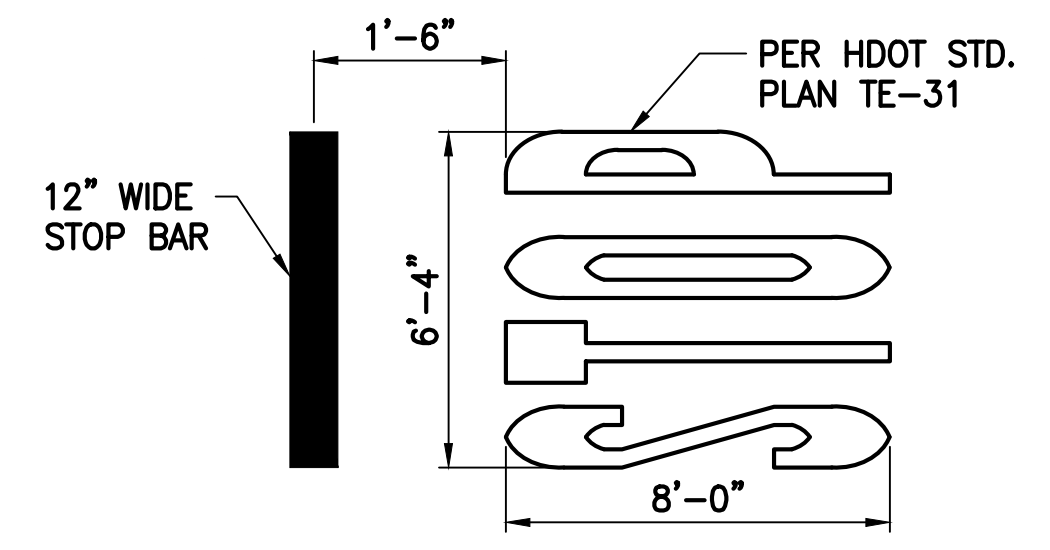
KEY PLAN / NOTES:



1 PAVEMENT MARKING PLAN (BUS DROP-OFF)  
1" = 10'-0"



2 PAVEMENT MARKING PLAN (VEHICLE PARKING AND ACCESS ROAD)  
1" = 10'-0"



NOTE: ALL MARKING SHALL BE WHITE PER HDOT STD.  
1 PAVEMENT MARKING DETAILS  
C501 NOT TO SCALE

2 CROSSWALK STRIPING  
C501 NOT TO SCALE

NO.	DATE	ADDENDUM #3	REVISION
	9/5/2023		

CONSTRUCTION DOCUMENTS  
MAY 26, 2023  
DATE

PROJECT TITLE:

SOUTH TSA CHECKPOINT

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

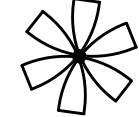






AM1095-10

SHEET TITLE:

PAVEMENT MARKING PLAN  
AND DETAILS

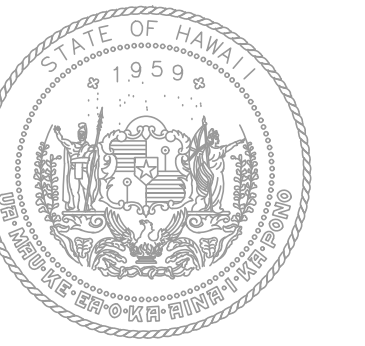
DATE:	DWG. NO.
MAY 26, 2023	C501
SHEET:	
40 OF 333 SHEETS	

**PLANT SCHEDULE**

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	
	7	ARCHONTOPHOENIX ALEXANDRAE	ALEXANDER PALM	FIELD STOCK	15'-18" MATCHING BROWN TRUNK HEIGHT	
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	
	5	ARTEMISIA MAUIENSIS	'AHINAHINA	3 GAL.	FULLY AND BUSHY, 24" OVERALL HEIGHT MIN.	
	23	CORDYLINE FRUTICOSA 'EMERALD GREEN'	EMERALD GREEN TI PLANT	1 GAL.	FULL CROWN, 30" OVERALL HEIGHT MIN.	
	22	CORDYLINE FRUTICOSA 'KAUAI BEAUTY'	KAUAI BEAUTY TI PLANT	1 GAL.	FULL CROWN, 30" OVERALL HEIGHT MIN.	
	41	GARDENIA BRIGHAMII	NA'U	3 GAL.	FULL AND BUSHY, 36" OVERALL HEIGHT MIN.	
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
	600 SF	AGAPANTHUS X 'PURPLE DELIGHT'	PURPLE DELIGHT AFRICAN LILY	6" POT	12" o.c.	TRI. SPACING WITH 1" LAYER BLACK CINDER BELOW
	750 SF	FICUS MICROCARPA VAR. CRASSIFOLIA	DWARF WAX BANYAN	6" POT	12" o.c.	TRI. SPACING WITH 1" LAYER BLACK CINDER BELOW

**REFERENCE NOTES SCHEDULE**

DESCRIPTION	QTY
'ILILI STONE 2"-3" DIAMETER (VARYING SIZES, 50/50 MIXTURE) 2" LAYER MIN.	525 SF
GRAVEL MAINTENANCE STRIP 2" LAYER WITH FILTER FABRIC BELOW	1,500 SF
ROOT BARRIER	5 LF
IMPORTED TOP SOIL, 4" LAYER	20 CY
SOIL AMENDMENT, 1" LAYER	1,800 SF
BLACK CINDER MULCH BELOW ALL GROUND COVER AREA, 1" LAYER	1,800 SF
FILTER FABRIC BELOW ALL 'ILILI STONE AND GRAVEL MAINTENANCE STRIPS	2,025 SF
CONCRETE BRICK HEADER	15 LF
LANDSCAPE BOULDERS (24" - 36" DIA.)	8 EA



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-	-	-	-

**KEY PLAN / NOTES:**

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
DATE  
**MAY 26, 2023**

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

PLANTING SCHEDULE

DATE:

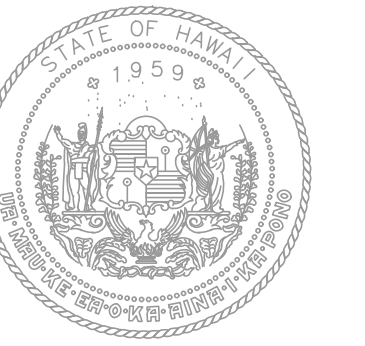
**MAY 26, 2023**

SHEET:

43 OF 333 SHEETS

DWG. NO.

**L003**



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DEPARTMENT OF TRANSPORTATION  
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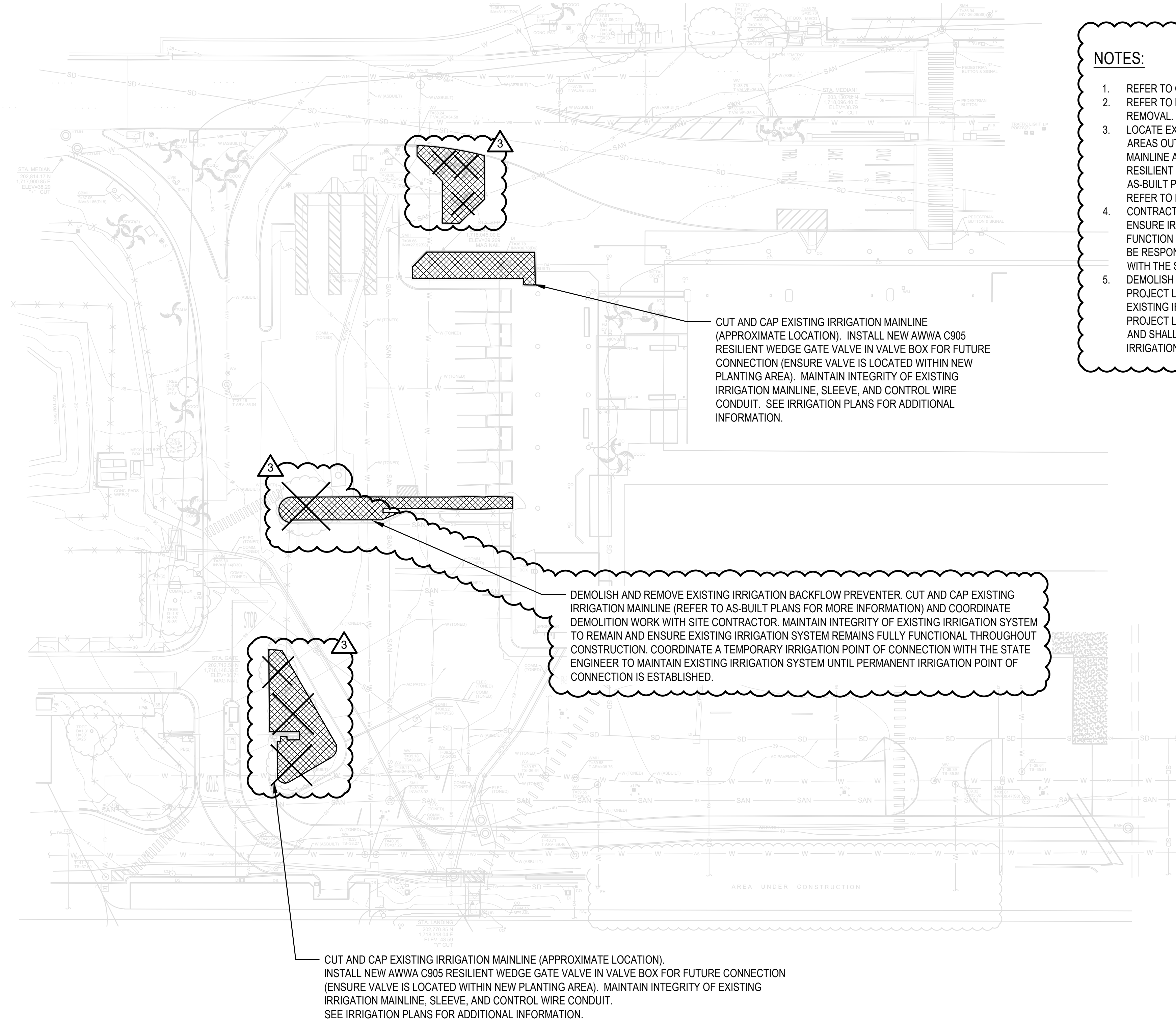


MARC K. SHIMADA  
LICENSED  
PROFESSIONAL  
LANDSCAPE  
ARCHITECT  
No. 13602  
HAWAII, U.S.A.  
04/30/2024  
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**NOTES:**

- REFER TO CIVIL DRAWINGS FOR SITE DEMOLITION WORK.
- REFER TO L001 FOR ADDITIONAL REQUIREMENTS FOR TREE TRIMMING & REMOVAL.
- LOCATE EXISTING IRRIGATION MAINLINE AND IDENTIFY CONNECTIONS TO AREAS OUTSIDE OF CURRENT PROJECT AREA. CUT AND CAP EXISTING MAINLINE AT PERIMETER OF PROJECT AREA AND PROVIDE AWWA C905 RESILIENT WEDGE GATE VALVE FOR FUTURE CONNECTION. REFER TO AS-BUILT PLANS FOR APPROXIMATE LOCATION OF EXISTING MAINLINE AND REFER TO NEW IRRIGATION PLANS FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL PROVIDE TEMPORARY IRRIGATION CONNECTION TO ENSURE IRRIGATION SYSTEM BEYOND PROJECT LIMITS CONTINUE TO FUNCTION THROUGHOUT THE CONSTRUCTION PERIOD. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND COORDINATING A WATER SOURCE WITH THE STATE ENGINEER.
- DEMOLISH AND REMOVE ALL EXISTING IRRIGATION COMPONENTS WITHIN THE PROJECT LIMITS PROVIDED THE COMPONENT IS NOT REQUIRED TO KEEP EXISTING IRRIGATION SYSTEM OPERATIONAL FOR AREAS OUTSIDE THE PROJECT LIMITS. CONTRACTOR SHALL CONDUCT A FIELD TEST/FIELD SURVEY AND SHALL PROVIDE NECESSARY COMPONENTS TO MAINTAIN EXISTING IRRIGATION SYSTEM OPERATION.

LEGEND (THIS SHEET)		
SYMBOLS	QTY	DESCRIPTION
	3	PALM PLANTING TO BE DEMOLISHED
	4	TREE PLANTING TO BE DEMOLISHED
	+/- 3775 SF	DEMOLISH AND REMOVE ALL EXISTING SHRUBS & GROUNDCOVERS, TYP.

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

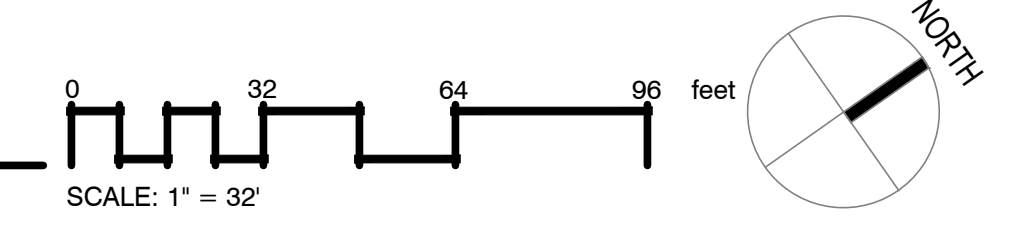
PROJECT NO:

**AM1095-10**

SHEET TITLE:

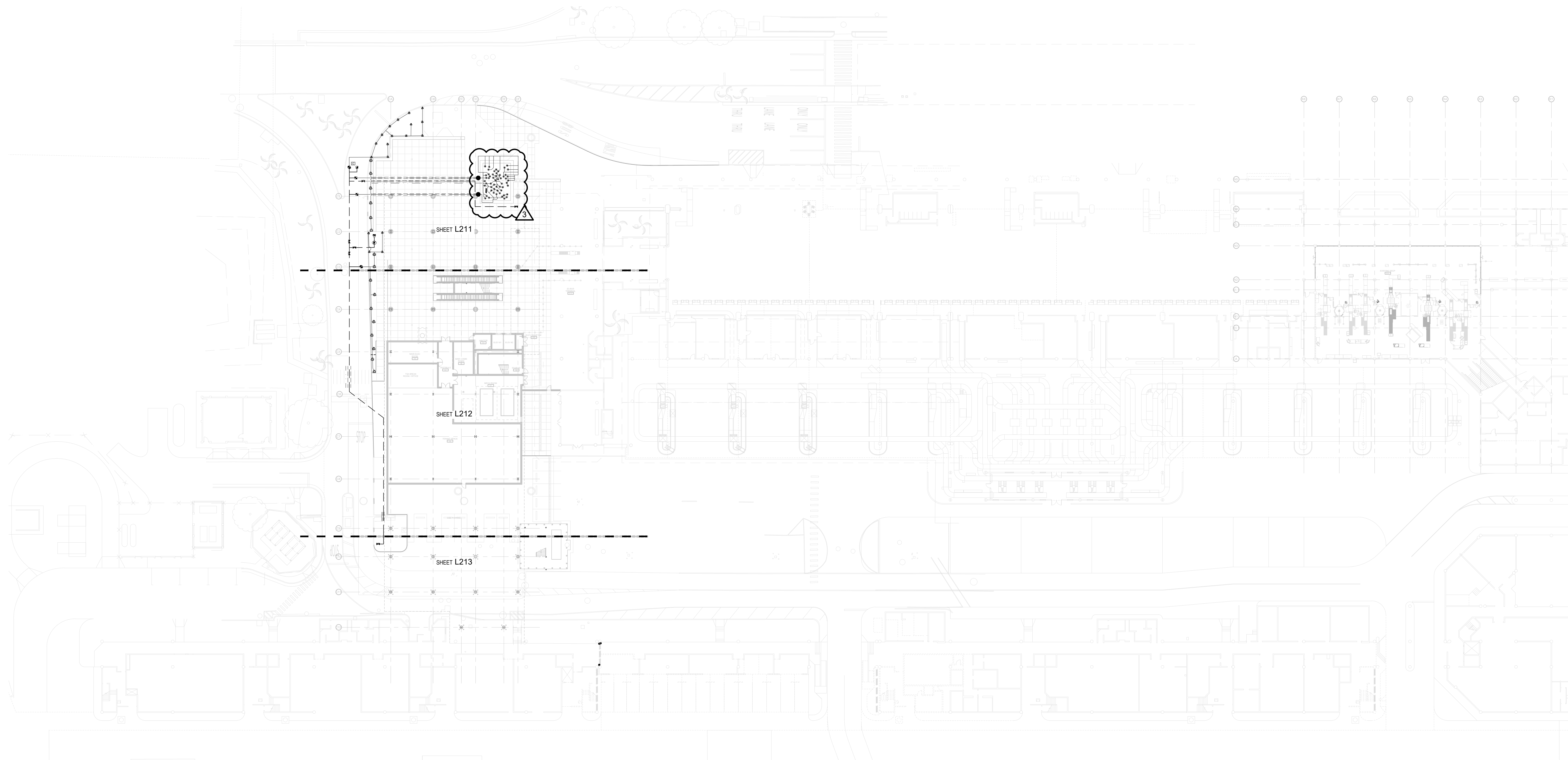
OVERALL LANDSCAPE DEMOLITION PLAN

DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>L100</b>
SHEET:	
44 OF 333 SHEETS	

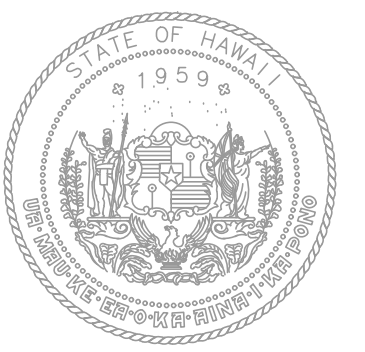
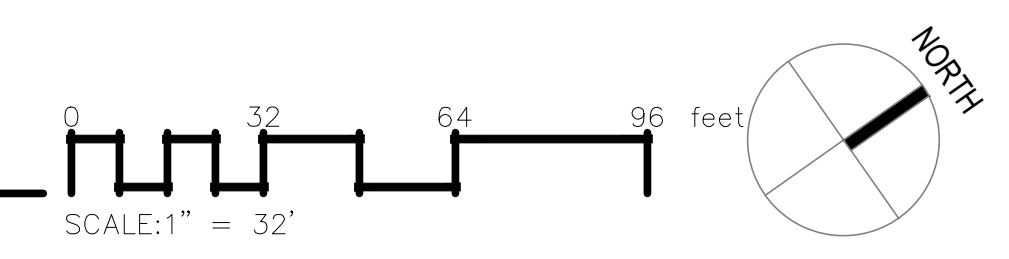




- NOTES:
1. THIS PLAN IS DIAGRAMMATIC. IRRIGATION SYSTEM IS SUBJECT TO FIELD ADJUSTMENTS DUE TO UNANTICIPATED SITE CONDITIONS. LOCATE ALL MAINLINES, LATERALS, VALVES, AND SPRINKLER HEADS WITHIN PLANTING AREAS UNLESS OTHERWISE NOTED. PLACE MAINLINE IN PLANTING AREAS WHERE NO SLEEVES OR COPPER LINES ARE SHOWN. AVOID CONFLICTS BETWEEN UNDERGROUND UTILITIES, STRUCTURES, AND PLANTINGS. REFER TO UTILITY PLANS FOR LOCATIONS.
  2. CONTRACTOR SHALL VERIFY FINAL LOCATION OF ALL IRRIGATION EQUIPMENT BEFORE STARTING ANY TRENCHING AND INSTALLATION.
  3. CONTRACTOR SHALL ADJUST SPRAY ANGLES AND RADIUS OF SPRAY HEADS AND ROTARY NOZZLES TO MINIMIZE OVERSPRAY ONTO PAVING AND SEATING AREAS.
  4. CONTRACTOR SHALL ENSURE EXISTING IRRIGATION SYSTEM REMAINS OPERATIONAL THROUGHOUT THE CONSTRUCTION PERIOD. COORDINATE ANY REQUIRED SHUT-DOWN WITH THE STATE ENGINEER AND PROVIDE TEMPORARY WATER CONNECTION DURING SHUT DOWN PERIODS.



1 OVERALL IRRIGATION PLAN  
1/32" = 1'-0"



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KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

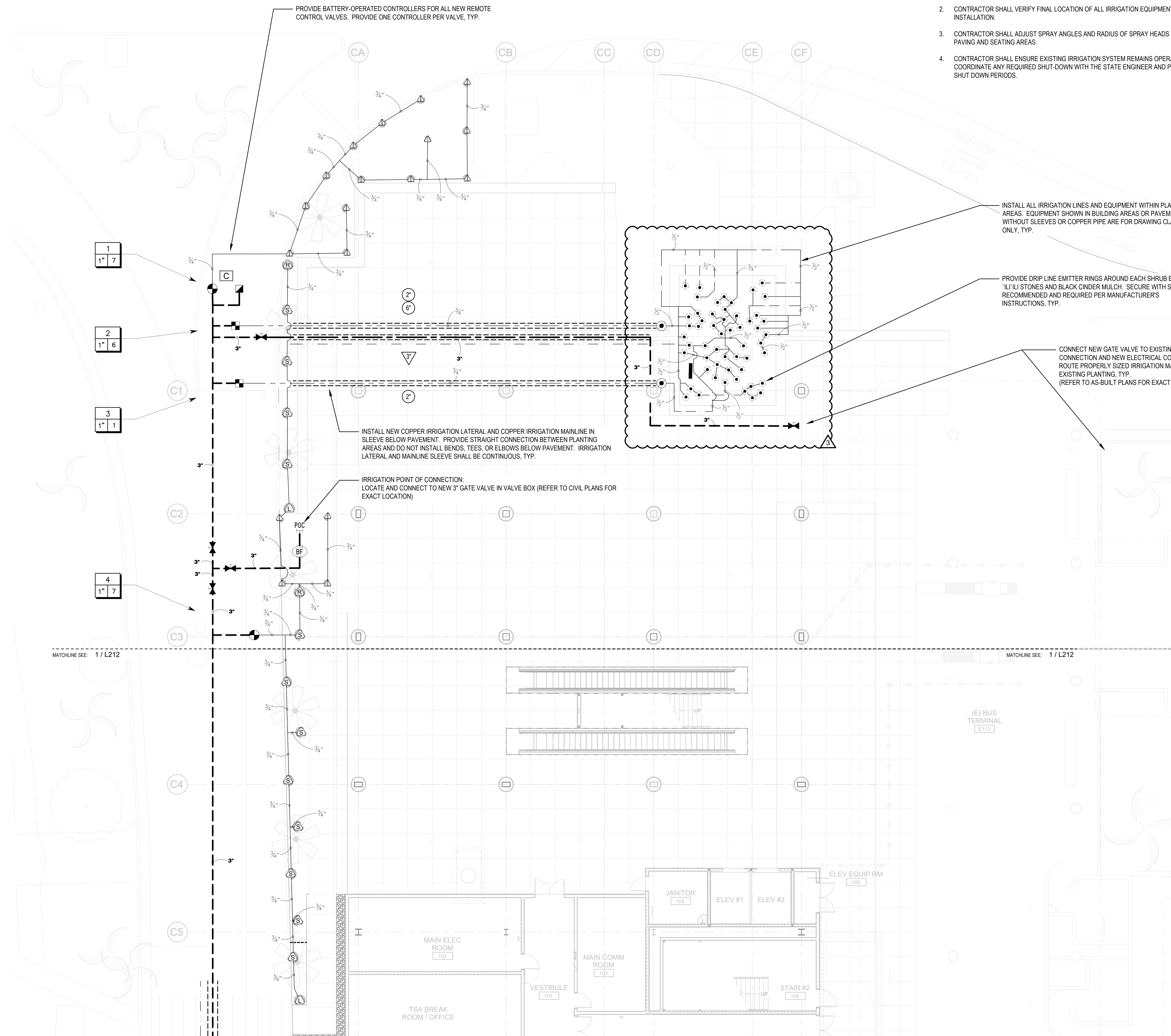
PROJECT NO:

**AM1095-10**

SHEET TITLE:

OVERALL IRRIGATION PLAN

DATE:	DWG. NO.
MAY 26, 2023	<b>L210</b>
SHEET:	
45 OF 333 SHEETS	



- NOTES:
1. THIS PLAN IS DIAGRAMMATIC. IRRIGATION SYSTEM IS SUBJECT TO FIELD ADJUSTMENTS DUE TO UNANTICIPATED SITE CONDITIONS. LOCATE ALL MAINLINES, LATERALS, VALVES, AND SPRINKLER HEADS WITHIN PLANTING AREAS UNLESS OTHERWISE NOTED. PLACE MAINLINE IN PLANTING AREAS WHERE NO SLEEVES OR COPPER LINES ARE SHOWN. AVOID CONFLICTS BETWEEN UNDERGROUND UTILITIES, STRUCTURES, AND PLANTINGS. REFER TO UTILITY PLANS FOR LOCATIONS.
  2. CONTRACTOR SHALL VERIFY FINAL LOCATION OF ALL IRRIGATION EQUIPMENT BEFORE STARTING ANY TRENCHING AND INSTALLATION.
  3. CONTRACTOR SHALL ADJUST SPRAY ANGLES AND RADIUS OF SPRAY HEADS AND ROTARY NOZZLES TO MINIMIZE OVERSPRAY ONTO PAVING AND SEATING AREAS.
  4. CONTRACTOR SHALL ENSURE EXISTING IRRIGATION SYSTEM REMAINS OPERATIONAL THROUGHOUT THE CONSTRUCTION PERIOD. COORDINATE ANY REQUIRED SHUT-DOWN WITH THE STATE ENGINEER AND PROVIDE TEMPORARY WATER CONNECTION DURING SHUT DOWN PERIODS.

PROVIDE BATTERY-OPERATED CONTROLLERS FOR ALL NEW REMOTE CONTROL VALVES. PROVIDE ONE CONTROLLER PER VALVE, TYP.

INSTALL ALL IRRIGATION LINES AND EQUIPMENT WITHIN PLANTING AREAS. EQUIPMENT SHOWN IN BUILDING AREAS OR PAVEMENT WITHOUT SLEEVES OR COPPER PIPE ARE FOR DRAWING CLARITY ONLY, TYP.

PROVIDE DRIP LINE EMITTER RINGS AROUND EACH SHRUB BELOW 'ILILI STONES AND BLACK CINDER MULCH. SECURE WITH STAKES AS RECOMMENDED AND REQUIRED PER MANUFACTURER'S INSTRUCTIONS, TYP.

CONNECT NEW GATE VALVE TO EXISTING PVC MAINLINE. PROVIDE NEW SLEEVE FOR MAINLINE CONNECTION AND NEW ELECTRICAL CONDUIT FOR IRRIGATION CONTROL WIRES (SIZE AS REQUIRED). ROUTE PROPERLY SIZED IRRIGATION MAINLINE AS REQUIRED TO RECONNECT TO EXISTING MAINLINE IN EXISTING PLANTING, TYP. (REFER TO AS-BUILT PLANS FOR EXACT LOCATION)

INSTALL NEW COPPER IRRIGATION LATERAL AND COPPER IRRIGATION MAINLINE IN SLEEVE BELOW PAVEMENT. PROVIDE STRAIGHT CONNECTION BETWEEN PLANTING AREAS AND DO NOT INSTALL BENDS, TEES, OR ELBOWS BELOW PAVEMENT. IRRIGATION LATERAL AND MAINLINE SLEEVE SHALL BE CONTINUOUS, TYP.

IRRIGATION POINT OF CONNECTION: LOCATE AND CONNECT TO NEW 3" GATE VALVE IN VALVE BOX (REFER TO CIVIL PLANS FOR EXACT LOCATION)

1  
1" 7

2  
1" 6

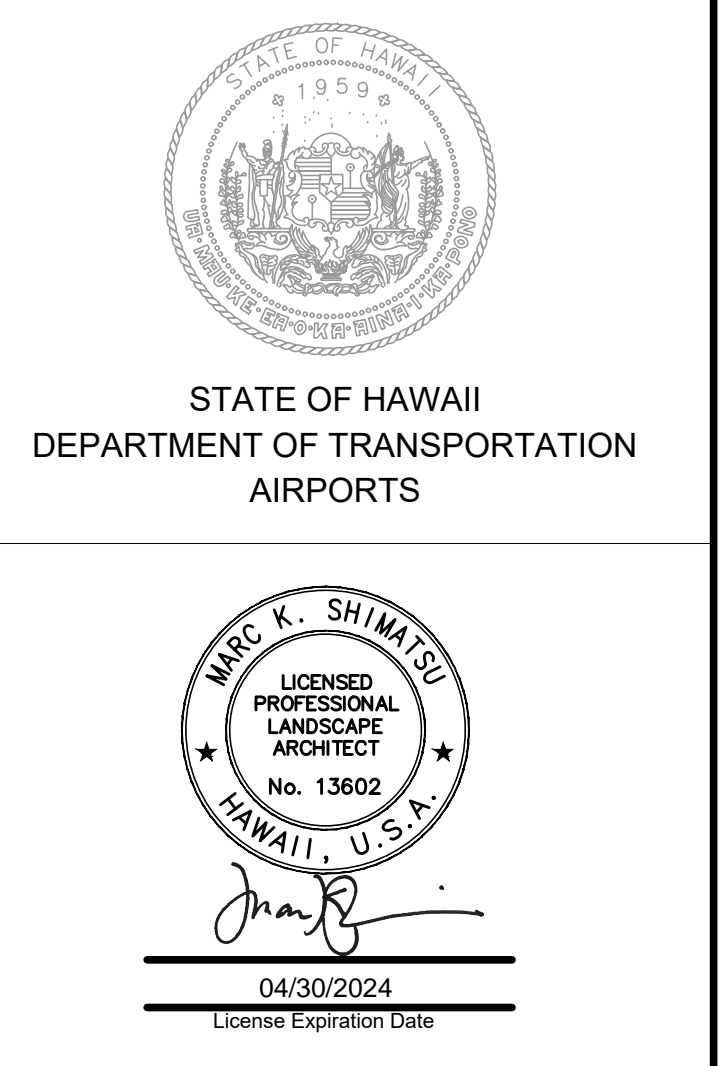
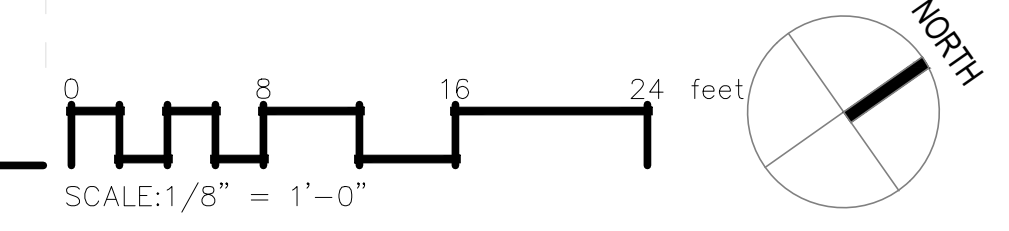
3  
1" 1

4  
1" 7

MATCHLINE SEE: 1 / L212

MATCHLINE SEE: 1 / L212

1 IRRIGATION PLAN - GROUND LEVEL - AREA A  
1/8" = 1'-0"



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KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

IRRIGATION PLAN - GROUND LEVEL  
- AREA A

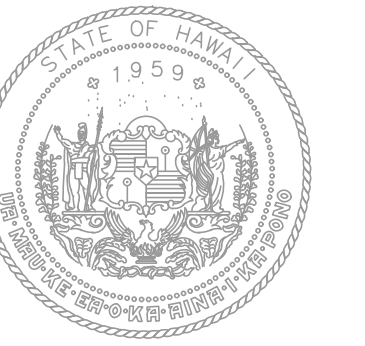
DATE: **MAY 26, 2023**

SHEET: **L211**

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DWG. NO.

**L211**



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

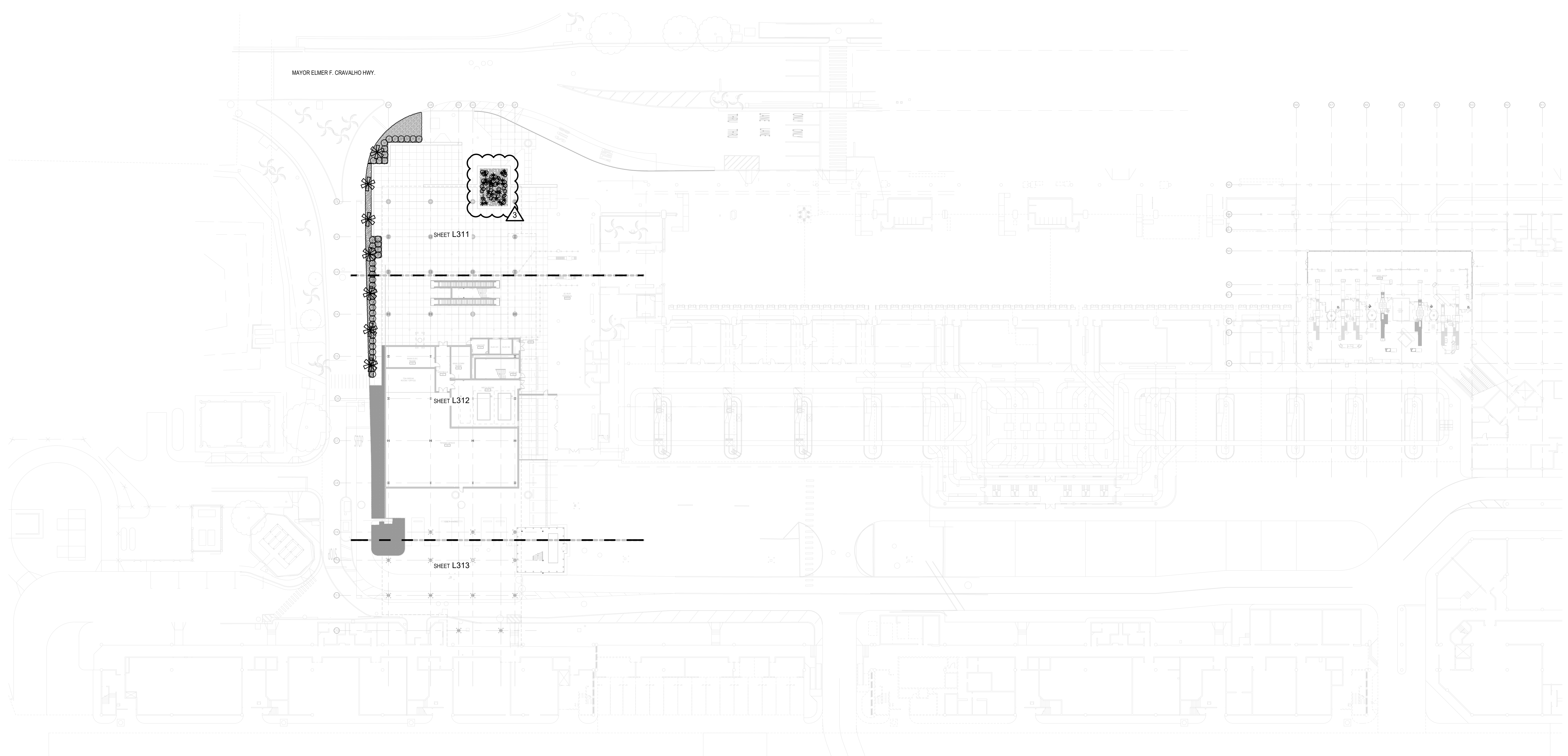


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KEY PLAN / NOTES:



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3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

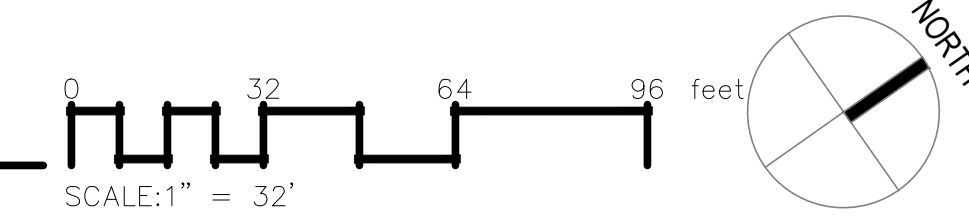
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SHEET TITLE:

OVERALL PLANTING PLAN -  
GROUND LEVEL

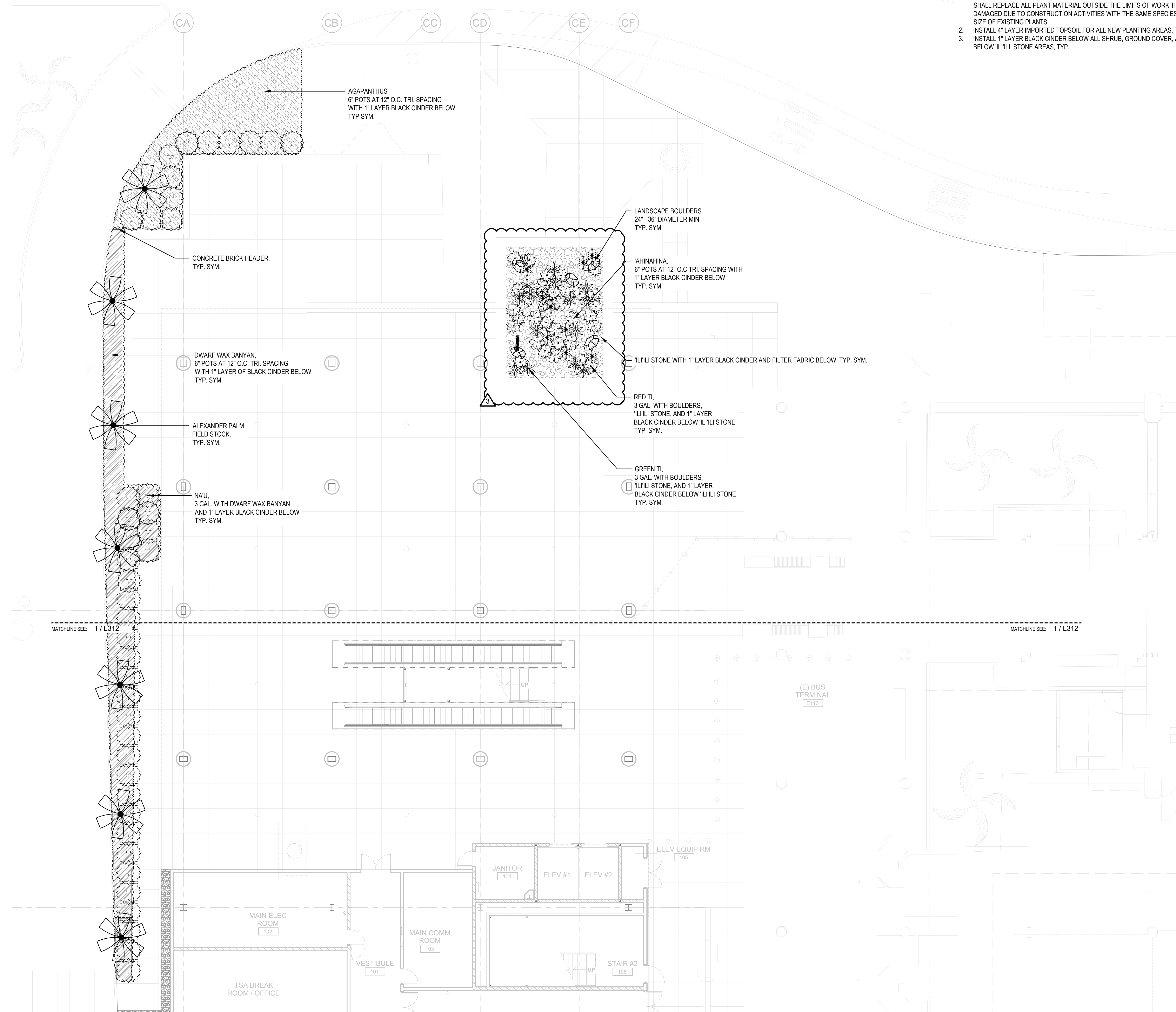
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MAY 26, 2023	<b>L310</b>
SHEET:	
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1 OVERALL PLANTING PLAN - GROUND LEVEL  
1/32" = 1'-0"

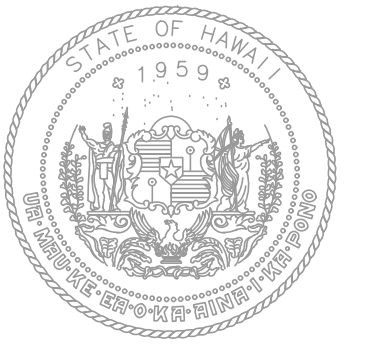




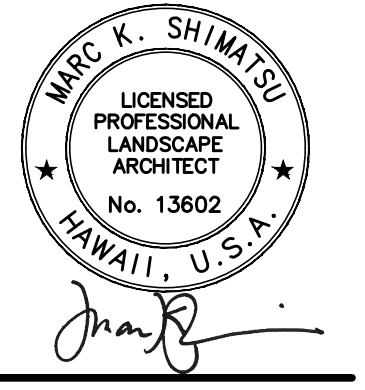
MAYOR ELMER F. CRAVALHO HWY.



- NOTES:
- EXISTING PLANTING TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REPLACE ALL PLANT MATERIAL OUTSIDE THE LIMITS OF WORK THAT IS DAMAGED DUE TO CONSTRUCTION ACTIVITIES WITH THE SAME SPECIES AND SIZE OF EXISTING PLANTS.
  - INSTALL 4\"/>



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KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

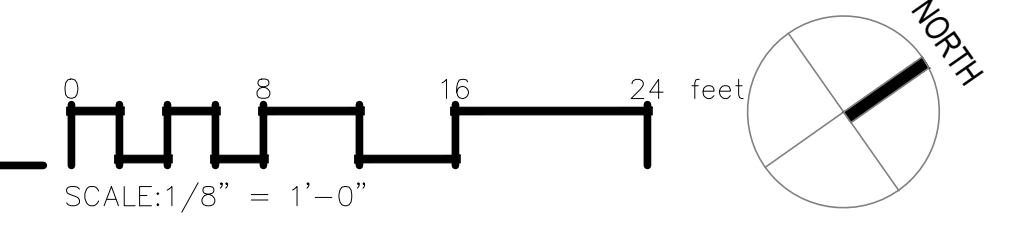
PLANTING PLAN - GROUND LEVEL  
- AREA A

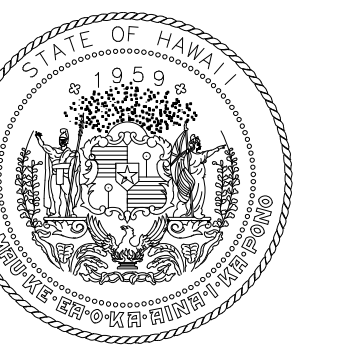
DATE: **MAY 26, 2023** DWG. NO.

SHEET: **L311**

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**1** PLANTING PLAN - GROUND LEVEL - AREA A  
1/8" = 1'-0"





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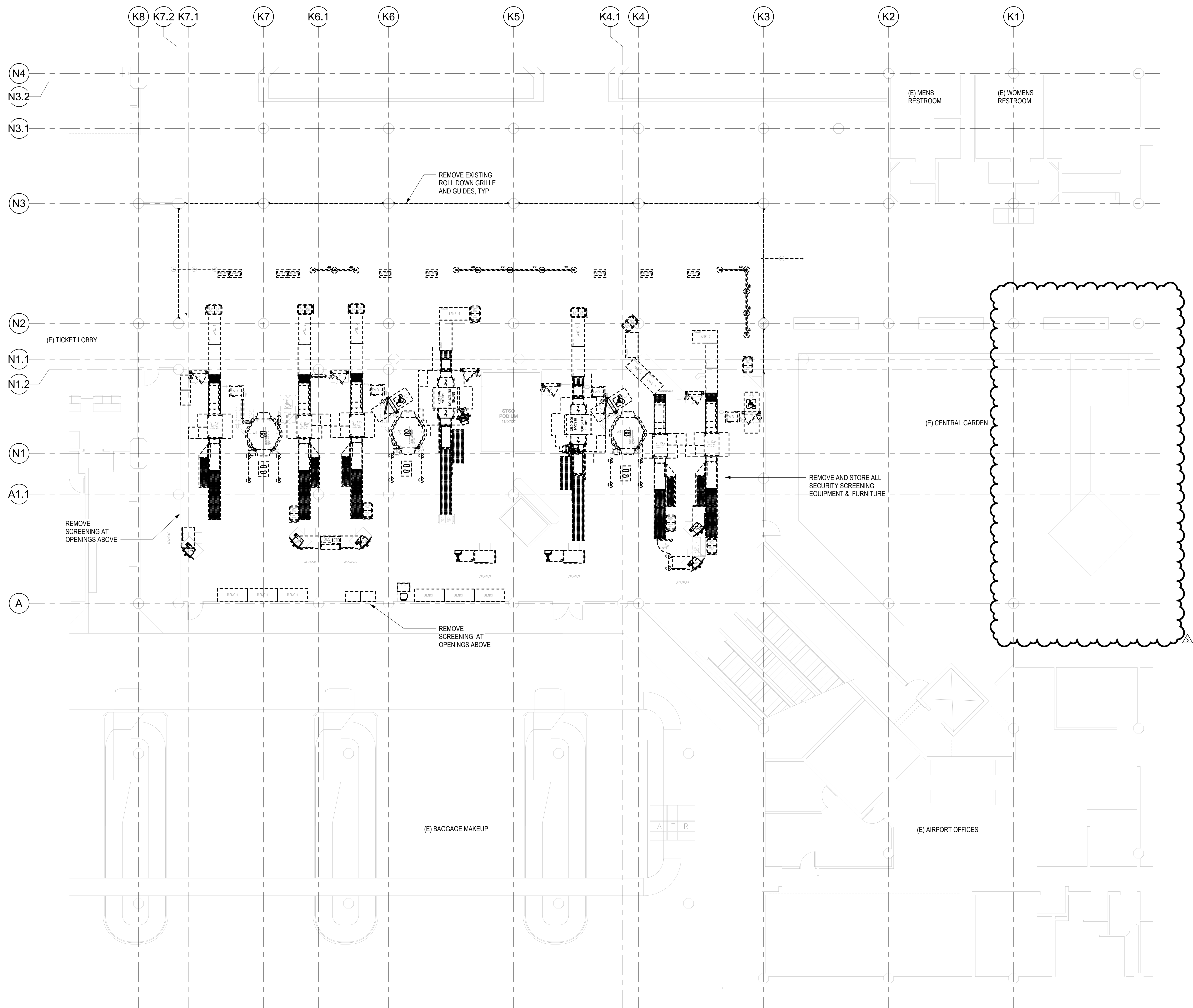


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DH	LT	DH	KW

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NO.	DATE	ADDENDUM #3 REVISIONS
3	9/5/2023	

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MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO.:

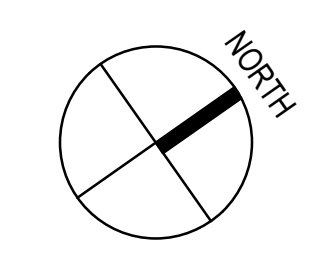
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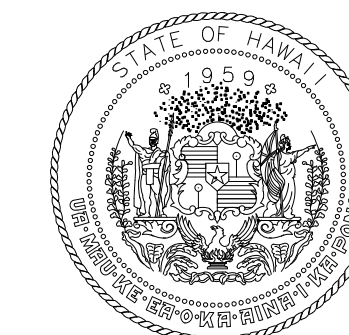
**DEMOLITION FLOOR PLAN - GROUND LEVEL - AREA D**

DATE:	DWG. NO.
MAY 26, 2023	A114
SHEET:	
58 OF 333 SHTS	

1 DEMOLITION FLOOR PLAN - GROUND LEVEL - AREA D  
1/8" = 1'-0"







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NO.	DATE	ADDENDUM #3 REVISIONS
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

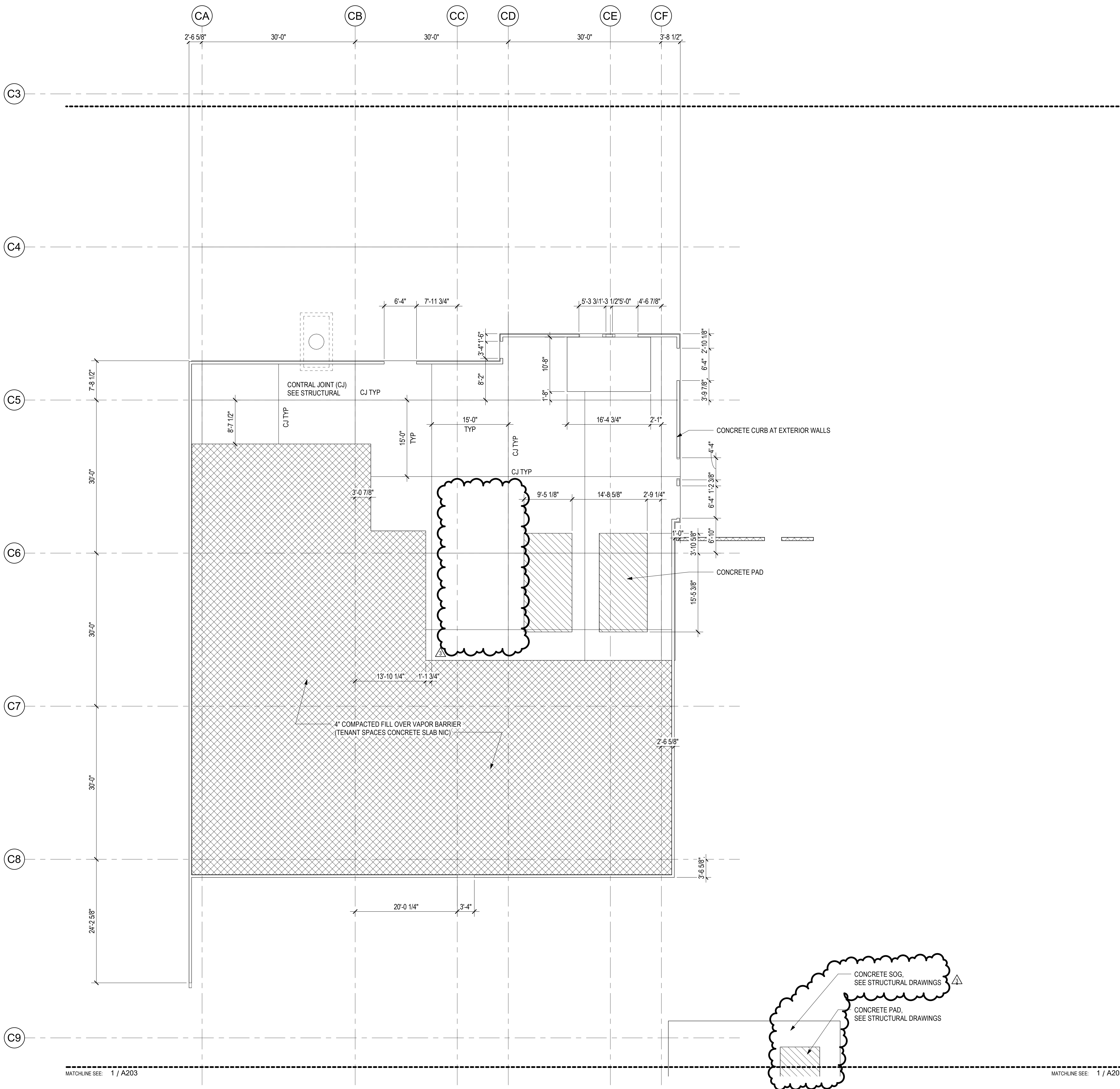
PROJECT NO.:

**AM1095-10**

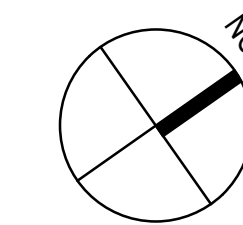
SHEET TITLE:

**SLAB EDGE PLAN -  
GROUND LEVEL -  
AREA B**

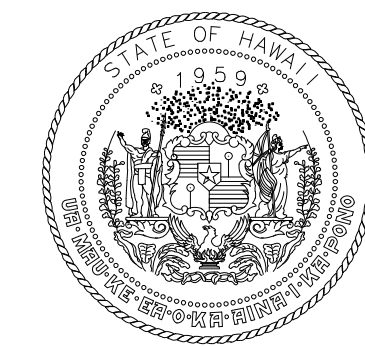
DATE:	DWG. NO.
MAY 26, 2023	<b>A202</b>
SHEET:	
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**1** SLAB EDGE PLAN - GROUND LEVEL - AREA B  
1/8" = 1'-0"



8/30/2023 3:04:43 PM



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KEY PLAN / NOTES:

NO.	DATE	ADDENDUM #3 REVISIONS
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**

MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO.:

**AM1095-10**

SHEET TITLE:

**SLAB EDGE PLAN -  
GROUND LEVEL -  
AREA C**

DATE:

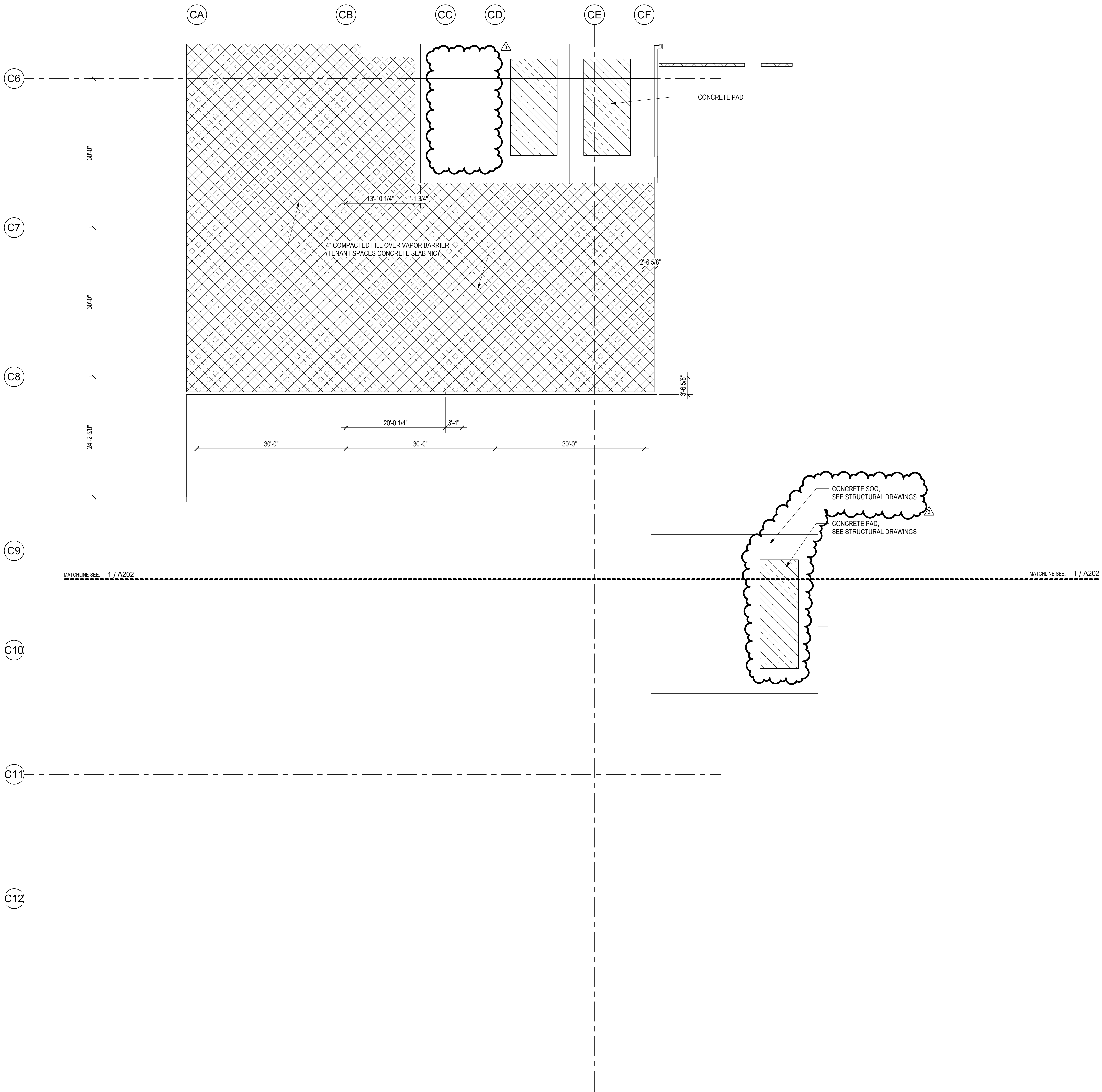
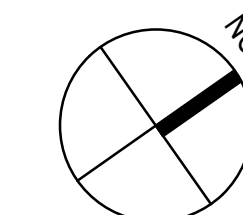
**MAY 26, 2023**

SHEET:

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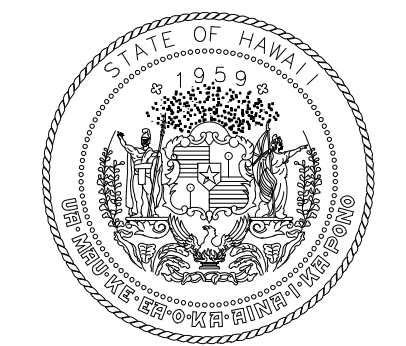
DWG. NO.

**A203**



**1** SLAB EDGE PLAN - GROUND LEVEL - AREA C  
1/8" = 1'-0"

8/30/2023 12:44:55 PM



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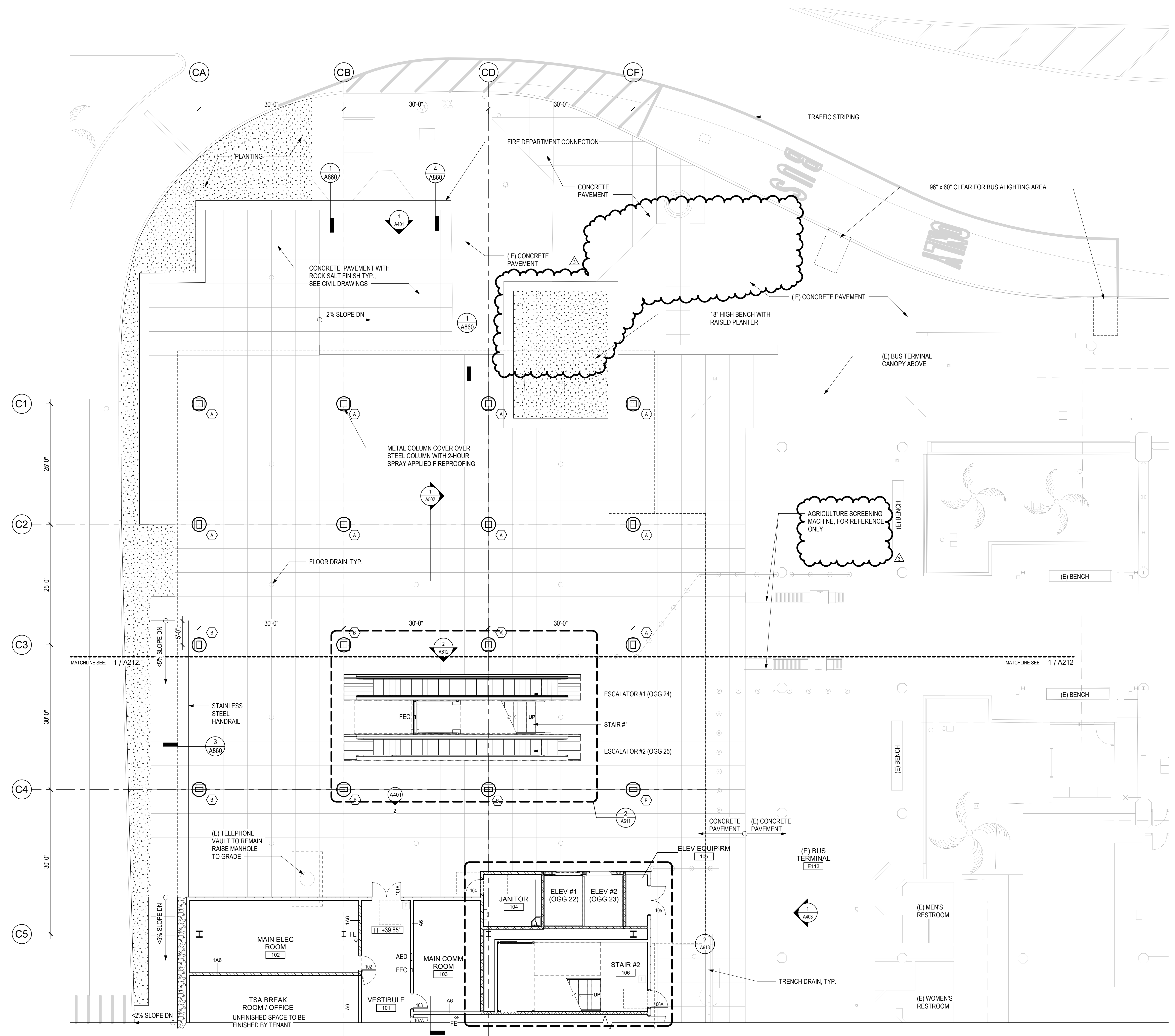
KEY PLAN / NOTES:

GENERAL PLAN NOTES

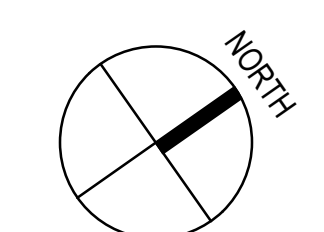
- SEE G004 FOR GENERAL NOTES
- SEE A400 SERIES FOR EXTERIOR CURTAIN WALL AND A600 SERIES FOR STOREFRONT INFORMATION
- SEE A702 FOR DOOR SCHEDULE
- SEE A701 FOR INTERIOR ROOM FINISHES
- SEE A800 SERIES FOR PARTITION TYPES AND DETAILS
- SEE A810 SERIES FOR DOOR DETAILS
- STRUCTURE SHOWN FOR REFERENCE ONLY, SEE "S" SERIES SHEETS
- DIMENSIONS ARE TO FACE OF FINISH, UON, TYP
- ALL STRUCTURAL STEEL MEMBERS TO BE 2-HR FIRE RATED
- ALL ROOF DECKS TO BE 1-HR RATED
- SEE A826 FOR COLUMN TYPES

PARTITION TYPE LEGEND

- METAL STUD - EXISTING
- METAL STUD - NON-RATED
- METAL STUD - 1 HOUR
- METAL STUD - 2 HOUR



1 FLOOR PLAN - GROUND LEVEL - AREA A  
1/8" = 1'-0"



NO.	DATE	ADDENDUM #3	REVISIONS
3	9/5/2023		

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO.:

**AM1095-10**

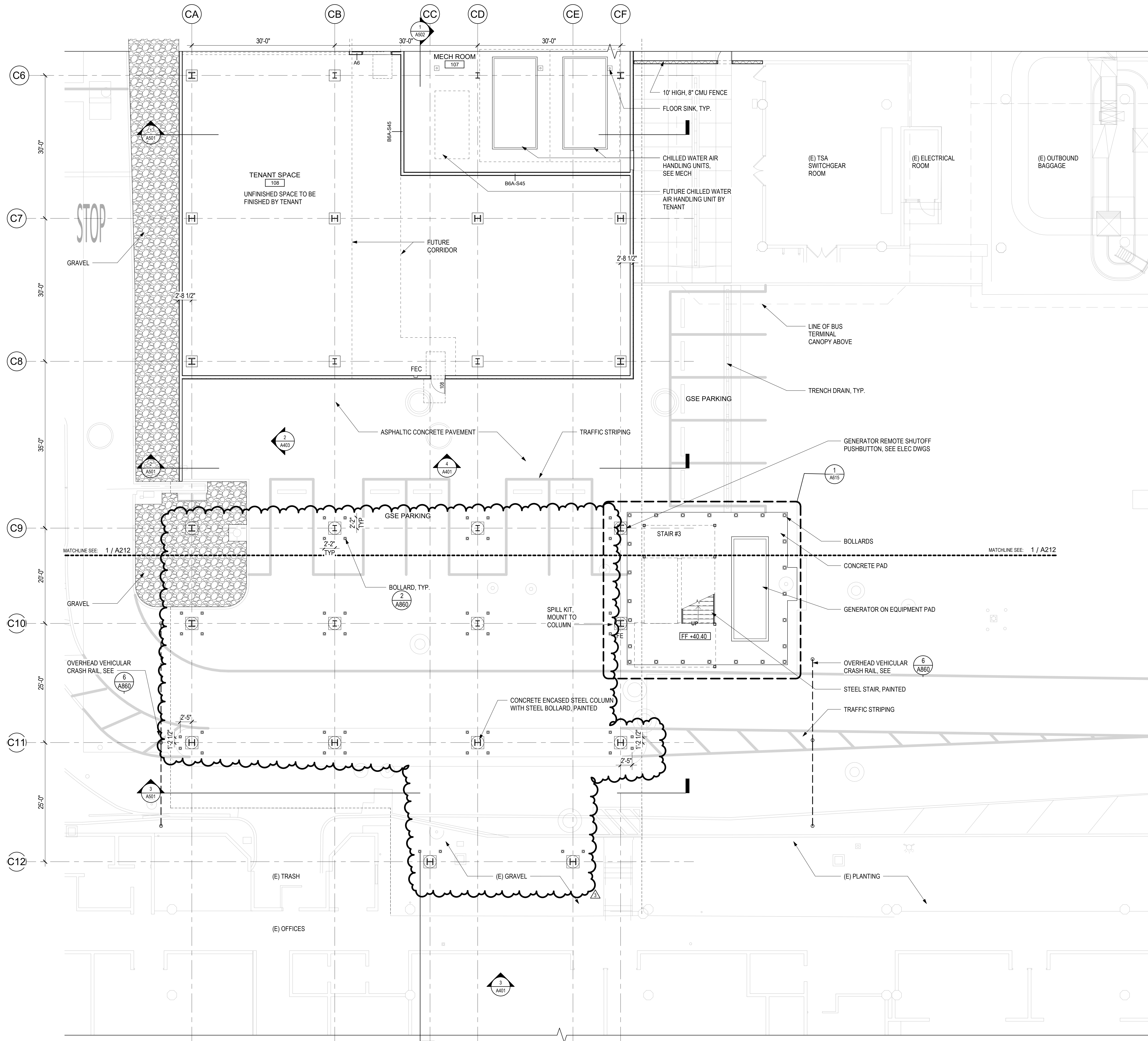
SHEET TITLE:

**FLOOR PLAN -  
GROUND LEVEL -  
AREA A**

DATE:	DWG. NO.
MAY 26, 2023	A211
SHEET:	
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8/30/2023 11:13:10 AM



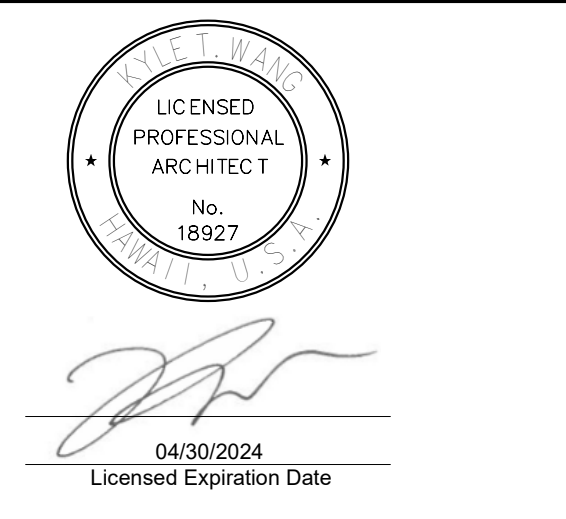


**GENERAL PLAN NOTES**

1. SEE G004 FOR GENERAL NOTES
2. SEE A400 SERIES FOR EXTERIOR CURTAIN WALL AND A600 SERIES FOR STOREFRONT INFORMATION
3. SEE A702 FOR DOOR SCHEDULE
4. SEE A701 FOR INTERIOR ROOM FINISHES
5. SEE A800 SERIES FOR PARTITION TYPES AND DETAILS
6. SEE A810 SERIES FOR DOOR DETAILS
7. STRUCTURE SHOWN FOR REFERENCE ONLY, SEE "S" SERIES SHEETS
8. DIMENSIONS ARE TO FACE OF FINISH, UON, TYP
9. ALL STRUCTURAL STEEL MEMBERS TO BE 2-HR FIRE RATED
10. ALL ROOF DECKS TO BE 1-HR RATED
11. SEE A826 FOR COLUMN TYPES

**PARTITION TYPE LEGEND**

- METAL STUD - EXISTING
- METAL STUD - NON-RATED
- METAL STUD - 1 HOUR
- METAL STUD - 2 HOUR



This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
DH	LT	DH	KW

**KEY PLAN / NOTES:**

NO.	DATE	ADDENDUM #3	REVISIONS
3	9/5/2023		

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO.:

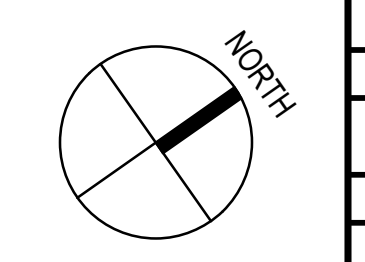
**AM1095-10**

SHEET TITLE:

**FLOOR PLAN -  
GROUND LEVEL -  
AREA C**

DATE:	DWG. NO.
MAY 26, 2023	A213
SHEET:	
72 OF 333 SHTS	

**1 FLOOR PLAN - GROUND LEVEL - AREA C**  
1/8" = 1'-0"



ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH				CEILING FINISH	COMMENTS
				NORTH	EAST	SOUTH	WEST		
GROUND LEVEL									
	TSA BREAK ROOM / OFFICE	-	-	-	-	-	-	-	FINISH BY TENANTS
101	VESTIBULE	CN-02	RB-01	PT-03	PT-03	PT-03	PT-03	ACT-01	
102	MAIN ELEC ROOM	CN-02	RB-01	PT-02	PT-02	PT-02	PT-02	-	
103	MAIN COMM ROOM	CN-02	RB-01	PT-02	PT-02	PT-02	PT-02	-	
104	JANITOR	CN-02	RB-01	PT-03	PT-03	PT-03	PT-03	-	
105	ELEV EQUIP RM	CN-02	RB-01	PT-03	PT-03	PT-03	PT-03	-	
106	STAIR #2	CN-02	RB-01	PT-03	PT-03	PT-03	PT-03	-	WITH RUBBER STAIR TREADS RBT-01
107	MECH ROOM	CN-02	RB-01	PT-03	PT-03	PT-03	PT-03	-	
108	TENANT SPACE	-	-	-	-	-	-	-	FINISHES BY TENANTS
131	ELEV #1 (OGG 22)	RBF-01	SST-01	WP-01	WP-01	WP-01	WP-01	CP-01	ELEVATOR CAB FINISHES. TRESPA WALLS WITH STAINLESS STEEL FLAT BAR BUMPERS & ROUND HANDRAIL
132	ELEV #2 (OGG 23)	RBF-01	SST-01	WP-01	WP-01	WP-01	WP-01	CP-01	ELEVATOR CAB FINISHES. TRESPA WALLS WITH STAINLESS STEEL FLAT BAR BUMPERS & ROUND HANDRAIL
133	GSE PARKING	-	-	-	-	-	-	-	
134	OVERFLOW QUEUING	-	-	-	-	-	-	-	
E101	EXISTING SSCP	(E)	(E)	PT-07	PT-07	PT-07	PT-07	STO-01	PATCH FINISHES DAMAGED BY THE CONSTRUCTION TO MATCH EXISTING
E102	EXISTING QUEUE	(E)	(E)	PT-07	PT-07	PT-07	PT-07	STO-01	PATCH FINISHES DAMAGED BY THE CONSTRUCTION TO MATCH EXISTING
E113	(E) BUS TERMINAL	(EX)	-	-	-	-	-	-	
CONCOURSE LEVEL									
106	STAIR #2	RBF-01	RB-01	PT-03	PT-03	PT-03	PT-03	-	WITH RUBBER STAIR TREADS RBT-01
201	QUEUING	CN-01, CPT-01	SST-01	FRP-01, PT-02, CT-01, CT-03	FRP-01, PT-02, CT-01, CT-03	FRP-01, PT-02, CT-01	FRP-01, PT-02, CT-01	LMC-02, EXPOSED STRUCTURE	PAINT EXPOSED STRUCTURE PT-04; 4' FRP WAINSCOT WITH PAINTED GYPSUM BOARD ABOVE, SEE INT ELEV
202	STATE COMM ROOM	CN-02	RB-01	PT-02	PT-02	PT-02	PT-02	-	
203	SSCP	CN-01	SST-01	FRP-01, PT-02	FRP-01, PT-02	FRP-01, PT-02	FRP-01, PT-02	LMC-02, EXPOSED STRUCTURE	PAINT EXPOSED STRUCTURE PT-04; 4' FRP WAINSCOT WITH PAINTED GYPSUM BOARD ABOVE, SEE INT. ELEV
204	RECOMPOSURE AREA	CN-01	SST-01	FRP-01, PT-02, CT-01	FRP-01, PT-02, CT-01	FRP-01, PT-02, CT-01	FRP-01, PT-02, CT-01	LMC-02	
205	TSA STORAGE	CN-02	RB-01	PT-02	PT-02	PT-02	PT-02	-	
206	TSA COMM ROOM	CN-02	RB-01	PT-02	PT-02	PT-02	PT-02	-	
207	ELEC ROOM	CN-02	RB-01	PT-02	PT-02	PT-02	PT-02	-	
208	PRIVATE SCREENING ROOM	RBF-01	RB-01	PT-02	PT-02	PT-02	PT-02	ACT-01	
209	STSO PODIUM	RBF-01	RB-01	PT-02	PT-02	PT-02	PT-02	LMC-02	PLASTIC LAMINATE CLAD WORK COUNTER PL-01
210	REMOTE RESOLUTION ROOM	RBF-01	RB-01	PT-02	PT-02	PT-02	PT-02	ACT-01	PLASTIC LAMINATE CLAD WORK COUNTER PL-01
211	STORAGE	CN-02	RB-01	PT-02	PT-02	PT-02	PT-02	PT-01	
212	CIRCULATION	CN-01	SST-01	FRP-01, PT-02, CT-01	FRP-01, PT-02, CT-01	FRP-01, PT-02, CT-01	FRP-01, PT-02, CT-01	LMC-02, PT-01	
213	VESTIBULE	CPT-01	CT-02	PT-08, CT-02	PT-08, CT-02	-	PT-08, CT-02	PT-01	
E201	EXISTING SSCP	-	-	PT-07	PT-07	PT-07	PT-07	-	PATCH FINISHES DAMAGED BY THE CONSTRUCTION TO MATCH EXISTING
E202	(E) CONCESSIONS	-	-	-	-	-	-	-	

FINISH LEGEND

**ACT-01:** ACOUSTICAL CEILING TILE  
MFR: ARMSTRONG CEILINGS  
STYLE: ULTIMA  
COLOR: WHITE  
SIZE: 24" X 24" X 3/4"  
GRID: REGULAR, 15/16" EXPOSED TEE, WHITE  
CHICAGO METALLIC 4000 TEMPRA OR APPROVED EQUAL

**ANOD-01:** ANODIZED ALUMINUM (@ EXIST. SSCP)  
COLOR: DARK BRONZE (TO MATCH EXISTING ADJACENT STOREFRONTS)

**ANOD-02:** ANODIZED ALUMINUM (OVERHEAD COILING DOOR)  
COLOR: CLEAR ANODIZED

**AP-01:** ACOUSTICAL WALL PANEL  
MFR: ARMSTRONG CEILINGS  
STYLE: INVISACOUSTICS #1212P  
COLOR: NO FINISH - FIELD PAINTABLE  
SIZE: 24" X 48" X 3/4"  
OR APPROVED EQUAL

**CN-01:** CONCRETE, POLISHED

**CN-02:** CONCRETE, SEALED

**CP-01:** CEMENT PLASTER, (CONCOURSE LEVEL & ABOVE)  
COLOR: MATCH SPEC-01  
FINISH: LIGHT DASH  
OR APPROVED EQUAL

**CP-02:** CEMENT PLASTER (GROUND LEVEL)  
COLOR: MATCH BENJAMIN MOORE, CHELSEA GREY HC-168  
FINISH: LIGHT DASH  
OR APPROVED EQUAL

**CPT-01:** CARPET TILE  
MFR: MILLIKEN  
STYLE: OBEX CUT, DRIFT  
COLOR: DARK GREY  
SIZE: 24" X 24"  
OR APPROVED EQUAL

**CT-01:** CERAMIC TILE  
MFR: DAL TILE  
STYLE: AMBASSADOR  
COLOR: VOYAGER BLACK RECTANGLE, AM33  
SIZE: 12" X 24"  
OR APPROVED EQUAL

**CT-02:** CERAMIC TILE  
MFR: DAL TILE  
STYLE: CLAY CANVAS  
COLOR: STENCIL CC03 - MATTE  
SIZE: 12" X 24"  
OR APPROVED EQUAL

**CT-03:** CERAMIC TILE  
MFR: PORCELANOSA  
STYLE: NOA TANZANIA (AVAILABLE IN L & R PATTERN)  
COLOR: ALMOND  
SIZE: 24" X 24"  
OR APPROVED EQUAL  
SEE INTERIOR ELEVATIONS FOR L & R PATTERN LAYOUT

**CT-03B:** CERAMIC TILE  
MFR: PORCELANOSA  
STYLE: NOA-R TANZANIA  
COLOR: ALMOND  
SIZE: 24" X 24"  
OR APPROVED EQUAL

**FRP-01:** FIBERGLASS REINFORCED PANEL (INTERIOR)  
MFR: MARLITE  
STYLE: SMOOTH  
COLOR: WHITE, S100G, CLASS 'A'  
OR APPROVED EQUAL

**GL-01:** (GLASS IN DOORS)  
1/4" CLEAR HS  
.090 CLEAR PVB  
1/4" CLEAR HS

**GL-02:** (GLASS @ EXISTING SSCP & @ SHADED GLASS AT SSCP)  
5/16" CLEAR FULLY TEMPERED  
1/2" AIR  
1/4" CLEAR HS  
.090 CLEAR PVB  
1/4" CLEAR HS

**GL-03:** (GLASS @ SSCP)  
5/16" TINTED HS  
1/2" AIR  
1/4" CLEAR HS  
.090 CLEAR PVB  
1/4" CLEAR HS

**LMC-01:** METAL CEILING (EXTERIOR)  
MFR: CERTAINTEED  
STYLE: MULTIBOX CONTINUOUS - EXTERIOR (UNPERFORATED)  
COLOR: LIGHT PECAN 8475  
SIZE: 4' & 8"  
PATTERN: 4'-8"-4"  
OR APPROVED EQUAL

**LMC-02:** METAL CEILING (INTERIOR)  
MFR: CERTAINTEED  
STYLE: MULTIBOX CONTINUOUS (MICROPERFORATED), WITH SOUND BATTS (ACOUSTIBOND BACKER), PERFORATION PATTERN #160  
COLOR: LIGHT PECAN 8475  
SIZE: 4' & 8"  
PATTERN: 4'-8"-4"  
OR APPROVED EQUAL

**ML-01:** METAL PANEL (EXTERIOR)  
STYLE: ALUM FLAT PANEL  
COLOR: SPEC-01 TYP, EXCEPT ANOD-01 AT (E) SSCP  
OR APPROVED EQUAL

**PL-01:** PLASTIC LAMINATE (MILLWORK)  
MFR: WILSONART  
COLOR: BOARDWALK OAK, 7983-38  
FINISH: FINE VELVET  
OR APPROVED EQUAL

**PT-01:** PAINT (CEILINGS)  
MFR: BENJAMIN MOORE  
COLOR: CLOUD COVER, 855  
FINISH: FLAT  
OR APPROVED EQUAL

**PT-02:** PAINT (WALLS)  
MFR: BENJAMIN MOORE  
COLOR: CLOUD COVER, 855  
FINISH: EGG-SHELL  
OR APPROVED EQUAL

**PT-03:** PAINT (INTERIOR DOORS AND FRAMES)  
MFR: BENJAMIN MOORE  
COLOR: APPARITION, 860  
FINISH: SEMI-GLOSS  
OR APPROVED EQUAL

**PT-04:** PAINT (PAINTED EXPOSED STRUCTURE)  
MFR: BENJAMIN MOORE  
COLOR: KENDALL CHARCOAL, HC166  
FINISH: FLAT  
OR APPROVED EQUAL

**PT-05:** PAINT (EXTERIOR DOORS AND FRAME)  
MFR: BENJAMIN MOORE  
COLOR: CHELSEA GREY, HC-168  
FINISH: SEMI-GLOSS  
OR APPROVED EQUAL

**PT-06:** PAINT (INTERIOR ACCENT COLOR)  
MFR: BENJAMIN MOORE  
COLOR: BLUE BAY MARINA, 1655  
FINISH: EGGSHELL  
OR APPROVED EQUAL

**PT-07:** PAINT (INTERIOR @ EXISTING SSCP)  
MFR: TO MATCH EXISTING  
COLOR: TO MATCH EXISTING  
FINISH: TO MATCH EXISTING

**PT-08:** PAINT (INTERIOR @ EXISTING HOLDROOM)  
MFR: OLYMPIC WOOD PROTECTOR SOLID BASE (MATCH EXISTING)  
COLOR: CELERY GREEN (MATCH EXISTING)  
FINISH: WITH WHITEWASH OVERSTAIN "CAPE COD GREY"  
CUT 1:1 WITH WATER (MATCH EXISTING)

**RB-01:** RUBBER BASE  
MFR: MANNINGTON  
STYLE: BURKEBASE TYPE TP  
COLOR: MOONBEAM, 050  
OR APPROVED EQUAL

**RBF-01:** RUBBER FLOORING TILE  
MFR: MANNINGTON (BURKE)  
STYLE: COLOR ANCHOR RUBBER  
COLOR: GLIMMER, 056  
PROFILE: SQUARE SCULPTED  
SIZE: 18" X 18"  
OR APPROVED EQUAL

**RBT-01:** RUBBER TREADS AND RISER  
MFR: MANNINGTON (BURKE)  
STYLE: BURKE CONNECTSTEP  
COLOR: MOONBEAM, 050 WITH 2" BLACK ABRASIVE WARNING STRIP  
OR APPROVED EQUAL

**SST-01:** BASE  
TYPE: STAINLESS STEEL  
FINISH: #4 BRUSHED FINISH

**HPC-01:** HIGH-PERFORMANCE COATING (EXTERIOR & INTERIOR METAL STAIR AND RAILS)  
MFR: -  
TYPE: EXTERIOR  
COLOR: MATCH PT-05  
OR APPROVED EQUAL

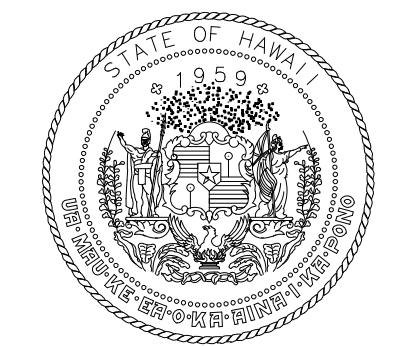
**SPEC-01:** SPECIAL COATINGS, FLUOROPOLYMER (EXT. COOL COVERS, METAL PARAPET CAPS)  
MFR: PPG  
STYLE: DURANAR  
COLOR: SEAWOLF, UC109855  
OR APPROVED EQUAL

**SPEC-02:** SPECIAL COATINGS, FLUOROPOLYMER (INT. COOL COVERS)  
MFR: PPG  
STYLE: DURANAR  
COLOR: BRIGHT WHITE, UC55026  
OR APPROVED EQUAL

**SPEC-03:** SPECIAL COATINGS, FLUOROPOLYMER (CURTAINWALL & AUTO DOORS @ SSCP)  
MFR: PPG  
STYLE: DURANAR MICAS SUNSTORM COATINGS  
COLOR: SILVERSMITH, UC70092F

**STO-01:** STUCCO FINISH (@ EXISTING SSCP)  
MFR: STO  
COLOR: MATCH EXISTING  
OR APPROVED EQUAL

**WP-01:** WALL PANEL  
MFR: TRESPA  
STYLE: METEON FR, FACADES  
COLOR: PARIS SILVER DIFFUSE LM5101  
OR APPROVED EQUAL



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



04/30/2024  
Licensed Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
DH	AG	DH	KW

KEY PLAN / NOTES:

NO.	DATE	ADDENDUM #3	REVISIONS
3	9/5/2023		

CONSTRUCTION DOCUMENTS

MAY 26, 2023  
DATE

PROJECT TITLE:

SOUTH TSA CHECKPOINT

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

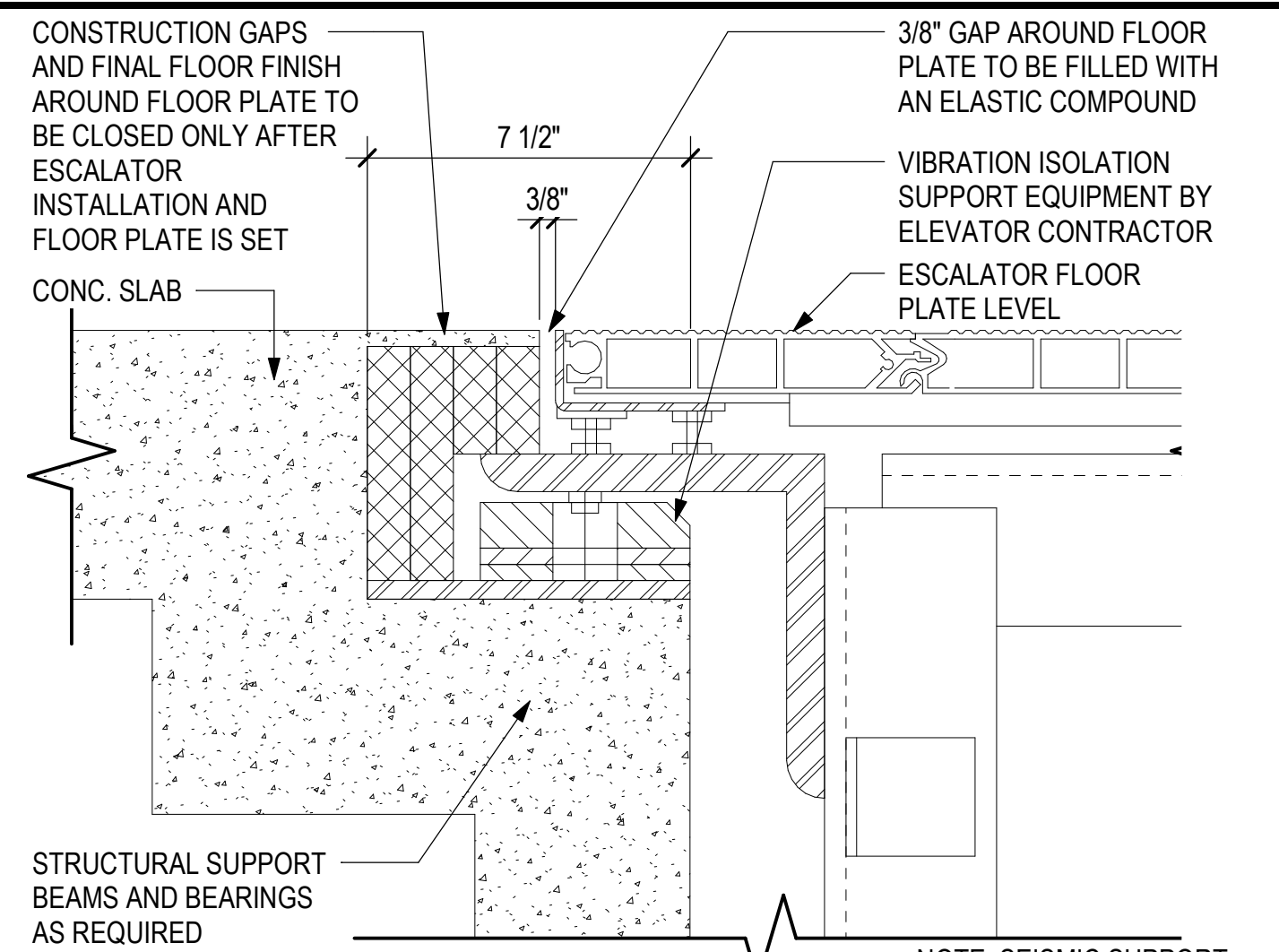
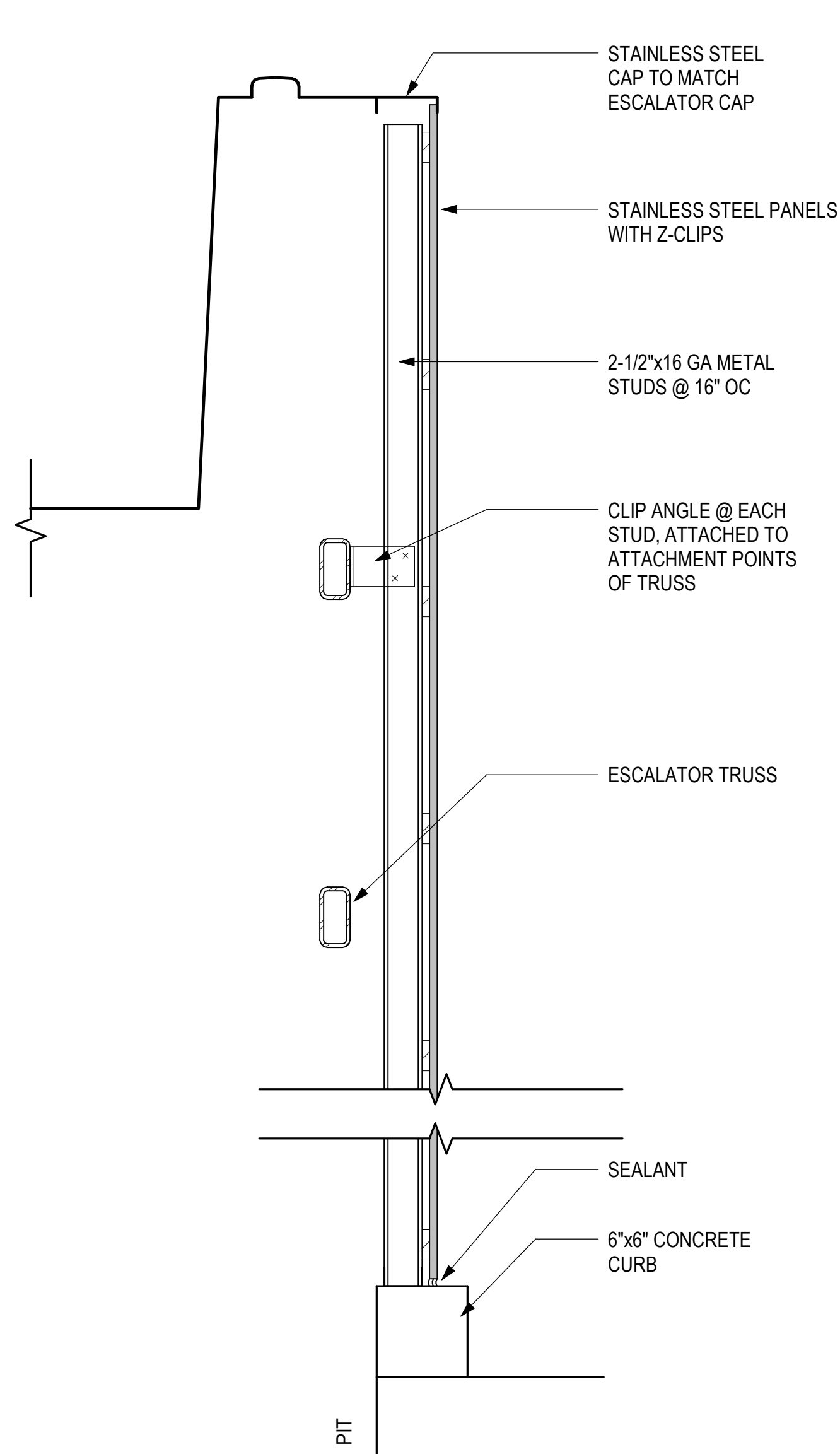
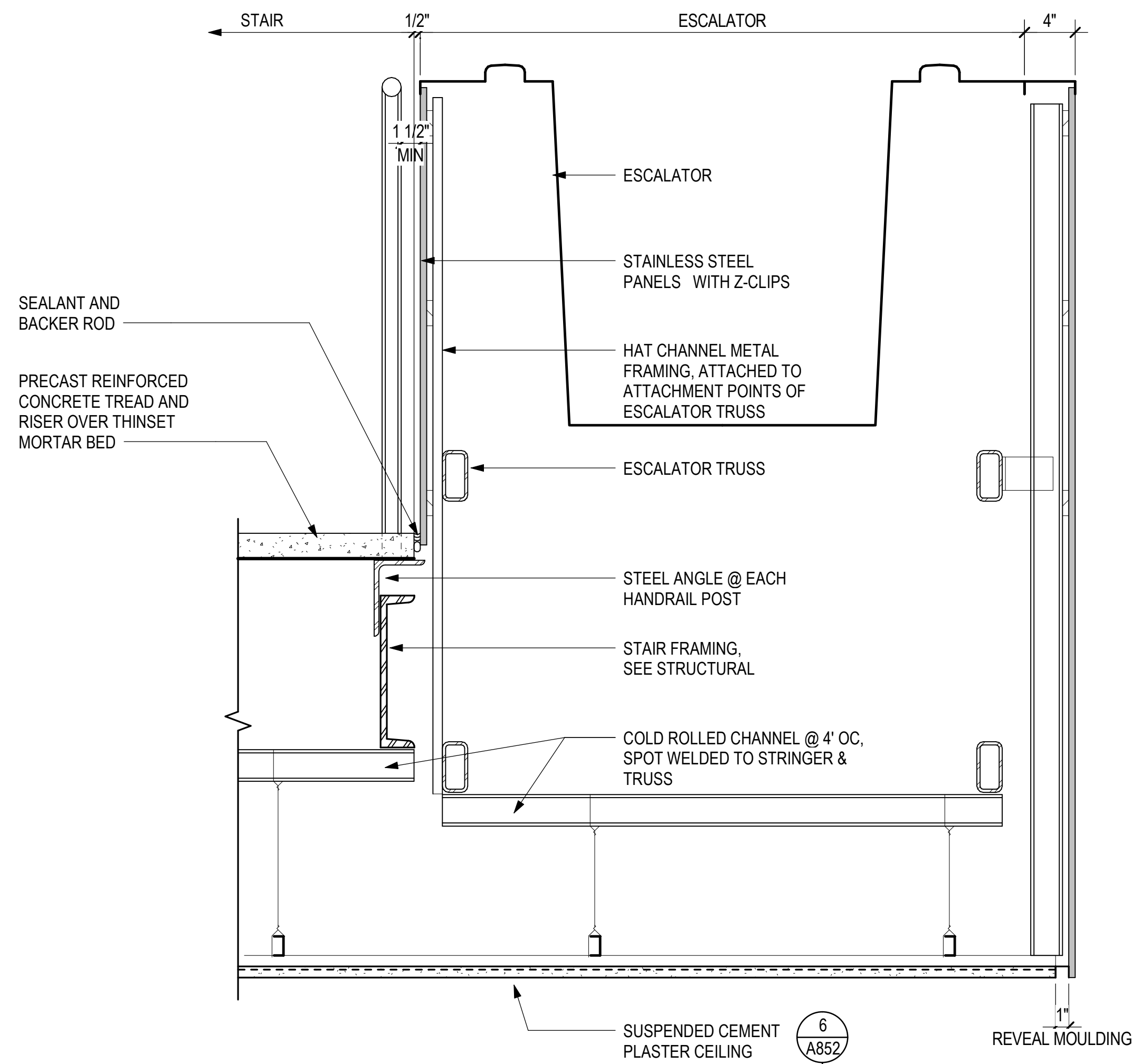
PROJECT NO.:

AM1095-10

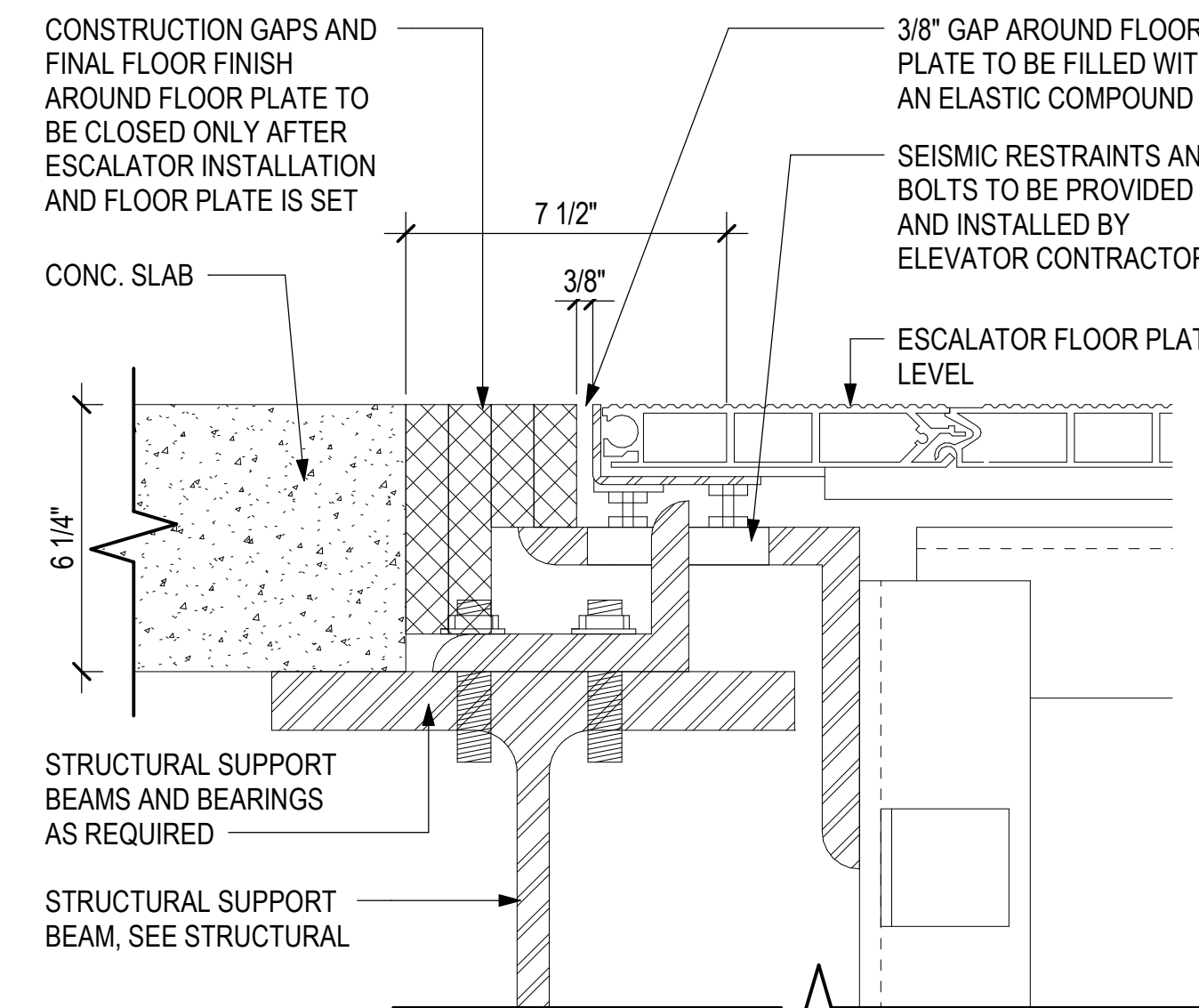
SHEET TITLE:

FINISH SCHEDULE

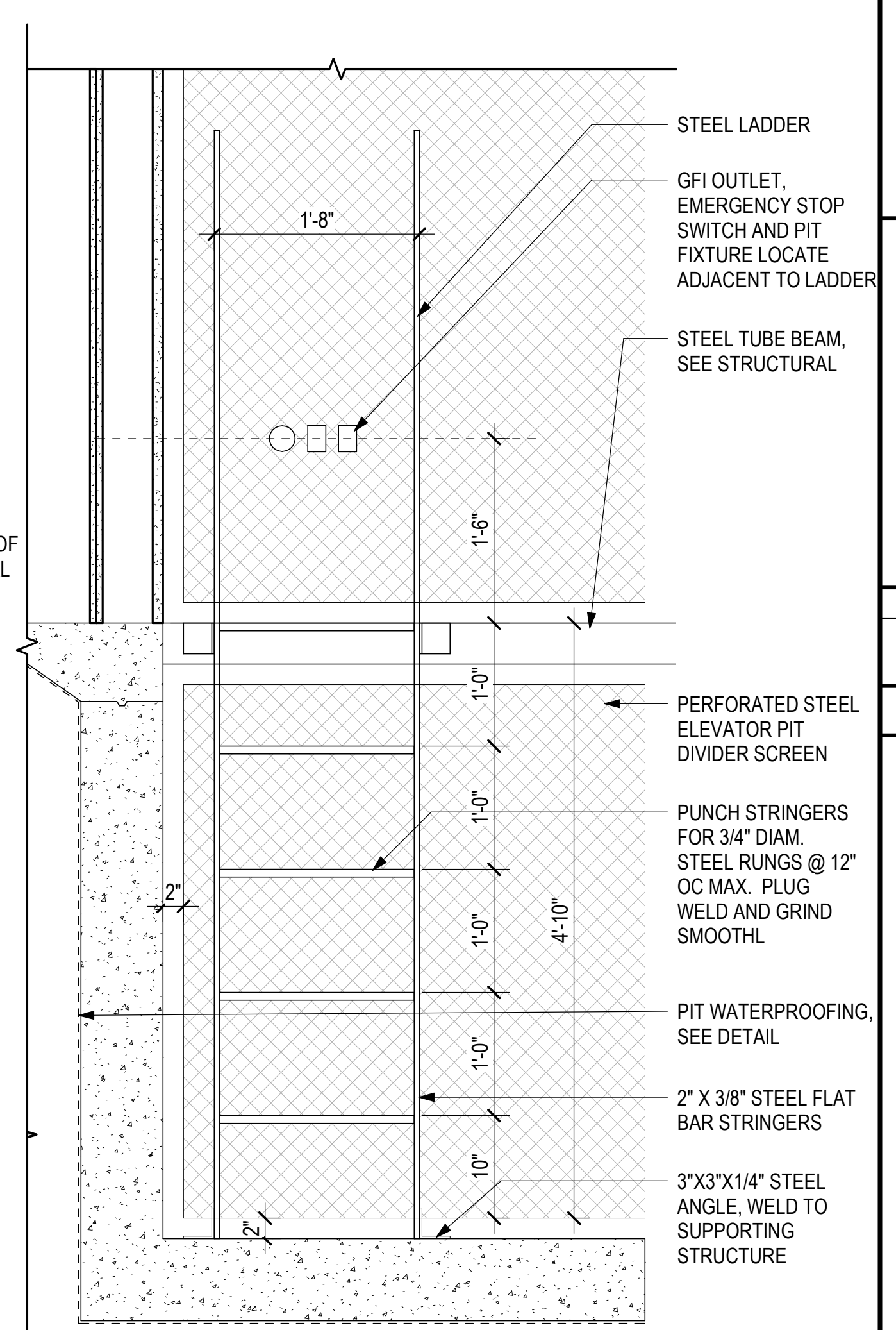
DATE:	DWG. NO.
MAY 26, 2023	A701
SHEET:	
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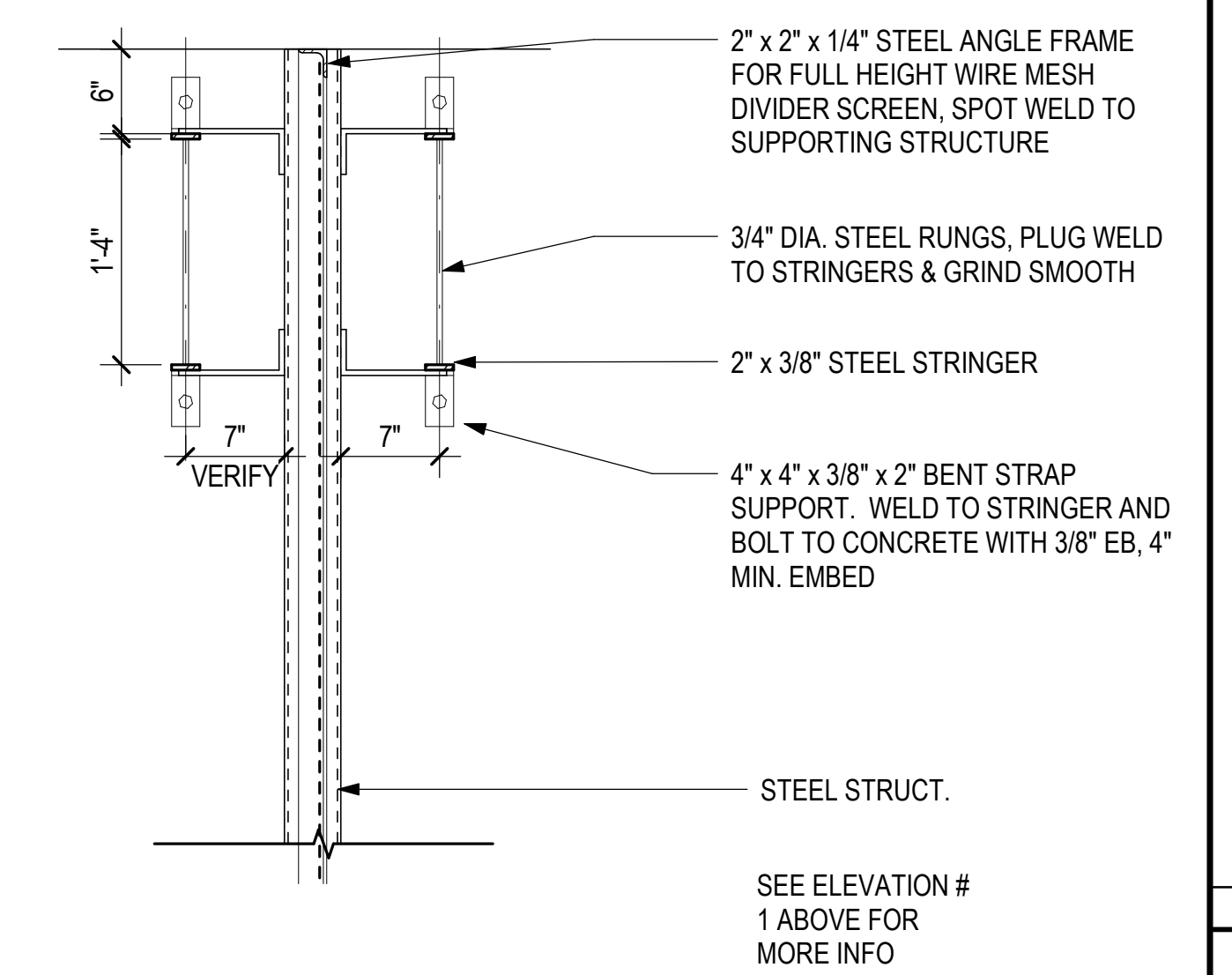
**4 ESCALATOR - SEISMIC CONCRETE SUPPORT DETAIL**  
3" = 1'-0"



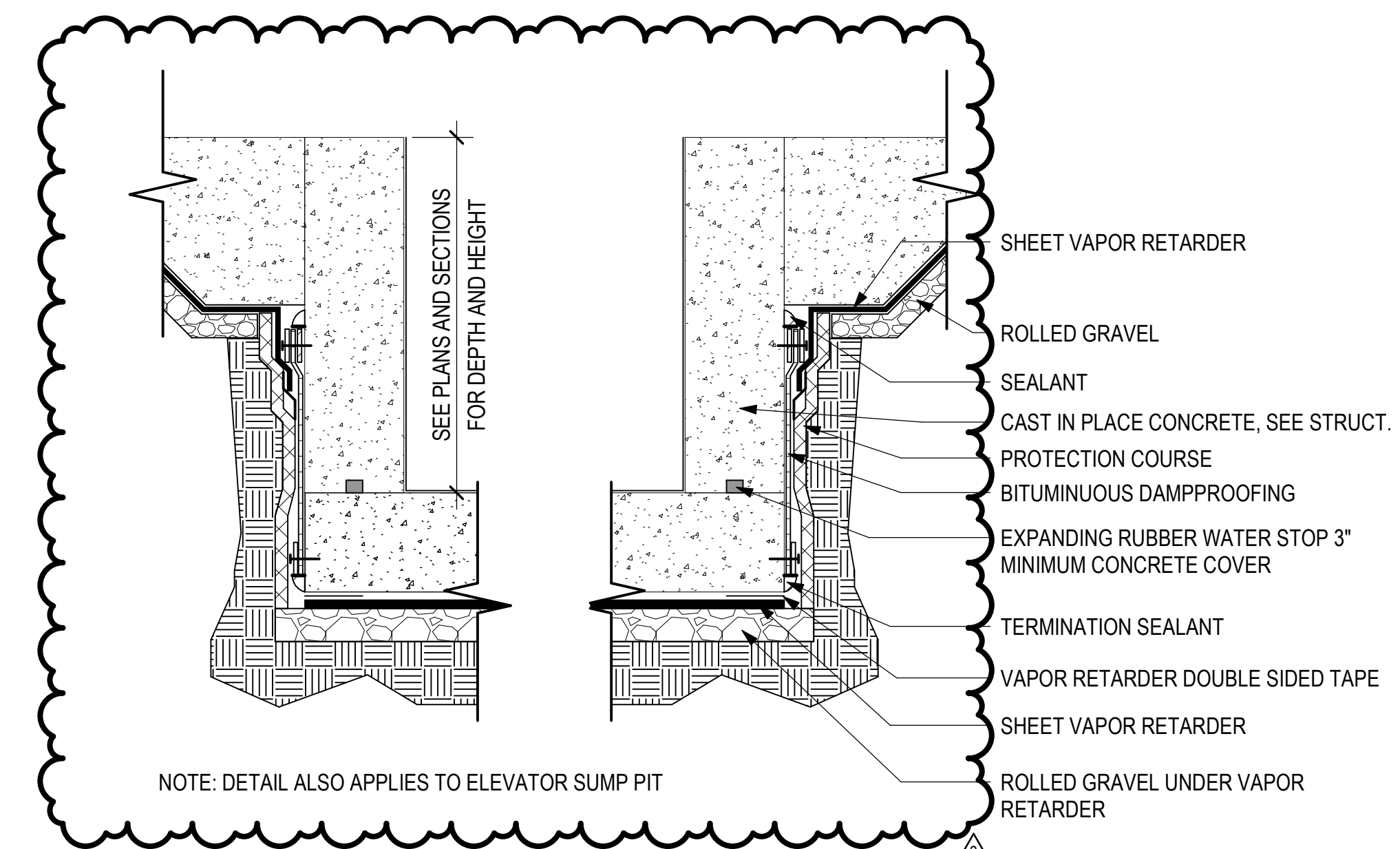
**5 ESCALATOR - SEISMIC STEEL SUPPORT DETAIL**  
3" = 1'-0"



**1 ELEVATOR - PIT ACCESS LADDER DETAIL ELEVATION**  
1" = 1'-0"

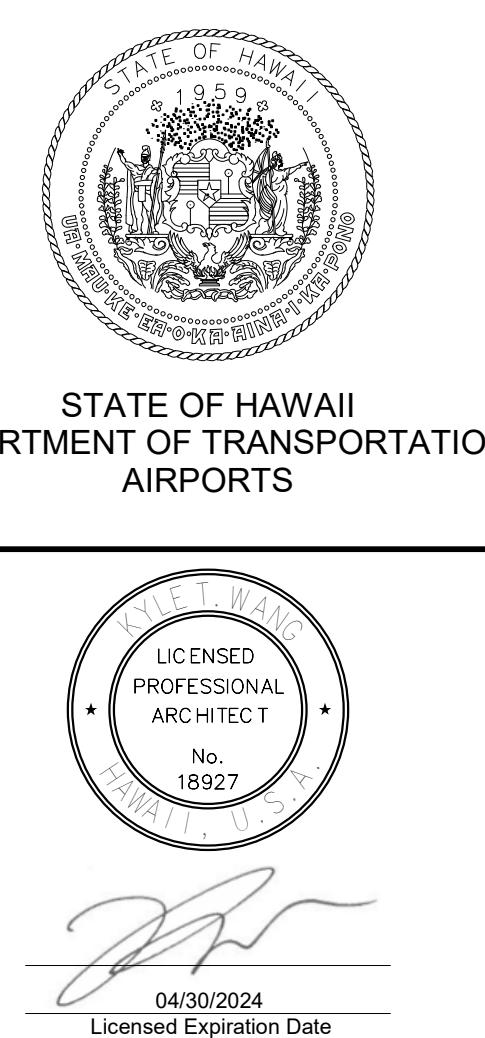


**2 ELEVATOR - PIT ACCESS LADDER DETAIL**  
1" = 1'-0"



**3 WATERPROOFING AT ELEVATOR HOISTWAY & ESCALATOR PITS**  
1" = 1'-0"

**6 ESCALATOR CLADDING SECTION**  
1 1/2" = 1'-0"



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DSGN.	DRWN.	CHKD.	APPD.
DH	AG	DH	KW

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3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

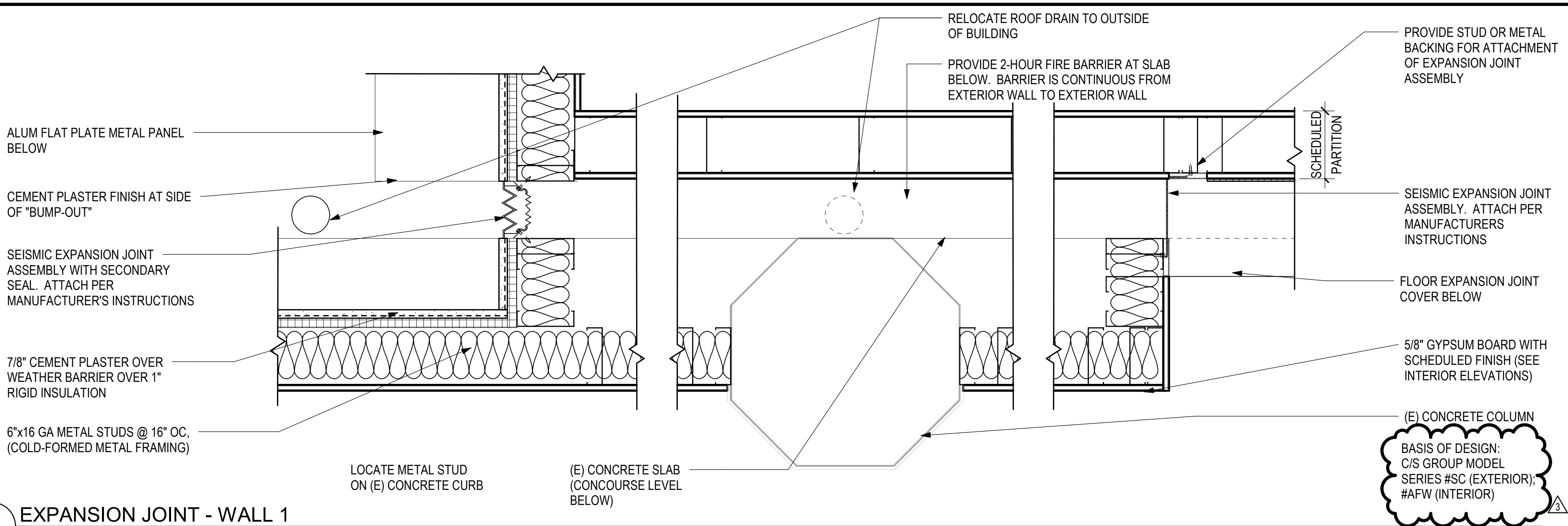
**PROJECT TITLE:**  
SOUTH TSA CHECKPOINT

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII  
**PROJECT NO.:**  
AM1095-10

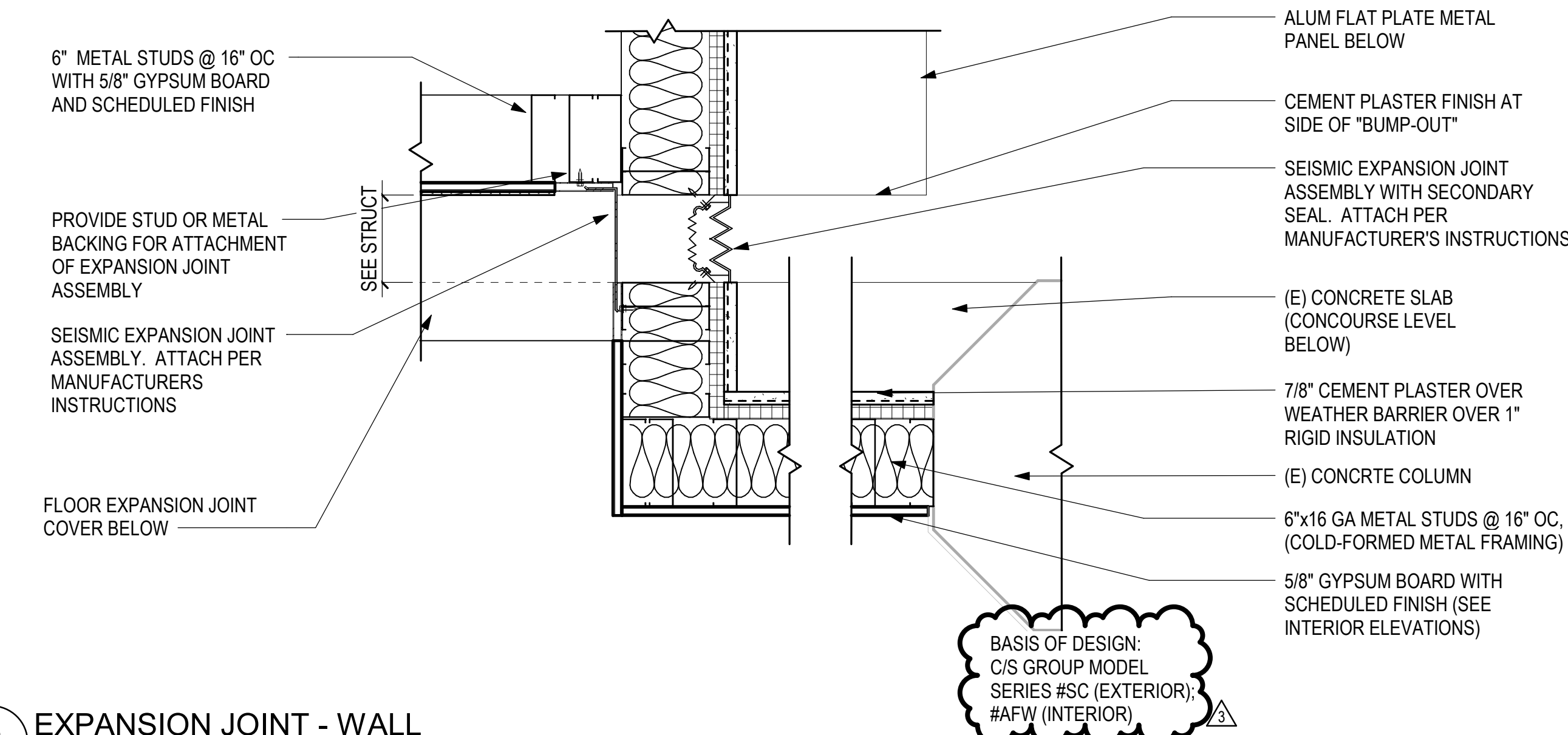
**SHEET TITLE:**  
ELEVATOR / ESCALATOR DETAILS

DATE:	DWG. NO.
MAY 26, 2023	A842
SHEET:	
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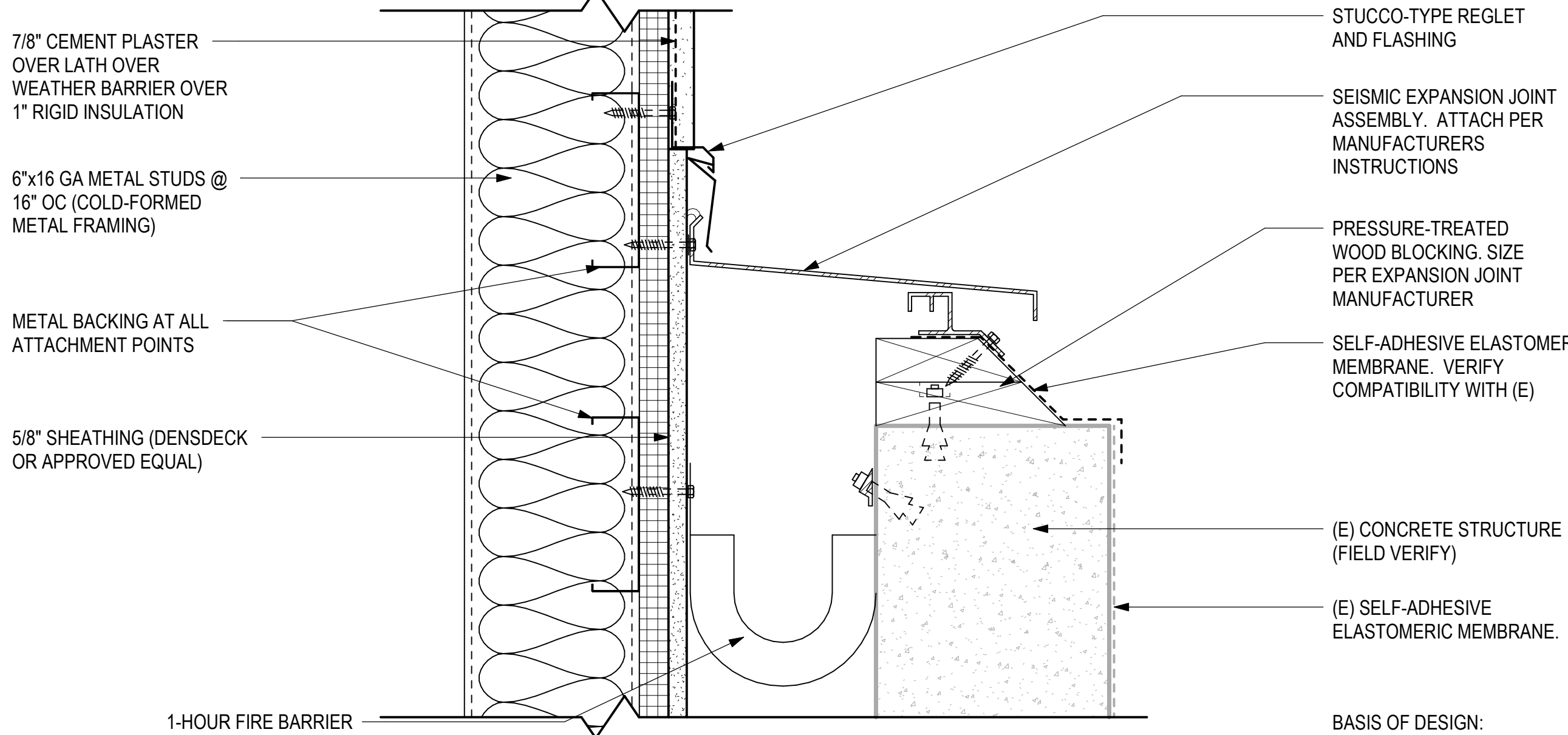




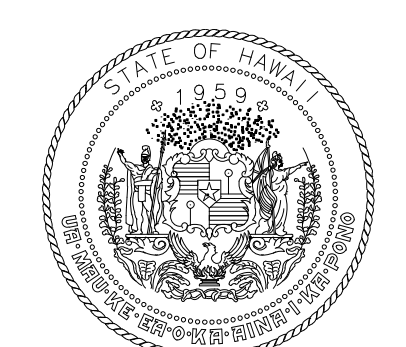
**1 EXPANSION JOINT - WALL 1**  
1 1/2" = 1'-0"



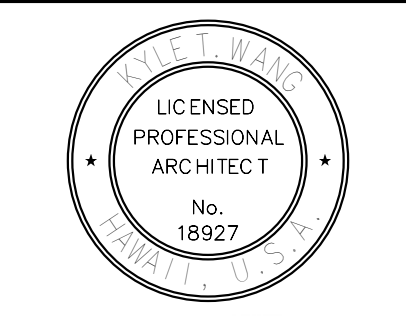
**2 EXPANSION JOINT - WALL**  
1 1/2" = 1'-0"



**3 EXPANSION JOINT - ROOF**  
3" = 1'-0"



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



04/30/2024  
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**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO.:

**AM1095-10**

SHEET TITLE:

**DETAILS - EXPANSION JOINTS**

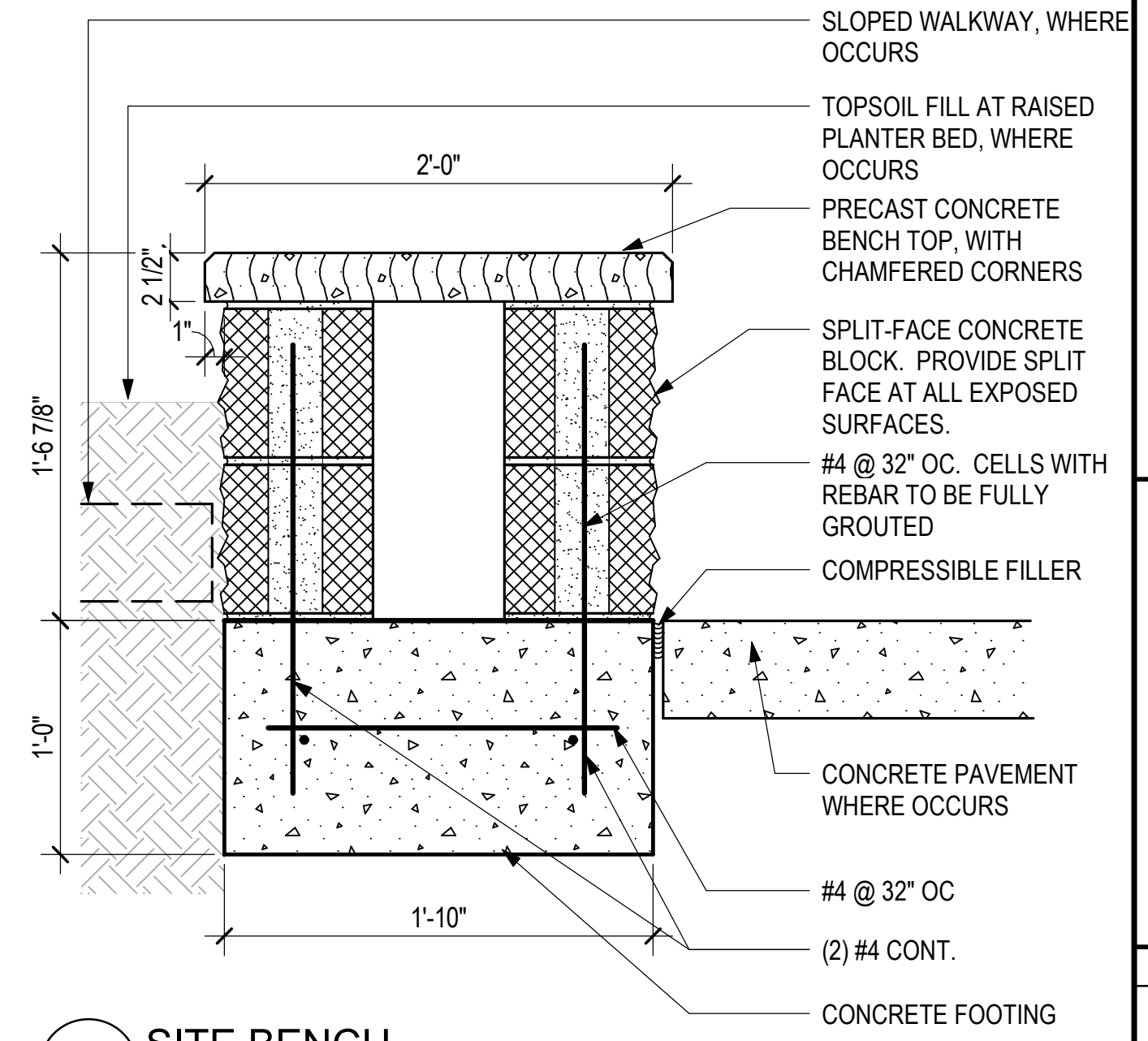
DATE: **MAY 26, 2023**

SHEET: **A857**

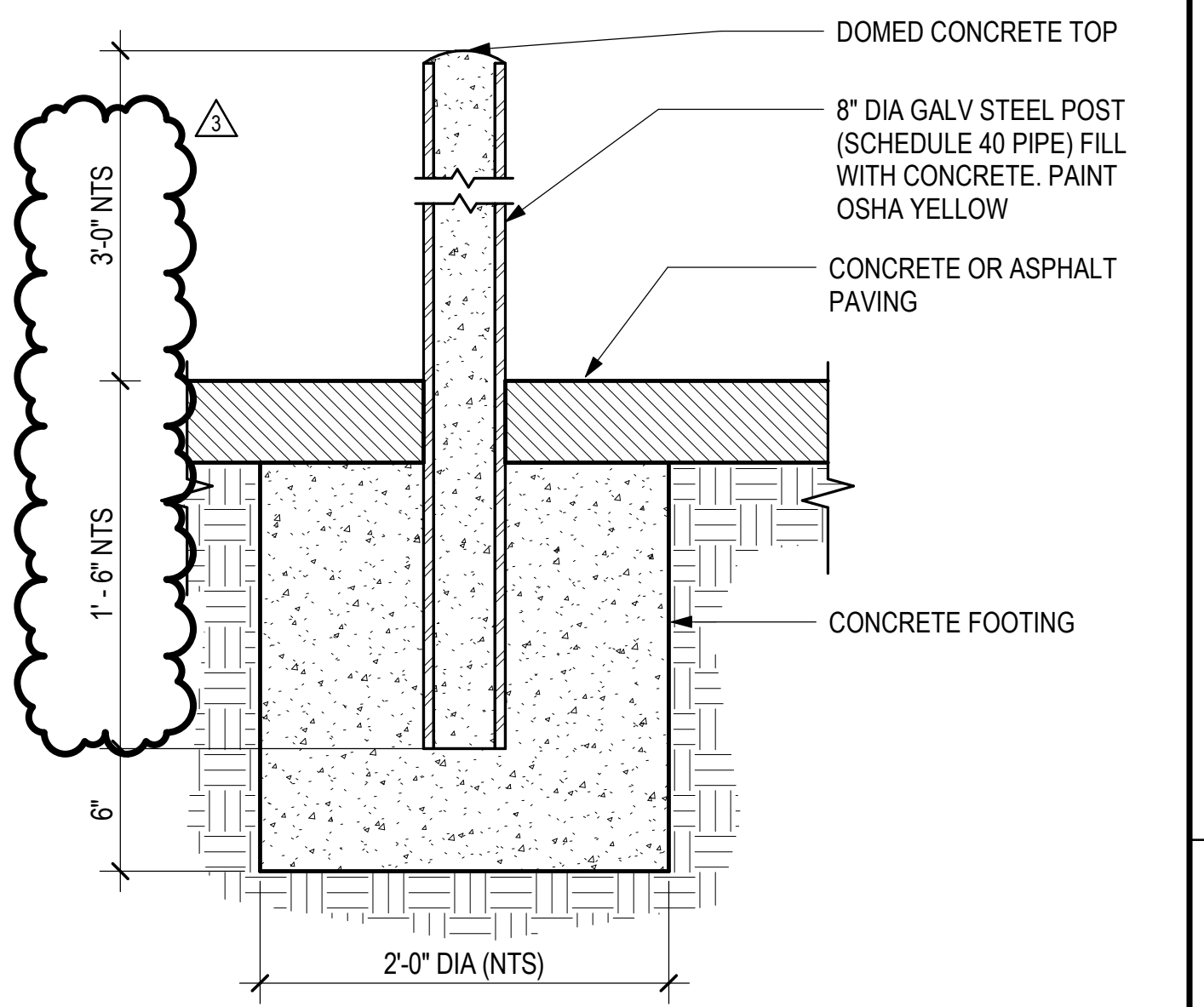
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DWG. NO.

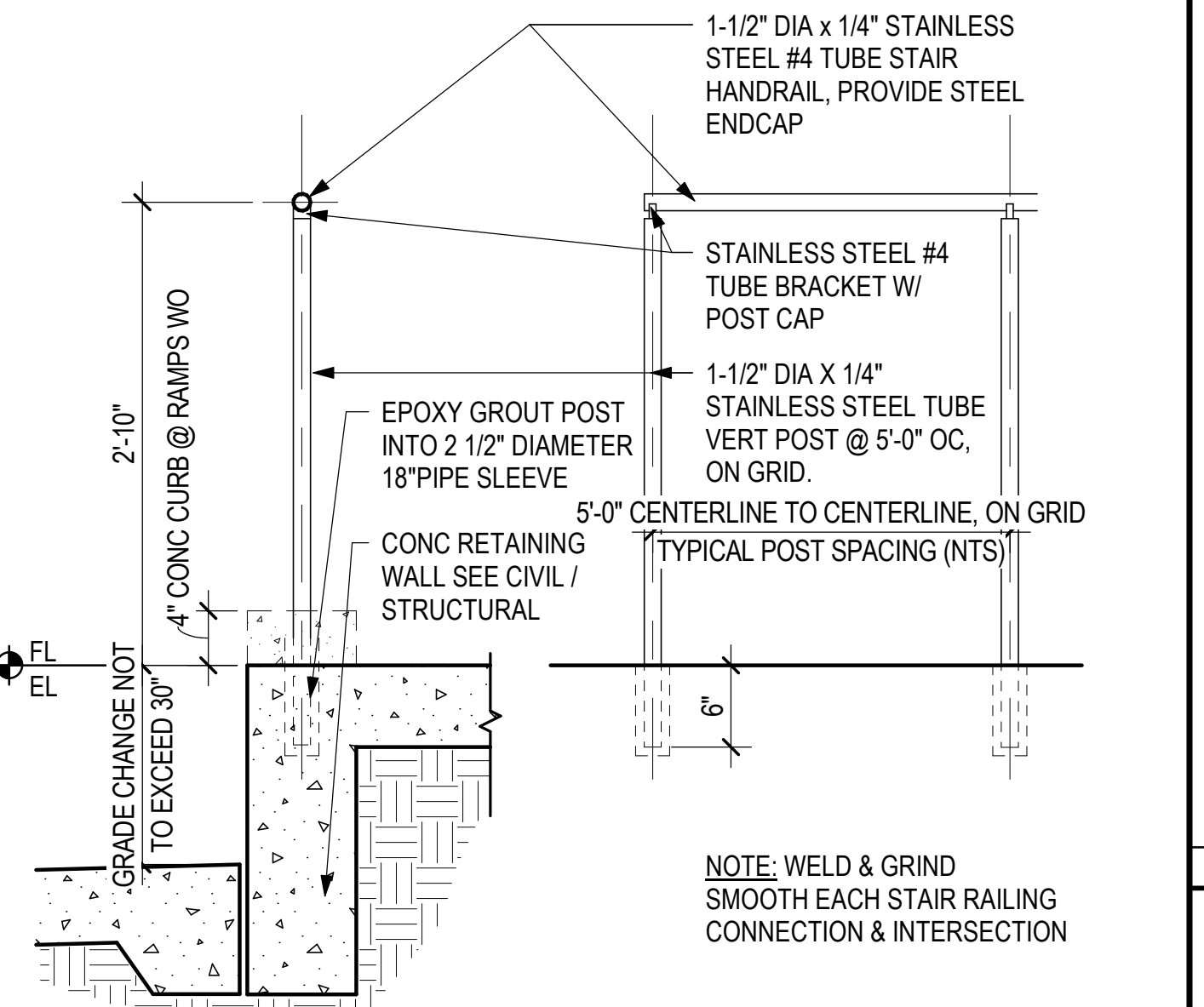
**A857**



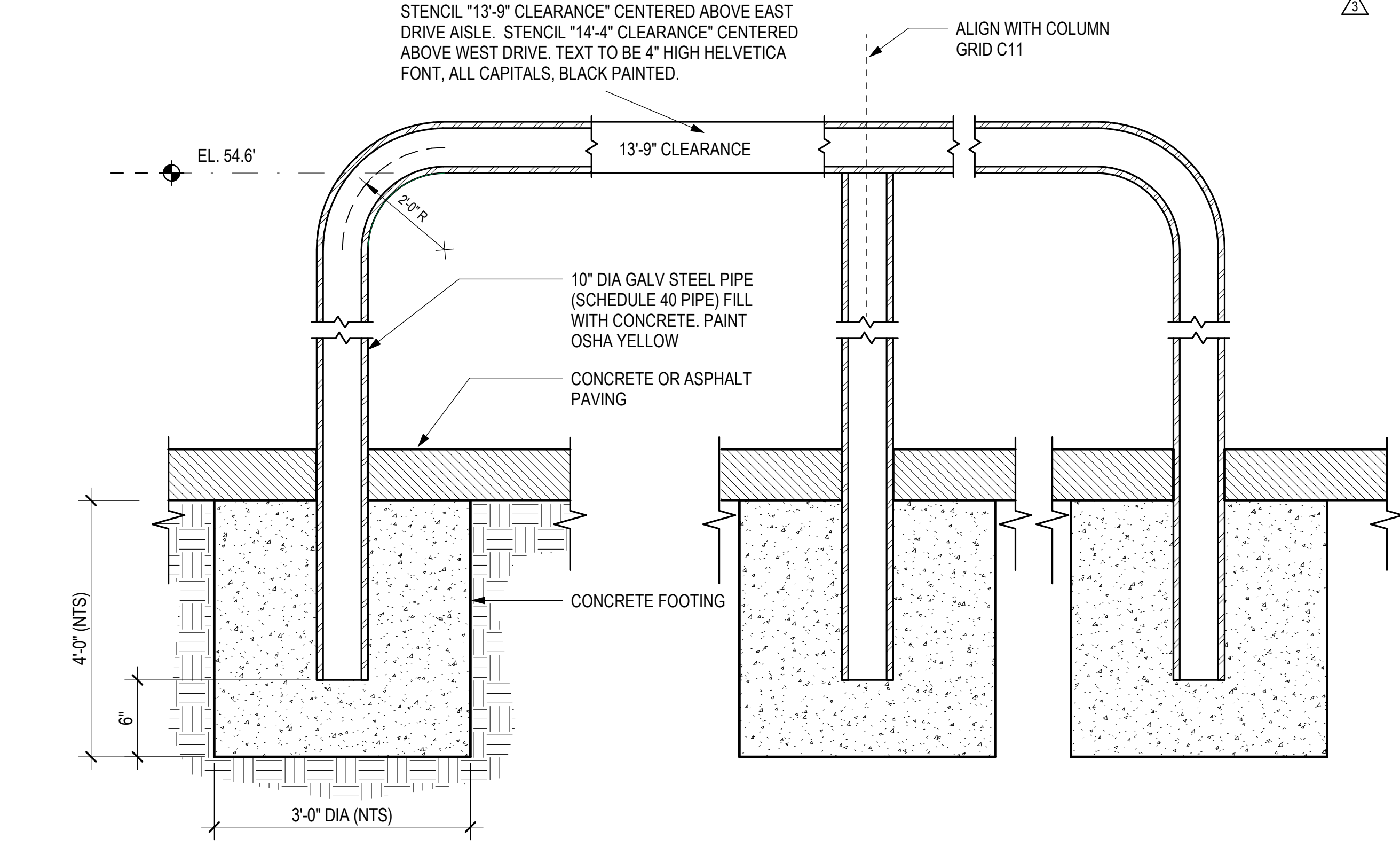
**1 SITE BENCH**  
1 1/2" = 1'-0"



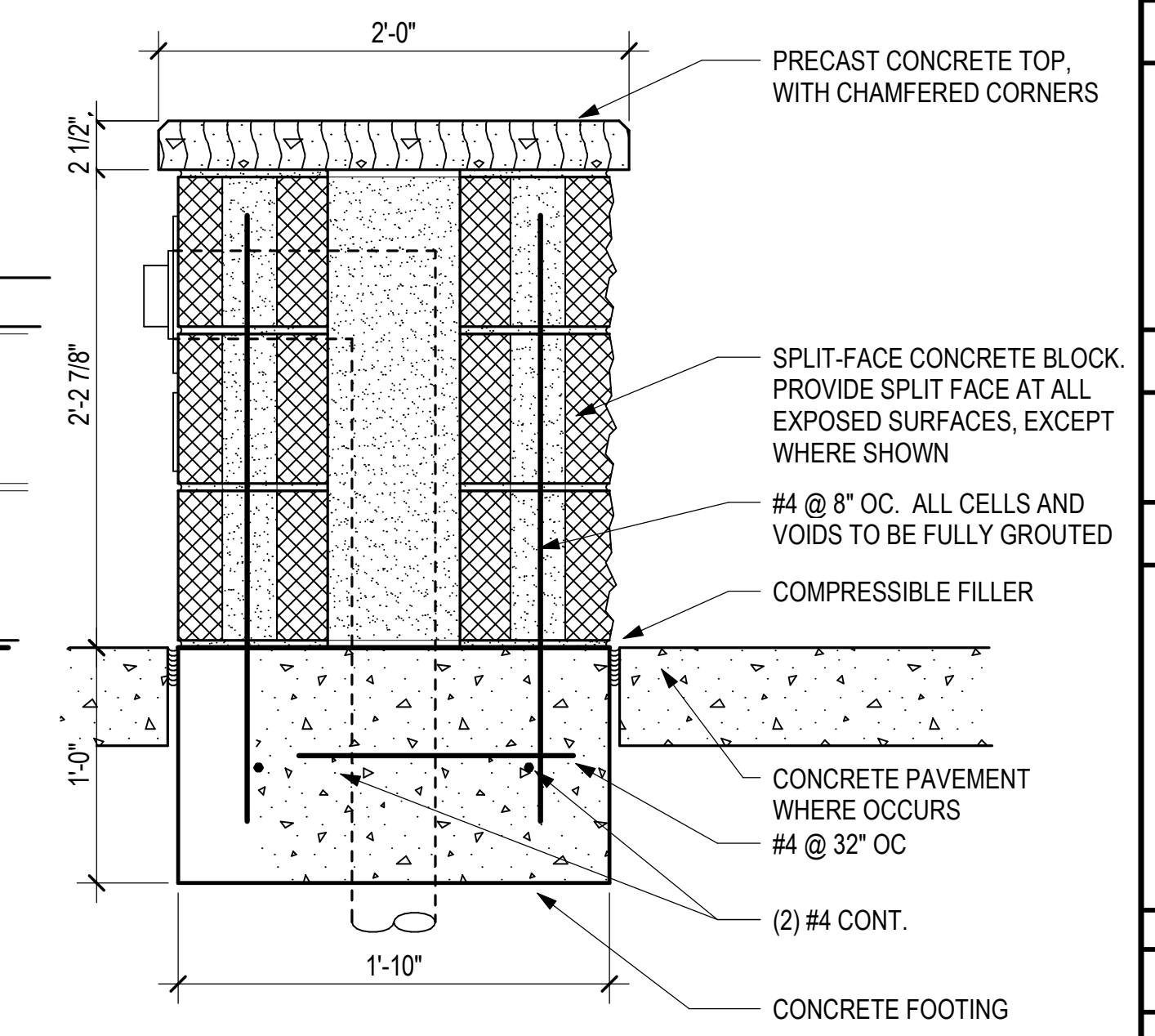
**2 BOLLARD**  
NTS



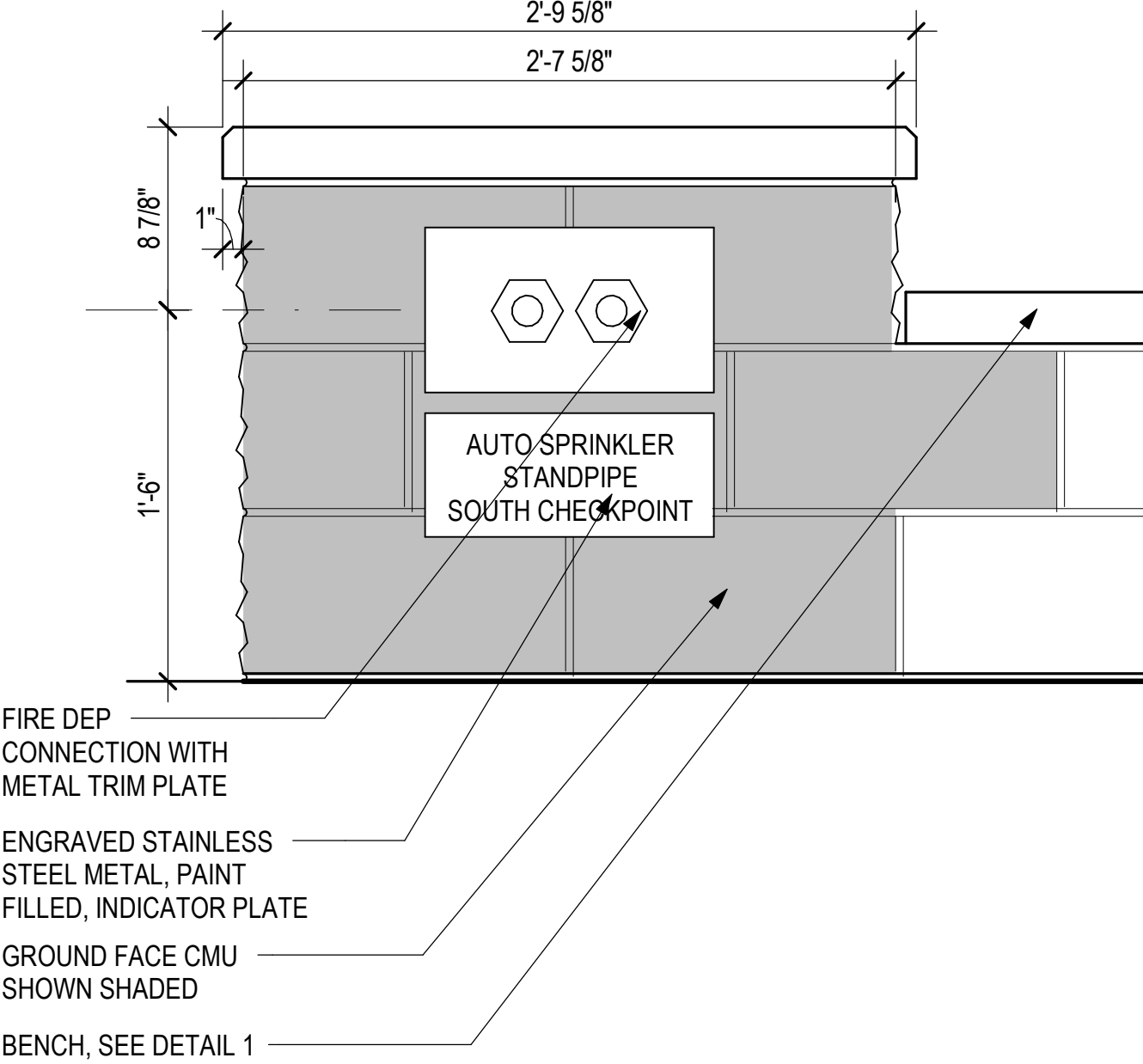
**3 HAND RAIL**  
1" = 1'-0"



**6 VEHICLE CRASH RAIL**  
1 1/2" = 1'-0"



**4 SITE FIRE DEP CONNECTION**  
1 1/2" = 1'-0"



STENCIL "13'-9\" CLEARANCE" CENTERED ABOVE EAST DRIVE AISLE. STENCIL "14'-4\" CLEARANCE" CENTERED ABOVE WEST DRIVE. TEXT TO BE 4" HIGH HELVETICA FONT, ALL CAPITALS, BLACK PAINTED.

ALIGN WITH COLUMN GRID C11

EL. 54.6'

4'-0" (NTS)

3'-0" DIA (NTS)

6"

13'-9" CLEARANCE

2'-8" R

10" DIA GALV STEEL PIPE (SCHEDULE 40 PIPE) FILL WITH CONCRETE. PAINT OSHA YELLOW

CONCRETE OR ASPHALT PAVING

CONCRETE FOOTING

6"

3'-0" DIA (NTS)

4'-0" (NTS)

6"

3'-0" DIA (NTS)

4'-0" (NTS)

6"

3'-0" DIA (NTS)

4'-0" (NTS)

6"

3'-0" DIA (NTS)

4'-0" (NTS)

6"

3'-0" DIA (NTS)

4'-0" (NTS)

6"

3'-0" DIA (NTS)



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**SOUTH TSA CHECKPOINT**

AT KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

**PROJECT NO.:**

**AM1095-10**

**SHEET TITLE:**

**EXTERIOR DETAILS - SITE**

DATE:	DWG. NO.
MAY 26, 2023	A860

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**GENERAL NOTES**

- A. SEE ALSO
  1. SPECIFICATIONS AND OTHER DISCIPLINE'S DRAWINGS
  2. SPECIAL NOTES ON DRAWINGS
- B. DISCREPANCIES - CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND SHALL REPORT ANY DISCREPANCIES IN WRITING TO THE ARCHITECT BEFORE COMMENCING WORK OR ORDERING MATERIALS.
- C. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE IBC 2018 INTERNATIONAL BUILDING CODE.
- D. DETAILS SHOWN ON DRAWINGS SHALL BE TYPICAL FOR ALL SIMILAR CONDITIONS. MODIFY DETAILS FOR SPECIAL CONDITIONS AS DIRECTED BY THE ARCHITECT.
- E. SEE ARCHITECTURAL DRAWINGS FOR CHAMFERS, EDGE RADII, DRIPS, REGLETS, FINISHES, AND OTHER NON-STRUCTURAL ITEMS NOT SHOWN OR SPECIFIED ON STRUCTURAL DRAWINGS.
- F. ALL NON-STRUCTURAL COMPONENTS/SYSTEMS THAT COMPROMISE THE FINISHED OF THE BUILDING SHALL BE ENGINEERED BY THE MANUFACTURERS.

**CONSTRUCTION NOTES**

- A. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AT LEAST 48 HOURS IN ADVANCE FOR REVIEW AND OBSERVATION OF EXCAVATION REINFORCING, AND CONCRETE POURS.
- B. CONSTRUCTION LOADING SHALL NOT EXCEED THE DESIGN LIVE LOAD UNLESS SPECIAL SHORING IS PROVIDED. ALLOWABLE LOADS SHALL BE REDUCED IN AREAS WHERE THE STRUCTURE HAS NOT ATTAINED ITS FULL DESIGN STRENGTH.
- C. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A LEVEL TOP SURFACE OF ALL SLABS IN ACCORDANCE WITH THE LEVELNESS TOLERANCE REQUIRED FOR ALL FINISHES, PARTITIONS, BUILT-IN CABINETS AND COUNTERS, ETC.
  1. ALL SLABS AND BEAMS ARE EXPECTED TO DEFLECT AFTER SHORES ARE REMOVED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A LEVEL FINISH SURFACE BY FILLING ALL LOW CONCRETE SURFACE AREAS WITH A CEMENTITIOUS GROUT THAT WILL BOND TO THE CONCRETE SURFACE AND THAT IS COMPATIBLE WITH THE SPECIFIED FLOOR FINISHES.
  2. CONTRACTOR SHALL BE ALLOWED TO CHIP AND/OR FILL THE FLOORS TO SATISFY THE REQUIREMENT FOR A "LEVEL" FLOOR. IN NO CASE SHALL THE TOP OF THE FLOOR BE CHIPPED MORE THAN 1 INCH WITHIN A 10FEET X 10FEET AREA TO ACHIEVE THIS.
  3. PROVIDE SLAB LEVELNESS AS REQUIRED FOR EQUIPMENT TO BE INSTALLED ON INTERIOR SLAB. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER FOR LEVELNESS REQUIREMENTS.
- D. FORM AND SHORE REMOVAL:
  1. FORMS AND SHORE REMOVAL SHALL NOT INJURE OR OVERSTRESS COMPLETED OR PARTIALLY COMPLETED STRUCTURAL ELEMENTS. TIMING OF FORM AND SHORE REMOVAL SHALL BE IN ACCORDANCE WITH ACI 347.
  2. RESHORE CONCRETE ELEMENTS WHERE FORMS ARE REMOVED PRIOR TO THE SPECIFIED TIME PERIOD. DO NOT PERMIT ELEMENTS TO DEFLECT OR ACCEPT LOAD DURING FORM STRIPPING OR RESHORING.

**EARTHWORK NOTES**

- EXCERPTS FROM GEOTECH REPORT.
- A. EXCAVATION
 

ALL EXCAVATIONS SHALL BE PROTECTED AND GUARDED BY THE CONTRACTOR AGAINST DANGER TO LIFE, LIMB AND PROPERTY.
  - B. SUBGRADE PREPARATION
    1. FOOTING SUBGRADES SHALL BE OVER-EXCAVATED TO DEPTH OF 1 FOOT BELOW BOTTOM OF FOOTING. THE ZONE OF OVER-EXCAVATION SHOULD EXTEND 1 FOOT LATERALLY BEYOND THE EDGES OF THE FOOTINGS.
    2. THE OVER-EXCAVATED IN-SITU FOOTING SUBGRADE SHOULD BE RE-COMPACTED TO A MINIMUM OF 95% RELATIVE DENSITY PER ASTM D1557 PROCEDURES.
  - C. FILL AND BACKFILL
    1. STRUCTURAL BACKFILL SHALL BE STRUCTURE BACKFILL MATERIAL A (HS703.20) PLACED IN TWO (2) 6-INCH COMPACTED LIFTS WITH A DENSITY OF NO LESS THAN 95% RELATIVE DENSITY PER ASTM D1557.
    2. ALTERNATIVELY, CONTROLLED LOW STRENGTH MATERIAL (CLSM) MEETING THE SPECIFICATION REQUIREMENTS CAN BE USED AS BACKFILL DIRECTLY BELOW THE FOUNDATION FOOTINGS.
  - D. SHORING, SHEETING, CRIBBING, AND LAGGING, AS REQUIRED TO PRESERVE THE EXCAVATIONS, EARTH BANKS AND ADJACENT STRUCTURES AND PROPERTY FREE FROM DAMAGE RESULTING FROM THE WORK SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
  - E. UNLESS SHOWN OTHERWISE, SLABS-ON-GRADE SHALL BE UNDERLAIN WITH 15 MIL VAPOR BARRIER OVER 4" THICK CUSHION FILL. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

**CONCRETE NOTES**

A. ALL CONCRETE SHALL DEVELOP THE FOLLOWING MINIMUM ULTIMATE COMPRESSIVE STRENGTHS, WITH CORRESPONDING MAXIMUM SIZE OF AGGREGATES AND WATER CEMENT RATIO AS FOLLOWS (UNLESS SHOWN ELSEWHERE IN SCHEDULES):

ELEMENT	28 DAYS STRENGTH (PSI)	MAXIMUM SIZE AGGREGATE	MAXIMUM WATER TO CEMENT RATIO
1. FOOTING	4000	1 1/2"	0.55
2. SLAB ON GRADE, CONCRETE PEDESTAL, GRADE BEAM, CONCRETE WALLS/RETAINING WALLS	4000	3/4"	0.45
3. CONCRETE TOPPING	3000	3/4"	0.45
4. MISC. CONCRETE FOR CURBS, EQUIPMENT PADS, ETC.	4000	3/4"	0.55

- B. ADMIXTURES: USE OF ADMIXTURE AT CONTRACTOR'S OPTION, BUT SUBJECT TO CONTRACTING OFFICER APPROVAL
- C. UNLESS OTHERWISE SHOWN, CONSTRUCTION JOINTS SHALL BE LOCATED BY THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER. THEY SHALL BE SO LOCATED AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND TO MINIMIZE SHRINKAGE STRESSES. PROVIDE DOWELS AS DIRECTED AND THOROUGHLY CLEAN AND ROUGHEN SURFACES BEFORE PROCEEDING WITH NEXT POUR.
- D. THE USE OF ANY CALCIUM CHLORIDE IN ANY CONCRETE IS PROHIBITED.

**CONCRETE BLOCK NOTES**

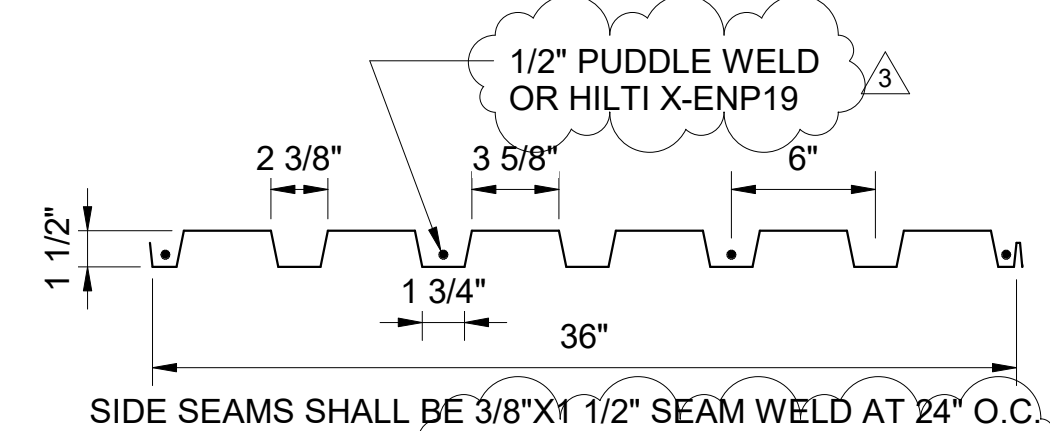
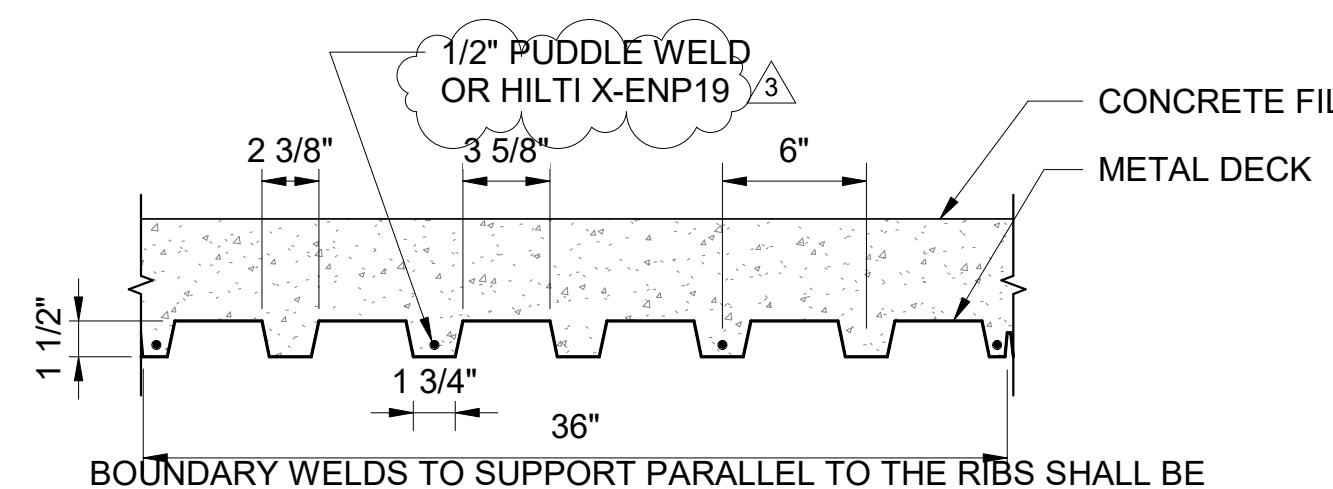
- A. ALL STANDARD UNITS SHALL BE 2-CELL TYPE, UNLESS OTHERWISE SHOWN.
- B. MINIMUM REINFORCING, UNLESS OTHERWISE SHOWN, SHALL BE:
  1. VERTICAL BARS - #5 AT 16" O.C. WITH BARS ALSO AT ENDS, CORNERS, AND INTERSECTIONS. PROVIDE DOWELS SAME AS FOR CONCRETE WALLS.
  2. HORIZONTAL STEEL - 2- #4 AT 24" O.C. AND #5 AT TOP OF WALLS WITH CONNECTIONS TO CONCRETE WALLS OR COLUMNS AS SHOWN REINFORCING SHALL BE CONTINUOUS AROUND ALL CORNERS AND INTERSECTIONS.
- C. ALL CELLS CONTAINING REINFORCING, BOLTS, OR INSERTS SHALL BE SOLIDLY FILLED WITH GROUT.
- D. PROVIDE 1-#5 AROUND ALL OPENINGS INCLUDING JAMBS; ALL BARS TO EXTEND A MINIMUM OF 2'-0" BEYOND THE EDGE OF THE OPENING. ALSO PROVIDE 1- #5 VERTICAL AT ALL CORNERS AND INTERSECTIONS. HORIZONTAL ARE LAPS AT CORNERS AND INTERSECTIONS SAME AS IN TYPICAL CONCRETE DETAILS. PROVIDE 2-#5 VERTICAL AT EACH SIDE OF EXPANSION AND CONTROL JOINTS.
- E. REINFORCEMENT GRADE, BAR BENDS, DETAILS, LAPS, ETC., SHALL BE THE SAME AS FOR CONCRETE WALLS.
- F. CONCRETE BLOCK UNITS SHALL BE LAID IN RUNNING BOND PATTERN UNLESS OTHERWISE SPECIFIED AND/OR SHOWN.
- G. ALL CONCRETE MASONRY UNITS SHALL BE MODULAR, SIZE AS INDICATED ON PLANS, CONFORMING TO ASTM C90, GRADE N-II GROUTED AS INDICATED IN DRAWINGS WITH(OUT) SPECIAL INSPECTION ALL CMU HAS BEEN DESIGNED FOR AN ULTIMATE COMPRESSIVE STRENGTH  $f_m = 1,500$  PSI.
- H. MORTAR SHALL CONFORM TO ASTM C270, TYPE M OR S.
- I. GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM STRENGTH OF 2000 PSI.

**STRUCTURAL STEEL NOTES**

- A. UNLESS OTHERWISE NOTED, ALL STRUCTURAL STEEL MEMBERS SHALL CONFORM TO THE FOLLOWING:
  1. W-SHAPES AND C-BEAMS - ASTM A992, GRADE 50, 50 KSI
  2. CHANNELS, ANGLES, PLATES - ASTM A36, GRADE 36, 36 KSI
  3. HIGH STRENGTH BOLTS - ASTM F3125, GRADE A325, 120 KSI
  4. ANCHOR BOLTS - ASTM F1554, GRADE 36, 36 KSI
  5. HEADED STUDS - ASTM A108, TYPE B
  6. WELDING ELECTRODES - E70XX
  7. METAL DECKING - ASTM A653, Fy = 50 KSI W/ G90 GALVANIZING
  8. HOLLOW STRUCTURAL SECTIONS (HSS) - ASTM A500, GRADE B
- B. ALL WELDING - WHETHER SHOP OR FIELD - SHALL BE DONE BY CERTIFIED WELDERS ONLY.
- C. UNLESS SHOWN OTHERWISE, ALL STEEL EXPOSED TO EXTERIOR OR WET CONDITION SHALL BE HOT-DIPPED GALVANIZED. REFER TO SPECIFICATIONS FOR OTHER PAINTING REQUIREMENTS.
- D. PLATE INSERTS EMBEDDED IN CONCRETE SHALL HAVE THE ANCHORS (BARS OR RODS) FULLY WELDED TO DEVELOP THE FULL STRENGTH OF THE ANCHORS.
- E. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO FABRICATION OR PREPARATION OF SHOP DRAWINGS OF ALL STRUCTURAL STEEL WORKS FOR REVIEW AND COMMENT PRIOR TO FABRICATION.

**METAL DECKING NOTES**

- A. METAL DECKING SHALL CONFORM TO ASTM A792 OR ASTM A1008.
- B. METAL DECKING SHALL BE ZINC COATED IN CONFORMANCE WITH ASTM A653, G90 COATING CLASS OR ALUMINUM-ZINC COATED IN ACCORDANCE WITH ASTM A792 COATING DESIGNATION AZM165 AZ55.
- C. METAL DECKING SHALL BE CAPABLE OF SUPPORTING THE LOADS SPECIFIED ON THE DRAWINGS FOR THE INDICATED SPANS.
- B. MINIMUM THICKNESS OF METAL DECKING SHALL BE 20 GAUGE.
- C. STEEL DECK SHALL BE INSTALLED IN TRIPLE SPANS AND THE DEFLECTION SHALL NOT EXCEED 1/240 OF SPAN UNDER FULL DESIGN LOAD.
- D. STEEL DECK WORK SHALL BE IN ACCORDANCE WITH THE "BASIC DESIGN SPECIFICATIONS" OF THE STEEL DECK INSTITUTE.
- E. METAL DECK MINIMUM EFFECTIVE SECTION PROPERTIES:
 

$S_{xx} = 0.228$  IN<sup>3</sup>/FT  
 $S_{yy} = 0.236$  IN<sup>3</sup>/FT  
 $I_{xx} = 0.197$  IN<sup>4</sup>/FT  
 $I_{yy} = 0.237$  IN<sup>4</sup>/FT
- DIAPHRAGM LOAD FACTORED SHEAR CAPACITY,  $\phi S_n$ :
  1. ROOF DECK = 1460 LB/FT
  2. FLOOR DECK = 5235 LB/FT
- F. SEE DETAIL BELOW FOR ATTACHMENT REQUIREMENTS:
  1. DECK SHALL BEAR ON SUPPORTS 2" MINIMUM AND END CAPPED A MINIMUM OF 2". FASTEN DECK AS SHOWN BELOW.
  2. ROOF DECK:
 
  3. COMPOSITE FLOOR DECK:
 

**REINFORCING STEEL NOTES**

- A. STRENGTHS - REINFORCING STEEL MUST BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. ALL REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS IN ACCORDANCE WITH AWS 1.4.
- B. MINIMUM CONCRETE CLEAR COVER (FOR CAST-IN-PLACE):
  1. CONCRETE POURED AGAINST EARTH . . . . . 3"
  2. CONCRETE POURED AGAINST FORMS AND LATER EXPOSED TO EARTH AND/OR WEATHER . . . . . 2"
  3. SLABS (NOT EXPOSED TO WEATHER). . . . . 3/4"
- C. BAR BENDS, HOOKS, AND OFFSETS SHALL BE IN ACCORDANCE WITH THE ACI RECOMMENDATIONS.
- D. SPECIAL SPACER CHAIRS: PLASTIC SPACER "CHAIRS" SHALL BE USED TO MAINTAIN REQUIRED MINIMUM CONCRETE CLEAR COVER FOR ALL BEAM, COLUMN, AND WALL REINFORCING AT FACES EXPOSED TO WEATHER.

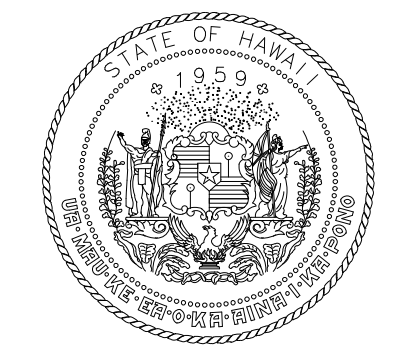
**EPOXIED ANCHOR NOTES**

- A. INSTALLATION OF EPOXIED ANCHORS SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS.
- B. INSTALLATION OF EPOXY ANCHORS SHALL BE PERFORMED UNDER THE SUPERVISION OF A SPECIAL INSPECTOR IN ACCORDANCE WITH SECTION 1704.4 AND 1704.13 OF THE IBC. THE SPECIAL INSPECTOR SHALL VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANING PROCEDURE, ANCHOR SPACING, EDGE DISTANCES, ANCHORS EMBEDMENT, TIGHTENING TORQUE.

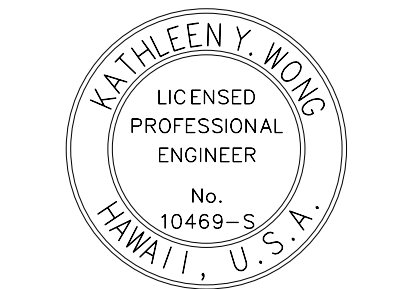
**OPEN WEB STEEL JOIST NOTES**

- A. ALL STEEL JOISTS ARE PRE-ENGINEERED MEMBERS. STEEL JOISTS SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
  1. "STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS", ADOPTED BY THE STEEL JOIST INSTITUTE, 43RD EDITION, 2010.
  2. "AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
  3. "AMERICAN IRON AND STEEL INSTITUTE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.
- B. BRIDGING SHALL BE AS RECOMMENDED BY THE INTERNATIONAL BUILDING CODE AND SJI SPECIFICATIONS LISTED ABOVE AND VERIFIED BY MANUFACTURER OF OPEN WEB JOISTS. ENDS OF BRIDGING ROWS SHALL BE FIELD WELDED TO STRUCTURAL STEEL MEMBERS OR TO PLATES EMBEDDED IN CONCRETE OR MASONRY UNLESS OTHERWISE NOTED.
- C. THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION:
  1. STRUCTURAL CALCULATIONS.
  2. SHOP AND ERECTION DRAWINGS SHOWING ALL DETAILS OF FABRICATIONS AND ERECTION SUCH AS BUT NOT LIMITED TO BRACINGS, BRIDGING, CONNECTIONS, AND MEMBER SIZES.

THE ITEMS LISTED ABOVE SHALL BE STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE UNITED STATES OF AMERICA.
- D. MINIMUM MANUFACTURER'S QUALIFICATIONS:
  1. THE QUALIFIED MANUFACTURER SHALL BE CURRENTLY LICENSED BY THE STEEL JOIST INSTITUTE TO MANUFACTURE THE SPECIFIC STEEL JOISTS TO BE USED FOR THIS PROJECT.
  2. THE QUALIFIED MANUFACTURER SHALL HAVE A MINIMUM OF FIVE (5) YEARS SUCCESSFUL EXPERIENCE IN THE DESIGN, FABRICATION AND ERECTION OF STEEL JOISTS SIMILAR TO THOSE TO BE USED FOR THIS PROJECT.
- E. OPEN WEB JOIST SHALL BE DESIGNED FOR VERTICAL GRAVITY LOADS AND WIND UPLIFT. SEE S008 FOR WIND UPLIFT DESIGN LOADS. DESIGN OF BOTTOM CHORD, BRIDGING, CONNECTIONS AND OTHER ITEMS SHALL INCLUDE EFFECTS OF WIND UPLIFT. WIND UPLIFT LOADS SHALL CONFORM TO ANSII/ASCE 7-16.
- F. SEE DESIGN CRITERIA ON S002 SHEET FOR MINIMUM DESIGN LOADS.
- G. SUPPORTS FOR LARGE MECHANICAL DUCTS OR ELECTRICAL CABLE TRAYS SHALL BE SUPPORTED AT PANEL POINTS WHEREVER POSSIBLE.
- H. CONCENTRATED LOADS FROM EQUIPMENT SUPPORTS SHALL NOT EXCEED 100 LBS TO ANY INDIVIDUAL JOIST. CONTRACTOR SHALL COORDINATE WITH JOIST MANUFACTURER.
- I. IN ADDITION TO THE UNIFORM LOADS AND POINT LOADS SPECIFIED ON THIS SHEET, EACH JOIST SHALL BE DESIGNED FOR AN ADDITIONAL CONCENTRATED LOAD OF 250 LBS DUE TO ELECTRICAL EQUIPMENT (CABLE TRAYS, LIGHTS, ETC) AND MECHANICAL DUCTS, THAT DOES NOT OCCUR AT A JOIST PANEL POINT. PROVIDE AN ADDITIONAL WEB MEMBER DESIGNED BY THE JOIST MANUFACTURER, AT THE POINT OF THE LOAD TO BE FIELD LOCATED, SEE DETAIL ON S007.
- J. IN ADDITION TO THE UNIFORM LOADS AND POINT LOADS SPECIFIED ON THIS SHEET, ROOF JOIST SHALL BE DESIGNED FOR WIND LOADS SHOWN ON S008.
- K. ALL LENGTHS AND DIMENSIONS SHALL BE COORDINATED BY THE CONTRACTOR WITH THE JOIST MANUFACTURER.



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



KATHLEEN WONG  
LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
04/30/2024  
License Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	ADDENDUM #3
3	9/5/2023	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

**PROJECT TITLE:**

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

**PROJECT NO:**

**AM1095-10**

**SHEET TITLE:**

**GENERAL STRUCTURAL NOTES**

DATE:	DWG. NO.
MAY 26, 2023	S001
SHEET :	
141 OF 333 SHEETS	



**SPECIAL INSPECTION NOTES**

- A. SPECIAL INSPECTION PROVISIONS OF THE SECTION 1704 OF THE 2018 INTERNATIONAL BUILDING CODE GOVERN PORTIONS OF THE STRUCTURAL WORK AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS. THE SPECIAL INSPECTION SHALL BE HIRED BY THE OWNER.
- B. THE MINIMUM RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE OUTLINED IN THE "SPECIAL INSPECTION RECOMMENDED STANDARD OF PRACTICE", 2ND EDITION, PUBLISHED BY THE STRUCTURAL ENGINEERS ASSOCIATION OF HAWAII.
- C. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OF ALL ITEMS REQUIRING SPECIAL INSPECTION A MINIMUM OF 48 HOURS IN ADVANCE.
- D. SPECIAL INSPECTIONS DO NOT RELIEVE THE GENERAL CONTRACTOR OF HIS RESPONSIBILITIES TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND TO BE RESPONSIBLE FOR THE SAFETY OF THE JOBSITE.
- E. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT TO THE BUILDING DEPARTMENT, ARCHITECT, STRUCTURAL ENGINEER AND OWNER STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, THE BEST OF HIS/HER KNOWLEDGE, IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE BUILDING CODE.
- F. THE SPECIAL INSPECTOR SHALL BE CERTIFIED AS A SPECIAL INSPECTOR BY THE BUILDING DEPARTMENT OR THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
- G. THE FOLLOWING STRUCTURAL WORK FOR THIS PROJECT REQUIRE SPECIAL INSPECTIONS:

SOILS SPECIAL INSPECTIONS AND TESTS		
VERIFICATION AND INSPECTION	INSPECTION FREQUENCY	
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	PERIODIC	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	PERIODIC	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	CONTINUOUS	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC	

CONCRETE CONSTRUCTION SPECIAL INSPECTIONS AND TESTS		
VERIFICATION AND INSPECTION	INSPECTION FREQUENCY	
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	PERIODIC	
2. REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 B. INSPECT SINGLE-PASS FILLET WELDS, MAX 5/16" C. INSPECT ALL OTHER WELDS.	PERIODIC PERIODIC CONTINUOUS	
3. INSPECT ANCHORS CAST IN CONCRETE	PERIODIC	
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	CONTINUOUS PERIODIC	
5. VERIFY USE OF REQUIRED DESIGN MIX.	PERIODIC	
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	CONTINUOUS	
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONTINUOUS	
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	PERIODIC	
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	

OPEN WEB-STEEL JOIST SPECIAL INSPECTION		
VERIFICATION AND INSPECTION	INSPECTION FREQUENCY	
1. INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOISTS GIRDER A. END CONNECTIONS - WELDING OR BOLTED B. BRIDGING - HORIZONTAL OR DIAGONAL 1. STANDARD BRIDGING 2. BRIDGING THAT DIFFERS FROM THE SJ1 SPECIFICATIONS LISTED IN SECTION 2207.1.	PERIODIC PERIODIC PERIODIC	

STRUCTURAL STEEL SPECIAL INSPECTIONS		
INSPECTION TASKS PRIOR TO WELDING	INSPECTION FREQUENCY	
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	CONTINUOUS	
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	CONTINUOUS	
MATERIAL IDENTIFICATION (TYPE/GRADE)	PERIODIC	
WELDER IDENTIFICATION SYSTEM	PERIODIC	
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)	PERIODIC	
CONFIGURATION AND FINISH OF ACCESS HOLES	PERIODIC	
FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)	PERIODIC	
CHECK WELDING EQUIPMENT	PERIODIC	
INSPECTION TASKS DURING WELDING		
USE OF QUALIFIED WELDERS	PERIODIC	
CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE CONTROL	PERIODIC	
NO WELDING OVER CRACKED TACK WELDS	PERIODIC	
ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE	PERIODIC	
WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE/FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) • PROPER POSITION (F, V, H, OH)	PERIODIC	
WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS	PERIODIC	
INSPECTION TASKS AFTER WELDING		
WELDS CLEANED	PERIODIC	
SIZE, LENGTH AND LOCATION OF WELDS	CONTINUOUS	
WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD/BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	CONTINUOUS	
ARC STRIKES	CONTINUOUS	
k-AREA	CONTINUOUS	
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	CONTINUOUS	
REPAIR ACTIVITIES	CONTINUOUS	
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	CONTINUOUS	
INSPECTION TASKS PRIOR TO BOLTING		
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	PERIODIC	
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	PERIODIC	
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	PERIODIC	
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	PERIODIC	
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	PERIODIC	
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	CONTINUOUS	
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	PERIODIC	
INSPECTION TASKS DURING BOLTING		
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	PERIODIC	
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	PERIODIC	
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	PERIODIC	
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	PERIODIC	
INSPECTION TASKS AFTER BOLTING		
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	CONTINUOUS	

REQUIRED STEEL DECK SPECIAL INSPECTIONS		
INSPECTION TASKS PRIOR TO DECK PLACEMENT	INSPECTION FREQUENCY	
VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	PERIODIC	
DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	CONTINUOUS	
INSPECTION TASKS AFTER DECK PLACEMENT		
VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	PERIODIC	
VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	PERIODIC	
DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	CONTINUOUS	
INSPECTION TASKS PRIOR, DURING, AND AFTER WELDING		
SEE STRUCTURAL STEEL WELDING INSPECTION REQUIREMENTS		
INSPECTION TASKS PRIOR TO MECHANICAL FASTENING		
MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	PERIODIC	
PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	PERIODIC	
PROPER STORAGE FOR MECHANICAL FASTENERS	PERIODIC	
INSPECTION TASKS DURING MECHANICAL FASTENING		
FASTENERS ARE POSITIONED AS REQUIRED	PERIODIC	
FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	PERIODIC	
INSPECTION TASKS AFTER MECHANICAL FASTENING		
CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	PERIODIC	
CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	PERIODIC	
CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	PERIODIC	
VERIFY REPAIR ACTIVITIES	CONTINUOUS	
DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	CONTINUOUS	

**DESIGN CODES AND STANDARDS**

IBC 2018	-	INTERNATIONAL BUILDING CODE, 2018 EDITION
ASCE 7-16	-	AMERICAN SOCIETY OF CIVIL ENGINEERS, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
TMS 402-16	-	BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
ACI 318-14	-	AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AISC 341-16	-	SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS
AISC 360-16	-	AMERICAN INSTITUTE OF STEEL CONSTRUCTION, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
AWS D1.1	-	AMERICAN WELDING SOCIETY, STRUCTURAL WELD CODE-STEEL

**ABBREVIATIONS**

ARCH.	-	ARCHITECTURAL
APPROX.	-	APPROXIMATE
BOT.	-	BOTTOM
C&C	-	COMPONENTS AND CLADDING
C.J.	-	CONSTRUCTION JOINT
COL.	-	COLUMN
CONC.	-	CONCRETE
CONT.	-	CONTINUOUS
DIA.	-	DIAMETER
E.F.	-	EACH FACE
ELEV.	-	ELEVATION
E.S.	-	EACH SIDE
E.W.	-	EACH WAY
HORIZ.	-	HORIZONTAL
JT.	-	JOINT
MECH.	-	MECHANICAL
MIN.	-	MINIMUM
NTS	-	NOT TO SCALE
O.C.	-	ON CENTER
O.H.	-	OPPOSITE HAND
PGA	-	PEAK GROUND ACCELERATION
RC	-	REINFORCED CONCRETE
REINF.	-	REINFORCEMENT
SIM.	-	SIMILAR
S.J.	-	SAWCUT JOINT
SQ.	-	SQUARE
T & B.	-	TOP AND BOTTOM
T	-	THICKNESS
TEMP.	-	TEMPERATURE
TOC	-	TOP OF CONCRETE
TOF	-	TOP OF FOOTING
TYP.	-	TYPICAL
UNO	-	UNLESS NOTED OTHERWISE
W.P.	-	WORK POINT
VERT.	-	VERTICAL

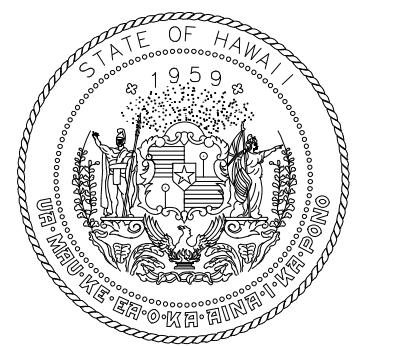
**DESIGN DATA**

- A. SUPERIMPOSED DEAD LOADS:
  1. MECHANICAL/ELECTRICAL AND CEILING HUNG SYSTEMS = 20 PSF
  2. ROOFING AND INSULATION = 5 PSF
  3. PV PANEL = 5 PSF
- B. LIVE LOADS:
  1. ROOF LIVE = 20 PSF
  2. FLOOR LOAD
    - a. ALL AREAS (LIVE LOAD) = 100 PSF
    - b. MECHANICAL ROOM (LIVELOAD) = 150 PSF
    - c. STORAGE (LIVE LOAD) = 125 PSF

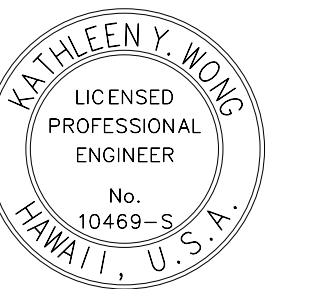
NOTE: LIVE LOADS ARE NOT REDUCIBLE.
- C. WIND LOADS: ASCE 7-16
  1. ULTIMATE DESIGN WIND SPEED, VULT (3-SECOND GUST) = 133 mph
  2. NOMINAL DESIGN WIND SPEED, VASD (3-SECOND GUST) = 105 mph
  3. RISK CATEGORY = III
  4. WIND EXPOSURE CATEGORY = C
  5. TOPOGRAPHIC FACTOR, Kzt = 1.0
  6. INTERNAL PRESSURE COEFFICIENT = +/-0.18
  7. DIRECTIONALITY FACTOR, Kd = 0.85
- D. SEISMIC LOADS: IBC 2018
  1. SECOND SPECTRAL RESPONSE ACCELERATION
    - a. (Ss) = 0.998 g
    - b. (S1) = 0.255 g
  2. SITE CLASS = D
  3. SITE COEFFICIENT
    - a. Fa = 1.101
    - b. Fv = 2.09
  4. SECOND SPECTRAL RESPONSE ACCELERATION
    - a. (Sas) = 0.732 g
    - b. (Sas1) = 0.355 g
  5. RISK CATEGORY = III
  6. SEISMIC DESIGN CATEGORY = D
  7. SEISMIC IMPORTANCE FACTOR, Ie = 1.25
  8. BASIC SEISMIC FORCE RESISTING SYSTEM:
    - a. STEEL SPECIAL MOMENT FRAMES
    - b. RESPONSE MODIFICATION COEFFICIENT, R = 8
    - c. DEFLECTION AMPLIFICATION, Cd = 5.5
    - d. OVERSTRENGTH FACTOR, Ω = 3
    - e. ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE
    - f. SEISMIC RESPONSE COEFFICIENT, Cs = 0.114
    - g. BASE SHEAR, V = 465 kips
- E. FOUNDATIONS (PENDING GEOTECHNICAL INVESTIGATION)
 

FOUNDATIONS WAS DESIGNED BASED ON THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL INVESTIGATION REPORT TITLED 'GEOTECHNICAL CONSULTATION LETTER REPOT, PREPARED BY YOGI KWONG ENGINEERS, LCC, DATED AUGUST 15, 2019.

ALLOWANCE SOIL BEARING CAPACITY:  
DEAD AND LIVE LOADS = 2500 PSF  
DEAD, LIVE WITH SHORT DURATION LOADS = 3333 PSF  
COEFFICIENT OF FRICTION = 0.25  
PASSIVE EARTH PRESSURE = 250 PCF



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Wong*  
LICENSED PROFESSIONAL ENGINEER  
No. 0469-S  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

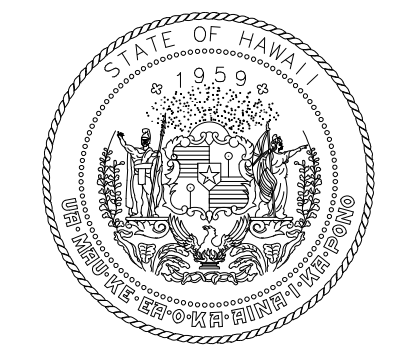
PROJECT NO:

**AM1095-10**

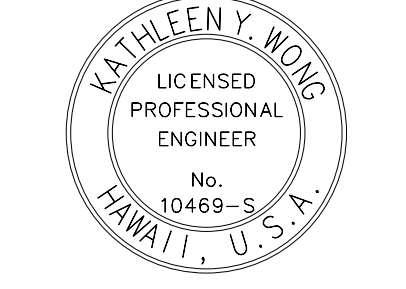
SHEET TITLE:

**GENERAL STRUCTURAL NOTES**

DATE:	DWG. NO.
MAY 26, 2023	S002
SHEET :	
142 OF 333 SHEETS	



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

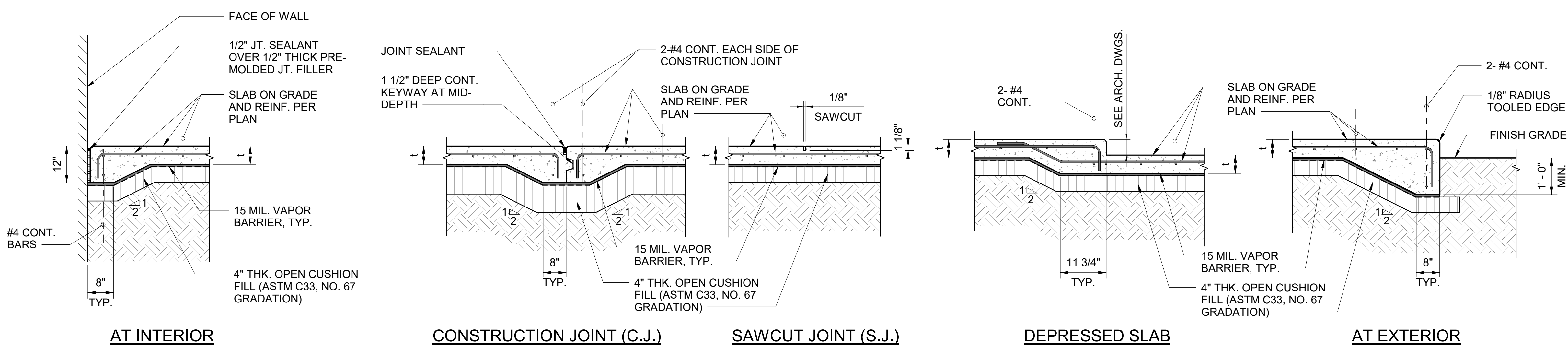


KATHLEEN WONG  
LICENSED PROFESSIONAL ENGINEER  
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HAWAII, U.S.A.  
04/30/2024  
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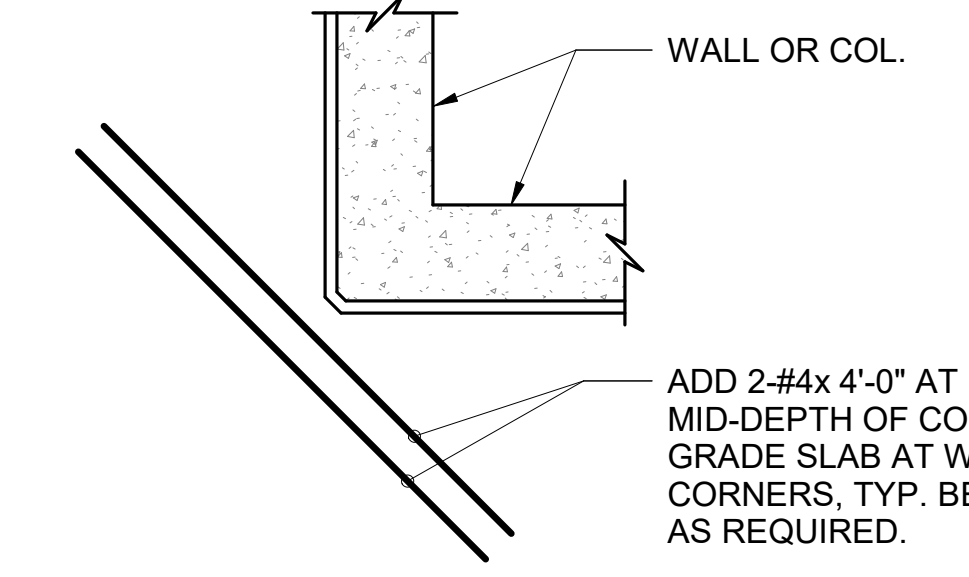
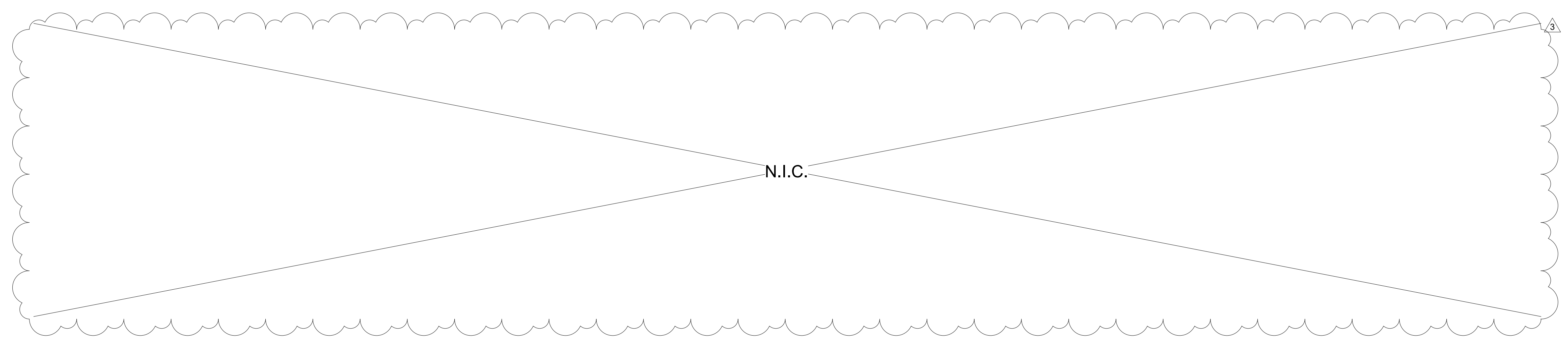
This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

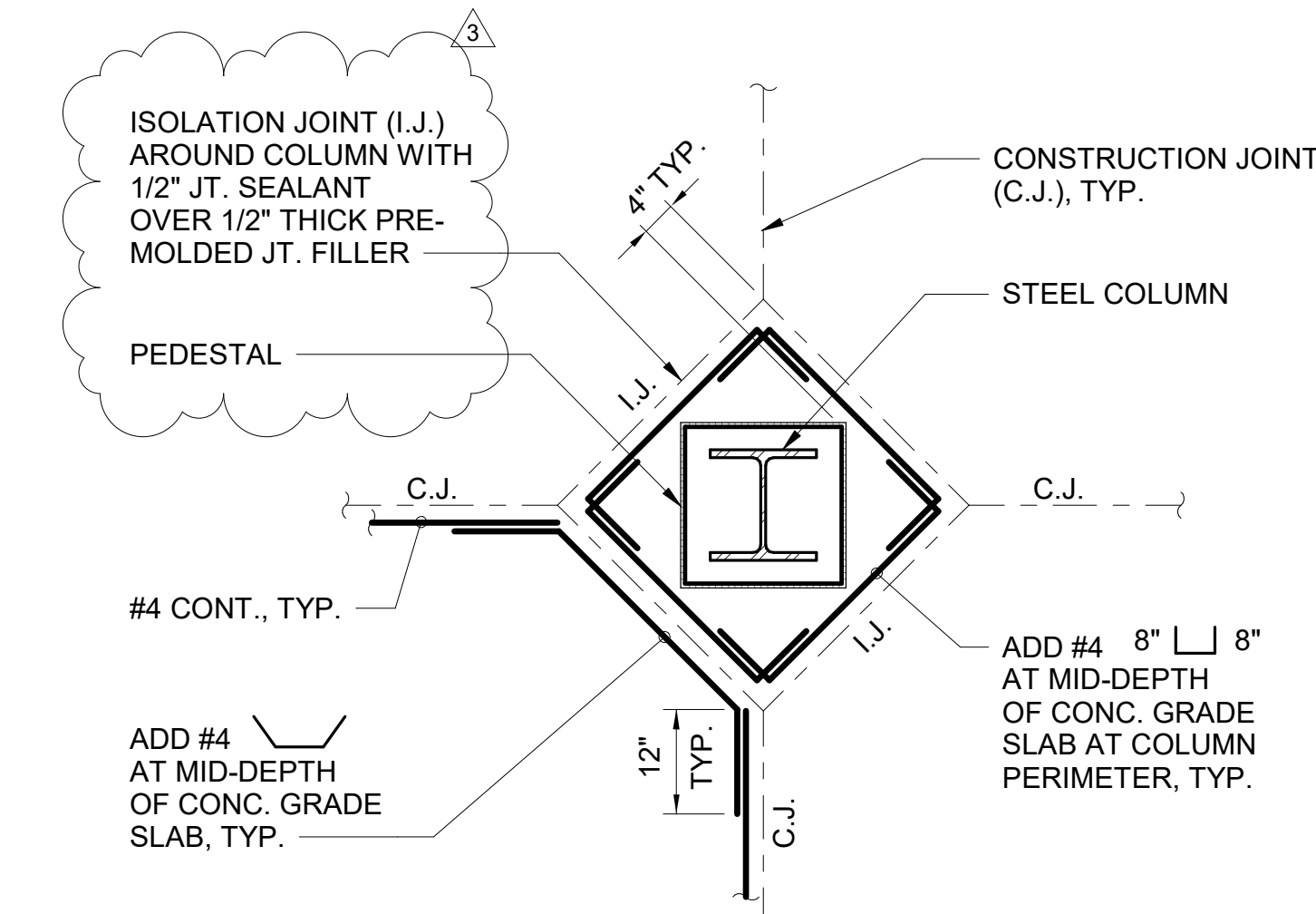
KEY PLAN / NOTES:



5 TYPICAL INTERIOR SLAB ON GRADE DETAILS  
NTS

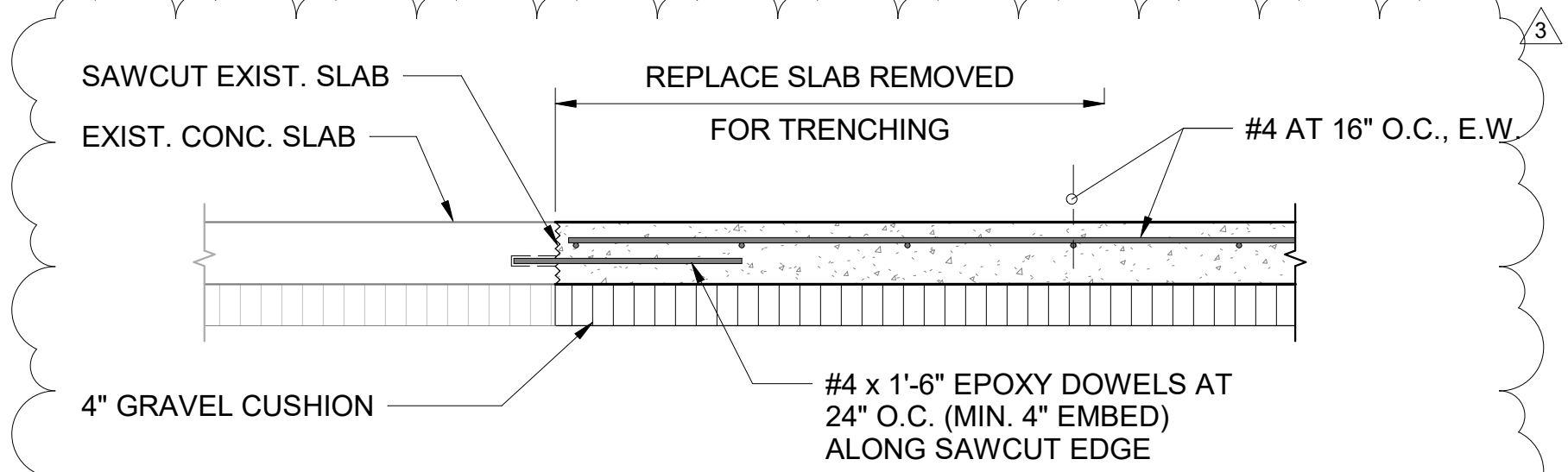


1 ADDED REINFORCEMENT DETAIL  
NTS

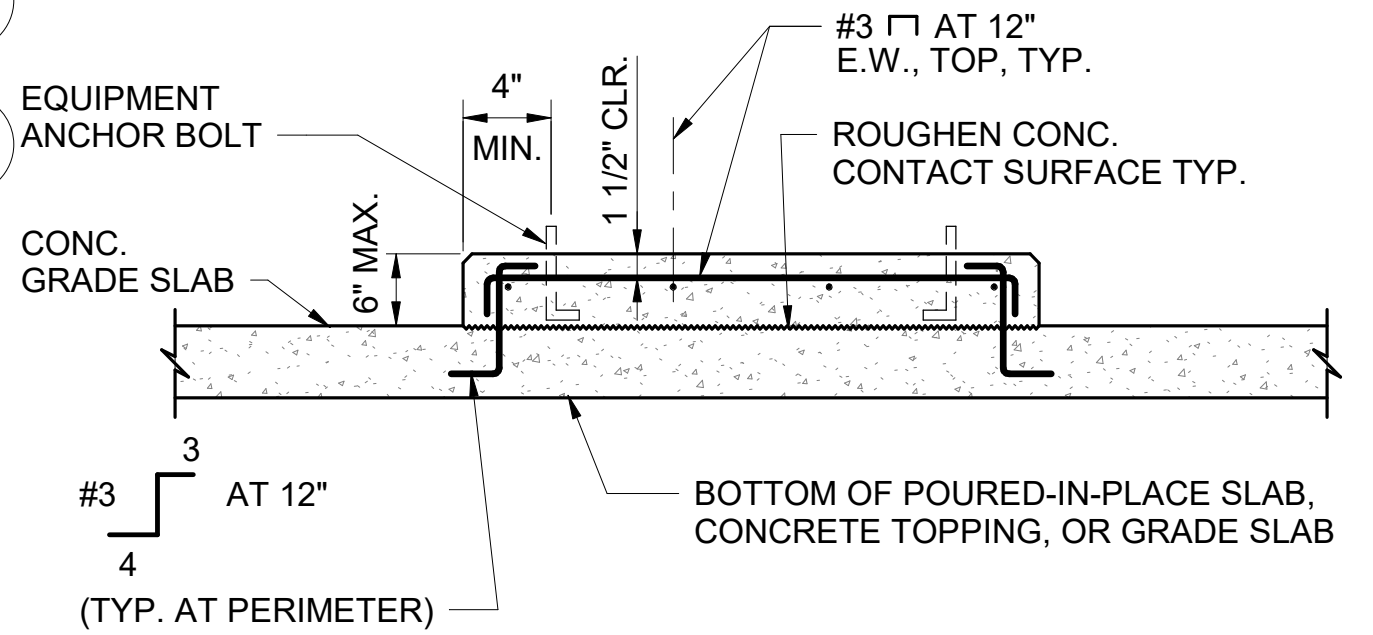


PLAN AT COLUMN

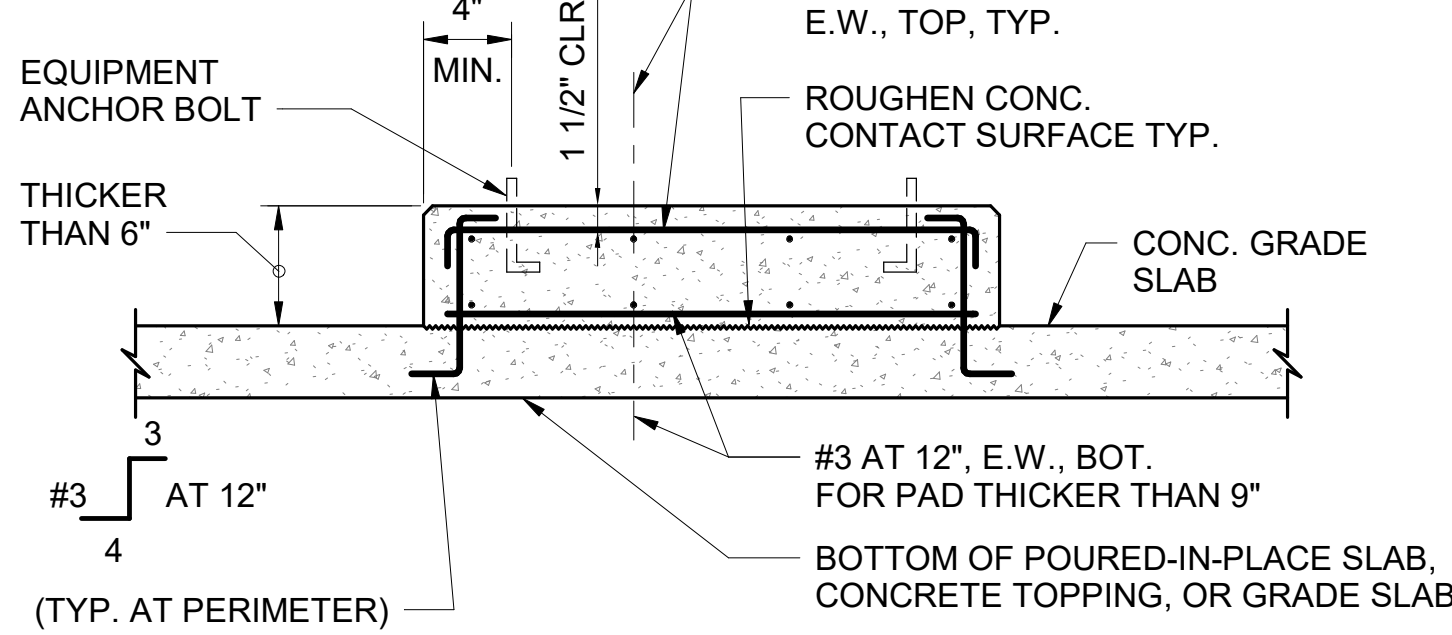
2 ADDED REINFORCEMENT AT COLUMN BLOCKOUTS  
NTS



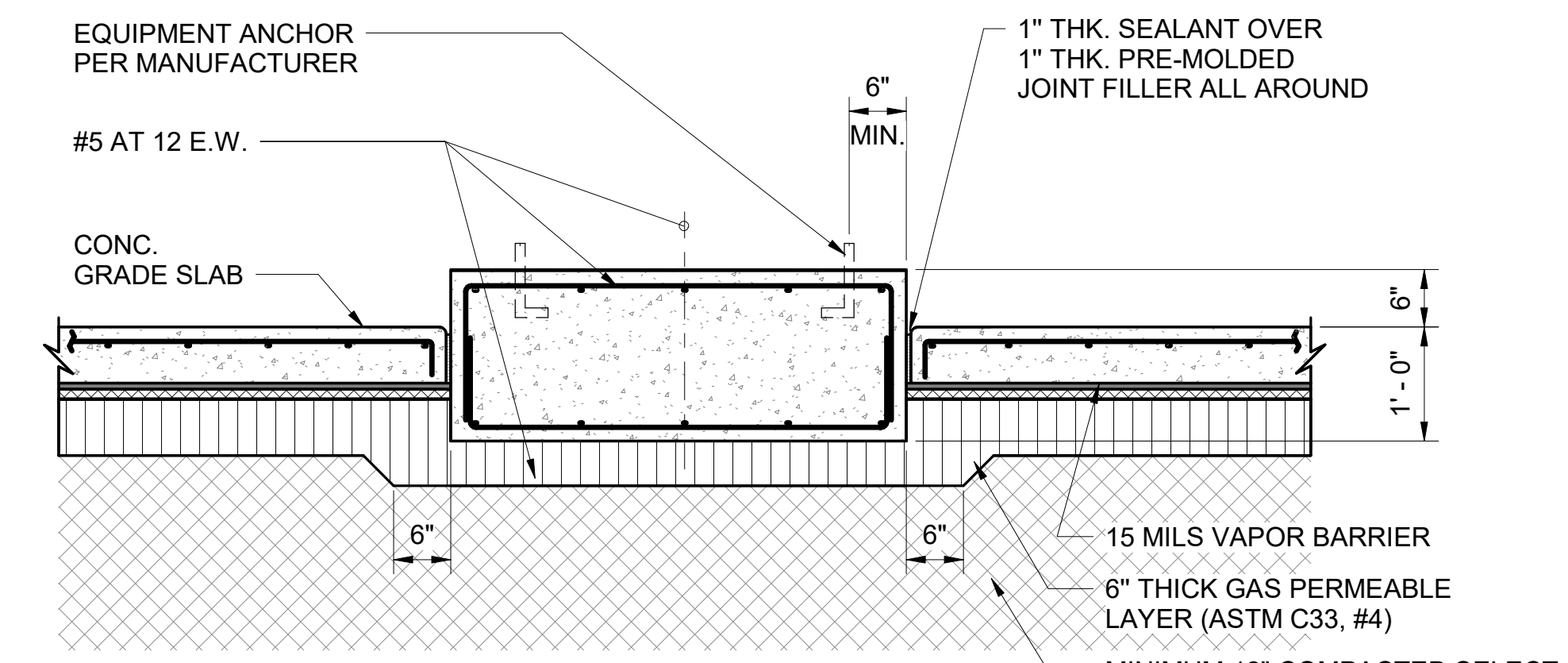
10 SLAB TRENCH DETAIL  
3/4" = 1'-0"



SECTION AT CONC. PAD < 6" T

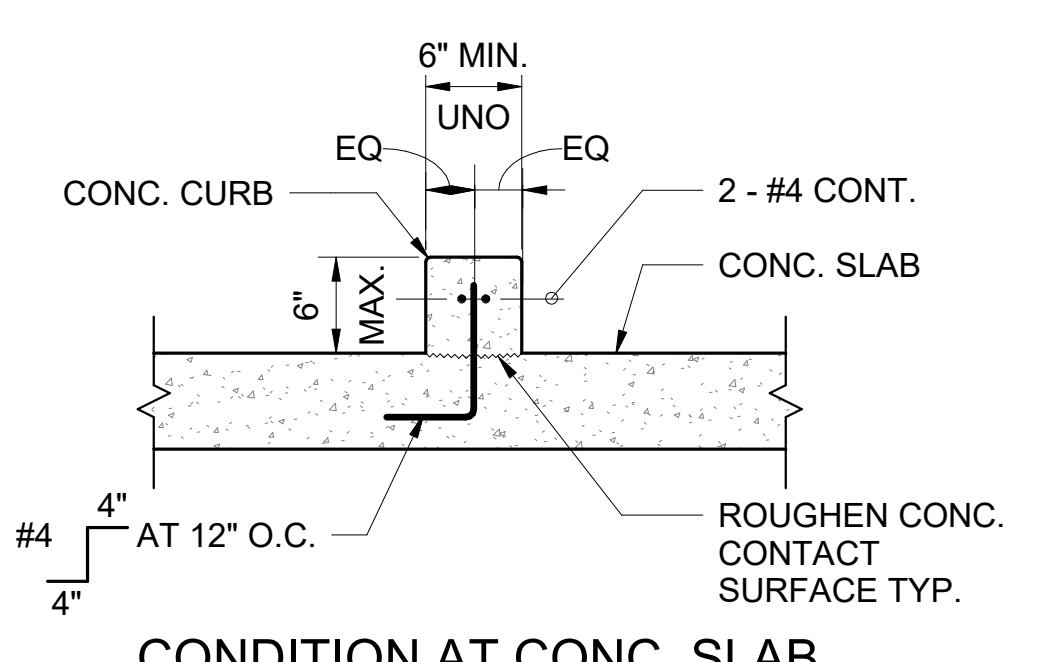


SECTION AT CONC. PAD > 6" T



GENERATOR PAD DETAIL

8 TYPICAL CONCRETE CURB DETAIL  
NTS

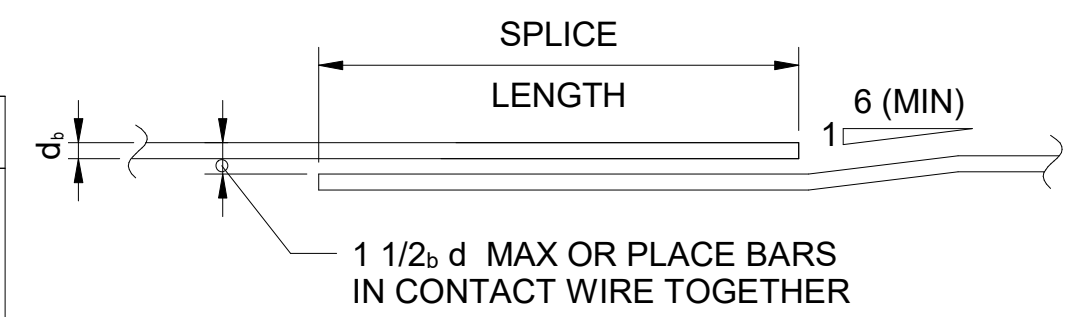


CONDITION AT CONC. SLAB

3 TYPICAL CONCRETE PAD DETAILS  
NTS

MINIMUM SPLICE AND DEVELOPMENT LENGTHS

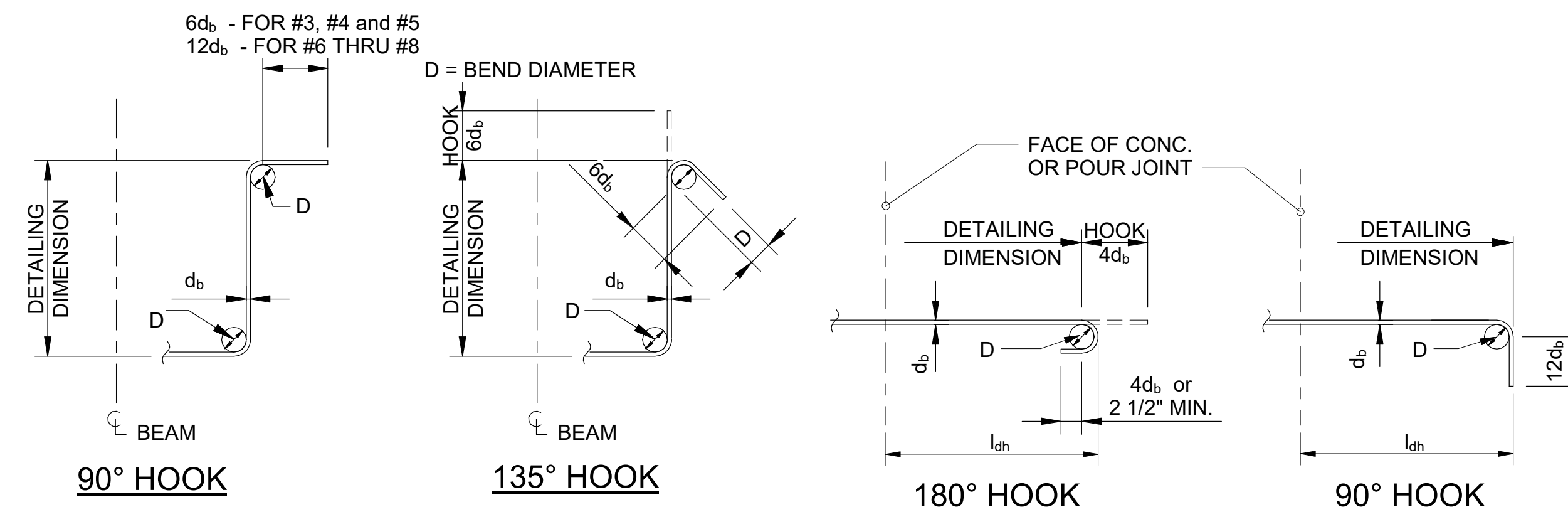
BAR SIZE	d <sub>b</sub> [in]	A <sub>s</sub> [sq in]	f <sub>c</sub> = 4000 PSI				STANDARD HOOK (l <sub>h</sub> ) [in]	MASONRY LAP SPLICE [in]
			LAP SPLICE	DEVELOPMENT (l <sub>d</sub> )	TOP BARS	BOT BARS		
#3	24	19	19	14	7	15		
#4	32	25	25	19	9	26		
#5	40	31	31	24	12	40		
#6	48	37	37	28	14	54		
#7	70	54	54	42	17	63		
#8	80	62	62	47	19	72		
#9	90	70	70	54	21	-		



**BAR LAP**  
D = 6d<sub>b</sub> FOR #8 AND SMALLER  
D = 8d<sub>b</sub> FOR #9 TO #11

- NOTE:
- INCREASE SPLICE LENGTH 50% WHEN CONCRETE COVER TO REINFORCING IS LESS THAN BAR DIAMETER (d<sub>b</sub>) OR CENTERLINE SPACING OF BARS IS LESS THAN 3 BAR DIAMETERS (d<sub>b</sub>).
  - 'TOP BARS' ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS
  - 'BOT BARS' ARE ALL VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 12" OF CONCRETE CAST BELOW THE BARS.

9 TYPICAL REBAR SPLICE AND DEVELOPMENT LENGTH  
NTS



STIRRUP, TIE, AND HOOP GEOMETRY

STANDARD HOOK GEOMETRY

4 TYPICAL REBAR HOOK DETAIL  
NTS

REBAR SIZE	REBAR BEND SCHEDULE	
	STIRRUP, TIE AND HOOP MIN. INSIDE BEND DIAMETER D [in]	STANDARD HOOK MIN. INSIDE BEND DIAMETER D [in]
#3	1 1/2	2 1/4
#4	2	3
#5	2 1/2	3 3/4
#6	4 1/2	4 1/2
#7	-	5 1/4
#8	-	6
#9	-	9
#10	-	10 1/4
#11	-	11 1/4

NOTE:  
D = FINISHED INSIDE BEND DIAMETER  
d<sub>b</sub> = BAR DIAMETER

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

CONSTRUCTION DOCUMENTS  
MAY 26, 2023  
DATE

PROJECT TITLE:

SOUTH TSA CHECKPOINT

AT KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

AM1095-10

SHEET TITLE:

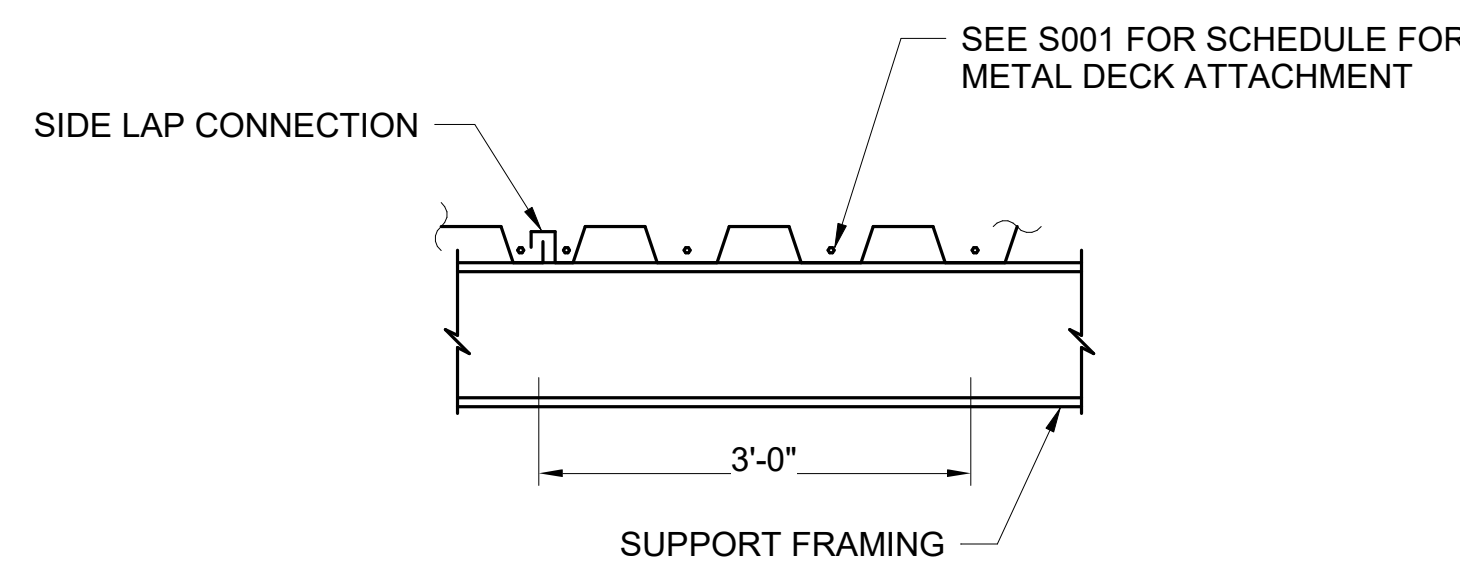
TYPICAL SLAB ON GRADE DETAILS

DATE: MAY 26, 2023

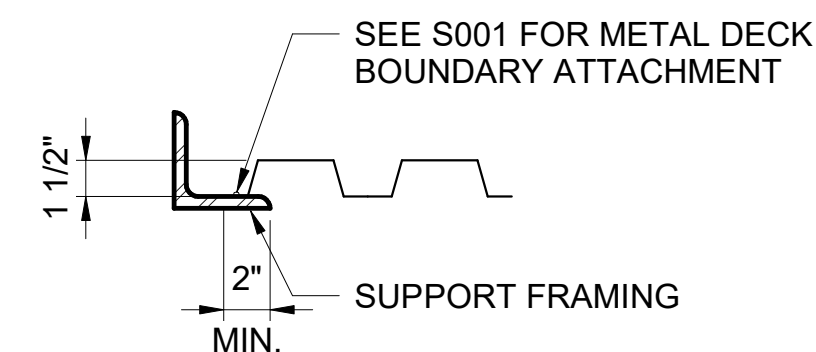
DWG. NO. S003

143 OF 333 SHEETS



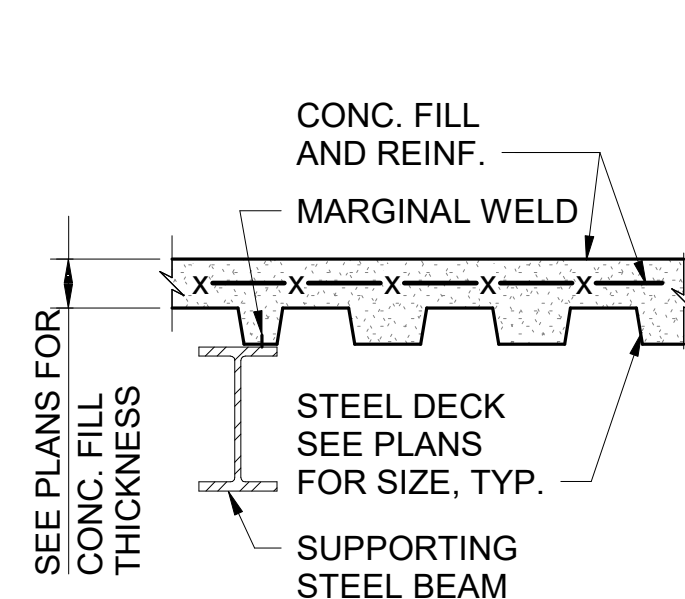


**CONDITION WHERE SUPPORT FRAMING PERPENDICULAR TO DECK SPAN**

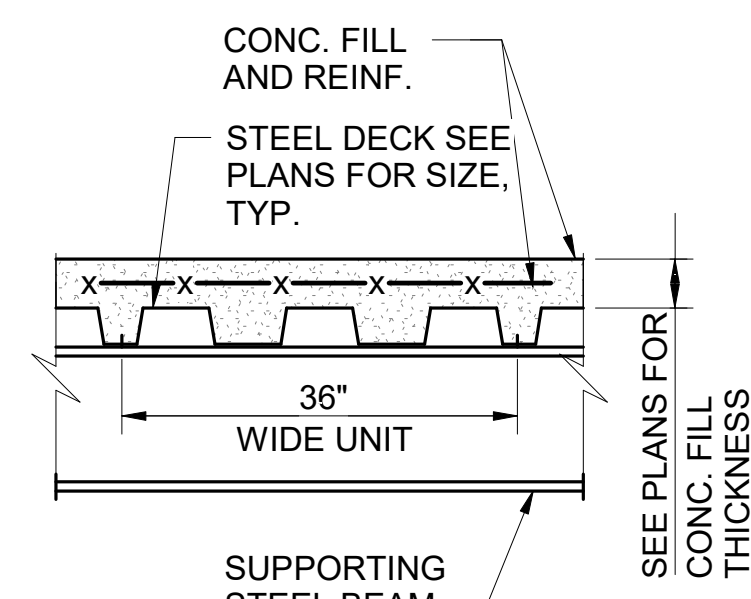


**CONDITION WHERE SUPPORT FRAMING PARALLEL TO DECK SPAN**

**CONDITION AT METAL DECK ONLY**



**STEEL DECK PARALLEL TO STEEL BEAM**

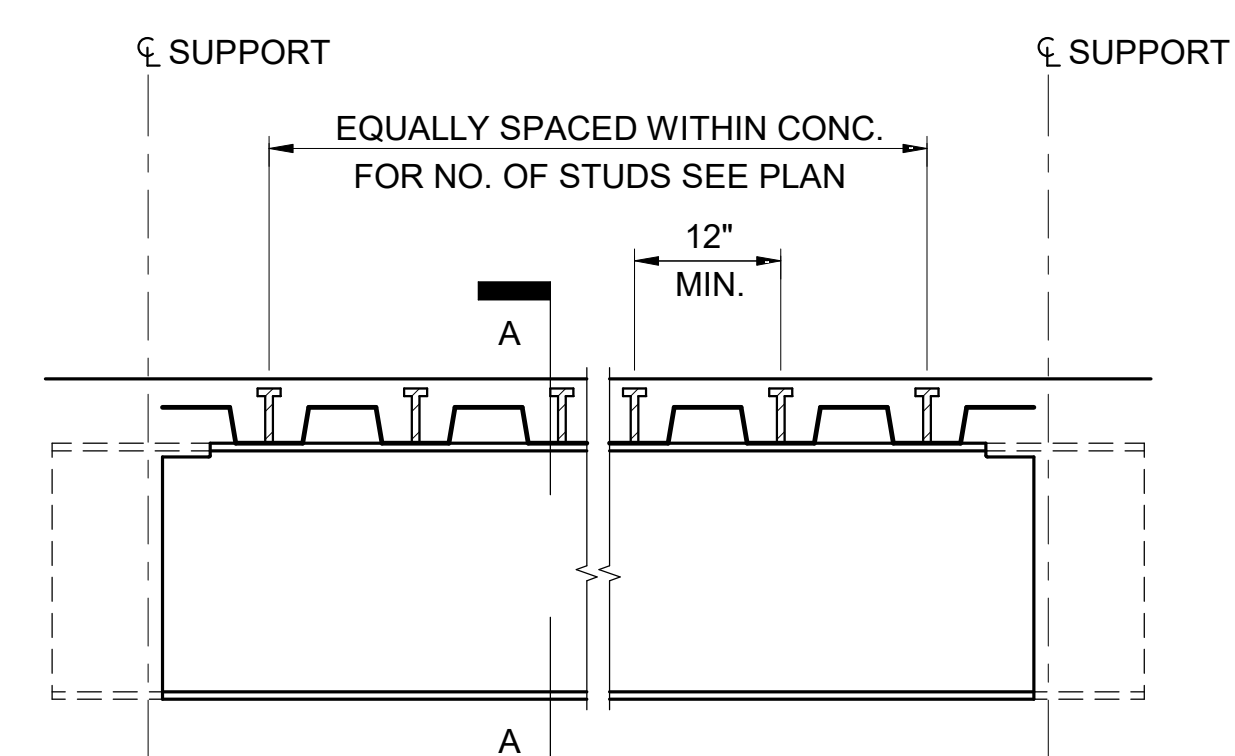


**STEEL DECK PERPENDICULAR TO STEEL BEAM**

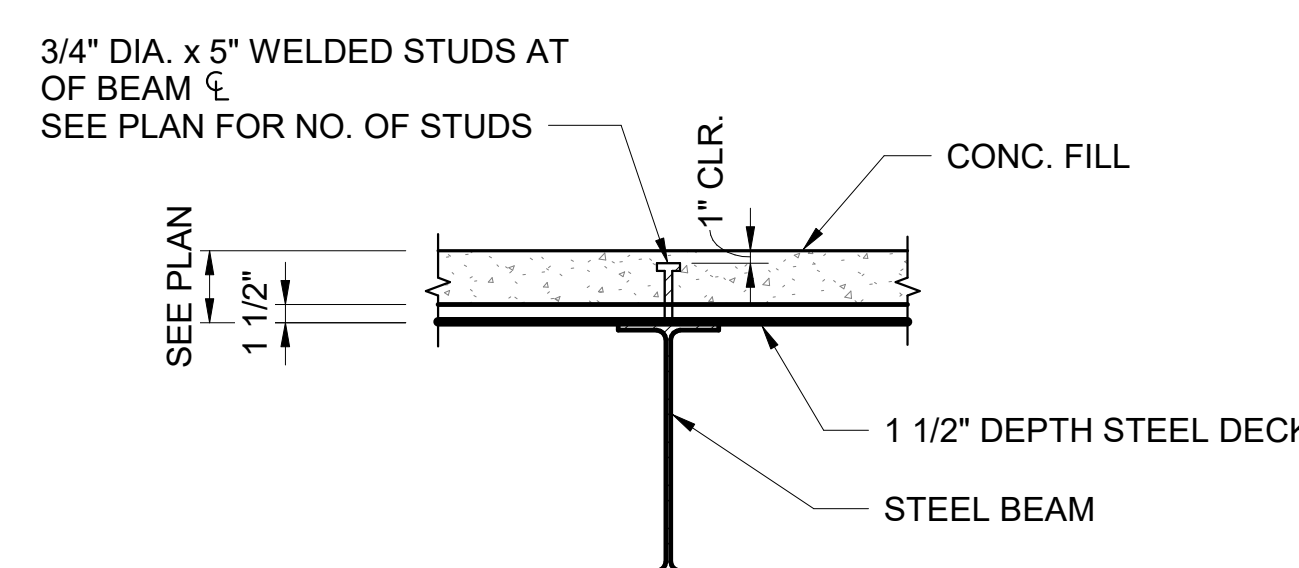
**CONDITION AT CONCRETE FILLED DECK**

**NOTES:**

1. DECK SPAN IN THE DIRECTION AS NOTED ON PLAN.
2. DECK SHALL BE WELDED TO ALL PERPENDICULAR SUPPORTING BEAMS FOR DIAPHRAGM SHEAR OR WELD PATTERN



**BEAM ELEVATION**

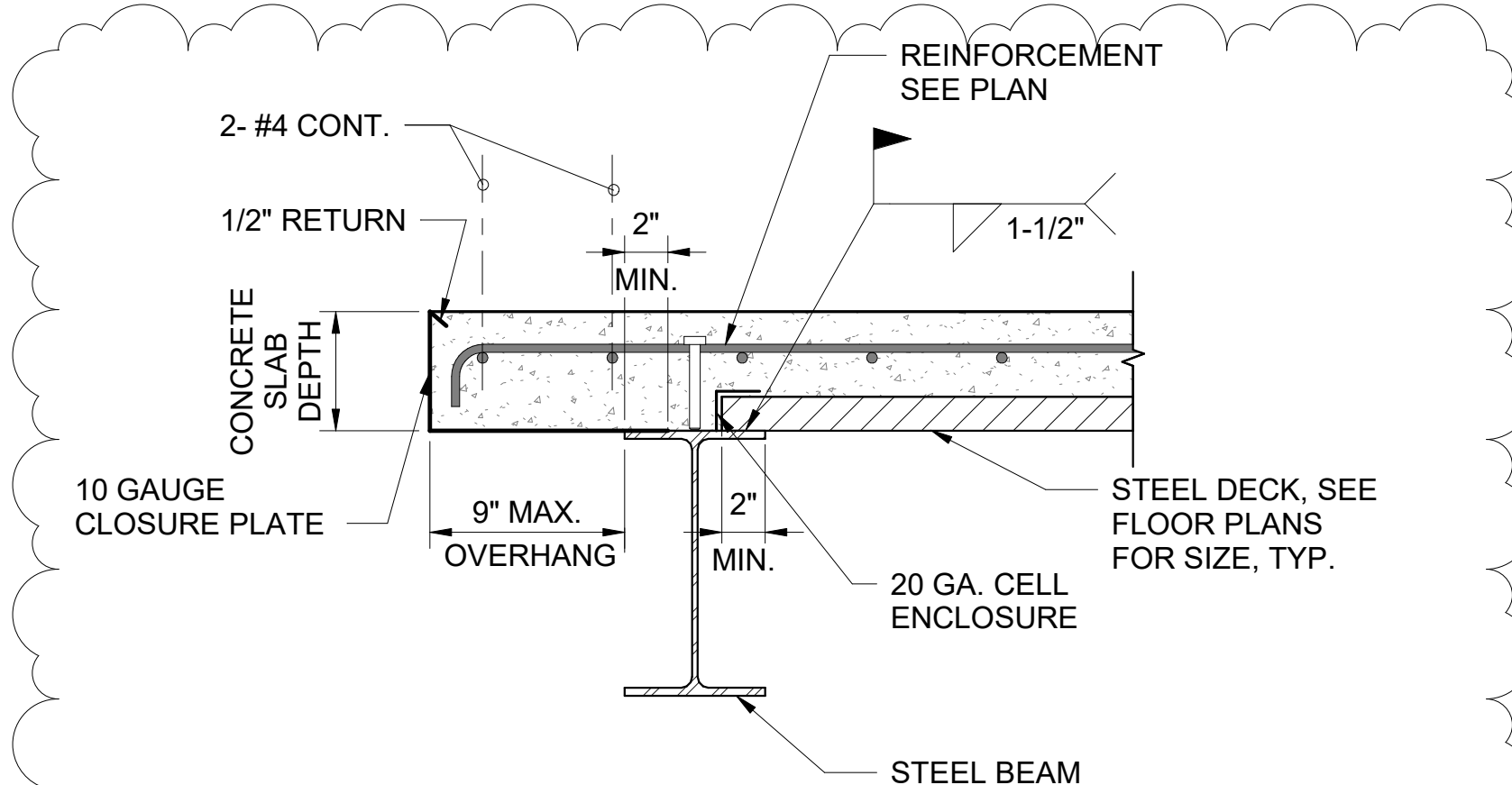


**SECTION A-A**

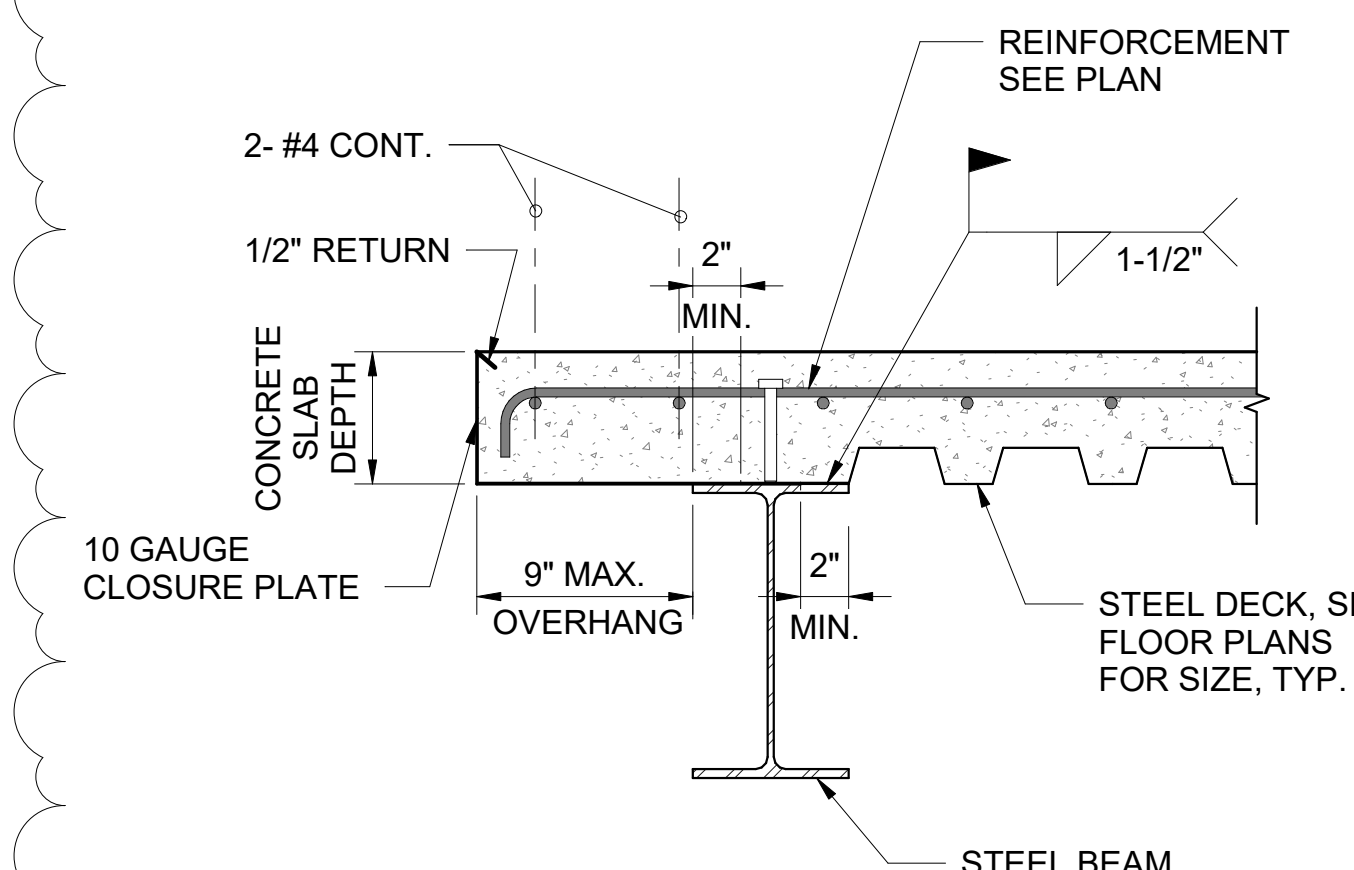
**NOTE:**

WELDED STUD SHALL BE HEADED STUDS OF A TYPE IN CONFORMANCE WITH THE DESIGN CODES AND THE SPECIFICATIONS.

**2 TYPICAL WELDED STUD DETAILS**  
NTS



**CONDITION PERPENDICULAR TO DECK SPAN**

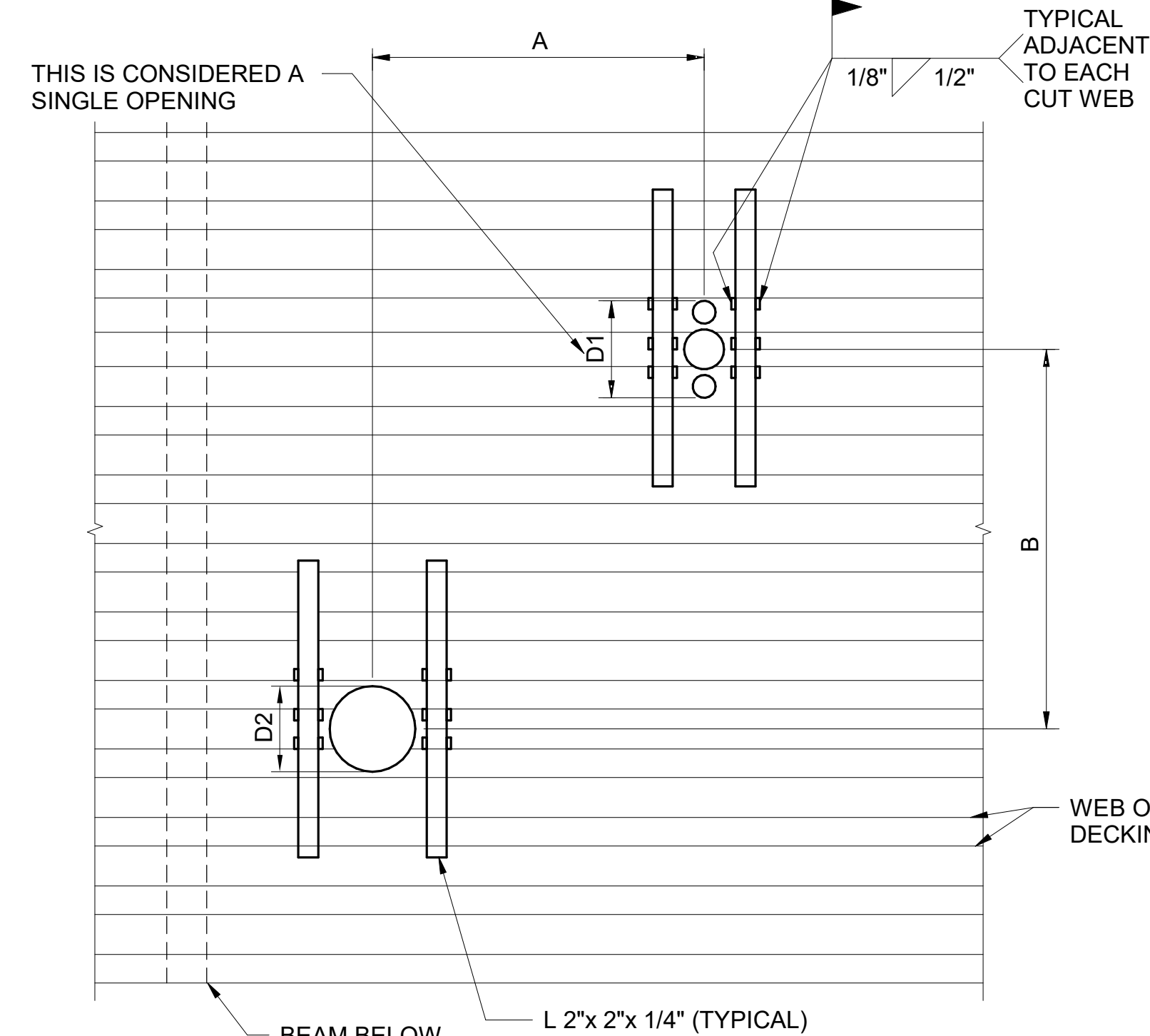


**CONDITION PARALLEL TO DECK SPAN**

**1 TYPICAL EDGE FORM DETAIL**  
NTS

**4 TYPICAL STEEL DECK DETAILS**  
NTS

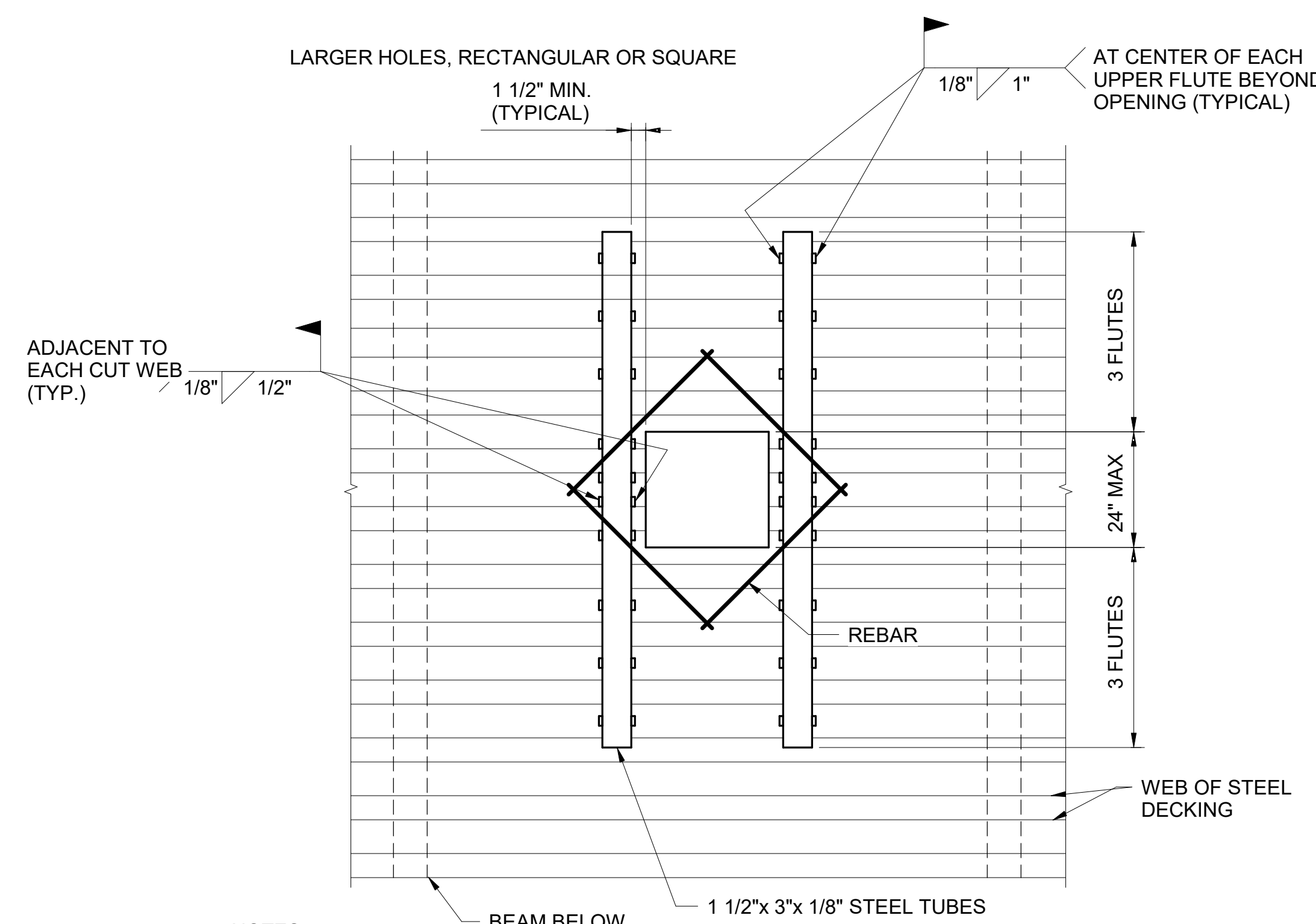
HOLES CUTTING NO MORE THAN:  
- 3 ADJACENT WEBS FOR 6"



**NOTES:**

1. ANGLES SHALL BE PLACED ON TOP OF THE DECK.
2. ANGLES SHALL EXTEND 3 WEBS PAST THE DECK OPENING (TYPICAL).
3. IF DIMENSION A IS >4D1, 4D2, 32" WHICHEVER IS LARGER, THERE IS NO RESTRICTION ON DIMENSION B.
4. IF DIMENSION B IS >4D1, 4D2, 32" WHICHEVER IS LARGER, THERE IS NO RESTRICTION ON DIMENSION A.
5. IF DIMENSION A AND B ARE >4D1, 4D2, 32" WHICHEVER IS LARGER, THE OPENING GROUP SHALL BE CONSIDERED AS A SINGLE HOLE, AND SHALL BE REINFORCED AS REQUIRED FOR THE LARGER OPENING AS SHOWN.

**5 SMALL HOLE OPENING DETAIL**  
NTS



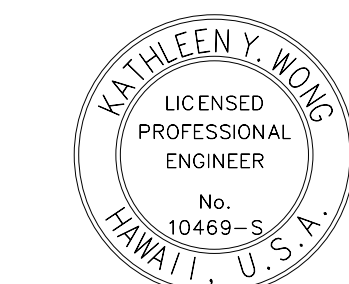
**NOTES:**

1. TUBES SHALL BE PLACED ON TOP OF THE DECK. NOTE: AVAILABILITY MAY SUGGEST THE USE OF ALTERNATE MEMBERS SUCH AS CHANNELS OR ANGLES WITH COMPARABLE STRENGTH.
2. ADD REBARS AT CORNERS OF OPENING ABOVE THE TUBES.
3. IF THE OPENING OR GROUP OF OPENINGS OCCURS IN ONE DECK UNIT, THE OPENING OR OPENING GROUP MAY BE CUT BEFORE POURING CONCRETE.
4. IF THE OPENING OR GROUP OF OPENINGS CUTS THROUGH TWO DECK UNITS, THE DECK SHALL NOT BE CUT UNTIL CONCRETE HAS BEEN PLACED AND CURED. AT THE TIME OF POURING, SUITABLE SLEEVES OR BULKHEADS SHALL BE PLACED AROUND THE OPENING.
5. WHEN THE MAXIMUM DIMENSION OF AN OPENING OR OPENING GROUP EXCEEDS 24", PLACE HEADER BEAMS AROUND OPENING.

**3 LARGE HOLE OPENING DETAIL**  
NTS



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



KATHLEEN Y. WONG  
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04/30/2024  
License Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

**PROJECT TITLE:**

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

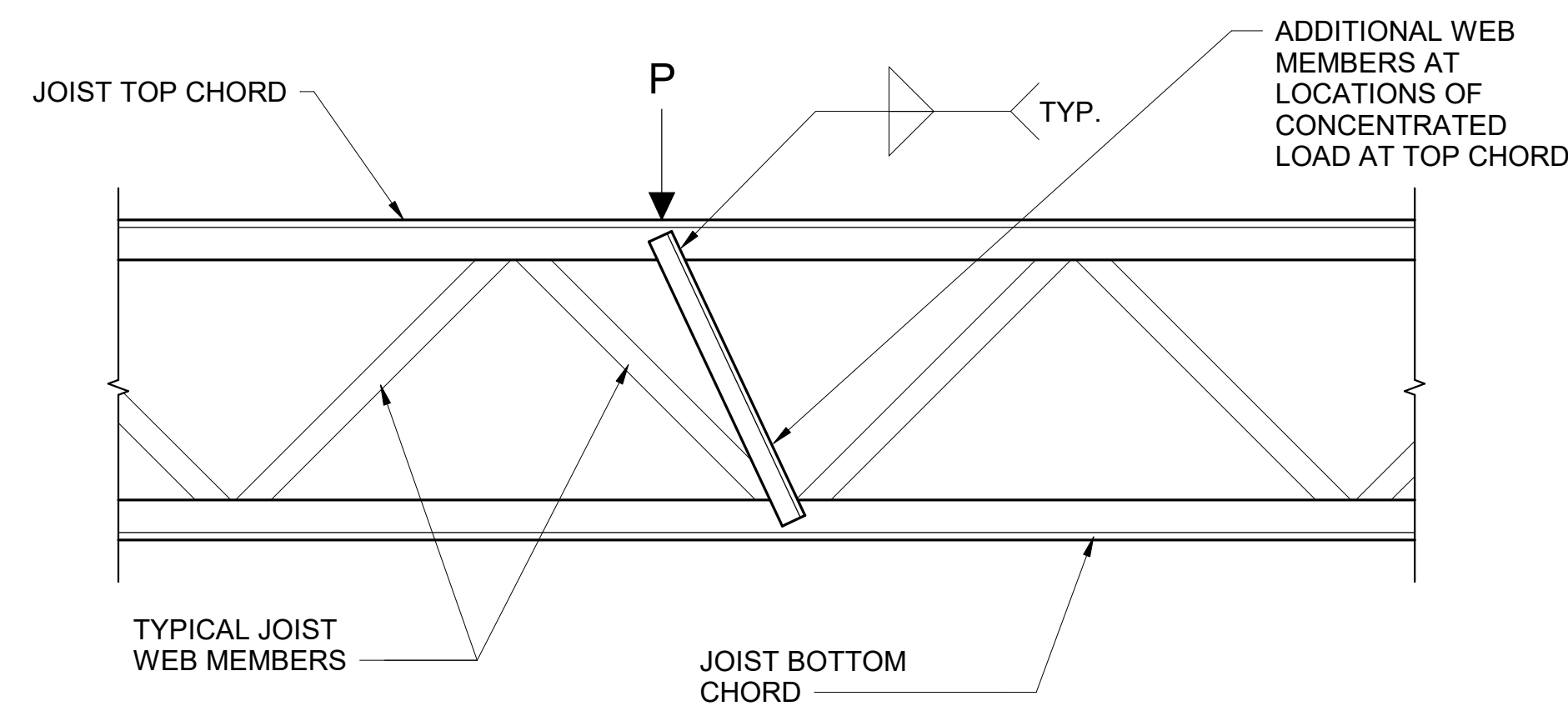
**PROJECT NO:**

**AM1095-10**

**SHEET TITLE:**

**TYPICAL STEEL DECK DETAILS**

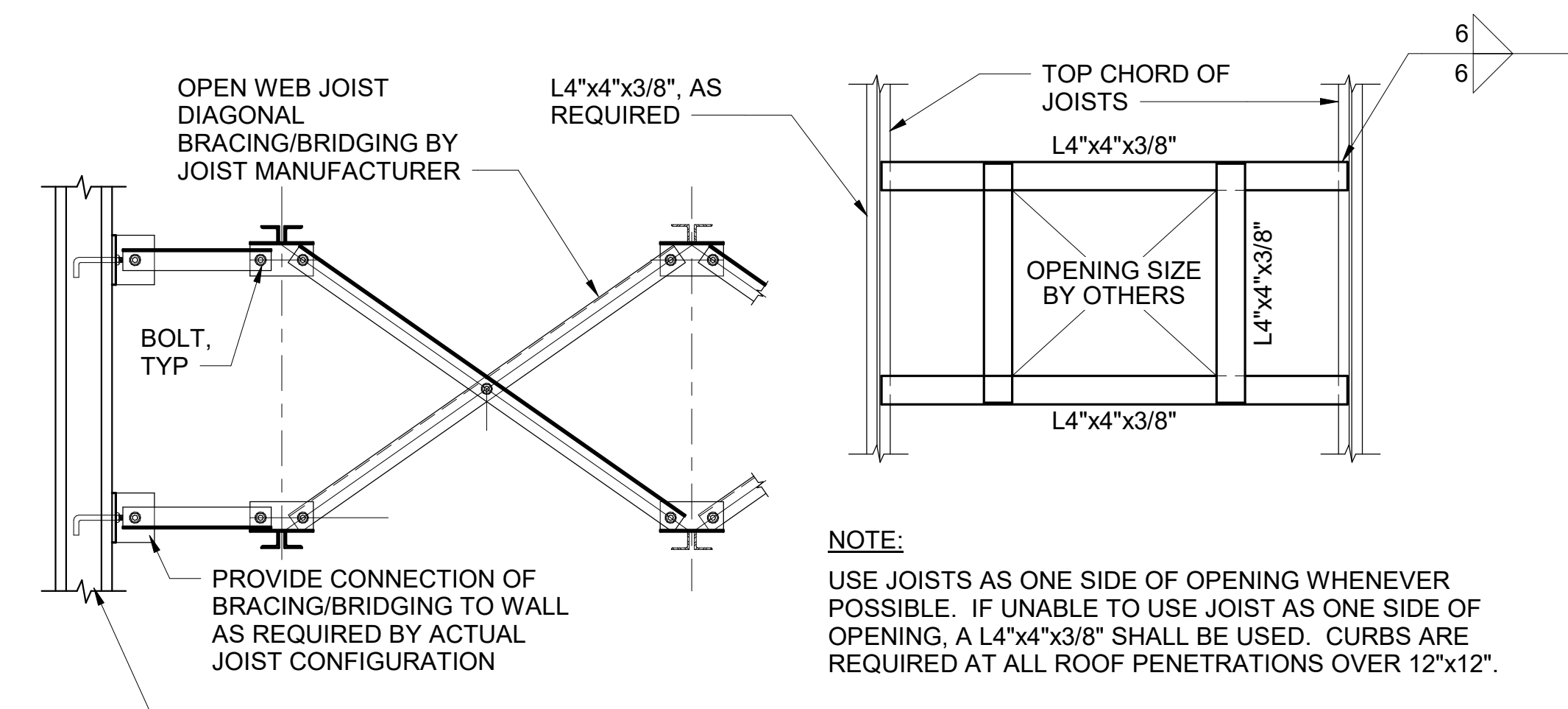
DATE:	DWG. NO.
MAY 26, 2023	S004
SHEET :	
144 OF 333 SHEETS	



P APPLIED AT TOP CHORD

P APPLIED AT BOTTOM CHORD

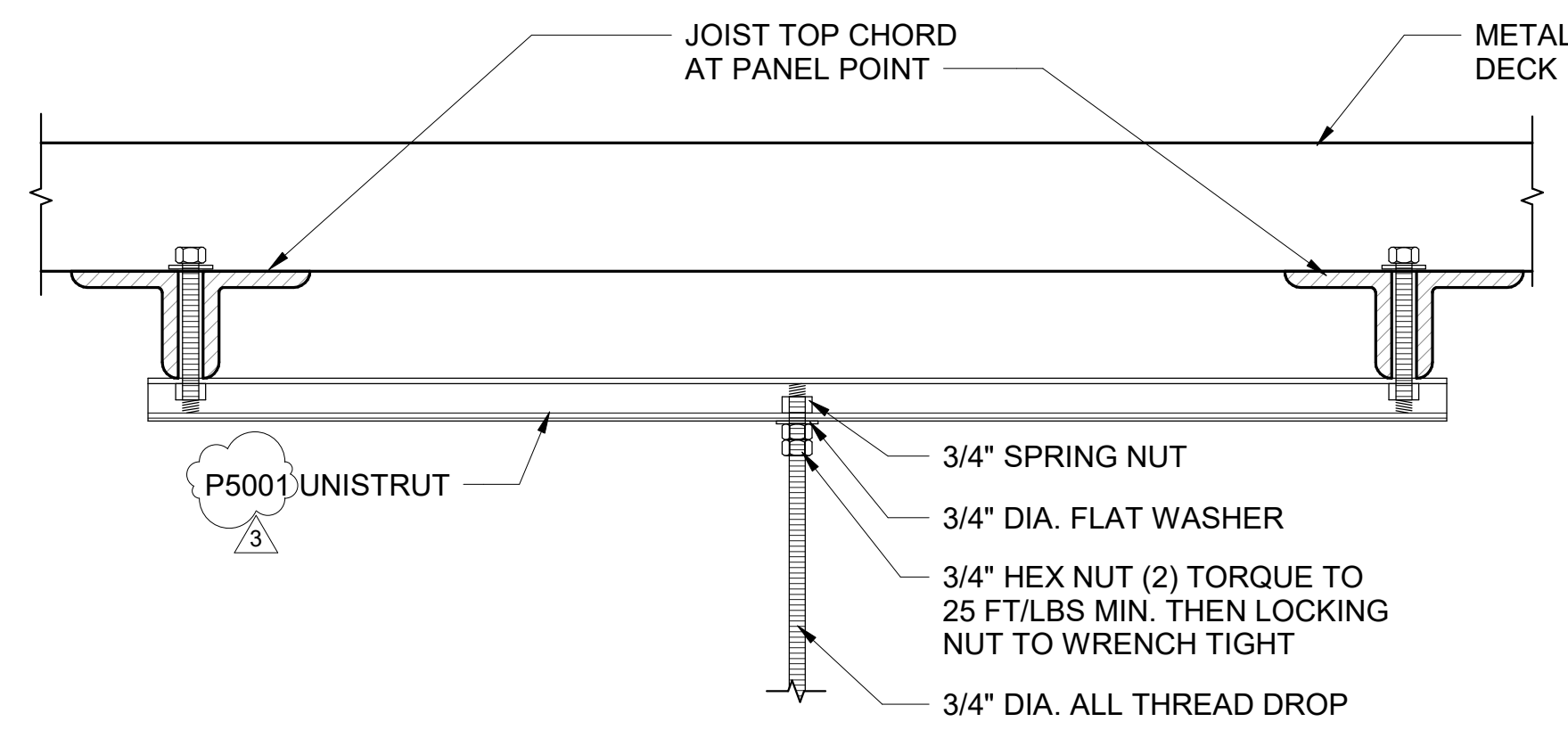
4 JOIST CONCENTRATED LOAD REINFORCING DETAIL  
NTS



BRIDGING CONNECTION DETAIL

TYPICAL ROOF OPENING DETAIL

1 TYPICAL JOIST DETAILS  
NTS



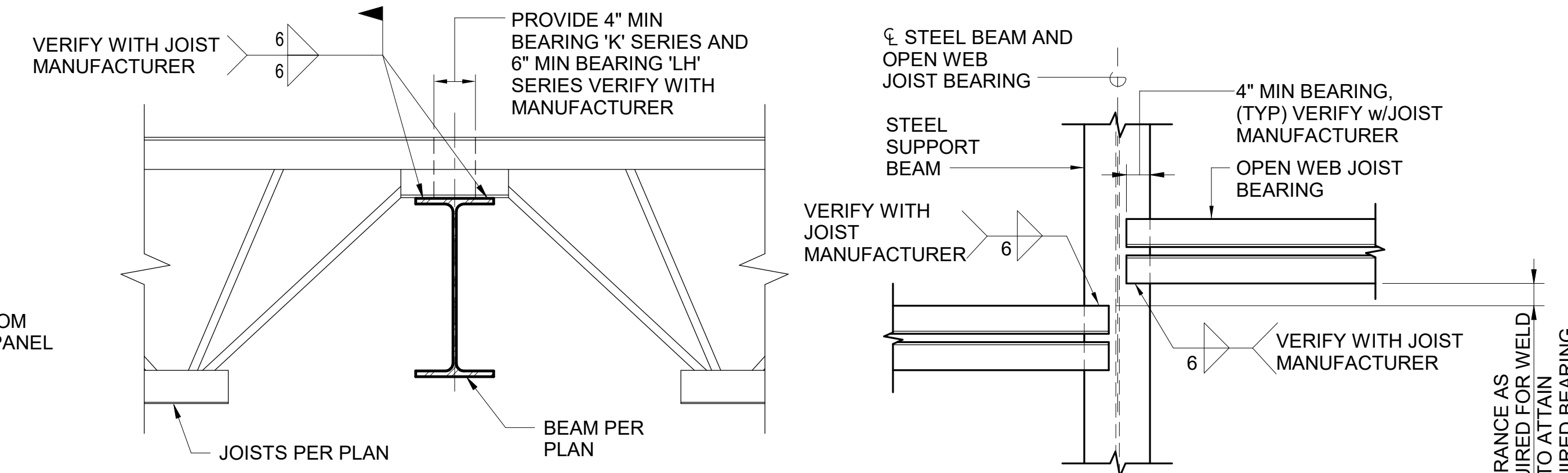
ALLOWABLE LOAD = 1200 lbs AT SLOT CENTER, OR 1000 lbs AT SLOT END

ALLOWABLE LOAD = 1200 lbs AT SLOT CENTER, OR 1000 lbs AT SLOT END

HANGER ROD TO STEEL JOIST TOP CHORD CONNECTION DETAIL

HANGER ROD TO STEEL JOIST BOTTOM CHORD CONNECTION DETAIL

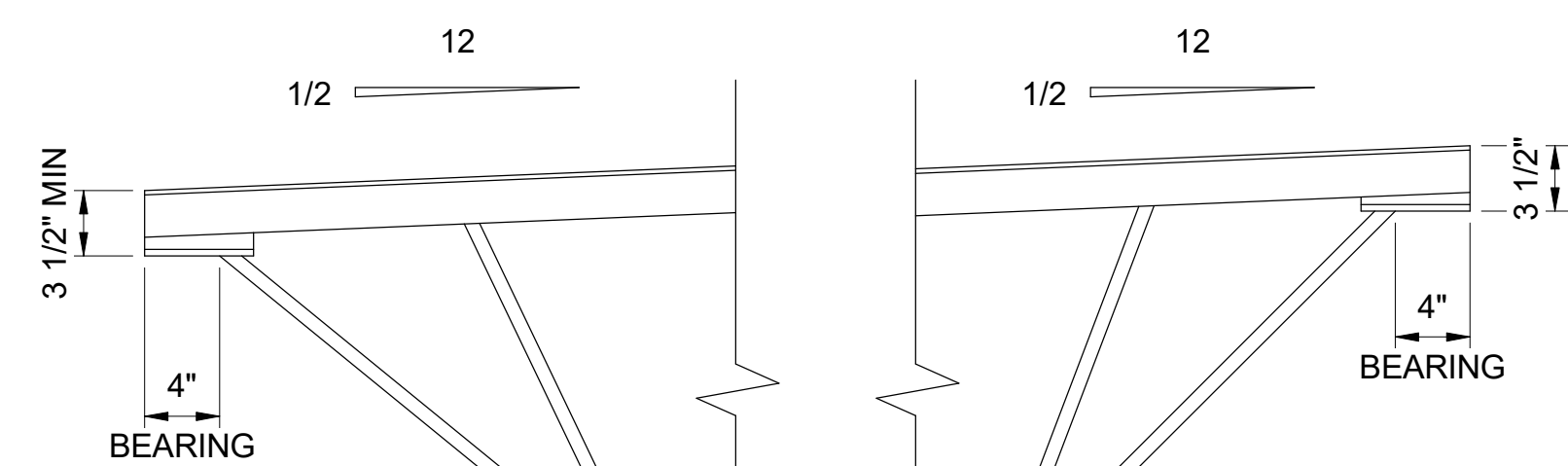
5 TYPICAL ROD CONNECTION DETAILS  
NTS



ELEVATION

PLAN

2 TYPICAL OPEN WEB JOIST CONDITION AT CONC. WALLS/ STEEL BEAM  
NTS

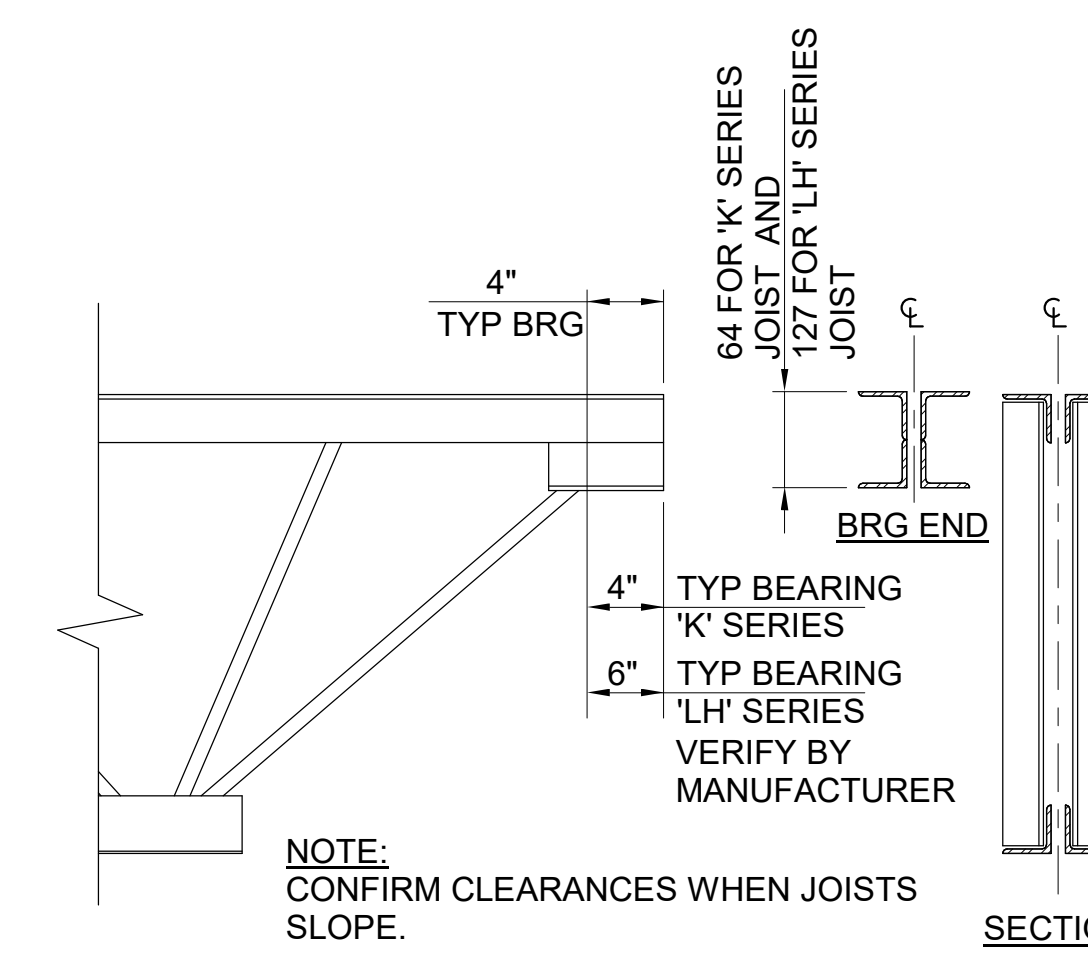


LOW END

HIGH END

NOTE: MANUFACTURER TO VERIFY ROOF SLOPE AND DIMENSIONS

6 OPEN WEB STEEL JOISTS SLOPED SEAT REQUIREMENTS DETAIL  
NTS



SECTION

3 TYPICAL OPEN WEB JOIST  
NTS



Kathleen Y. Wong  
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No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

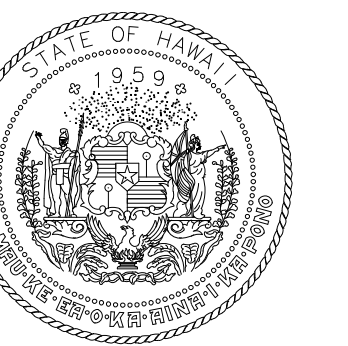
PROJECT NO:

**AM1095-10**

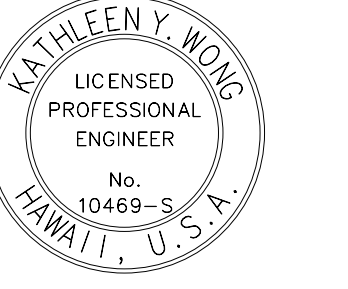
SHEET TITLE:

**TYPICAL STEEL JOIST DETAILS**

DATE:	DWG. NO.
MAY 26, 2023	S007
SHEET :	
147 OF 333 SHEETS	



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

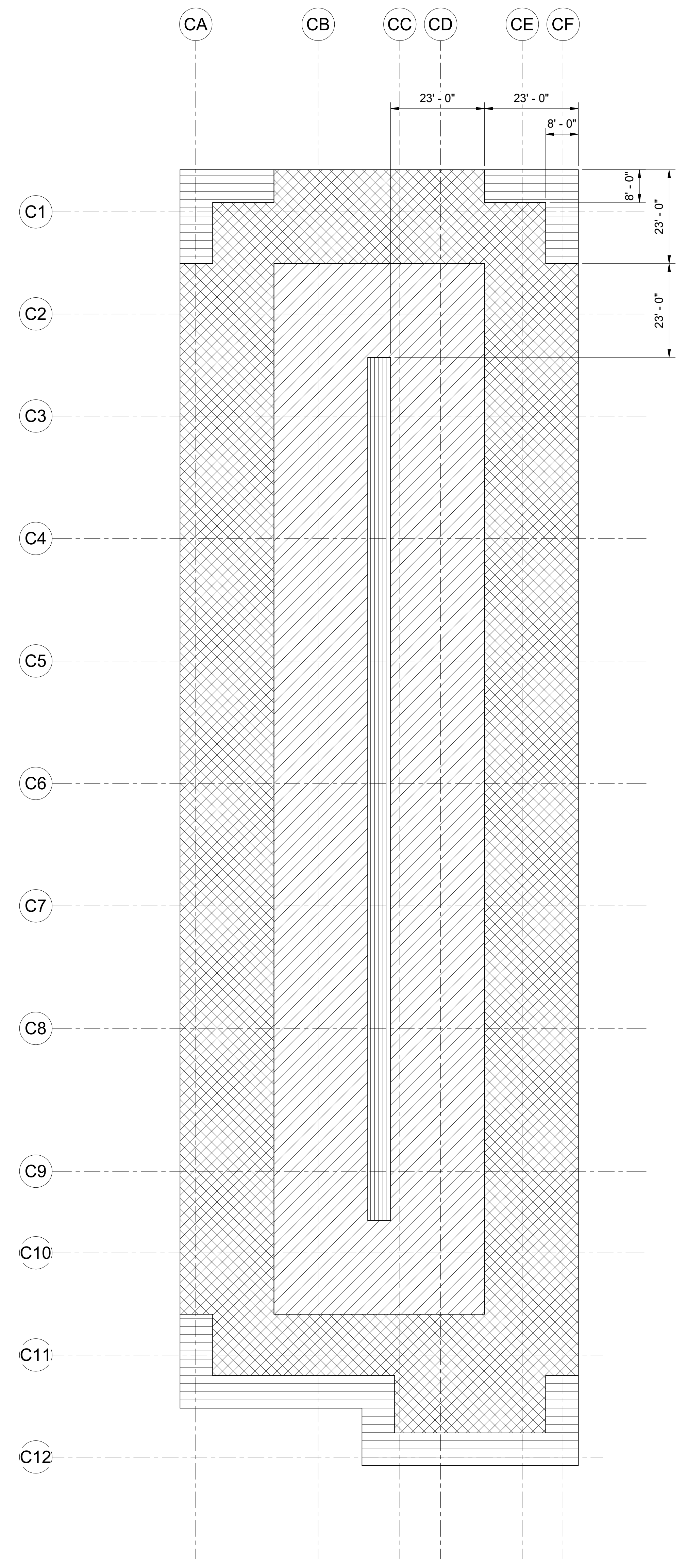


*Kathleen Y. Wong*  
04/30/2024  
License Expiration Date

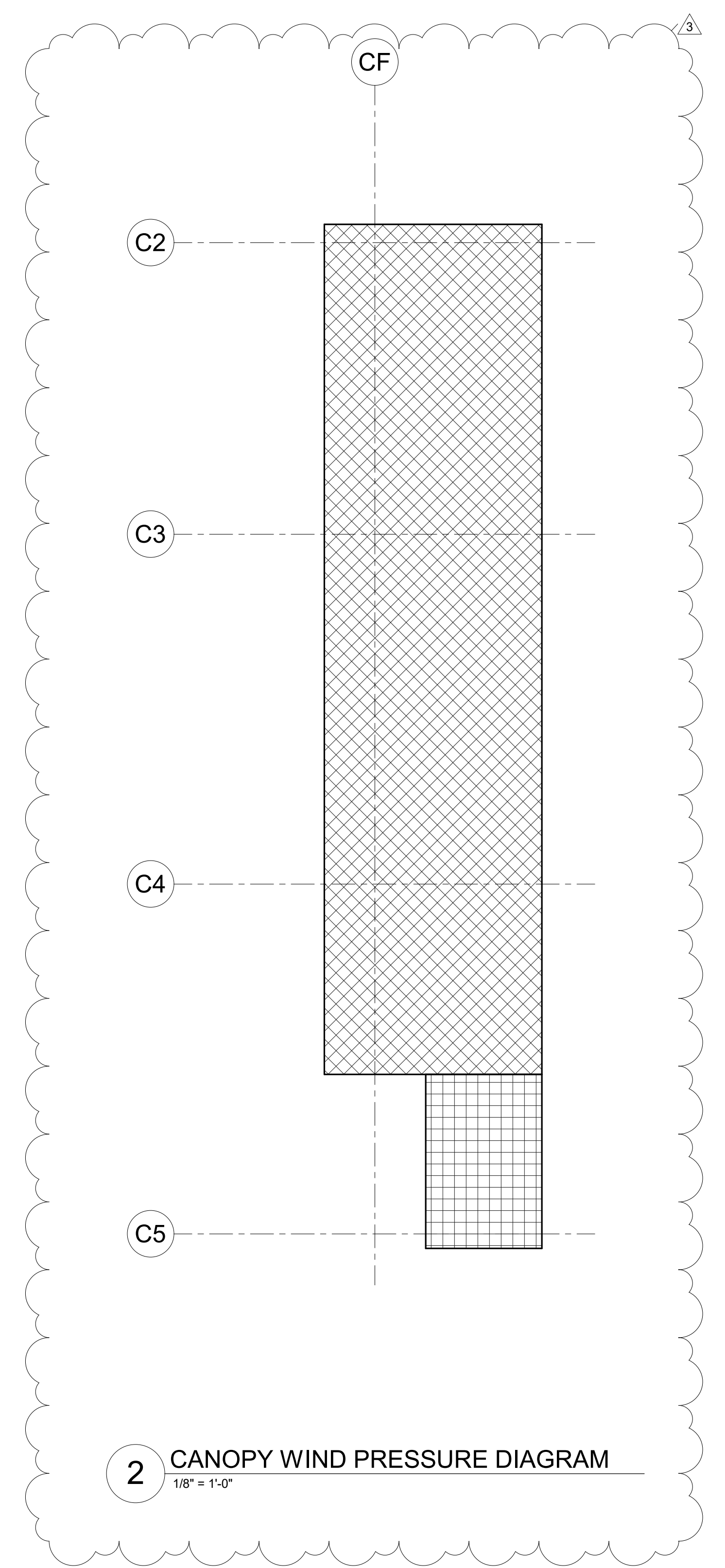
This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

KEY PLAN / NOTES:



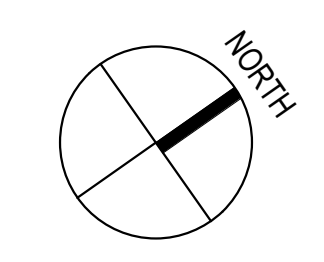
ZONE	HATCH	ROOF WIND PRESSURE, psf									
		EFFECTIVE WIND AREA, a									
		a < 20 sf		20 sf ≤ a < 50 sf		50 sf ≤ a < 100 sf		100 sf ≤ a < 200 sf		200 sf ≤ a < 500 sf	
		P (+)	P (-)	P (+)	P (-)	P (+)	P (-)	P (+)	P (-)	P (+)	P (-)
1'		19.33	43.43	18.09	43.43	16.55	43.43	16.00	43.43	16.00	43.43
1		19.33	75.60	18.09	70.61	16.55	64.04	16.00	59.05	16.00	59.05
2		19.33	99.77	18.09	93.35	16.55	84.90	16.00	78.42	16.00	78.42
2 (OH)		19.33	161.98	18.09	147.00	16.55	127.12	16.00	112.26	16.00	112.26
3		19.33	135.99	18.09	123.19	16.55	106.19	16.00	93.35	16.00	93.35



1 ROOF WIND PRESSURE DIAGRAM  
1/8" = 1'-0"

2 CANOPY WIND PRESSURE DIAGRAM  
1/8" = 1'-0"

8/30/2023 10:13:12 PM



3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

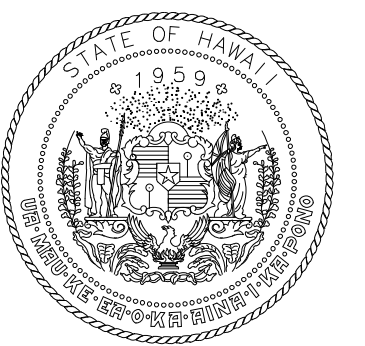
SHEET TITLE:

**ROOF WIND PRESSURE DIAGRAM**

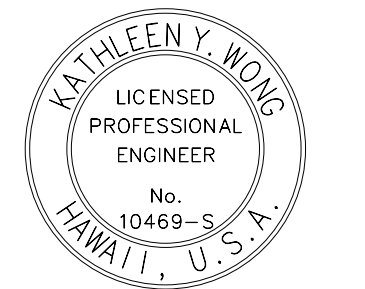
DATE: **MAY 26, 2023**  
SHEET:

DWG. NO.  
**S008**

148 OF 333 SHEETS



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

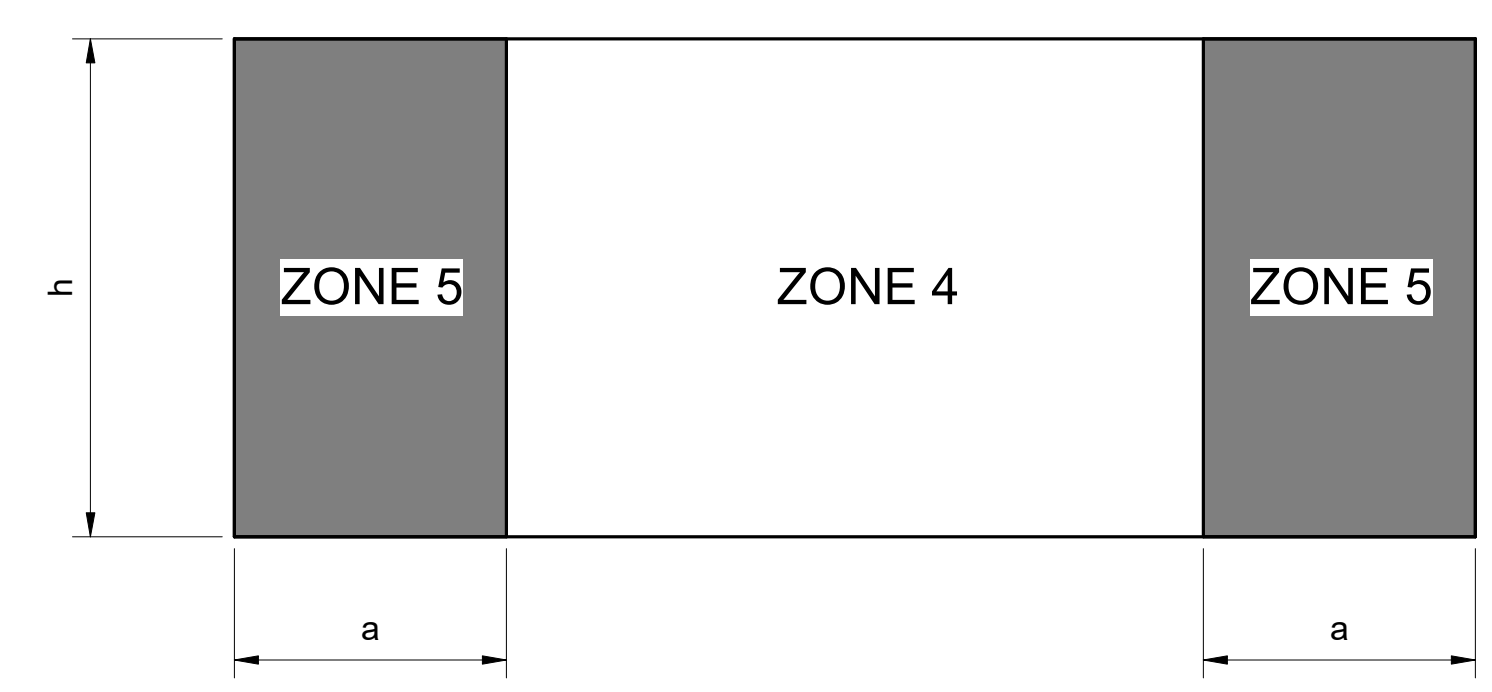
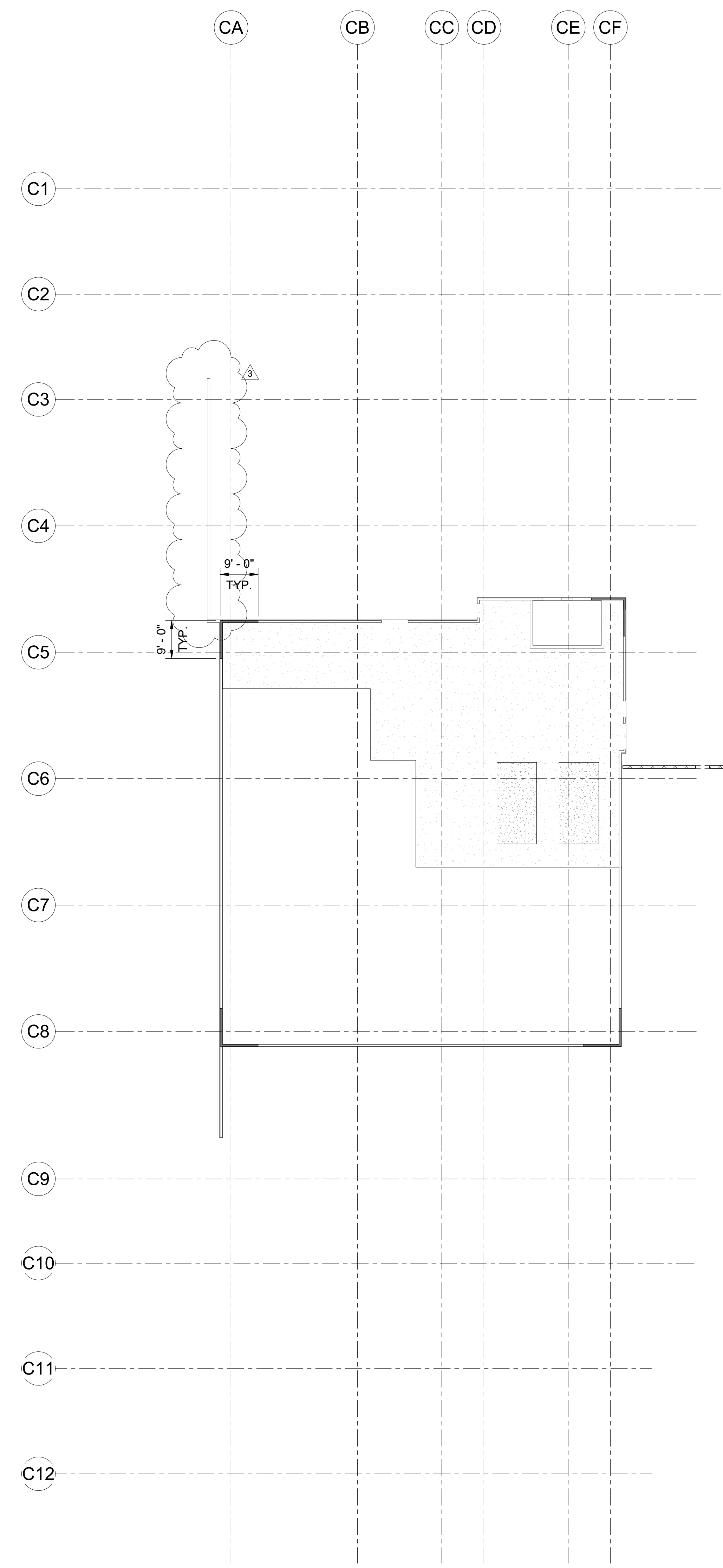


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04/30/2024  
License Expiration Date

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MS	LC	KW	

KEY PLAN / NOTES:



TYPICAL EXTERIOR WALL ELEVATION

ZONE		WALL WIND PRESSURE, psf									
		EFFECTIVE WIND AREA, A									
		A < 20 sf		20 sf ≤ A < 50 sf		50 sf ≤ A < 100 sf		100 sf ≤ A < 200 sf		200 sf ≤ A < 500 sf	
HATCH	P (+)	P (-)	P (+)	P (-)	P (+)	P (-)	P (+)	P (-)	P (+)	P (-)	
4		47.49	51.49	45.32	49.37	42.50	46.55	40.43	44.38	40.43	44.38
5		47.49	63.55	45.32	59.31	42.50	53.57	40.43	49.37	40.43	49.37

NOTE:  
a = 9'-0"

1 WALL WIND PRESSURE DIAGRAM  
1/16" = 1'-0"

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

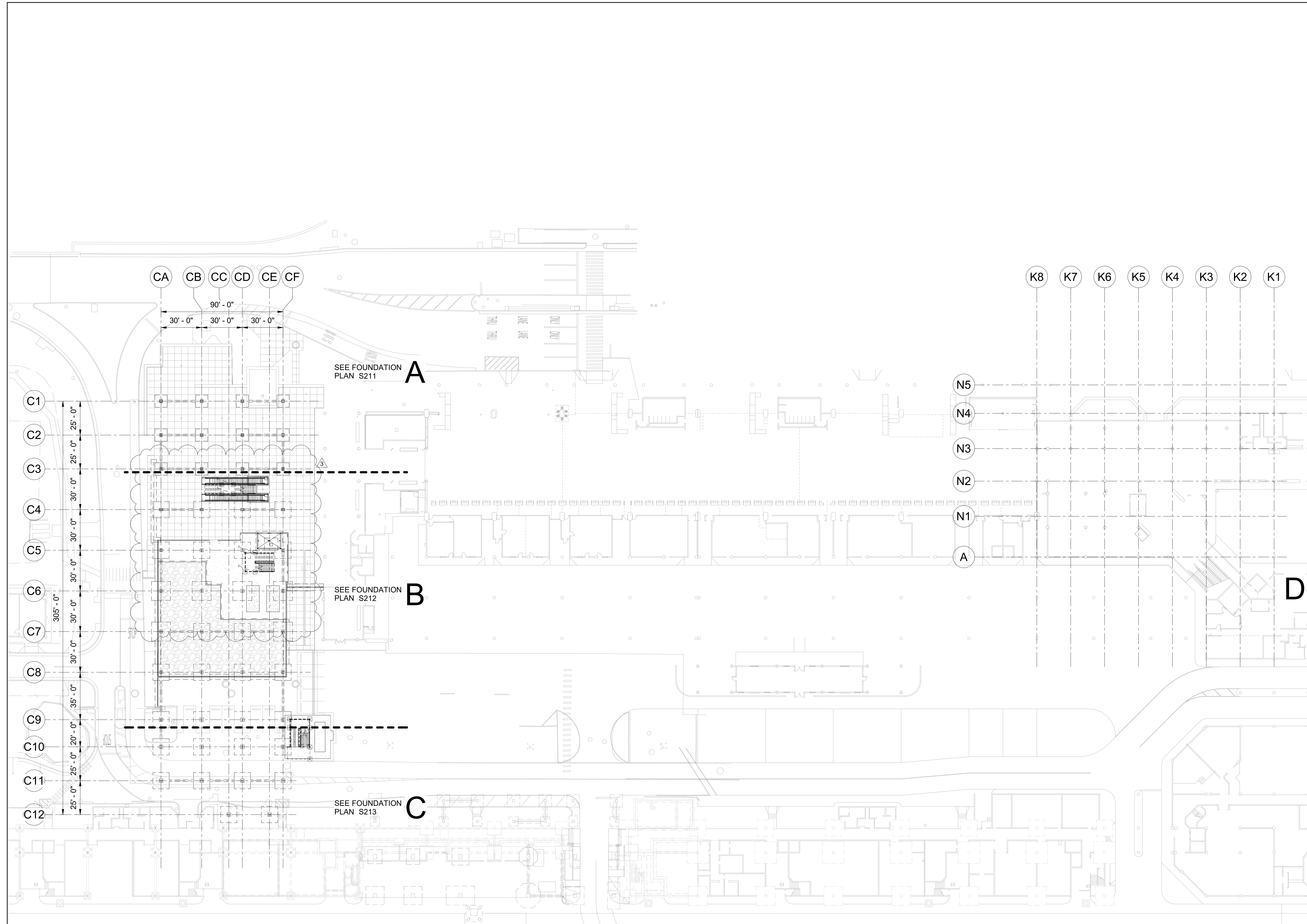
**AM1095-10**

SHEET TITLE:

**WALL WIND PRESSURE DIAGRAM**

DATE:	DWG. NO.
MAY 26, 2023	S009
SHEET:	
149 OF 333 SHEETS	





**SPECIAL NOTES:**

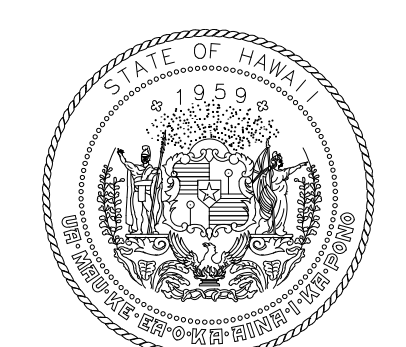
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, FLOOR DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, FLOORING MATERIALS/ THICKNESSES, FLOORING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADAABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.

**LEGEND:**

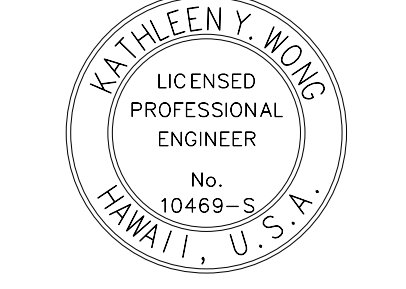
- 8" THK. CONCRETE SLAB
- CONCRETE PAD

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S003 TYPICAL SLAB ON GRADE DETAILS
- S211 FOUNDATION PLAN - GROUND LEVEL - AREA A
- S212 FOUNDATION PLAN - GROUND LEVEL - AREA B
- S213 FOUNDATION PLAN - GROUND LEVEL - AREA C
- S214 FOUNDATION PLAN - GROUND LEVEL - AREA D
- S301 TYPICAL COLUMN FOOTING, PEDESTAL, BASE PLATE SCHEDULE AND DETAILS



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Y. Wong*  
LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
04/30/2024  
License Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:  
**AM1095-10**

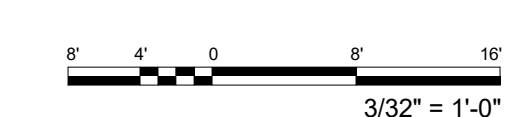
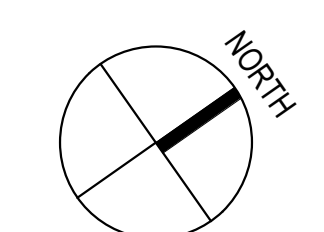
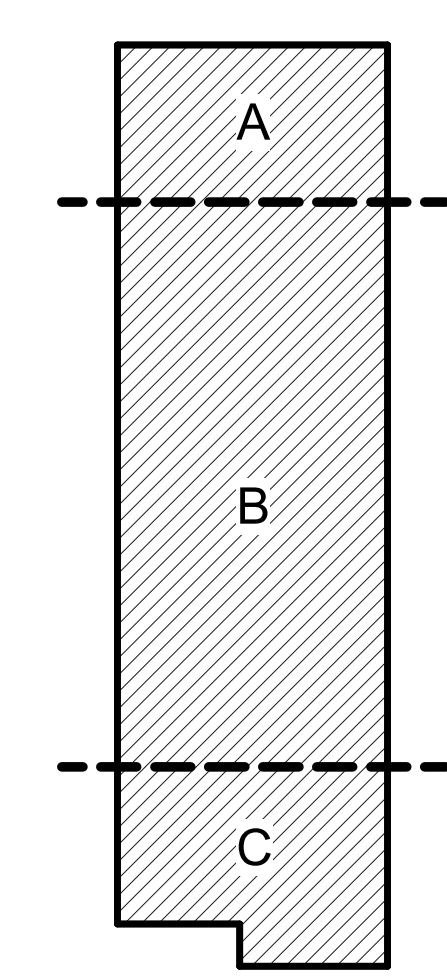
SHEET TITLE:  
**COMPOSITE FOUNDATION PLAN - GROUND LEVEL**

DATE:  
**MAY 26, 2023**

SHEET :  
**S210**

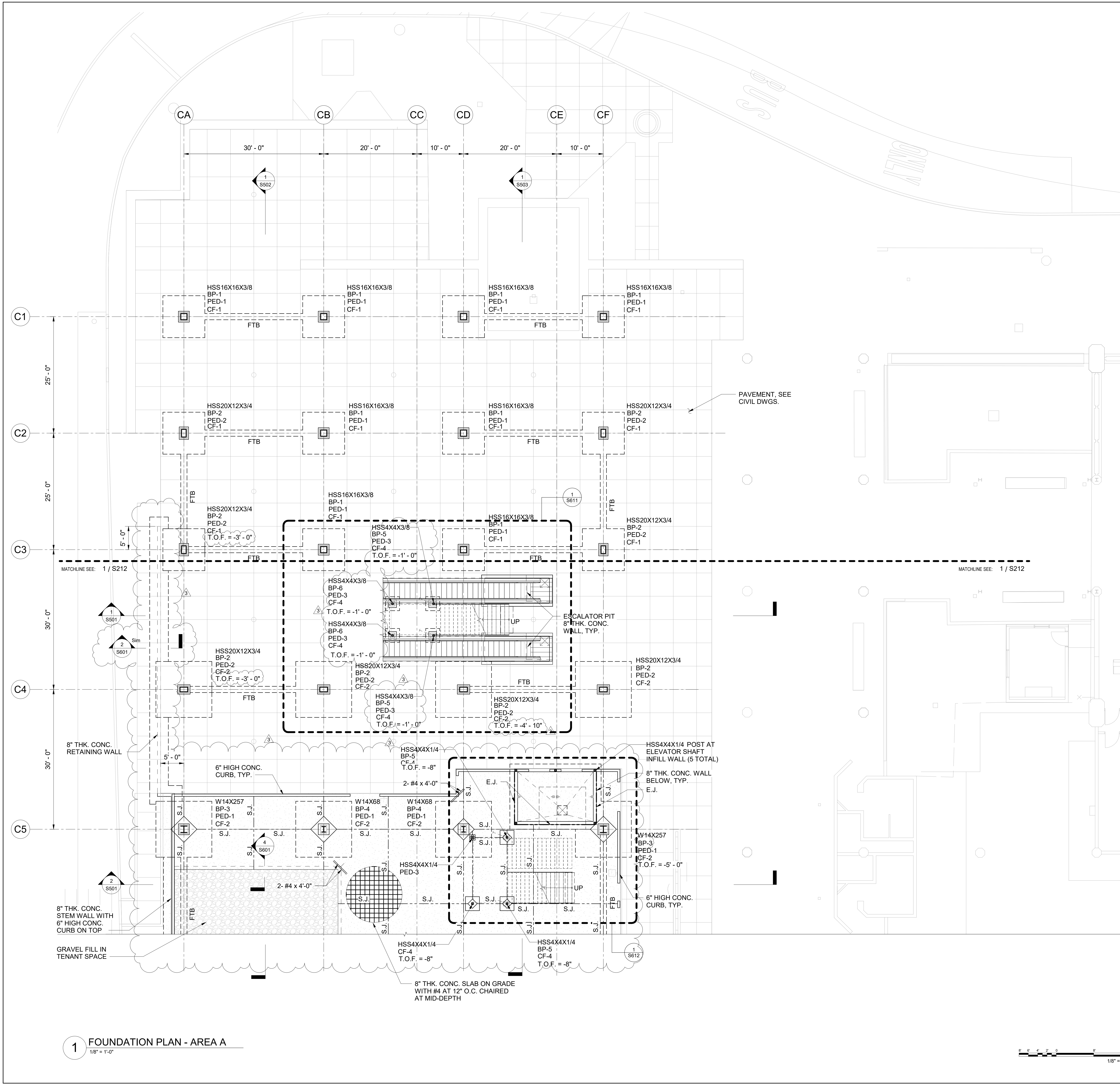
150 OF 333 SHEETS

**KEY PLAN**



**1** COMPOSITE FOUNDATION PLAN - GROUND LEVEL  
1/32" = 1'-0"





**SPECIAL NOTES:**

- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, FLOOR DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, FLOORING MATERIALS/ THICKNESSES, FLOORING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF EXISTING UTILITY DUCTBANKS. REPORT ANY CONFLICTS WITH NEW FOUNDATIONS TO THE EOR.
- TOP OF FOOTING ELEVATION = 2'-0" MIN. BELOW OF FIRST FLOOR LEVEL OR LOWEST FINISHED GRADE, U.N.O.

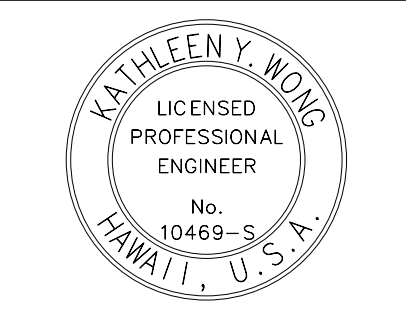
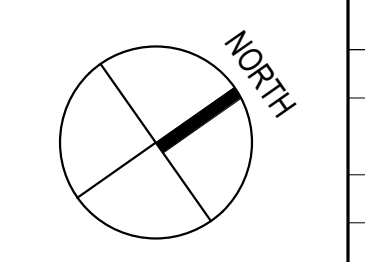
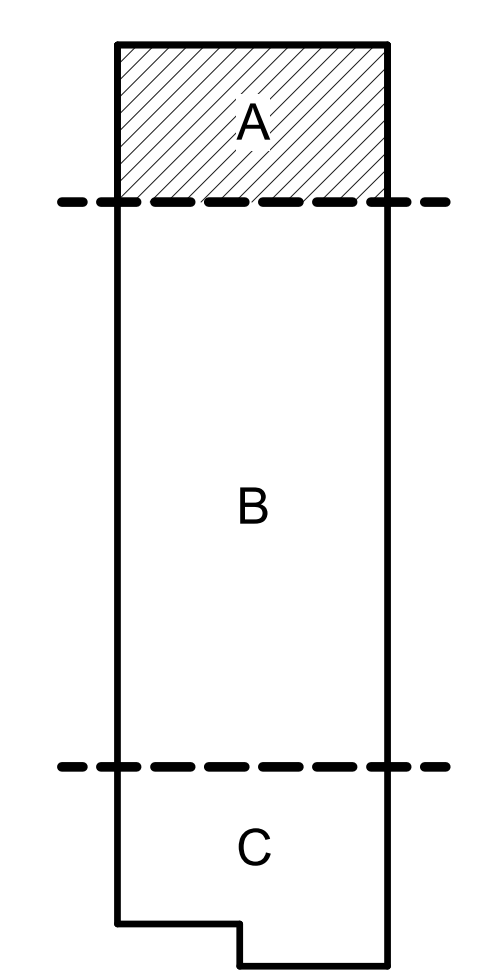
**LEGEND:**

- CF-1 DENOTES CONCRETE COLUMN FOOTING
- PED-1 DENOTES CONC. PEDESTAL
- BP-1 DENOTES BASE PLATE
- Wx/HSSx DENOTES STEEL COLUMN
- S.J. SAW CUT JOINT
- C.J. CONSTRUCTION JOINT
- E.J. EXPANSION JOINT
- T.O.F. TOP OF FOOTING
- 8" THK. CONCRETE SLAB
- CONCRETE PAD

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S003 TYPICAL SLAB ON GRADE DETAILS
- S210 COMPOSITE FOUNDATION PLAN - GROUND LEVEL
- S212 FOUNDATION PLAN - GROUND LEVEL - AREA B
- S213 FOUNDATION PLAN - GROUND LEVEL - AREA C
- S214 FOUNDATION PLAN - GROUND LEVEL - AREA D
- S301 TYPICAL COLUMN FOOTING, PEDESTAL, BASE PLATE SCHEDULE AND DETAILS

**KEY PLAN**



*Kathleen Wong*  
 License Expiration Date: 04/30/2024

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DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
 MAY 26, 2023  
 DATE

**PROJECT TITLE:**

**SOUTH TSA CHECKPOINT**

AT  
 KAHULUI AIRPORT  
 KAHULUI, MAUI, HAWAII

**PROJECT NO:**

**AM1095-10**

**SHEET TITLE:**

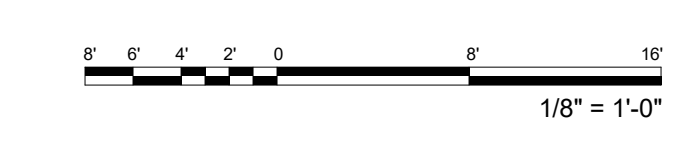
**FOUNDATION PLAN - GROUND LEVEL - AREA A**

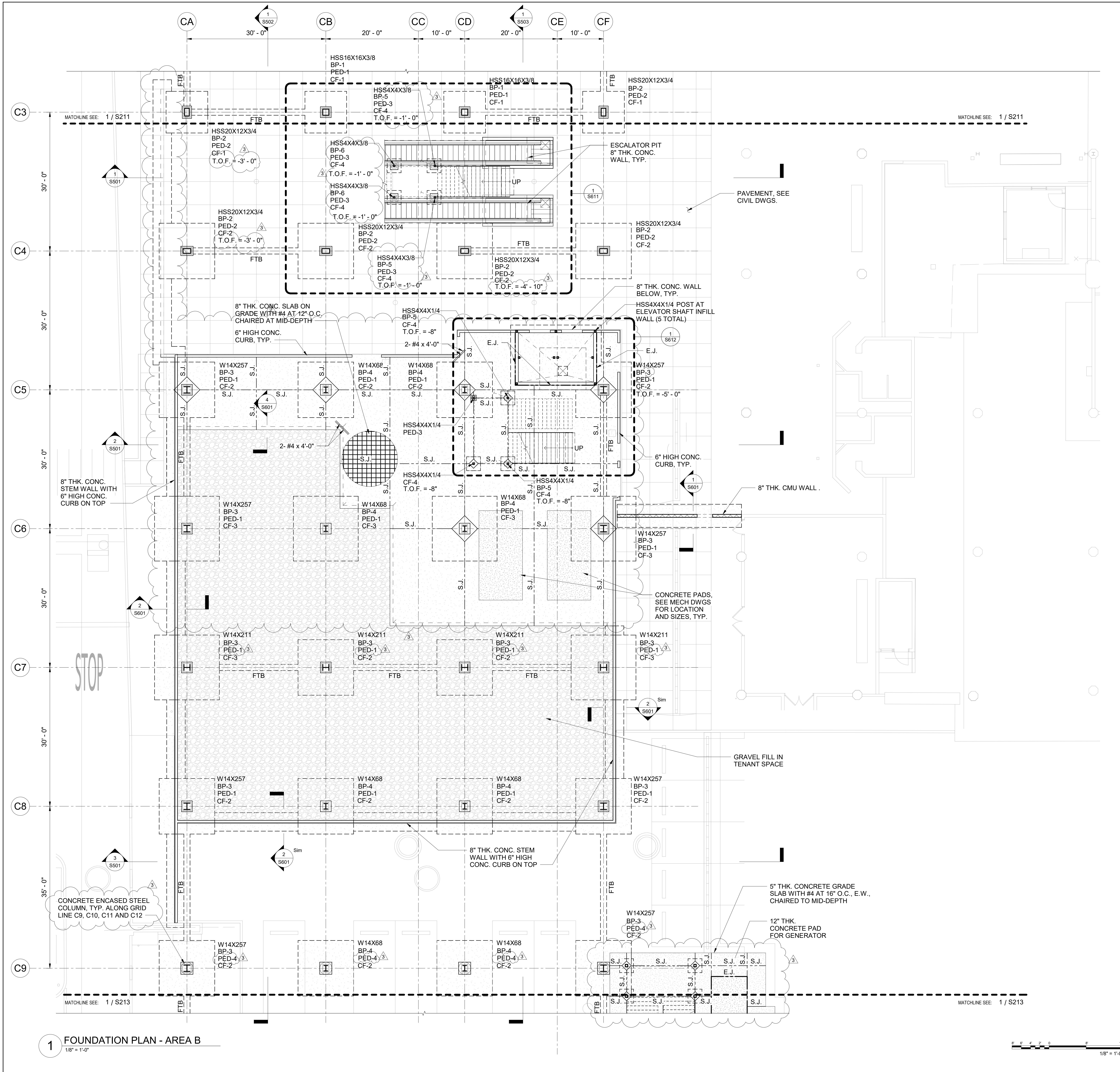
DATE: **MAY 26, 2023**

SHEET: **S211**

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**1 FOUNDATION PLAN - AREA A**  
 1/8" = 1'-0"





**SPECIAL NOTES:**

- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, FLOOR DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, FLOORING MATERIALS/ THICKNESSES, FLOORING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF EXISTING UTILITY DUCTBANKS. REPORT ANY CONFLICTS WITH NEW FOUNDATIONS TO THE EOR.
- TOP OF FOOTING ELEVATION = 2'-0" MIN. BELOW OF FIRST FLOOR LEVEL OR LOWEST FINISHED GRADE, U.N.O.

**LEGEND:**

- CF-1 DENOTES CONCRETE COLUMN FOOTING
- PED-1 DENOTES CONC. PEDESTAL
- BP-1 DENOTES BASE PLATE
- Wx/HSSx DENOTES STEEL COLUMN
- S.J. SAW CUT JOINT
- C.J. CONSTRUCTION JOINT
- E.J. EXPANSION JOINT
- T.O.F. TOP OF FOOTING
- [Symbol] 8" THK. CONCRETE SLAB
- [Symbol] CONCRETE PAD

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S003 TYPICAL SLAB ON GRADE DETAILS
- S210 COMPOSITE FOUNDATION PLAN - GROUND LEVEL
- S211 FOUNDATION PLAN - GROUND LEVEL - AREA A
- S213 FOUNDATION PLAN - GROUND LEVEL - AREA C
- S301 TYPICAL COLUMN FOOTING, PEDESTAL, BASE PLATE SCHEDULE AND DETAILS

  
 STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 AIRPORTS

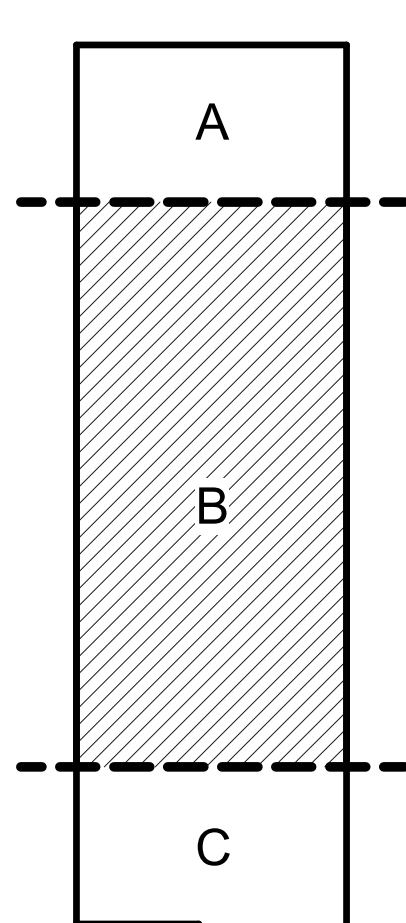
  
 KATHLEEN WONG  
 LICENSED PROFESSIONAL ENGINEER  
 No. 10469-S  
 HAWAII, U.S.A.  
 License Expiration Date: 04/30/2024

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MS	LC	KW	

**KEY PLAN / NOTES:**

**KEY PLAN**



**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

**PROJECT TITLE:**  
SOUTH TSA CHECKPOINT

**AT**  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

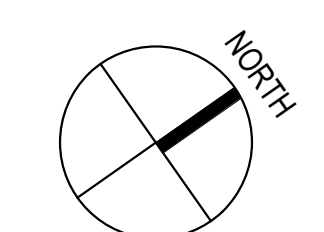
**PROJECT NO:**  
AM1095-10

**SHEET TITLE:**  
FOUNDATION PLAN - GROUND LEVEL - AREA B

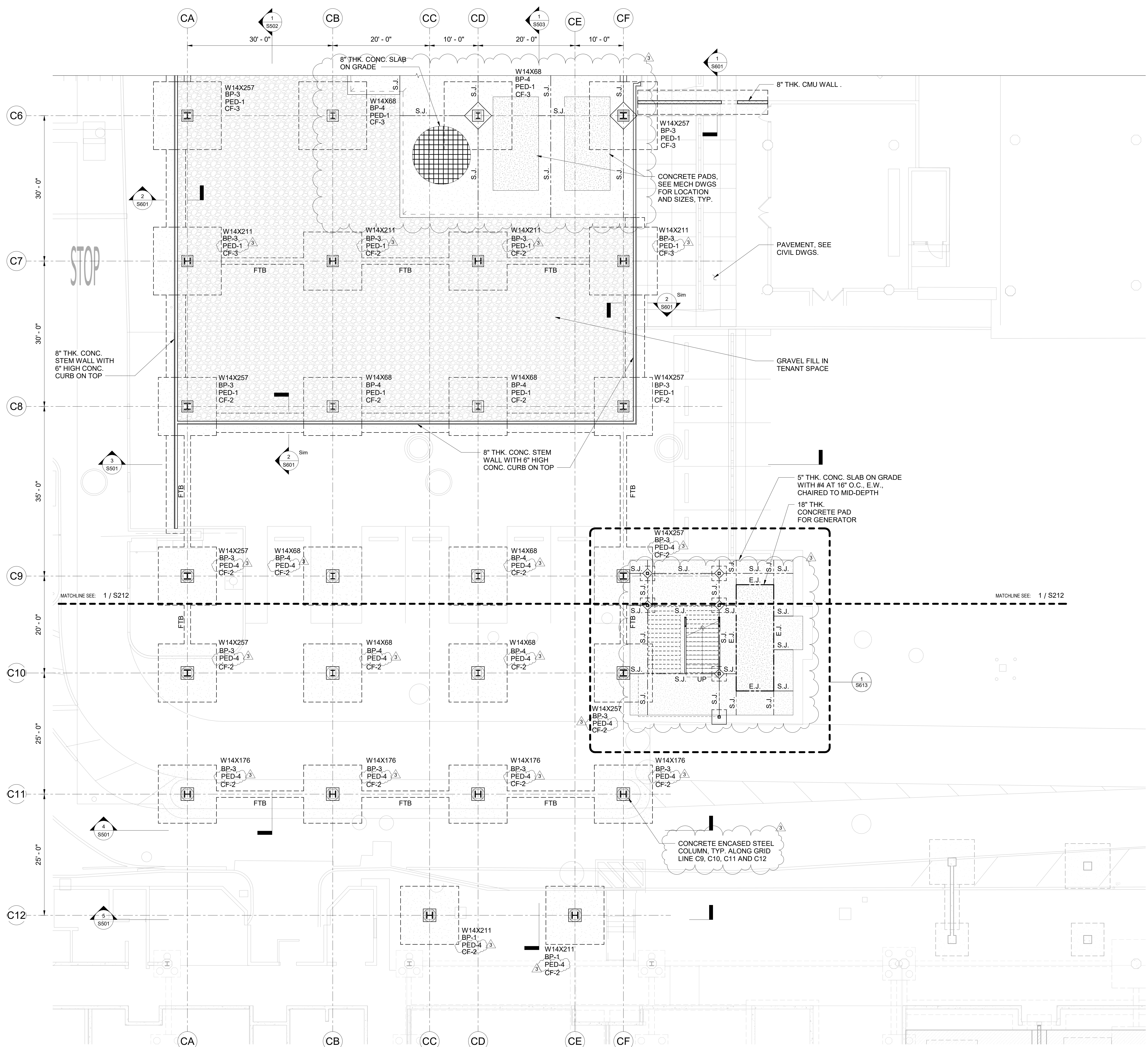
NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

DATE: MAY 26, 2023	DWG. NO. S212
SHEET: 152 OF 333 SHEETS	

**1 FOUNDATION PLAN - AREA B**  
1/8" = 1'-0"







**SPECIAL NOTES:**

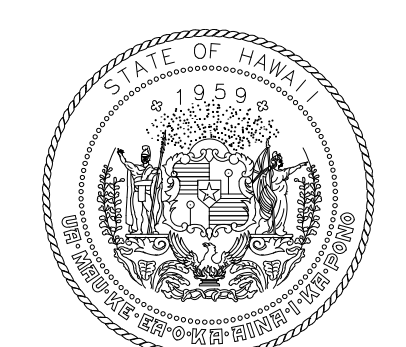
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, FLOOR DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, FLOORING MATERIALS/ THICKNESSES, FLOORING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF EXISTING UTILITY DUCTBANKS. REPORT ANY CONFLICTS WITH NEW FOUNDATIONS TO THE EOR.
- TOP OF FOOTING ELEVATION = 2'-0" MIN. BELOW OF FIRST FLOOR LEVEL OR LOWEST FINISHED GRADE, U.N.O.

**LEGEND:**

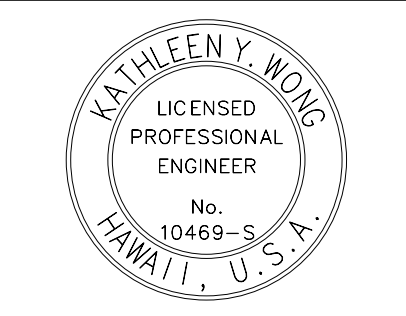
- CF-1 DENOTES CONCRETE COLUMN FOOTING
- PED-1 DENOTES CONC. PEDESTAL
- BP-1 DENOTES BASE PLATE
- Wx/HSSx DENOTES STEEL COLUMN
- S.J. SAW CUT JOINT
- C.J. CONSTRUCTION JOINT
- E.J. EXPANSION JOINT
- T.O.F. TOP OF FOOTING
- 8" THK. CONCRETE SLAB
- CONCRETE PAD

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S003 TYPICAL SLAB ON GRADE DETAILS
- S210 COMPOSITE FOUNDATION PLAN - GROUND LEVEL
- S211 FOUNDATION PLAN - GROUND LEVEL - AREA A
- S212 FOUNDATION PLAN - GROUND LEVEL - AREA B
- S301 TYPICAL COLUMN FOOTING, PEDESTAL, BASE PLATE SCHEDULE AND DETAILS



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Wong*  
LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

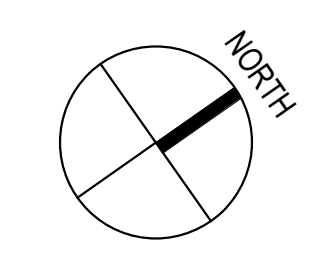
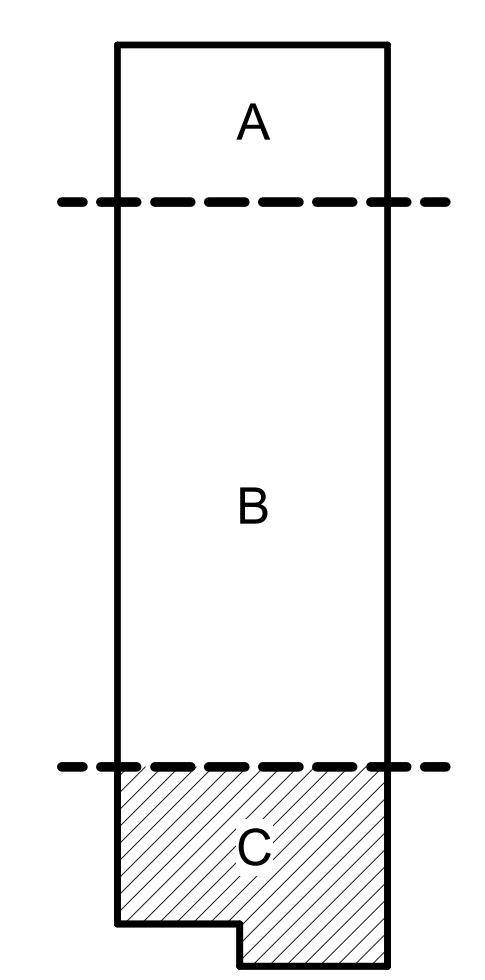
**PROJECT TITLE:**  
SOUTH TSA CHECKPOINT

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII  
**PROJECT NO:**  
AM1095-10

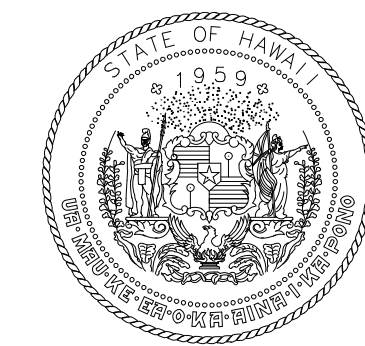
**SHEET TITLE:**  
FOUNDATION PLAN - GROUND LEVEL - AREA C

DATE: MAY 26, 2023	DWG. NO. S213
SHEET:	153 OF 333 SHEETS

**KEY PLAN**



**1** FOUNDATION PLAN - AREA C  
1/8" = 1'-0"



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Y. Wong*  
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No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

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DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

**SPECIAL NOTES:**

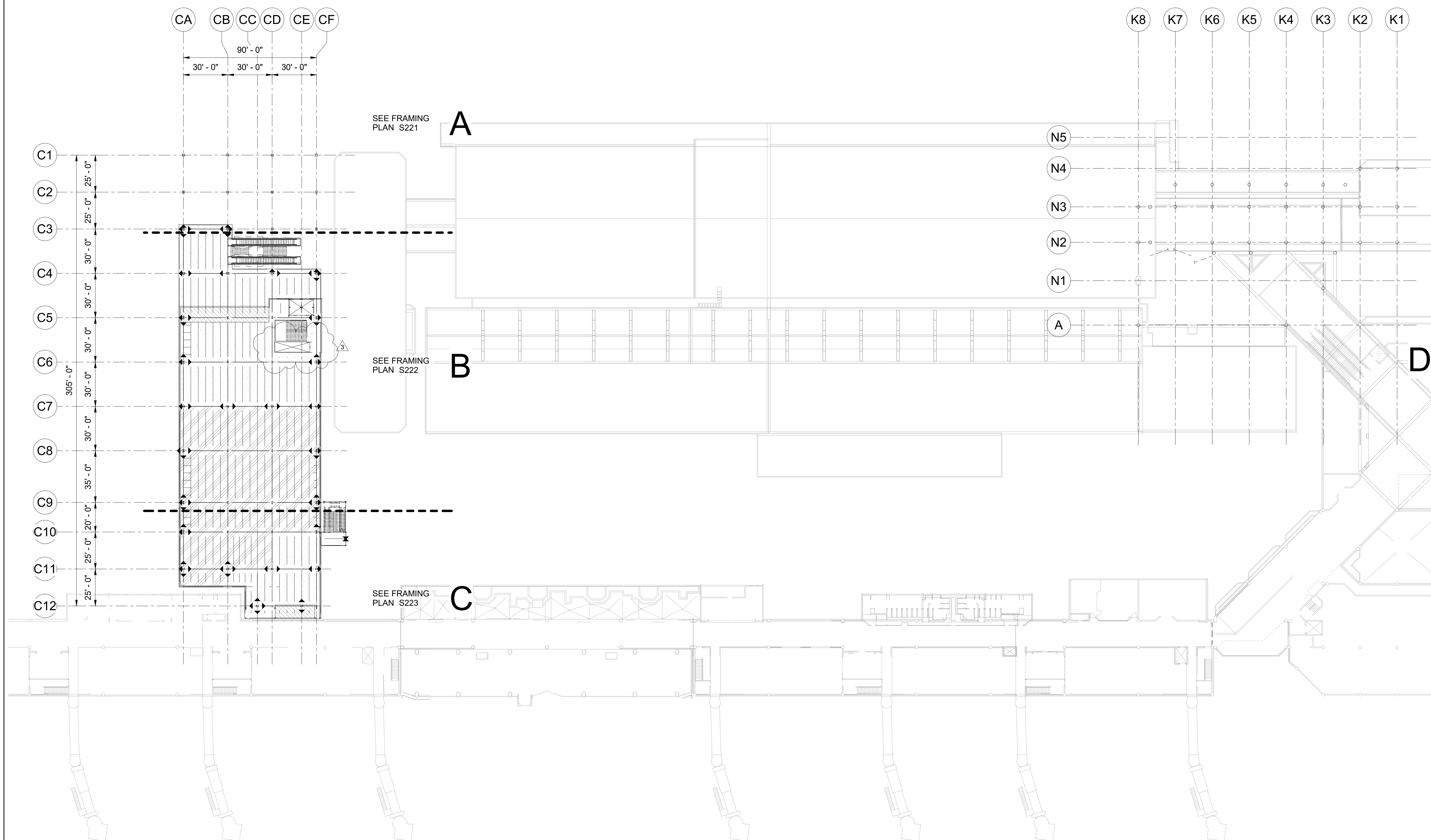
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, ROOF SLOPE AND DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, ROOFING MATERIALS/ THICKNESSES, ROOFING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.

**LEGEND:**

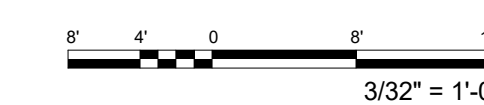
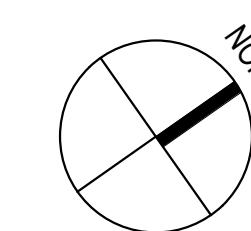
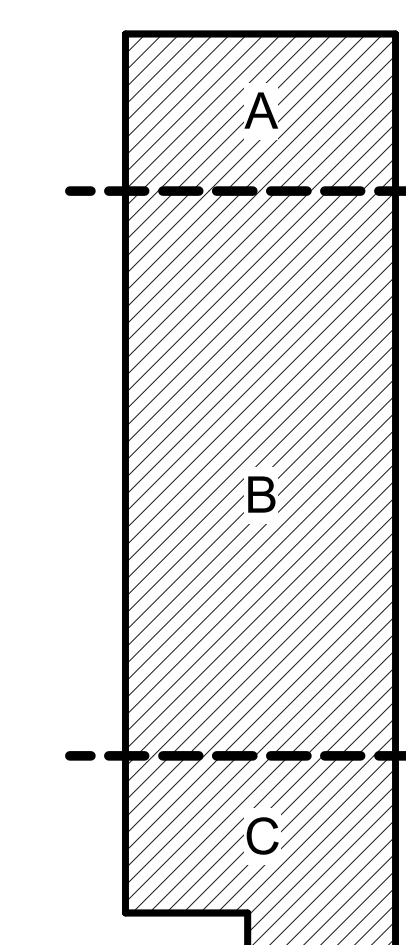
- Wx ——— DENOTES STEEL BEAM
- Wx ——— DENOTES MOMENT CONNECTION, SEE 1 / S005
- Wx\* ——— DENOTES SPECIAL DUCTILE MOMENT CONNECTION, SEE 1 / S006
- 6" TOTAL THICKNESS (CONC. TOPPING OVER 1 1/2" DEEP x 20 GA METAL DECK)
- 6.75" TOTAL THICKNESS (CONC. TOPPING OVER 1 1/2" DEEP x 20 GA METAL DECK)
- CONCRETE PAD

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S004 TYPICAL STEEL DECK DETAILS
- S005 TYPICAL STEEL CONNECTION DETAILS
- S006 TYPICAL STEEL CONNECTION DETAILS
- S221 FRAMING PLAN - CONCOURSE LEVEL - AREA A
- S222 FRAMING PLAN - CONCOURSE LEVEL - AREA B
- S223 FRAMING PLAN - CONCOURSE LEVEL - AREA C



**KEY PLAN**



**1 COMPOSITE FRAMING PLAN - CONCOURSE LEVEL**

S220 SCALE: 1/32" = 1'-0"

8/30/2023 10:13:19 PM

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**COMPOSITE FRAMING PLAN - CONCOURSE LEVEL**

DATE:

**MAY 26, 2023**

SHEET :

154 OF 333 SHEETS

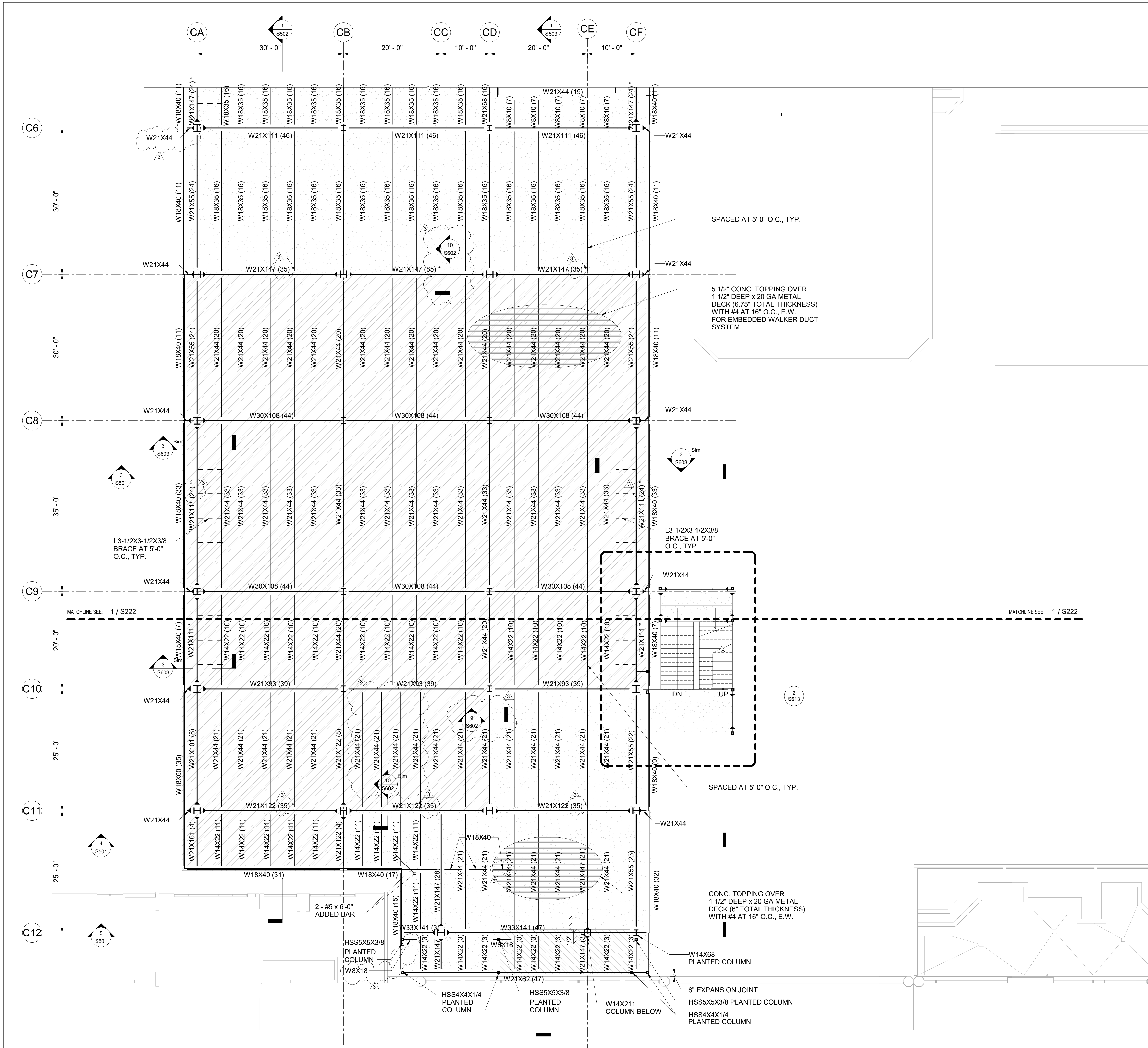
DWG. NO.

**S220**









**SPECIAL NOTES:**

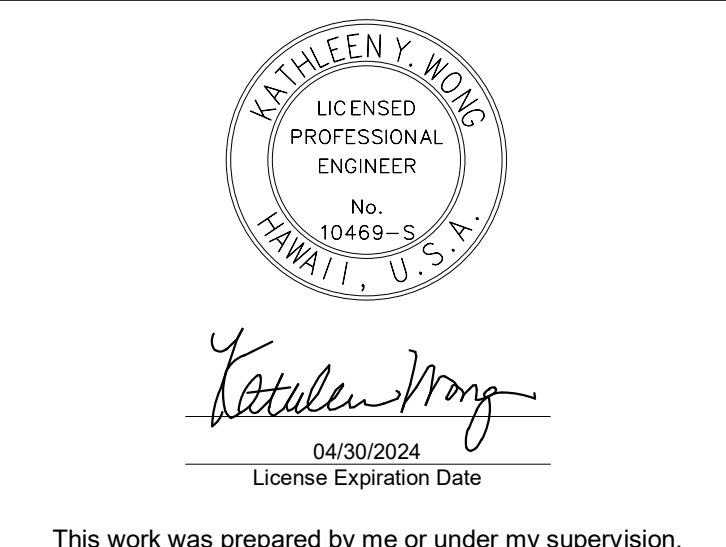
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, ROOF SLOPE AND DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, ROOFING MATERIALS/ THICKNESSES, ROOFING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADAABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.

**LEGEND:**

- Wx DENOTES STEEL BEAM
- Wx DENOTES MOMENT CONNECTION, SEE 1 / S005
- Wx\* DENOTES SPECIAL DUCTILE MOMENT CONNECTION, SEE 1 / S006
- BEAM SIZE
- NO. OF STUDS
- 6" TOTAL THICKNESS (CONC. TOPPING OVER 1 1/2" DEEP x 20 GA METAL DECK)
- 6.75" TOTAL THICKNESS (CONC. TOPPING OVER 1 1/2" DEEP x 20 GA METAL DECK)
- CONCRETE PAD
- SLAB DEPRESSION

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S004 TYPICAL STEEL DECK DETAILS
- S005 TYPICAL STEEL CONNECTION DETAILS
- S006 TYPICAL STEEL CONNECTION DETAILS
- S220 COMPOSITE FRAMING PLAN - CONCOURSE LEVEL
- S221 FRAMING PLAN - CONCOURSE LEVEL - AREA A
- S122 FRAMING PLAN - CONCOURSE LEVEL - AREA B



This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

KEY PLAN

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

**PROJECT TITLE:**  
SOUTH TSA CHECKPOINT

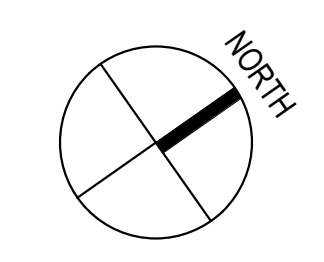
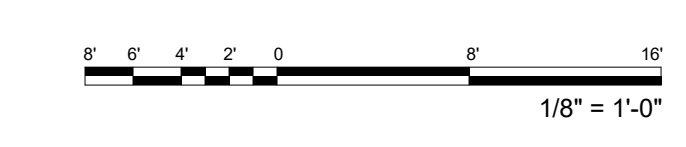
**PROJECT NO:**  
AM1095-10

**SHEET TITLE:**  
FRAMING PLAN - CONCOURSE LEVEL - AREA C

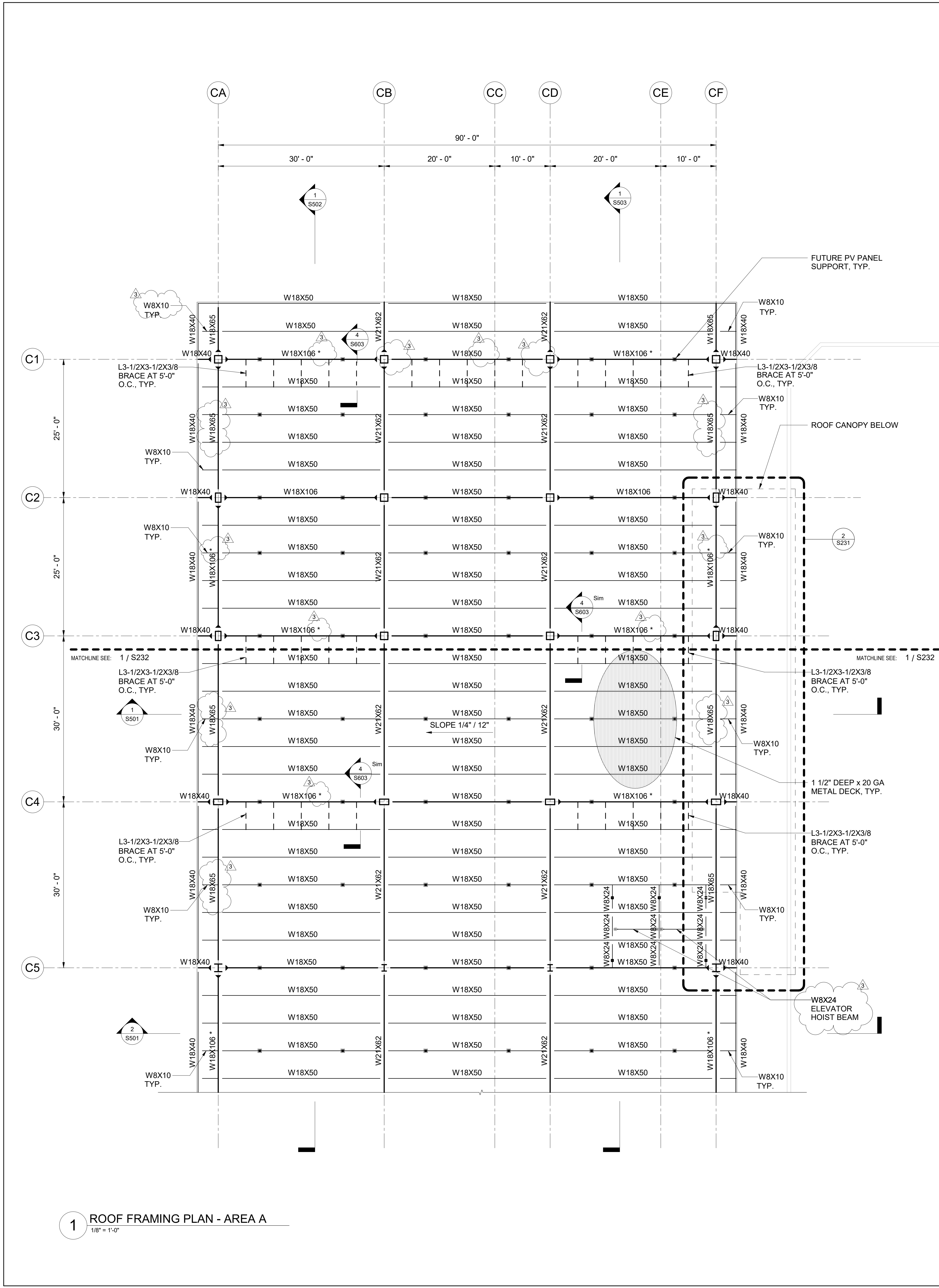
DATE:	DWG. NO.
MAY 26, 2023	S223
SHEET :	157 OF 333 SHEETS

8/30/2023 10:13:21 PM

**1 FRAMING PLAN - CONCOURSE LEVEL - AREA C**  
1/8" = 1'-0"

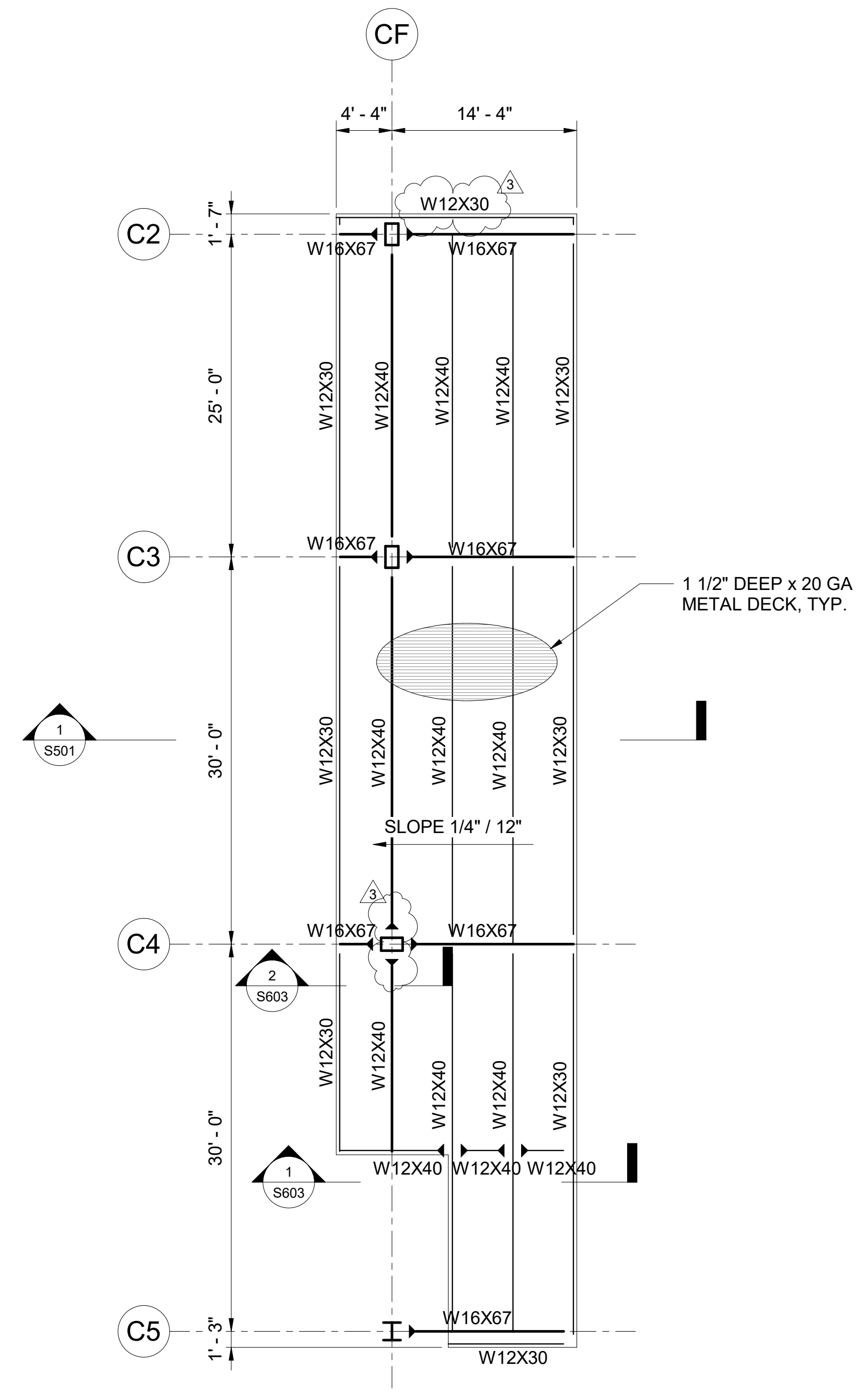






**1** ROOF FRAMING PLAN - AREA A  
1/8" = 1'-0"

**2** LOWER CANOPY ROOF FRAMING PLAN - AREA A  
1/8" = 1'-0"



**SPECIAL NOTES:**

- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, ROOF SLOPE AND DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, ROOFING MATERIALS/ THICKNESSES, ROOFING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.

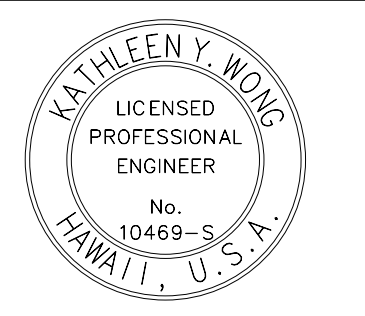
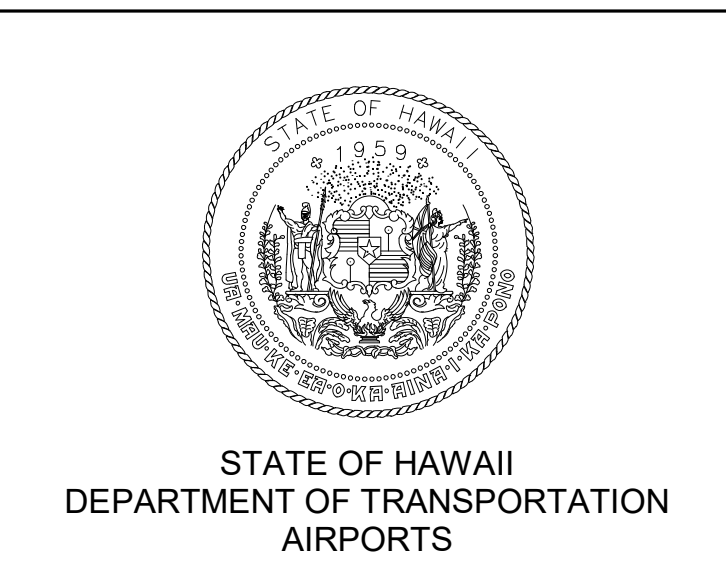
**LEGEND:**

Wx DENOTES STEEL BEAM  
 S2DLH10 DENOTES OPEN WEB JOIST

Wx DENOTES MOMENT CONNECTION, SEE 1 / S005  
 Wx\* DENOTES SPECIAL DUCTILE MOMENT CONNECTION, SEE 1 / S006

**REFERENCE DRAWINGS:**

S001 GENERAL STRUCTURAL NOTES  
 S002 GENERAL STRUCTURAL NOTES  
 S004 TYPICAL STEEL DECK DETAILS  
 S005 TYPICAL STEEL CONNECTION DETAILS  
 S006 TYPICAL STEEL CONNECTION DETAILS  
 S007 TYPICAL STEEL JOIST DETAILS  
 S008 ROOF WIND PRESSURE DIAGRAM  
 S230 COMPOSITE ROOF FRAMING PLAN  
 S232 ROOF FRAMING PLAN - AREA B  
 S233 ROOF FRAMING PLAN - AREA C



*Kathleen Wong*  
 License Expiration Date: 04/30/2024

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
 MAY 26, 2023  
 DATE

**PROJECT TITLE:**  
 SOUTH TSA CHECKPOINT

**AT**  
 KAHULUI AIRPORT  
 KAHULUI, MAUI, HAWAII

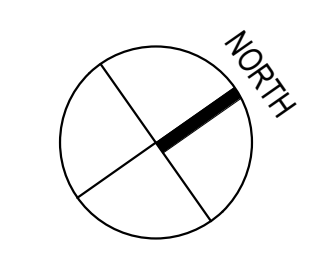
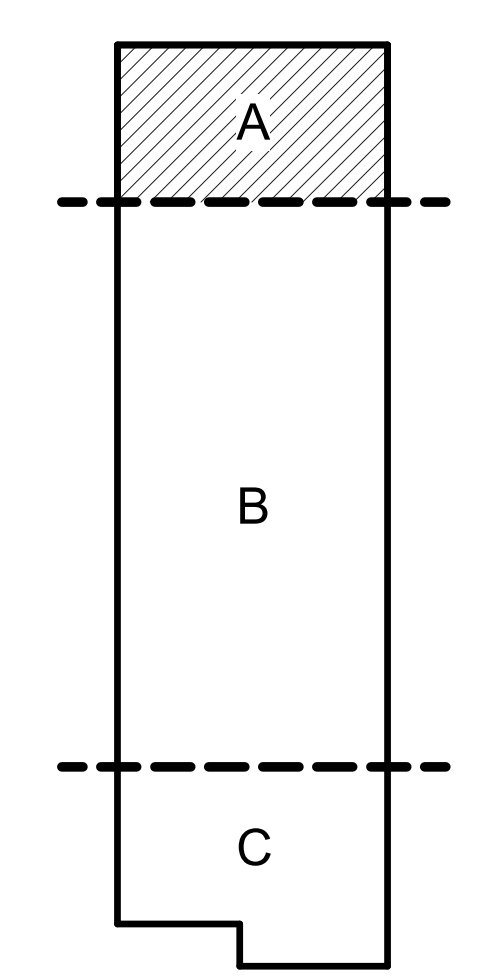
**PROJECT NO:**  
 AM1095-10

**SHEET TITLE:**  
 ROOF FRAMING PLAN - AREA A

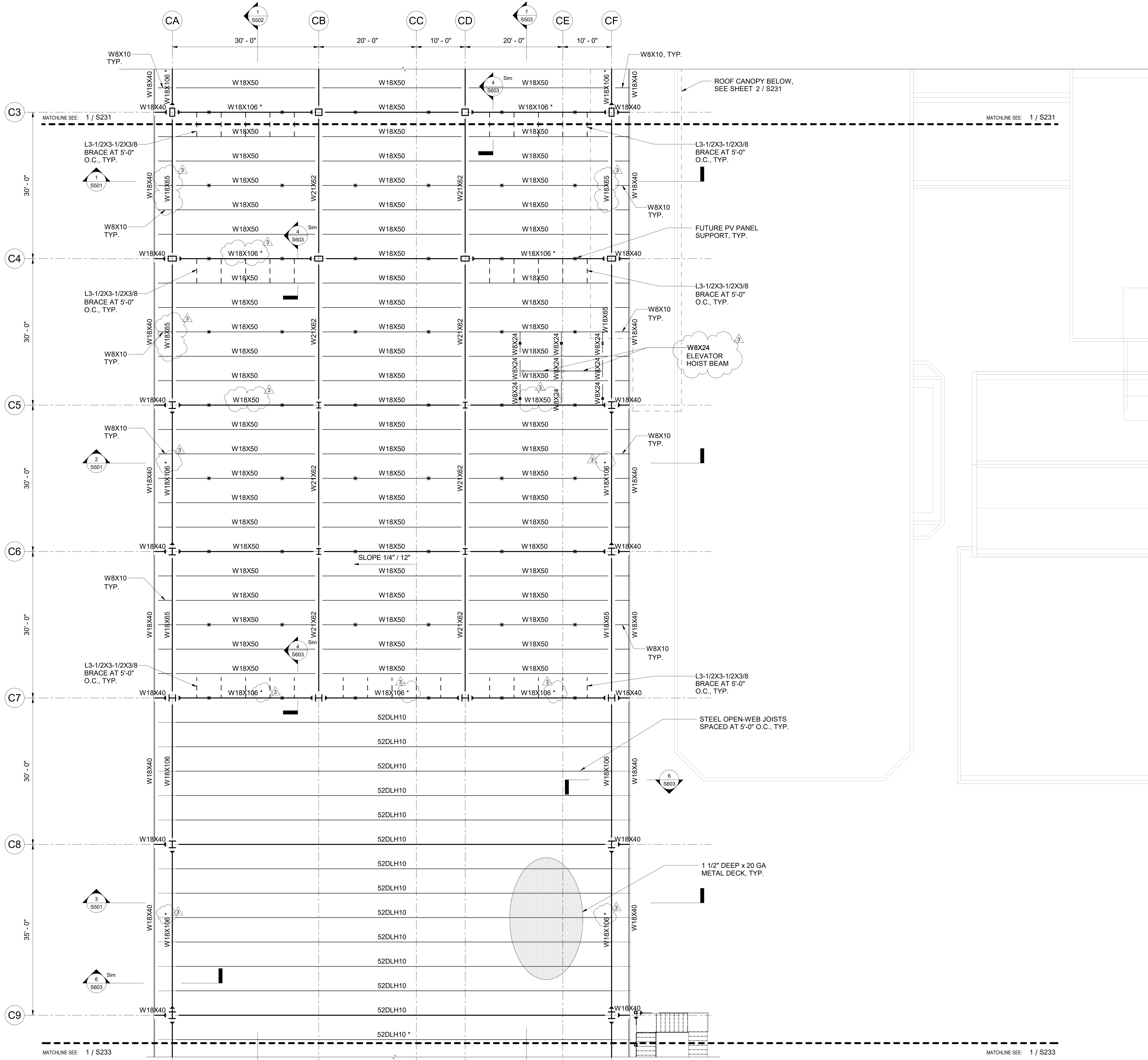
DATE:	DWG. NO.
MAY 26, 2023	S231

159 OF 333 SHEETS

**KEY PLAN**







**SPECIAL NOTES:**

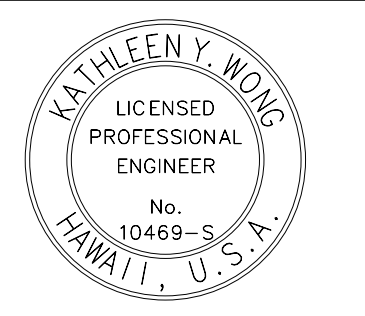
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, ROOF SLOPE AND DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, ROOFING MATERIALS/ THICKNESSES, ROOFING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.

**LEGEND:**

- Wx DENOTES STEEL BEAM
- 52DLH10 DENOTES OPEN WEB JOIST
- Wx DENOTES MOMENT CONNECTION, SEE 1 / S005
- Wx\* DENOTES SPECIAL DUCTILE MOMENT CONNECTION, SEE 1 / S006

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S004 TYPICAL STEEL DECK DETAILS
- S005 TYPICAL STEEL CONNECTION DETAILS
- S006 TYPICAL STEEL CONNECTION DETAILS
- S007 TYPICAL STEEL JOIST DETAILS
- S008 ROOF WIND PRESSURE DIAGRAM
- S230 COMPOSITE ROOF FRAMING PLAN
- S231 ROOF FRAMING PLAN - AREA A
- S233 ROOF FRAMING PLAN - AREA C



*Kathleen Wong*  
 License Expiration Date: 04/30/2024

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
 MAY 26, 2023  
 DATE

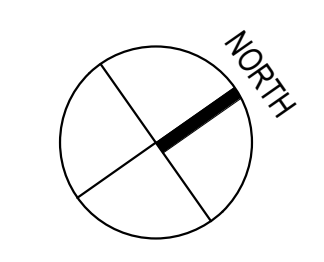
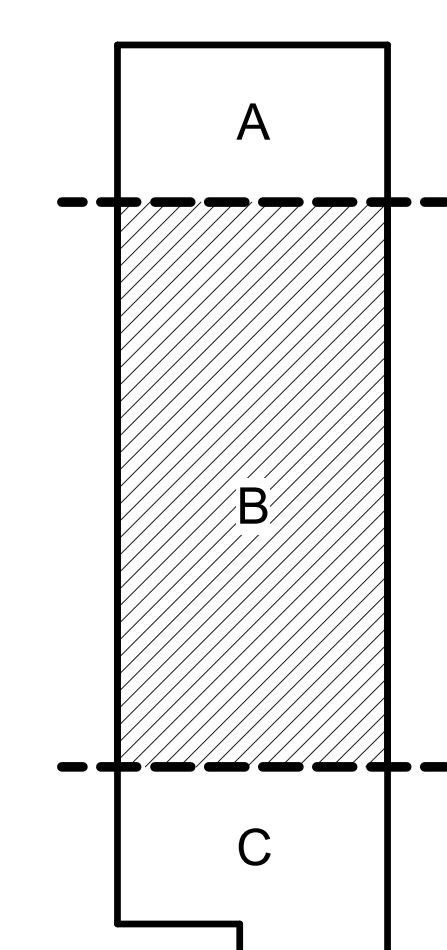
**PROJECT TITLE:**  
 SOUTH TSA CHECKPOINT

**PROJECT NO.:**  
 AM1095-10

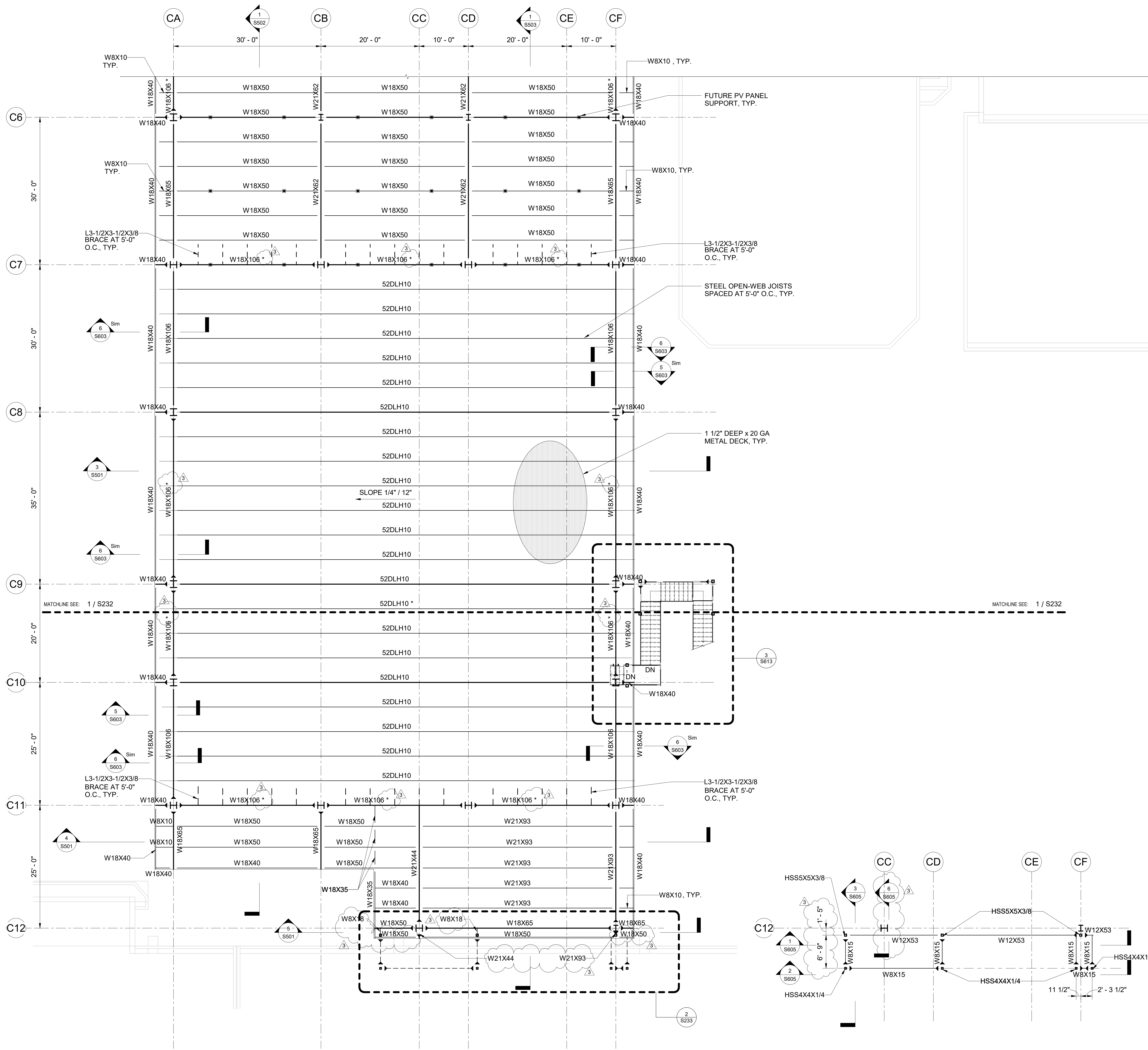
**SHEET TITLE:**  
 ROOF FRAMING PLAN - AREA B

DATE:	DWG. NO.
MAY 26, 2023	S232
SHEET :	
160 OF 333 SHEETS	

**KEY PLAN**



**1 ROOF FRAMING PLAN - AREA B**  
 1/8" = 1'-0"



**SPECIAL NOTES:**

- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, ROOF SLOPE AND DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, ROOFING MATERIALS/ THICKNESSES, ROOFING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.

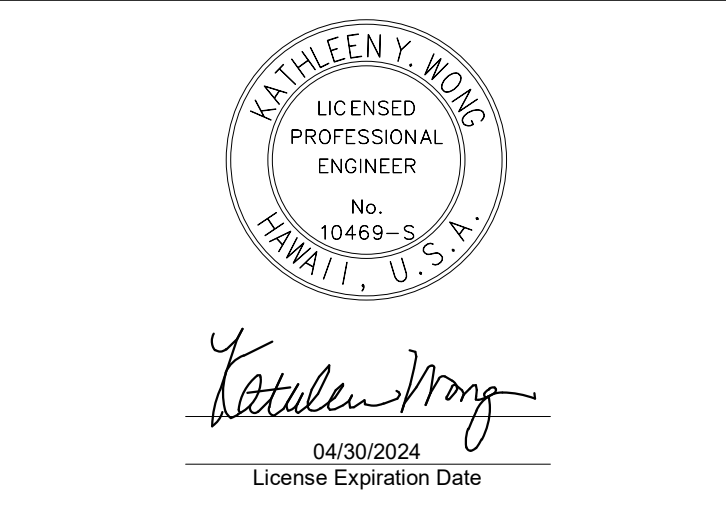
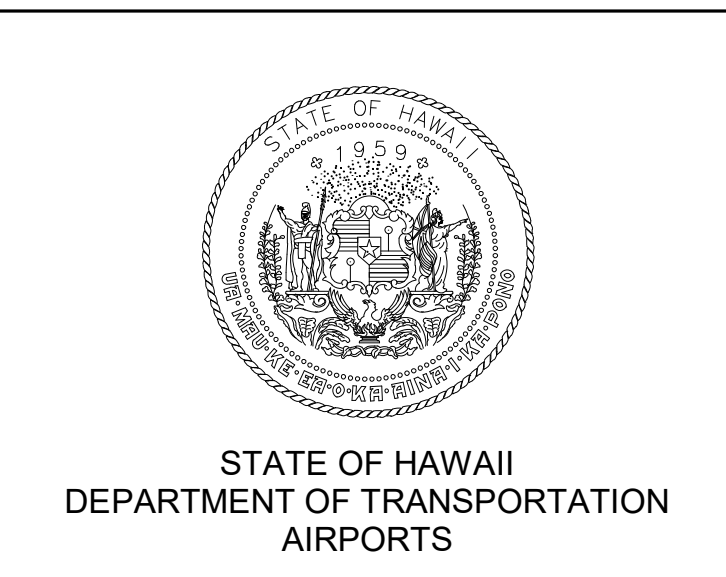
**LEGEND:**

Wx DENOTES STEEL BEAM  
 52DLH10 DENOTES OPEN WEB JOIST

Wx DENOTES MOMENT CONNECTION, SEE 1 / S005  
 Wx\* DENOTES SPECIAL DUCTILE MOMENT CONNECTION, SEE 1 / S006

**REFERENCE DRAWINGS:**

S001 GENERAL STRUCTURAL NOTES  
 S002 GENERAL STRUCTURAL NOTES  
 S004 TYPICAL STEEL DECK DETAILS  
 S005 TYPICAL STEEL CONNECTION DETAILS  
 S006 TYPICAL STEEL CONNECTION DETAILS  
 S007 TYPICAL STEEL JOIST DETAILS  
 S008 ROOF WIND PRESSURE DIAGRAM  
 S230 COMPOSITE ROOF FRAMING PLAN  
 S231 ROOF FRAMING PLAN - AREA A  
 S232 ROOF FRAMING PLAN - AREA B



This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

S001 GENERAL STRUCTURAL NOTES  
 S002 GENERAL STRUCTURAL NOTES  
 S004 TYPICAL STEEL DECK DETAILS  
 S005 TYPICAL STEEL CONNECTION DETAILS  
 S006 TYPICAL STEEL CONNECTION DETAILS  
 S007 TYPICAL STEEL JOIST DETAILS  
 S008 ROOF WIND PRESSURE DIAGRAM  
 S230 COMPOSITE ROOF FRAMING PLAN  
 S231 ROOF FRAMING PLAN - AREA A  
 S232 ROOF FRAMING PLAN - AREA B

NO.	DATE	ADDENDUM #3	REVISION
3	9/5/2023		

**CONSTRUCTION DOCUMENTS**  
 MAY 26, 2023  
 DATE

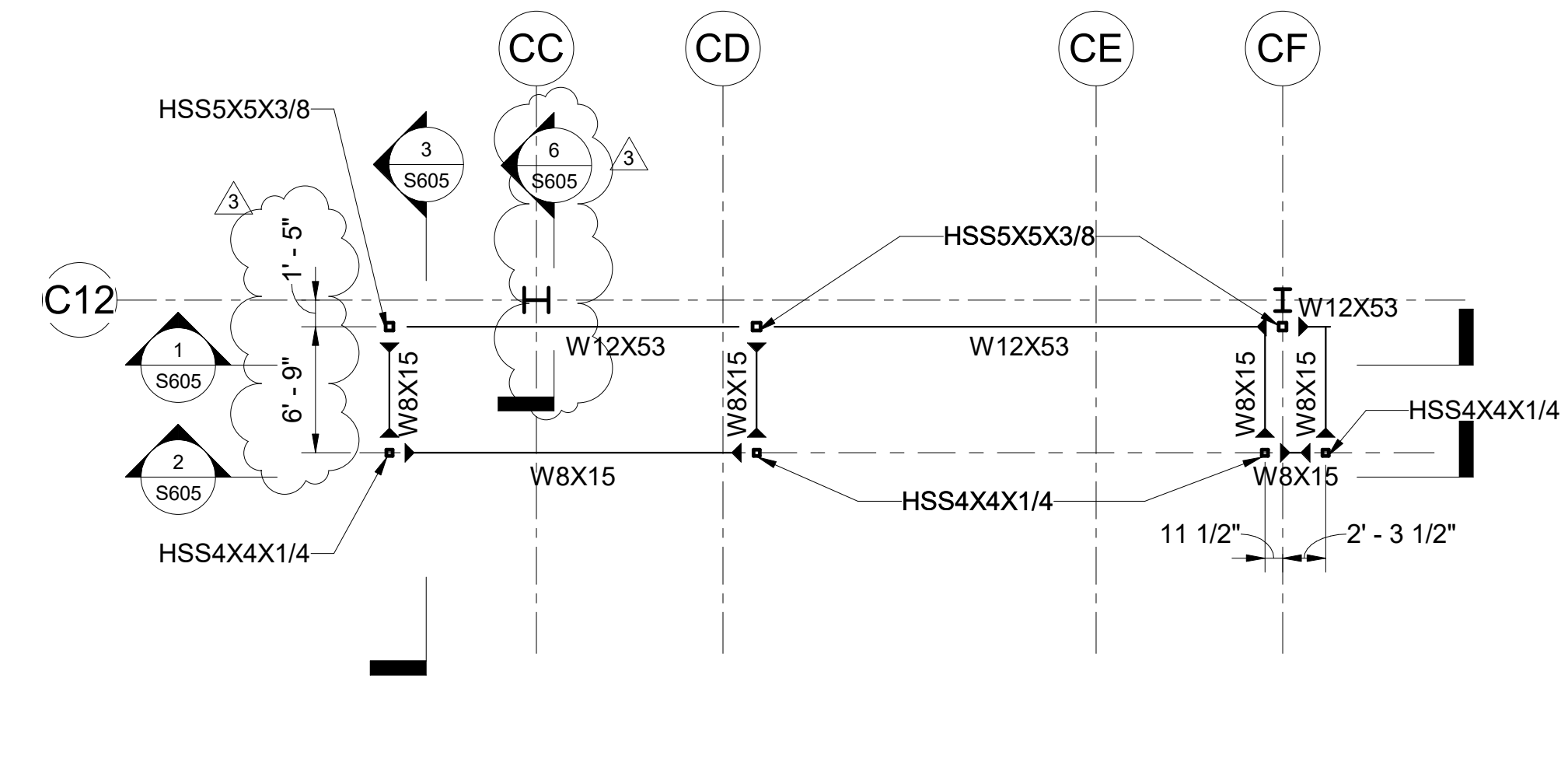
**PROJECT TITLE:**  
 SOUTH TSA CHECKPOINT

AT  
 KAHULULU AIRPORT  
 KAHULULU, MAUI, HAWAII

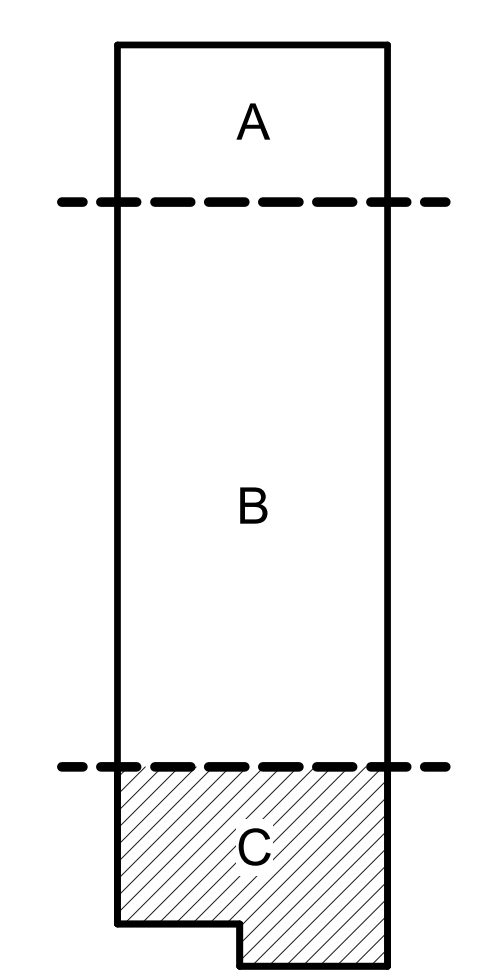
**PROJECT NO:**  
 AM1095-10

**SHEET TITLE:**  
 ROOF FRAMING PLAN - AREA C

DATE:	DWG. NO.
MAY 26, 2023	S233
SHEET :	
161 OF 333 SHEETS	

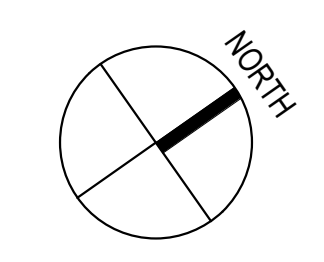


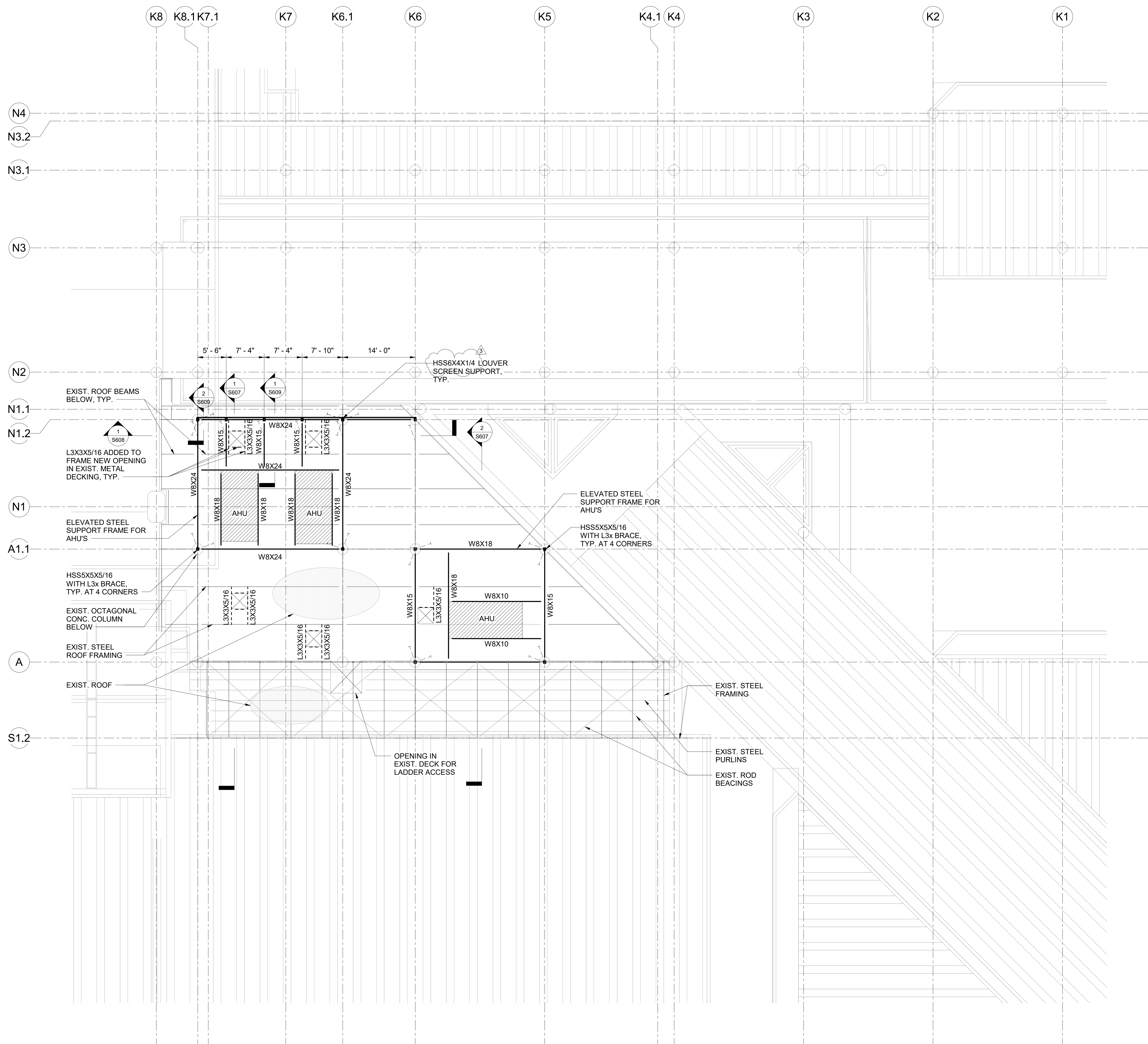
**KEY PLAN**



**1 ROOF FRAMING PLAN - AREA C**  
 1/8" = 1'-0"

**2 STUD WALL FRAME SUPPORT FRAMING PLAN**  
 1/8" = 1'-0"

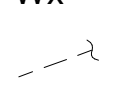




**SPECIAL NOTES:**

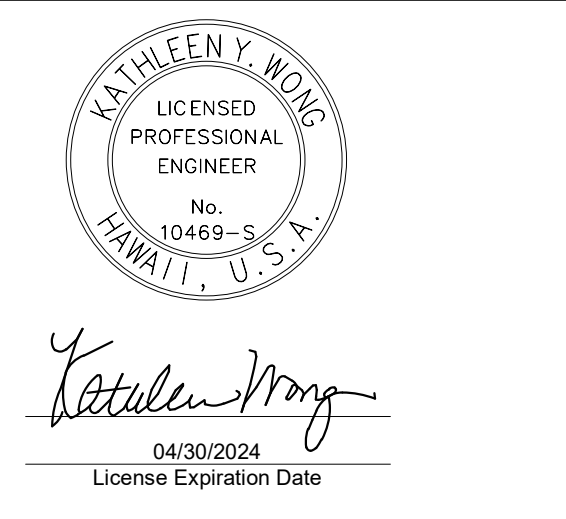
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, ROOF SLOPE AND DEPRESSION LIMITS, LOCATIONS AND DEPTHS WITH ARCHITECTURAL DRAWINGS, INCLUDING BUT NOT LIMITED TO WALL LOCATIONS, ROOFING MATERIALS/ THICKNESSES, ROOFING INSTALLATION METHODS AND REQUIRED SLOPES. THE FINAL FINISHED FLOOR MUST COMPLY WITH ADA/ABA.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS.

**LEGEND:**

Wx DENOTES STEEL BEAM  
 BRACE

**REFERENCE DRAWINGS:**

- S001 GENERAL STRUCTURAL NOTES
- S002 GENERAL STRUCTURAL NOTES
- S004 TYPICAL STEEL DECK DETAILS
- S005 TYPICAL STEEL CONNECTION DETAILS
- S006 TYPICAL STEEL JOIST DETAILS
- S230 COMPOSITE ROOF FRAMING PLAN



This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
 MAY 26, 2023  
 DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
 KAHULUI AIRPORT  
 KAHULUI, MAUI, HAWAII

PROJECT NO:

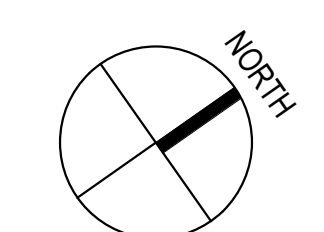
**AM1095-10**

SHEET TITLE:

**ROOF FRAMING PLAN - AREA D**

DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>S234</b>
SHEET :	
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**1** ROOF FRAMING PLAN - AREA D  
 1/8" = 1'-0"

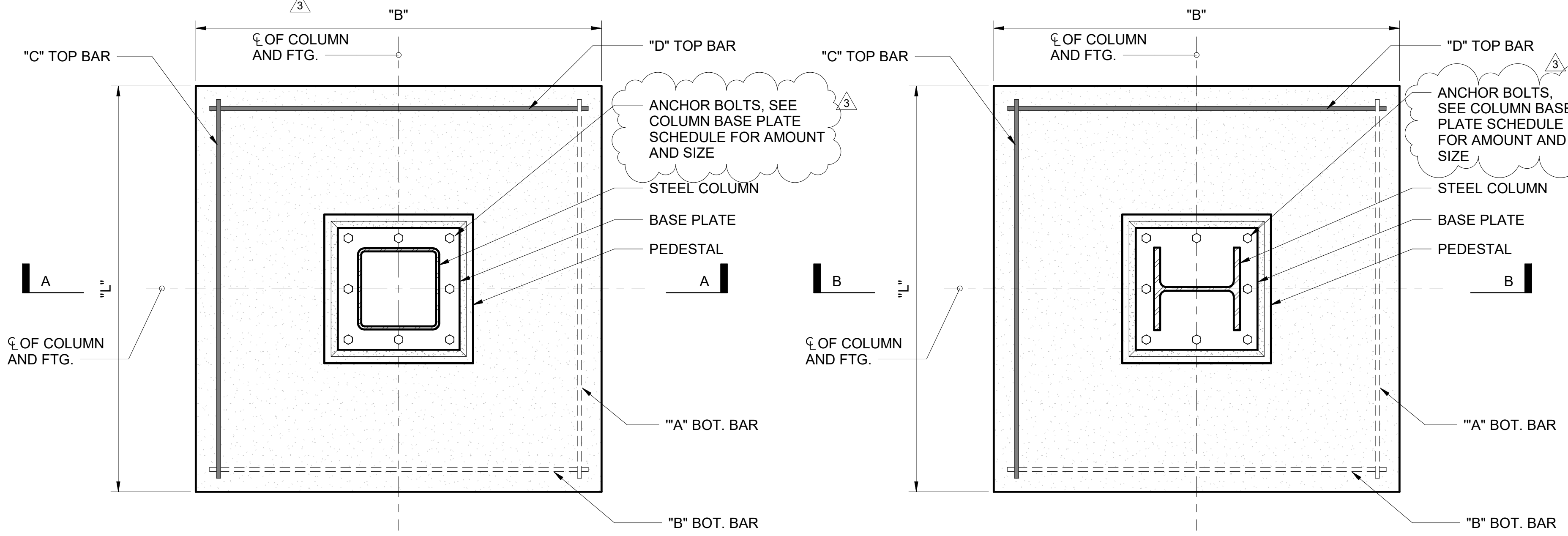


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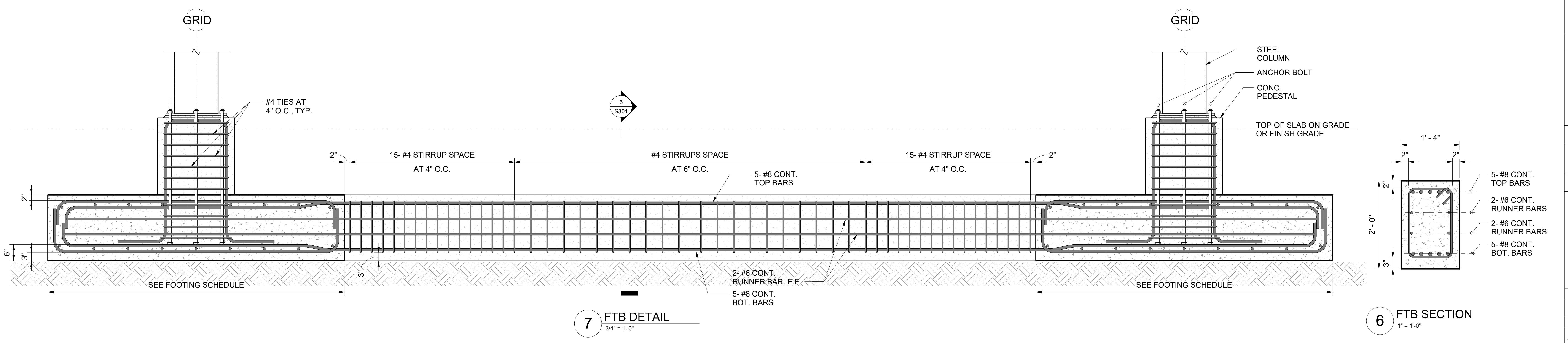
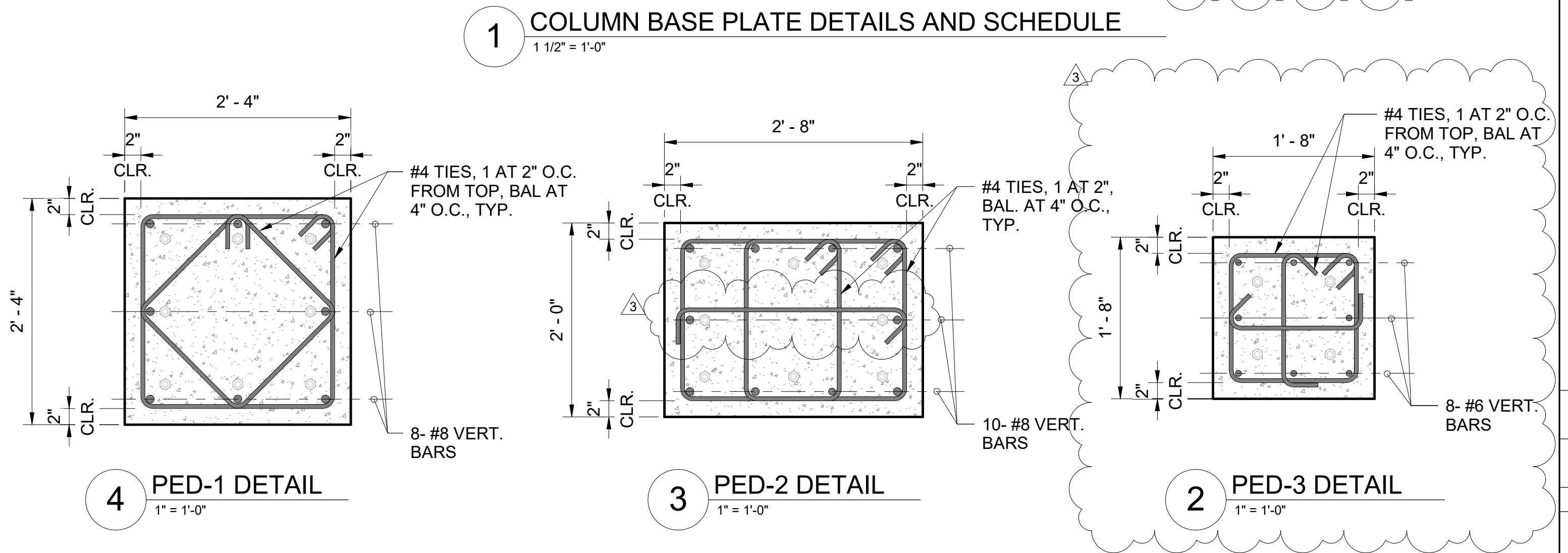
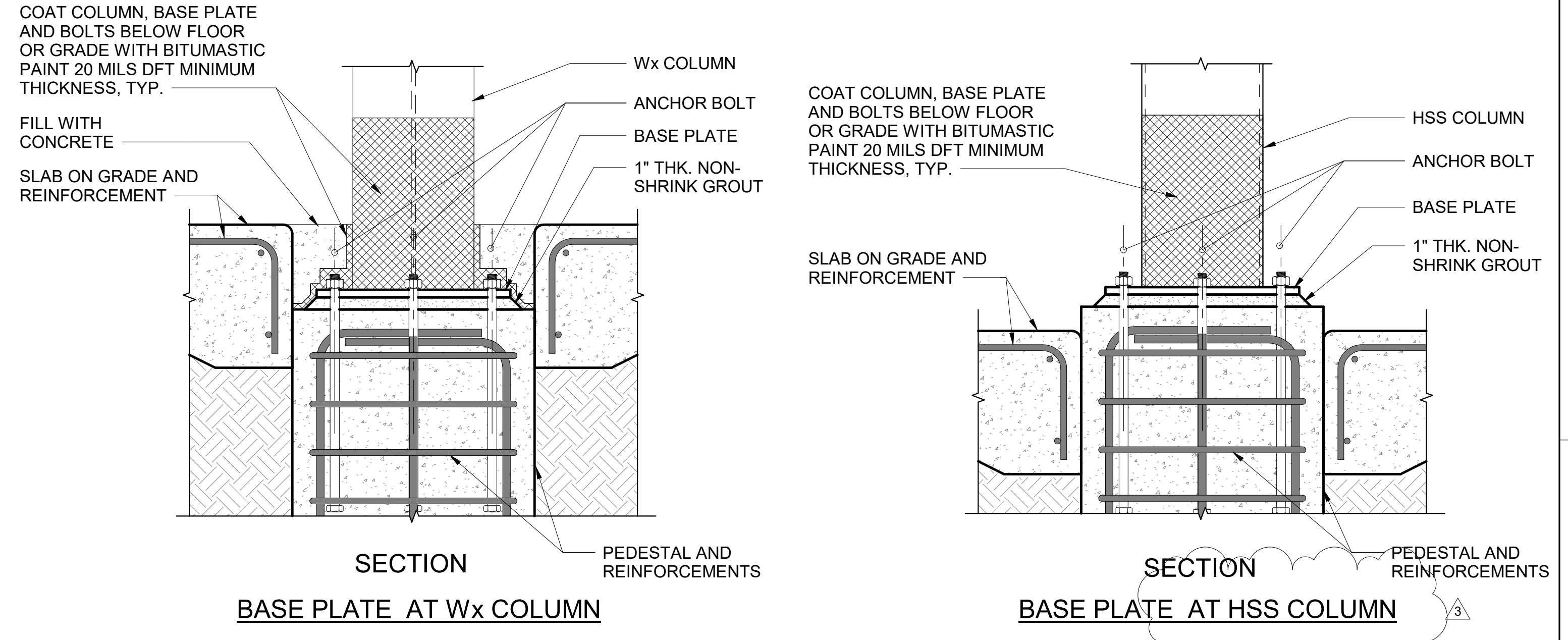
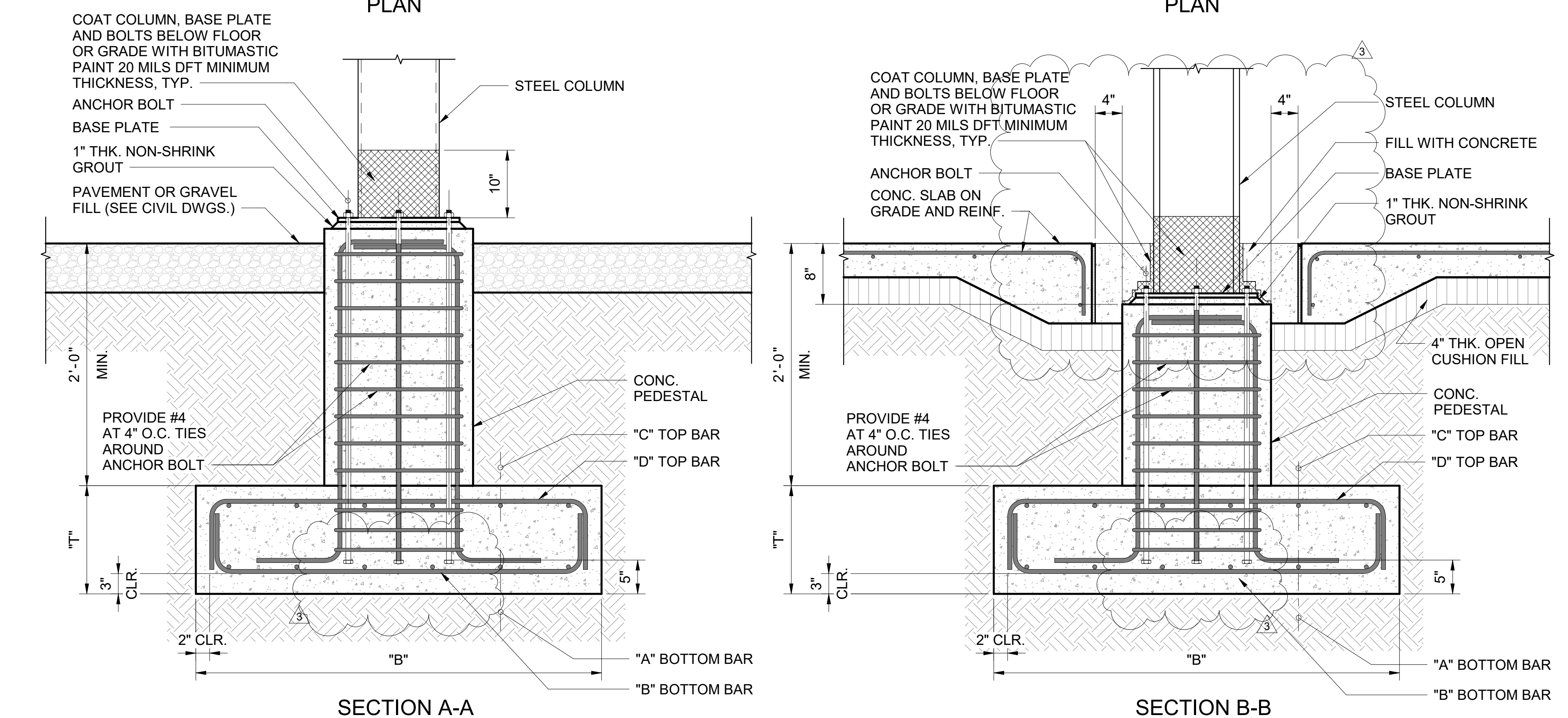
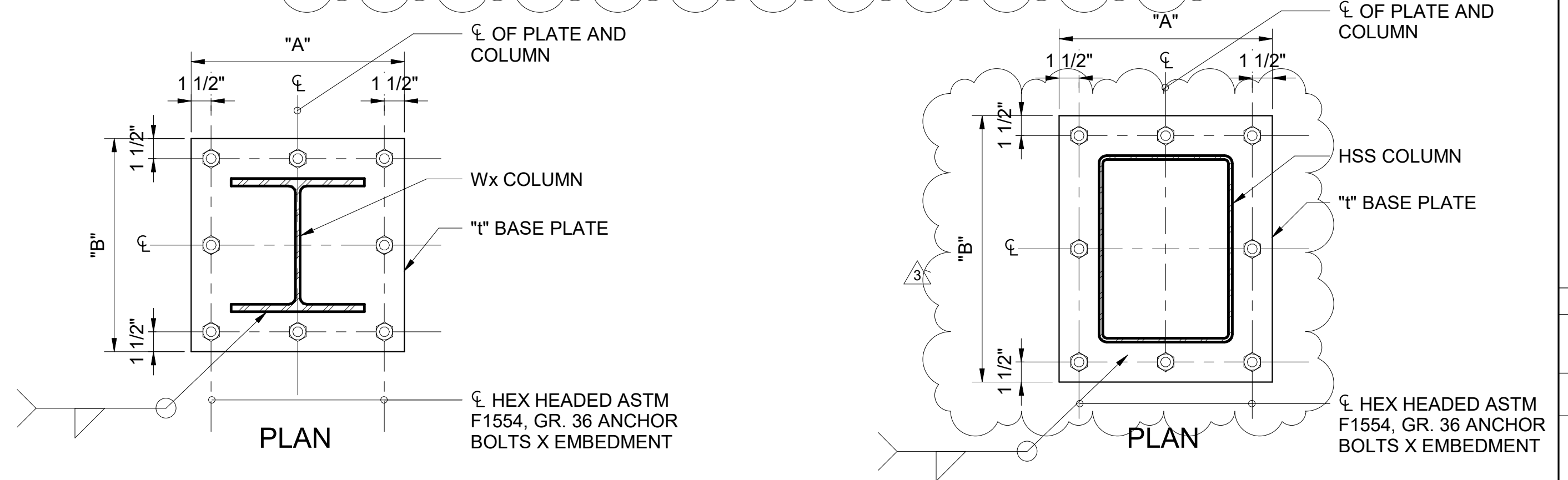


MARK	DIMENSION			REINFORCEMENT				REMARK
	LENGTH "L"	WIDTH "B"	THICKNESS "T"	"A" BAR	"B" BAR	"C" BAR	"D" BAR	
CF-1	9'-0"	9'-0"	24"	6-#8	6-#8	6-#6	6-#6	
CF-2	12'-0"	12'-0"	24"	8-#8	8-#8	8-#6	8-#6	
CF-3	14'-0"	14'-0"	30"	12-#8	12-#8	12-#6	12-#6	
CF-4	3'-0"	3'-0"	16"	4-#5	4-#5	-	-	

**NOTE:**  
UNO, SEE FOUNDATION PLAN FOR TOP OF FOOTING ELEVATION.



MARK	COLUMN BASE PLATE SCHEDULE			WELD	ASTM F1554 HEX HEADED ANCHOR BOLT DIA. (# BOLTS)
	"A"	"B"	"I"		
BP-1	22"	22"	3/4"	1/4"	8- 3/4"
BP-2	18"	26"	3/4"	1/4"	8- 3/4"
BP-3	22"	22"	7/8"	1/4"	8- 3/4"
BP-4	16"	20"	7/8"	1/4"	8- 3/4"
BP-5	12"	15"	1/2"	3/16"	4- 3/4"
BP-6	12"	12"	1/2"	3/16"	4- 3/4"



**KATHLEEN Y. WONG**  
LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
04/30/2024  
License Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

NO.	DATE	ADDENDUM #3	REVISION
3	9/5/2023		

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

**PROJECT TITLE:**  
SOUTH TSA CHECKPOINT

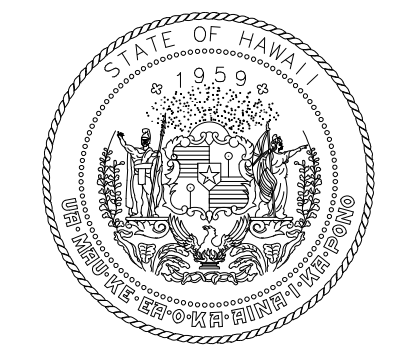
AT KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII  
**PROJECT NO:**  
AM1095-10

**SHEET TITLE:**  
TYPICAL COLUMN FOOTING, PEDESTAL, BASE PLATE SCHEDULE AND DETAILS

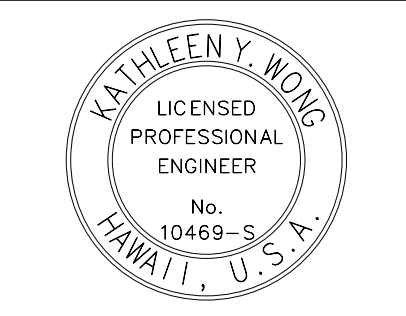
DATE: MAY 26, 2023  
SHEET:

DWG. NO. S301  
163 OF 333 SHEETS

8/30/2023 10:13:29 PM



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

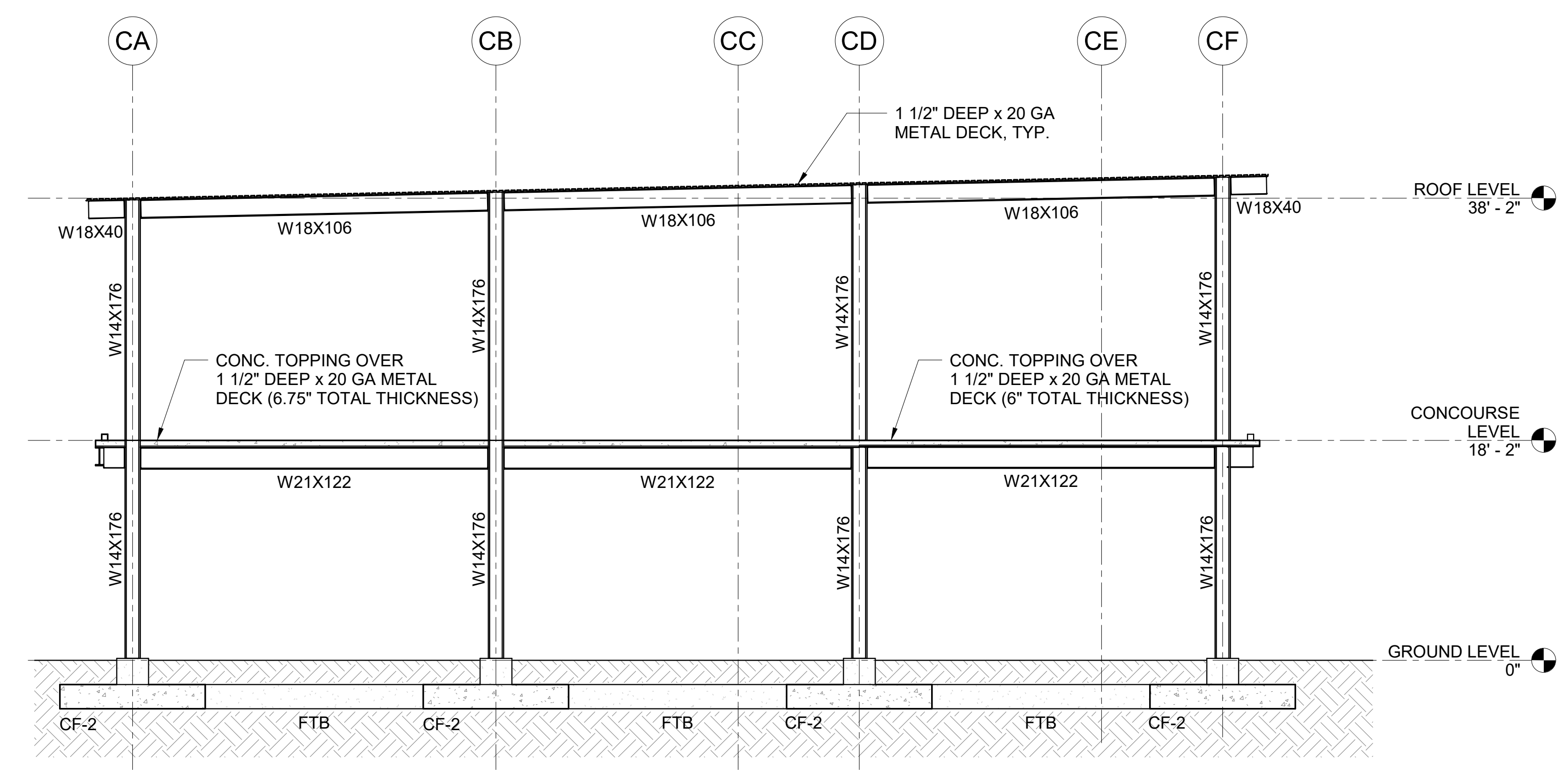


*Kathleen Wong*  
04/30/2024  
License Expiration Date

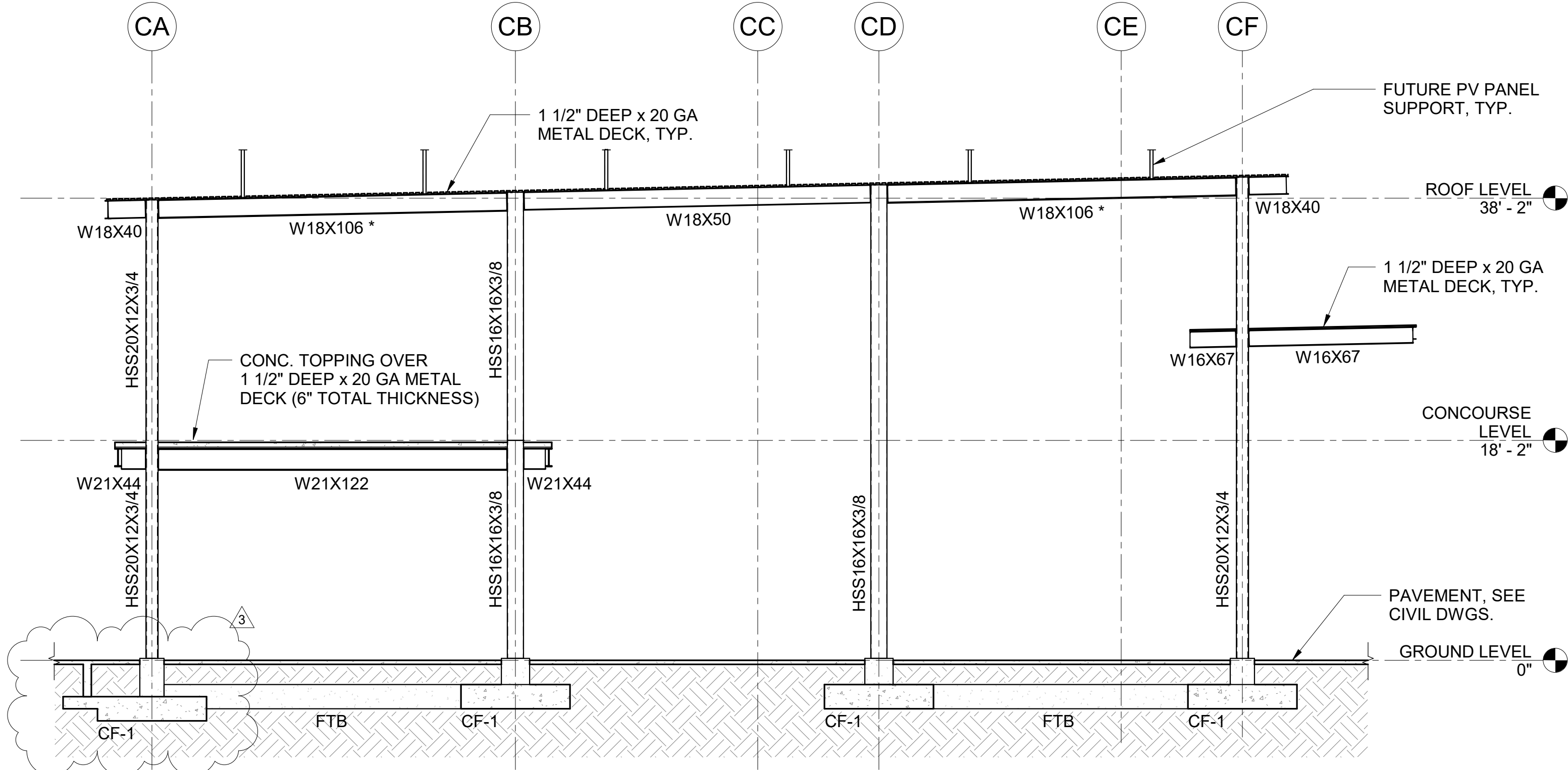
This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

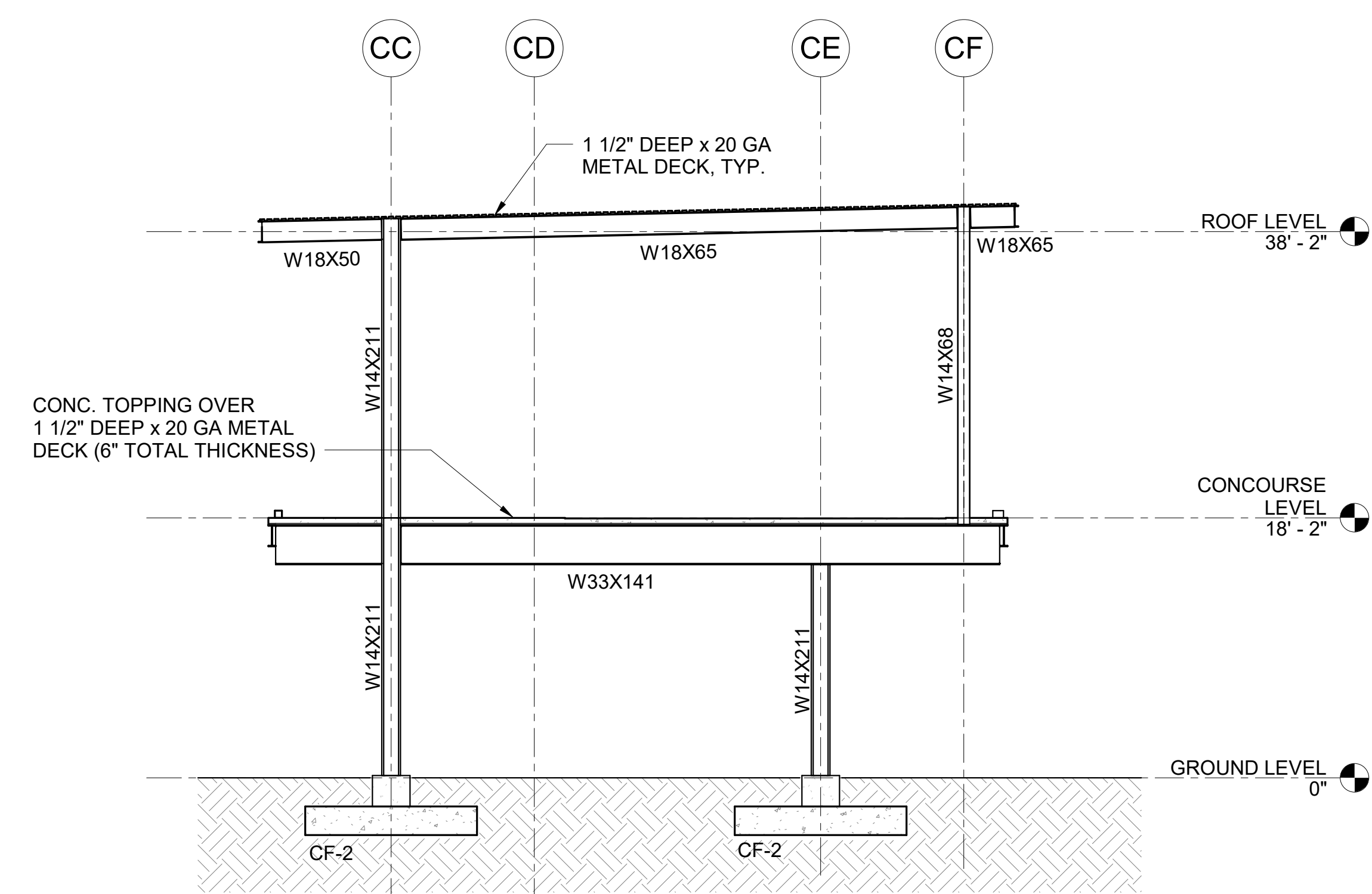
KEY PLAN / NOTES:



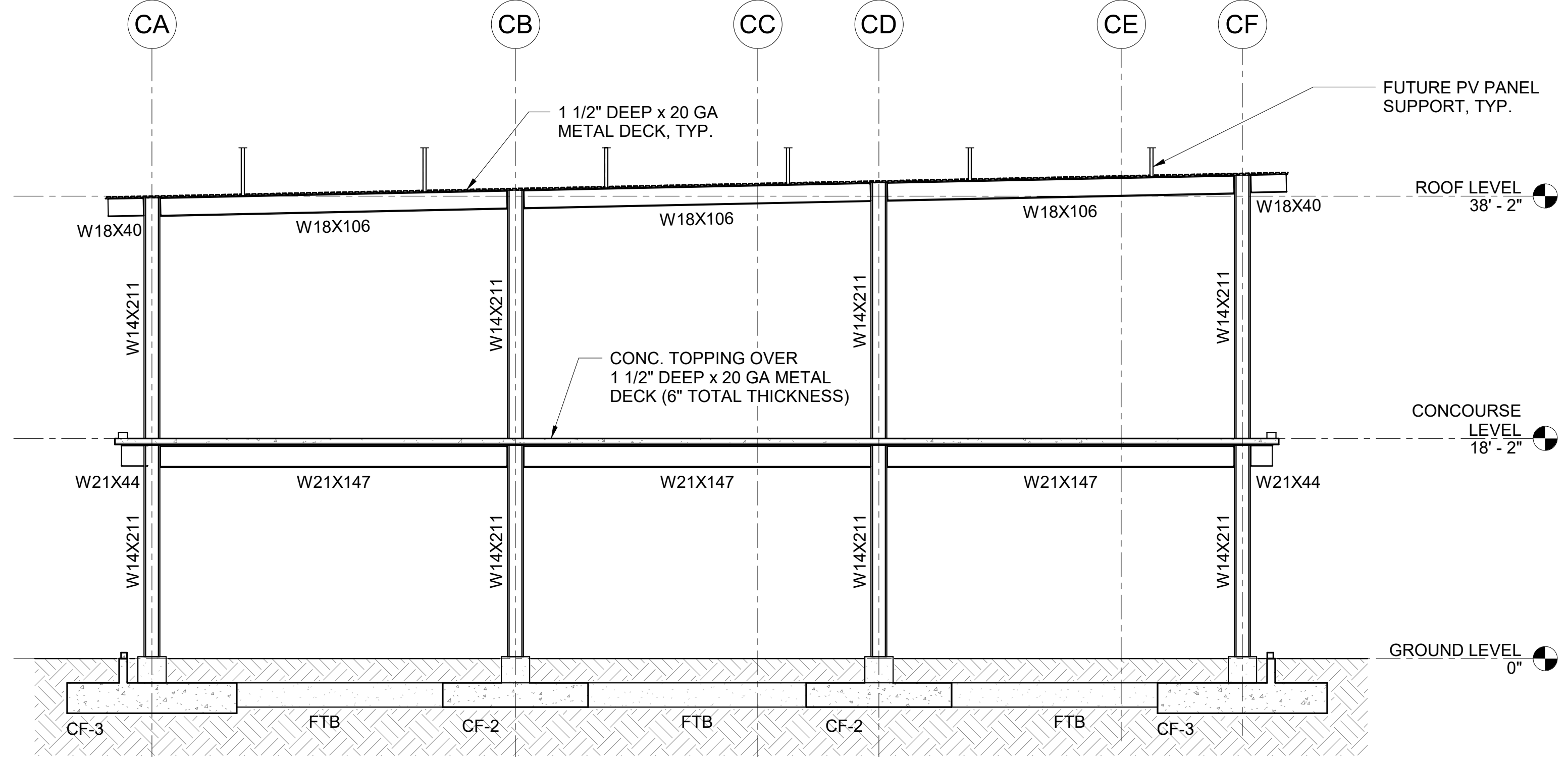
4 FRAME ELEVATION ALONG GRID LINE C11  
1/8" = 1'-0"



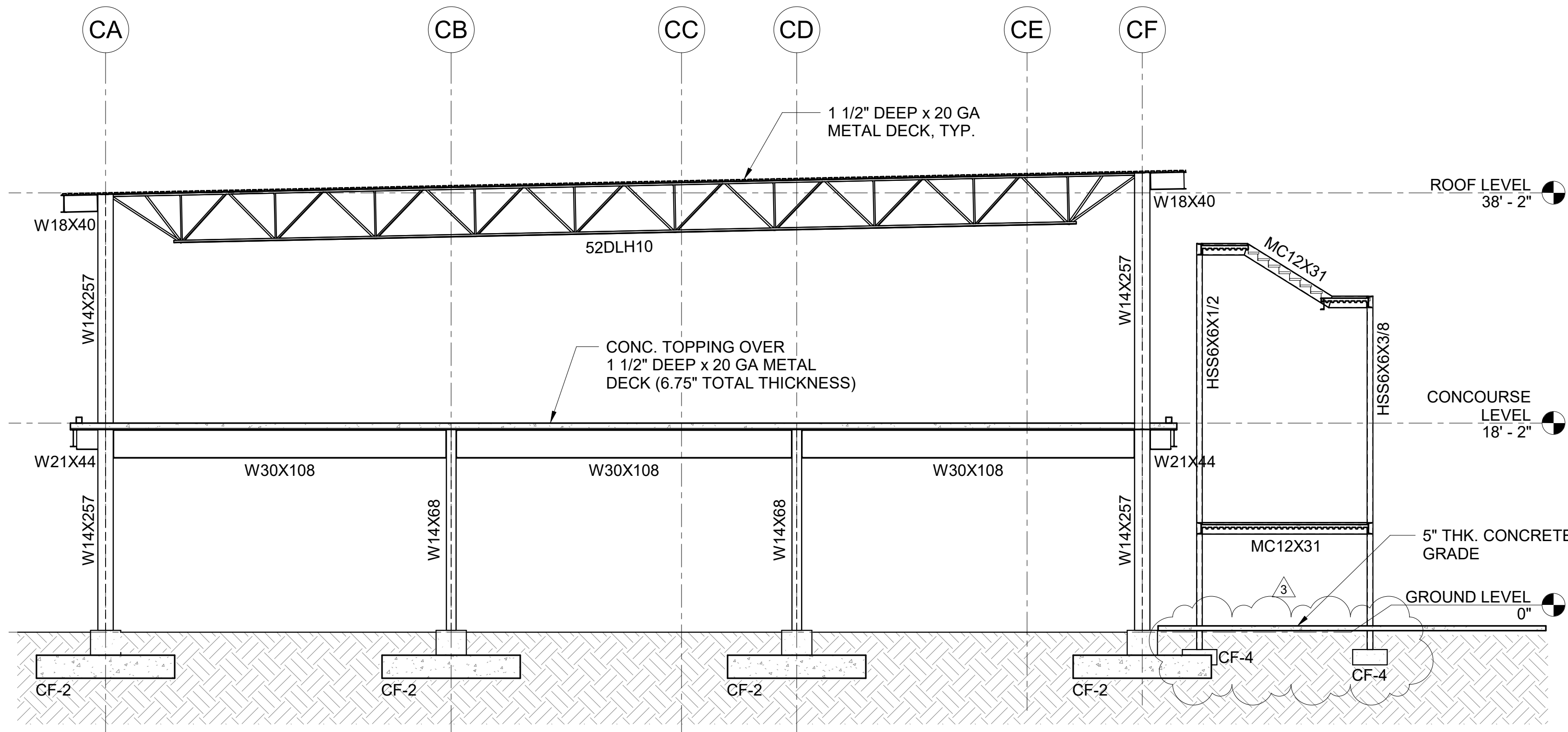
1 FRAME ELEVATION ALONG GRID LINE C3  
1/8" = 1'-0"



5 FRAME ELEVATION ALONG GRID LINE C12  
1/8" = 1'-0"



2 FRAME ELEVATION ALONG GRID LINE C7  
1/8" = 1'-0"



3 FRAME ELEVATION ALONG GRID LINE C9  
1/8" = 1'-0"

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

CONSTRUCTION DOCUMENTS  
MAY 26, 2023  
DATE

PROJECT TITLE:

SOUTH TSA CHECKPOINT

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

AM1095-10

SHEET TITLE:

FRAME ELEVATIONS

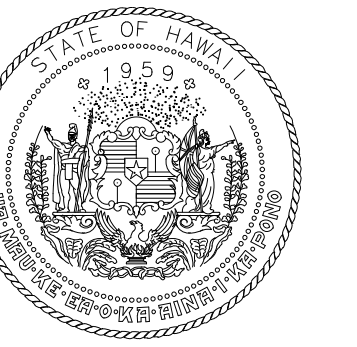
DATE:  
MAY 26, 2023

SHEET:

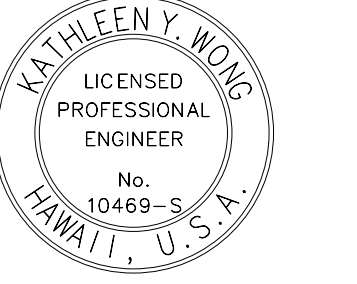
164 OF 333 SHEETS

DWG. NO.  
S401





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

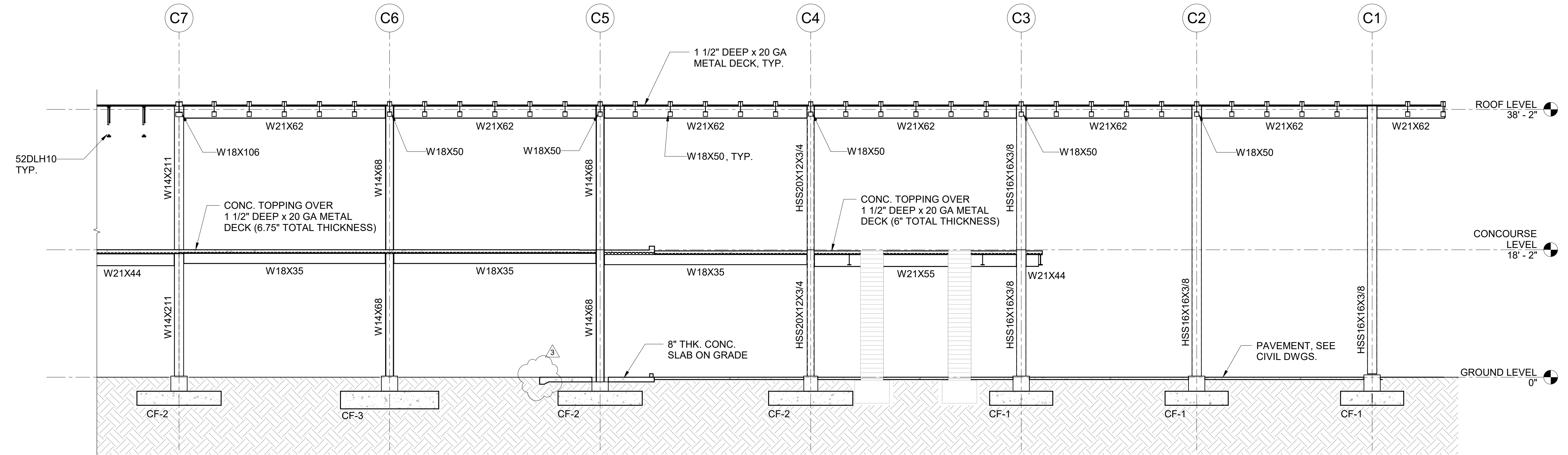
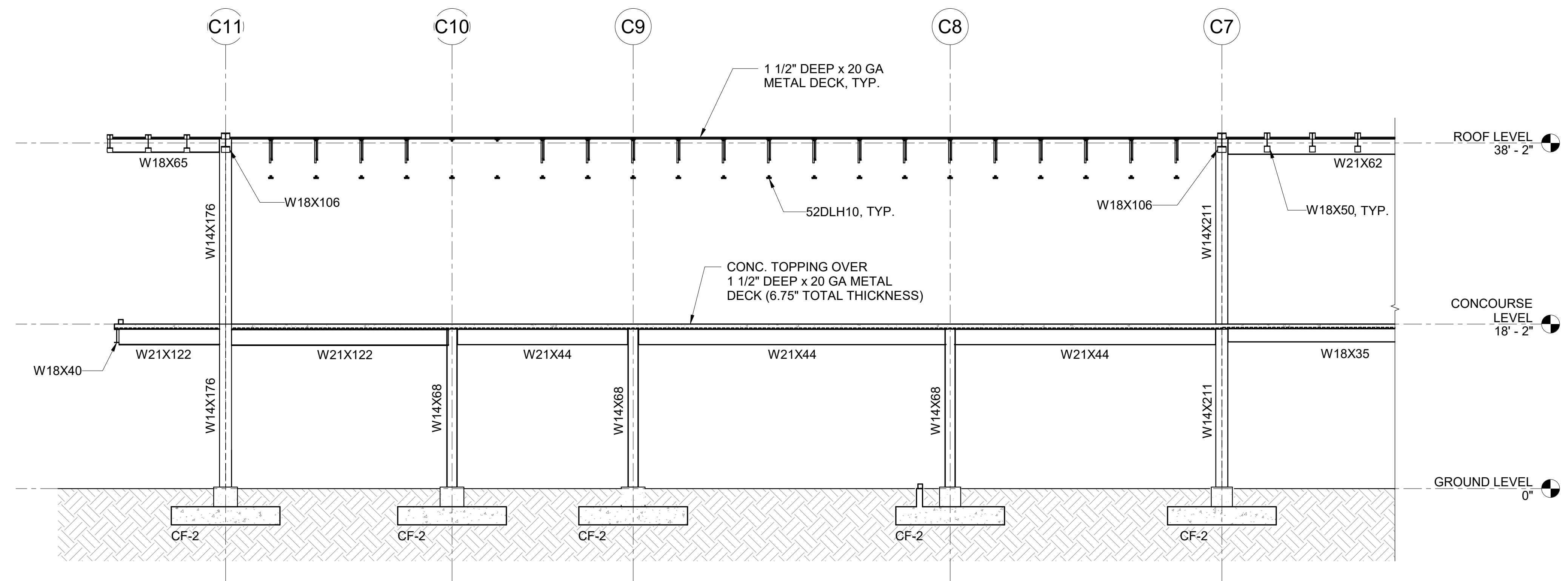


Kathleen Wong  
LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

KEY PLAN / NOTES:



1 FRAME ELEVATION ALONG GRID LINE CB  
1/8" = 1'-0"

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

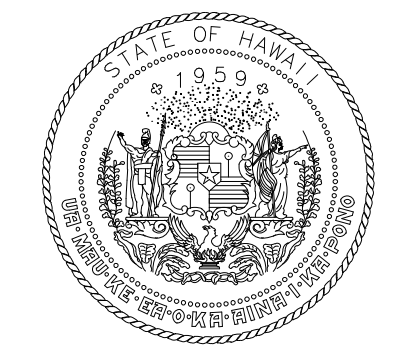
**FRAME ELEVATIONS**

DATE:	DWG. NO.
MAY 26, 2023	S402

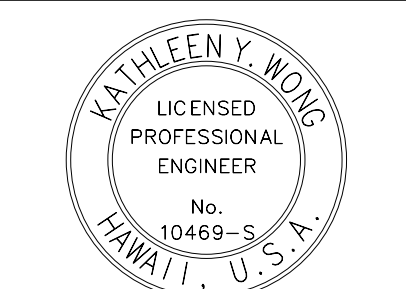
SHEET :  
165 OF 333 SHEETS







STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

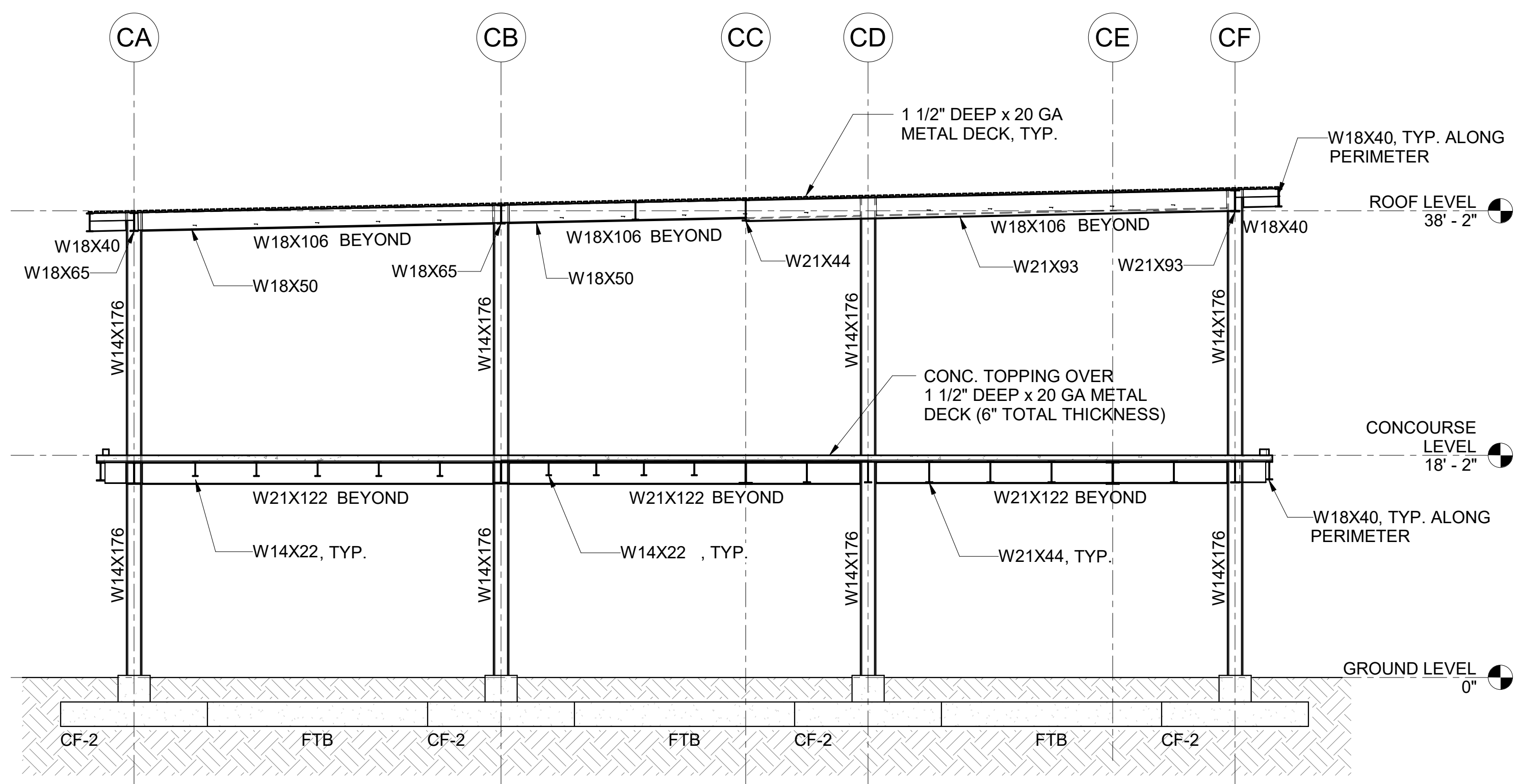


*Kathleen Y. Wong*  
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HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

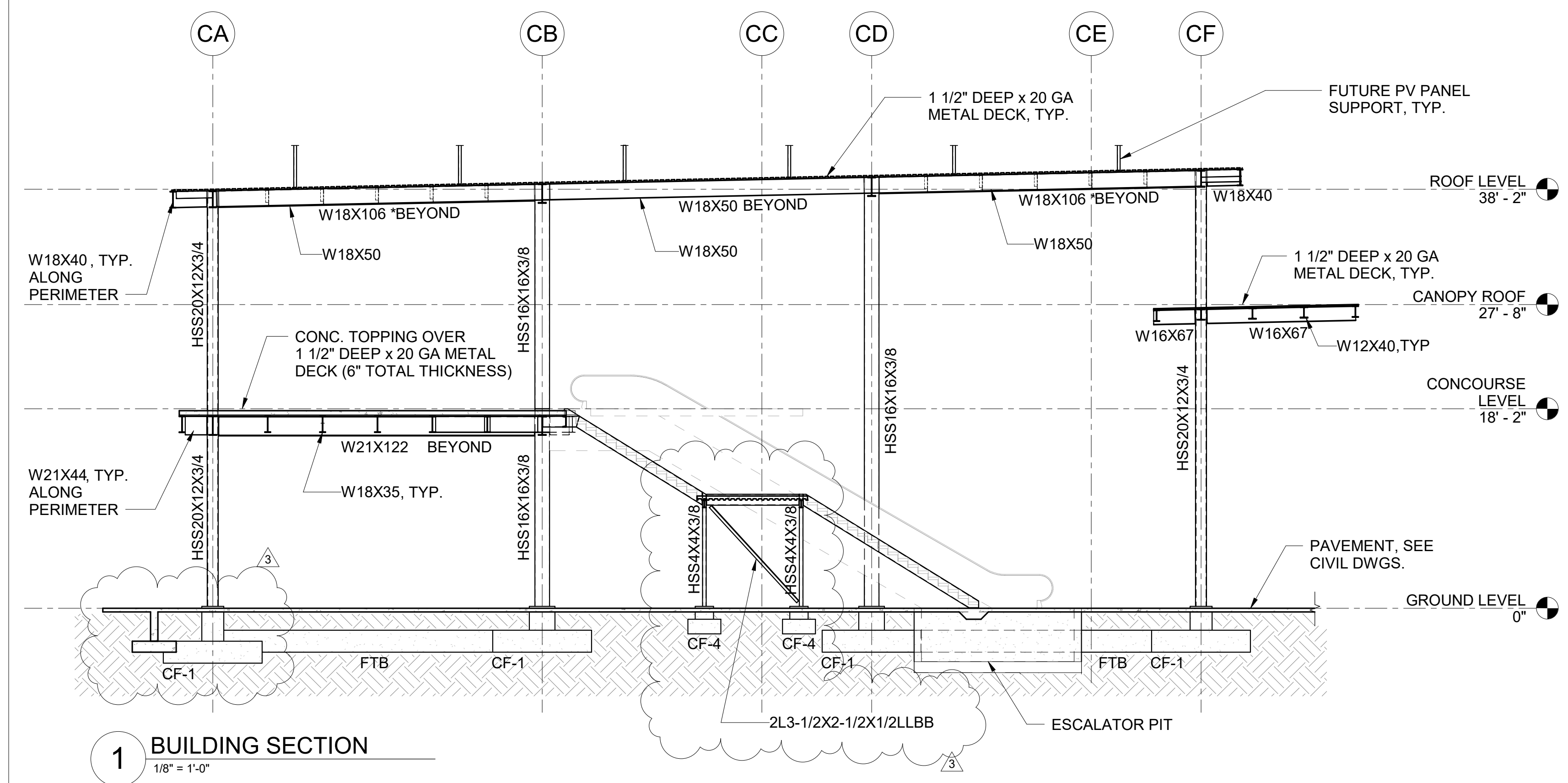
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DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

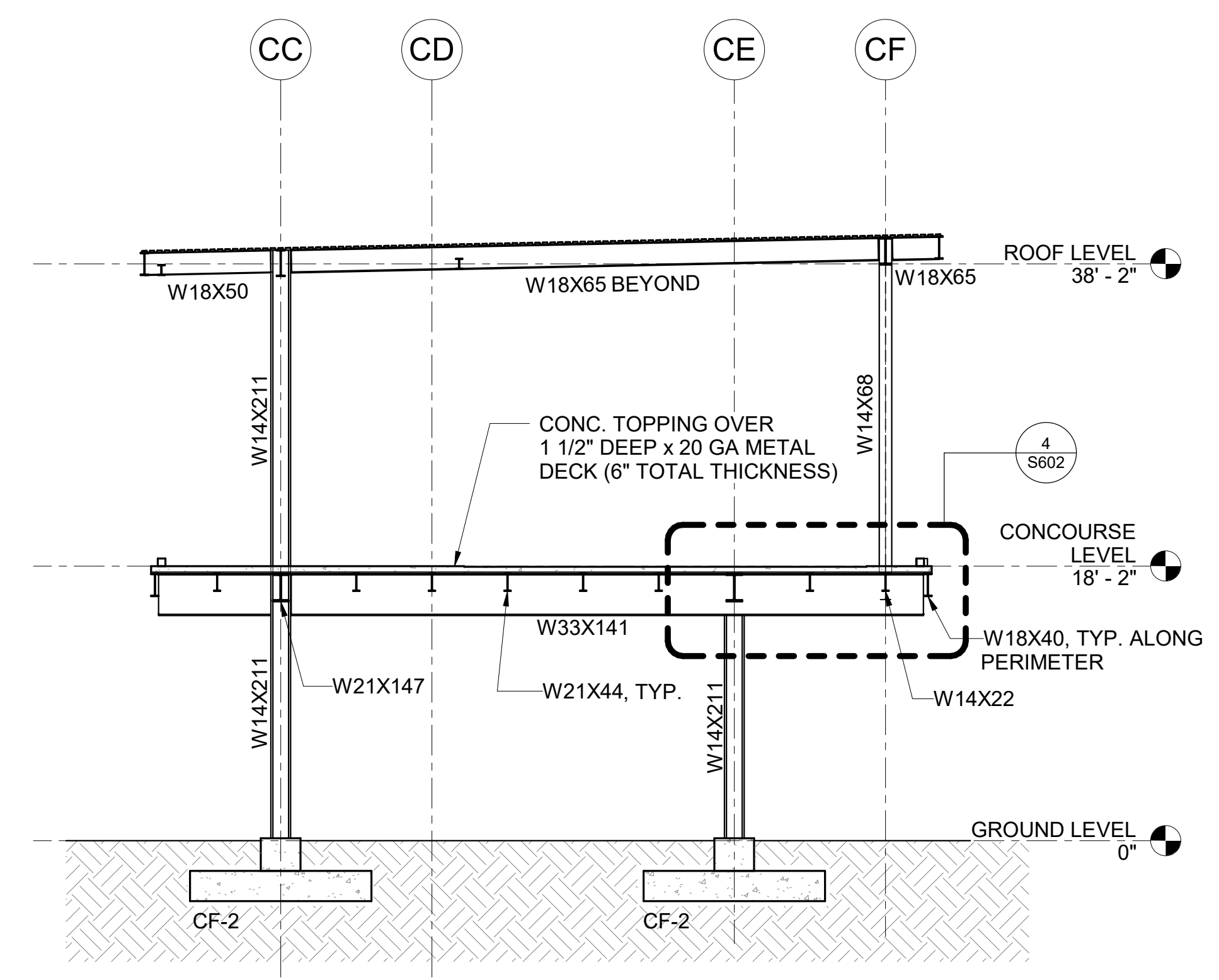
**KEY PLAN / NOTES:**



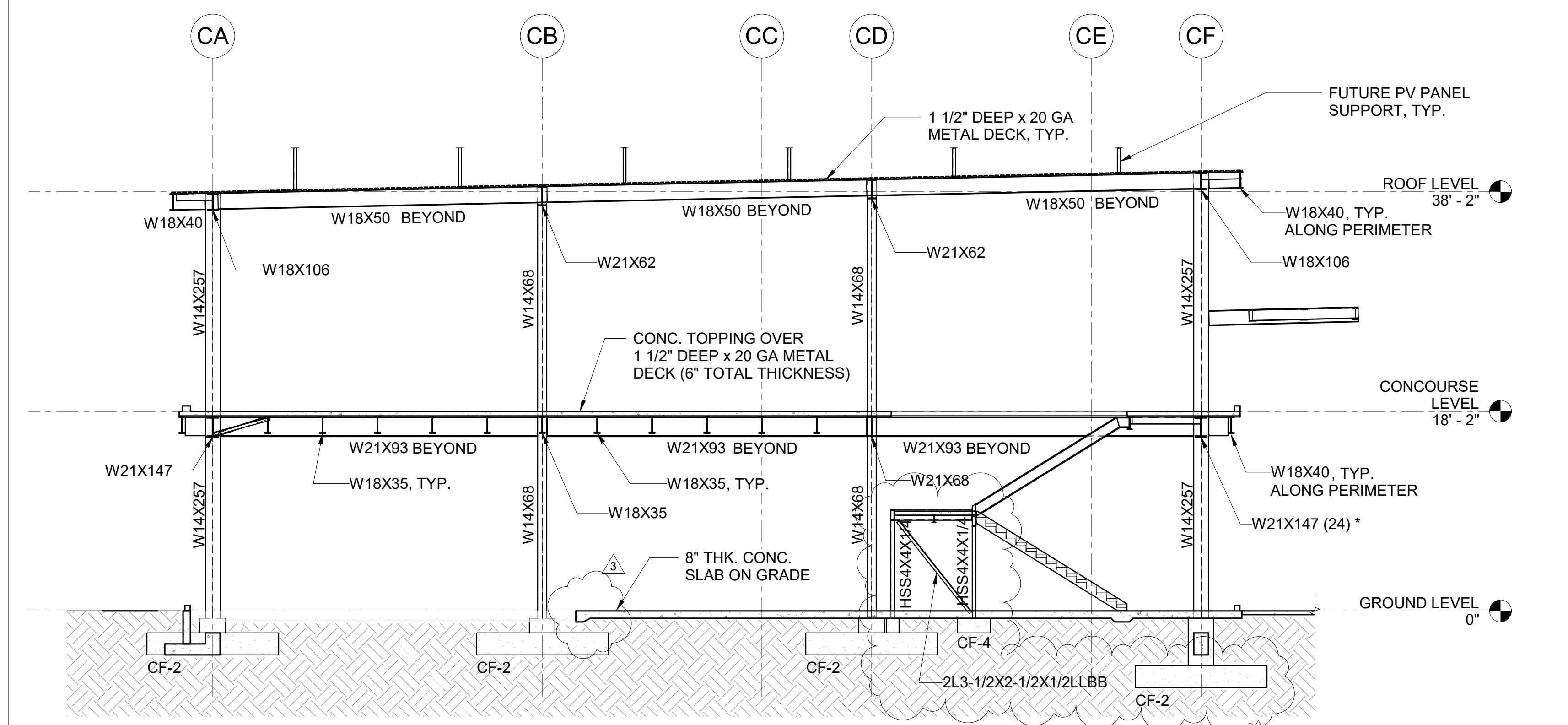
**4 BUILDING SECTION**  
1/8" = 1'-0"



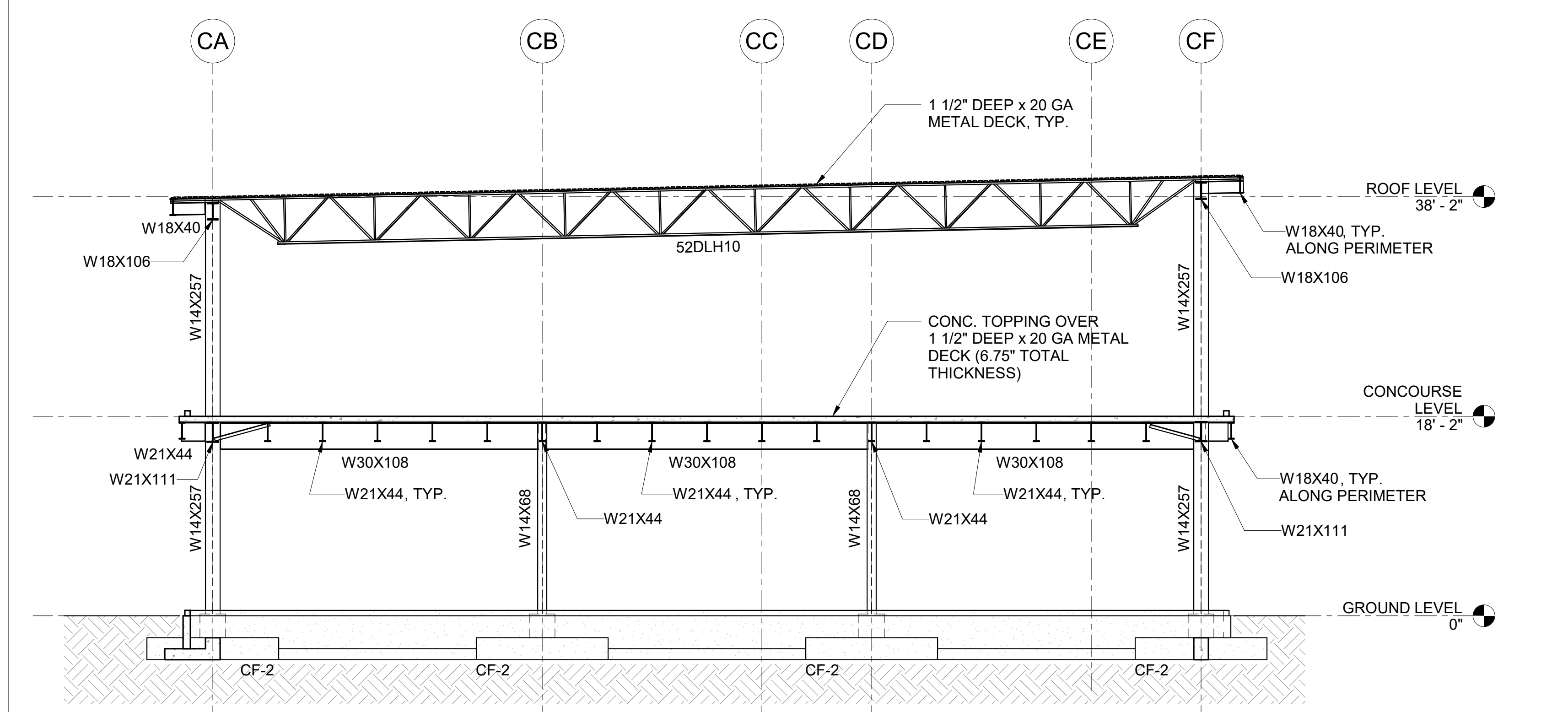
**1 BUILDING SECTION**  
1/8" = 1'-0"



**5 BUILDING SECTION**  
1/8" = 1'-0"



**2 BUILDING SECTION**  
1/8" = 1'-0"



**3 BUILDING SECTION**  
1/8" = 1'-0"

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**BUILDING SECTIONS**

DATE: **MAY 26, 2023**

SHEET:

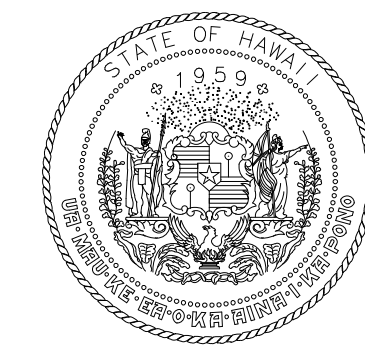
167 OF 333 SHEETS

DWG. NO.

**S501**







STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

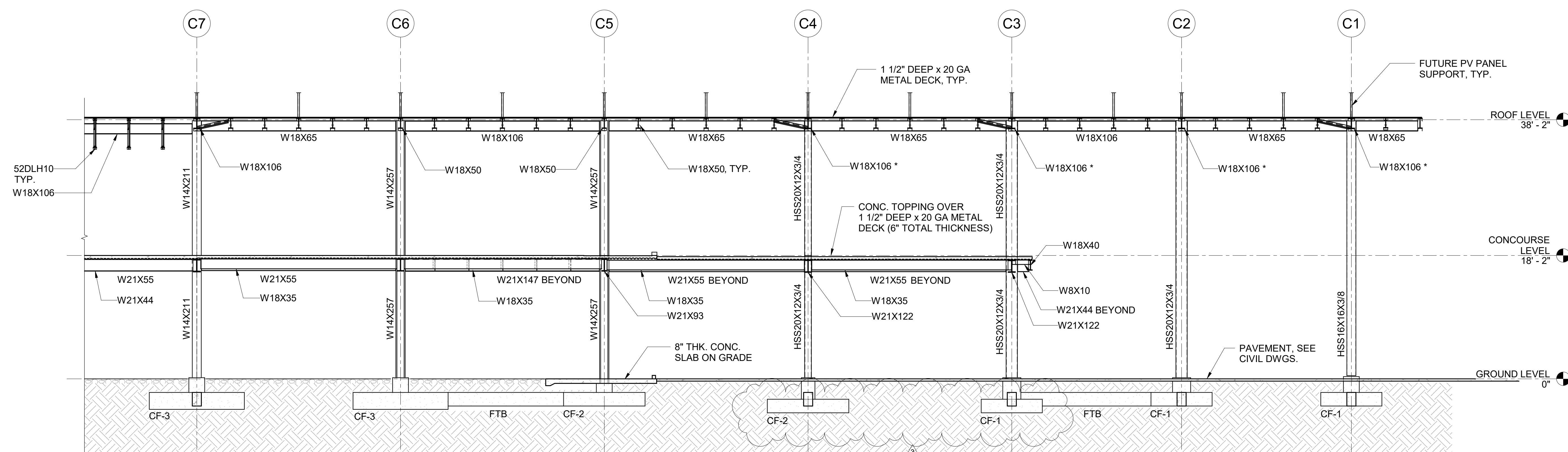
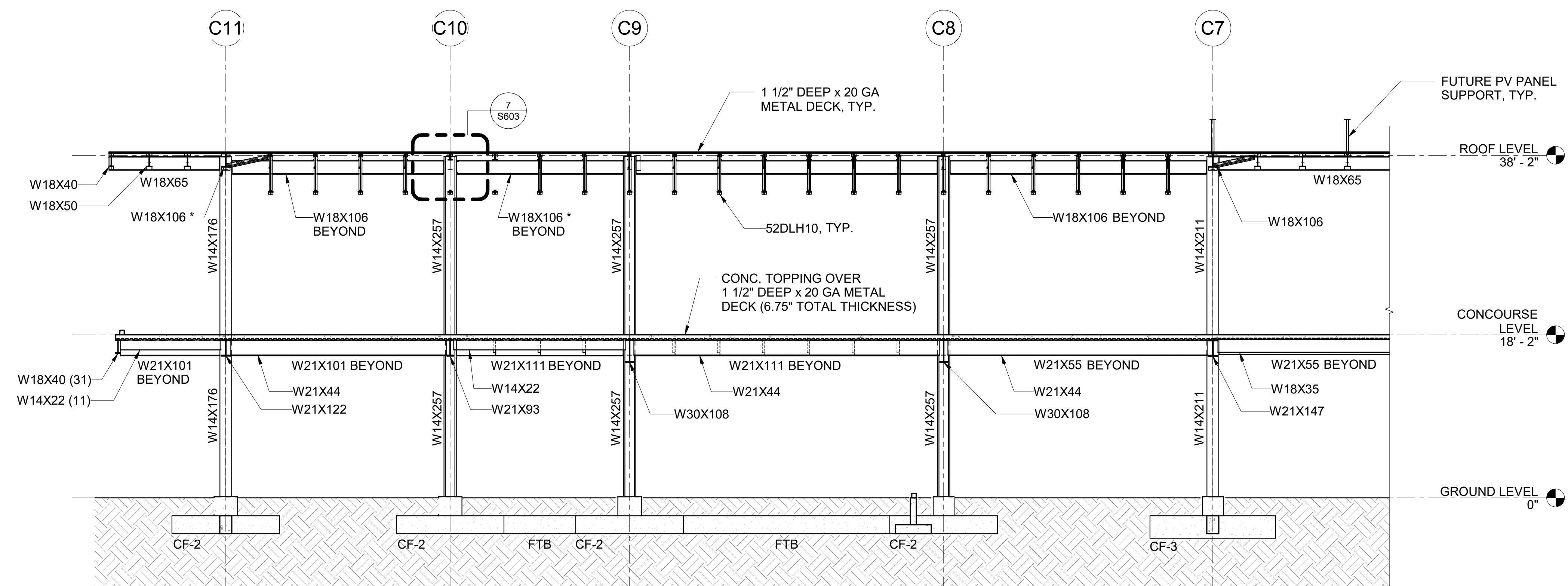


*Kathleen Y. Wong*  
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No. 10469-S  
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MS	LC	KW	

KEY PLAN / NOTES:



**1** BUILDING SECTION  
1/8" = 1'-0"

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

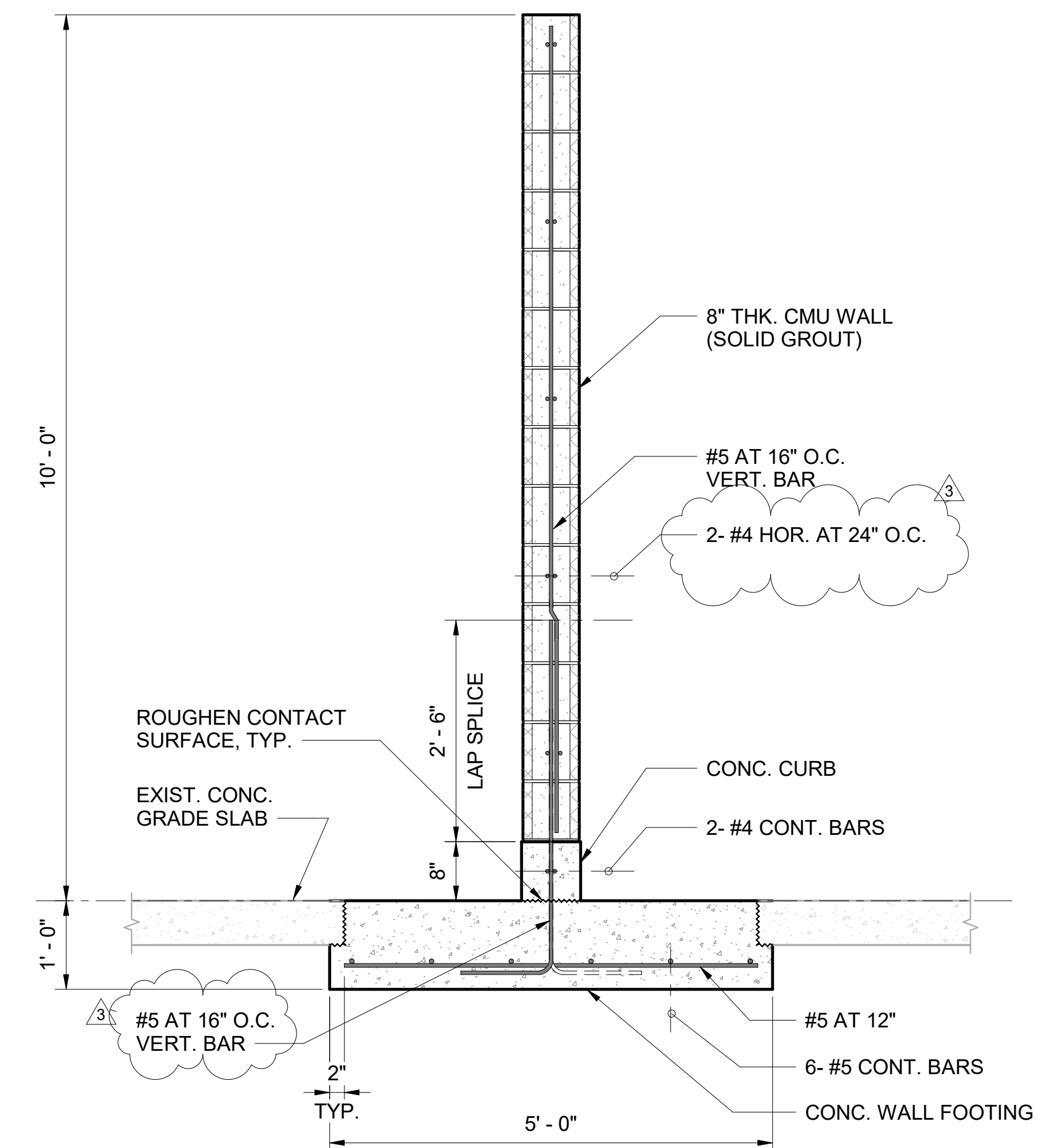
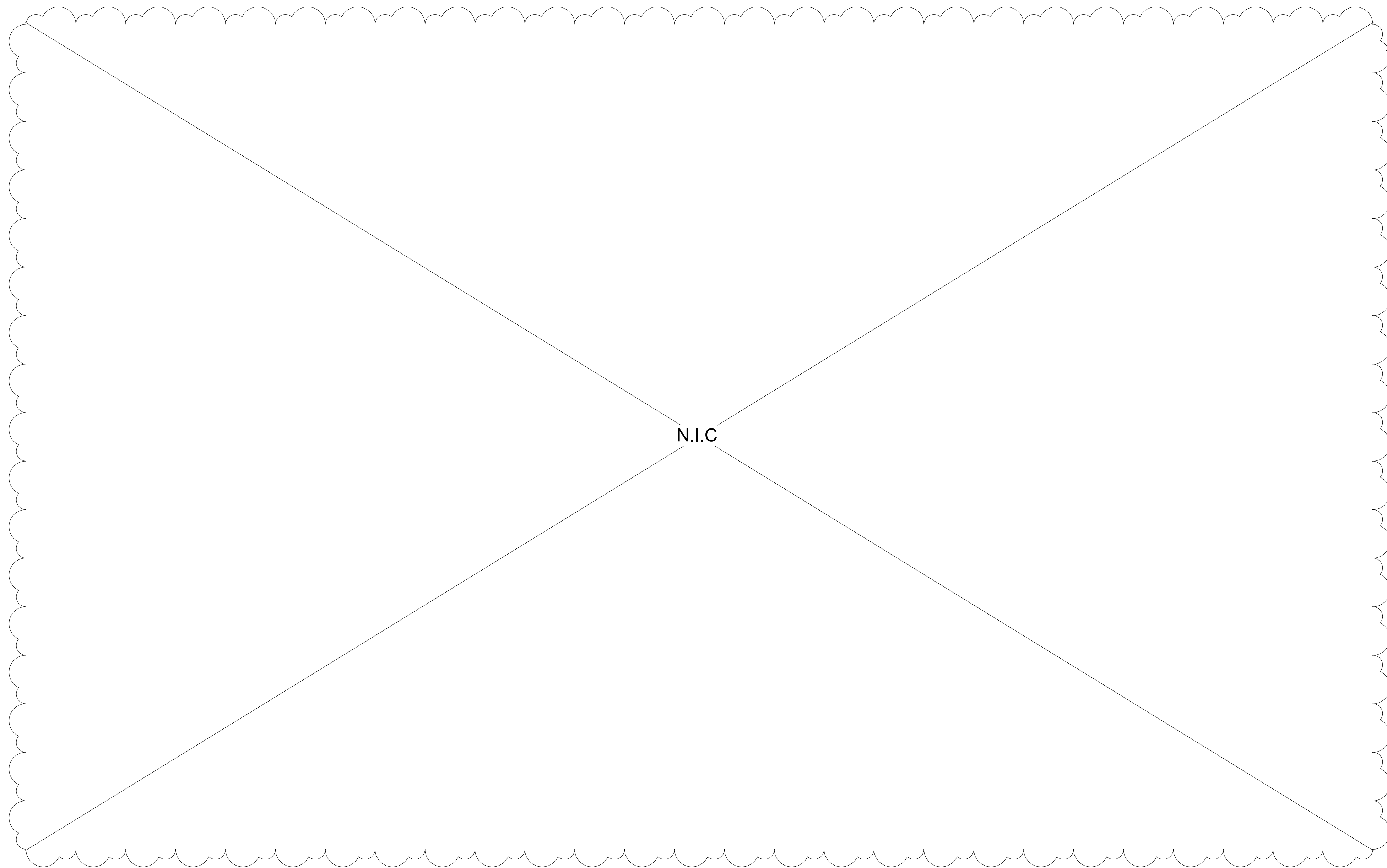
**BUILDING SECTIONS**

DATE:	DWG. NO.
MAY 26, 2023	<b>S502</b>

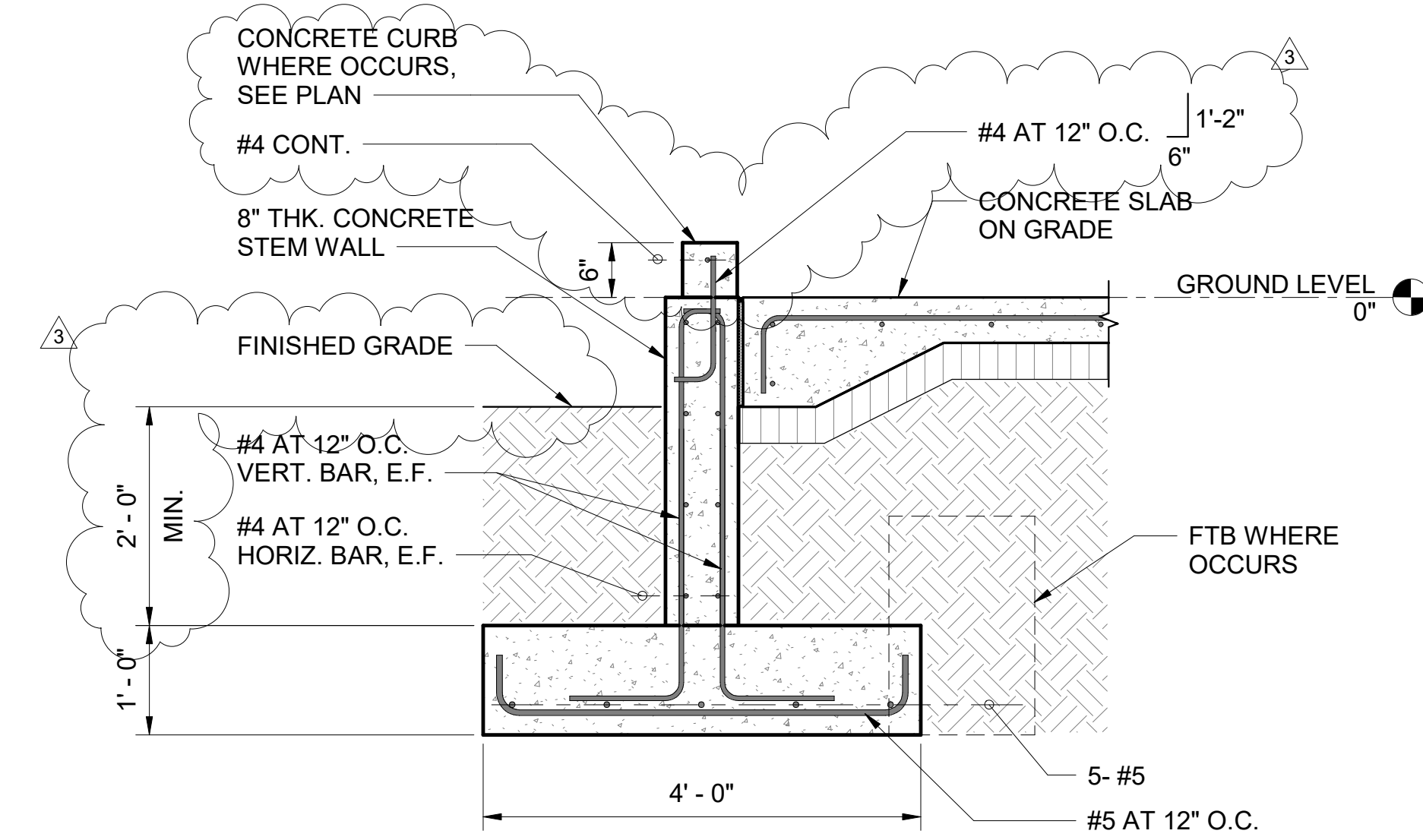
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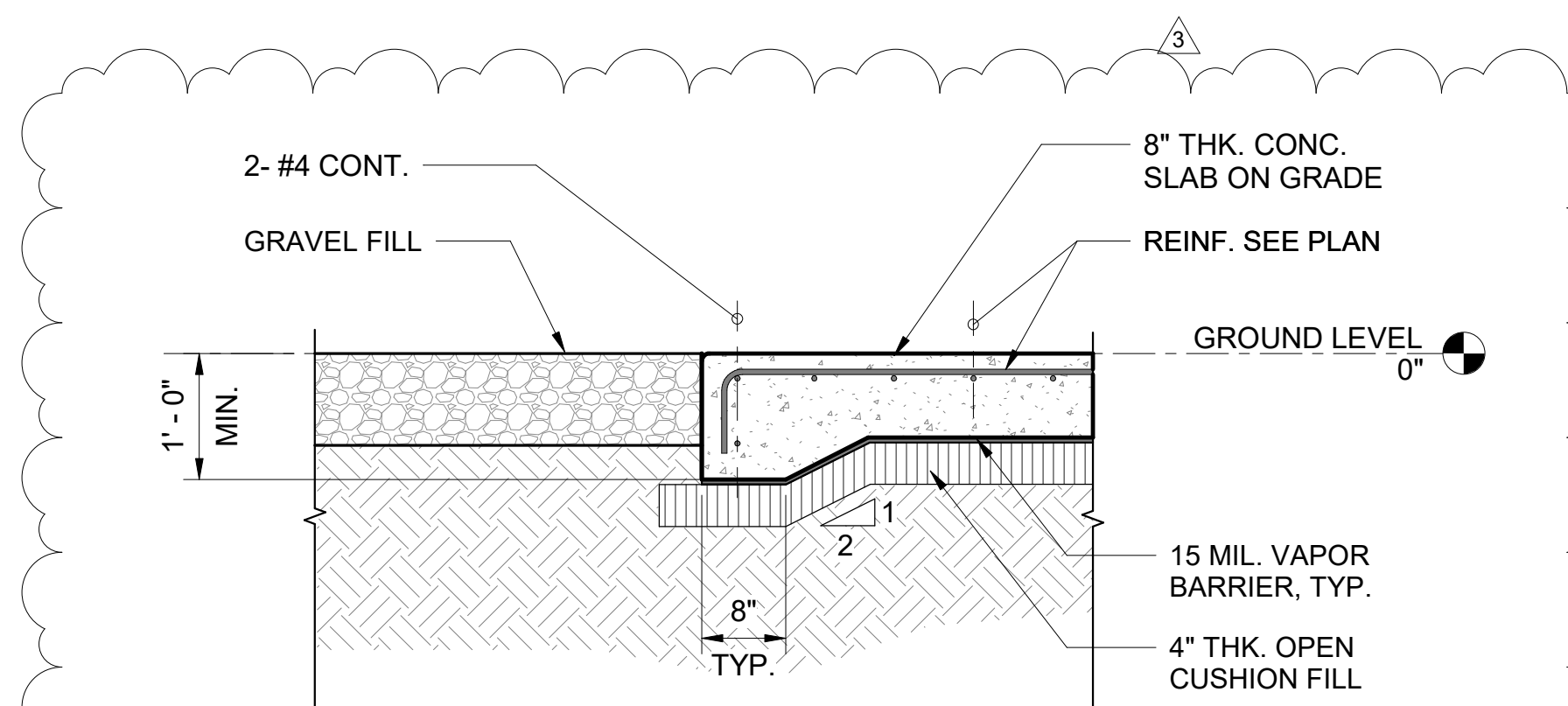




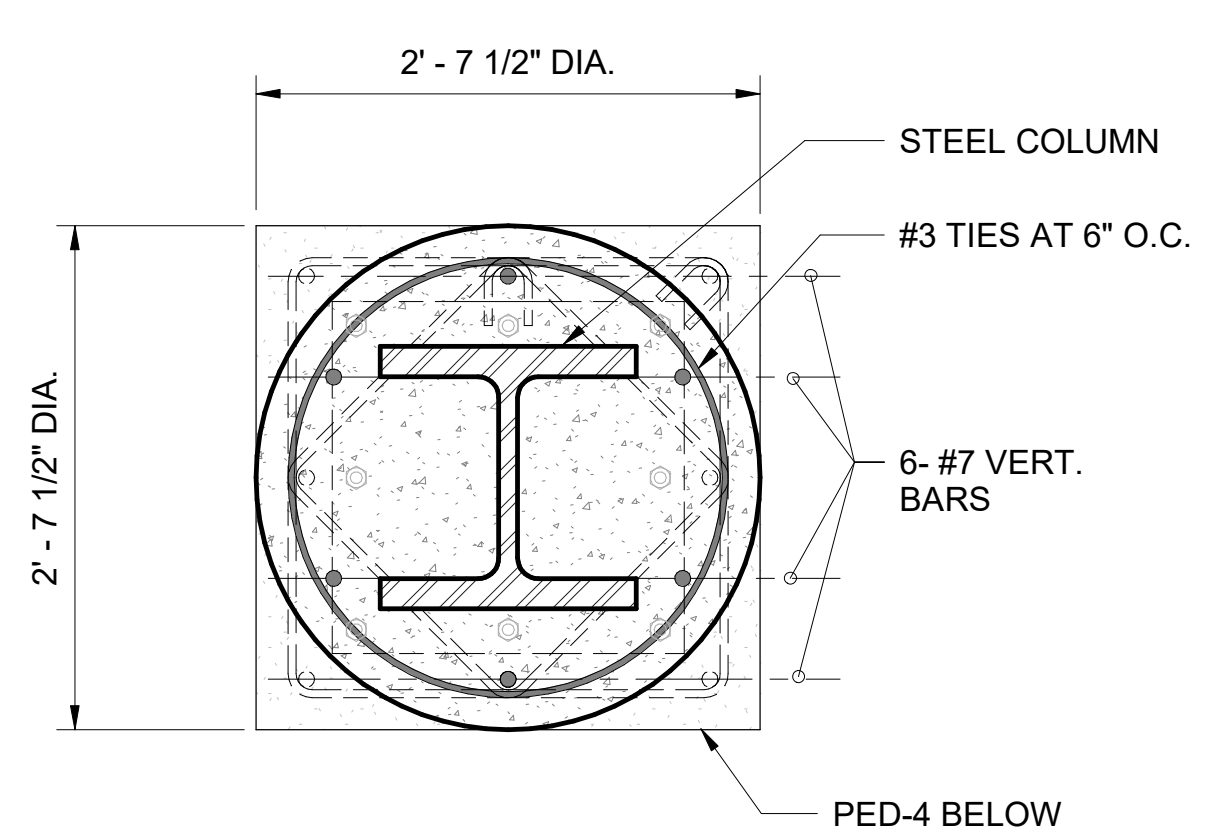
1 CMU FENCE WALL DETAIL  
3/4" = 1'-0"



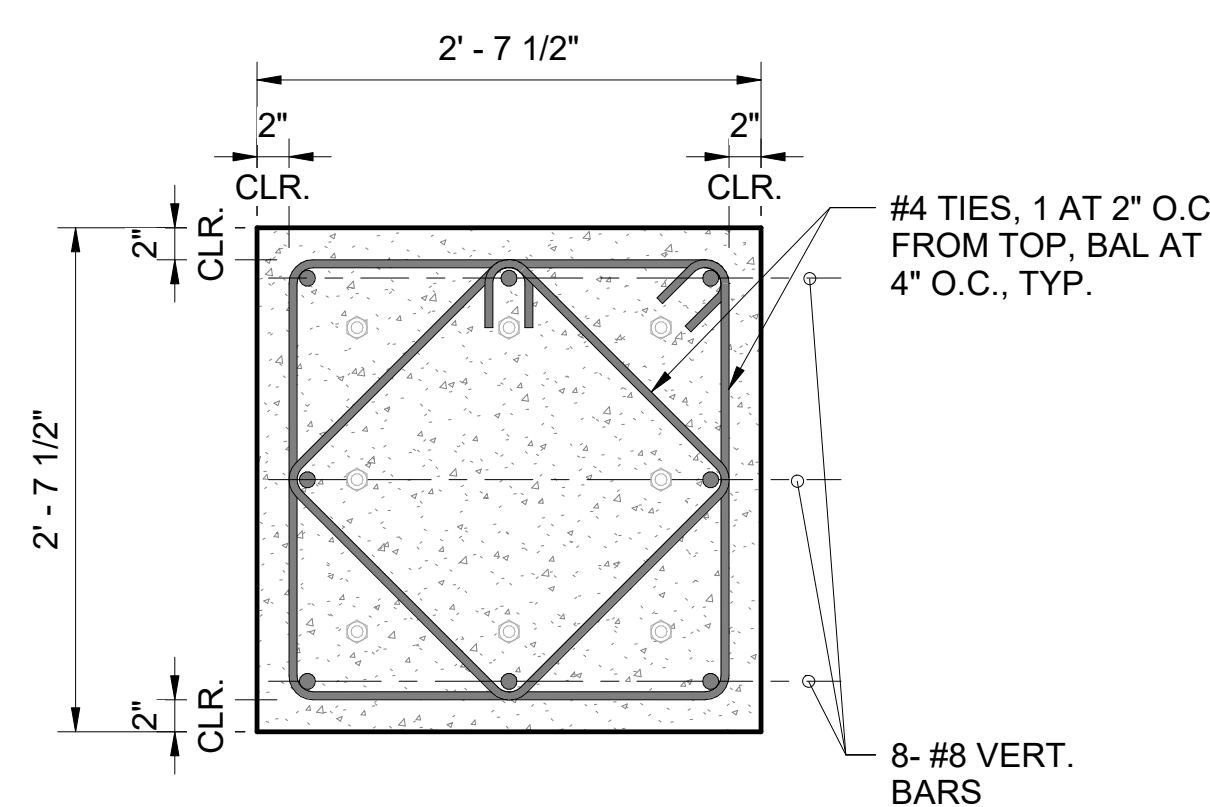
2 STEM WALL FOOTING DETAIL  
3/4" = 1'-0"



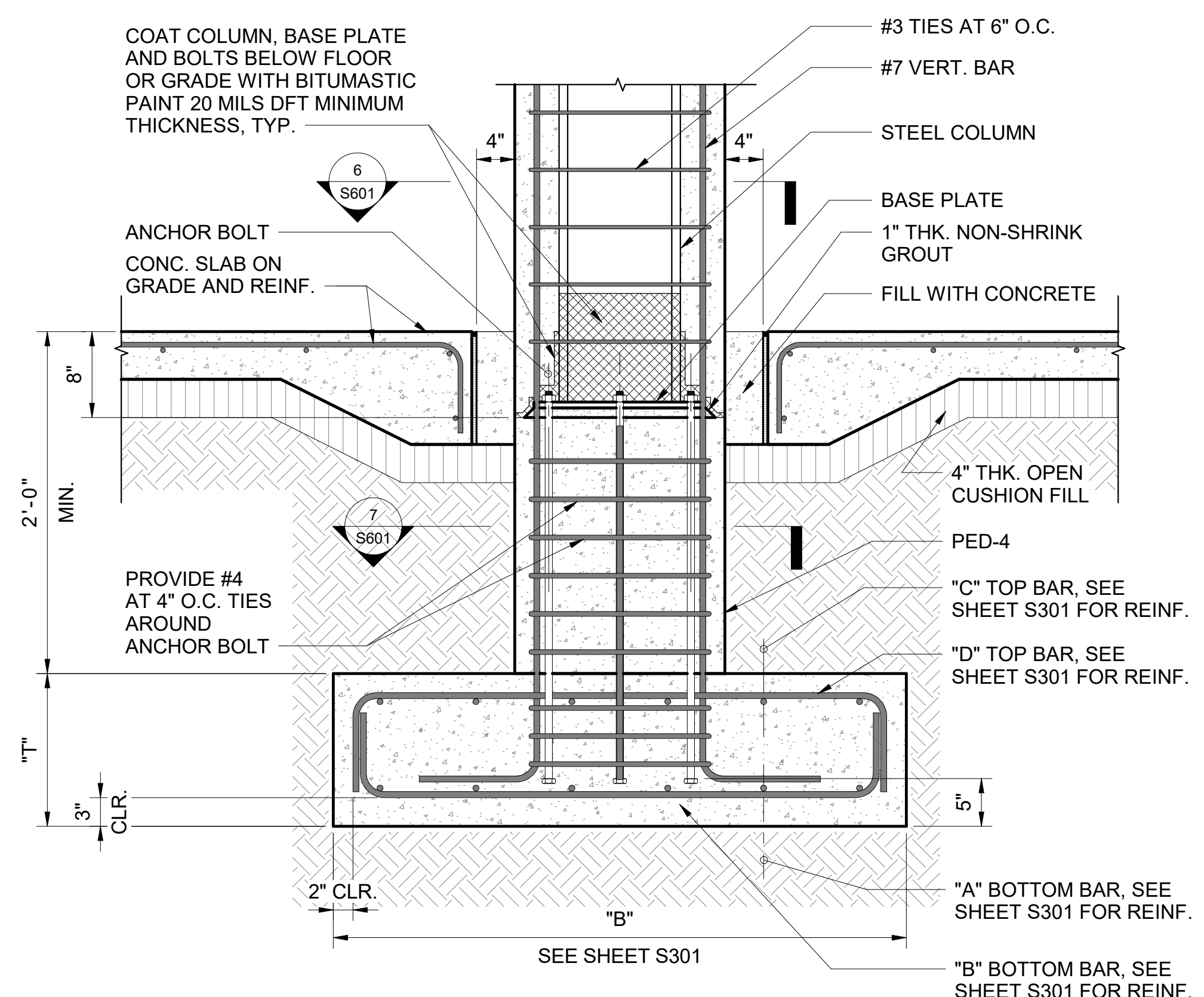
4 SECTION  
3/4" = 1'-0"



6 CONCRETE ENCASED STEEL COLUMN  
1" = 1'-0"



7 PED-4 DETAIL  
1" = 1'-0"



5 TYPICAL CONCRETE-ENCASED STEEL COLUMN DETAIL  
1" = 1'-0"

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KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

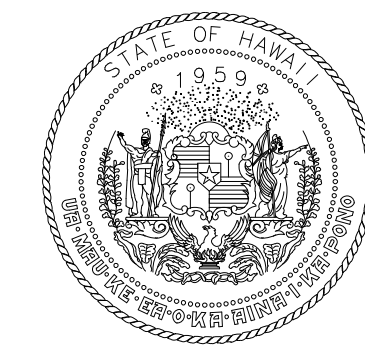
AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:  
**AM1095-10**

SHEET TITLE:

**SECTIONS AND DETAILS**





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Y. Wong*  
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License Expiration Date: 04/30/2024

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MS	LC	KW	

KEY PLAN / NOTES:

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**SECTIONS AND DETAILS**

DATE:

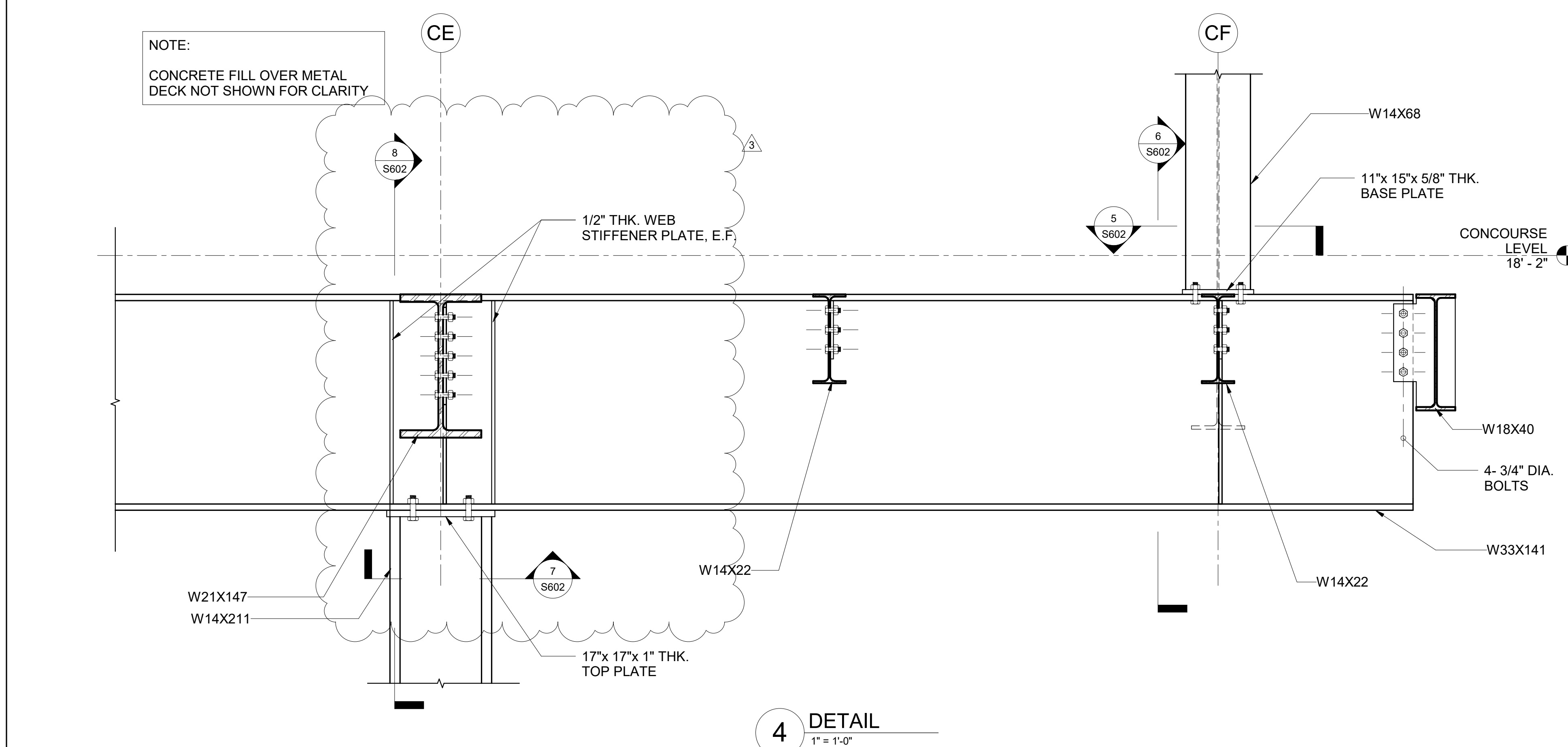
MAY 26, 2023

SHEET:

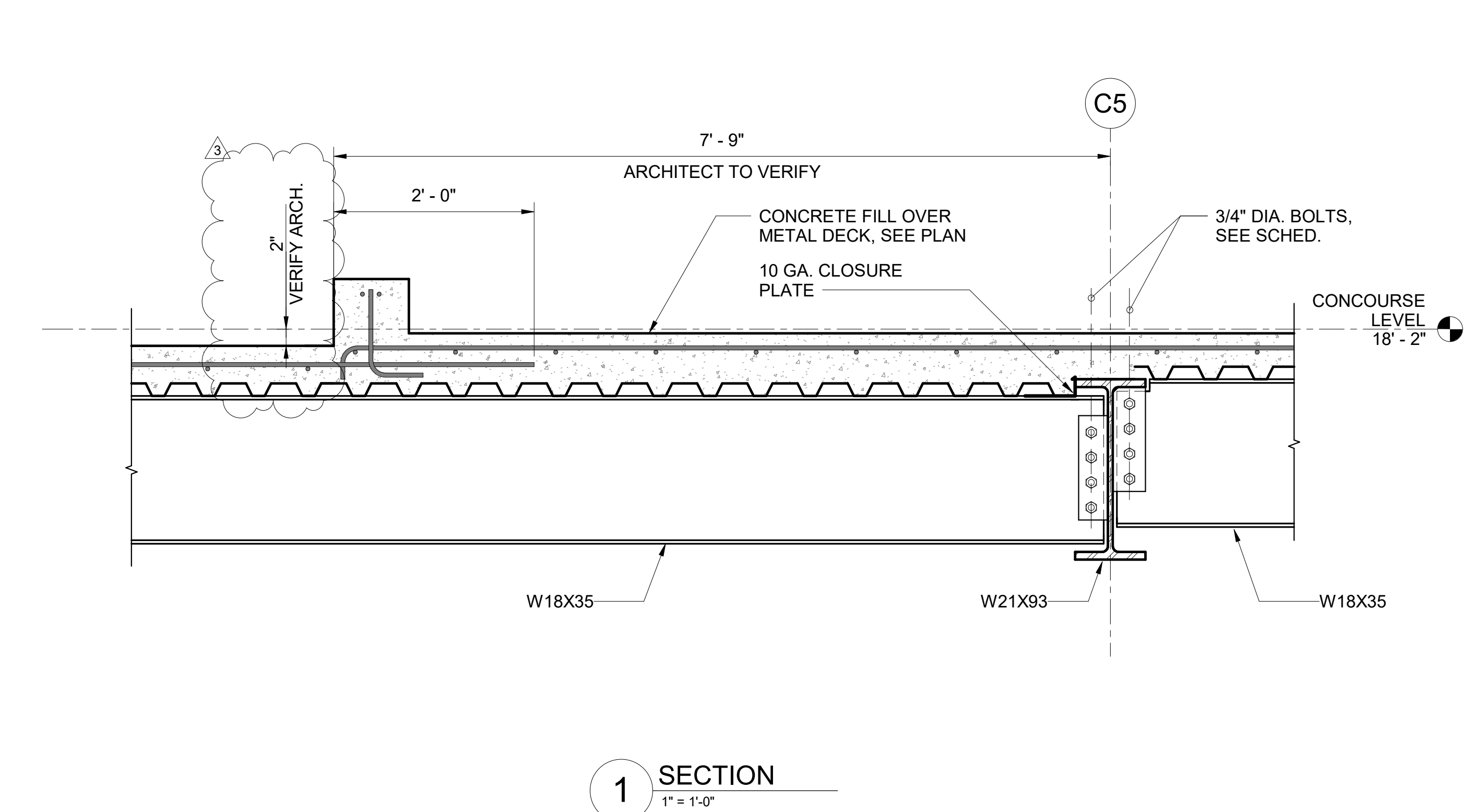
171 OF 333 SHEETS

DWG. NO.

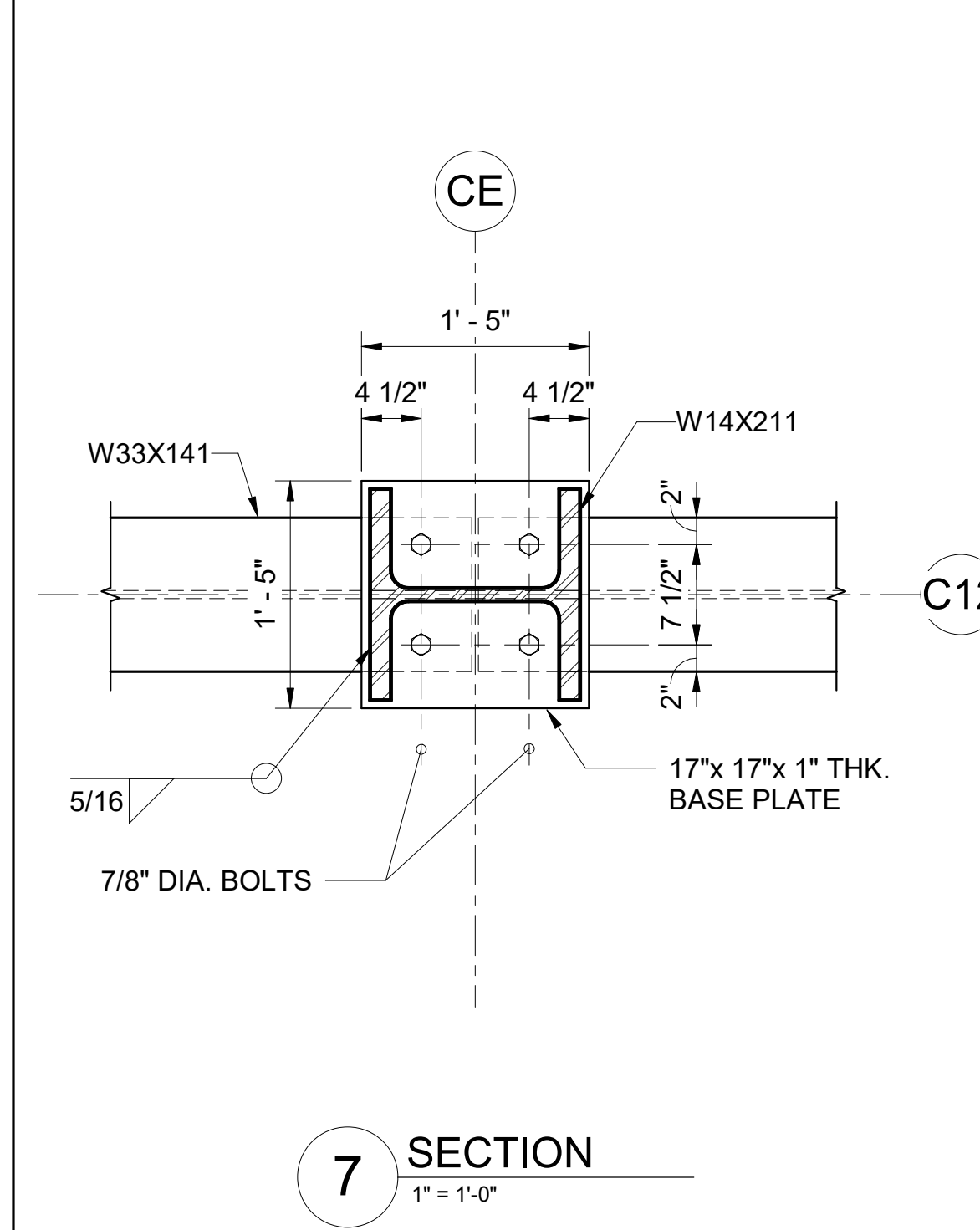
**S602**



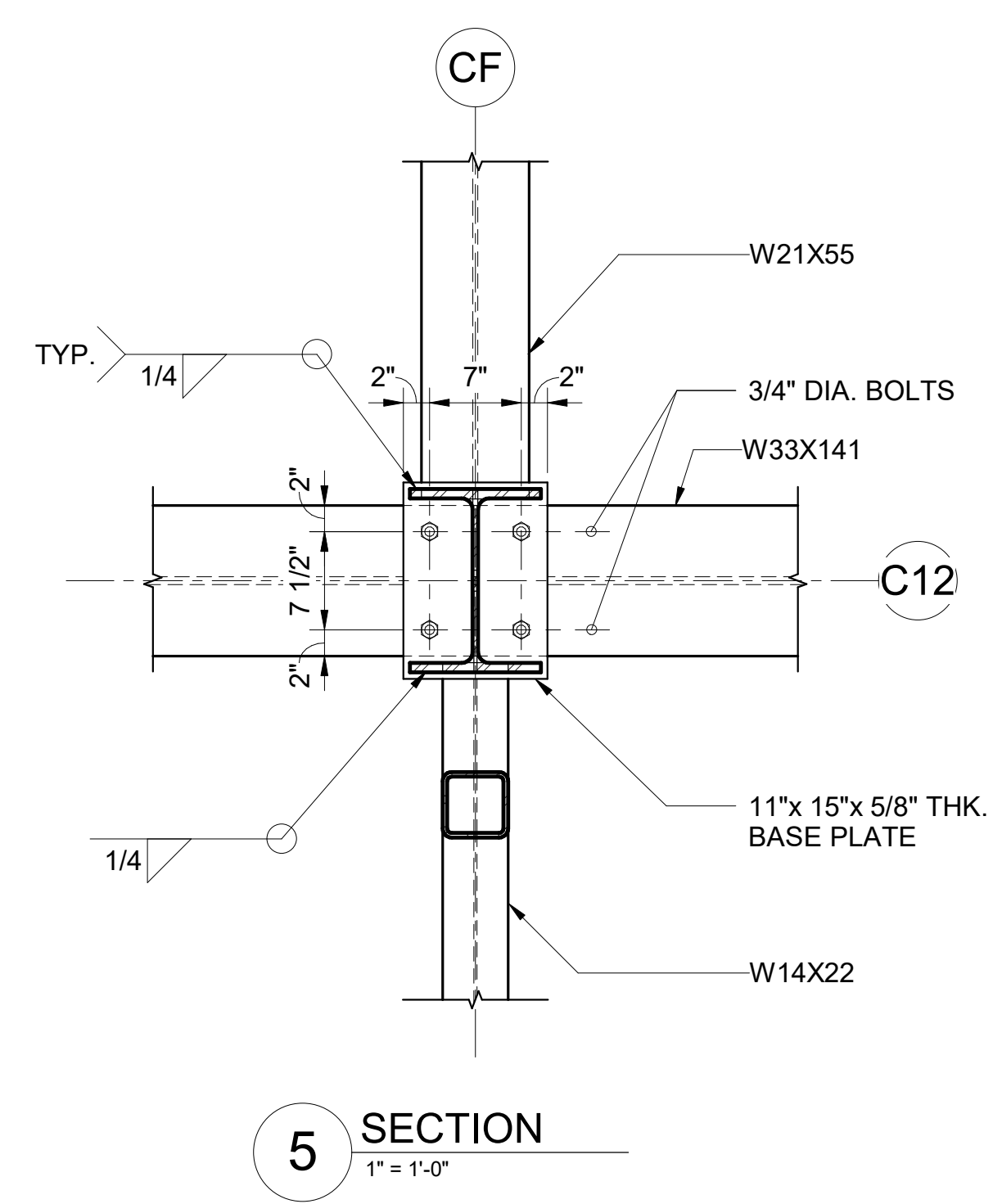
**4** DETAIL  
1" = 1'-0"



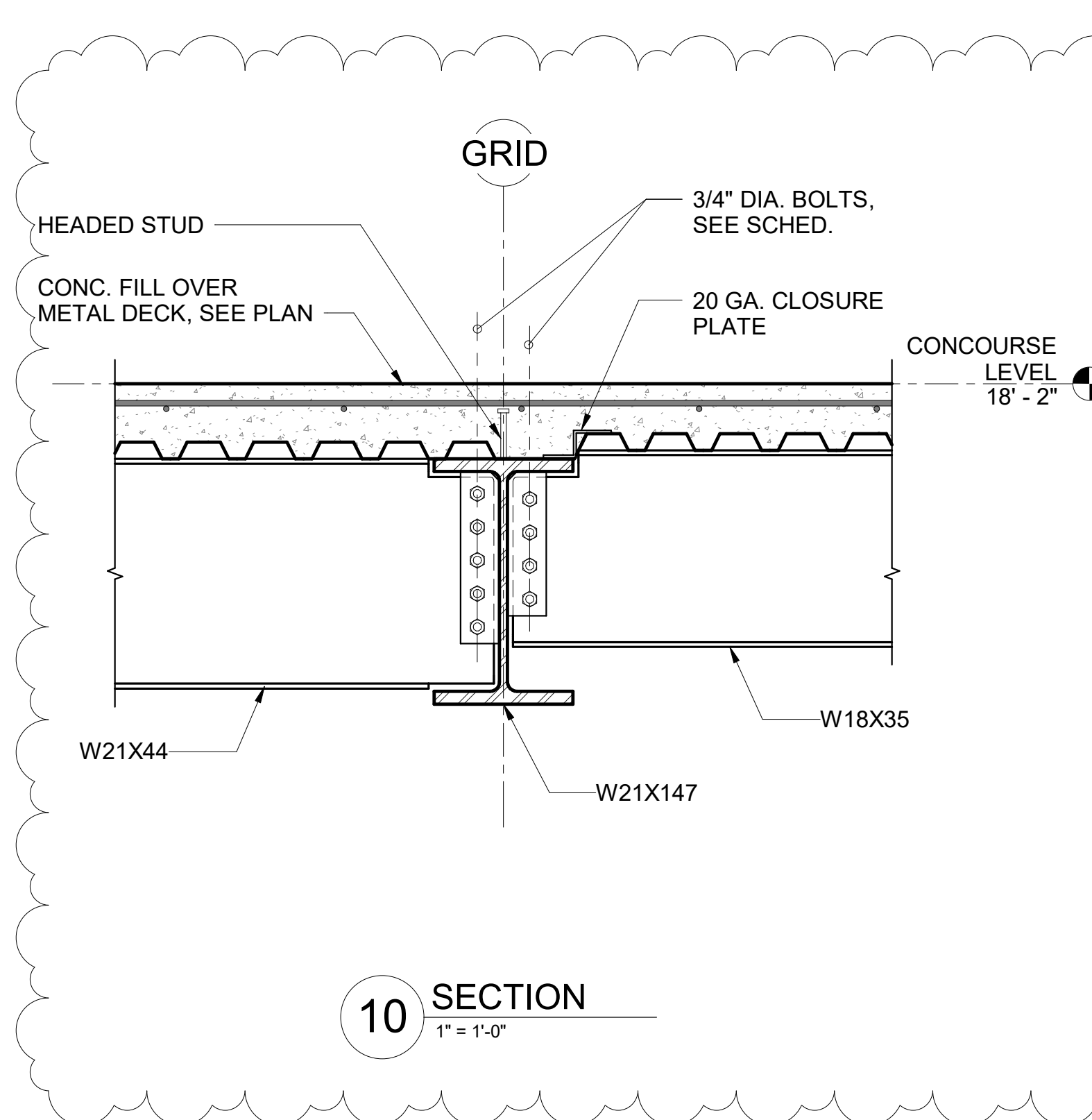
**1** SECTION  
1" = 1'-0"



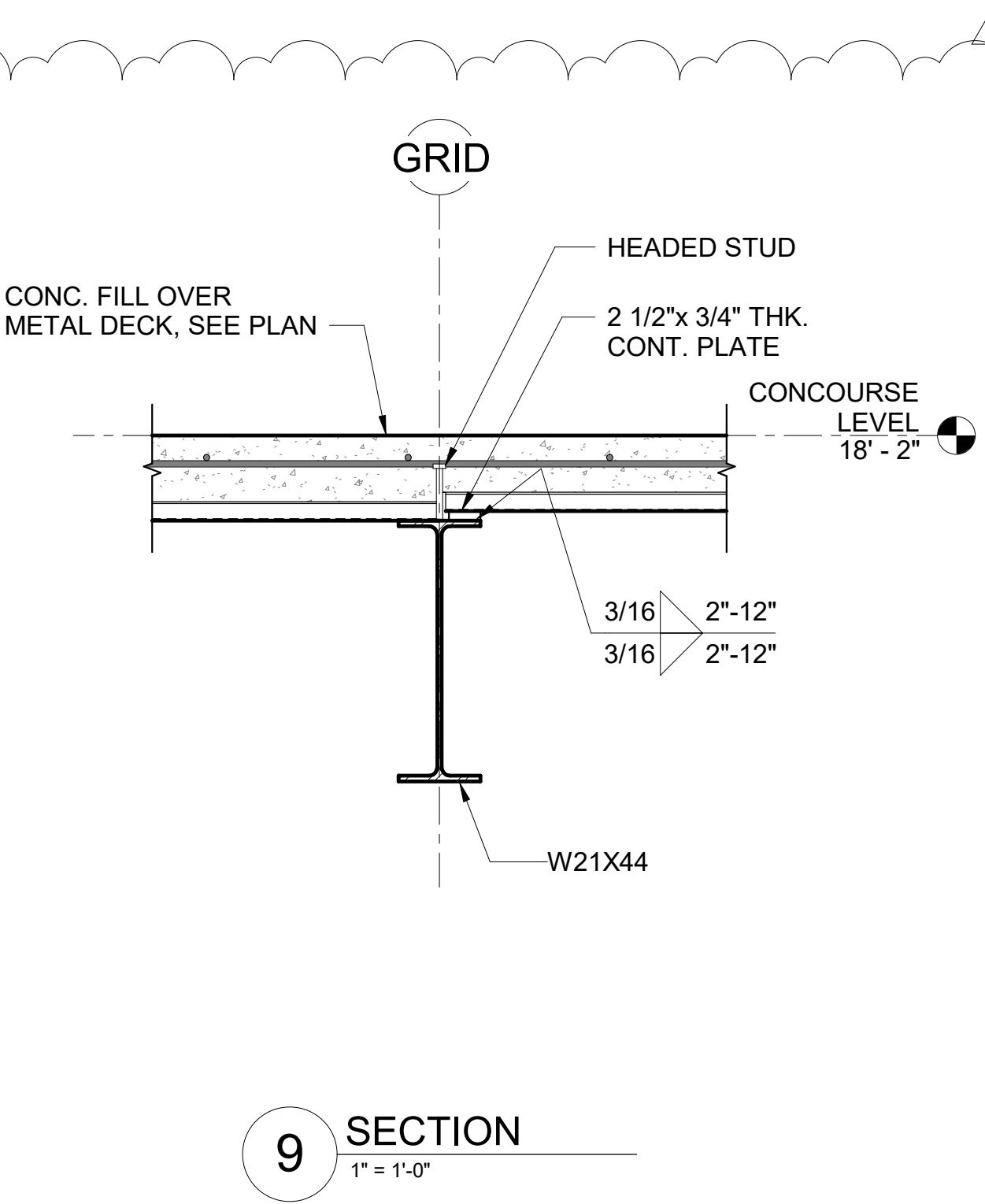
**7** SECTION  
1" = 1'-0"



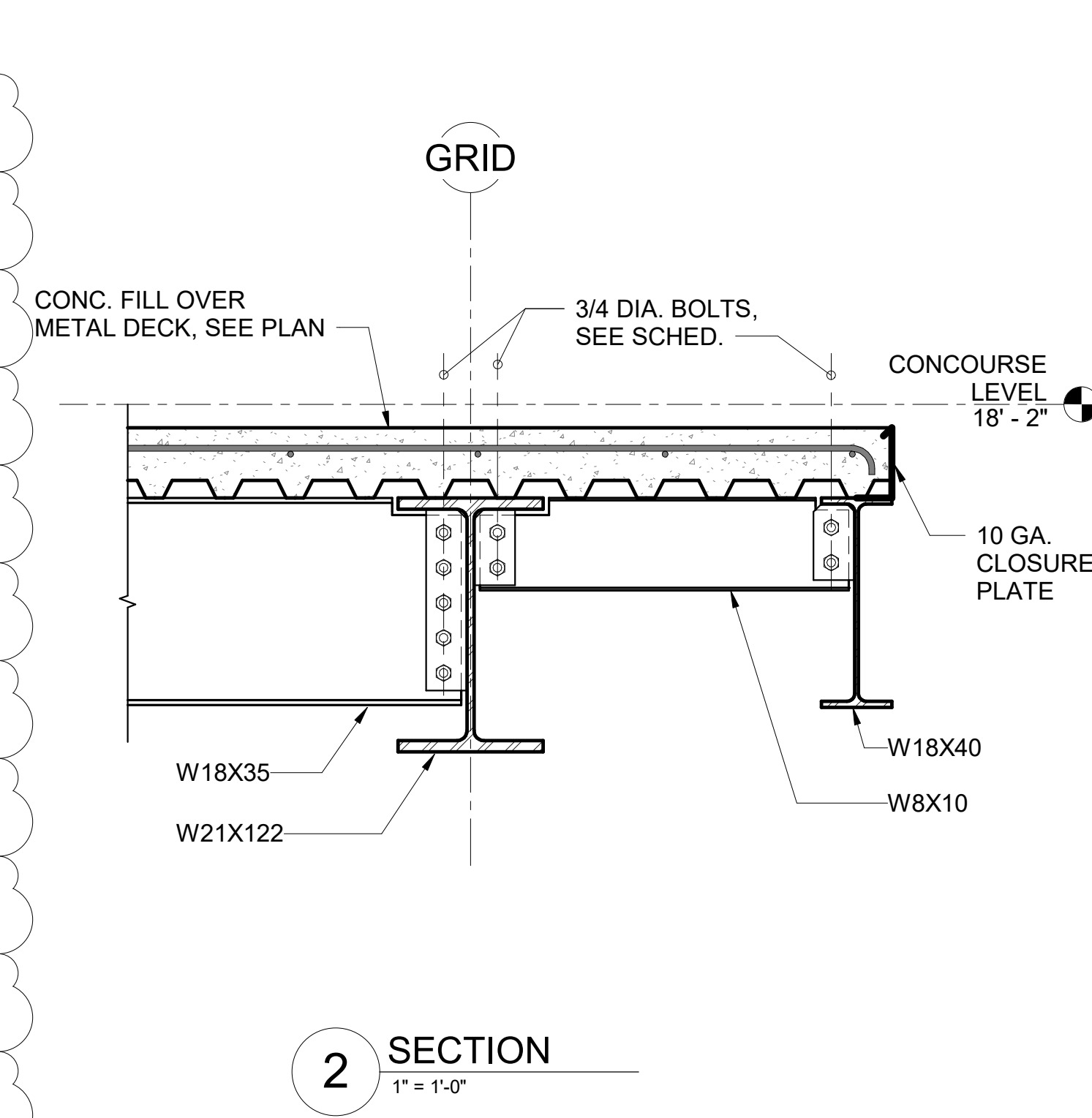
**5** SECTION  
1" = 1'-0"



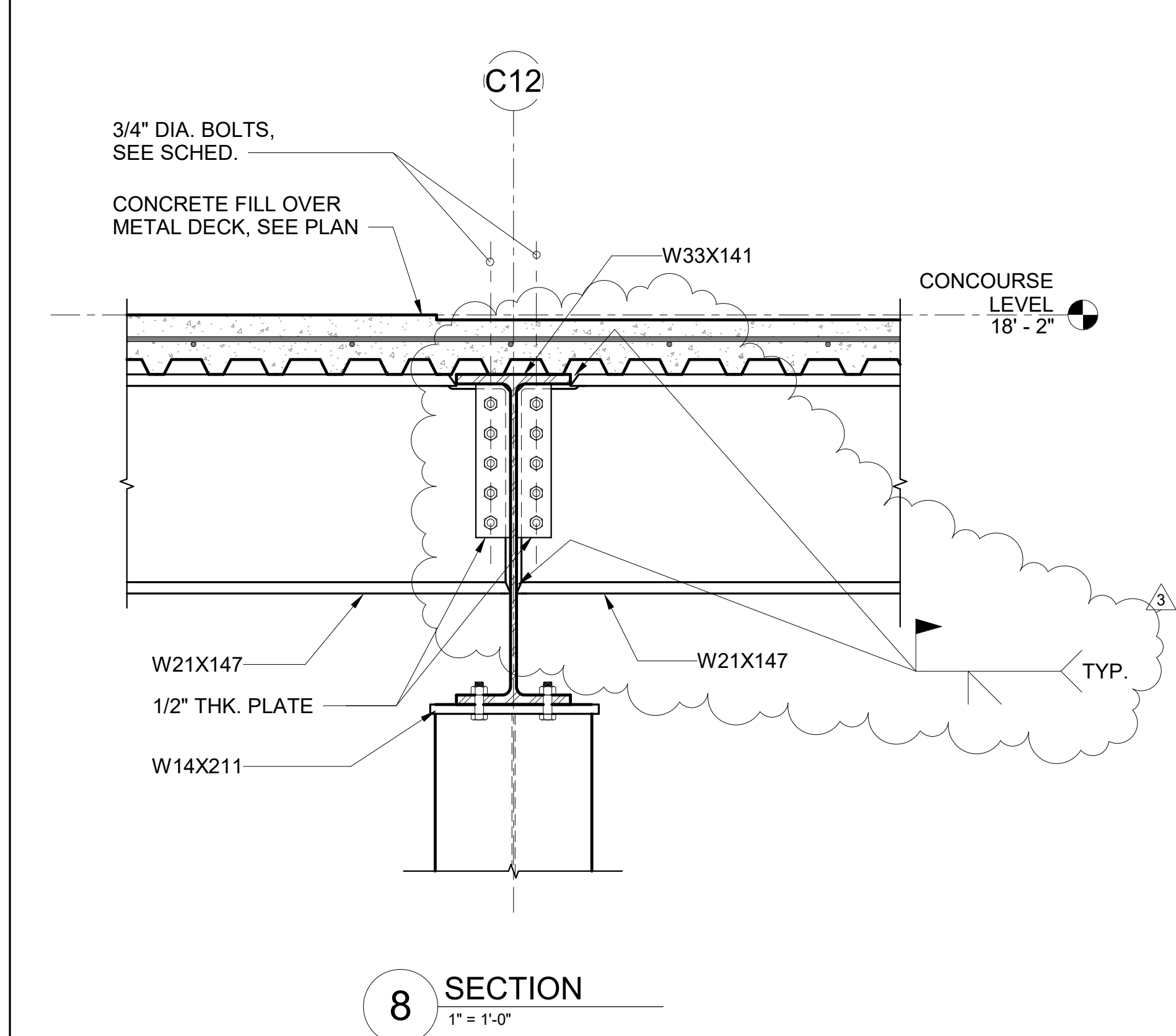
**10** SECTION  
1" = 1'-0"



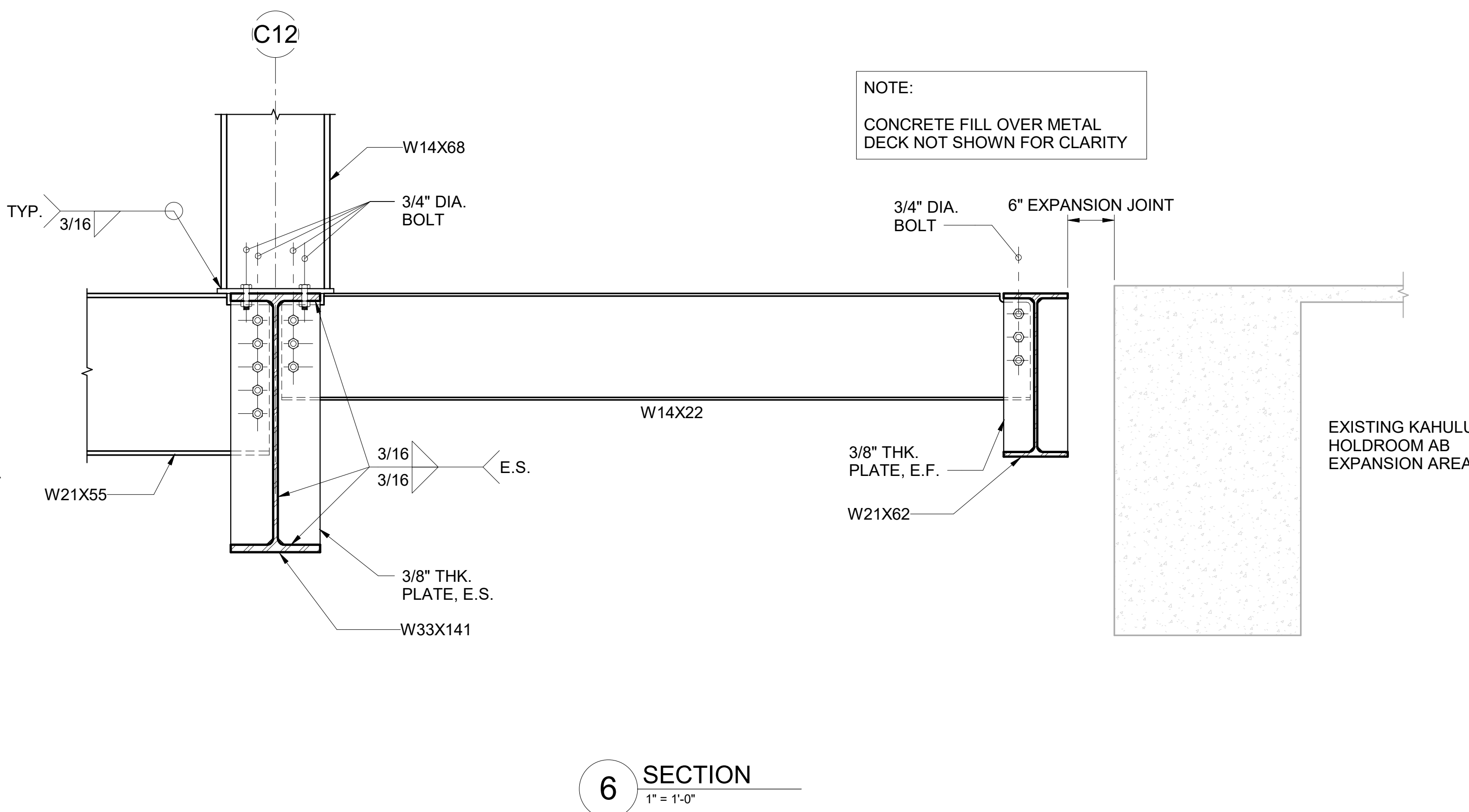
**9** SECTION  
1" = 1'-0"



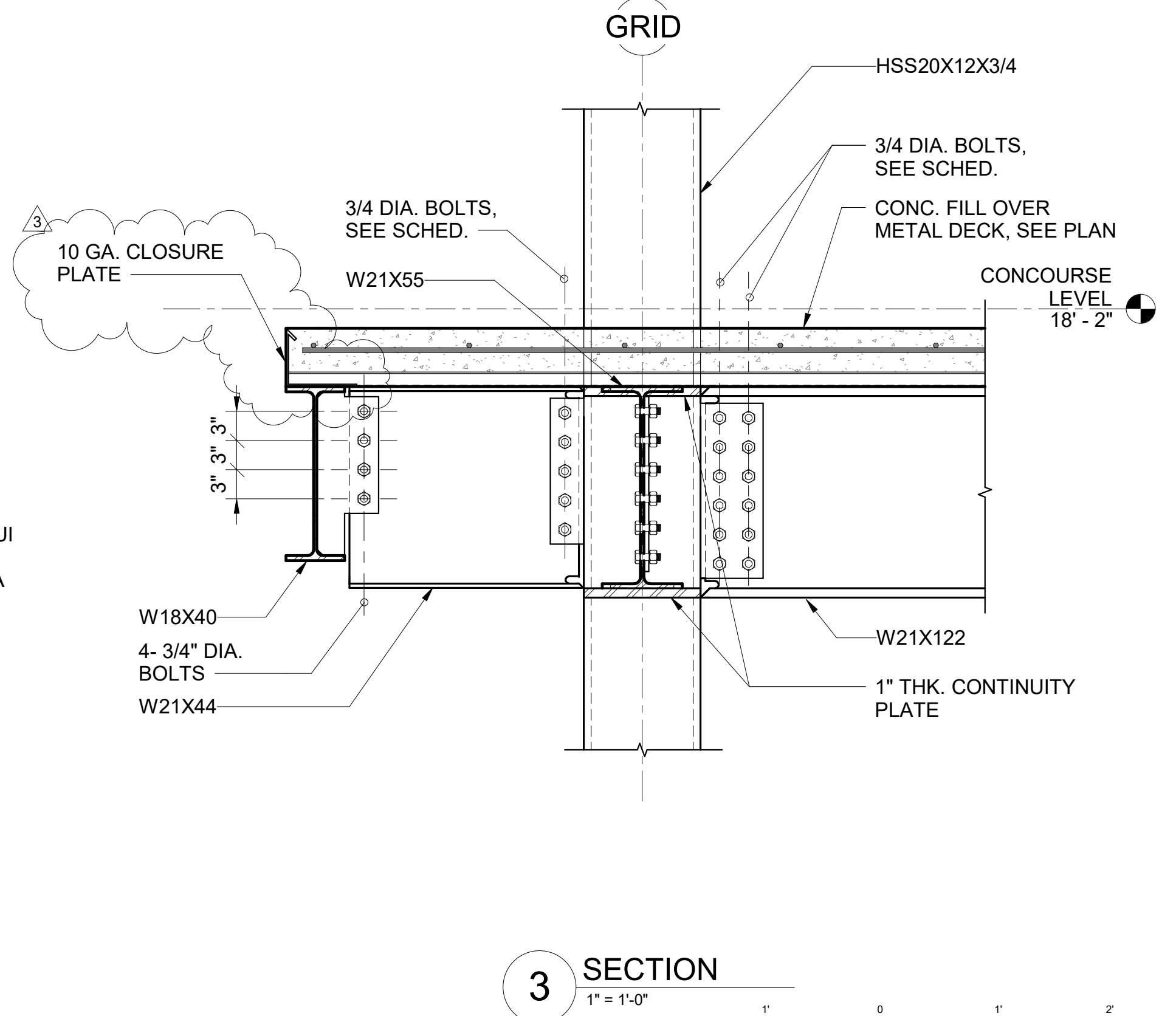
**2** SECTION  
1" = 1'-0"



**8** SECTION  
1" = 1'-0"

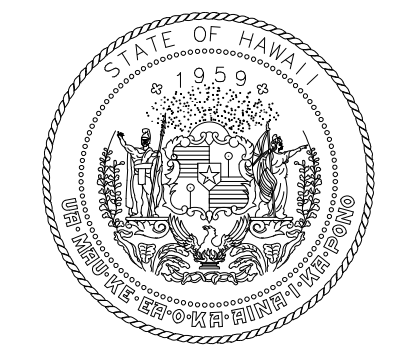


**6** SECTION  
1" = 1'-0"

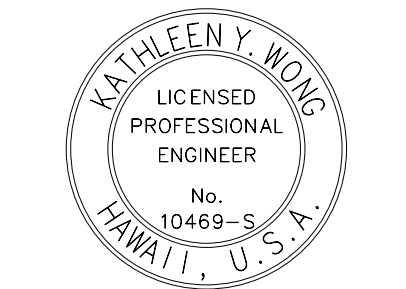


**3** SECTION  
1" = 1'-0"

8/30/2023 10:13:46 PM



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Y. Wong*  
LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
04/30/2024  
License Expiration Date

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MS	LC	KW	

KEY PLAN / NOTES:

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**SECTIONS AND DETAILS**

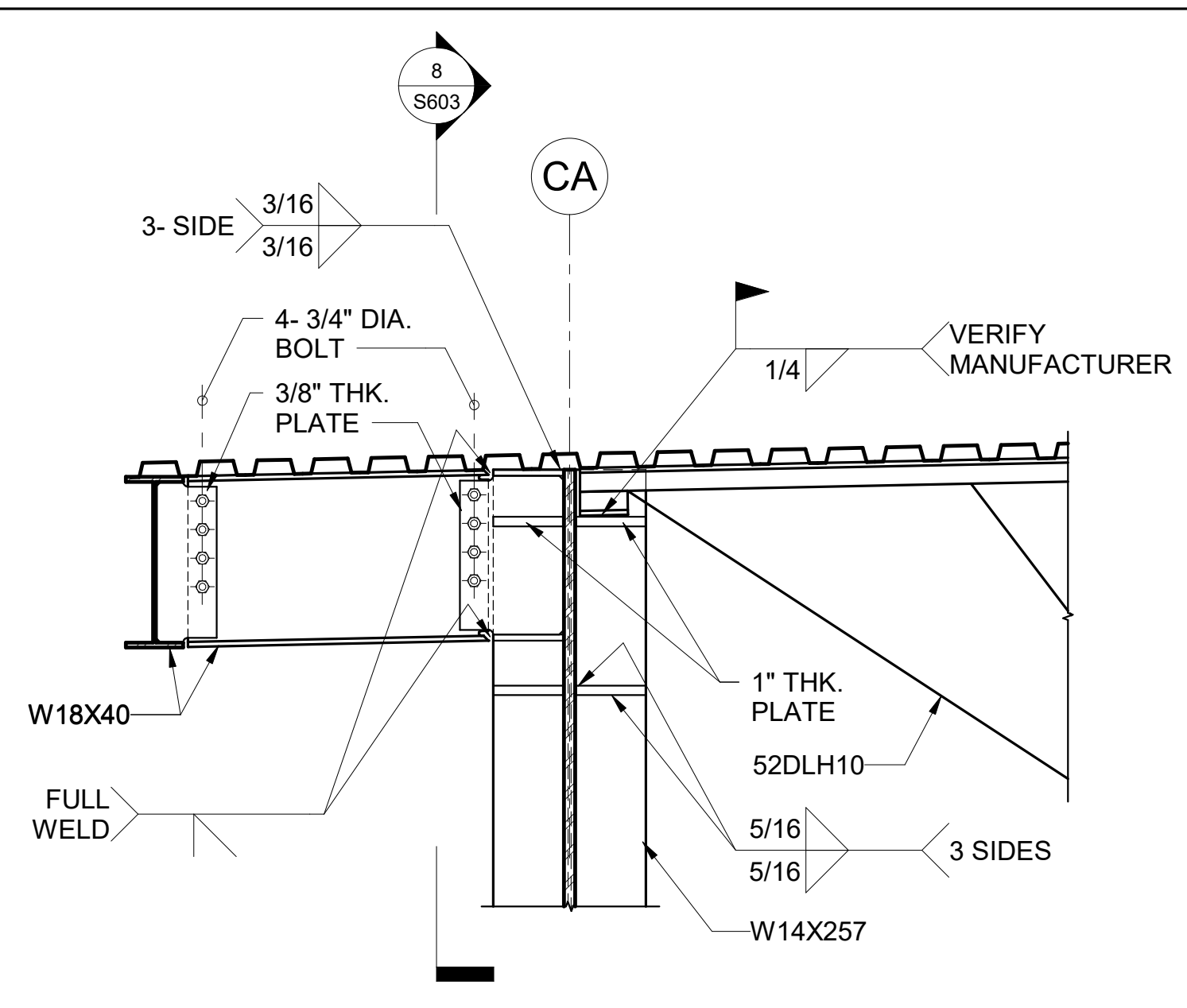
DATE:  
**MAY 26, 2023**

SHEET:

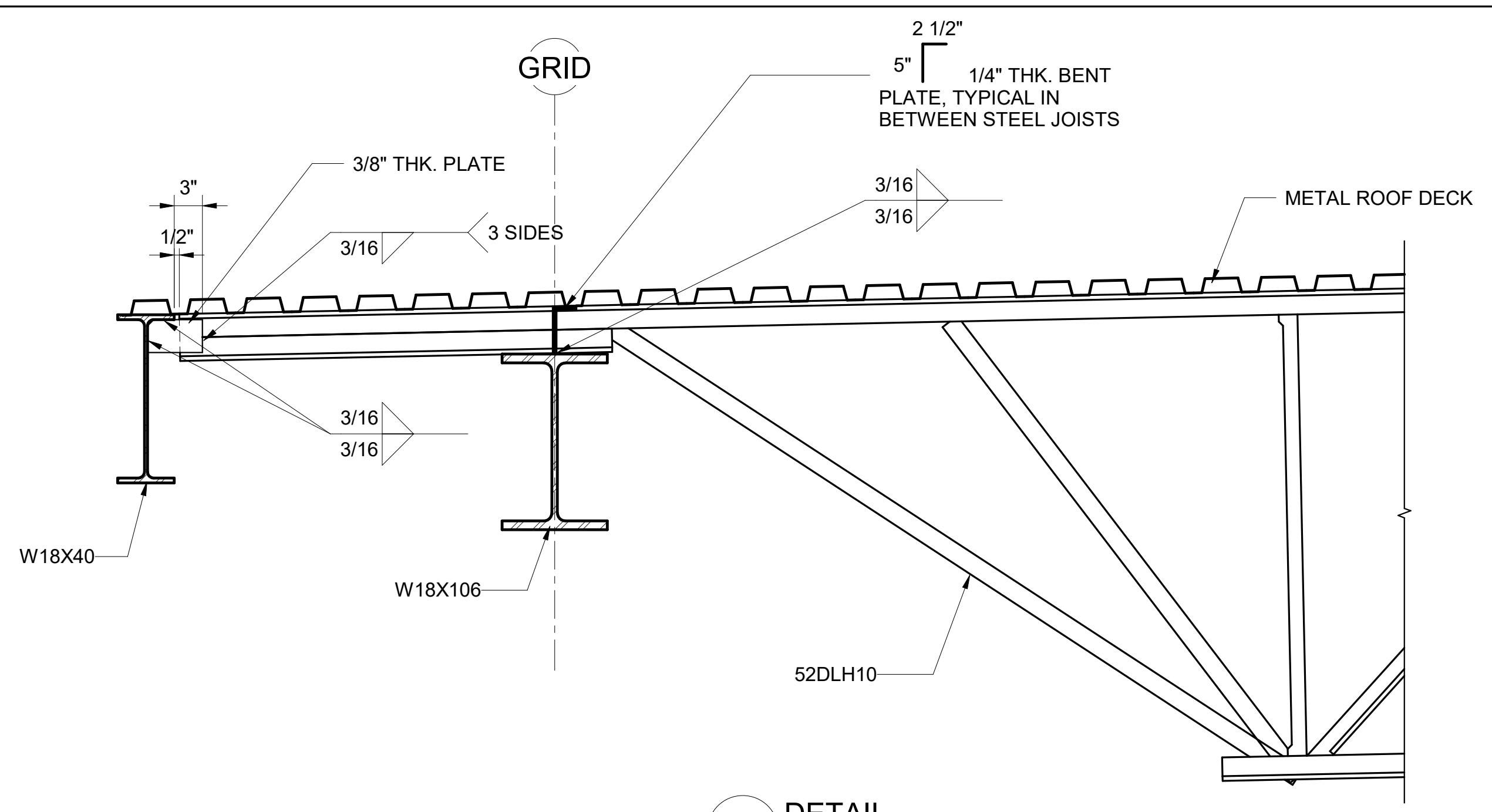
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DWG. NO.

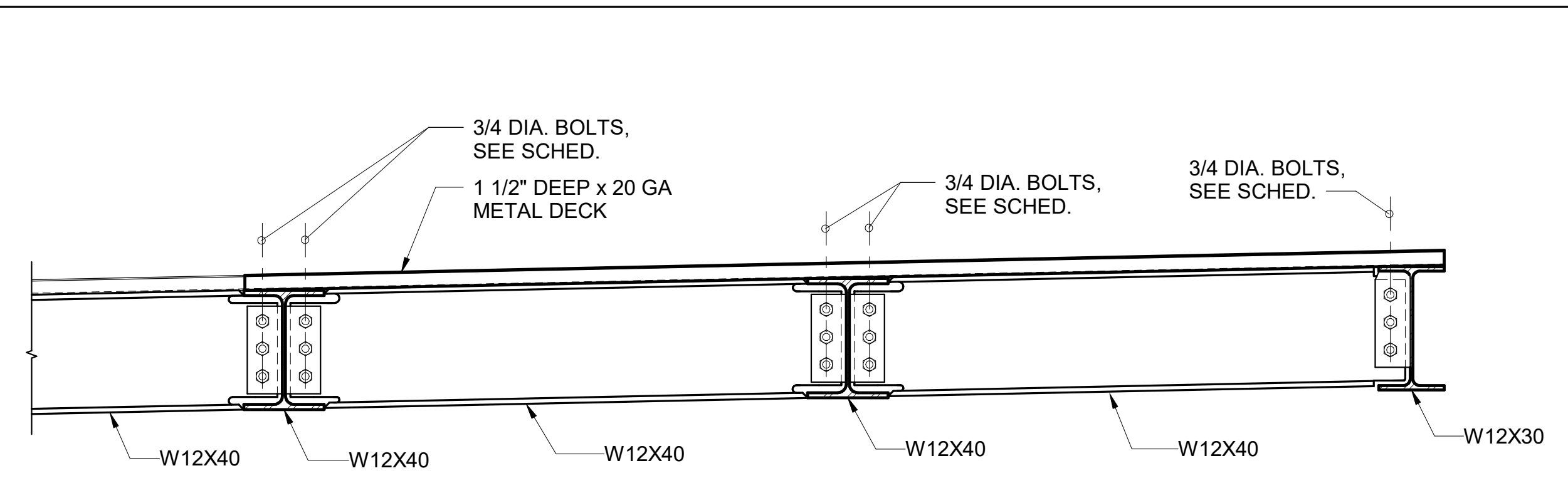
**S603**



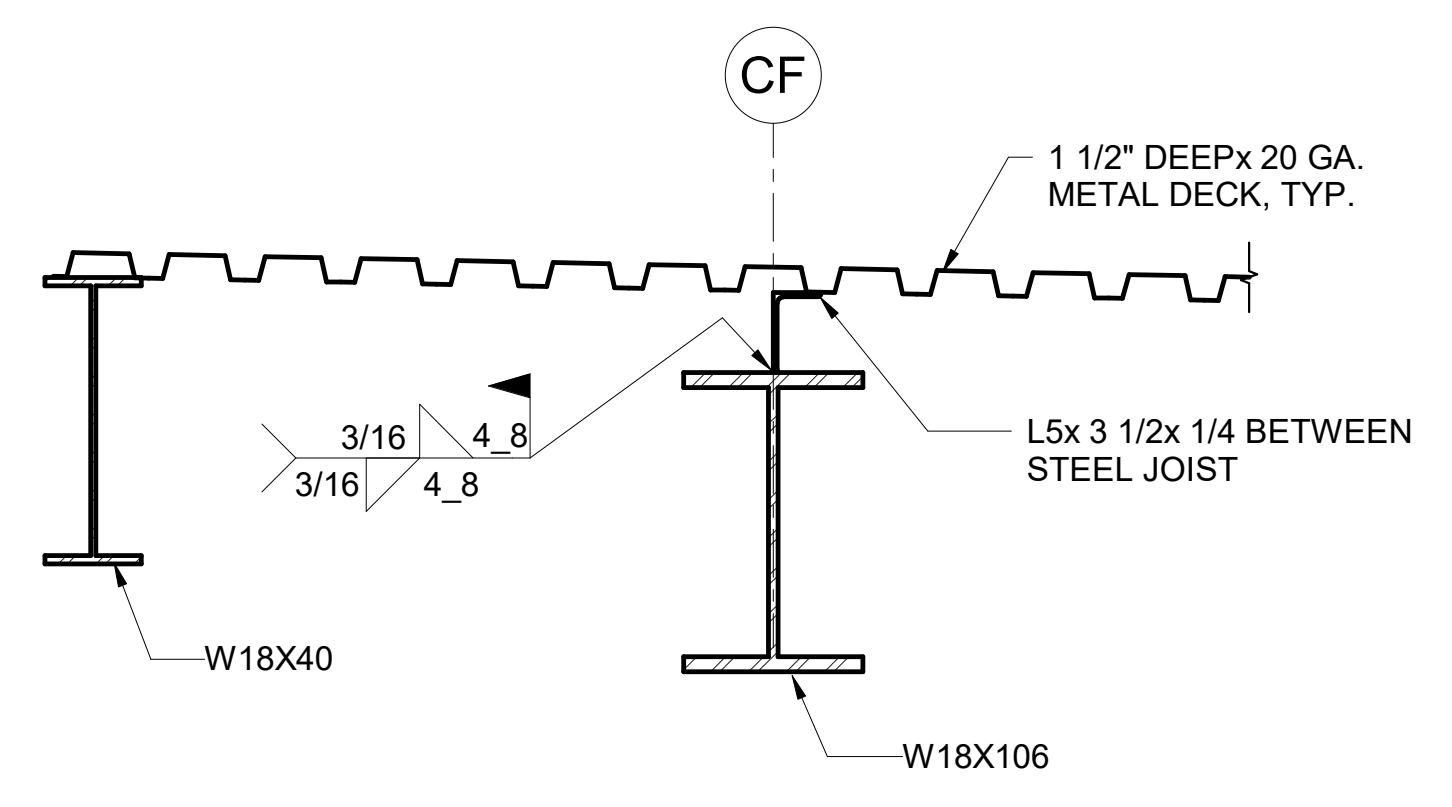
**9 SECTION**  
S603 SCALE: 3/4" = 1'-0"



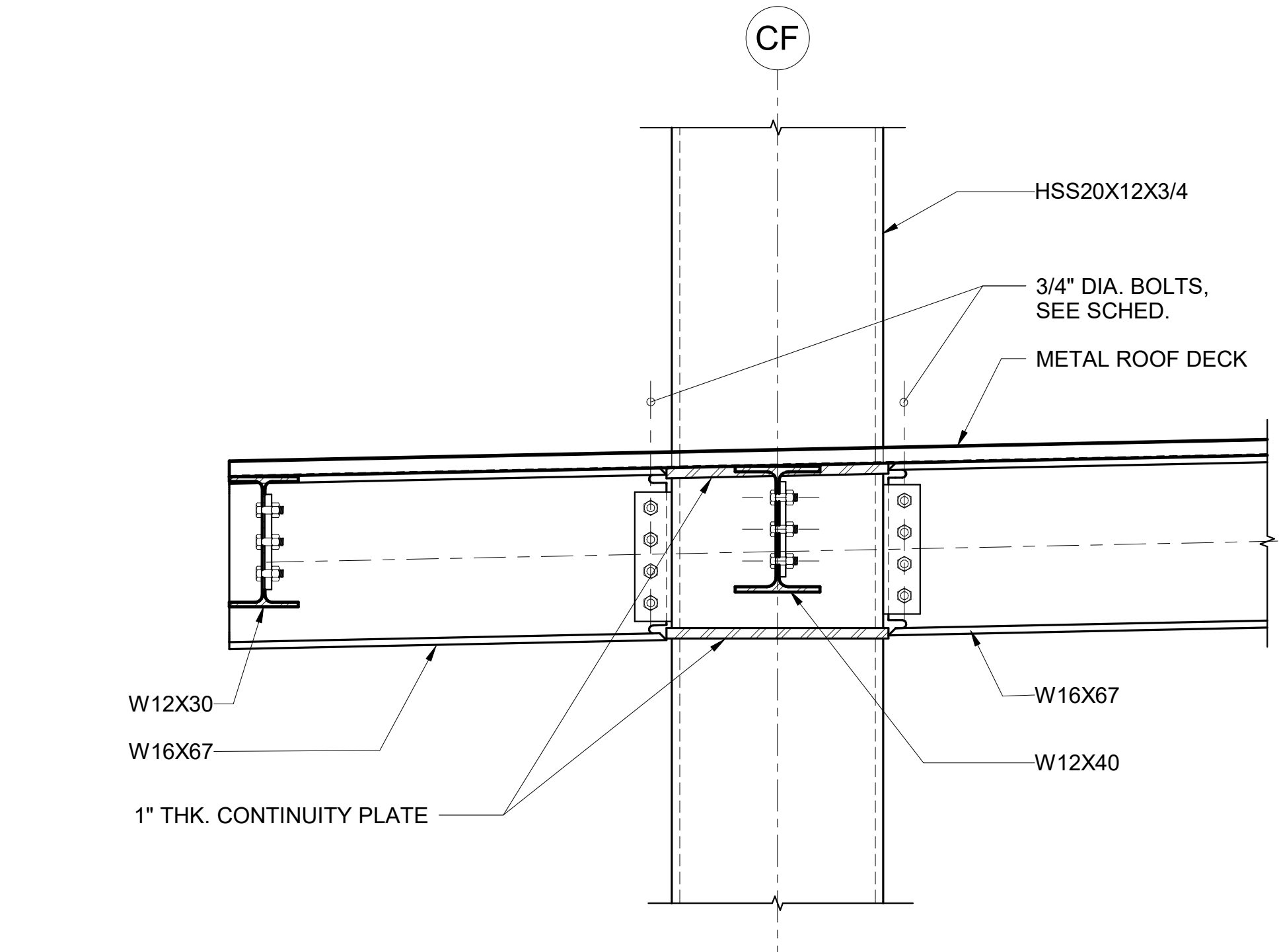
**5 DETAIL**  
1" = 1'-0"



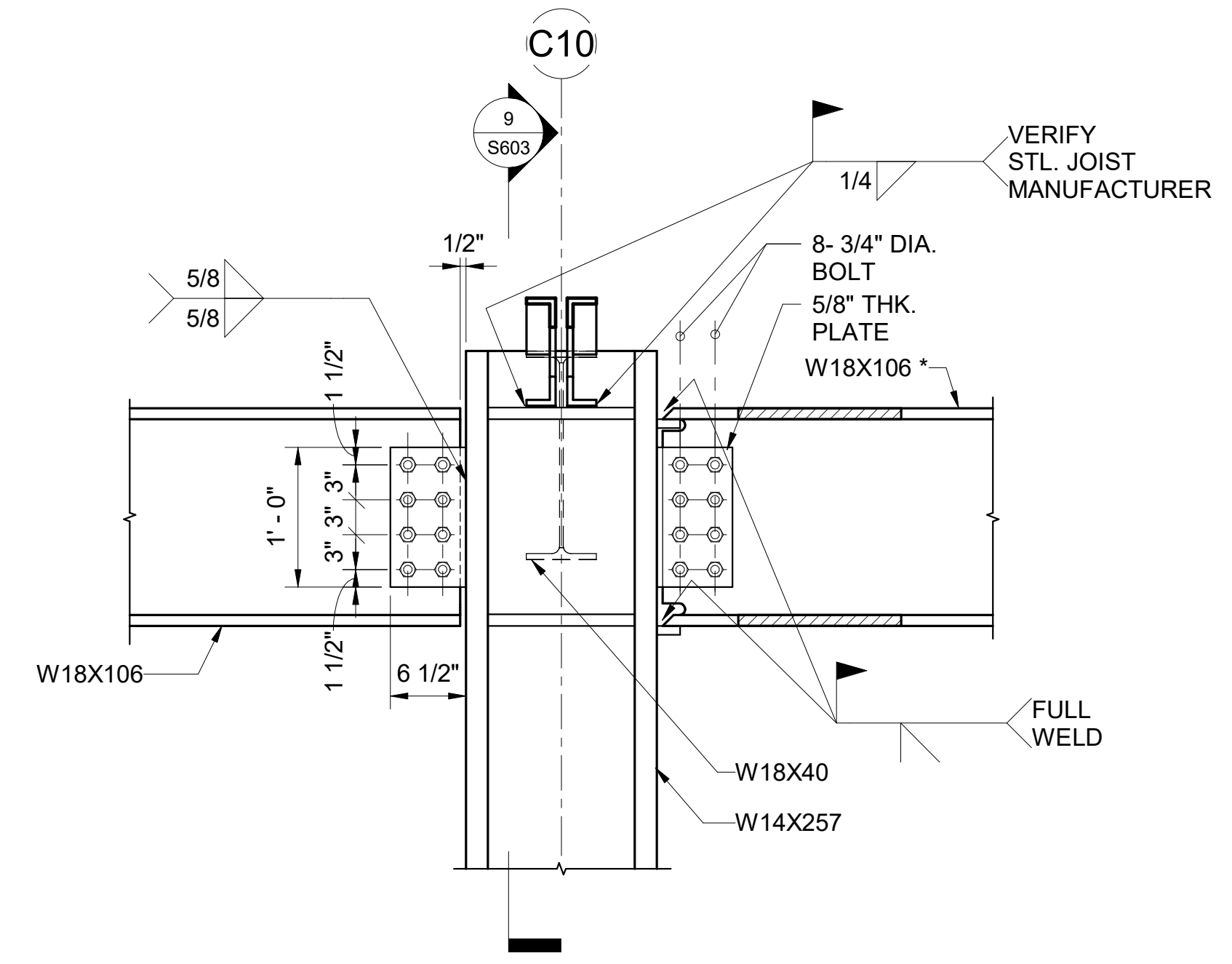
**1 SECTION**  
1" = 1'-0"



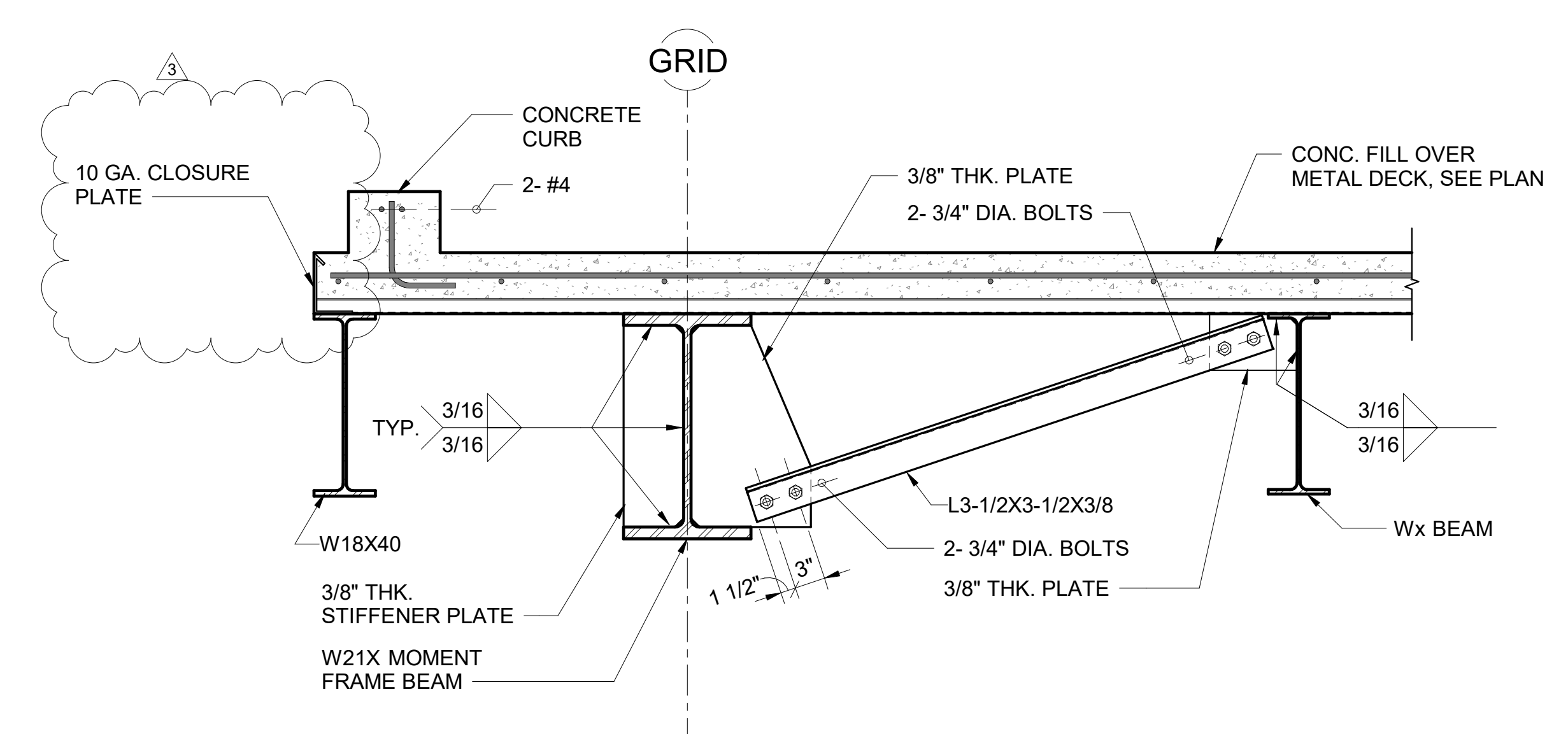
**6 SECTION**  
1" = 1'-0"



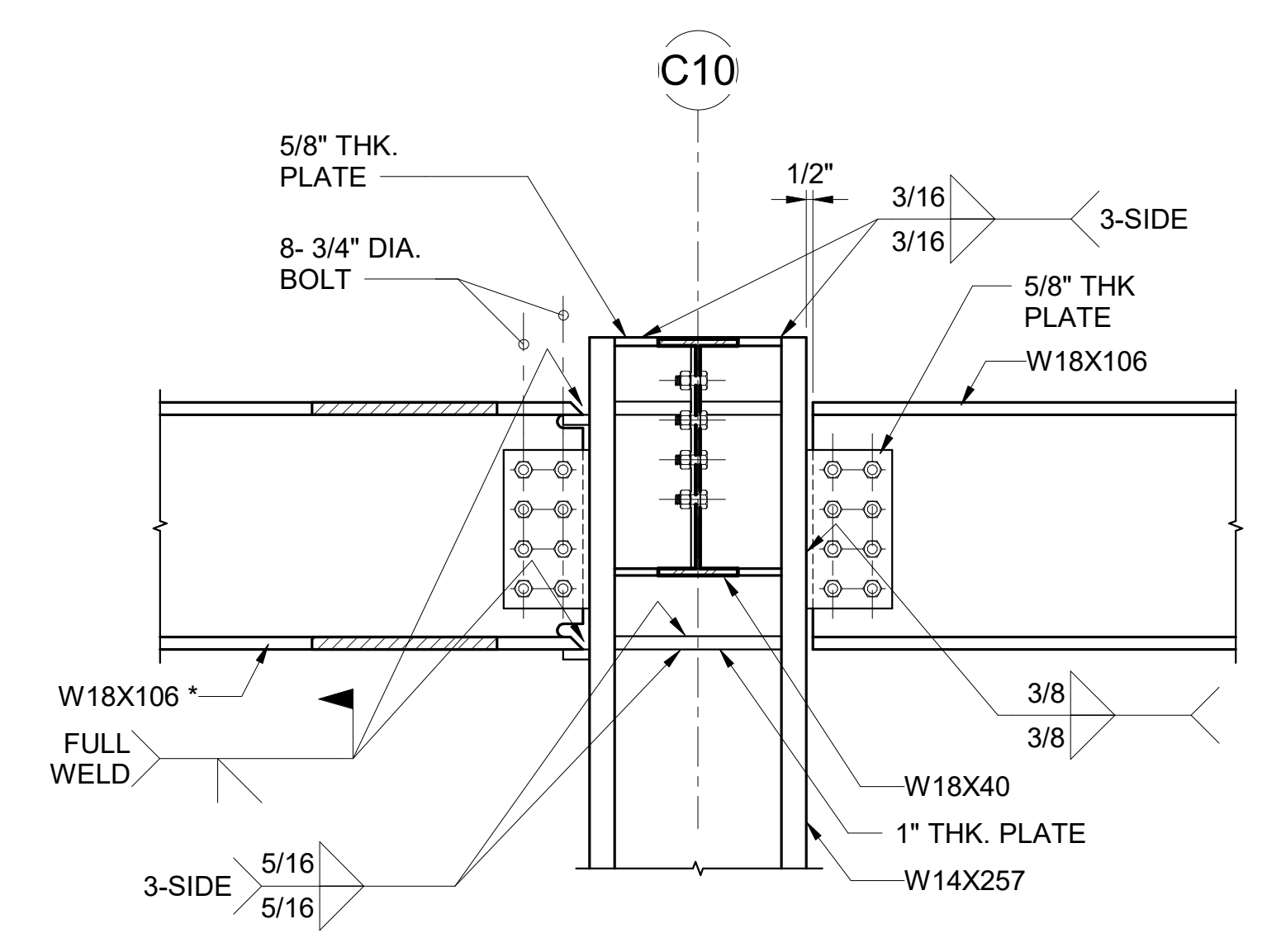
**2 SECTION**  
1" = 1'-0"



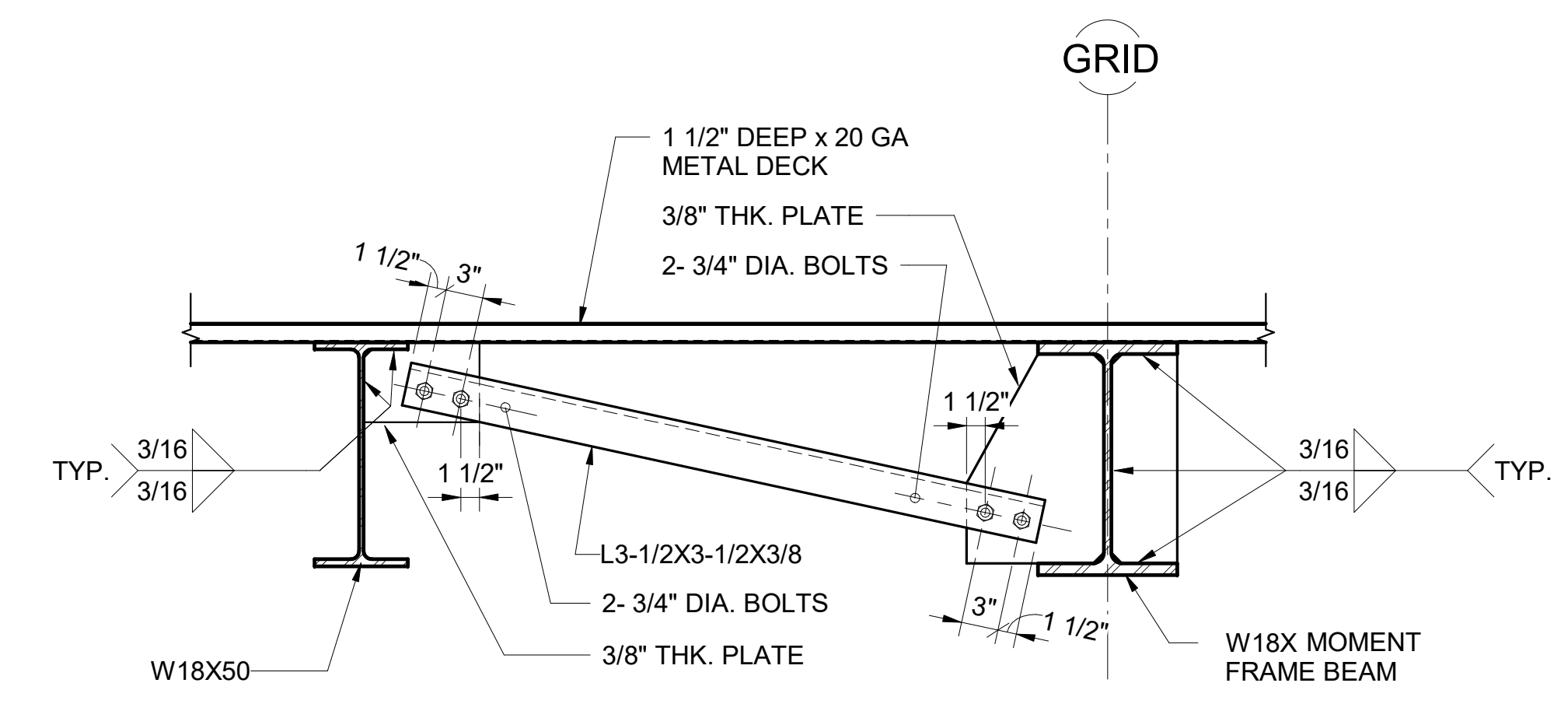
**7 DETAIL**  
S603 SCALE: 1" = 1'-0"



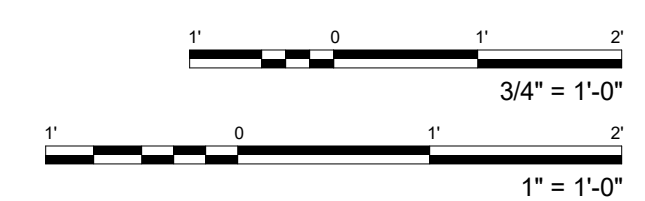
**3 SECTION**  
1" = 1'-0"

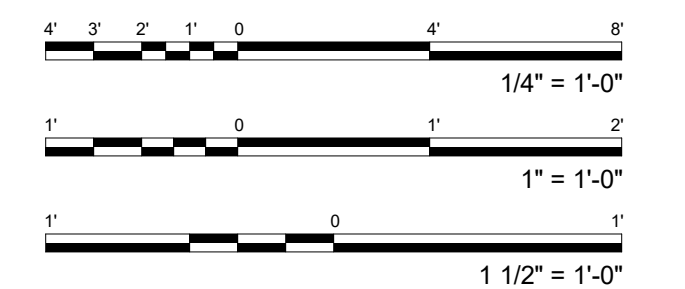
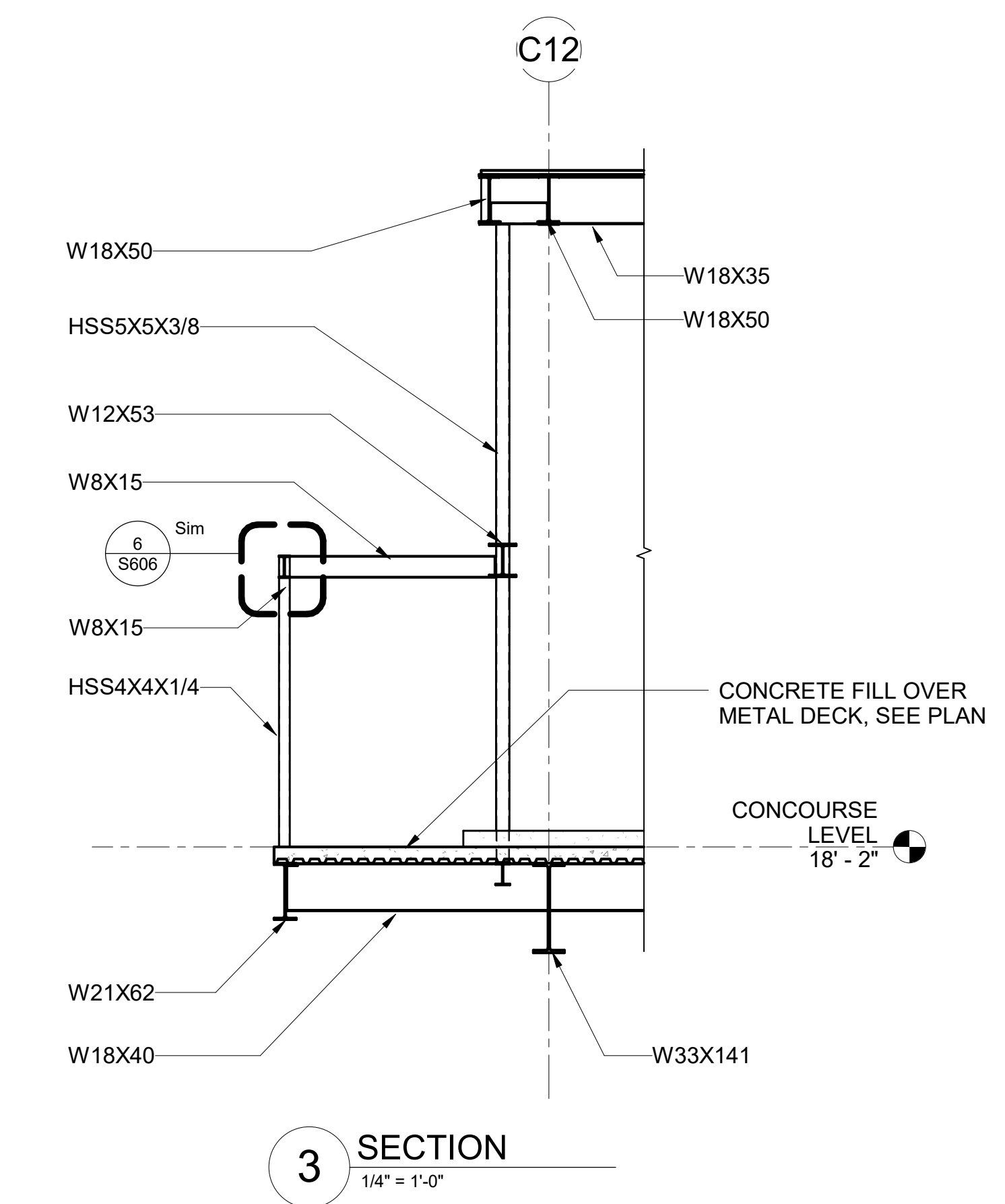
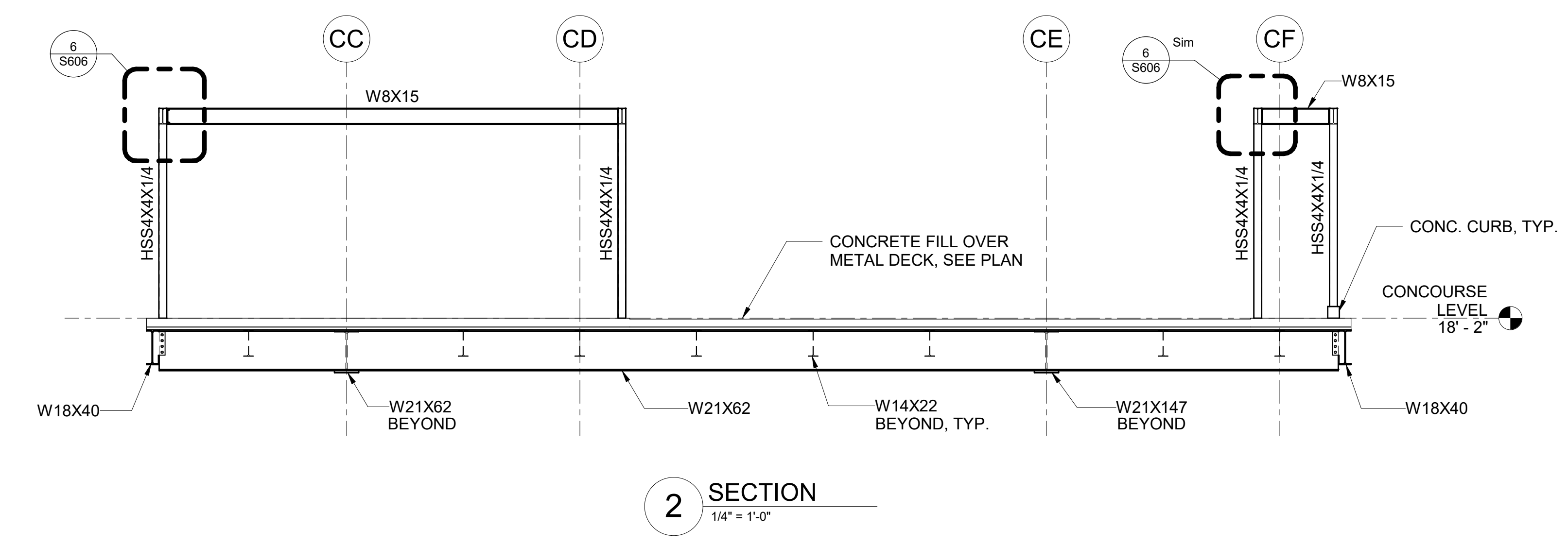
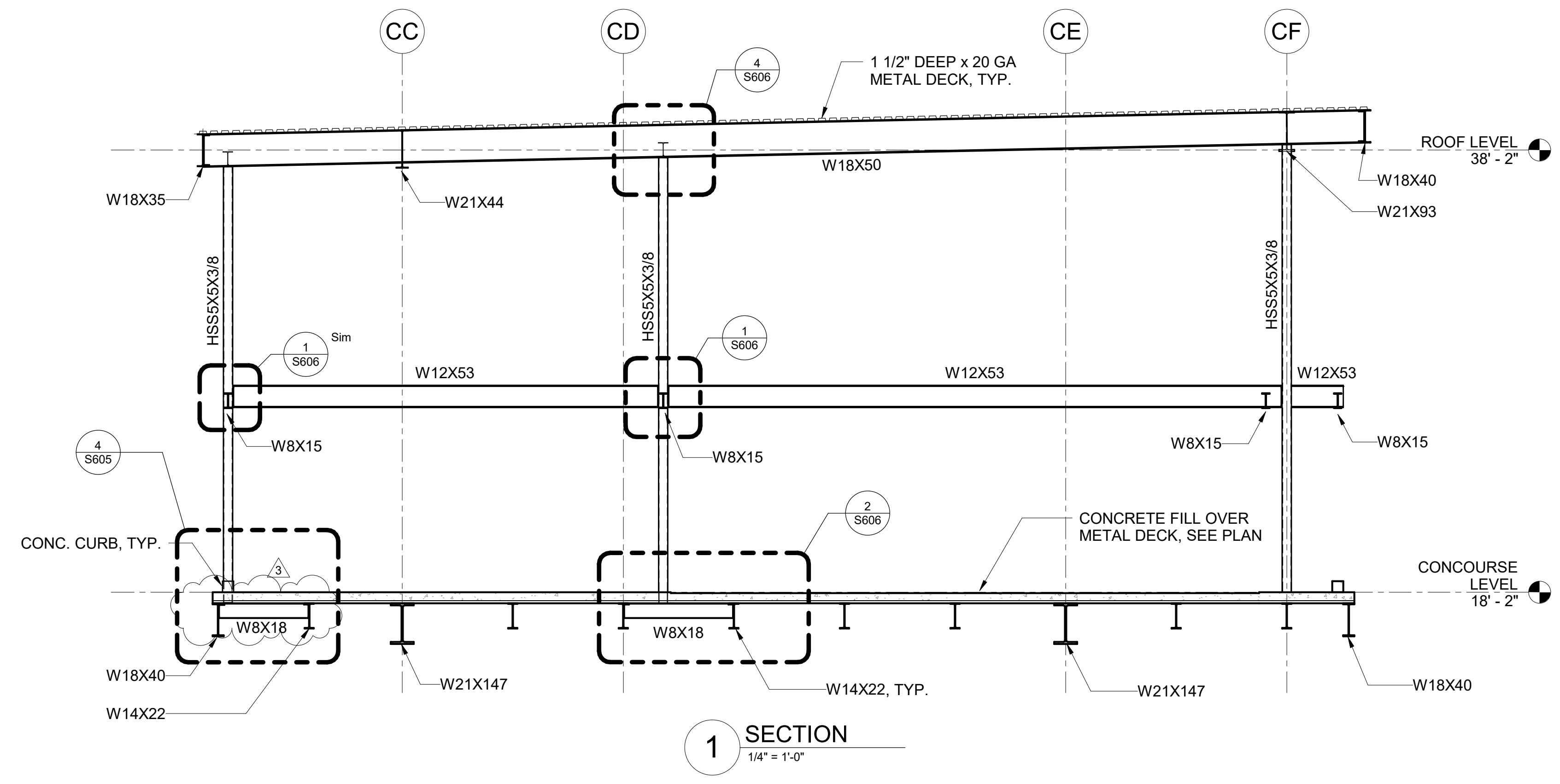
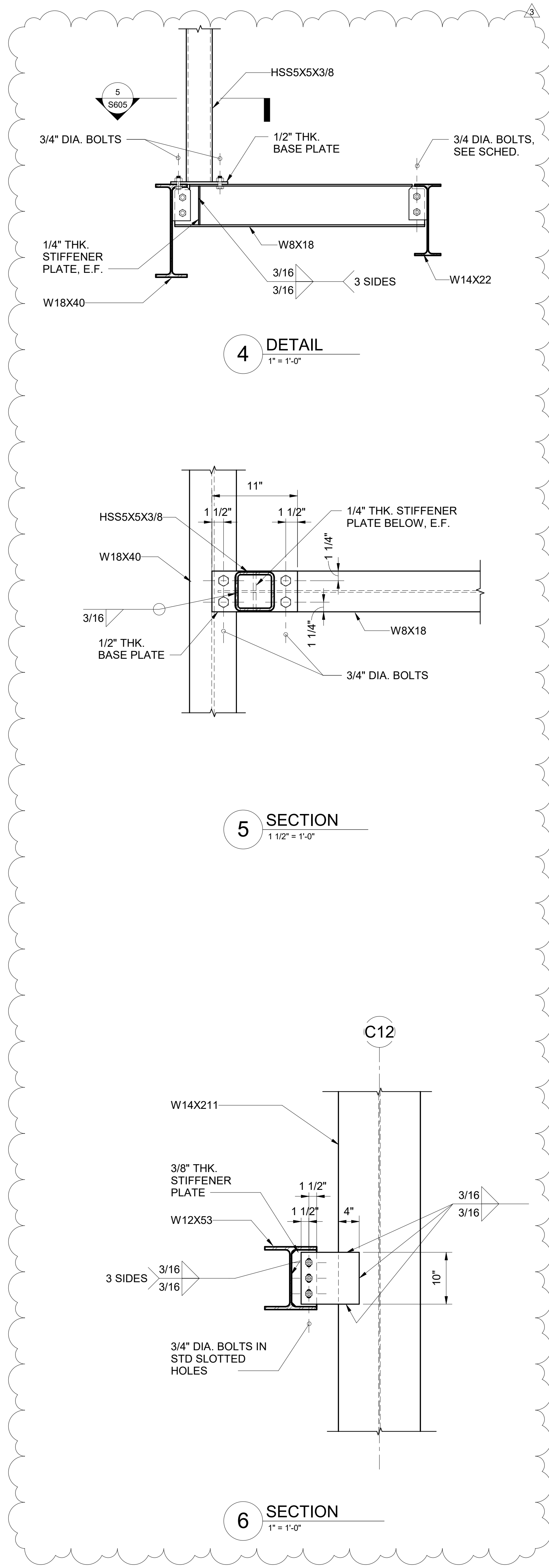


**8 SECTION**  
S603 SCALE: 1" = 1'-0"

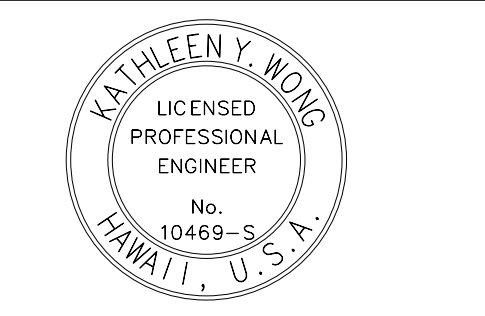


**4 SECTION**  
1" = 1'-0"





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Y. Wong*  
04/30/2024  
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MS	LC	KW	

KEY PLAN / NOTES:

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

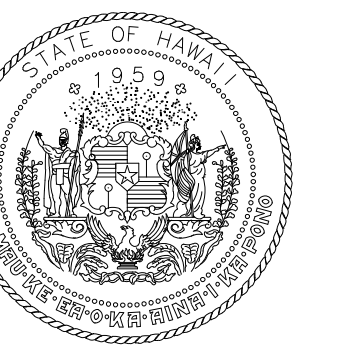
**SECTIONS AND DETAILS**

DATE: **MAY 26, 2023**

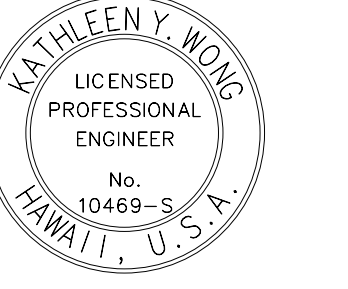
SHEET:

DWG. NO.  
**S605**

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

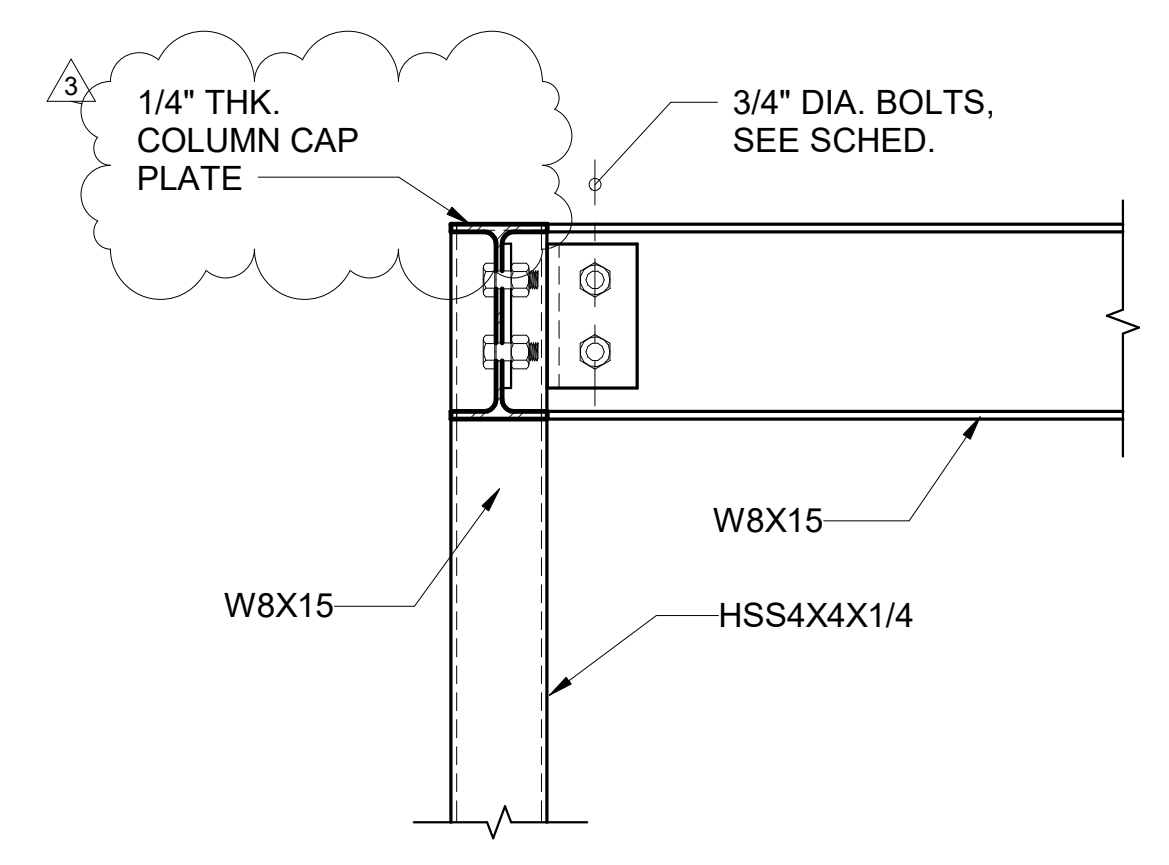


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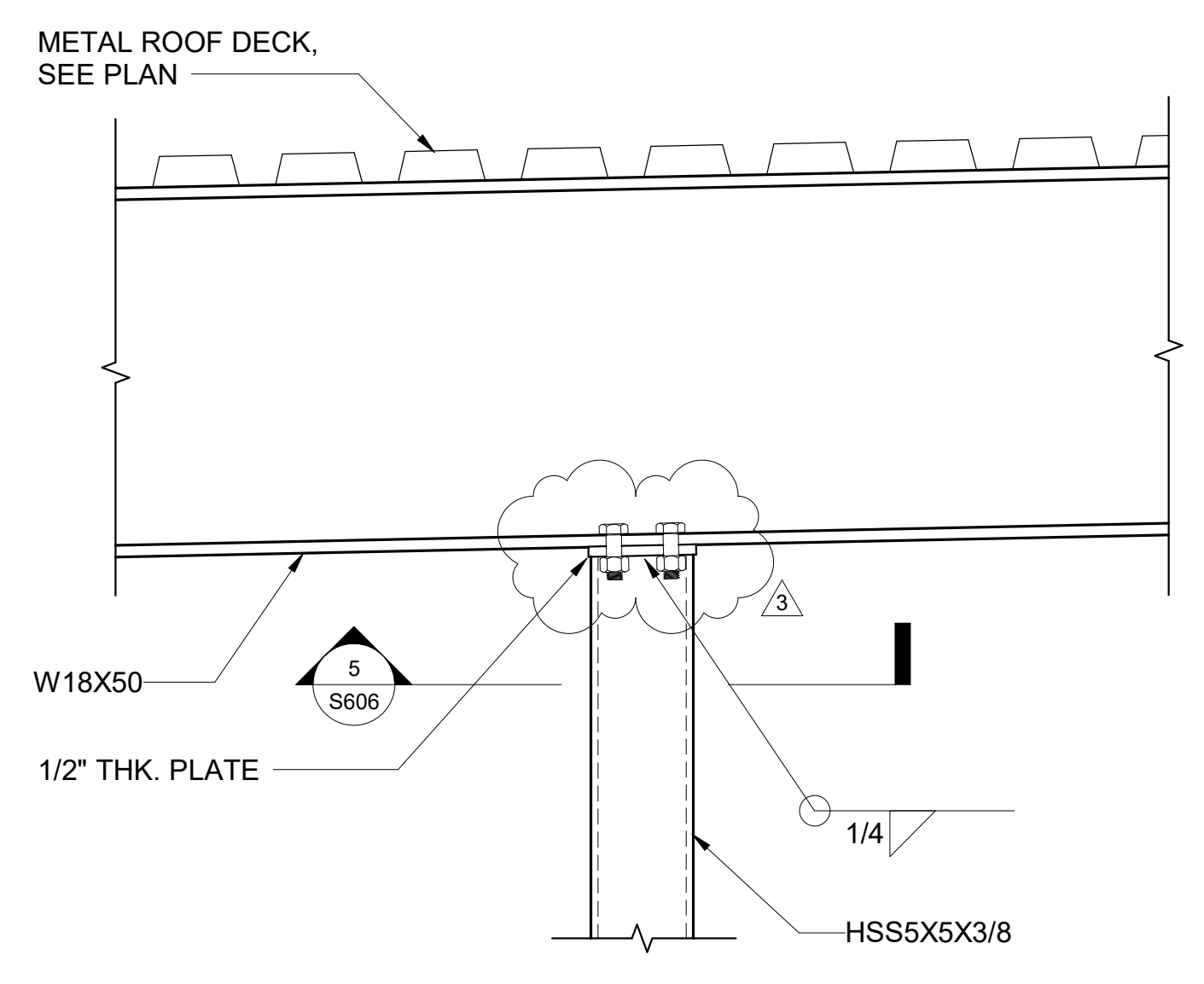
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MS	LC	KW	

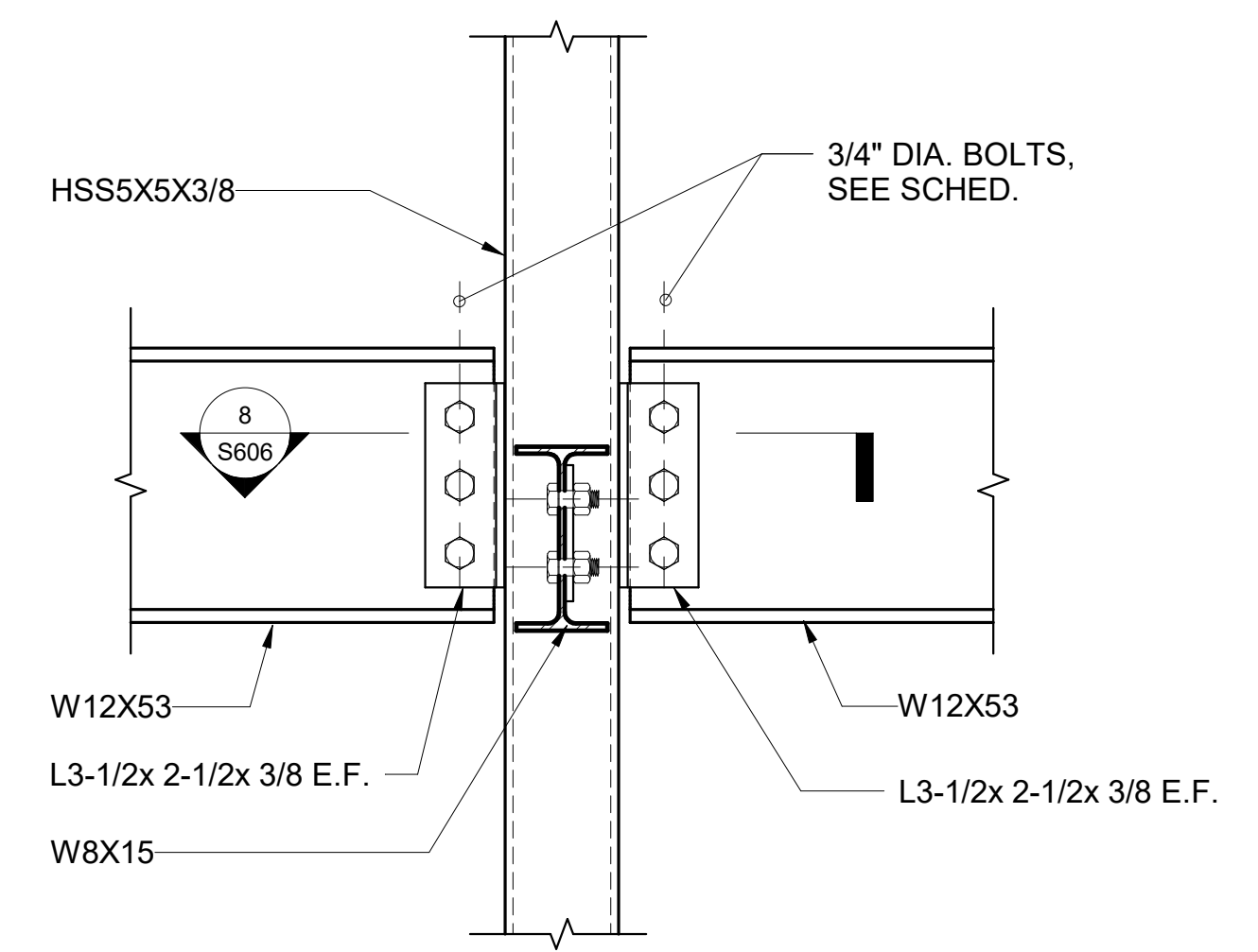
KEY PLAN / NOTES:



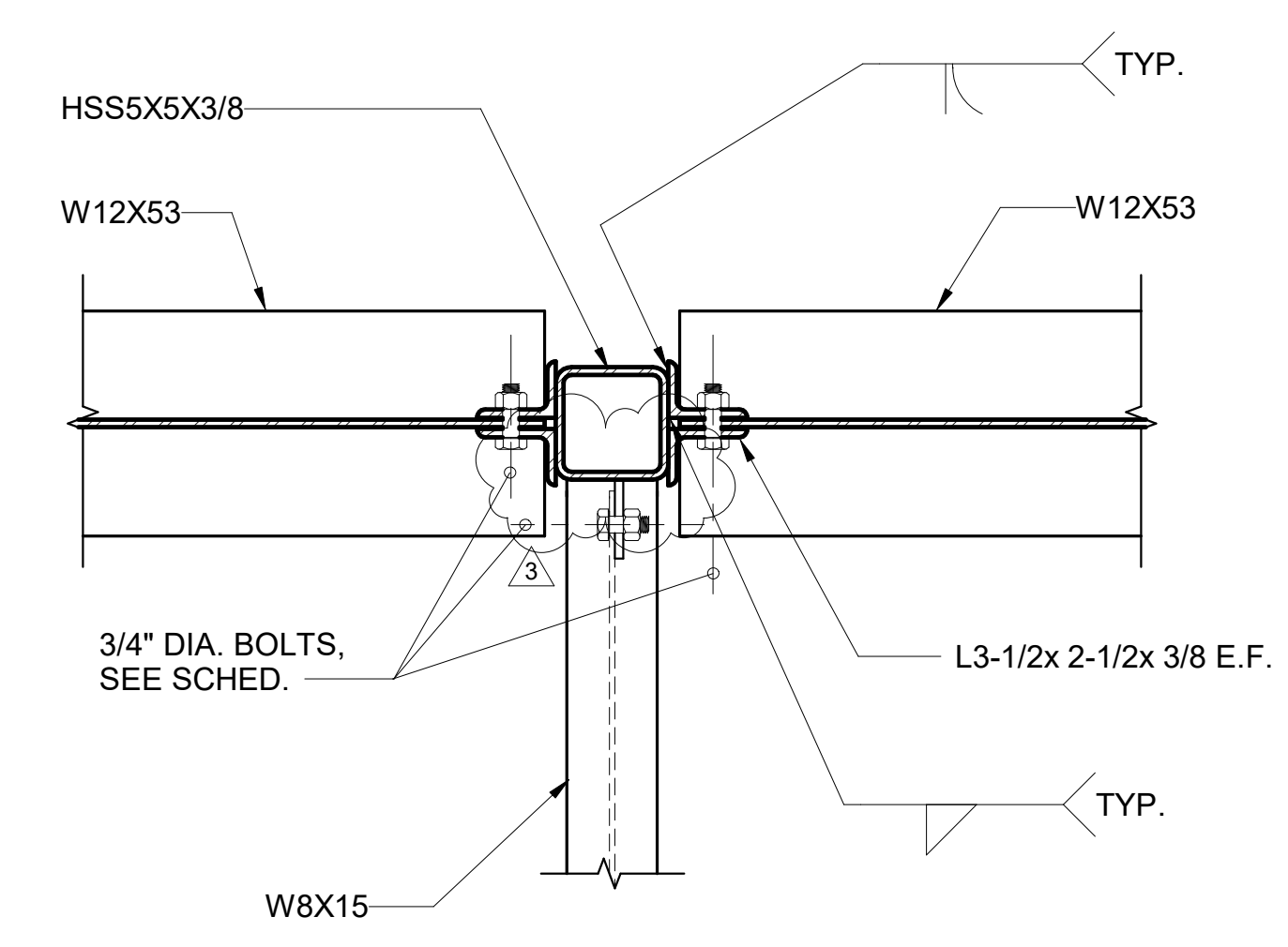
7 DETAIL  
1 1/2" = 1'-0"



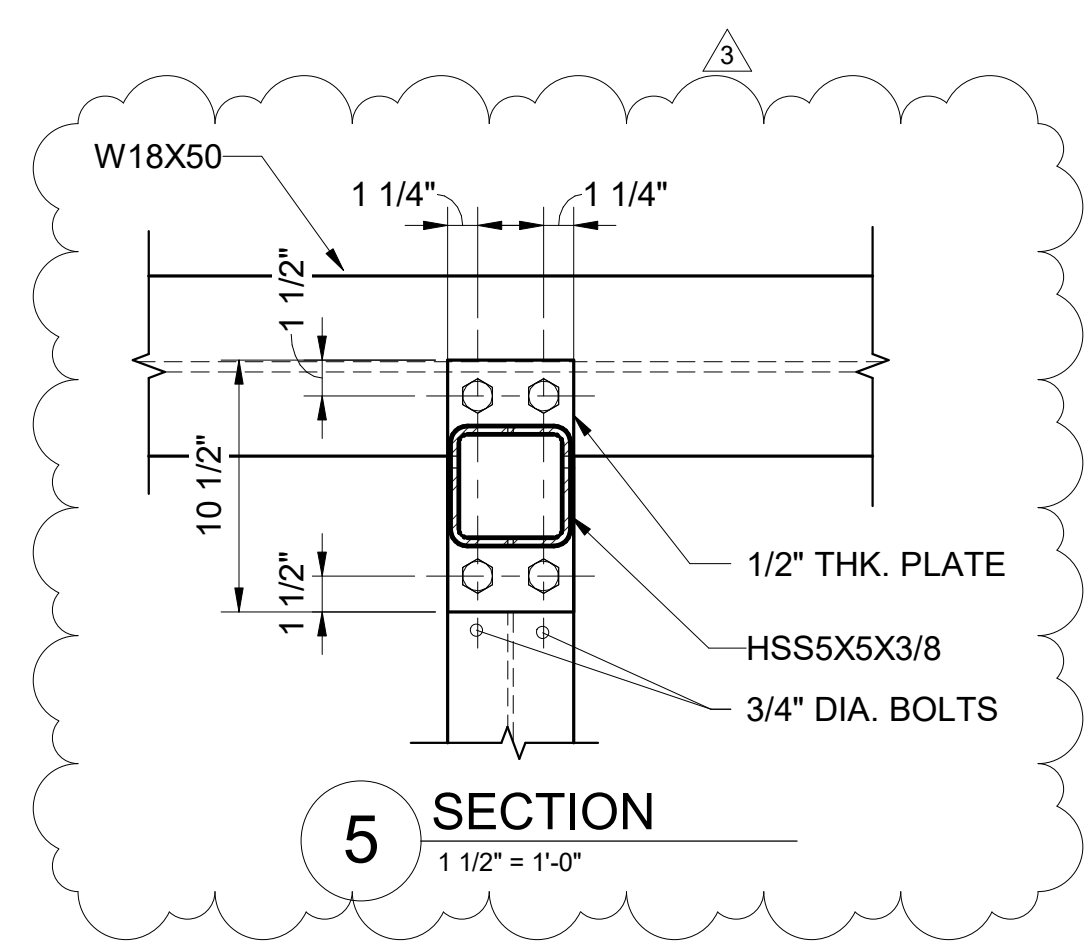
4 DETAIL  
1 1/2" = 1'-0"



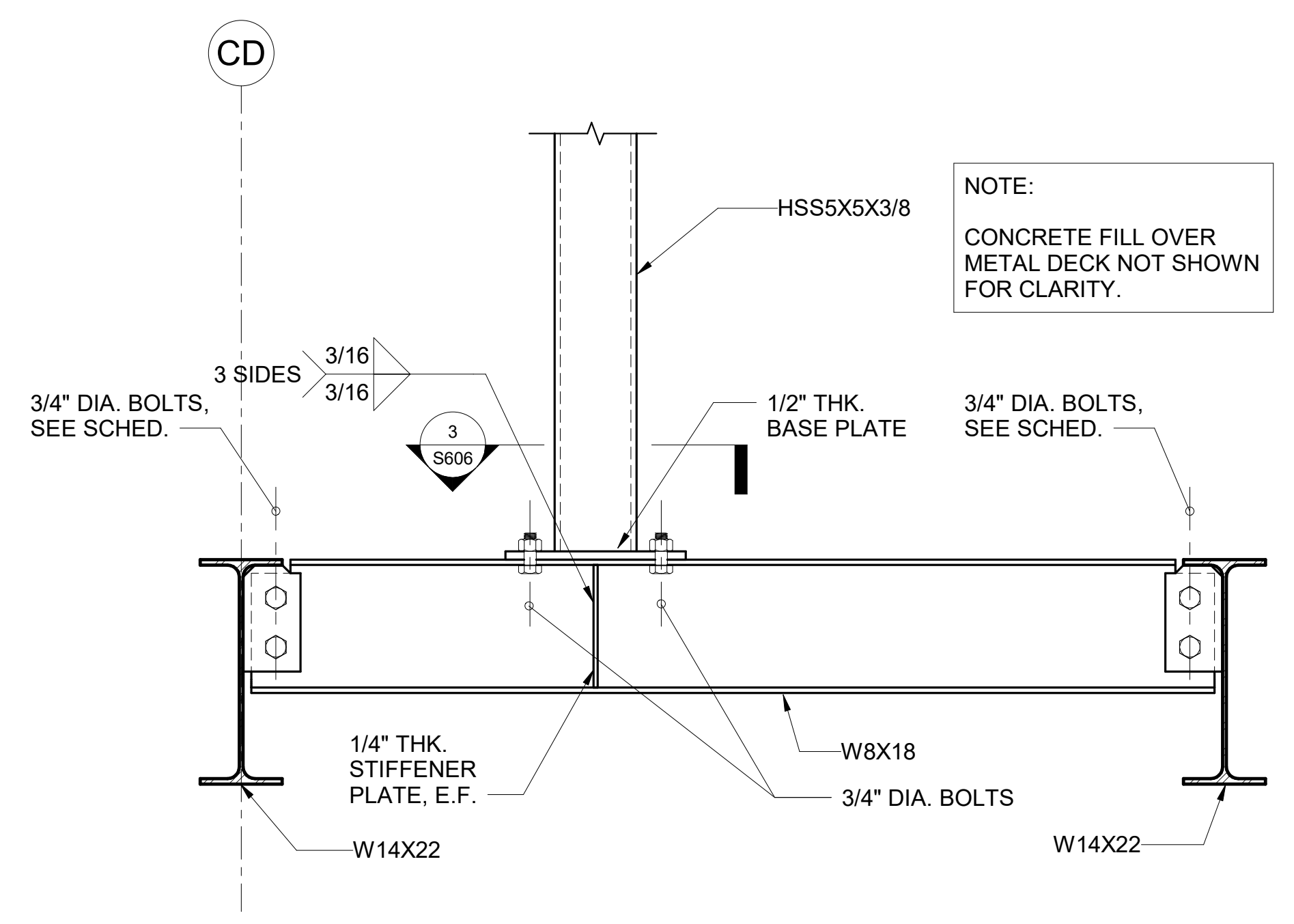
1 DETAIL  
1 1/2" = 1'-0"



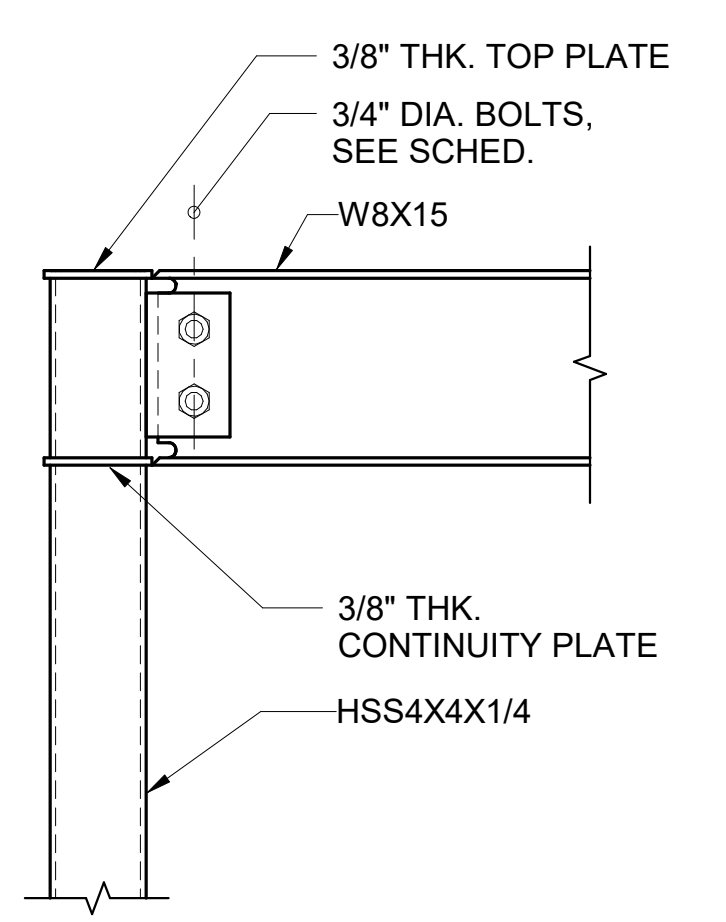
8 SECTION  
1 1/2" = 1'-0"



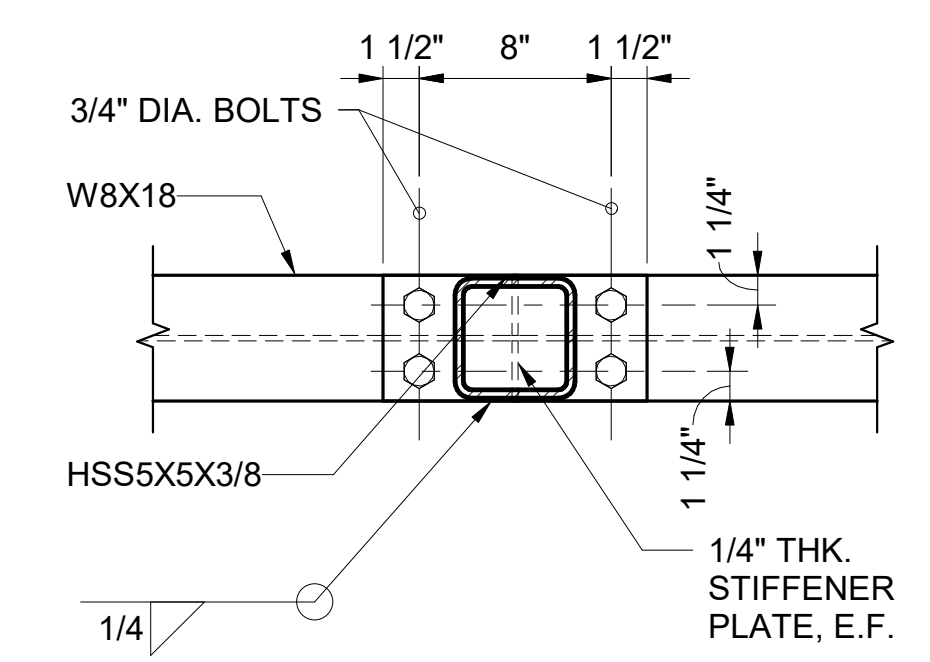
5 SECTION  
1 1/2" = 1'-0"



2 DETAIL  
1 1/2" = 1'-0"

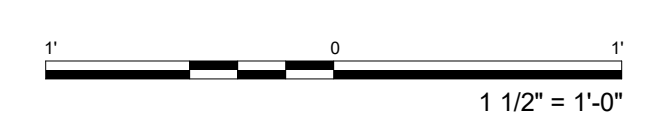


6 DETAIL  
1 1/2" = 1'-0"



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

NOTE:  
CONCRETE FILL OVER  
METAL DECK NOT SHOWN  
FOR CLARITY.



3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**SECTIONS AND DETAILS**

DATE: **MAY 26, 2023**

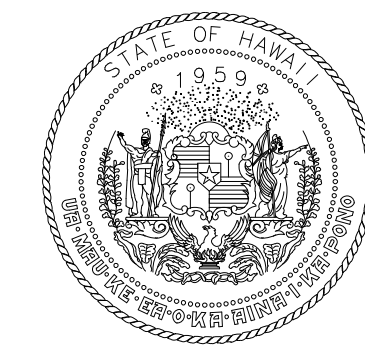
SHEET:

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DWG. NO.

**S606**





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Wong*  
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License Expiration Date

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MS	LC	KW	

KEY PLAN / NOTES:

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

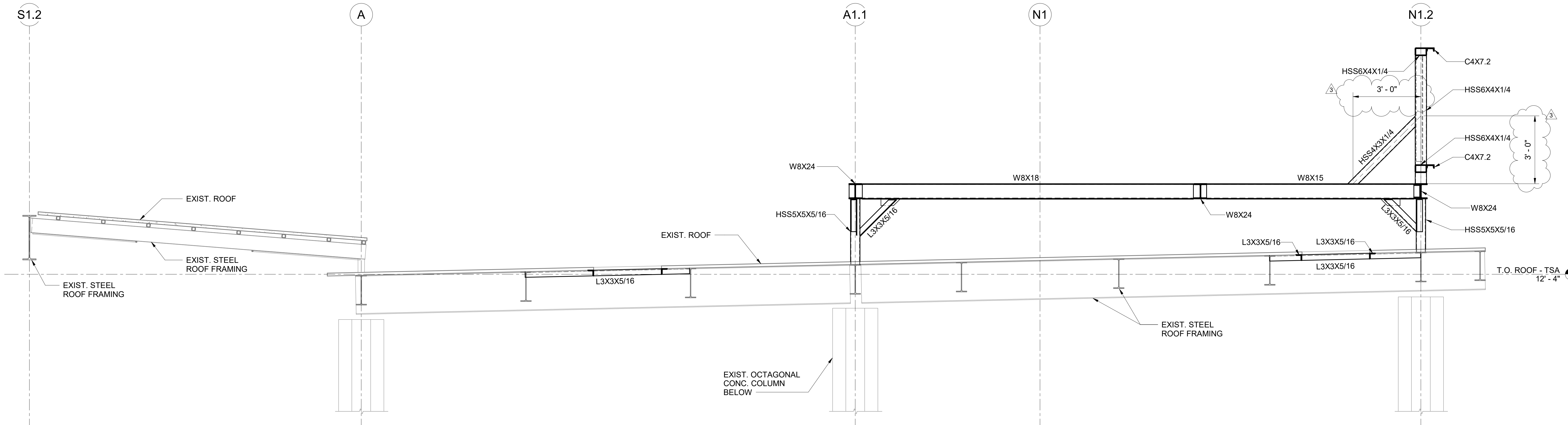
PROJECT NO:

**AM1095-10**

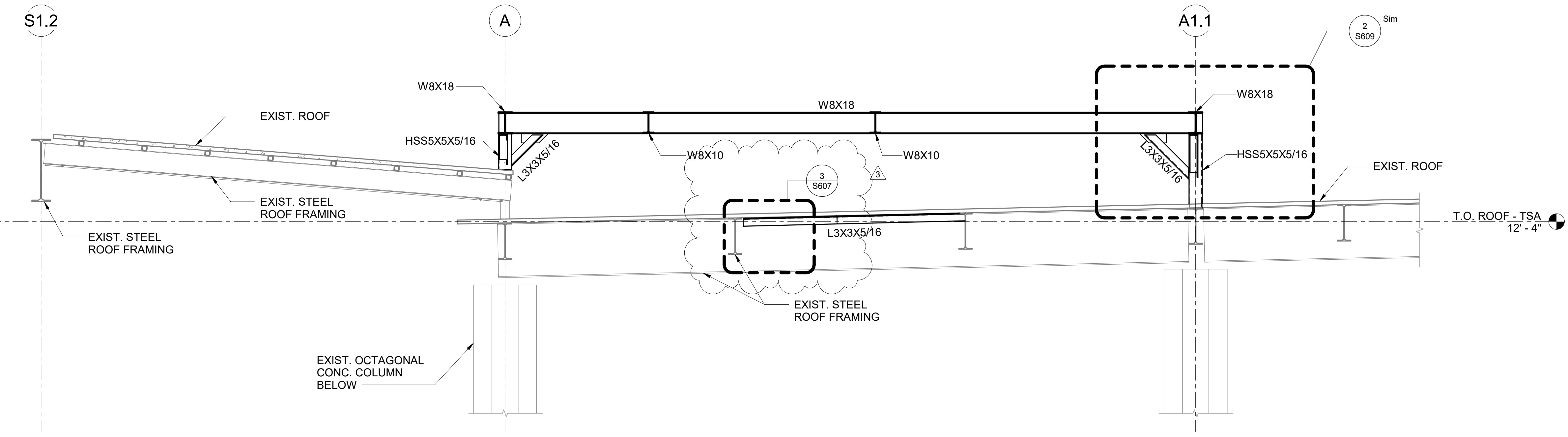
SHEET TITLE:

**SECTIONS AND DETAILS**

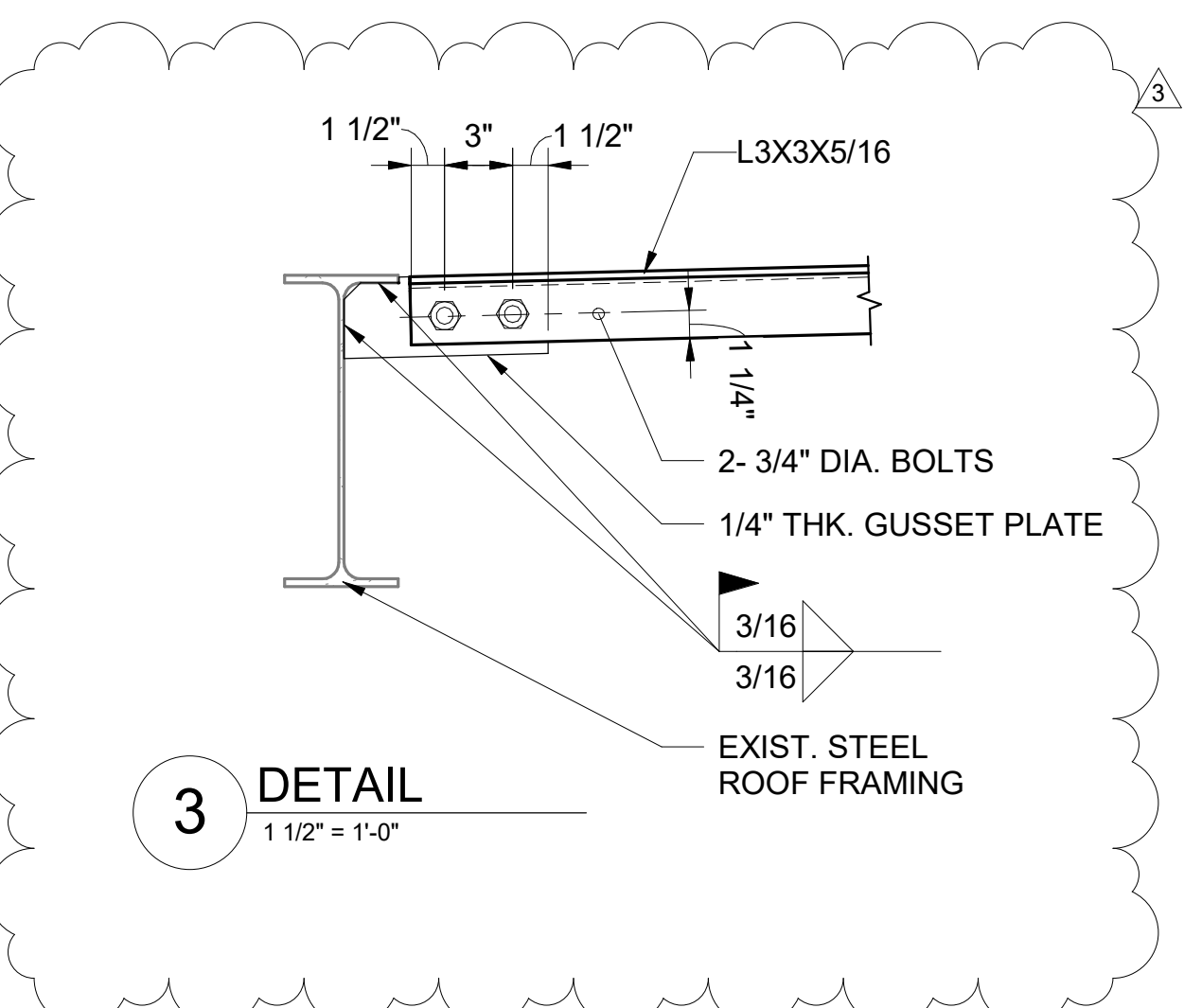
DATE:	DWG. NO.
MAY 26, 2023	S607
SHEET:	
176 OF 333 SHEETS	



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



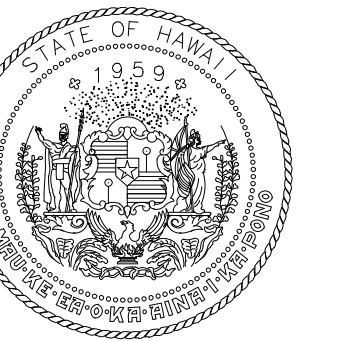
**2 SECTION**  
1/2" = 1'-0"



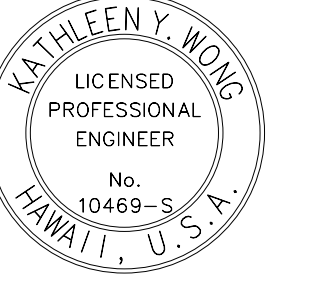
**3 DETAIL**  
1 1/2" = 1'-0"







STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

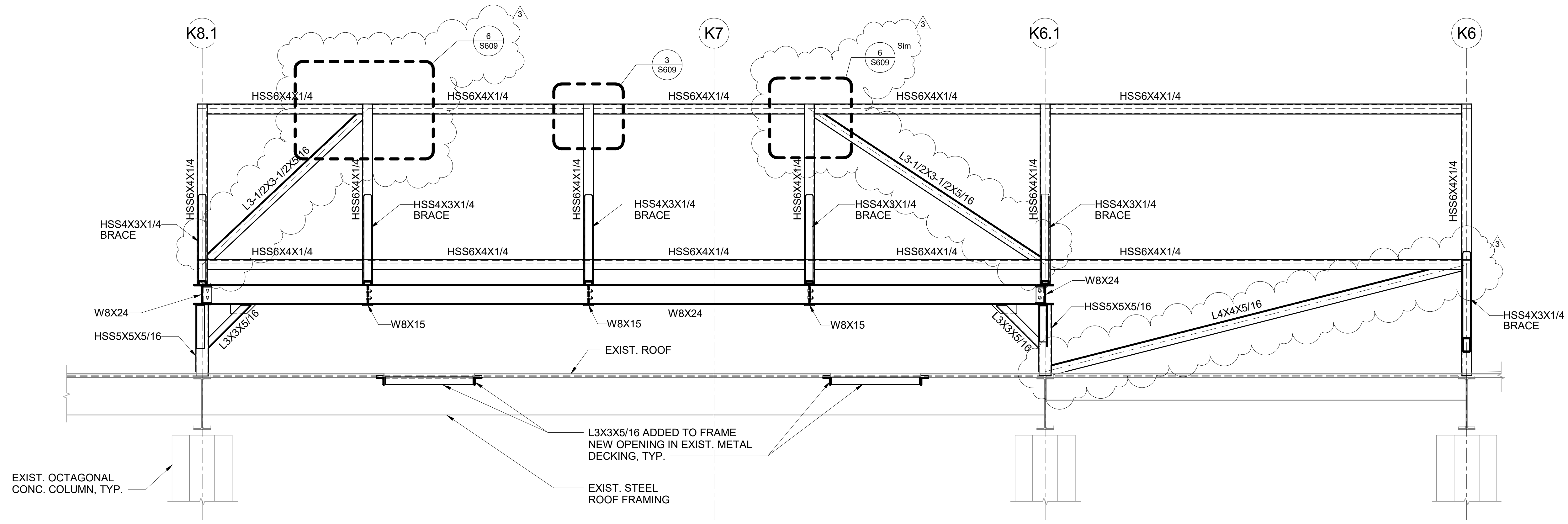


*Kathleen Wong*  
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HAWAII, U.S.A.  
License Expiration Date

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MS	LC	KW	

KEY PLAN / NOTES:



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

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

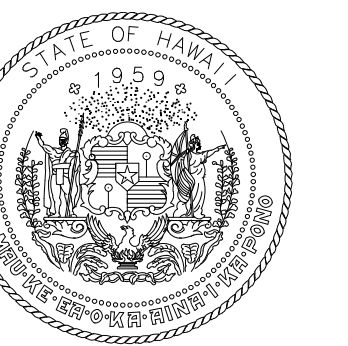
**AM1095-10**

SHEET TITLE:

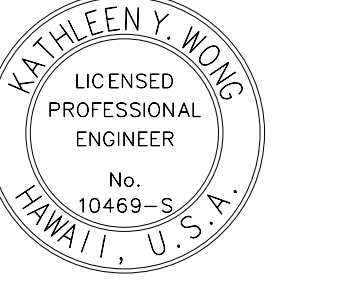
**SECTIONS AND DETAILS**

DATE:	DWG. NO.
MAY 26, 2023	S608
SHEET:	
177 OF 333 SHEETS	





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

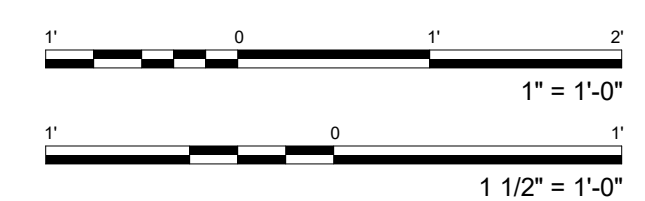
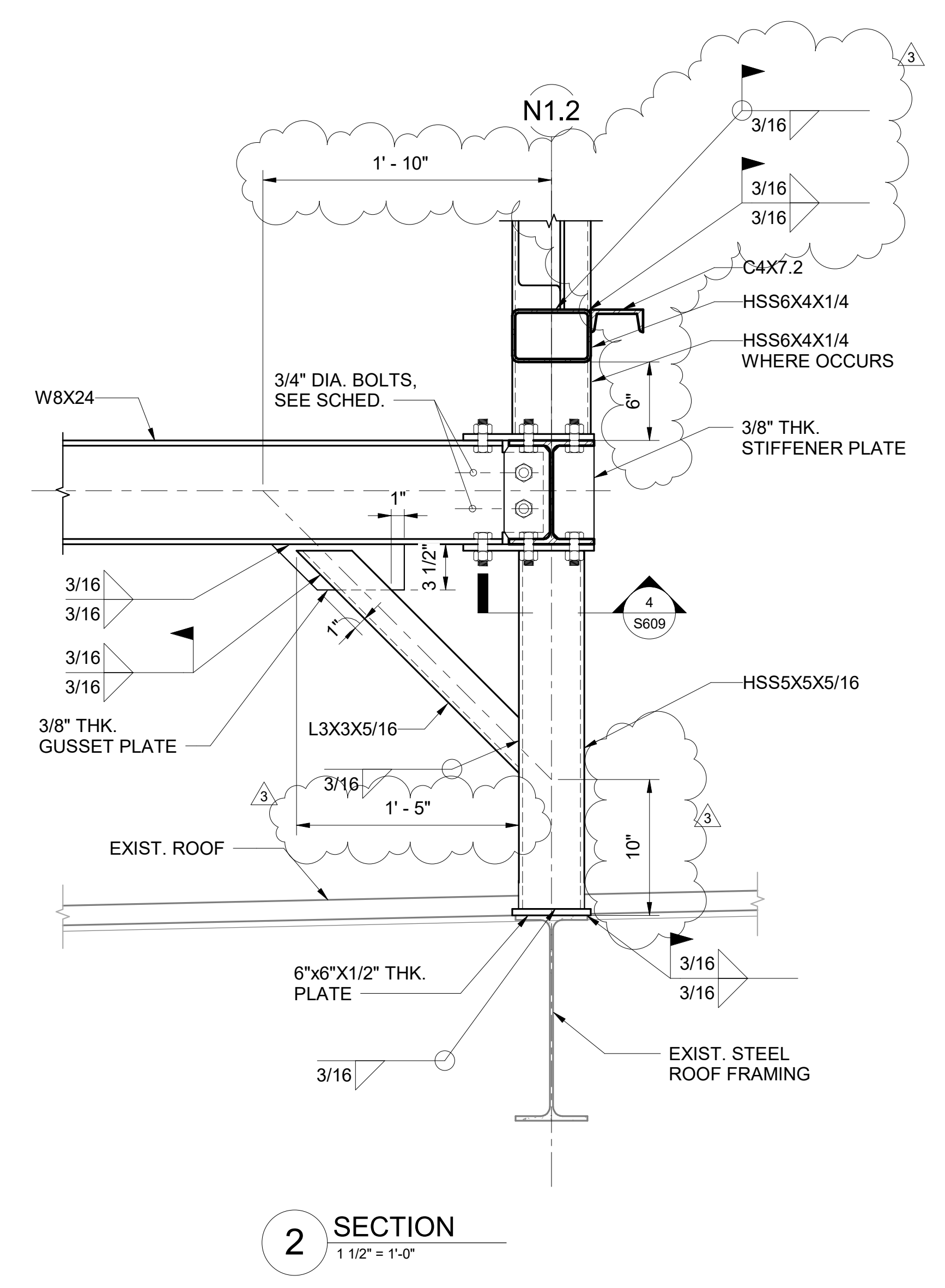
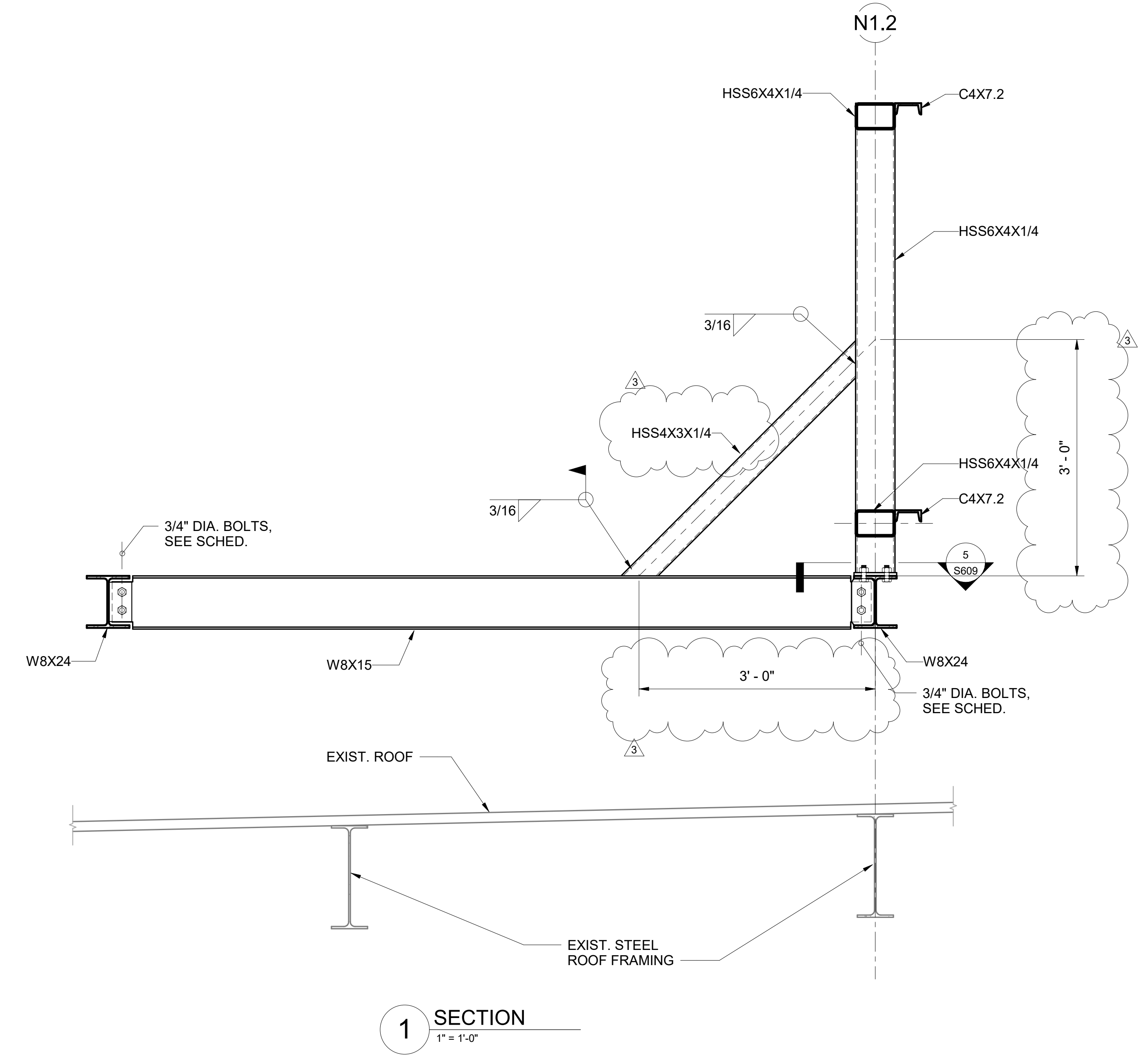
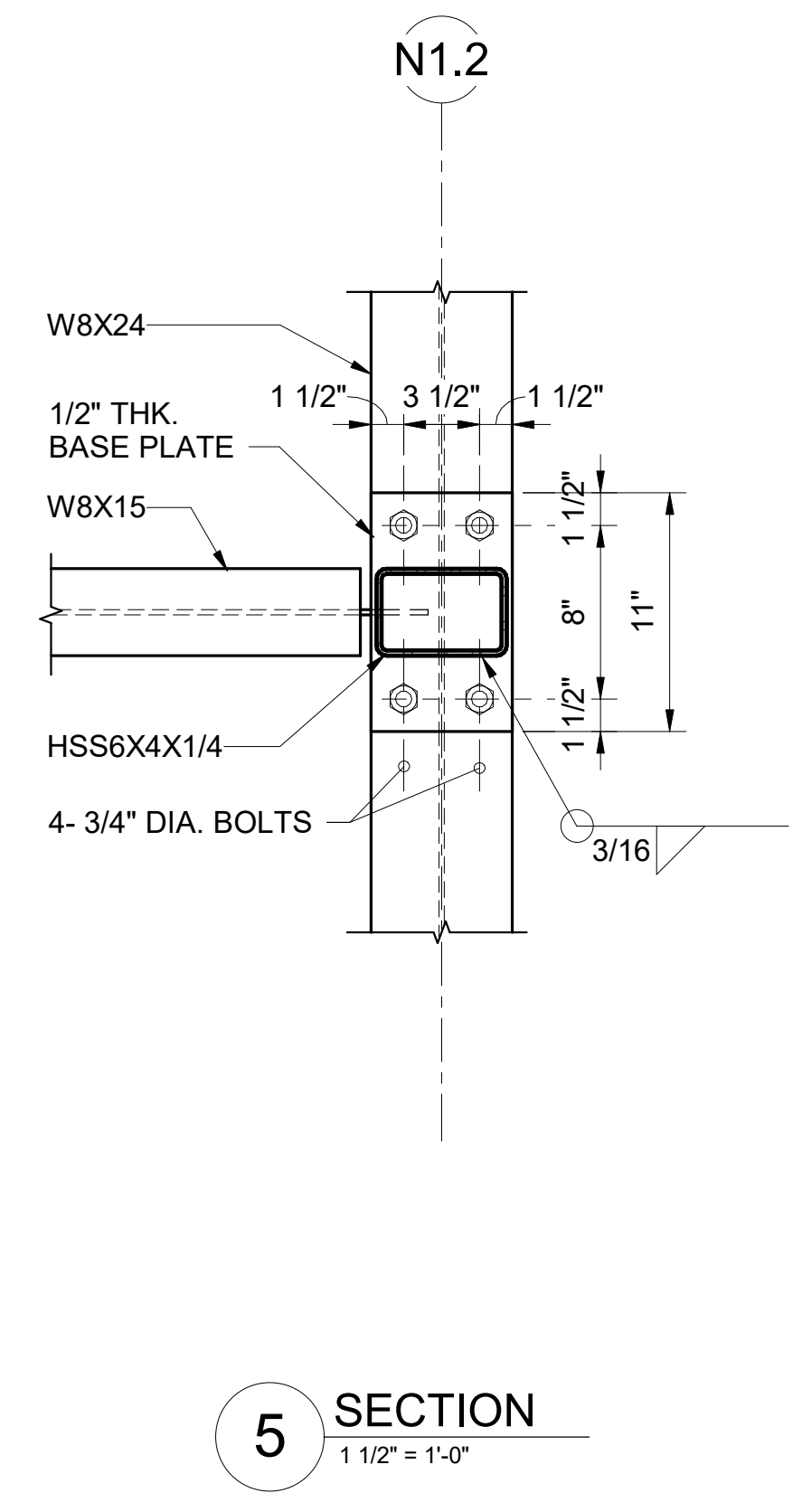
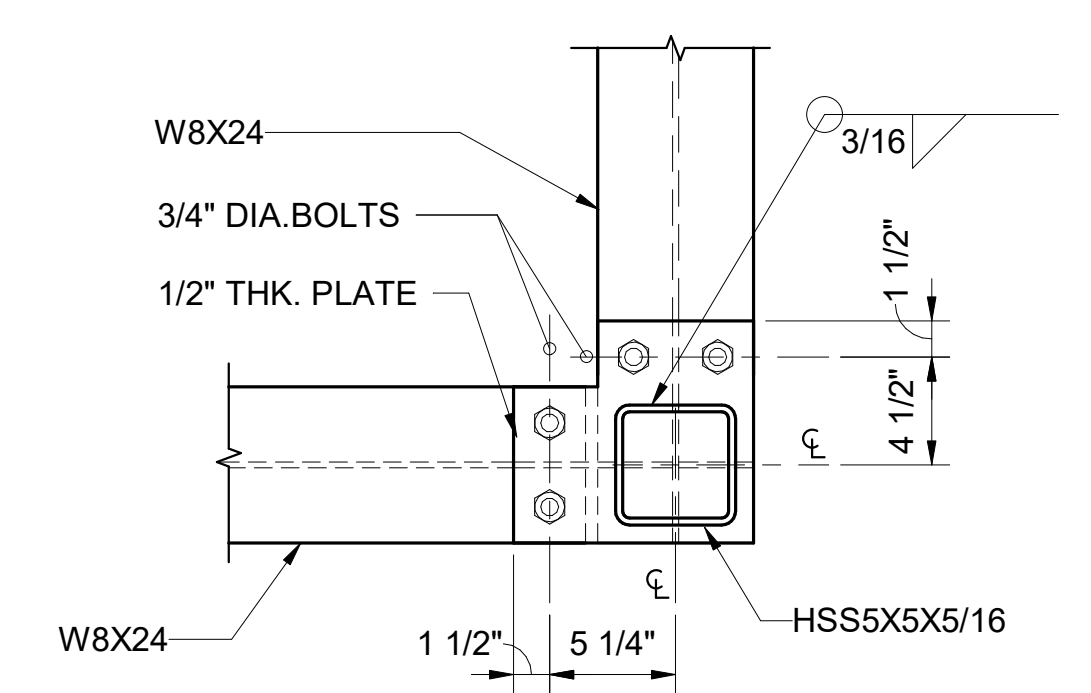
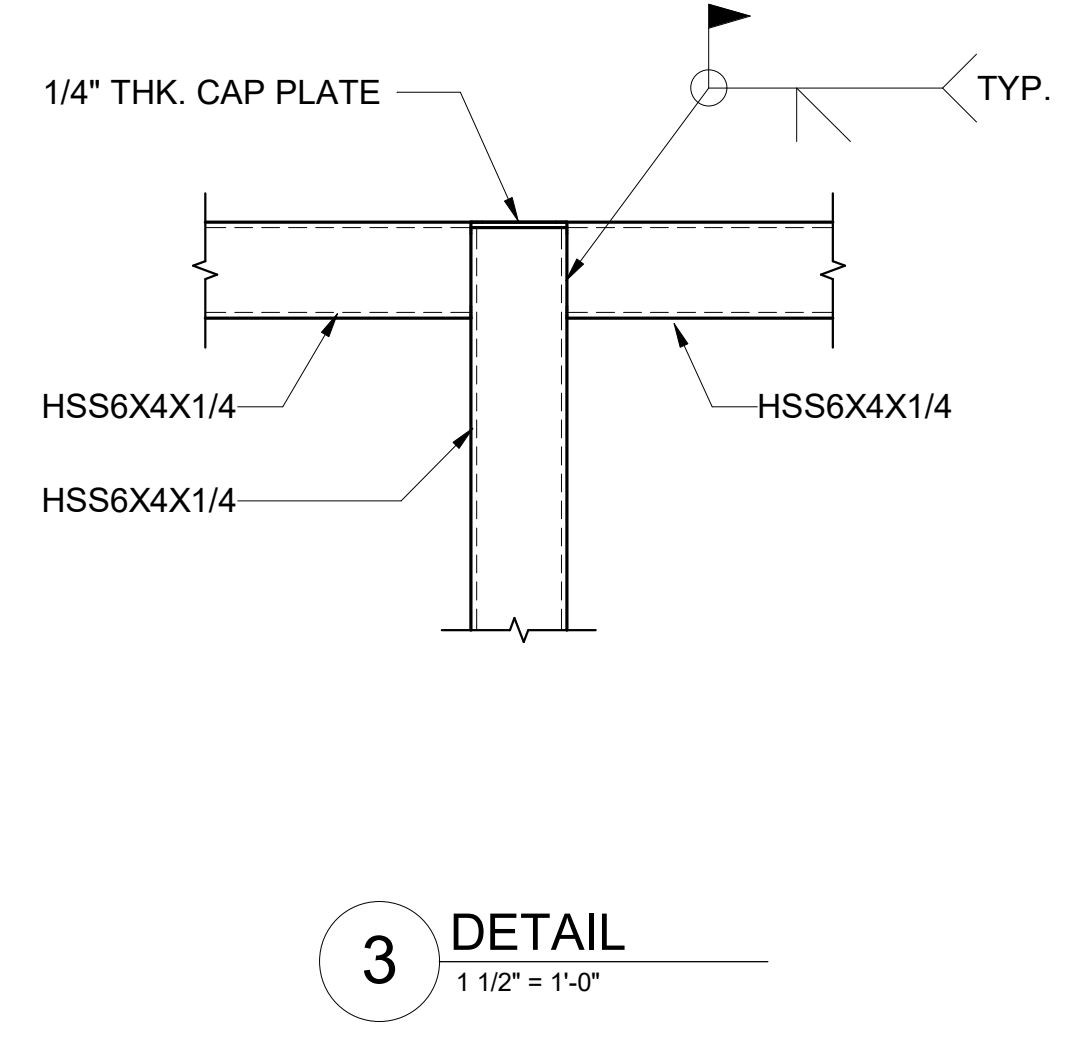
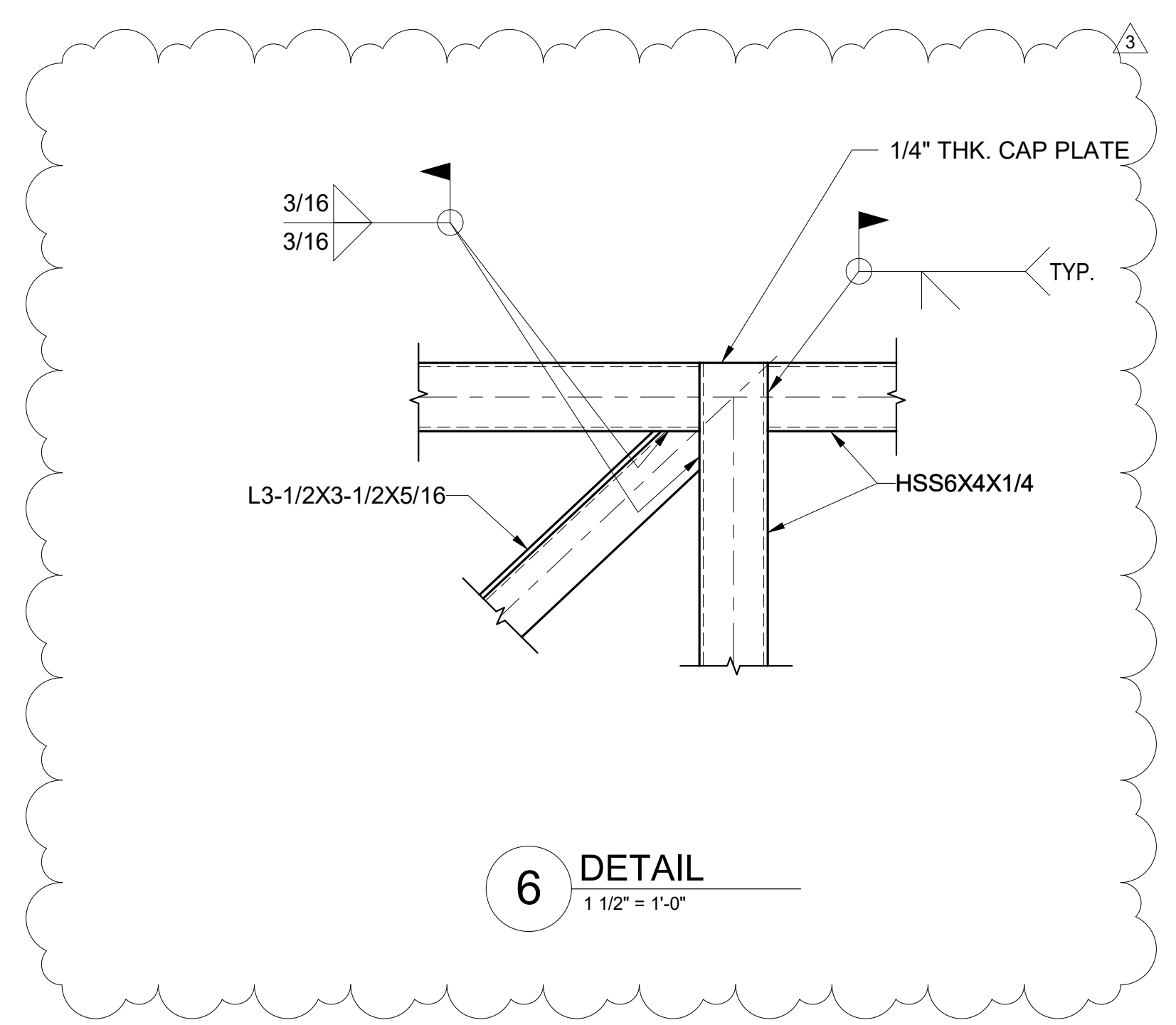


*Kathleen Y. Wong*  
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04/30/2024  
License Expiration Date

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MS	LC	KW	

KEY PLAN / NOTES:



8/30/2023 10:13:55 PM

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**SECTIONS AND DETAILS**

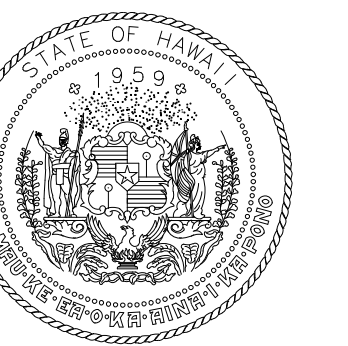
DATE: **MAY 26, 2023**

SHEET:

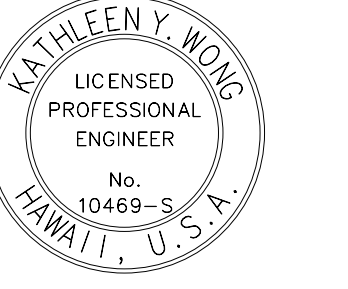
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DWG. NO.

**S609**



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

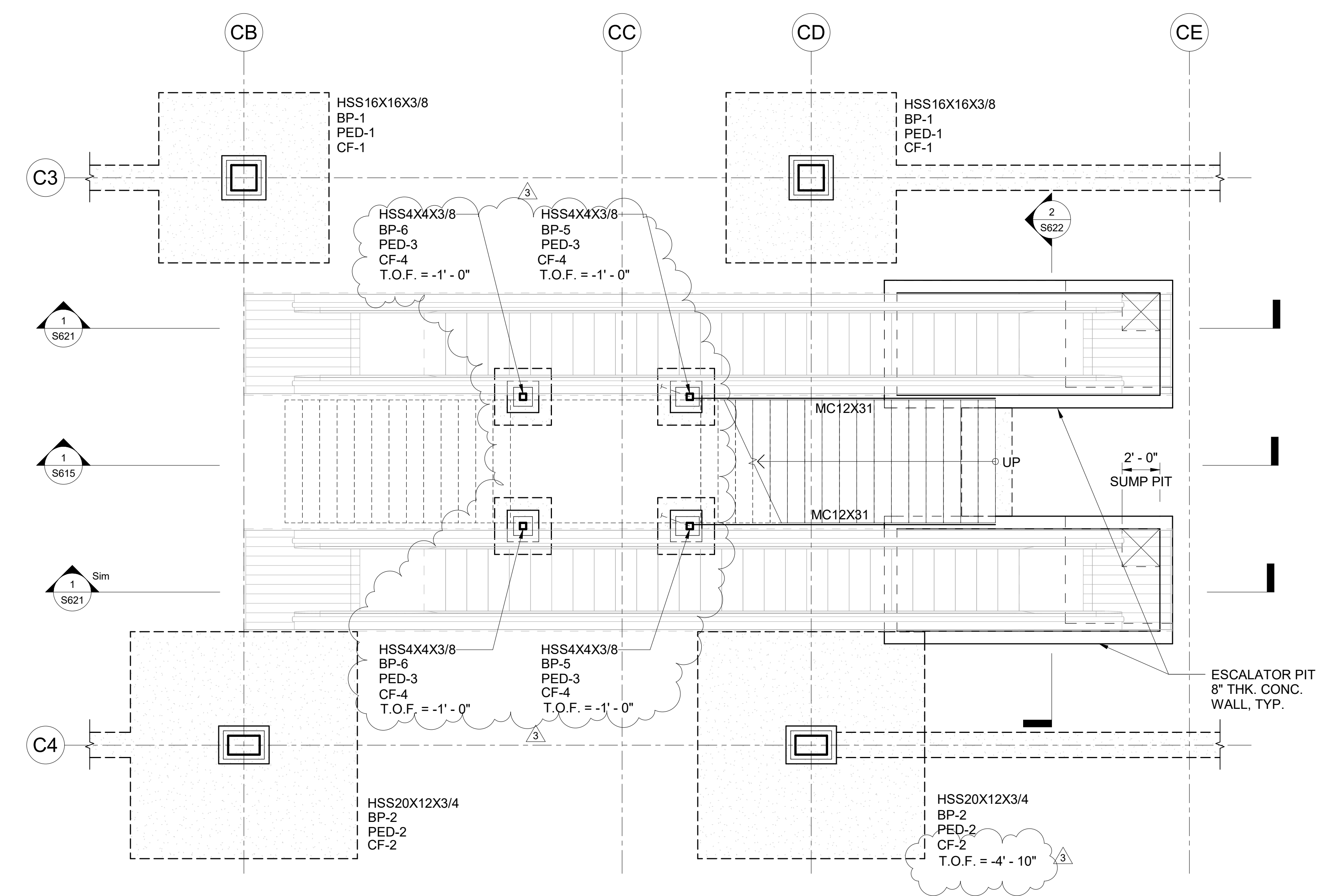


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License Expiration Date: 04/30/2024

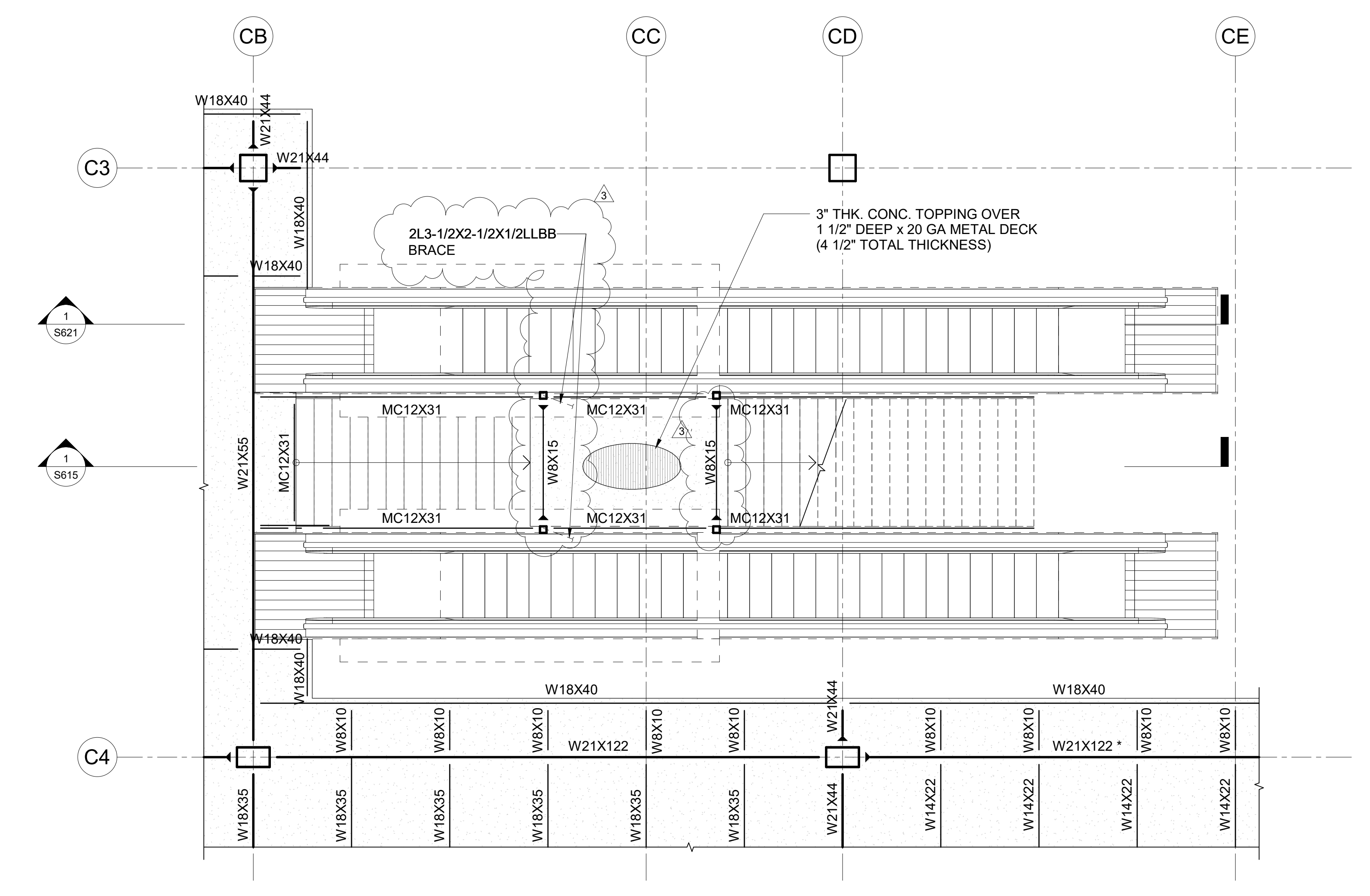
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MS	LC	KW	

KEY PLAN / NOTES:



1 STAIR #1 AND ESCALATOR FOUNDATION PLAN  
1/4" = 1'-0"



2 STAIR #1 AND ESCALATOR FRAMING PLAN  
1/4" = 1'-0"

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

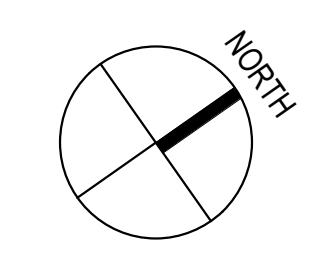
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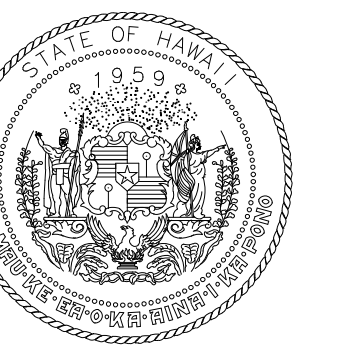
**ENLARGED STAIR AND ESCALATOR FRAMING PLANS AND DETAILED SECTIONS**

DATE:  
**MAY 26, 2023**

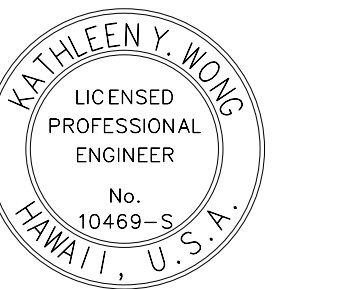
SHEET:  
**S611**

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

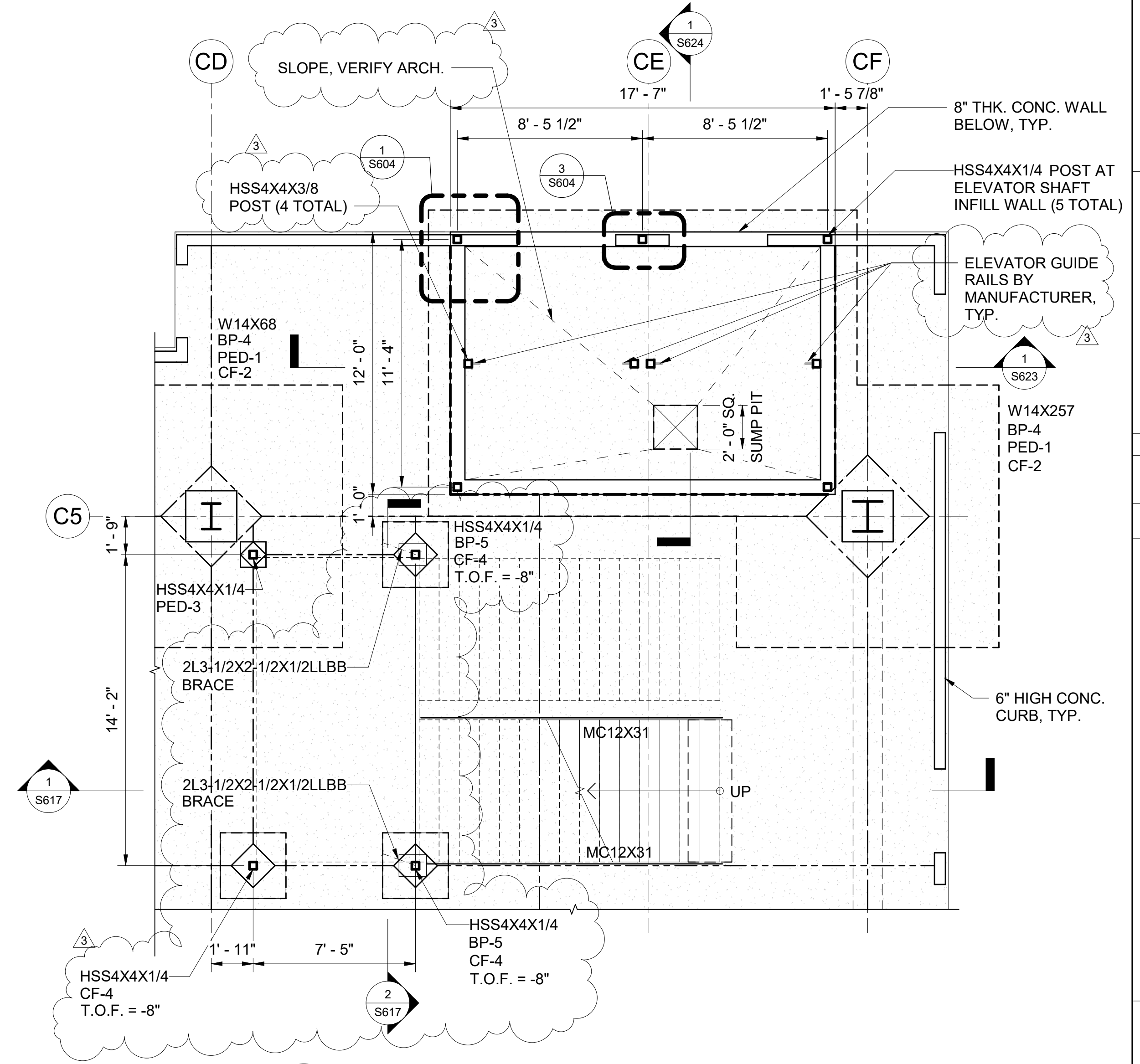


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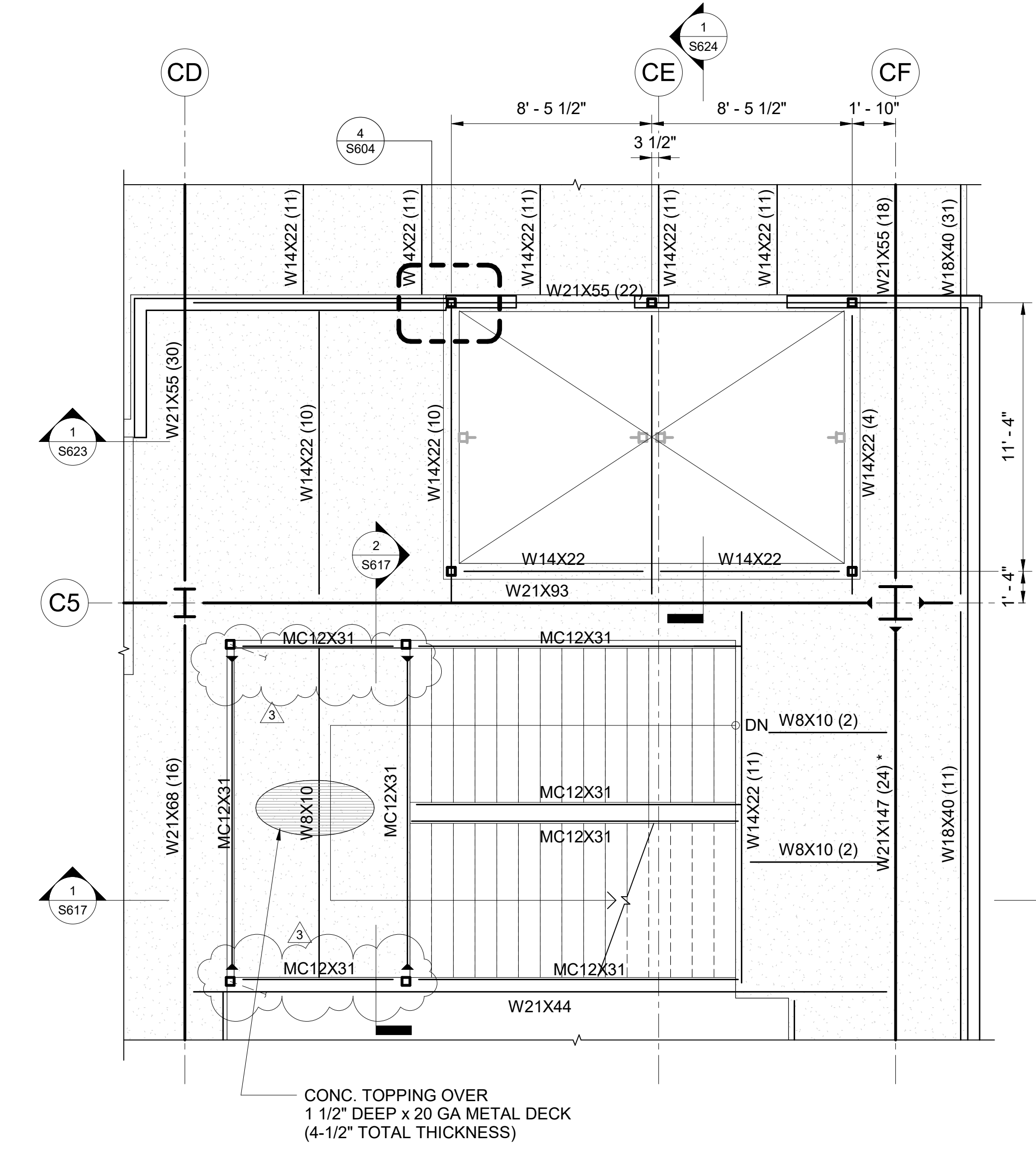
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MS	LC	KW	

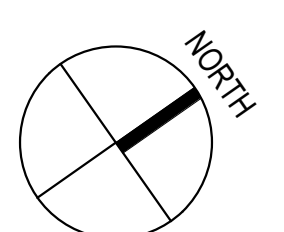
KEY PLAN / NOTES:



1 STAIR #2 AND ELEVATOR FOUNDATION PLAN  
1/4" = 1'-0"



2 STAIR #2 AND ELEVATOR FRAMING PLAN AT CONCOURSE LEVEL  
1/4" = 1'-0"



NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

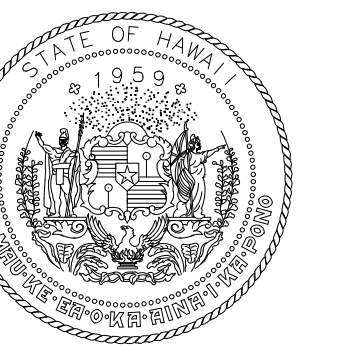
**ENLARGED STAIR AND ELEVATOR FRAMING PLANS AND DETAILED SECTIONS**

DATE:  
**MAY 26, 2023**

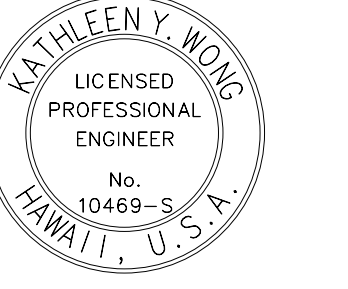
SHEET:  
**S612**

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



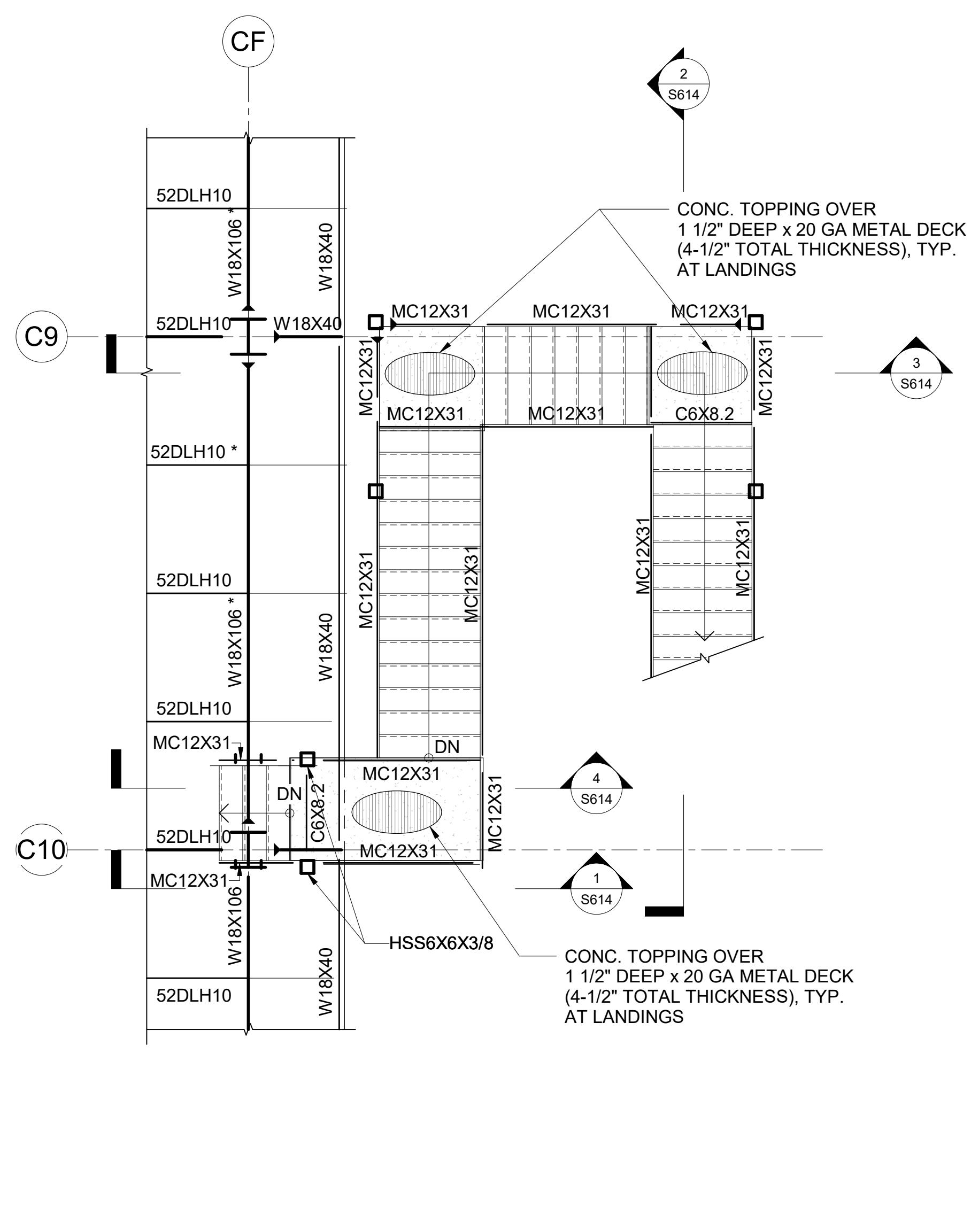
*Kathleen Wong*  
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No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

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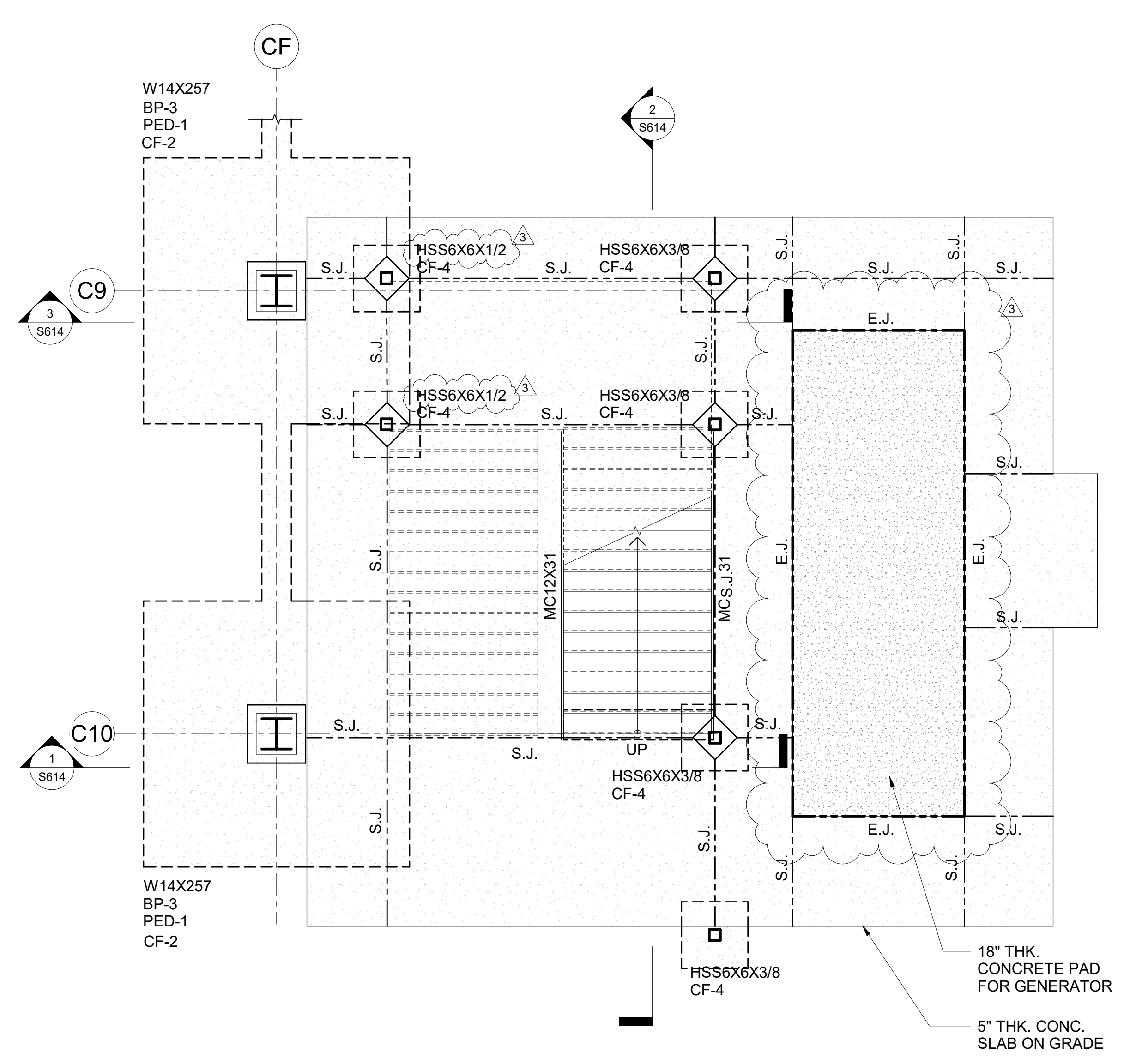
DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

**KEY PLAN / NOTES:**

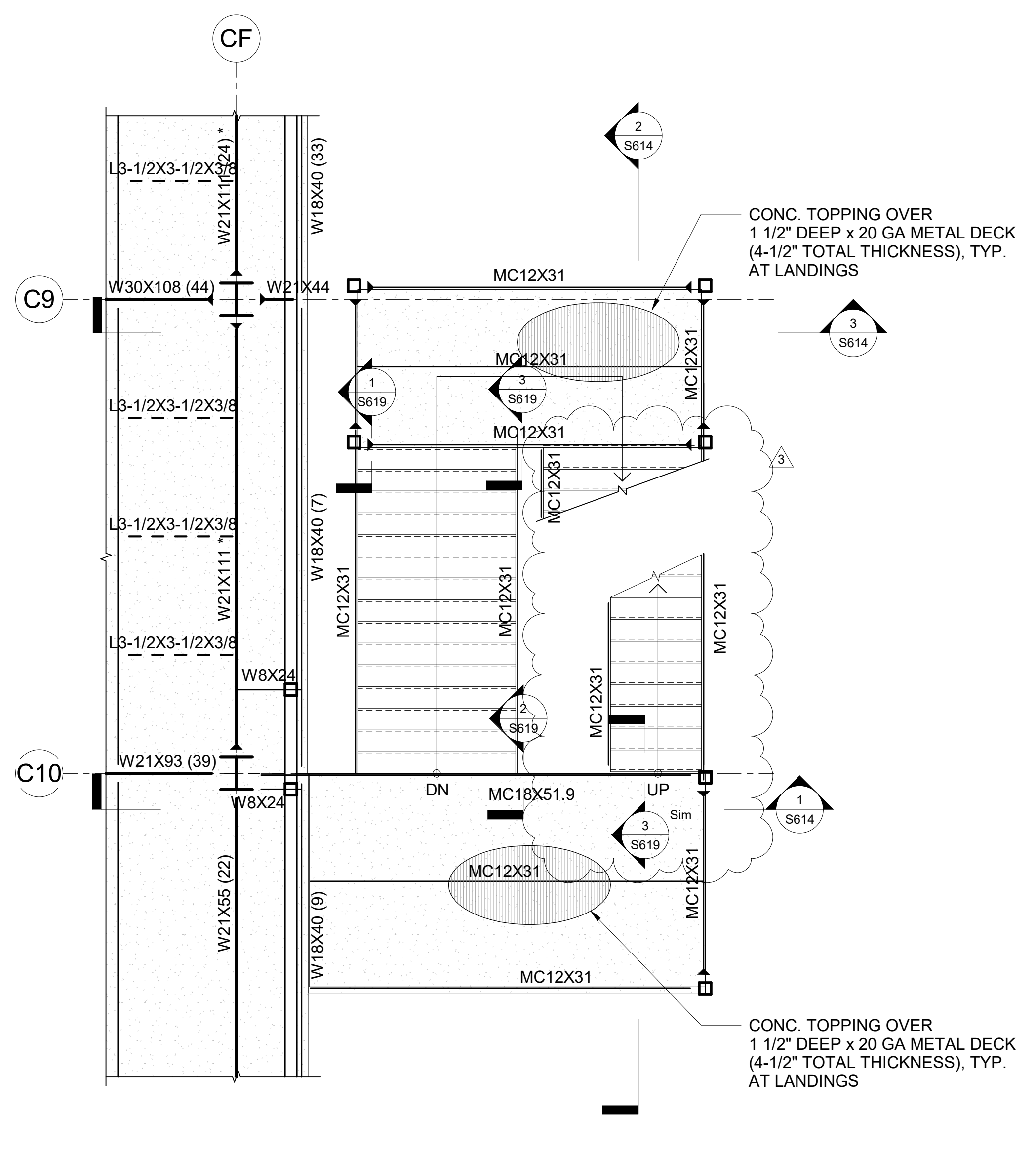
18" THK. CONCRETE PAD FOR GENERATOR  
5" THK. CONC. SLAB ON GRADE



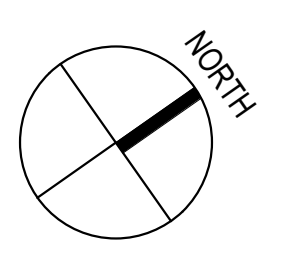
**3 ENLARGED STAIR #3 FRAMING PLAN AT ROOF LEVEL**  
1/4" = 1'-0"



**1 ENLARGED STAIR #3 AT FOUNDATION PLAN**  
1/4" = 1'-0"



**2 ENLARGED STAIR #3 FRAMING PLAN AT CONCOURSE LEVEL**  
1/4" = 1'-0"



NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

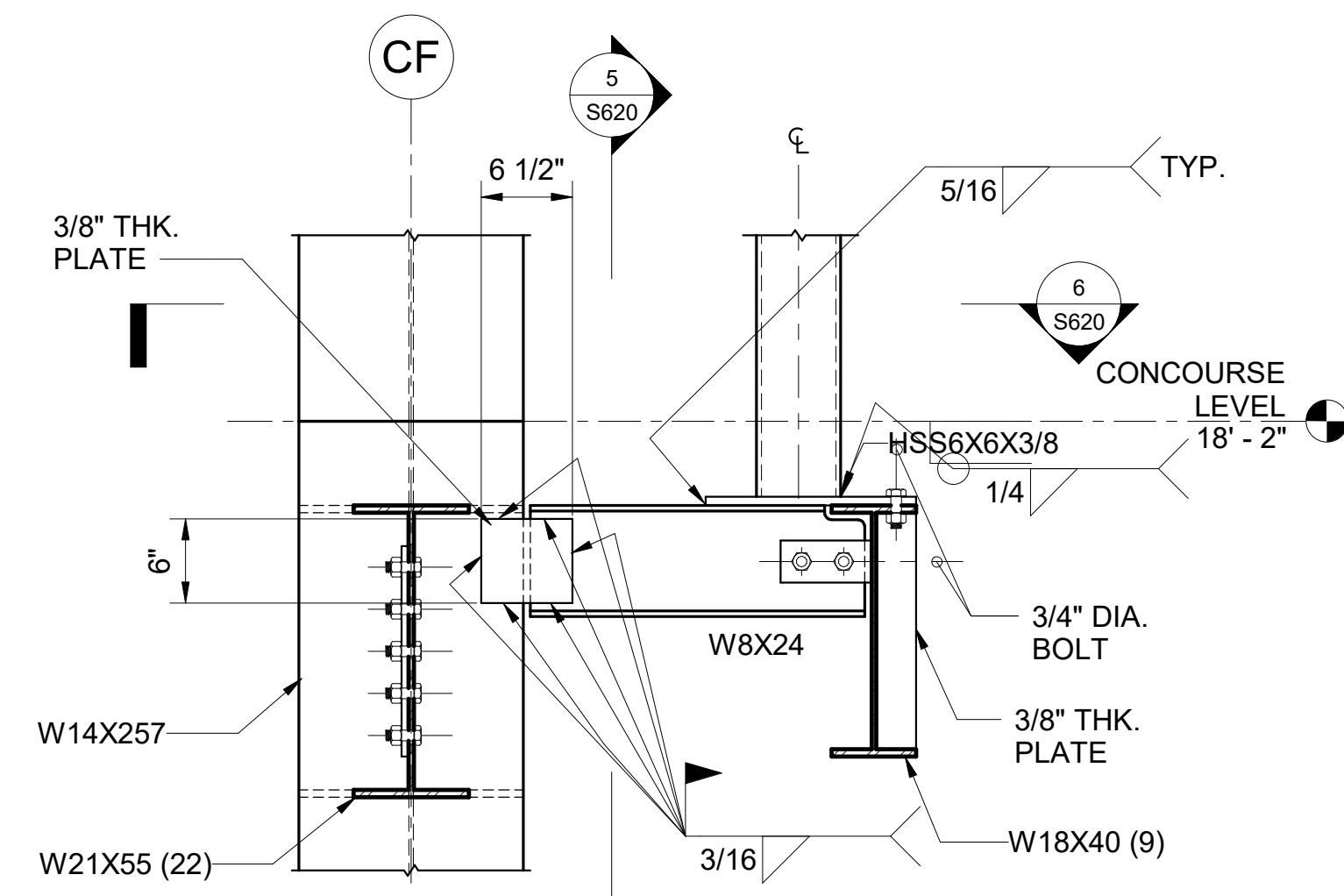
SHEET TITLE:

**ENLARGED STAIR FRAMING PLANS**

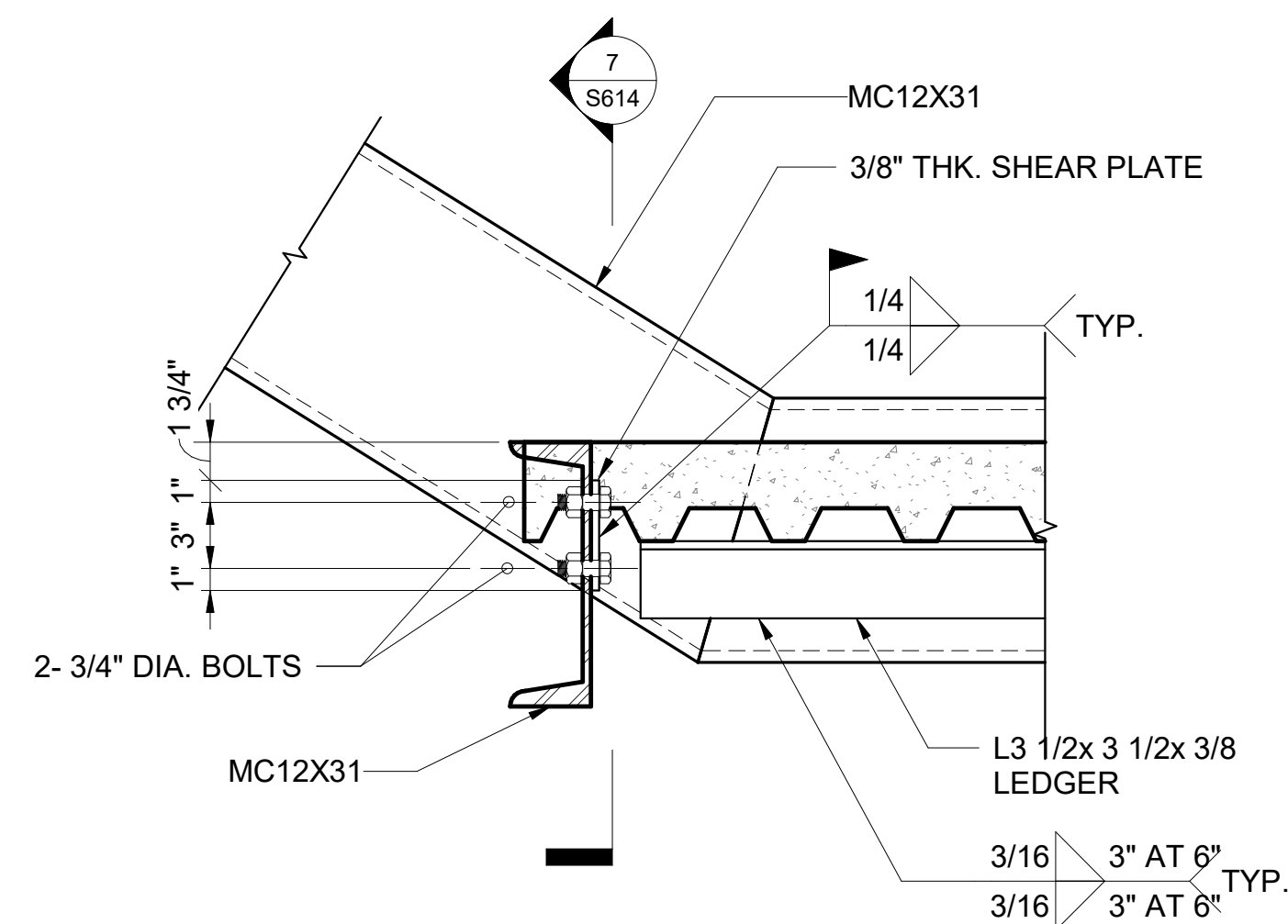
DATE: **MAY 26, 2023**

SHEET: **S613**

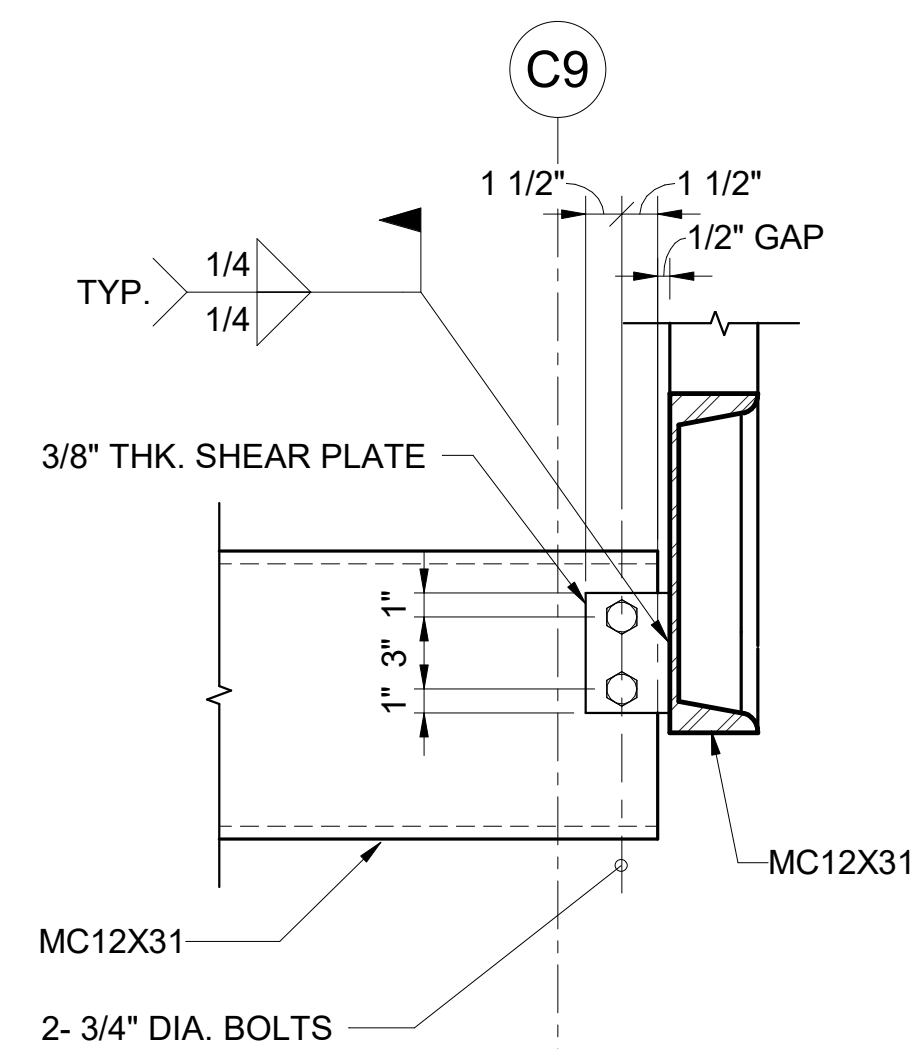
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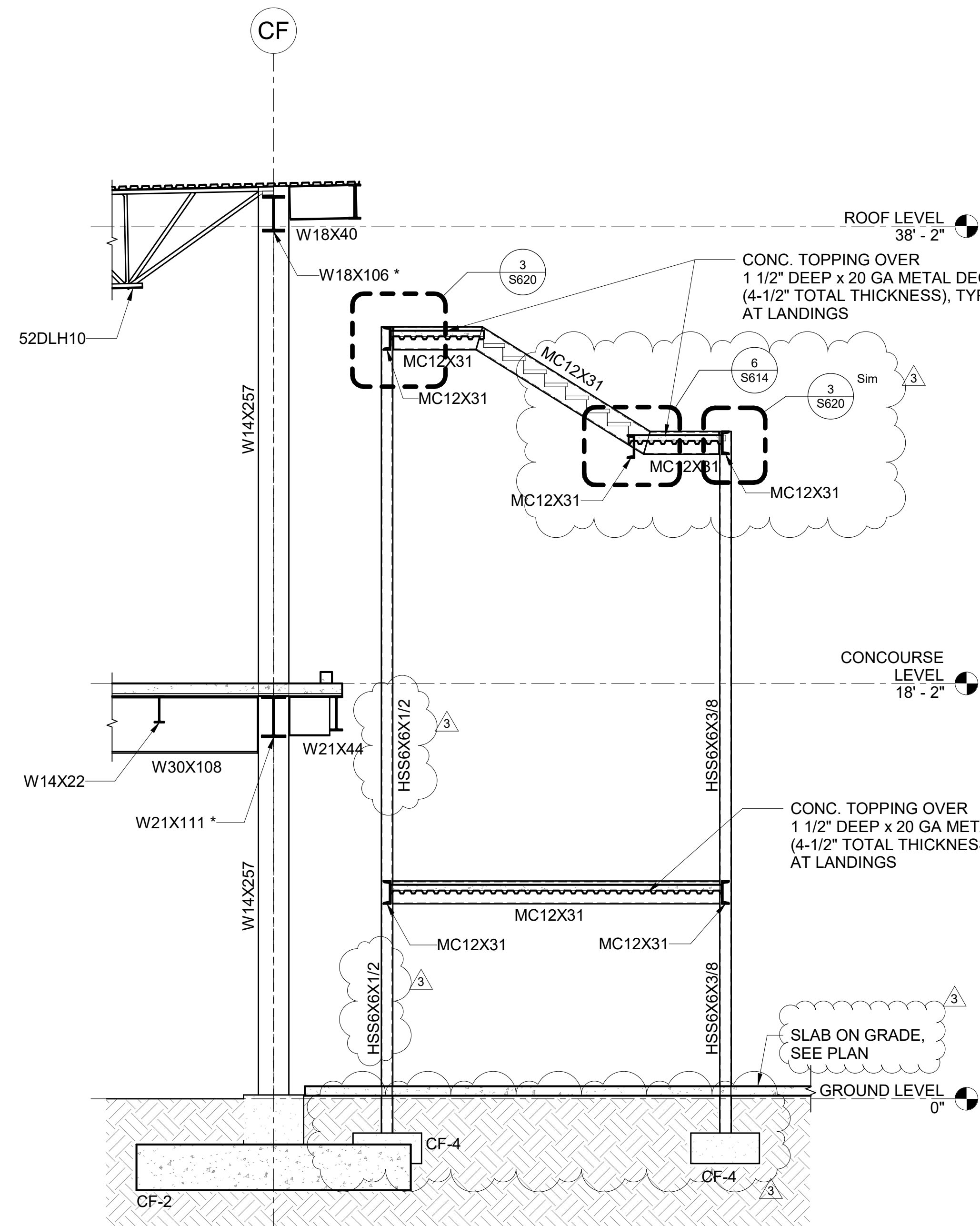
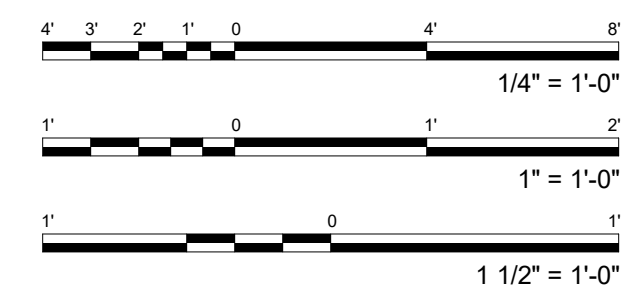
5 SECTION  
1" = 1'-0"



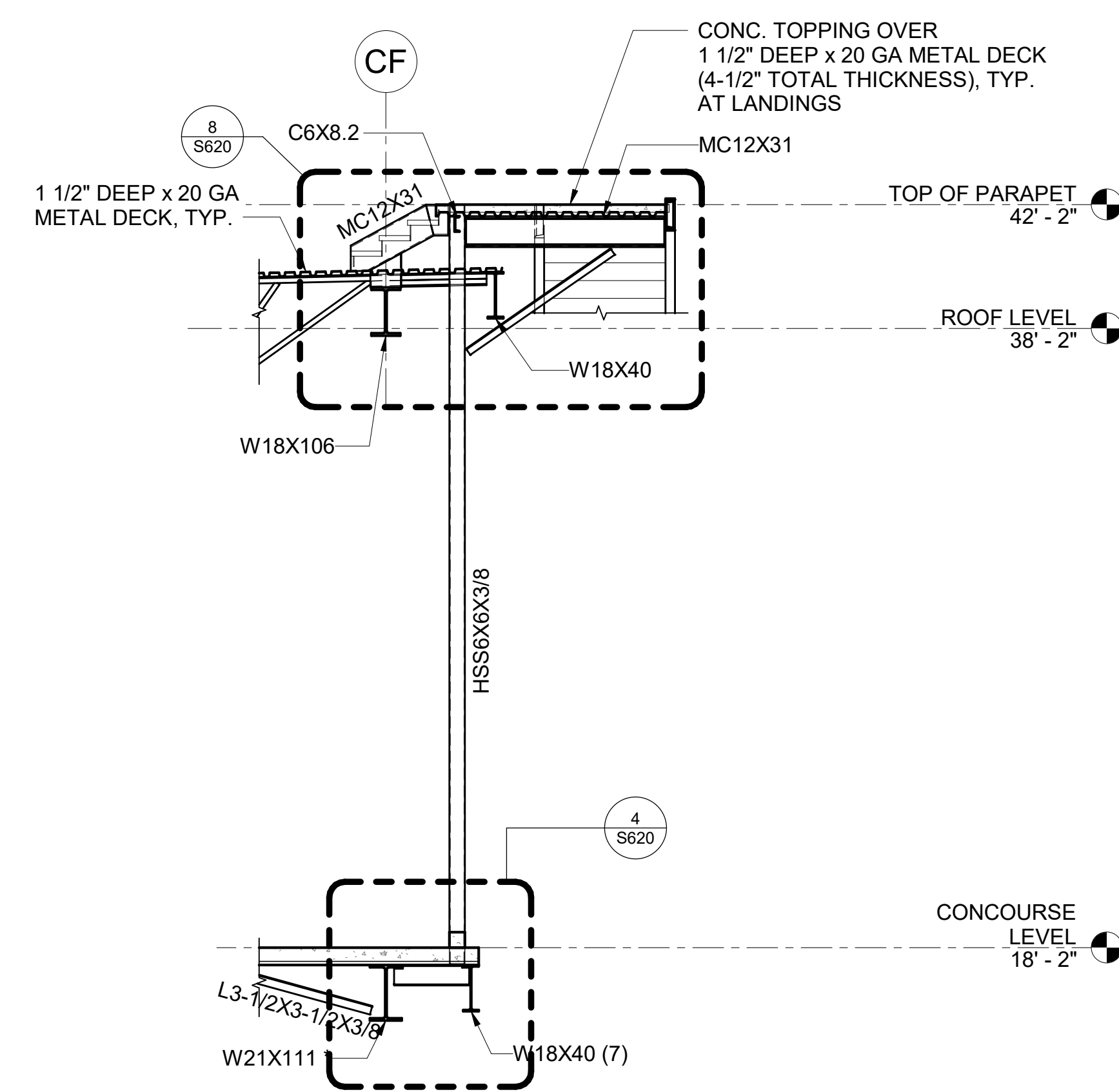
6 DETAIL  
1 1/2" = 1'-0"



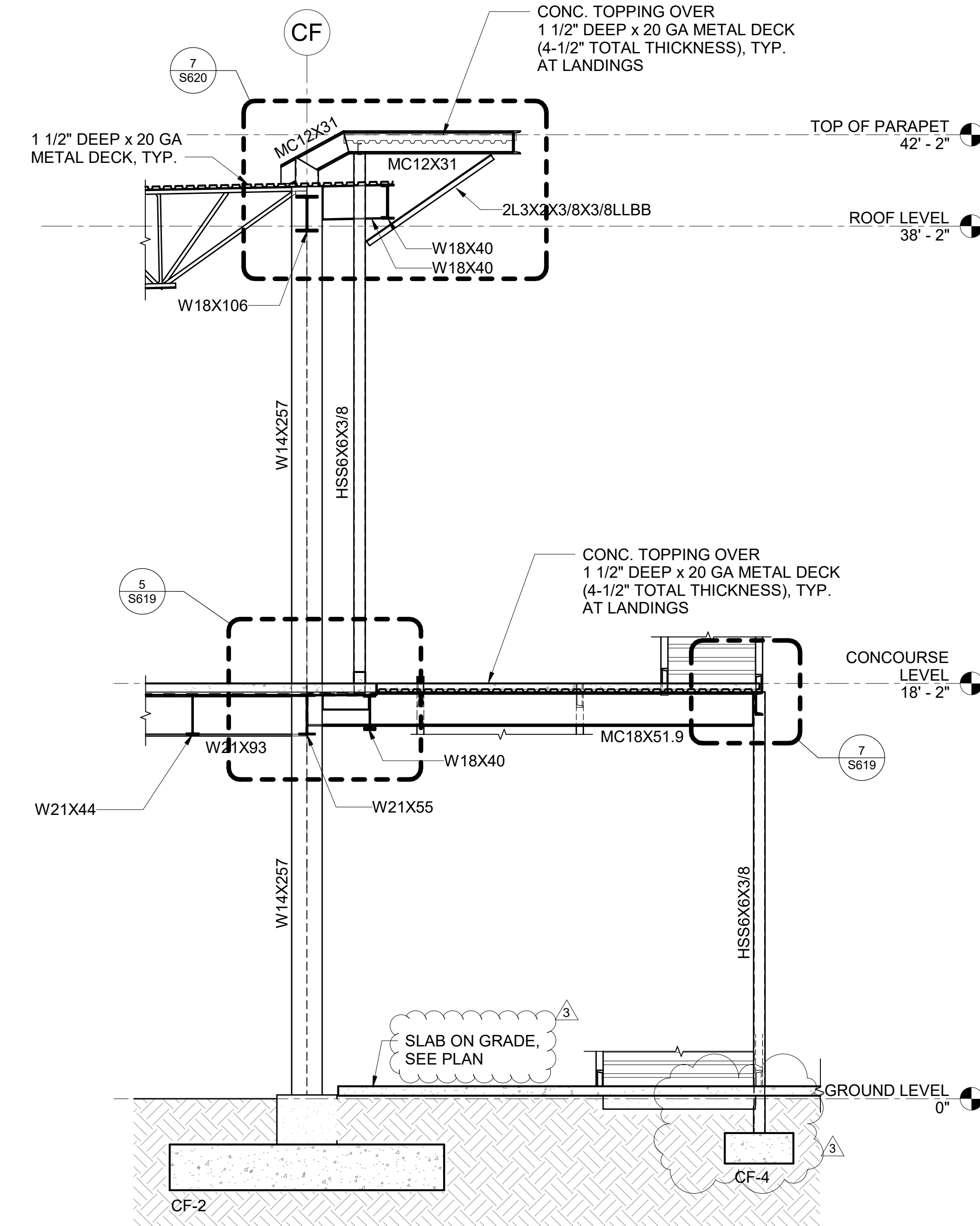
7 SECTION  
1 1/2" = 1'-0"



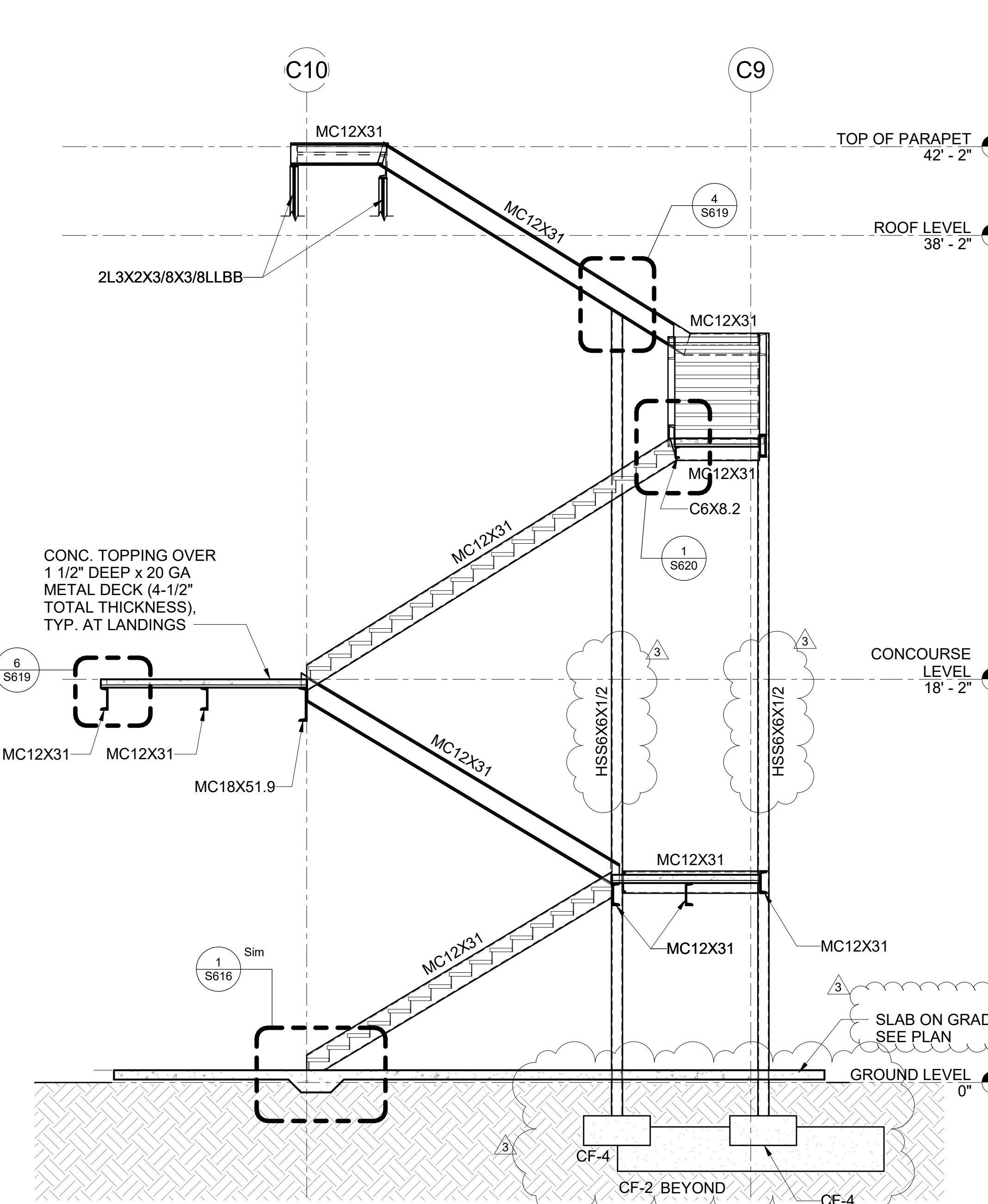
3 STAIR #3 DETAILED SECTION  
1/4" = 1'-0"



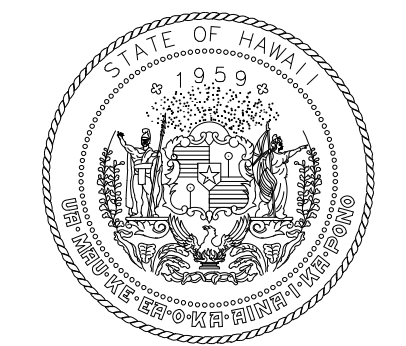
4 STAIR #3 DETAILED SECTION  
1/4" = 1'-0"



1 STAIR #3 DETAILED SECTION  
1/4" = 1'-0"



2 STAIR #3 DETAILED SECTION  
1/4" = 1'-0"



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Kathleen Y. Wong*  
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No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

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MS	LC	KW	

KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

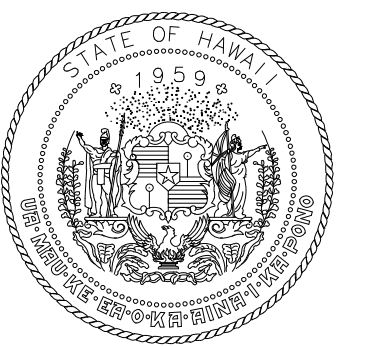
PROJECT TITLE:  
**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII  
PROJECT NO:  
**AM1095-10**

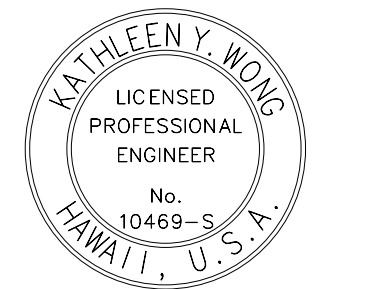
SHEET TITLE:  
**ENLARGED STAIR DETAILED SECTIONS**

DATE: <b>MAY 26, 2023</b>	DWG. NO. <b>S614</b>
SHEET:	

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

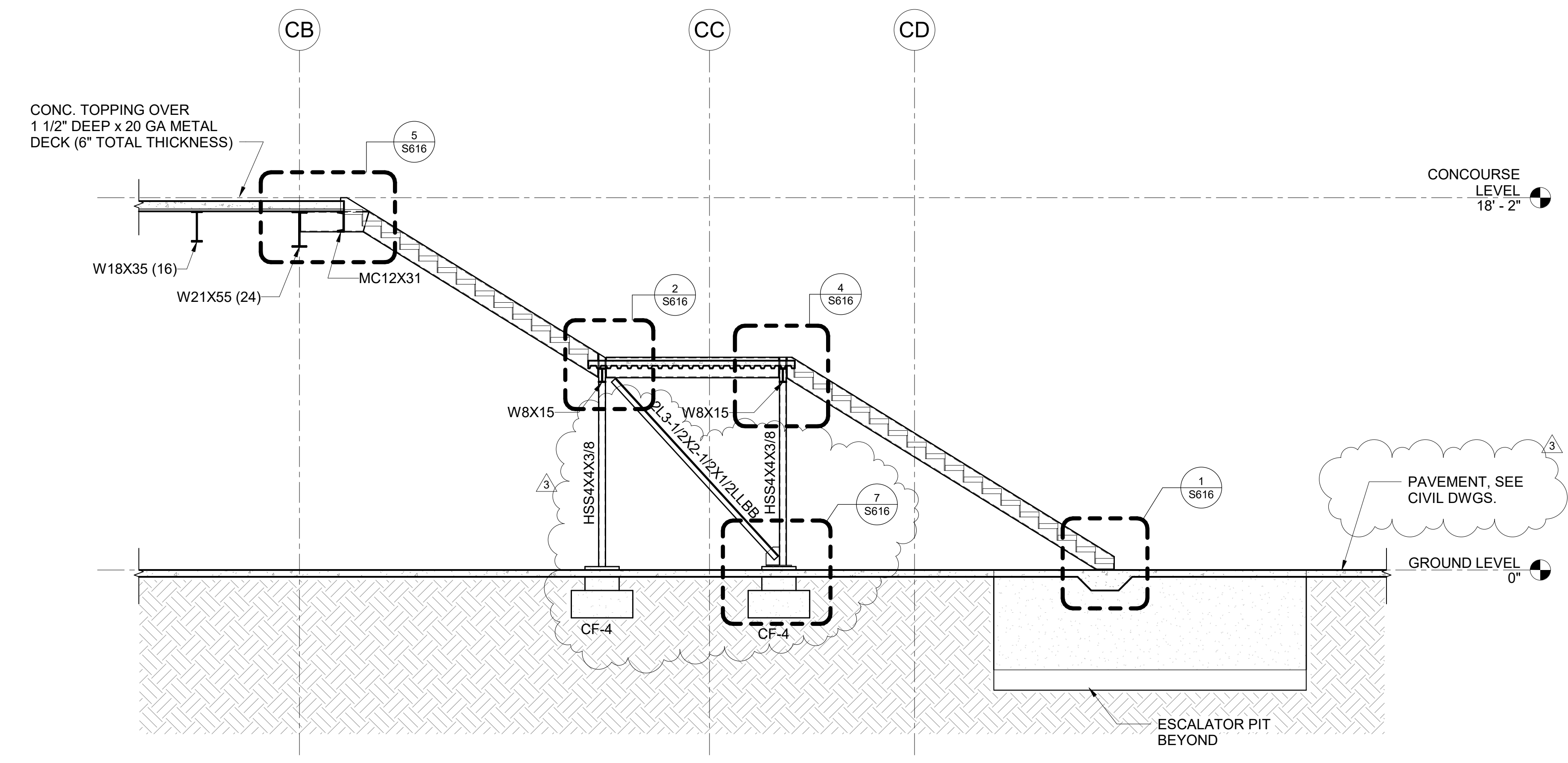


*Kathleen Y. Wong*  
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04/30/2024  
License Expiration Date

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MS	LC	KW	

KEY PLAN / NOTES:



1 STAIR #1 DETAILED SECTION  
1/4" = 1'-0"

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

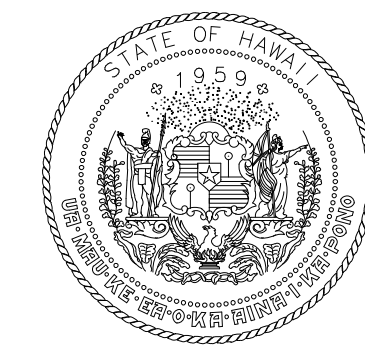
SHEET TITLE:

**STAIR #1 SECTIONS AND DETAILS**

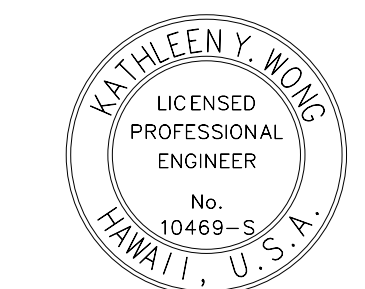
DATE: <b>MAY 26, 2023</b>	DWG. NO. <b>S615</b>
SHEET: 183 OF 333 SHEETS	







STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

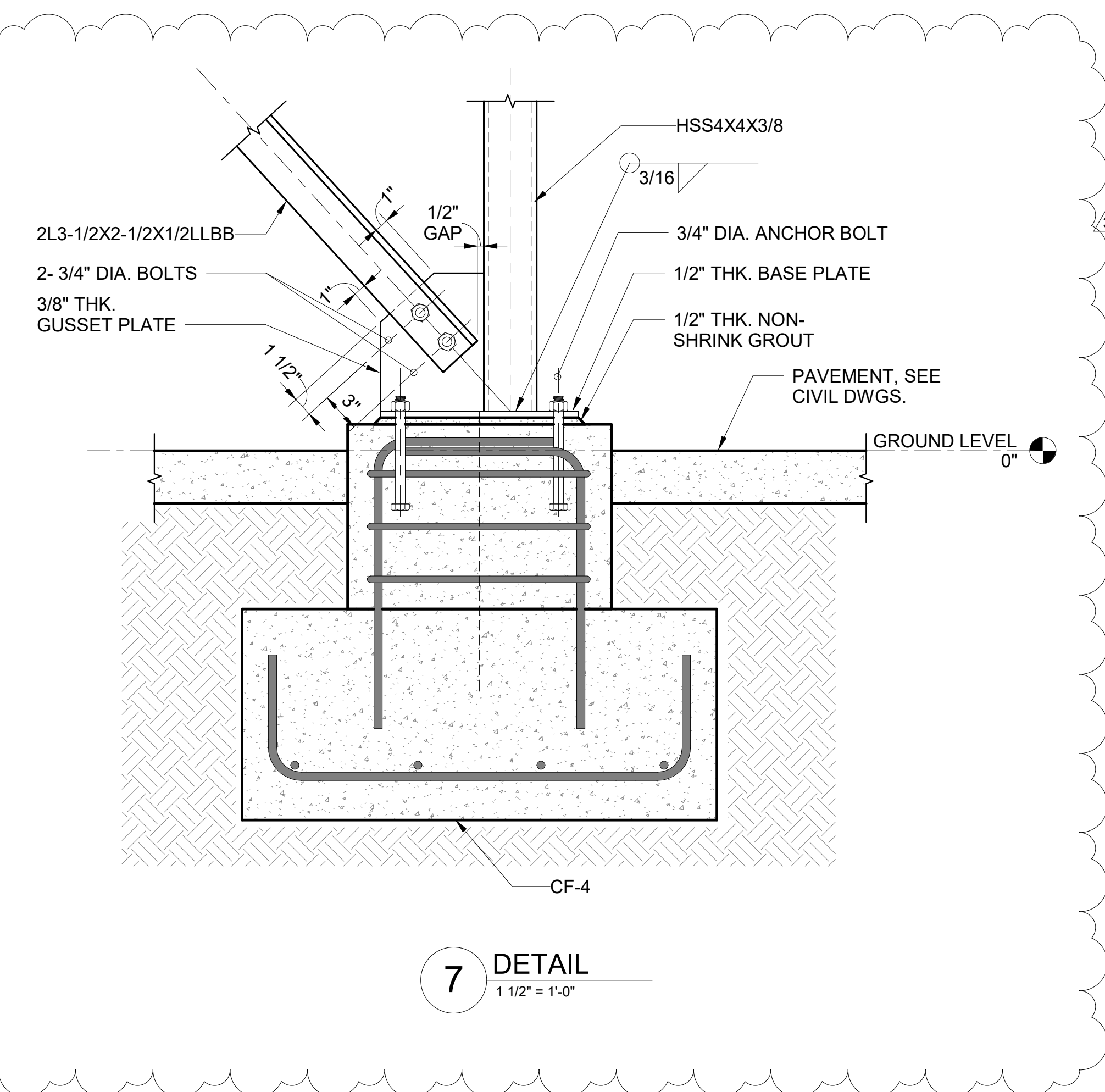


*Kathleen Wong*  
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No. 10469-S  
HAWAII, U.S.A.  
04/30/2024  
License Expiration Date

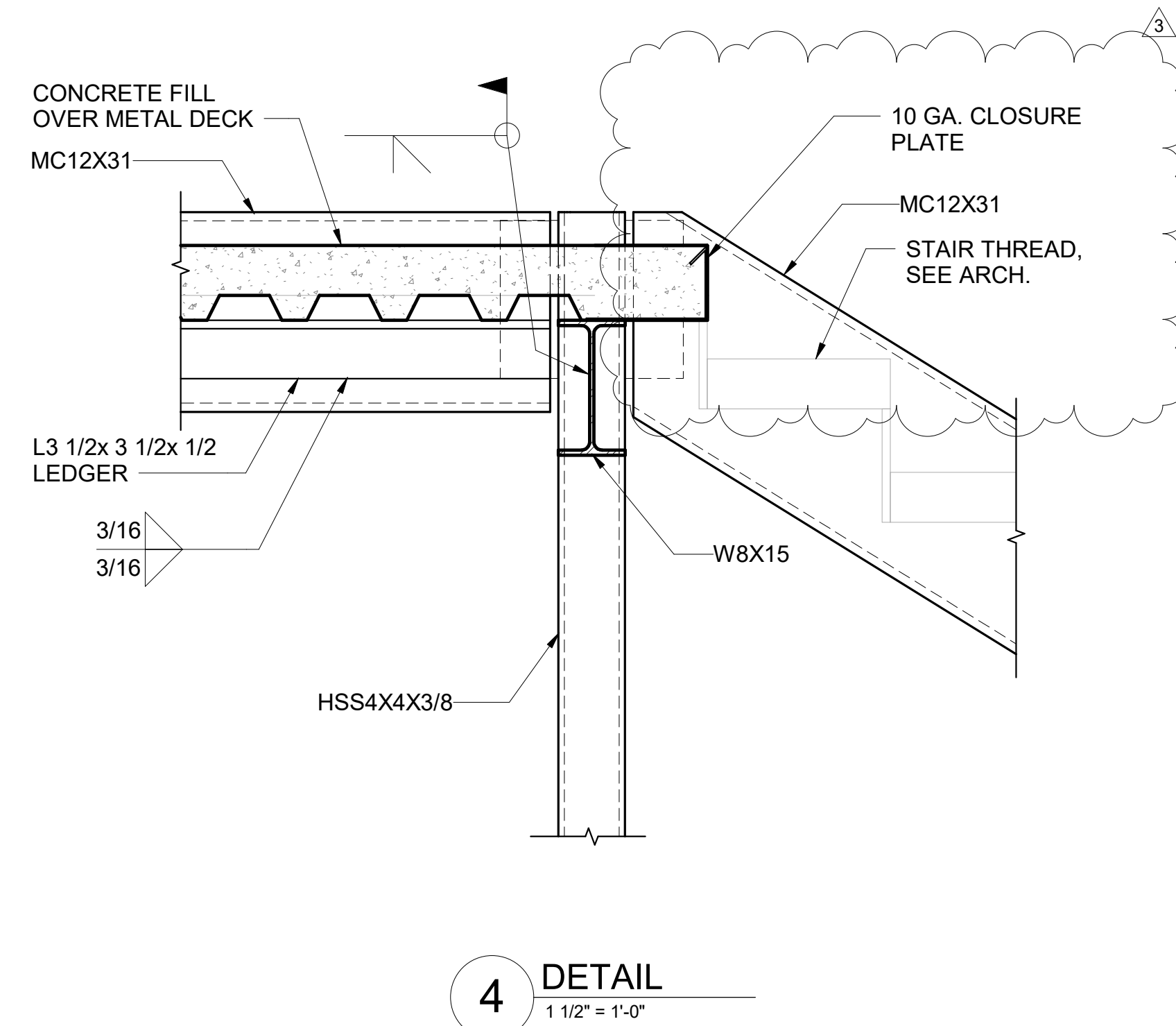
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MS	LC	KW	

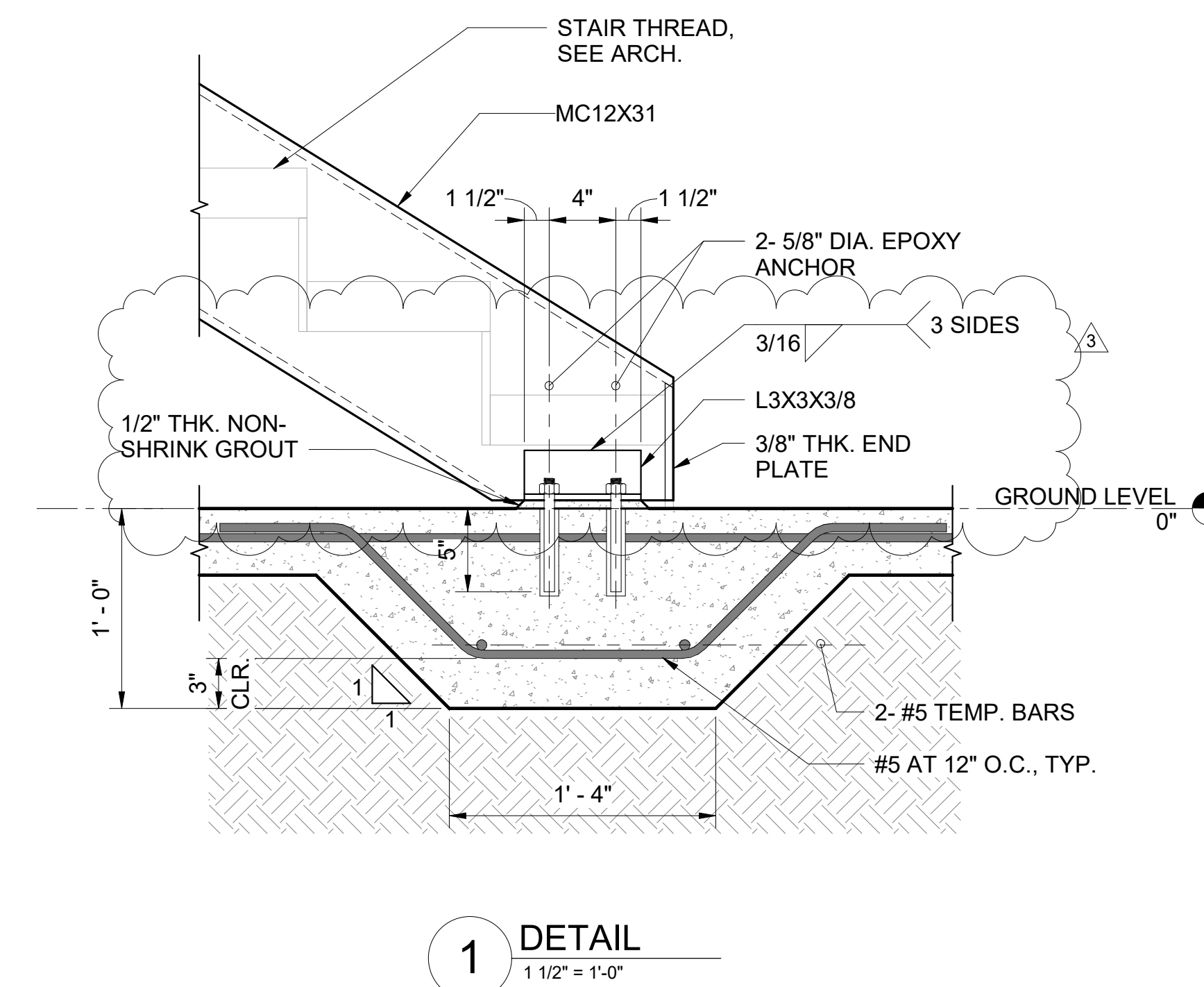
**KEY PLAN / NOTES:**



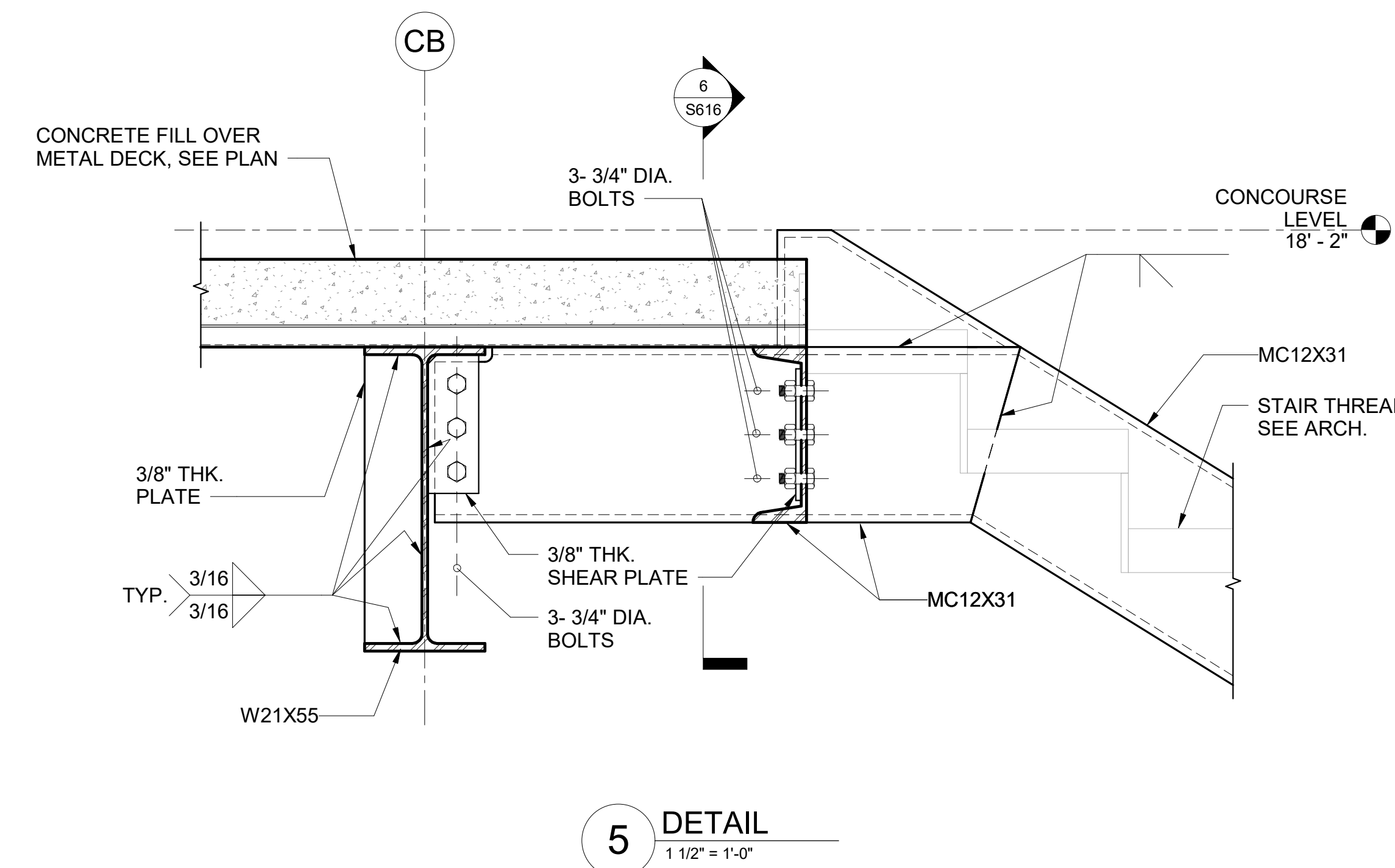
**7 DETAIL**  
1 1/2" = 1'-0"



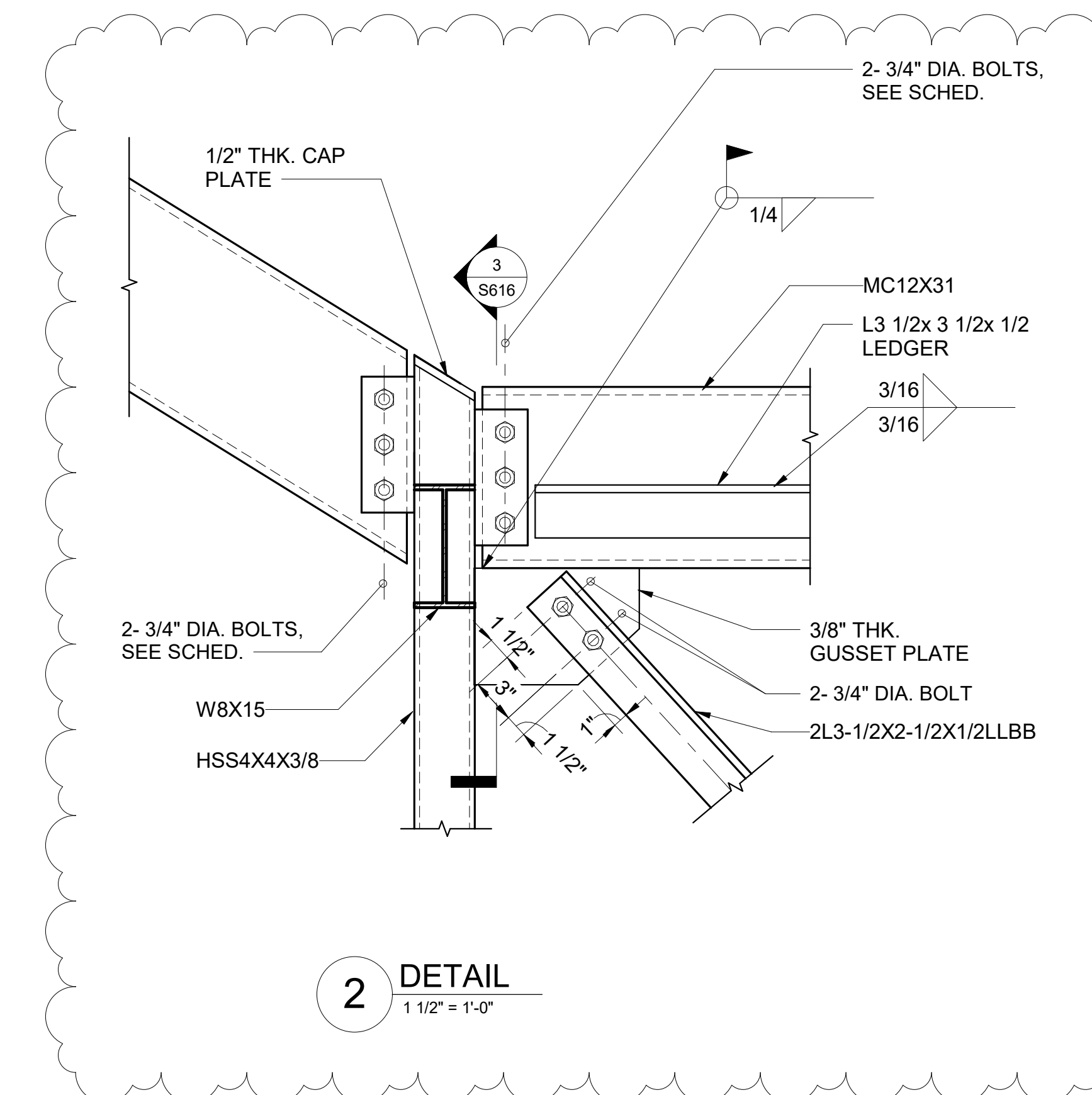
**4 DETAIL**  
1 1/2" = 1'-0"



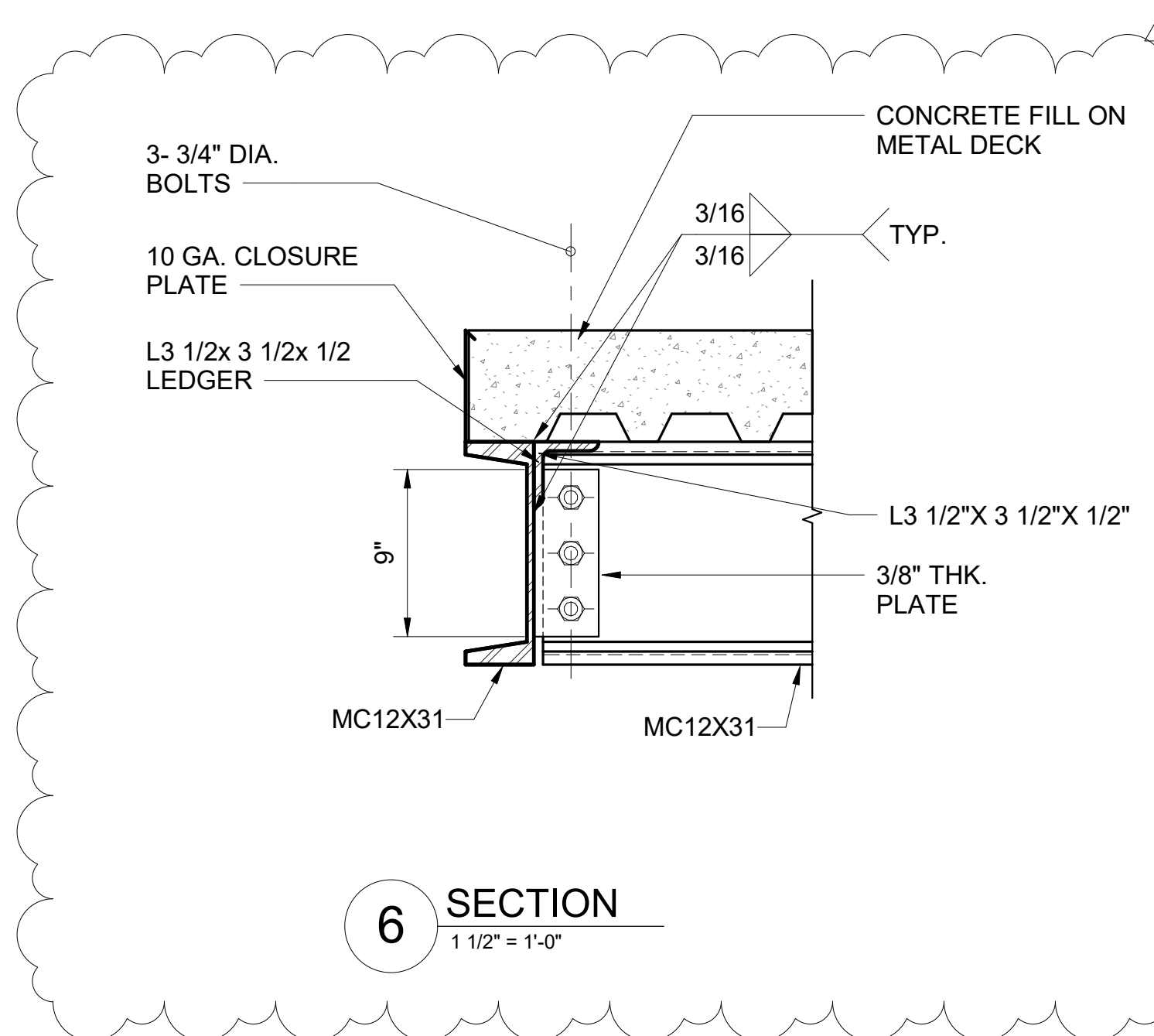
**1 DETAIL**  
1 1/2" = 1'-0"



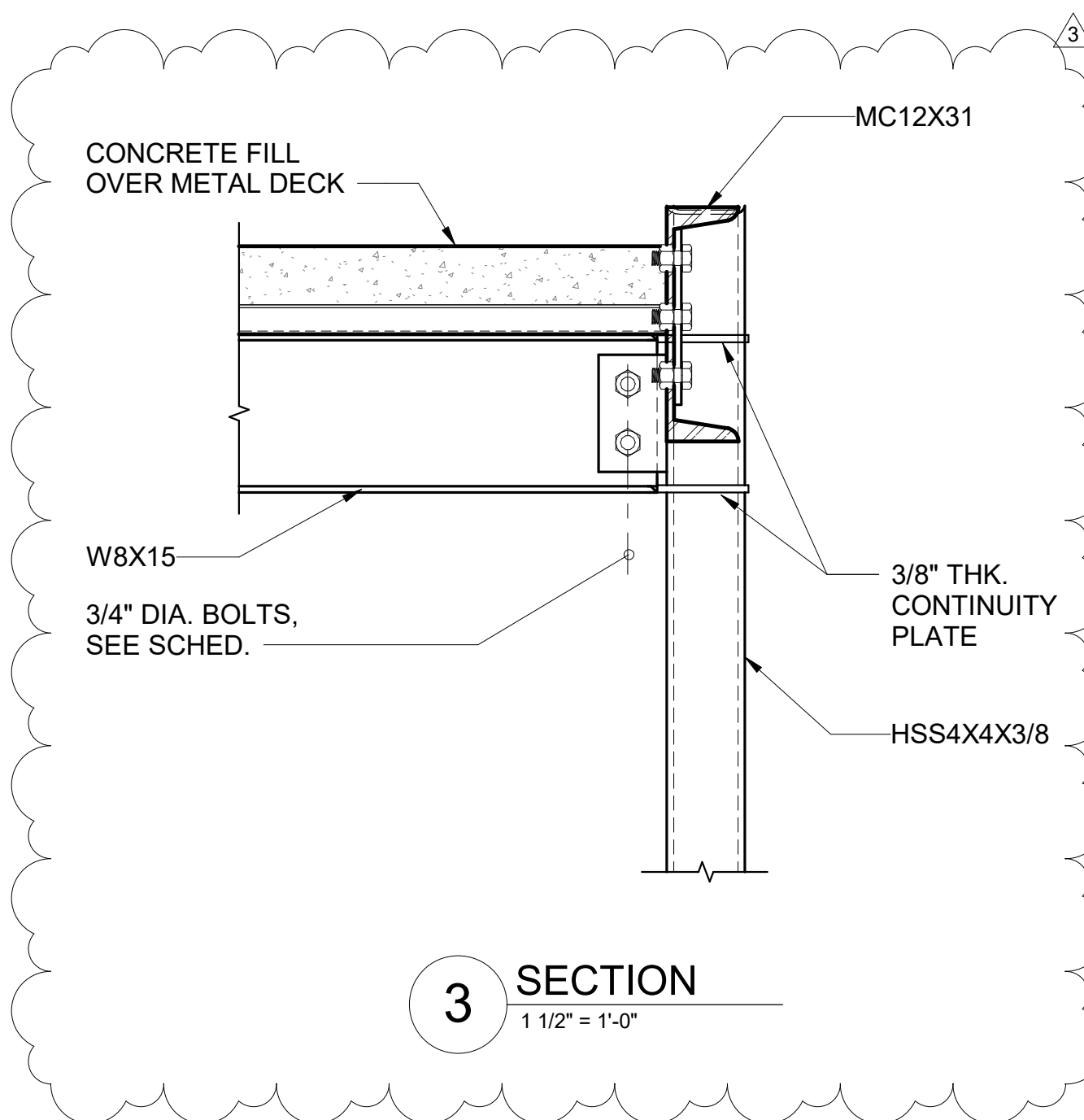
**5 DETAIL**  
1 1/2" = 1'-0"



**2 DETAIL**  
1 1/2" = 1'-0"



**6 SECTION**  
1 1/2" = 1'-0"



**3 SECTION**  
1 1/2" = 1'-0"



8/30/2023 10:14:03 PM

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

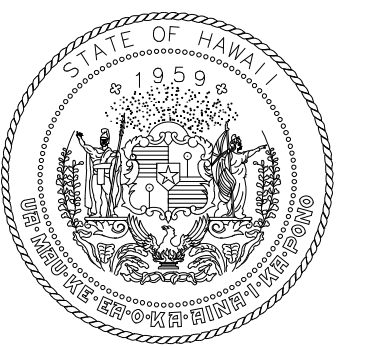
**STAIR #1 SECTIONS AND DETAILS**

DATE: DWG. NO.

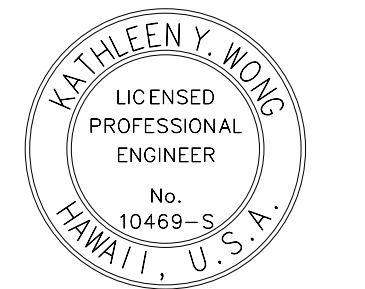
MAY 26, 2023 S616

SHEET: 184 OF 333 SHEETS





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

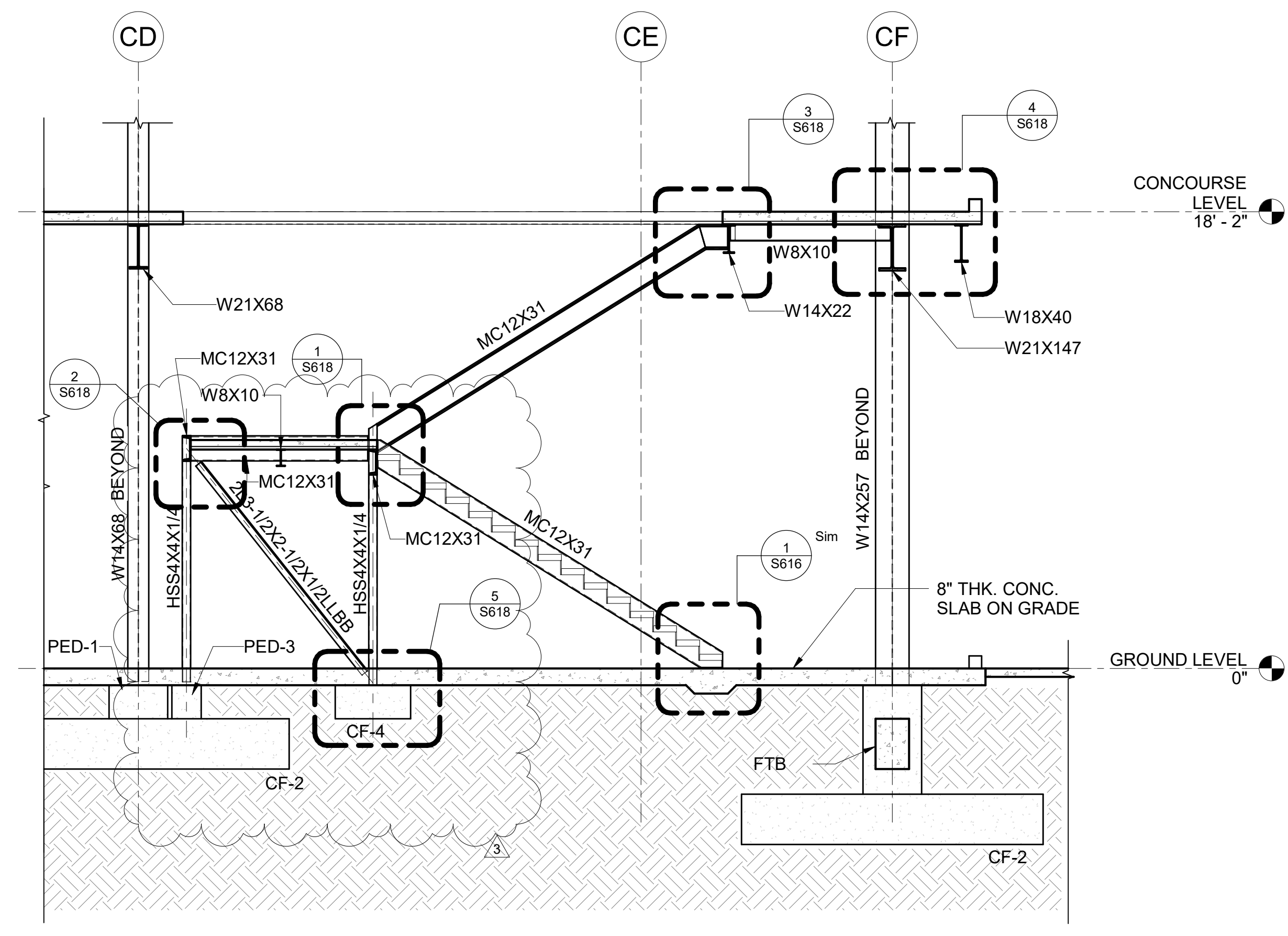


*Kathleen Y. Wong*  
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No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

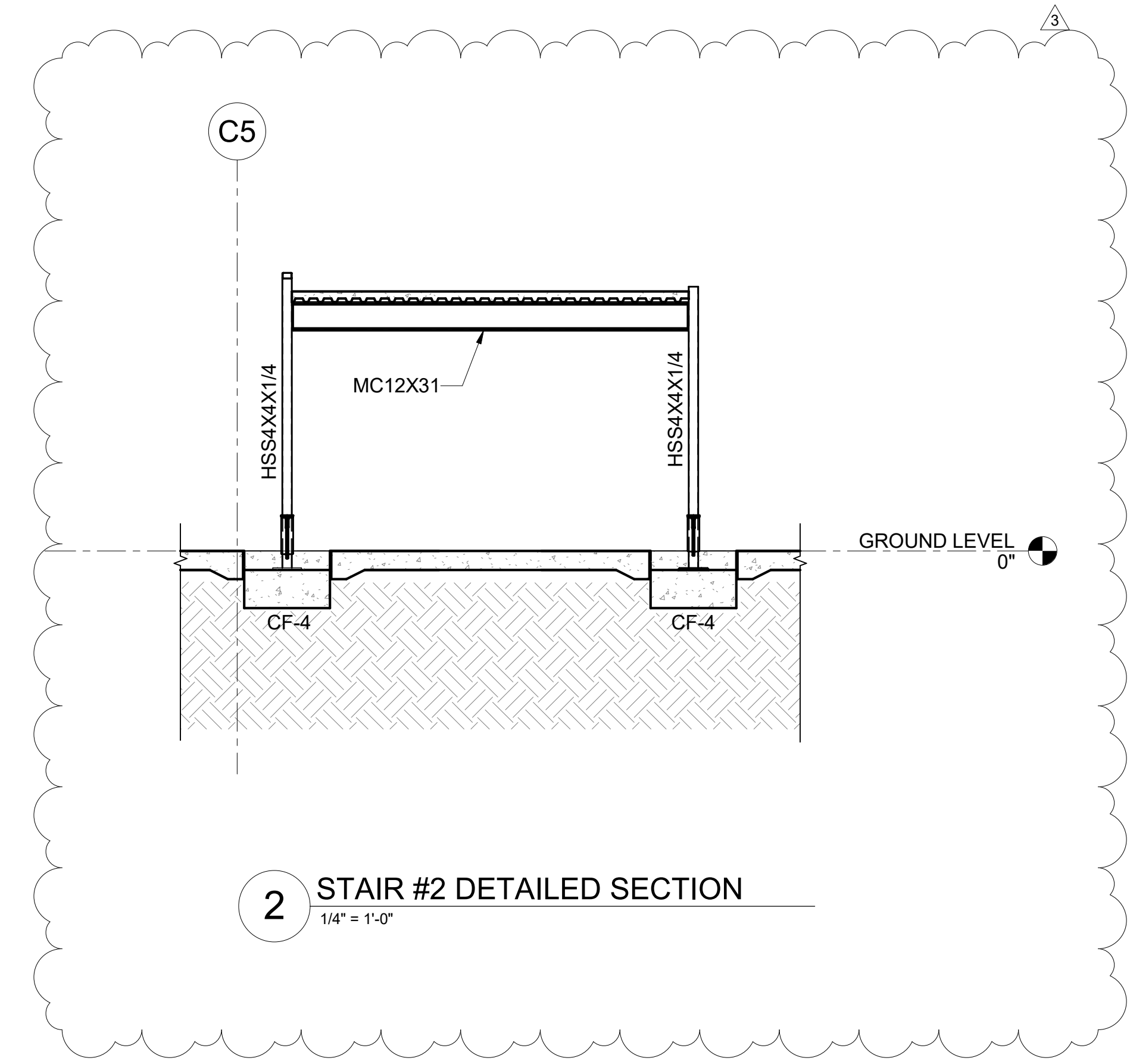
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MS	LC	KW	

**KEY PLAN / NOTES:**



**1 STAIR #2 DETAILED SECTION**  
1/4" = 1'-0"



**2 STAIR #2 DETAILED SECTION**  
1/4" = 1'-0"

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

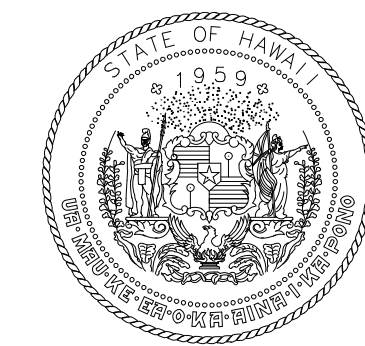
**AM1095-10**

SHEET TITLE:

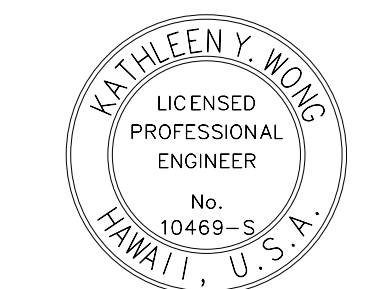
**STAIR #2 SECTIONS AND DETAILS**

DATE:	DWG. NO.
MAY 26, 2023	S617
SHEET:	185 OF 333 SHEETS





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

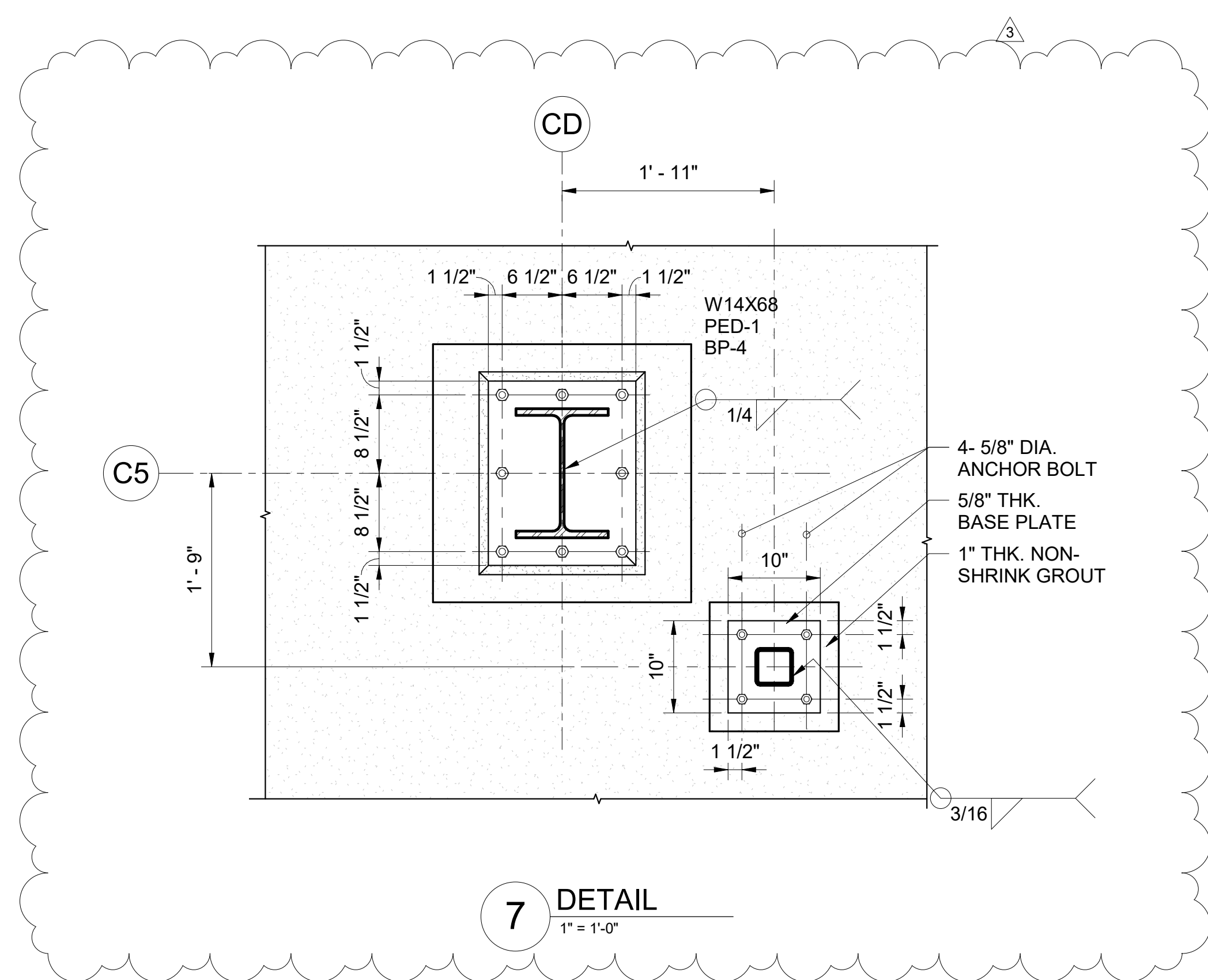


*Kathleen Wong*  
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License Expiration Date: 04/30/2024

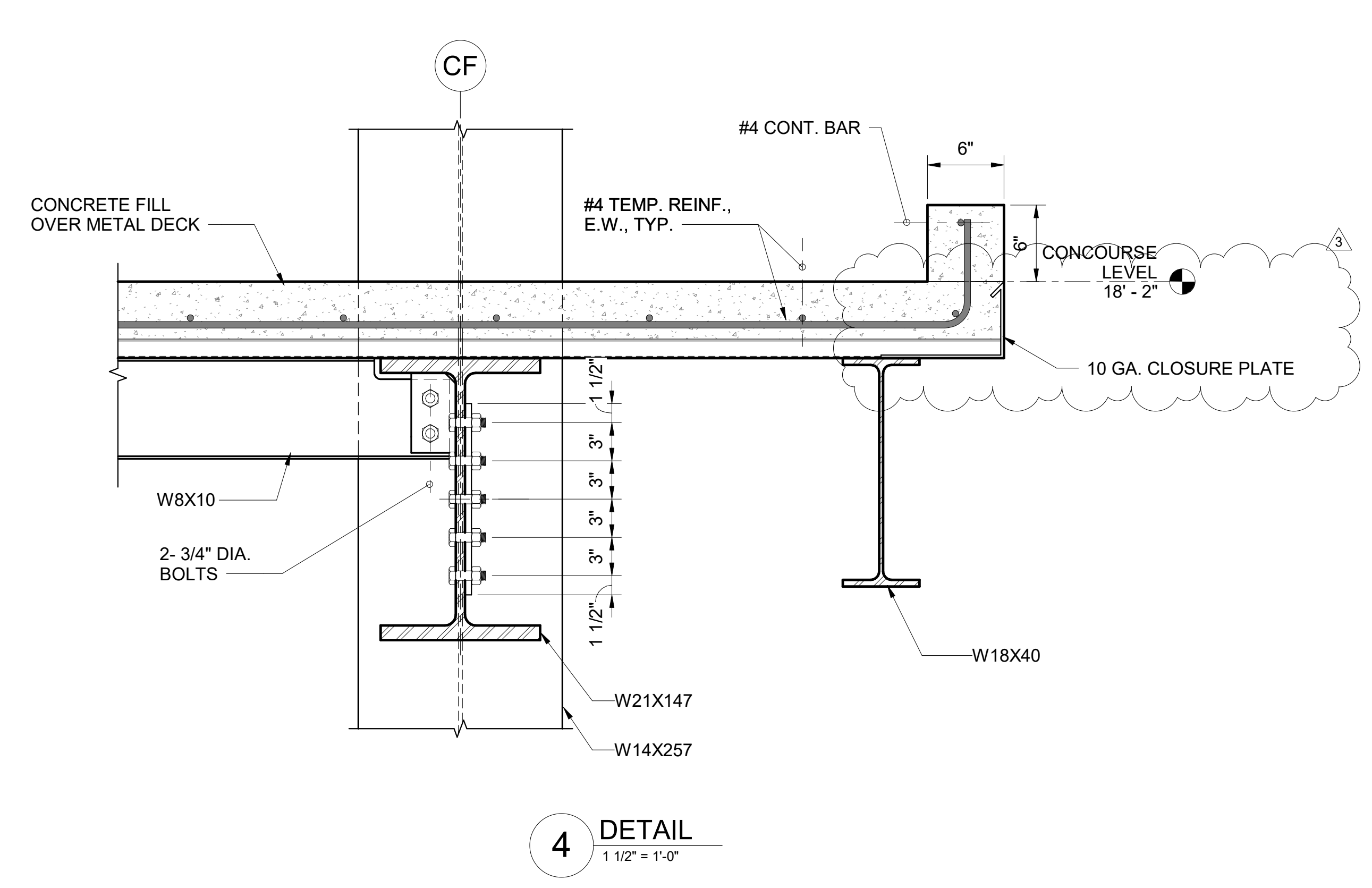
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MS	LC	KW	

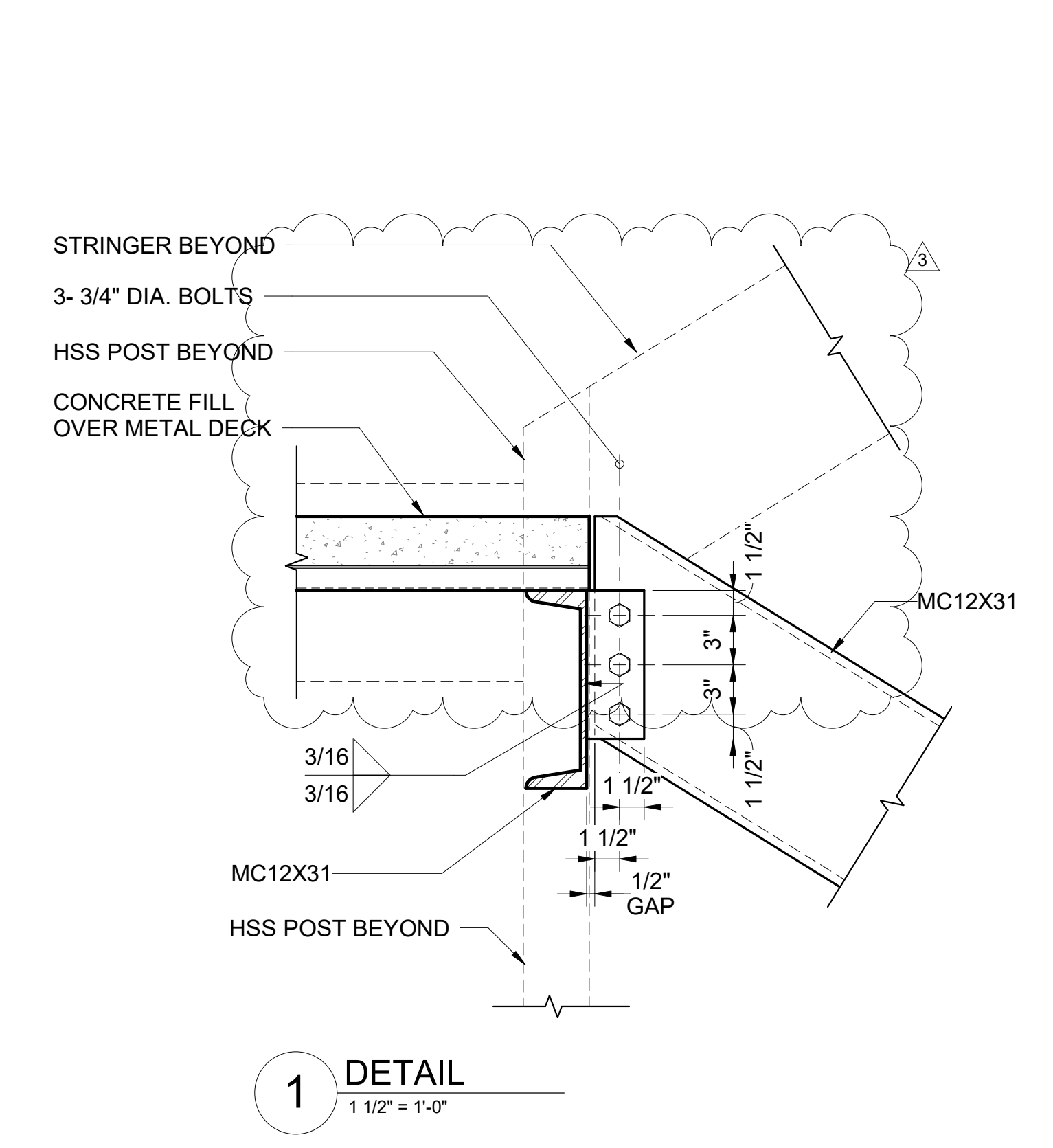
**KEY PLAN / NOTES:**



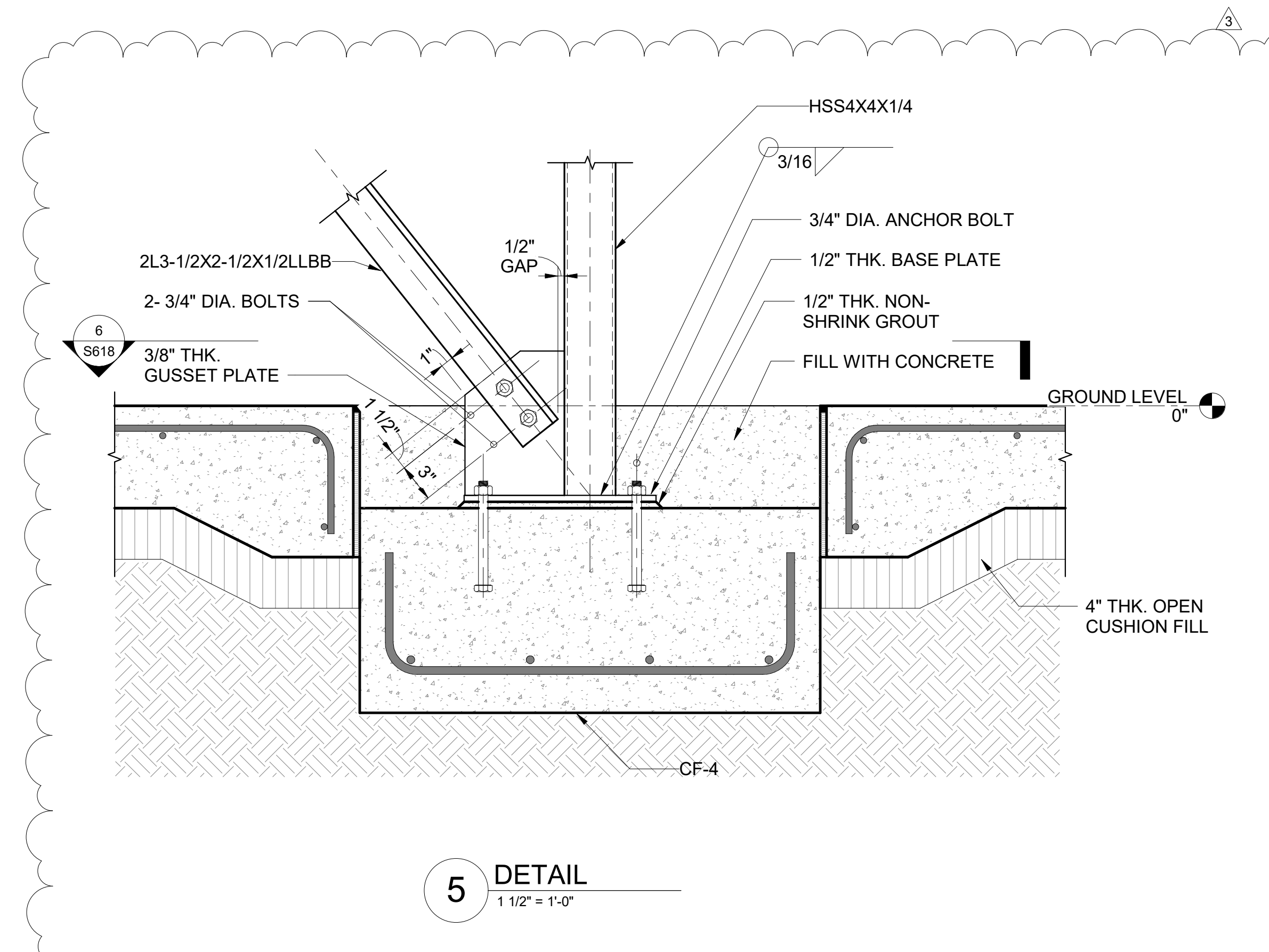
**7 DETAIL**  
1" = 1'-0"



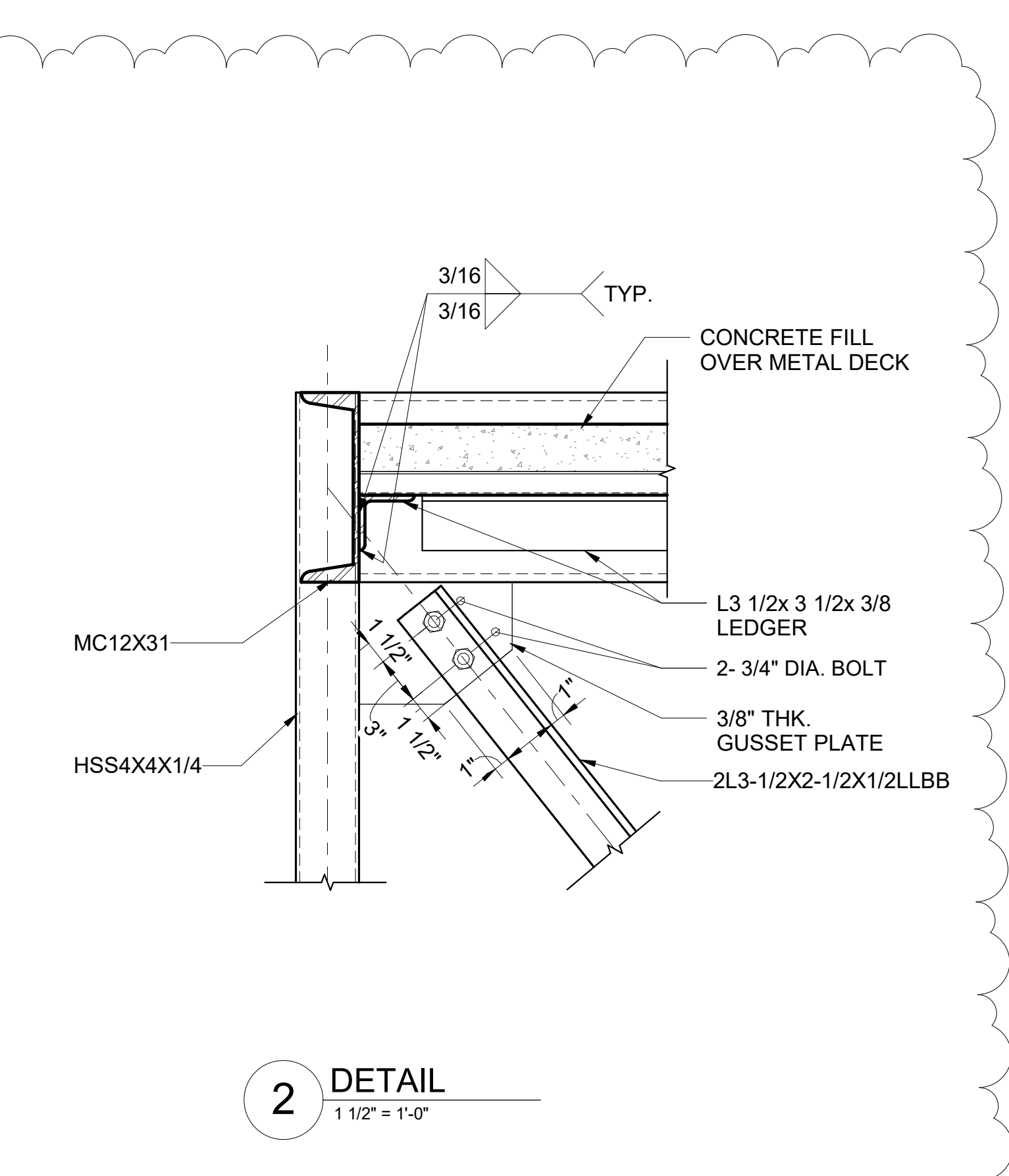
**4 DETAIL**  
1 1/2" = 1'-0"



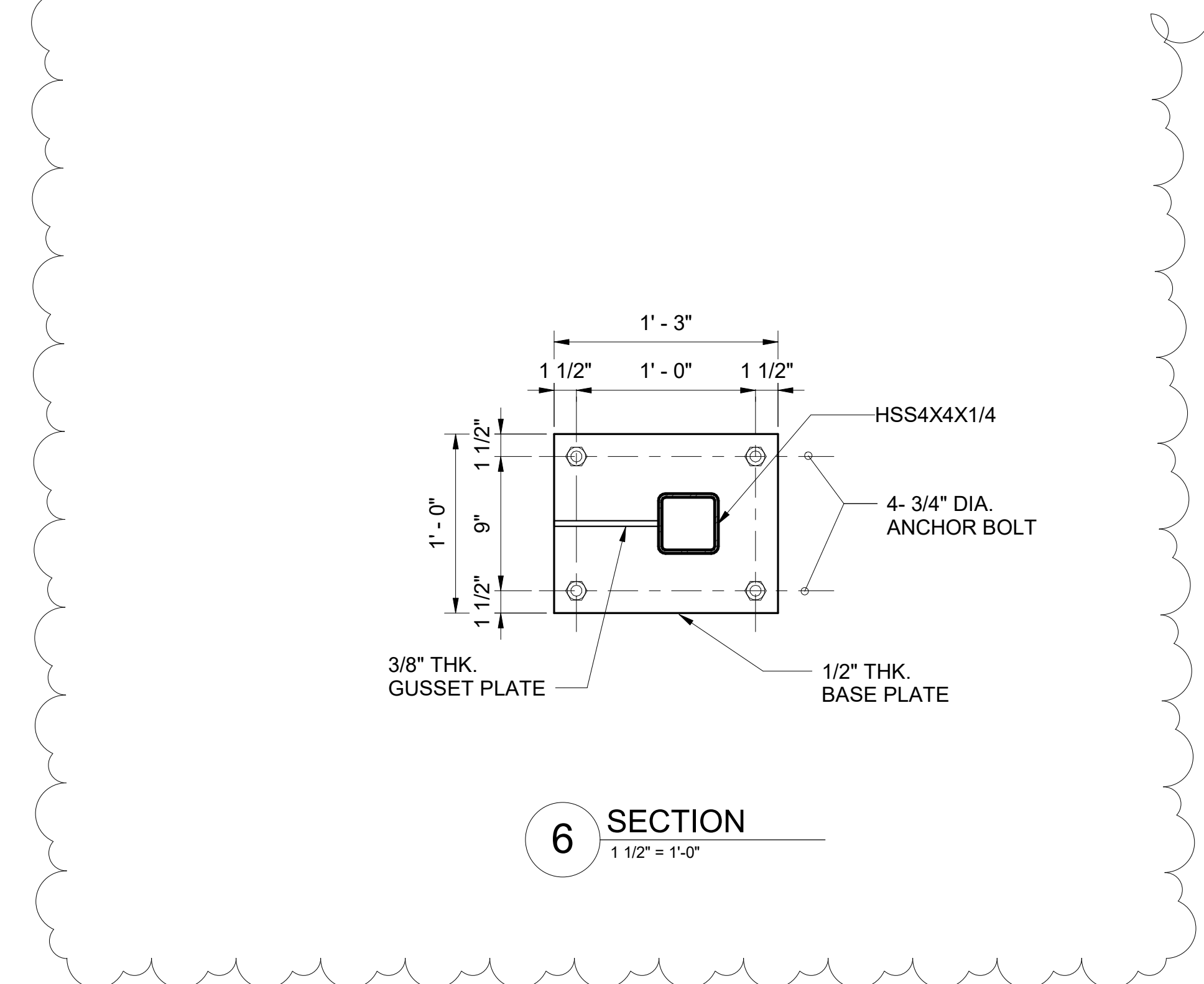
**1 DETAIL**  
1 1/2" = 1'-0"



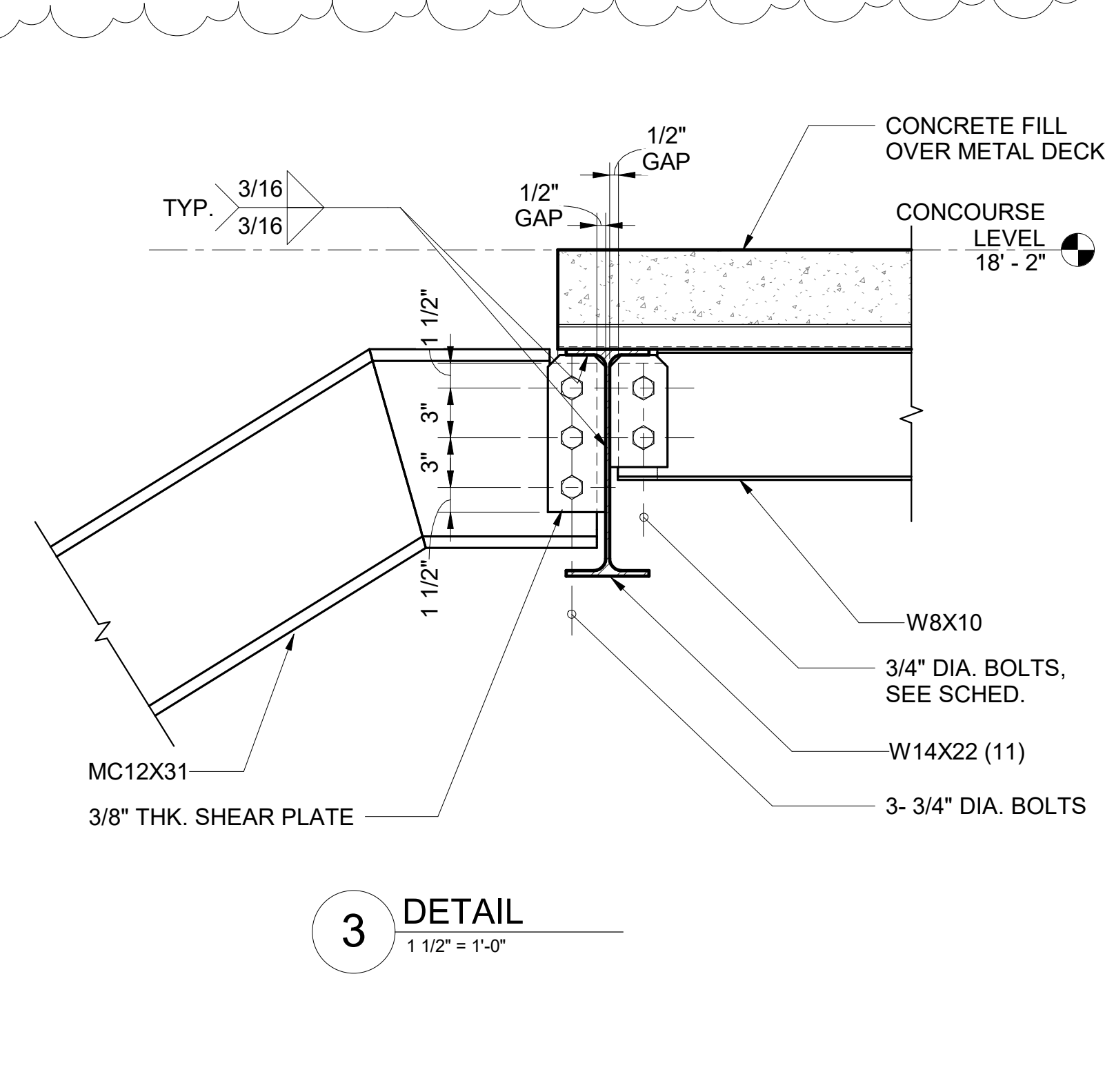
**5 DETAIL**  
1 1/2" = 1'-0"



**2 DETAIL**  
1 1/2" = 1'-0"



**6 SECTION**  
1 1/2" = 1'-0"



**3 DETAIL**  
1 1/2" = 1'-0"

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

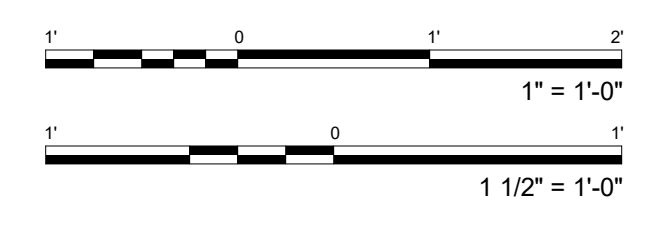
PROJECT NO:

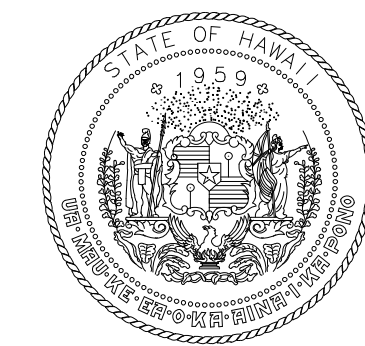
**AM1095-10**

SHEET TITLE:

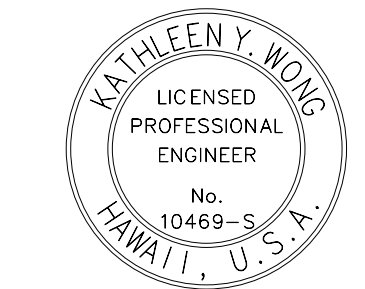
**STAIR #2 SECTIONS AND DETAILS**

DATE:	DWG. NO.
MAY 26, 2023	S618
SHEET:	186 OF 333 SHEETS





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
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LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
License Expiration Date 04/30/2024

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MS	LC	KW	

**KEY PLAN / NOTES:**

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**STAIR #3 SECTIONS AND DETAILS**

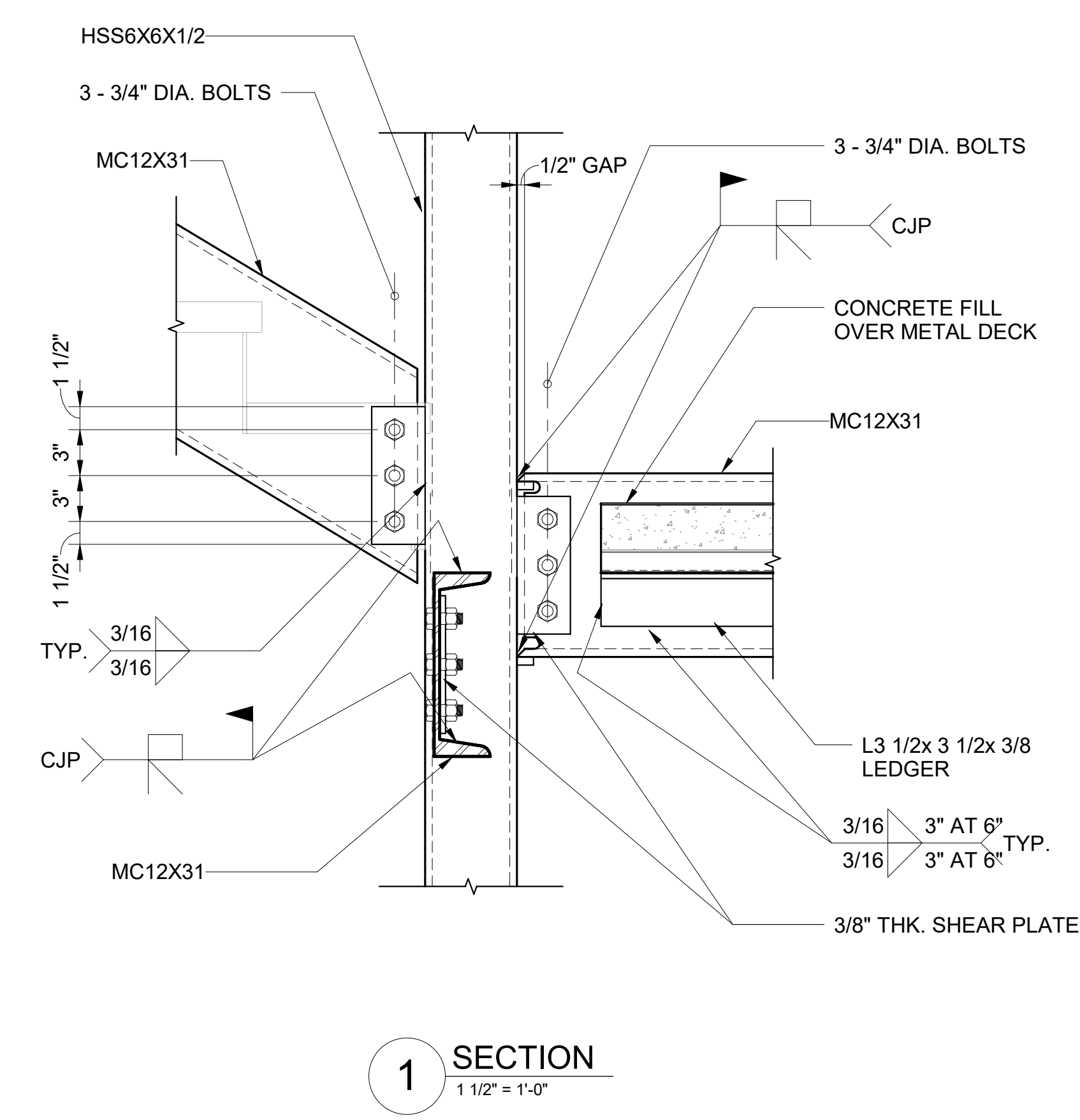
DATE: **MAY 26, 2023**

SHEET:

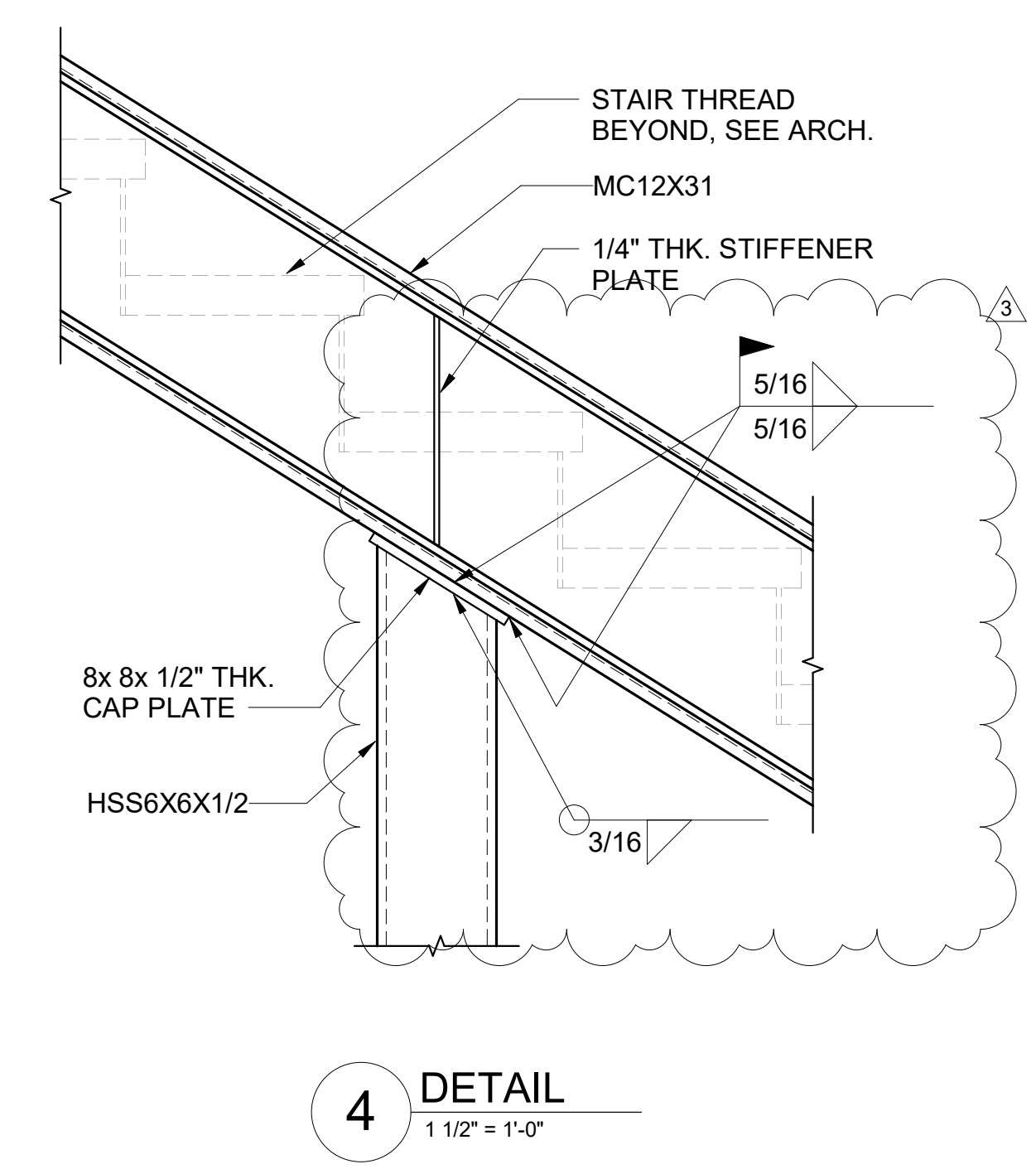
187 OF 333 SHEETS

DWG. NO.

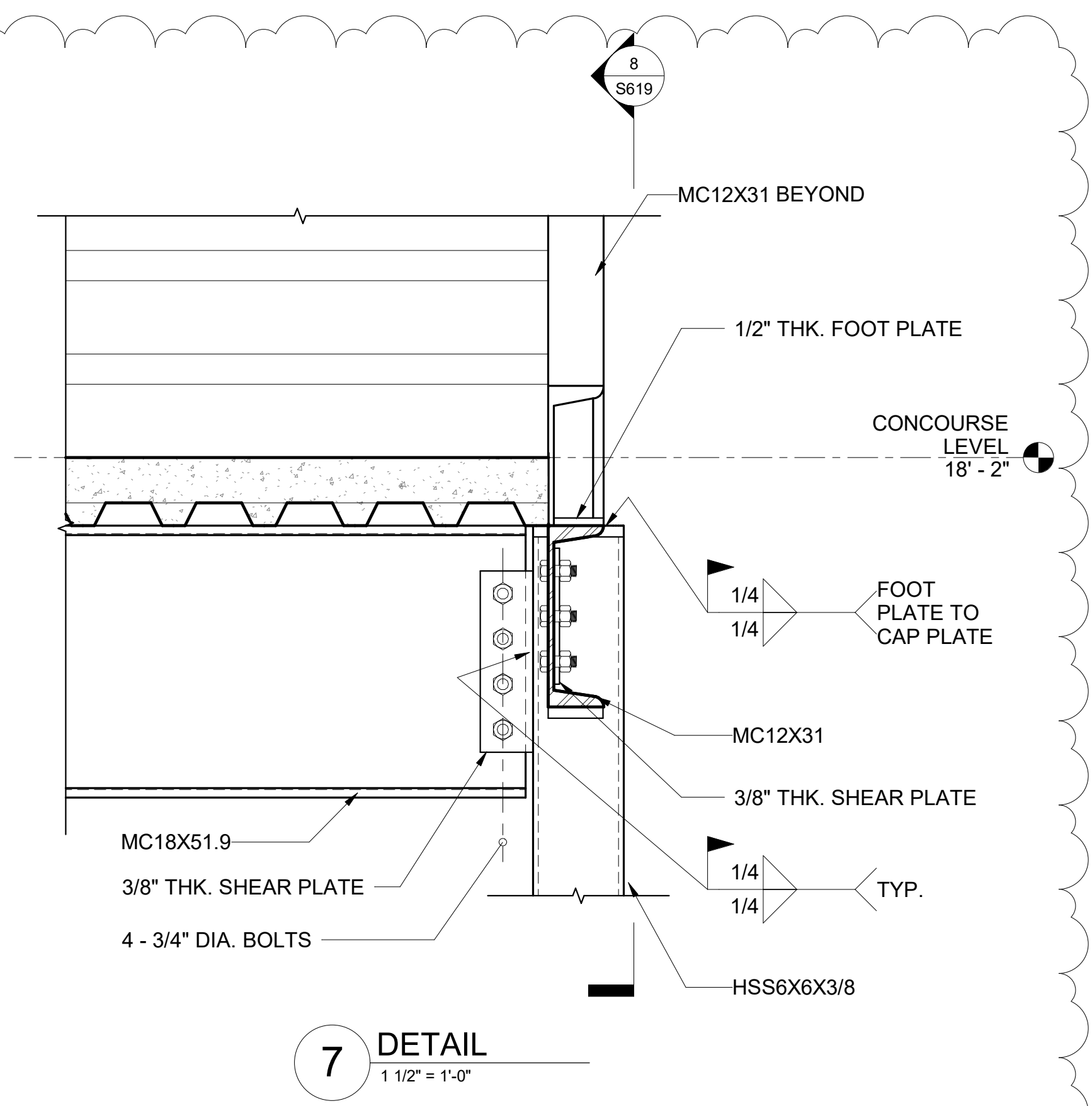
**S619**



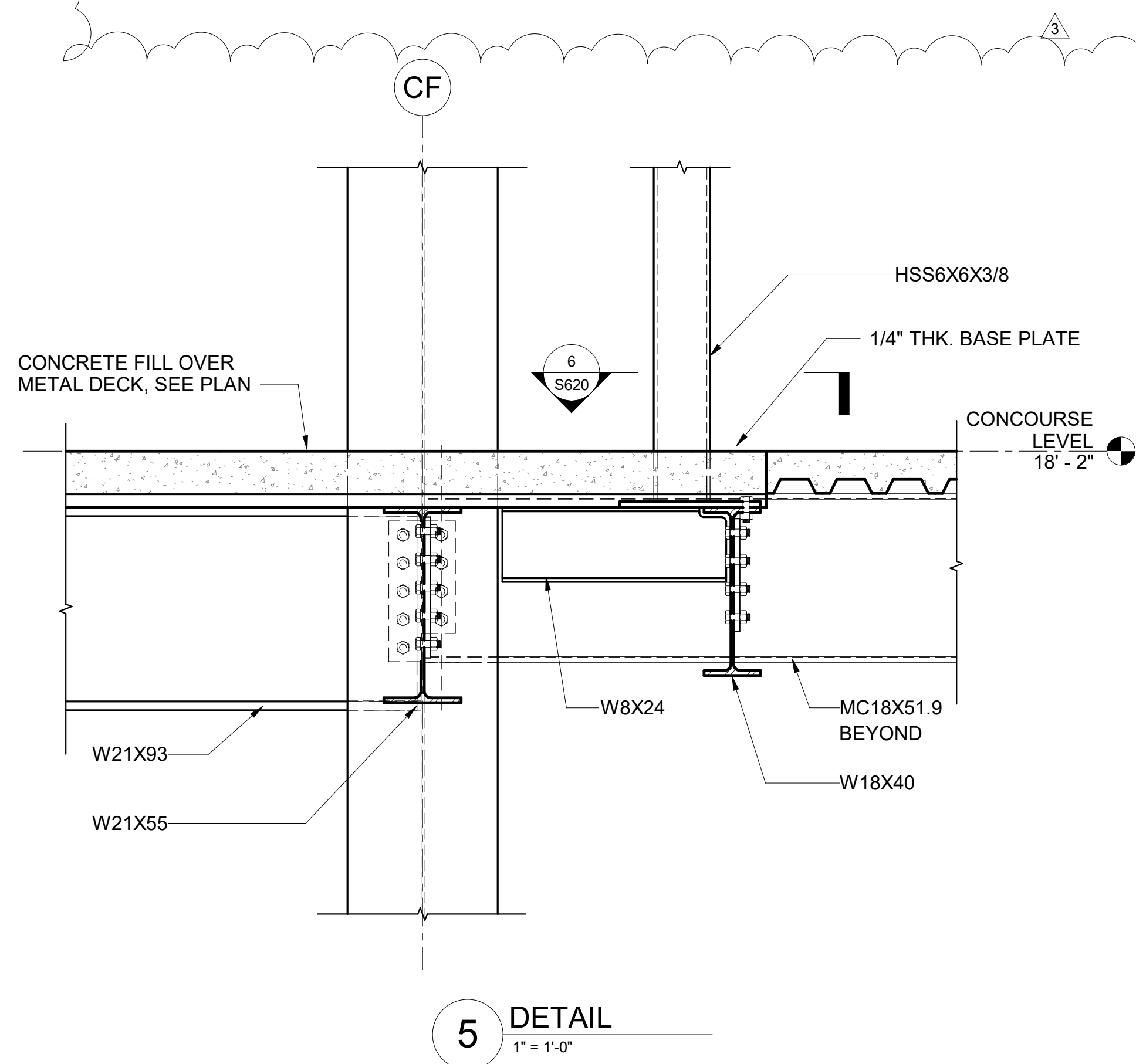
**1 SECTION**  
1 1/2" = 1'-0"



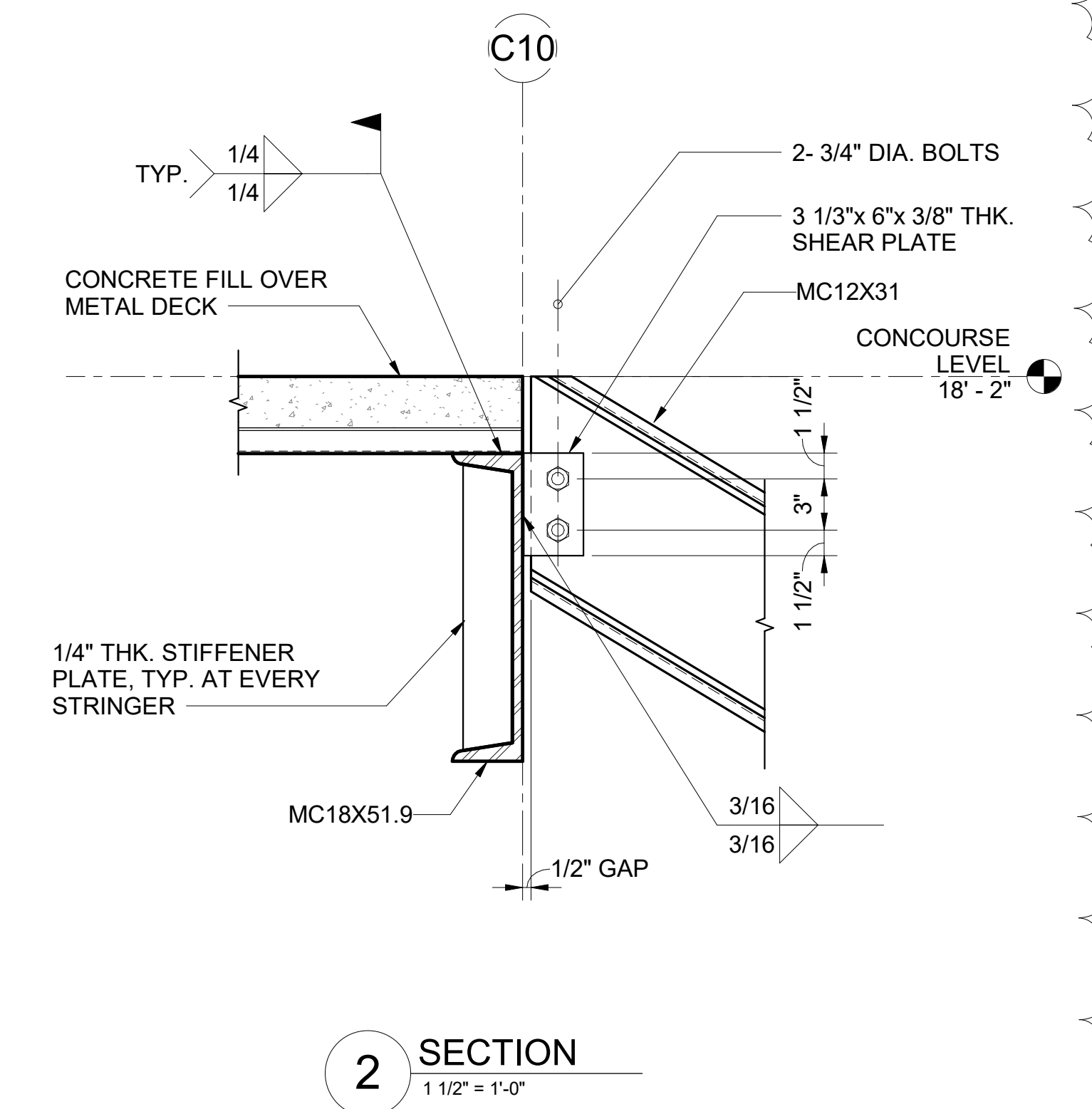
**4 DETAIL**  
1 1/2" = 1'-0"



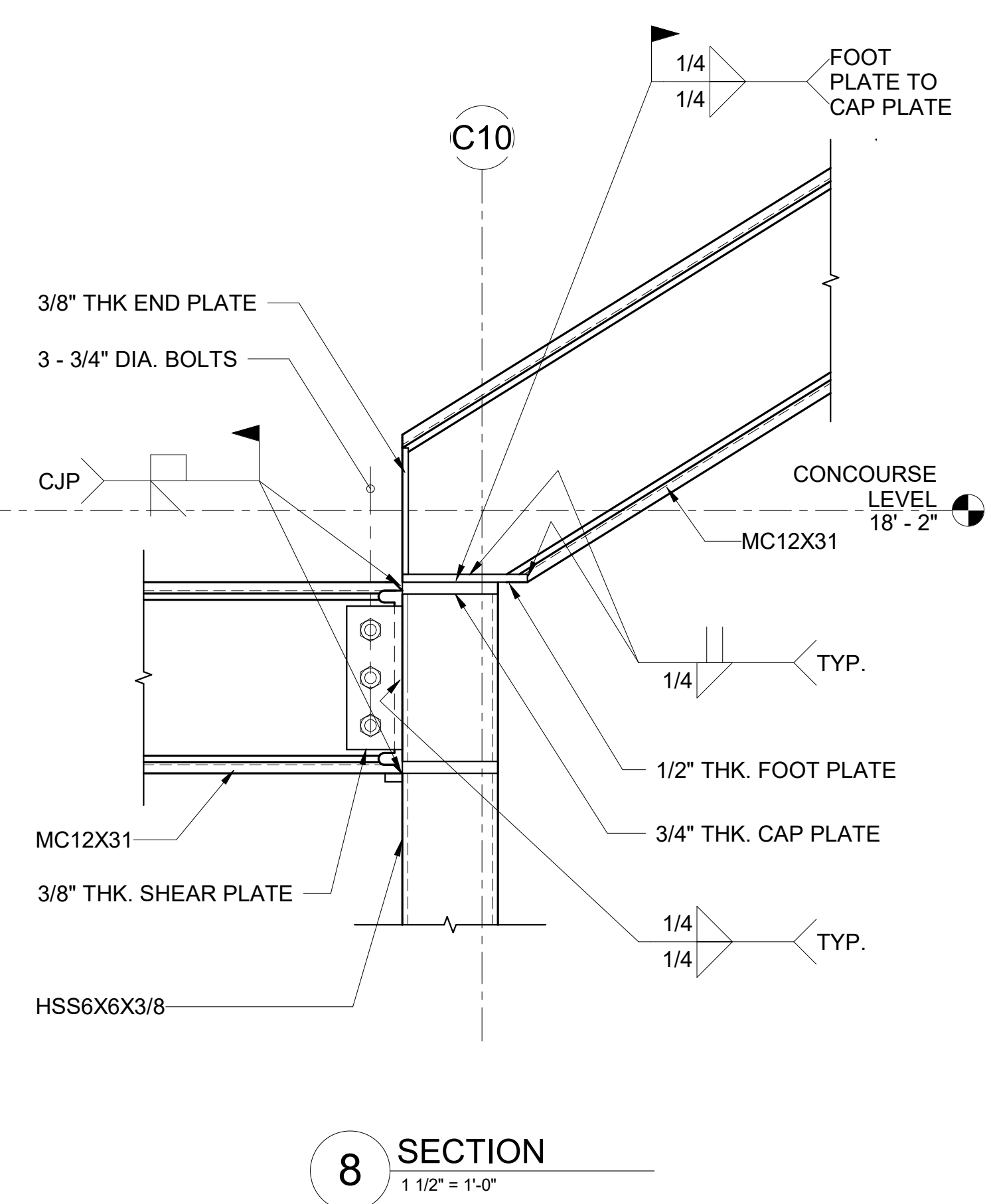
**7 DETAIL**  
1 1/2" = 1'-0"



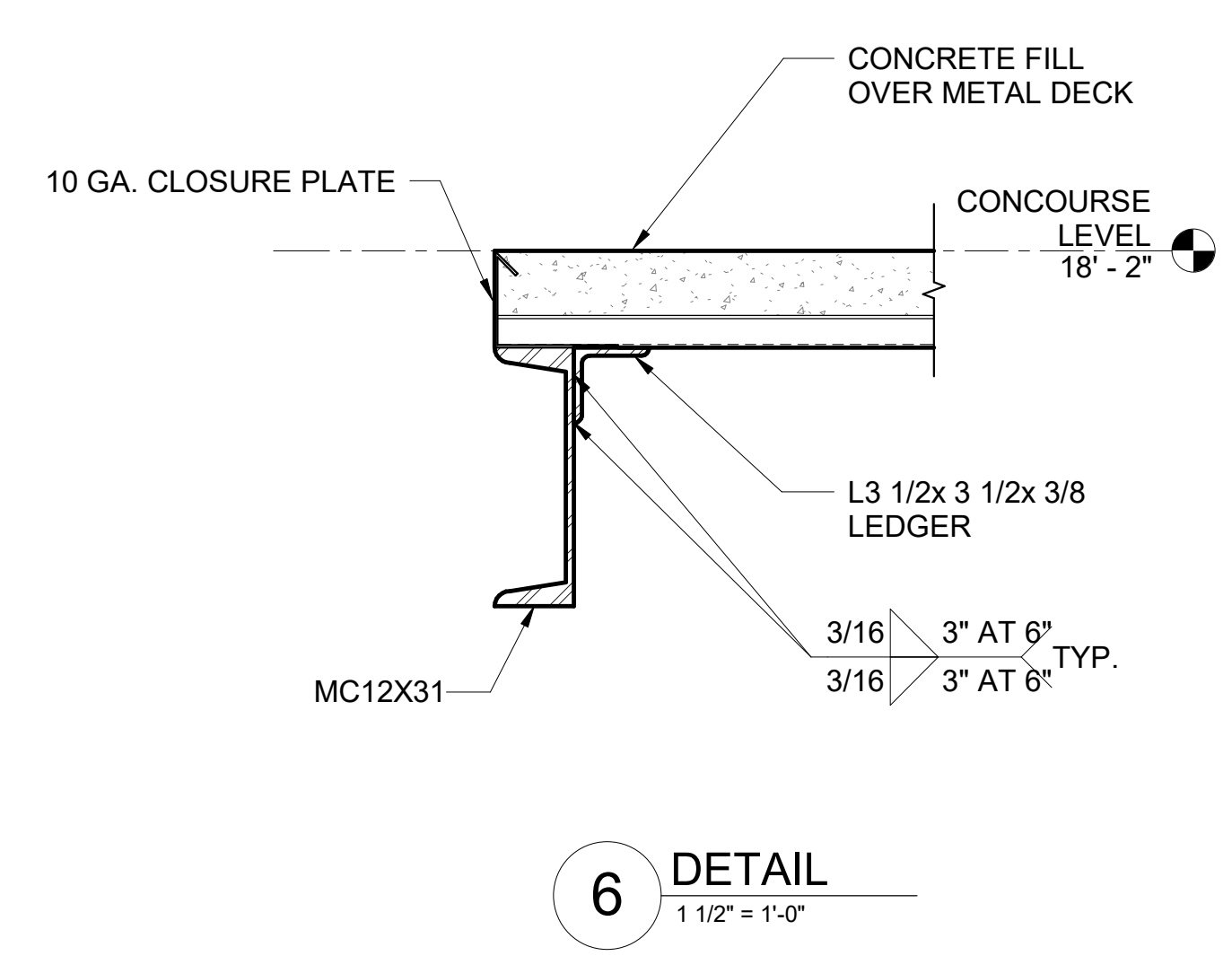
**5 DETAIL**  
1" = 1'-0"



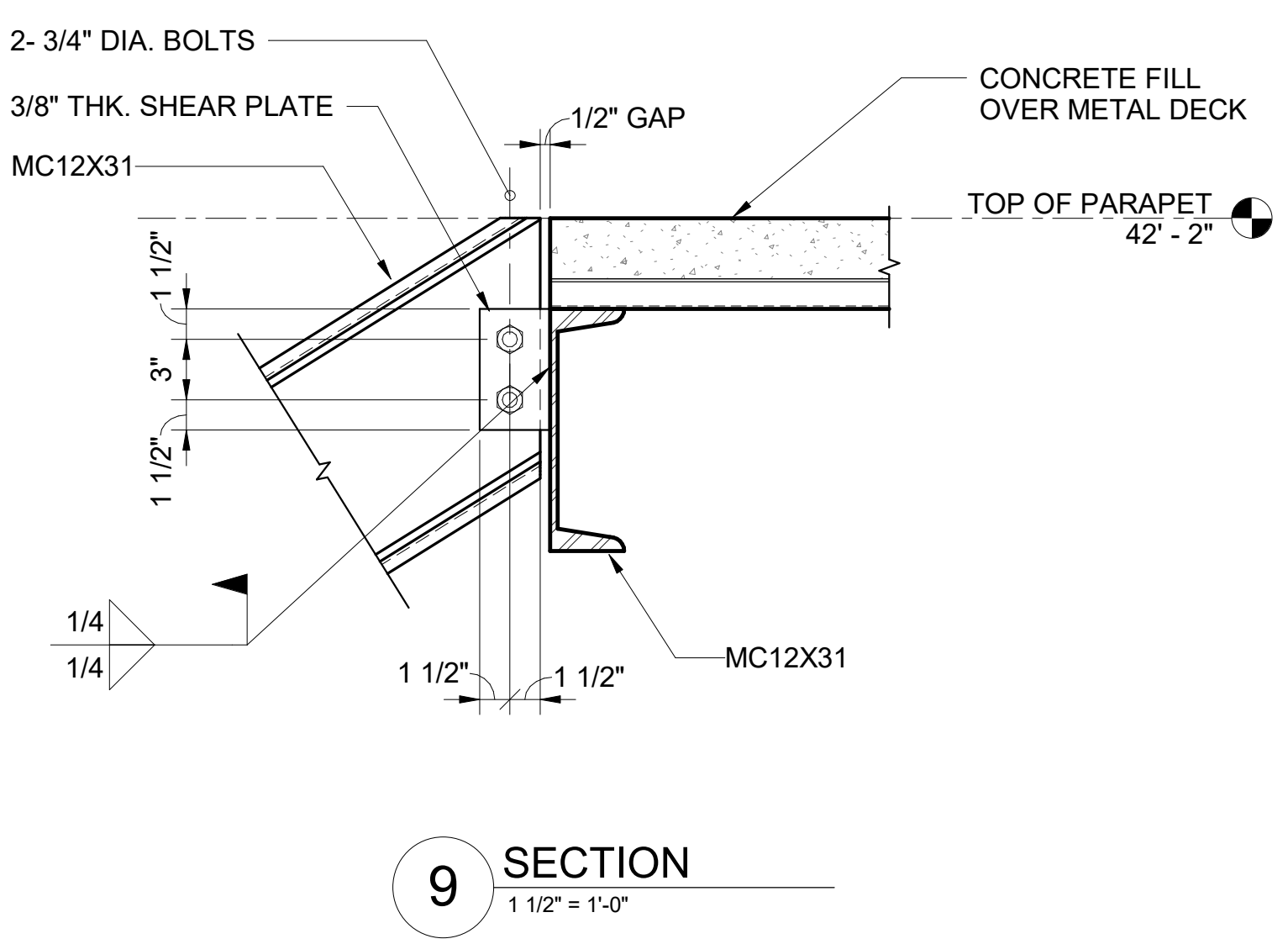
**2 SECTION**  
1 1/2" = 1'-0"



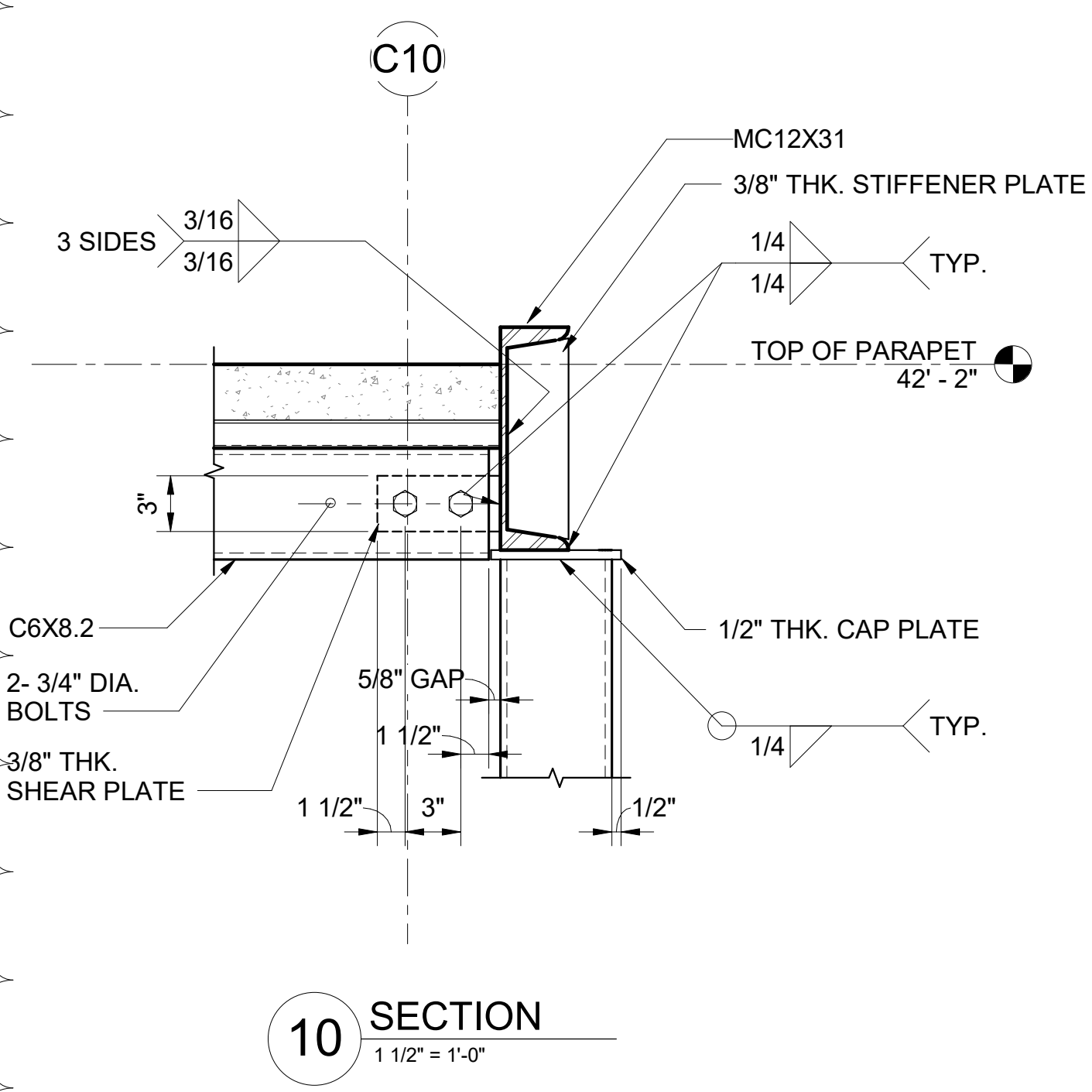
**8 SECTION**  
1 1/2" = 1'-0"



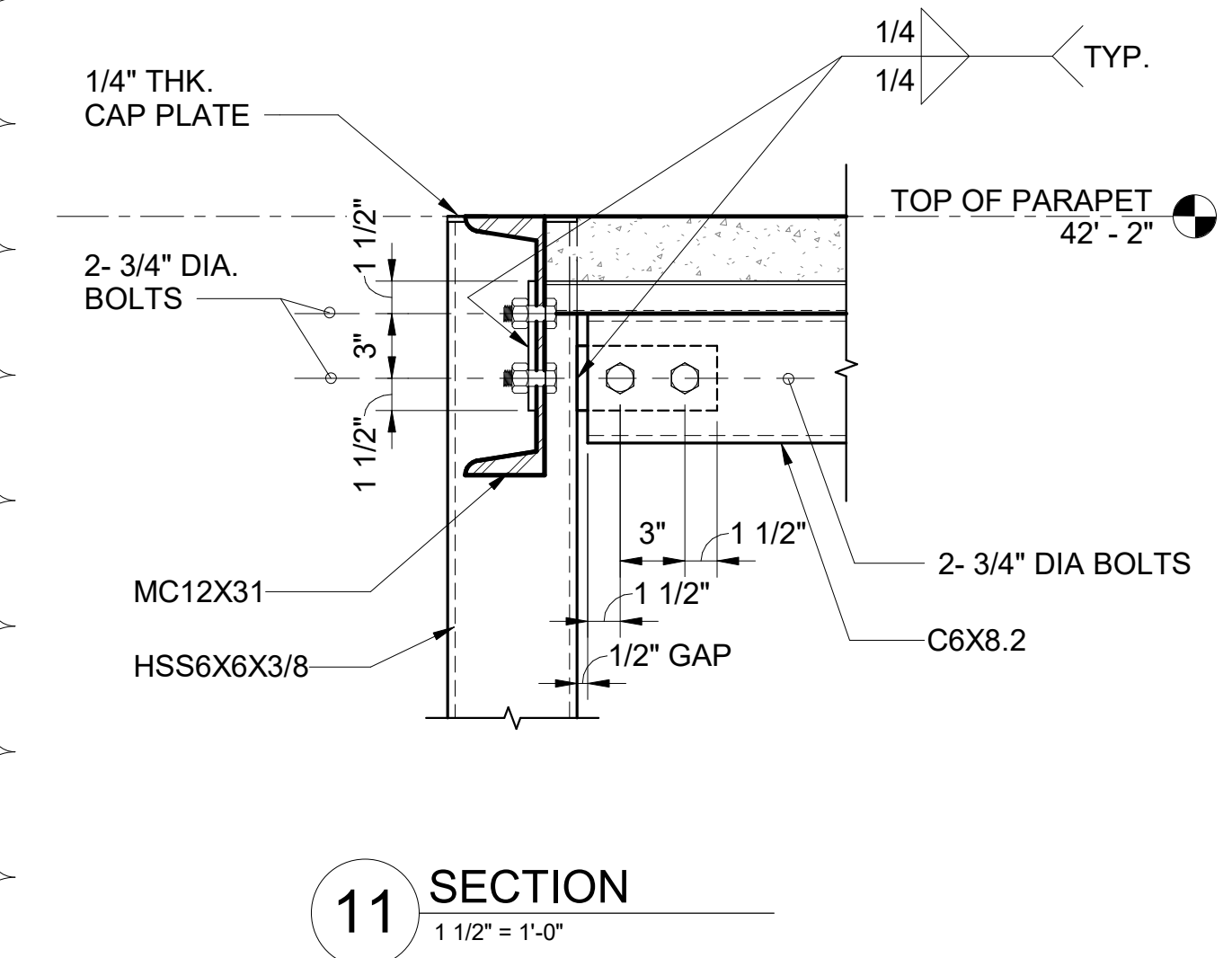
**6 DETAIL**  
1 1/2" = 1'-0"



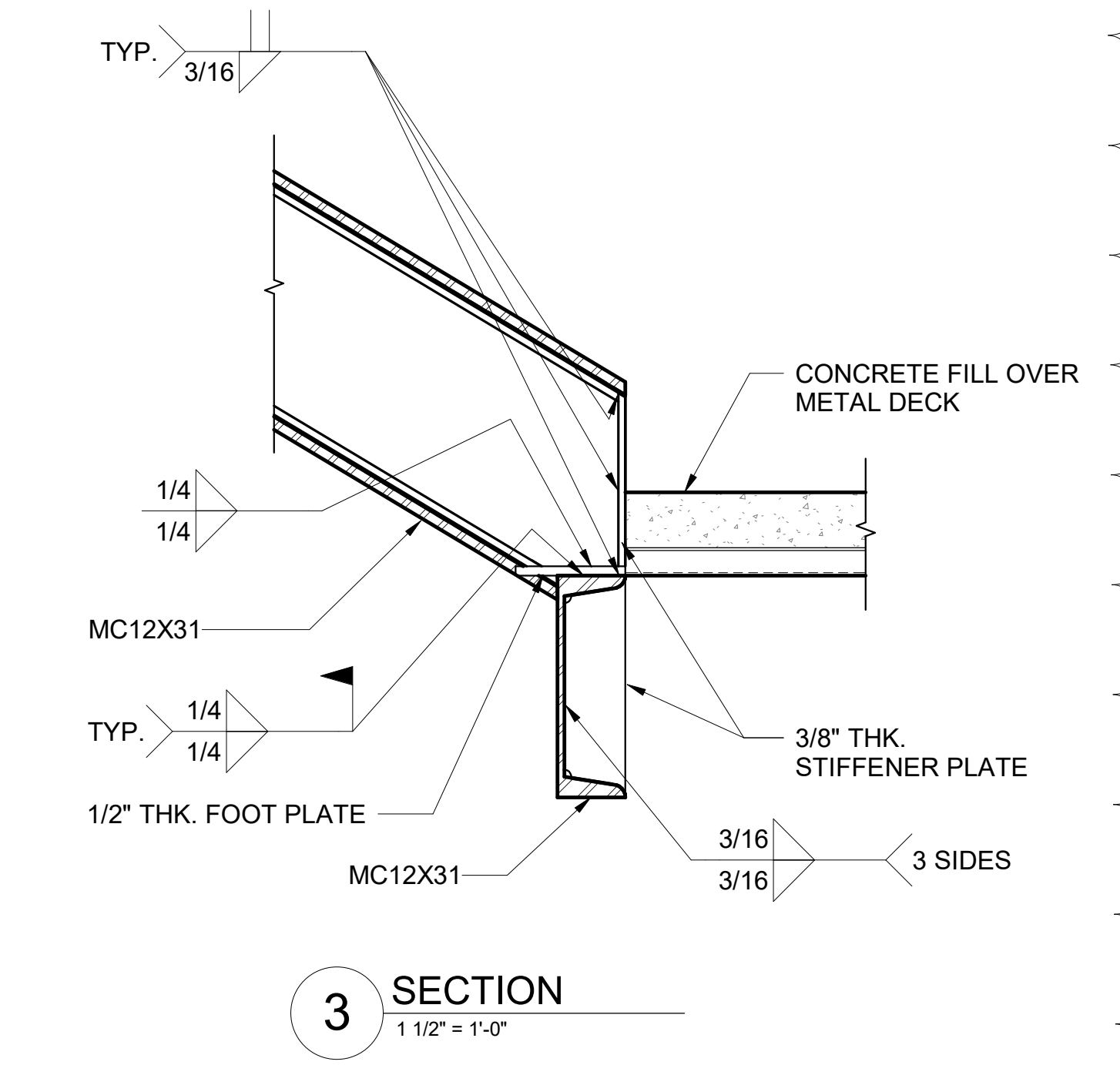
**9 SECTION**  
1 1/2" = 1'-0"



**10 SECTION**  
1 1/2" = 1'-0"



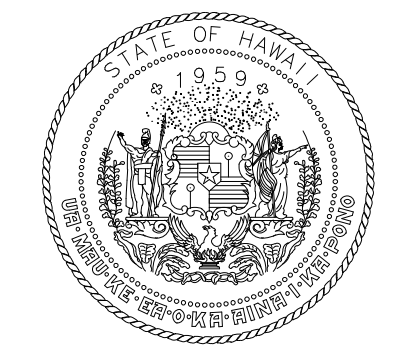
**11 SECTION**  
1 1/2" = 1'-0"



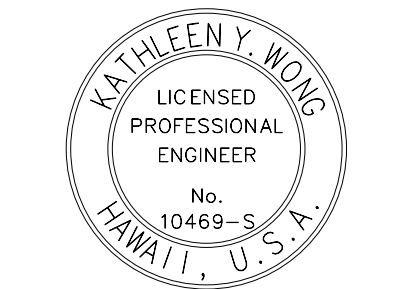
**3 SECTION**  
1 1/2" = 1'-0"







STATE OF HAWAII  
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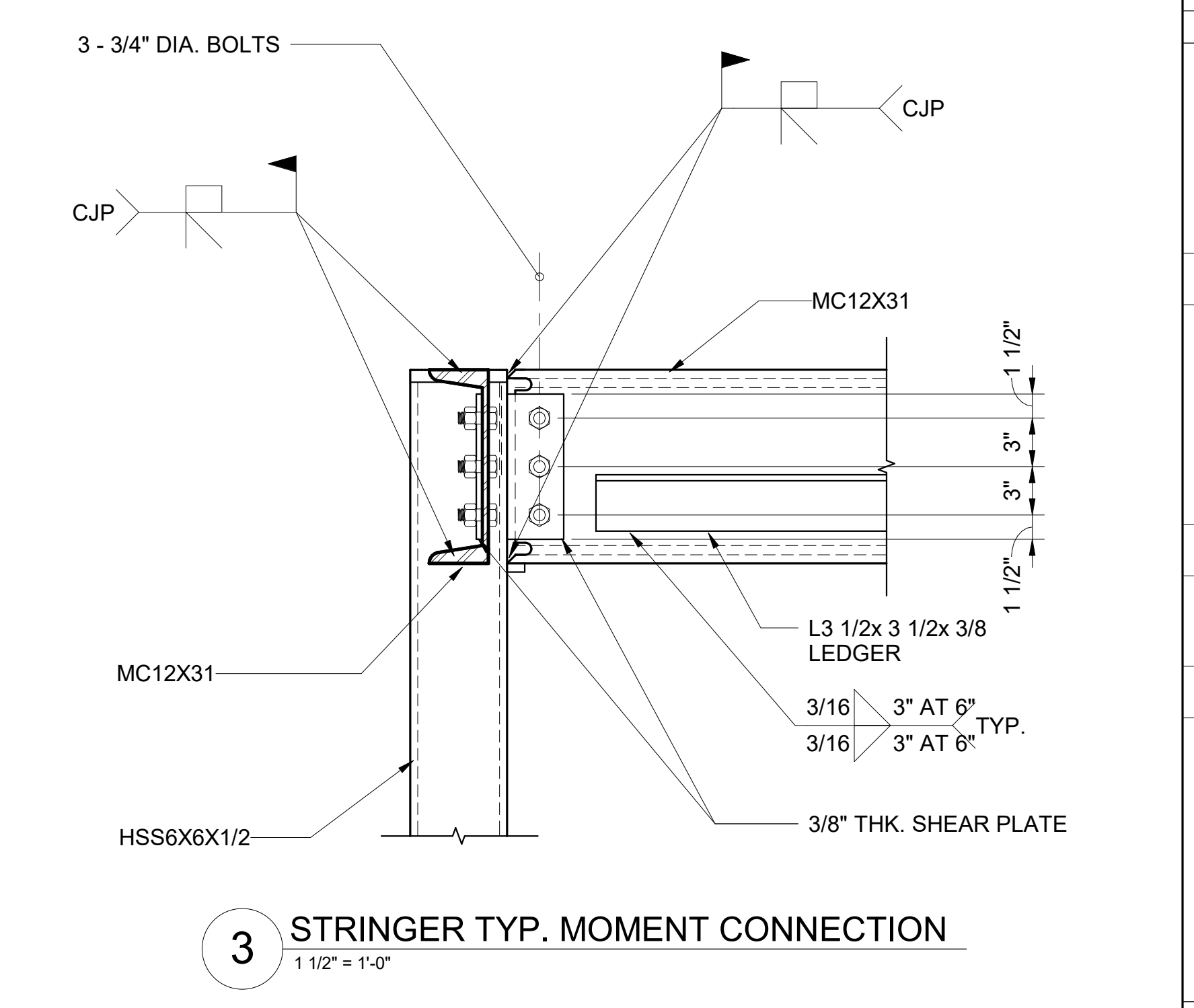
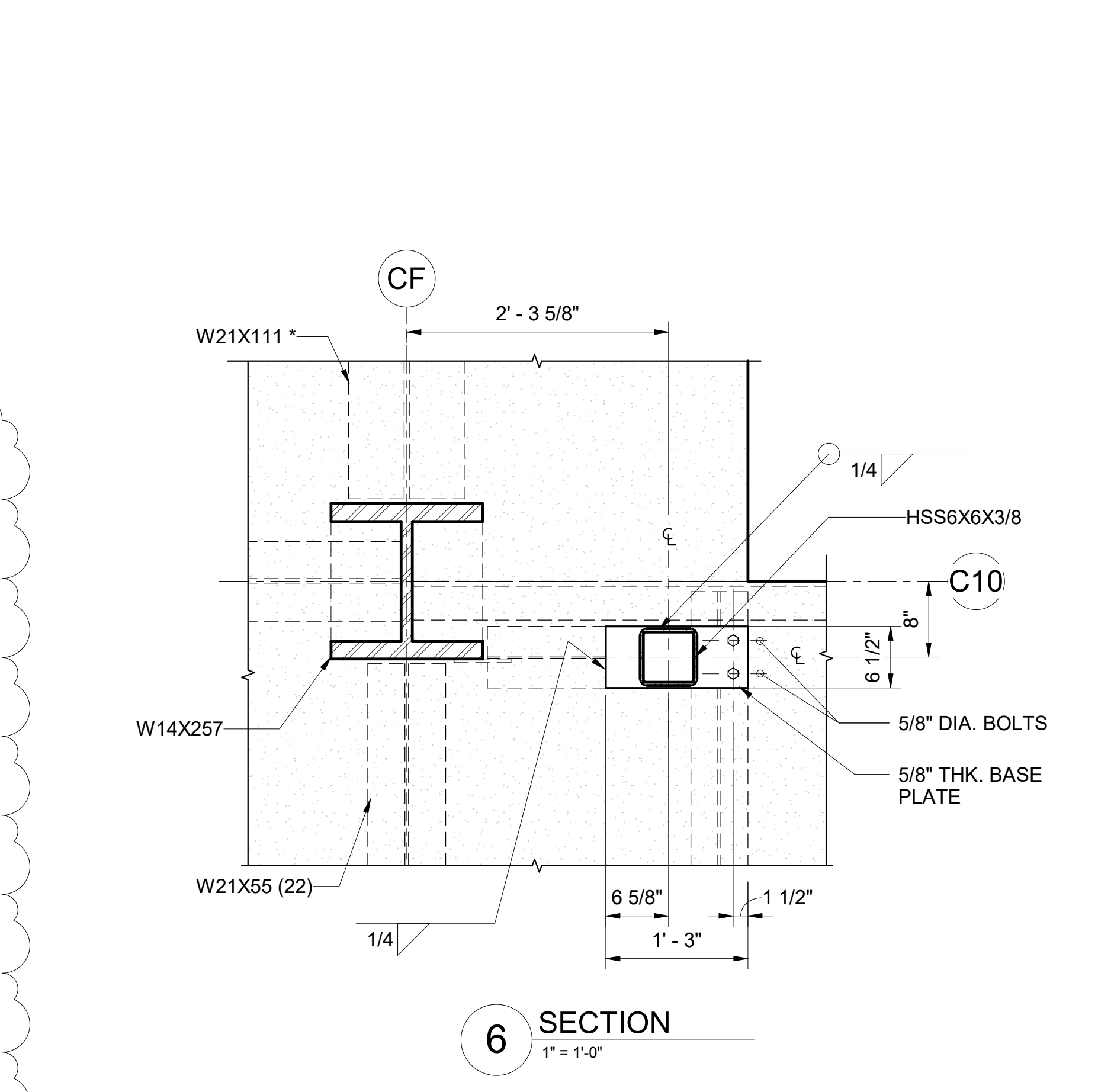
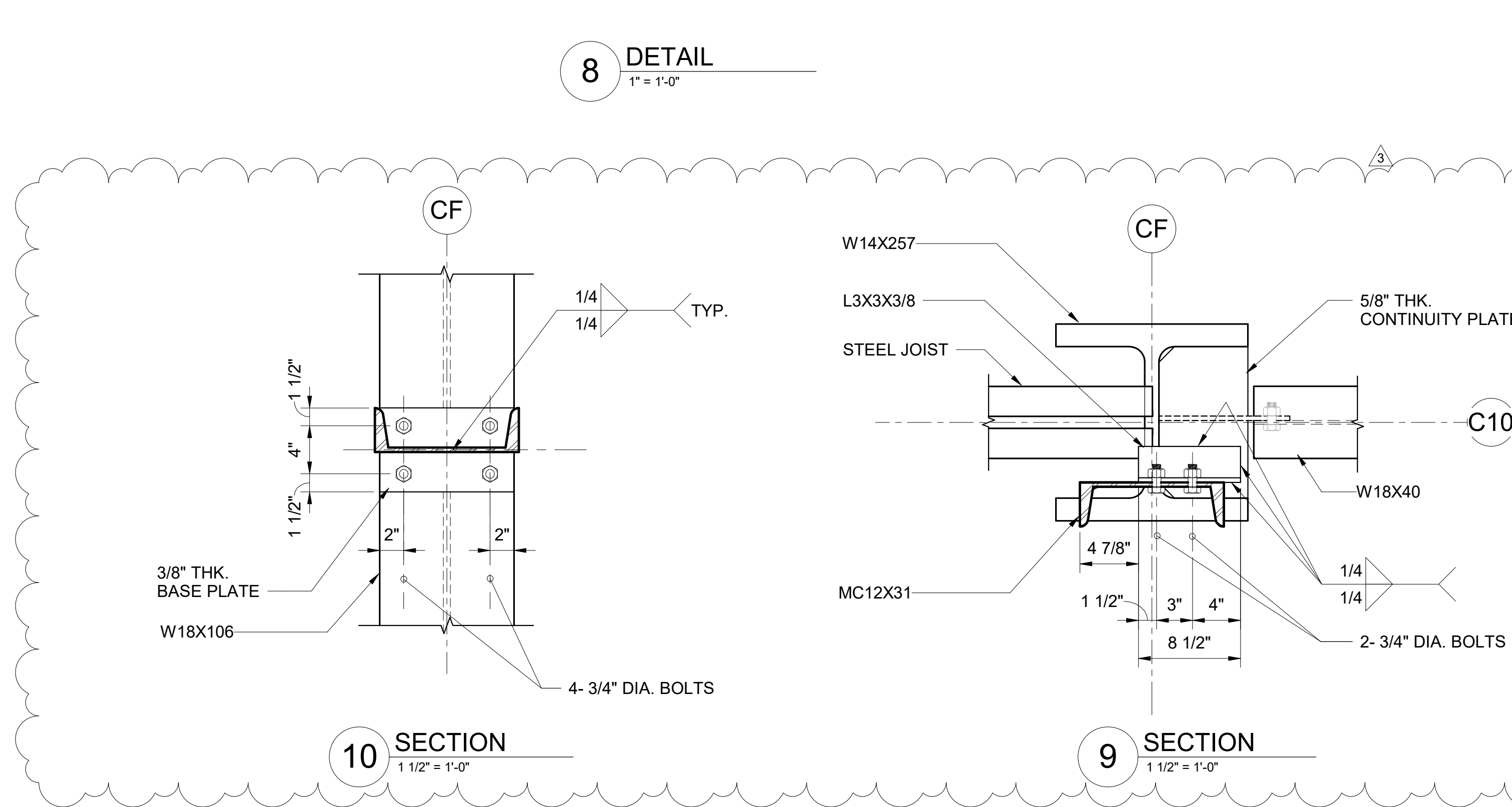
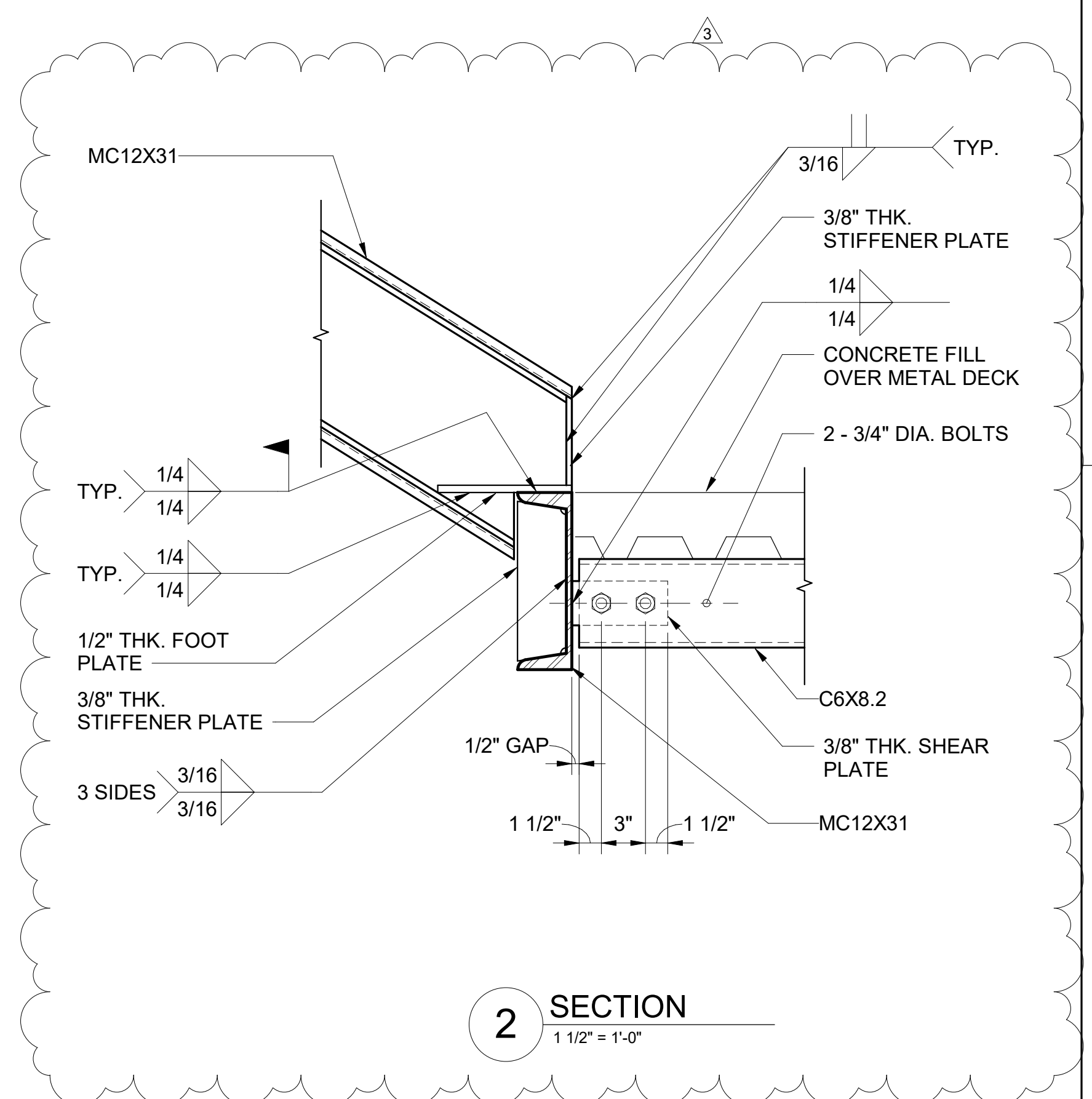
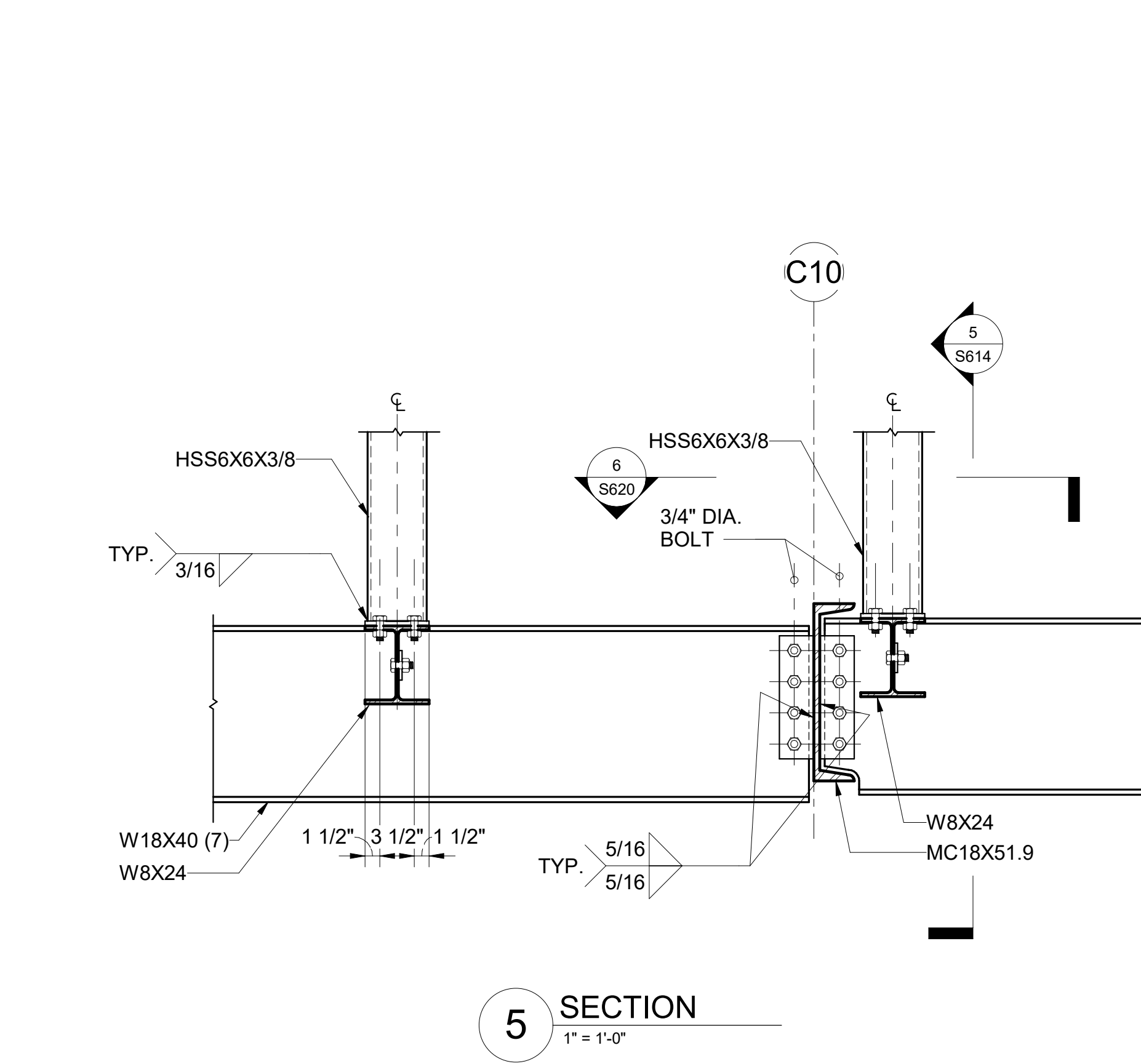
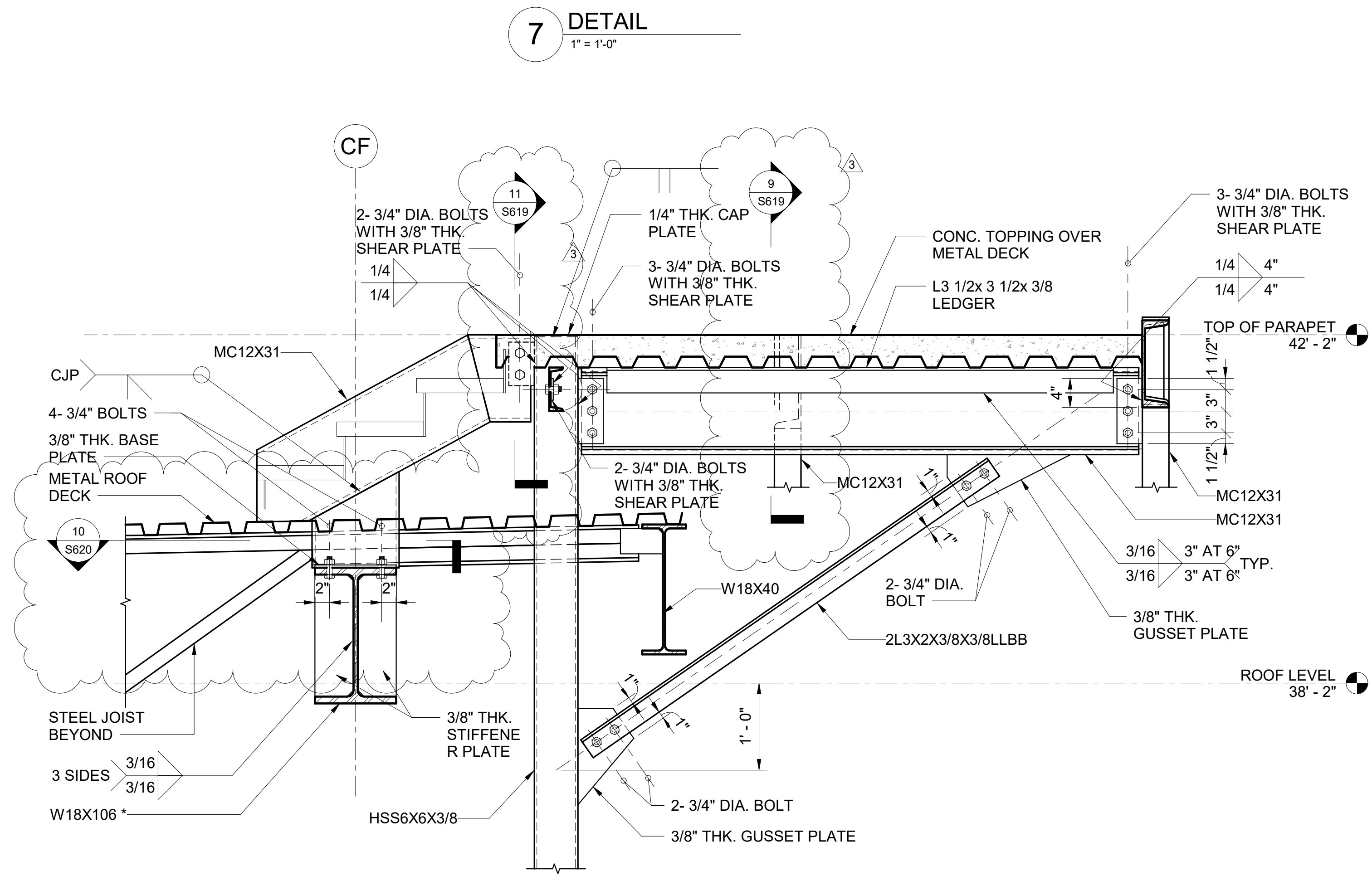
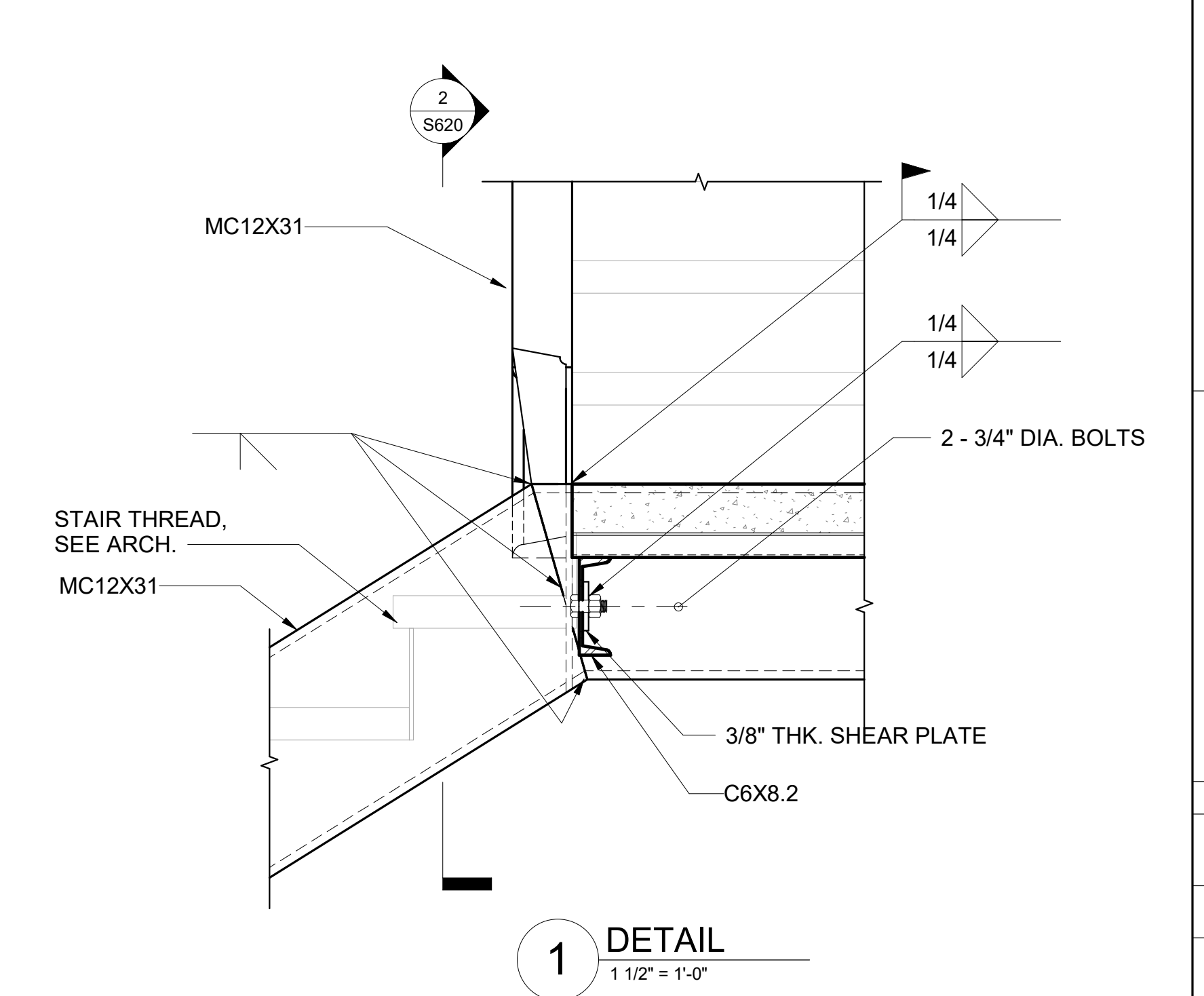
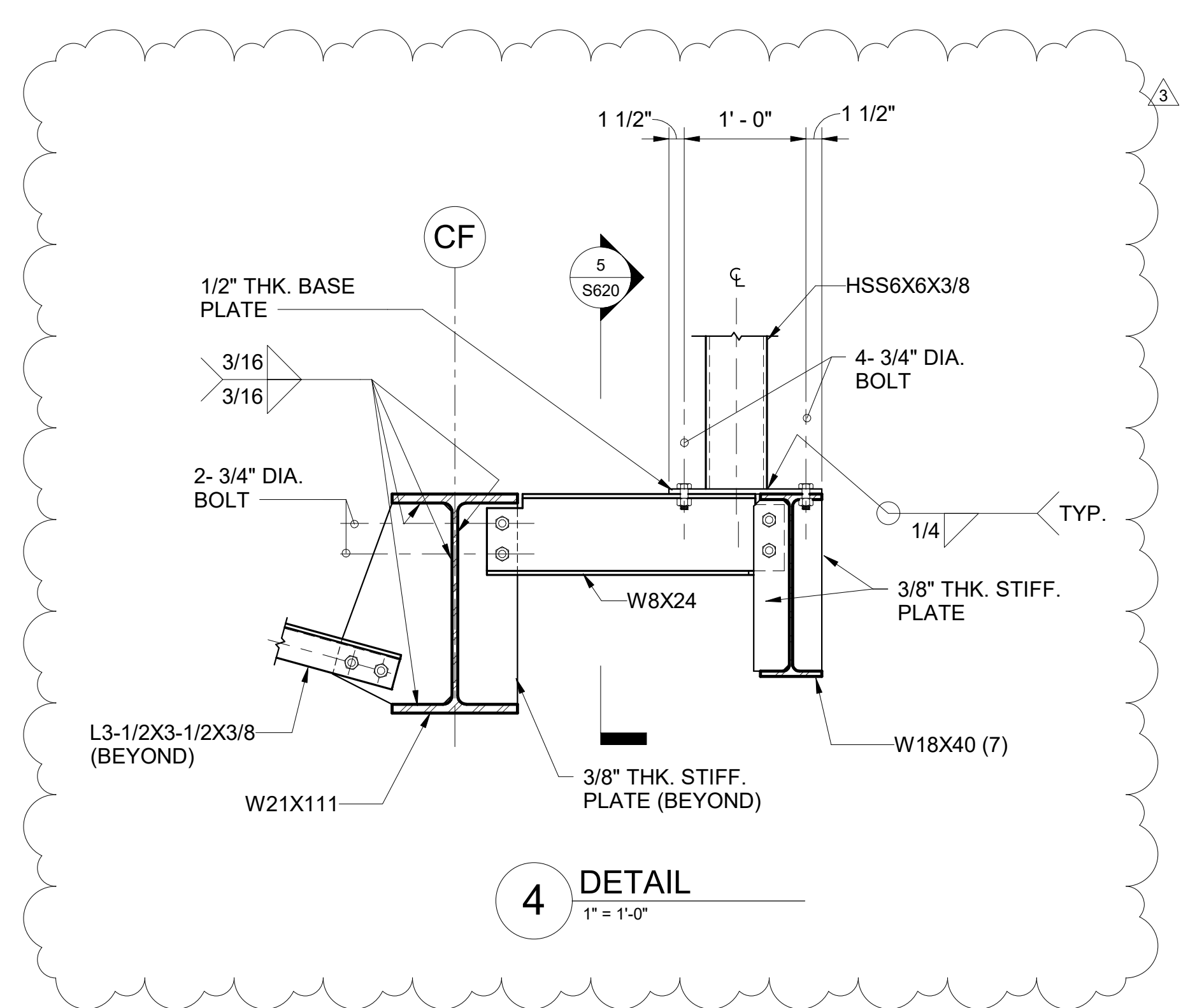
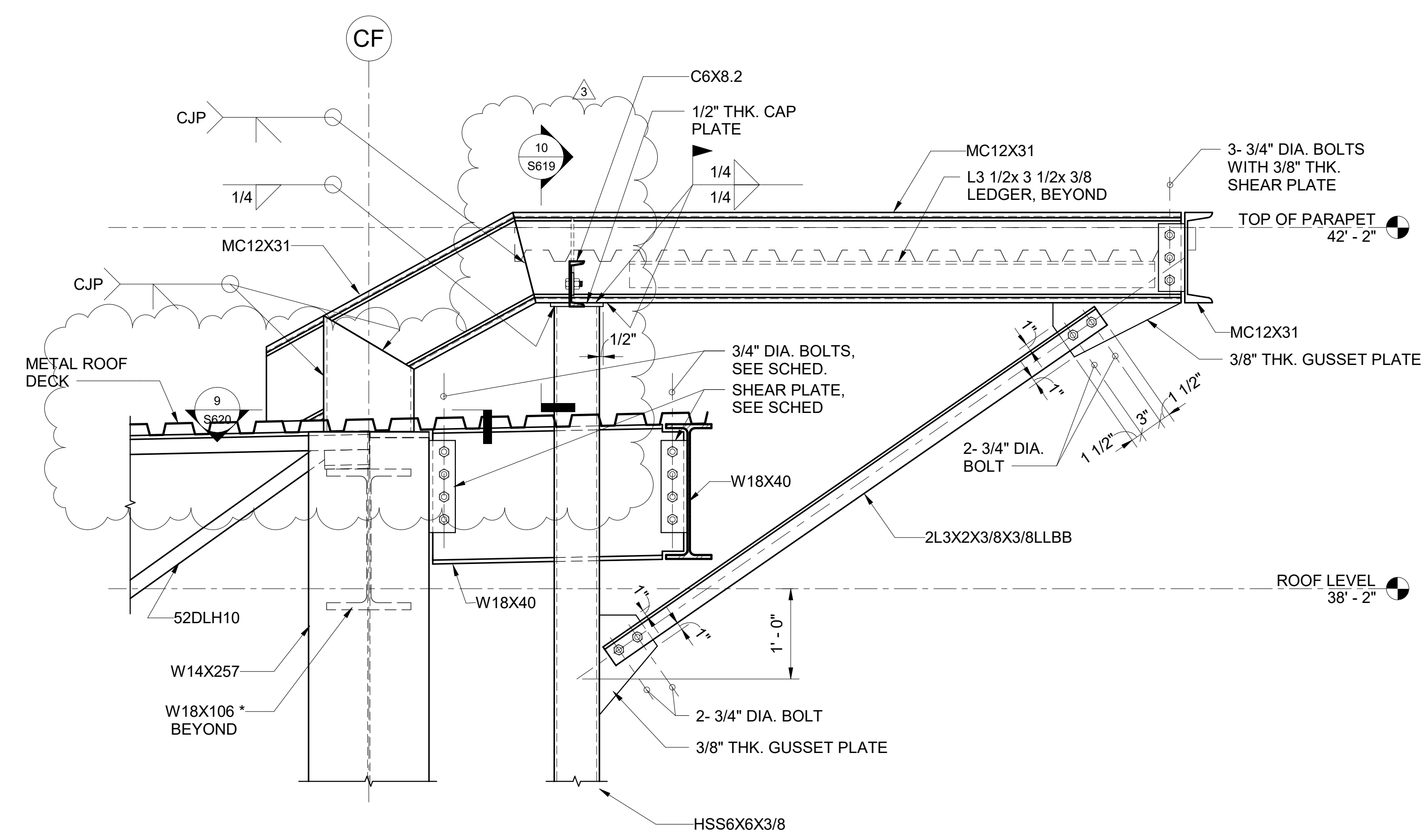


*Kathleen Y. Wong*  
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License Expiration Date: 04/30/2024

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MS	LC	KW	

KEY PLAN / NOTES:



3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**STAIR #3 SECTIONS AND DETAILS**

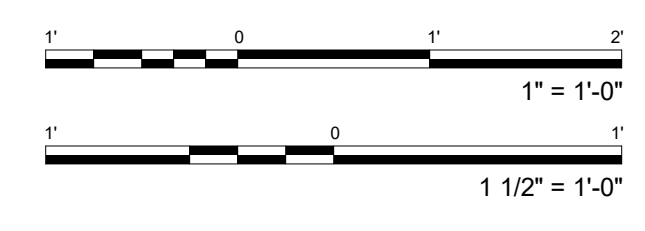
DATE: **MAY 26, 2023**

SHEET:

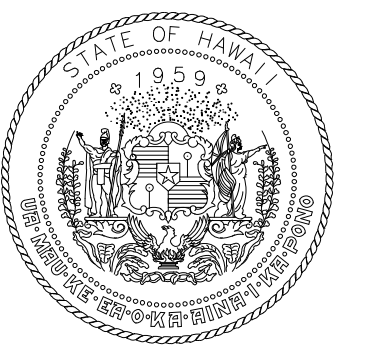
188 OF 333 SHEETS

DWG. NO.

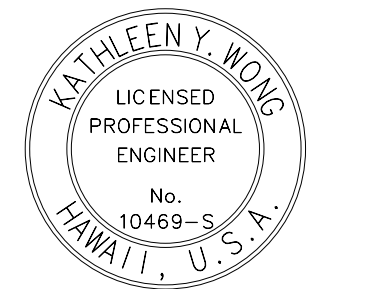
**S620**



8/30/2023 10:14:11 PM



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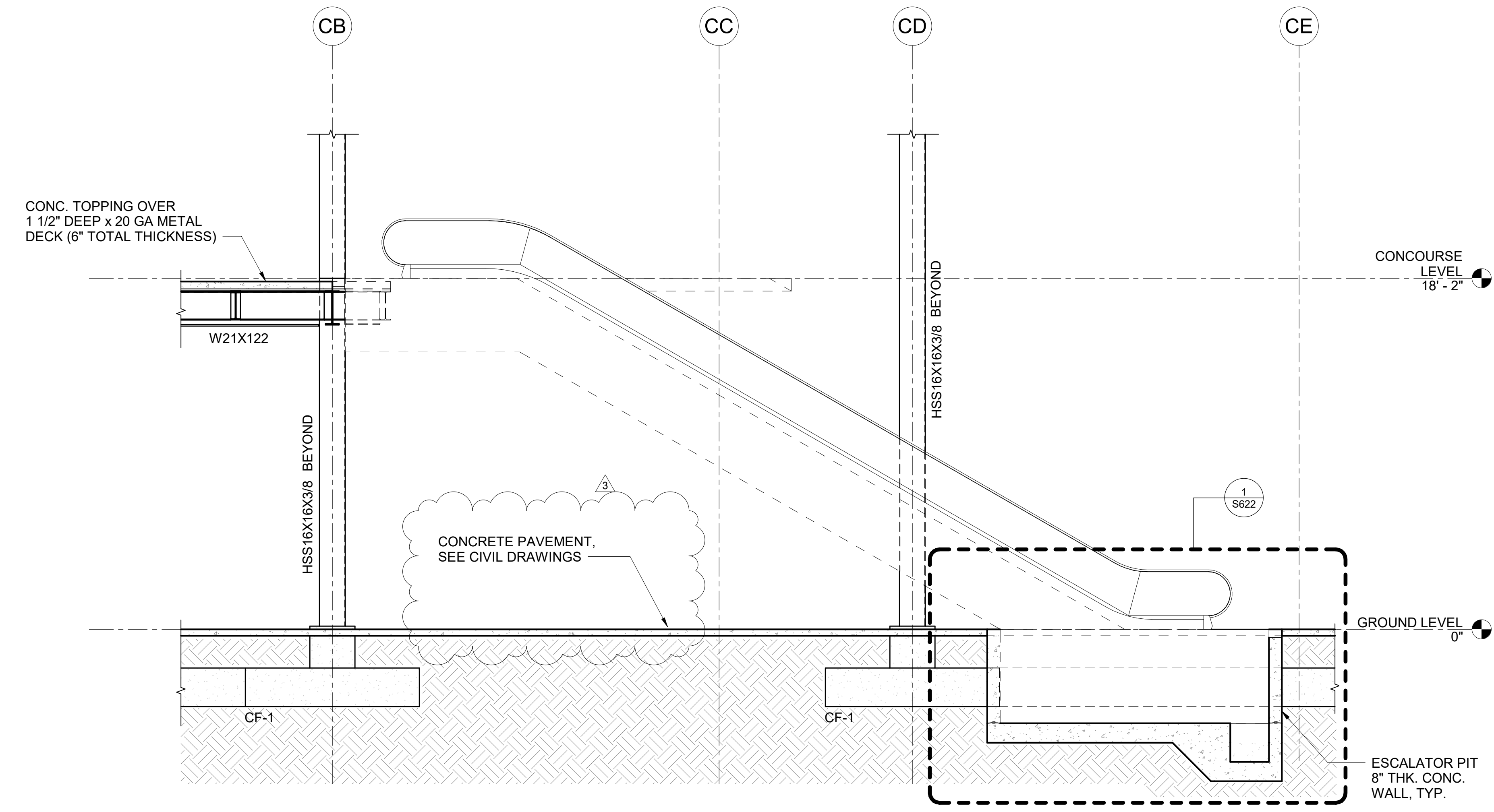


*Kathleen Y. Wong*  
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No. 10469-S  
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MS	LC	KW	

KEY PLAN / NOTES:



**1** ESCALATOR DETAILED SECTION  
1/4" = 1'-0"

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

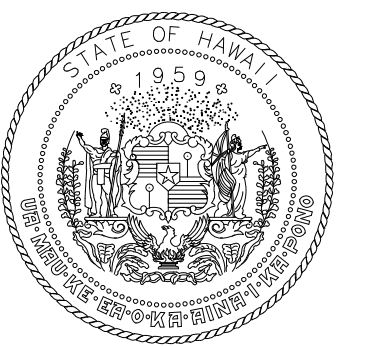
**AM1095-10**

SHEET TITLE:

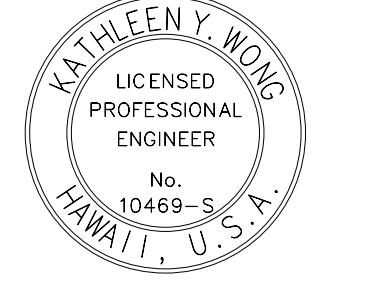
**ESCALATOR SECTIONS AND DETAILS**

DATE: <b>MAY 26, 2023</b>	DWG. NO. <b>S621</b>
SHEET:	
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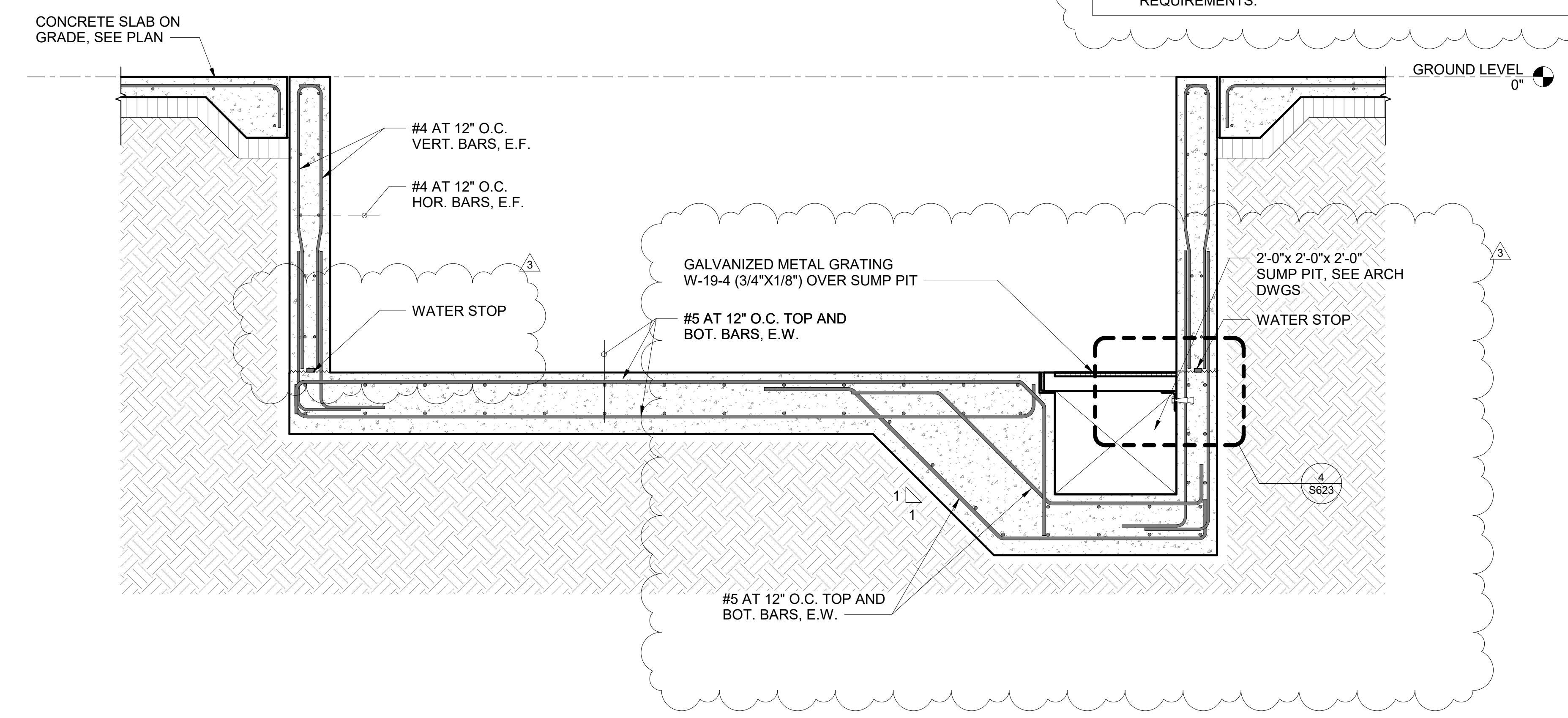
*Kathleen Y. Wong*  
LICENSED PROFESSIONAL ENGINEER  
No. 10469-S  
HAWAII, U.S.A.  
04/30/2024  
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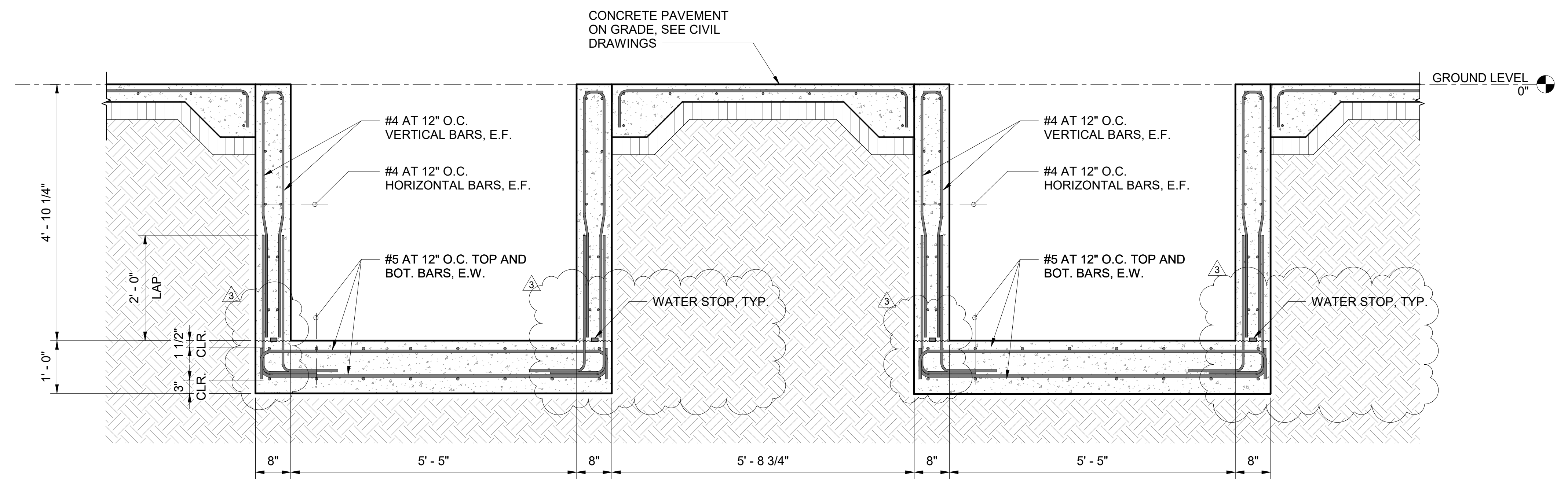
DSGN.	DRWN.	CHKD.	APPD.
MS	LC	KW	

KEY PLAN / NOTES:

- NOTE:**
- ESCALATOR PIT CONFIGURATION AND SUPPORT CONNECTIONS SHALL BE COORDINATED WITH THE ELEVATOR MANUFACTURER.
  - SEE ARCHITECTURAL DRAWINGS FOR WATER PROOFING REQUIREMENTS.
  - CONFIRM DIMENSIONS AND CLEARANCES WITH ESCALATOR SUPPLIER.
  - MODIFY DIMENSION AS REQUIRED.
  - SEE ARCHITECTURAL DRAWINGS FOR WATER PROOFING REQUIREMENTS.



1 ESCALATOR PIT DETAIL  
3/4" = 1'-0"



2 ESCALATOR PIT DETAIL  
3/4" = 1'-0"

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**ESCALATOR SECTIONS AND DETAILS**

DATE: **MAY 26, 2023**

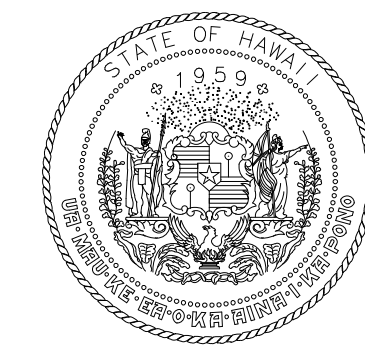
SHEET:

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DWG. NO.  
**S622**







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No. 10469-S  
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MS	LC	KW	

KEY PLAN / NOTES:

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

**ELEVATOR FRAMING  
SECTION AND DETAILS**

DATE:

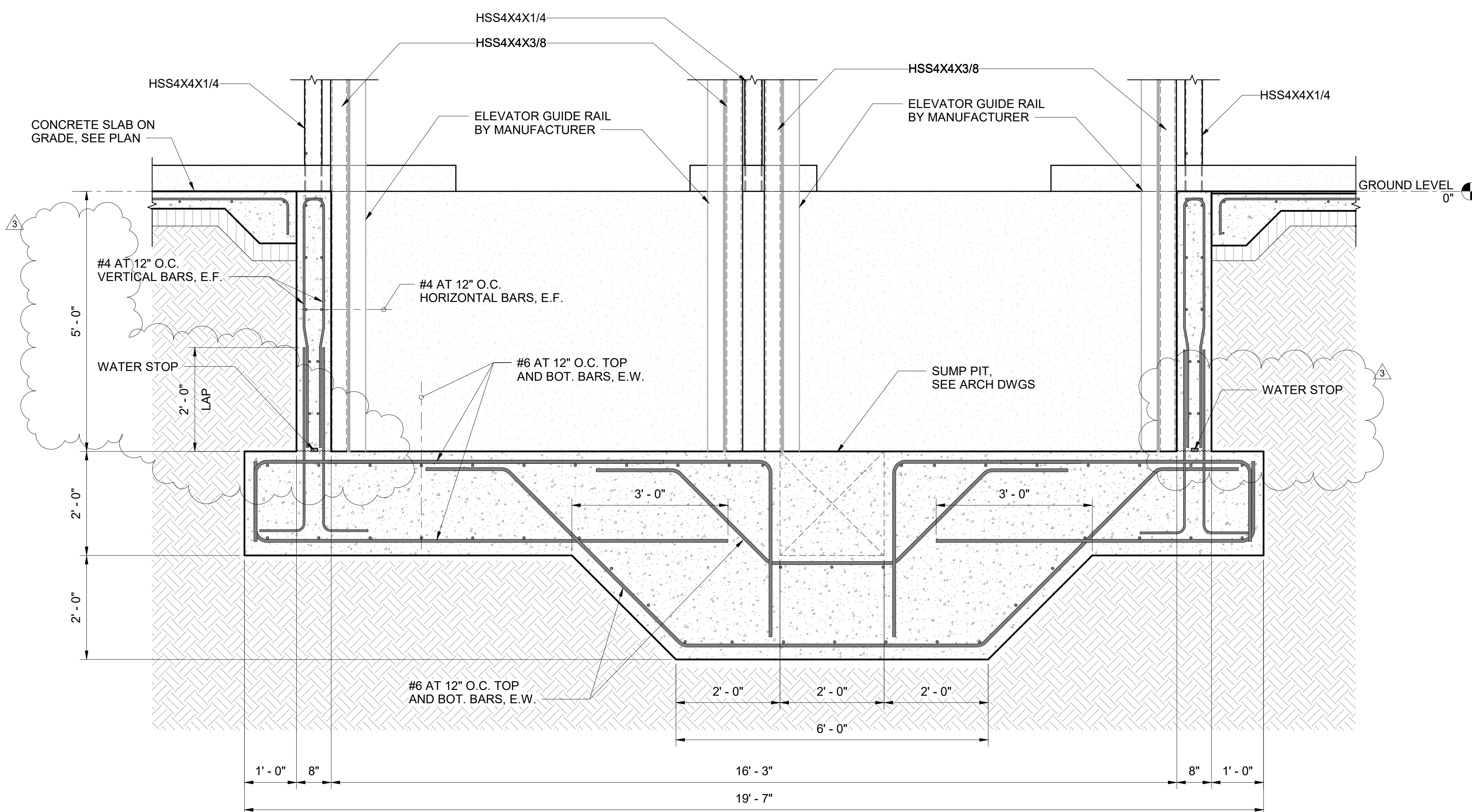
**MAY 26, 2023**

SHEET :

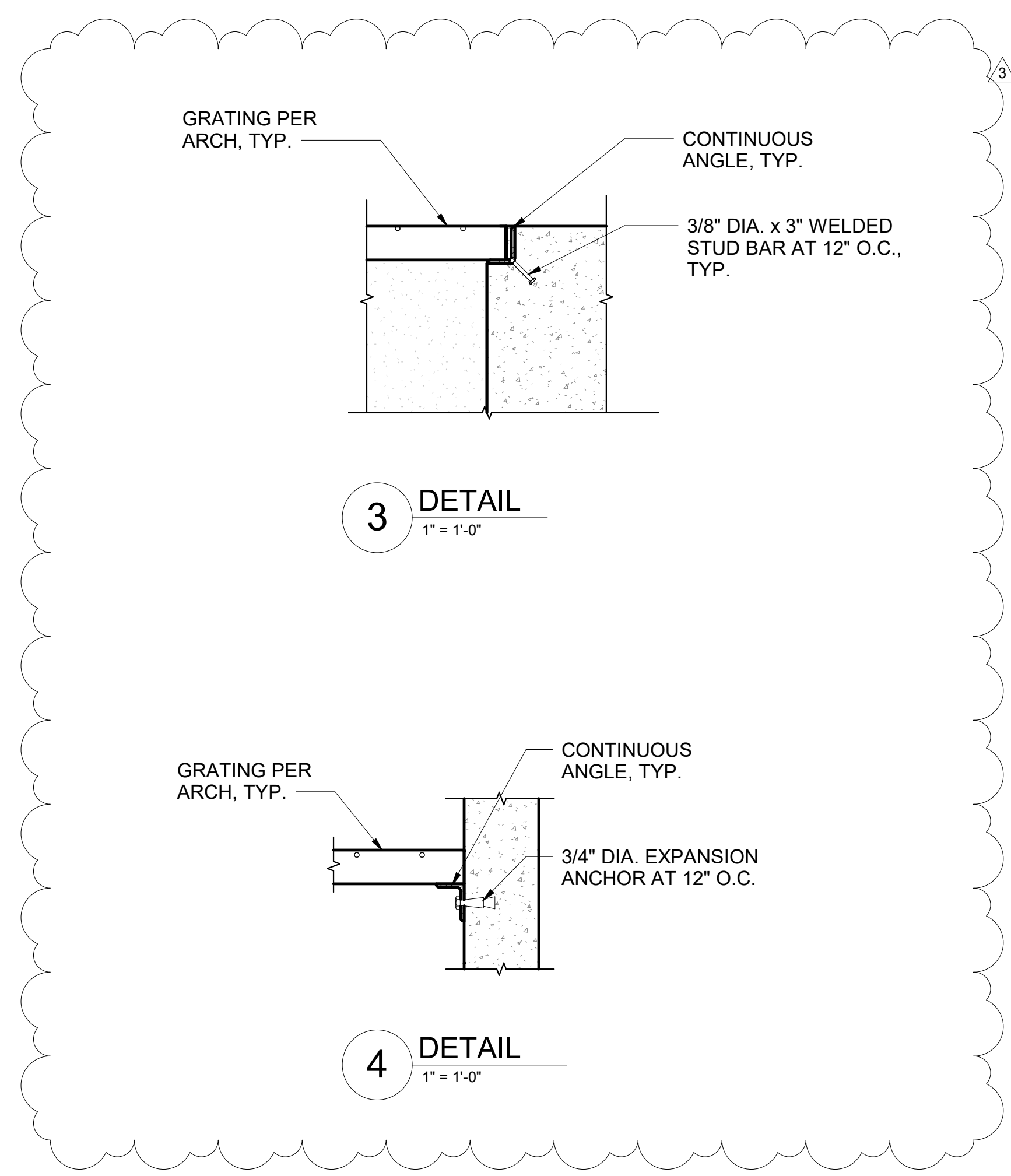
DWG. NO.

**S623**

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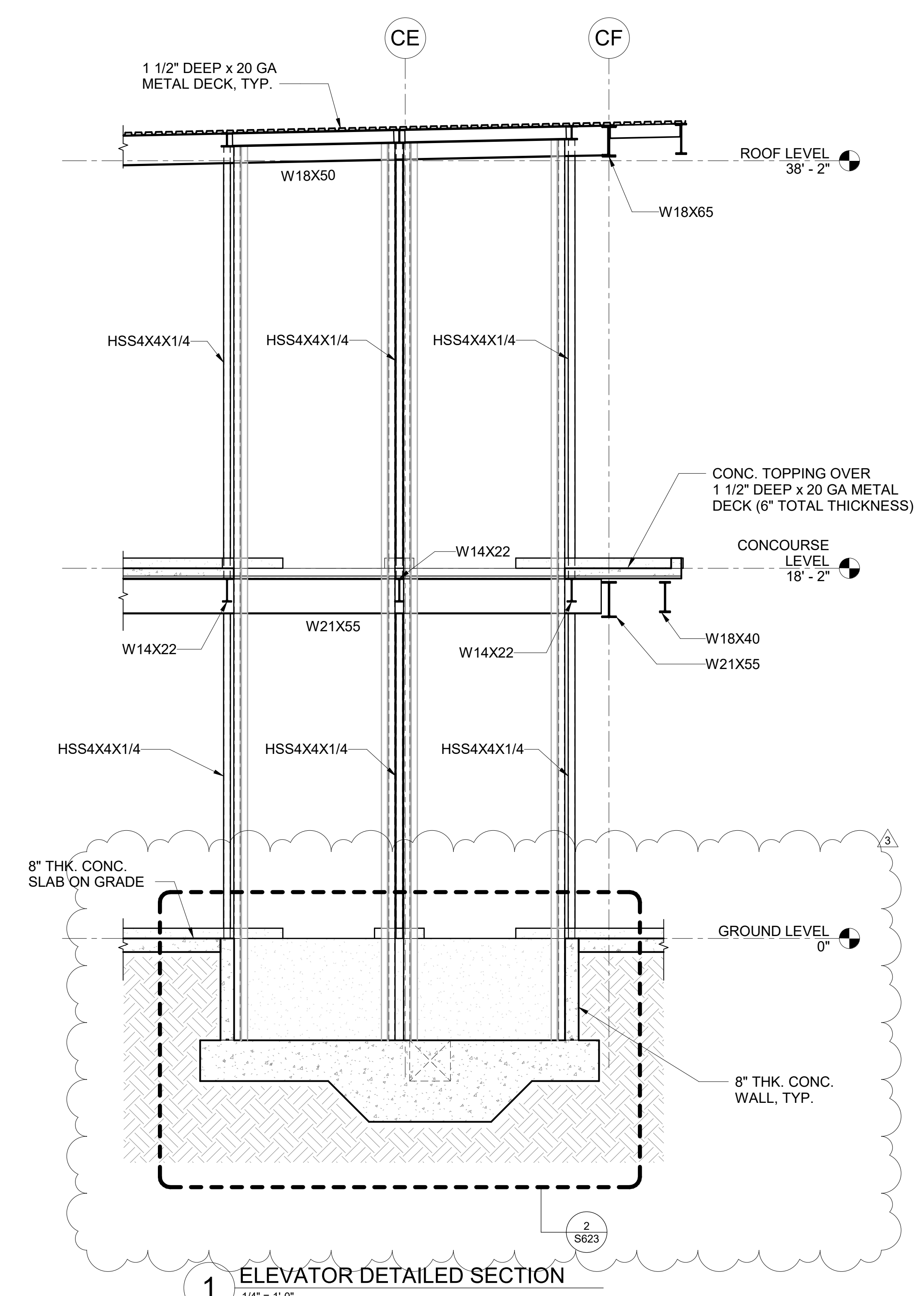


2 ELEVATOR PIT DETAIL  
3/4" = 1'-0"

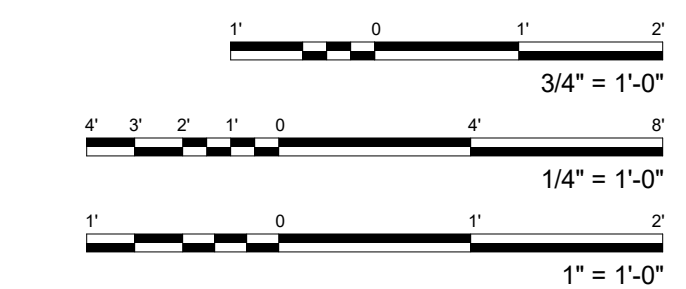


3 DETAIL  
1" = 1'-0"

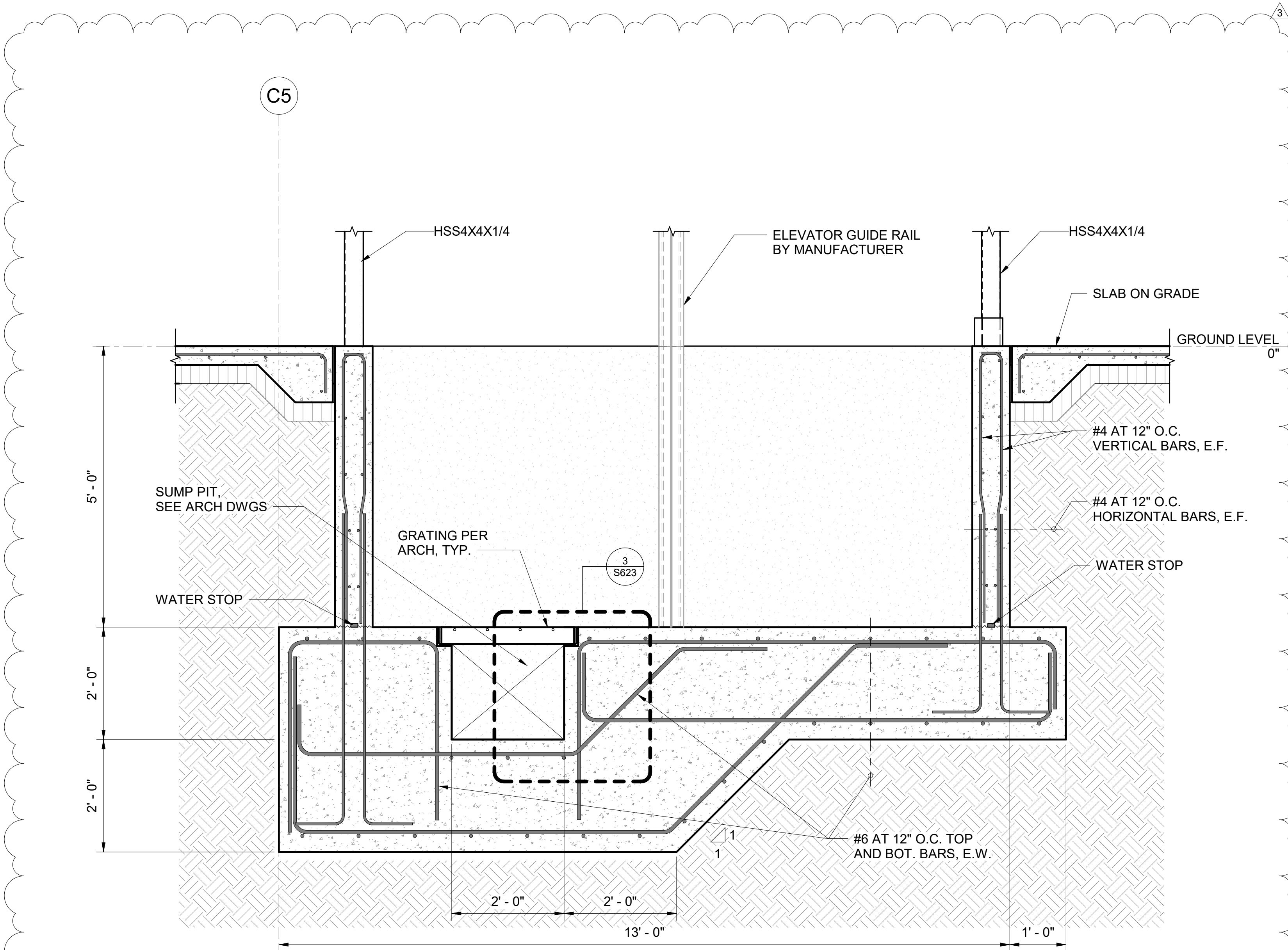
4 DETAIL  
1" = 1'-0"



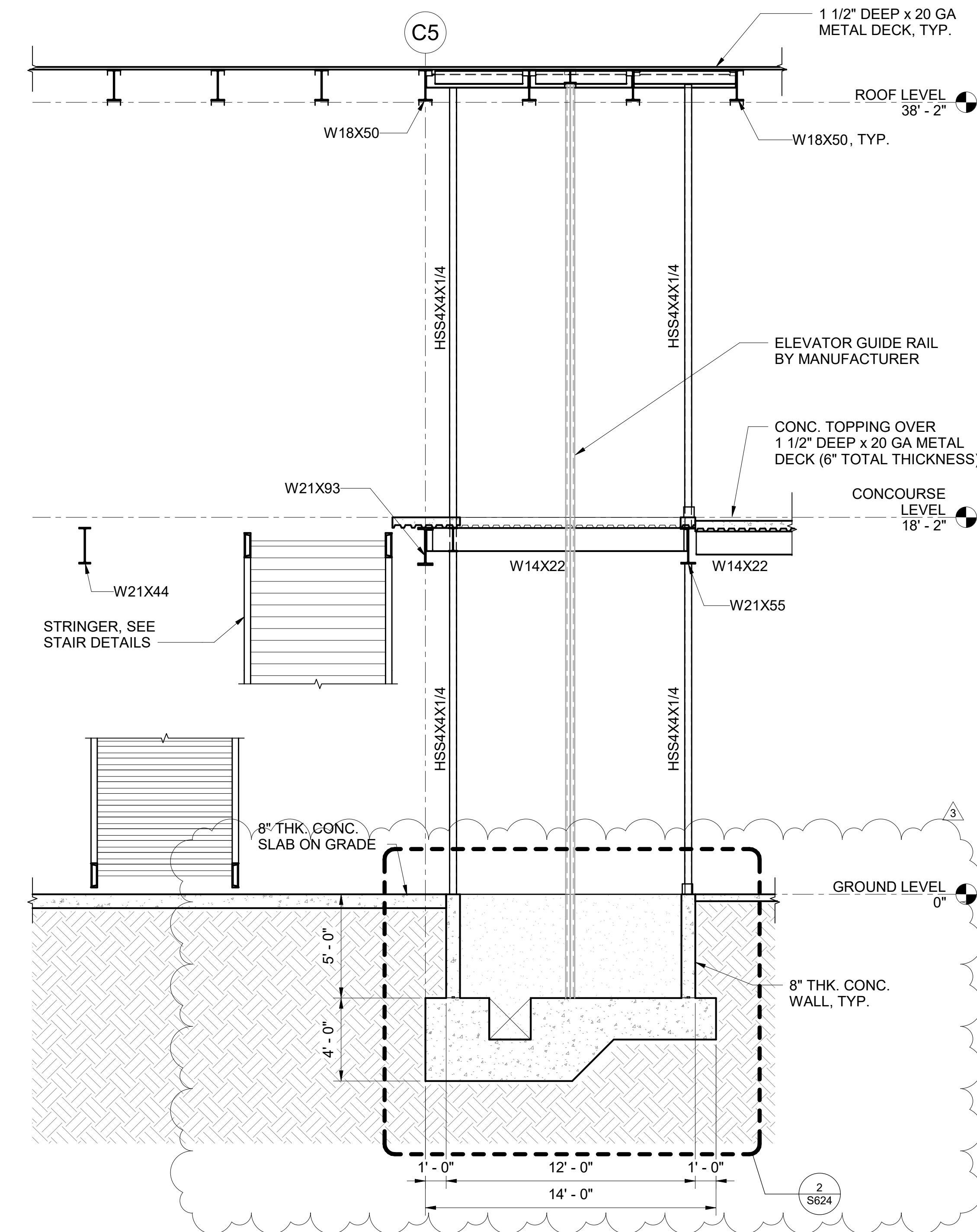
1 ELEVATOR DETAILED SECTION  
1/4" = 1'-0"







**2** ELEVATOR PIT DETAIL  
S624 SCALE: 3/4" = 1'-0"



**1** ELEVATOR DETAILED SECTION  
1/4" = 1'-0"

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MS	LC	KW	

KEY PLAN / NOTES:

NO.	DATE	ADDENDUM #3 REVISION
3	9/5/2023	

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

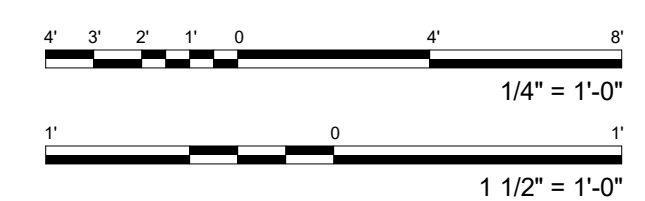
PROJECT NO:

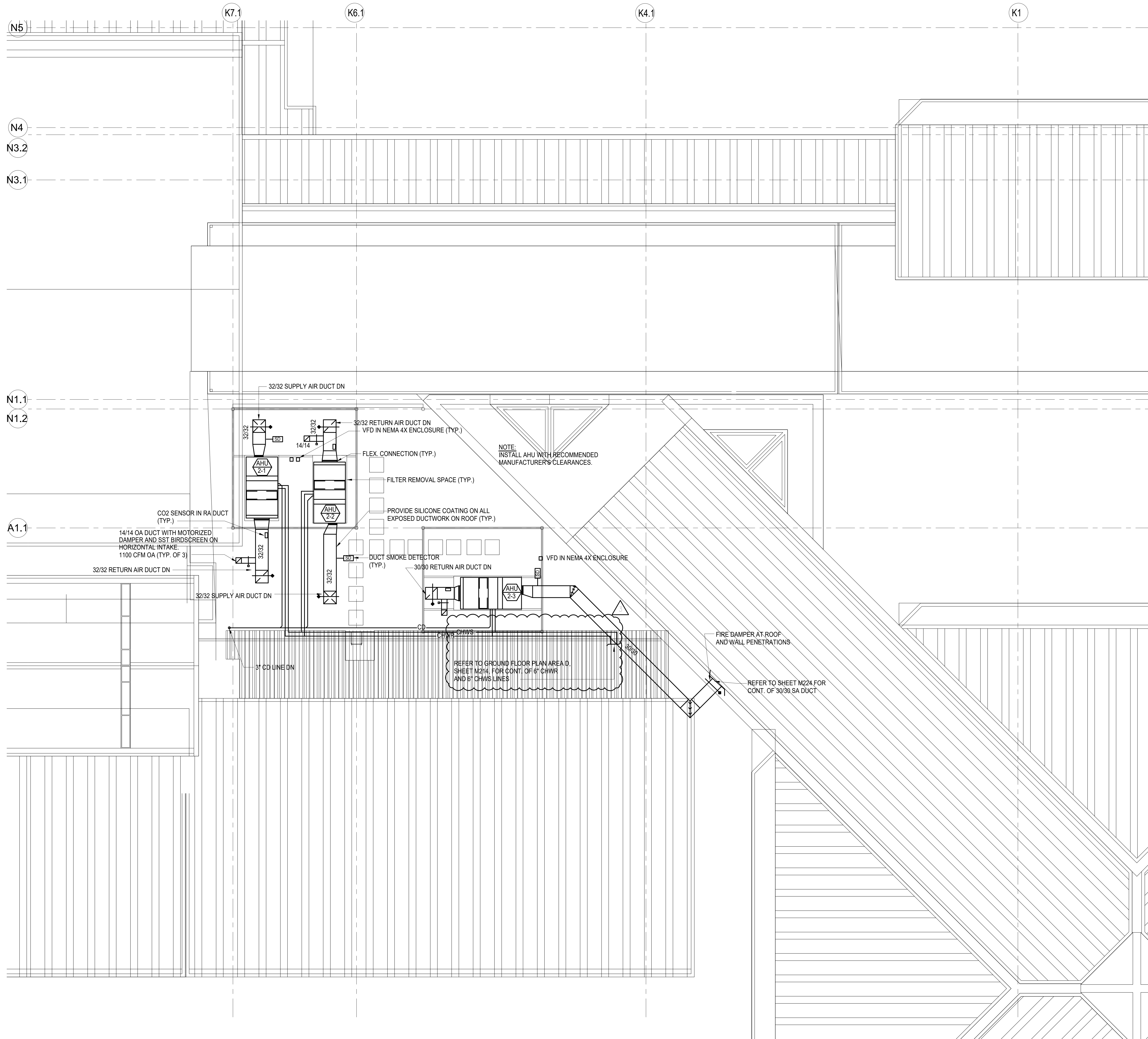
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SHEET TITLE:

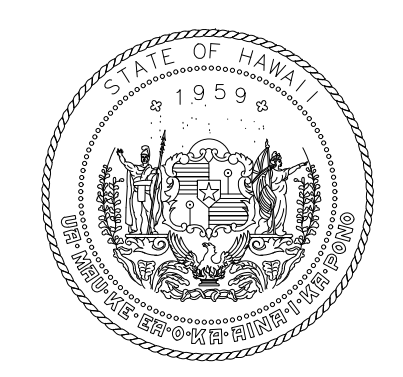
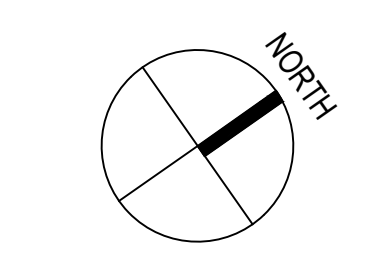
**ELEVATOR FRAMING SECTION AND DETAILS**

DATE:	DWG. NO.
MAY 26, 2023	S624
SHEET:	
192 OF 333 SHEETS	

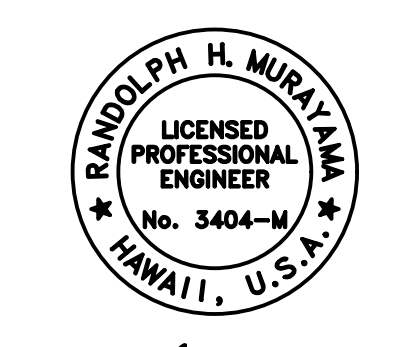




1 ROOF PLAN - AREA D MECHANICAL  
1/8" = 1'-0"



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*Randolph H. Muraoka*  
04/30/2024  
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RYT	RYT	RHM	RHM

KEY PLAN / NOTES:

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

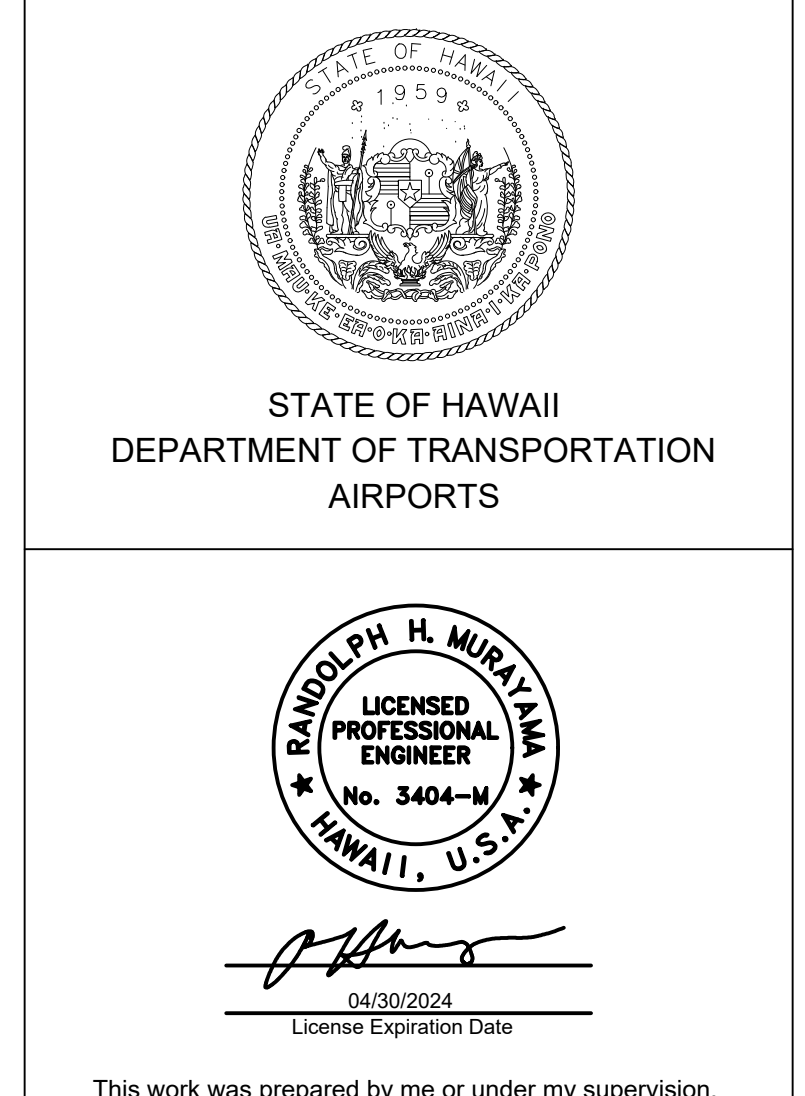
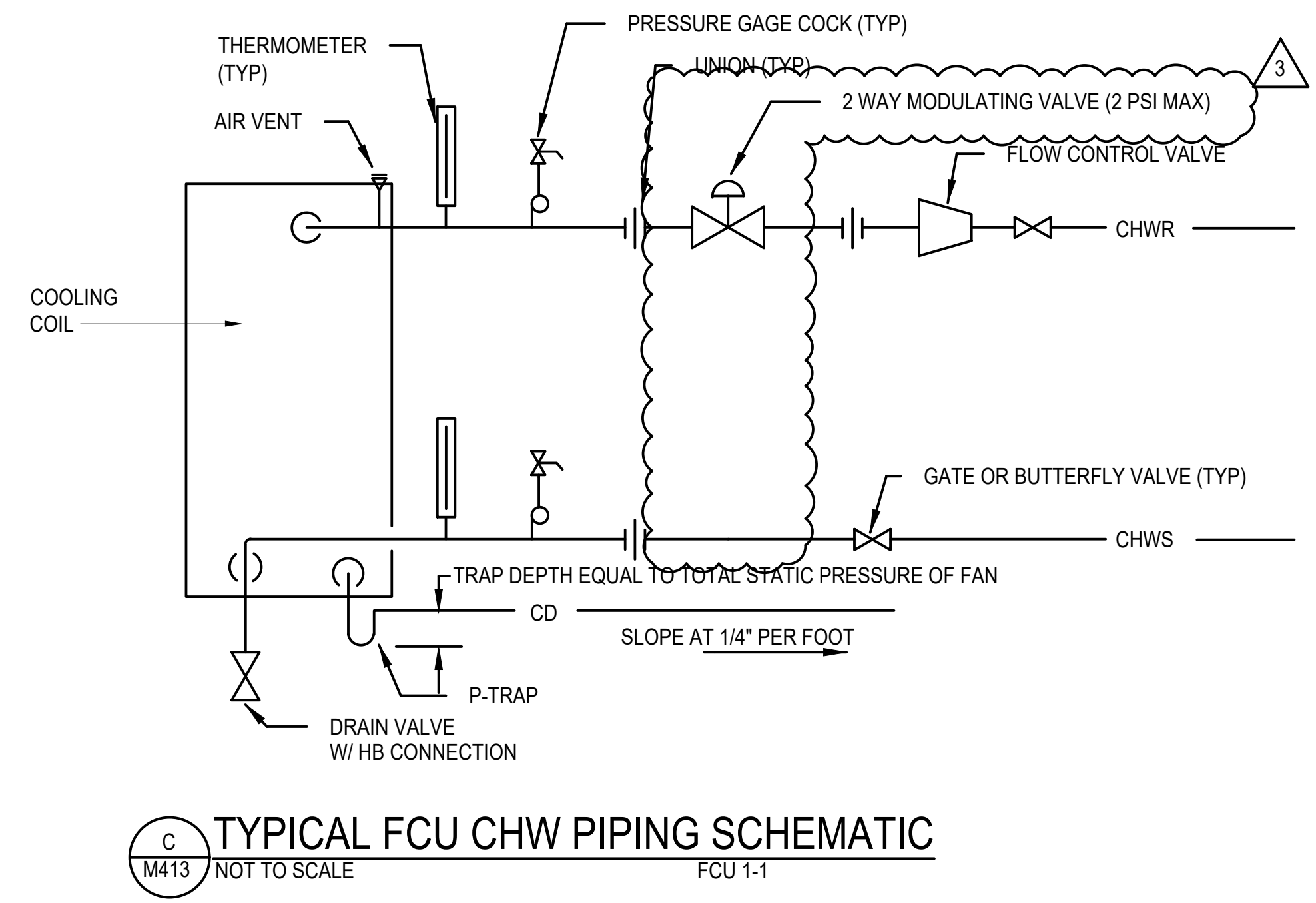
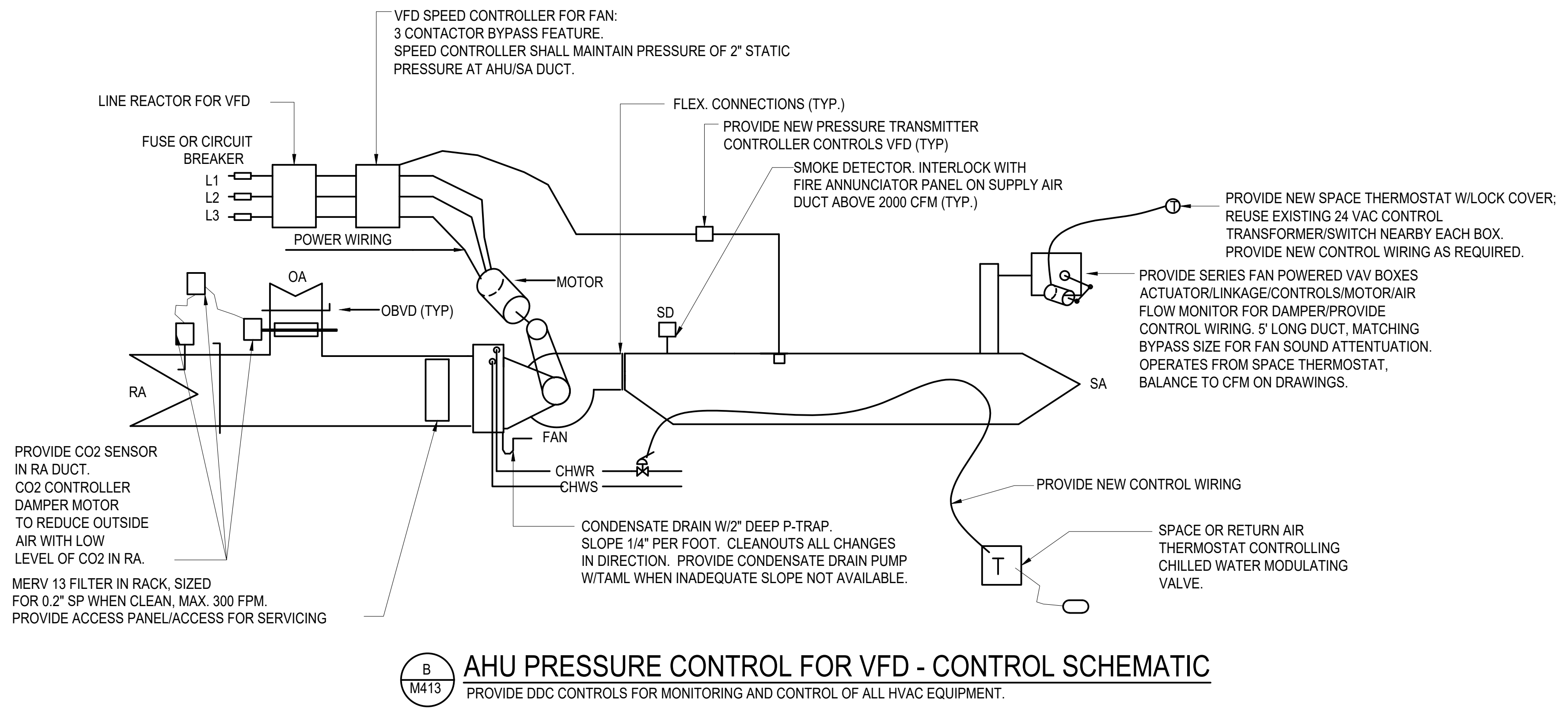
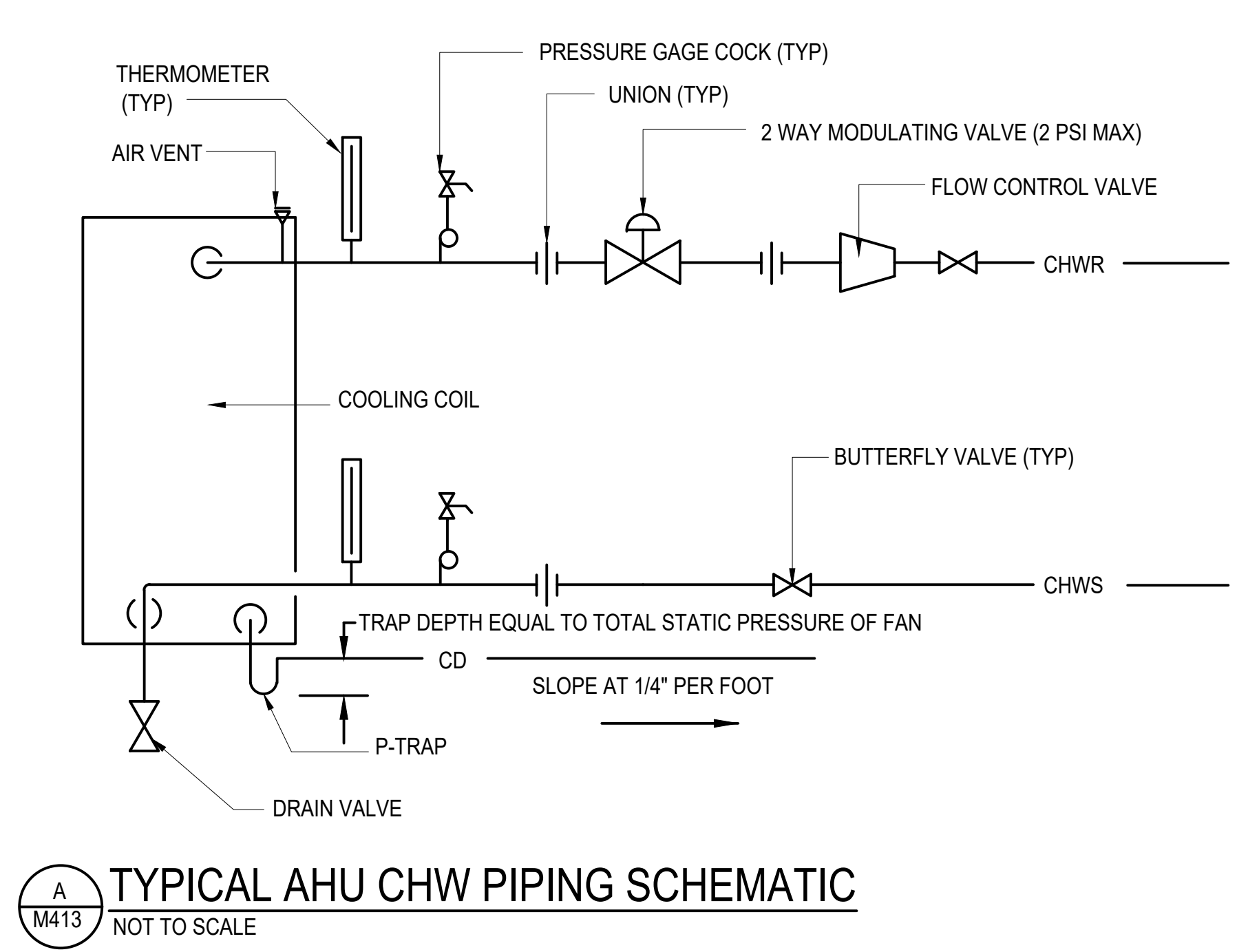
PROJECT NO:

**AM1095-10**

SHEET TITLE:

ROOF PLAN - AREA D MECHANICAL

DATE:	DWG. NO.
MAY 26, 2023	<b>M234</b>
SHEET:	
207 OF 333 SHEETS	



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RYT	RYT	RHM	RHM

**KEY PLAN / NOTES:**

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
**MAY 26, 2023**  
DATE

**PROJECT TITLE:**  
**SOUTH TSA CHECKPOINT**  
AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

**PROJECT NO:**  
**AM1095-10**

**SHEET TITLE:**  
**MECHANICAL DETAILS**

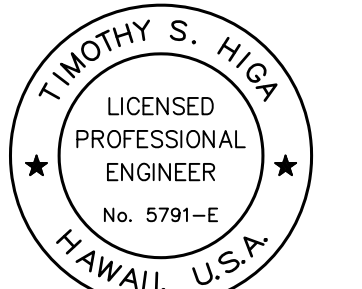
DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>M413</b>
SHEET:	
211 OF 333 SHEETS	

**ELECTRICAL SYMBOL LIST / MOUNTING HEIGHT SCHEDULE**

MOUNTING HEIGHT FROM FLOOR TO TOP	(SPECIAL MOUNTING HEIGHTS INDICATED ON PLAN)		DESCRIPTION	MOUNTING HEIGHT FROM FLOOR TO TOP	(SPECIAL MOUNTING HEIGHTS INDICATED ON PLAN)		DESCRIPTION
	EXISTING	NEW			EXISTING	NEW	
10'-0"			LED LUMINAIRE, CEILING MOUNTED (NUMERAL IN CIRCLE CORRESPONDS TO LUMINAIRE SCHEDULE)				INTERIOR WORK: CONCEALED CONDUIT BELOW FINISHED FLOOR OR BELOW GRADE (NO HASHMARKS INDICATE 2 CURRENT CARRYING CONDUCTORS AND 1 GROUND CONDUCTOR WITHIN, ALL OTHERS SIMILAR).
10'-0"			LED LUMINAIRE, CEILING MOUNTED WITH EMERGENCY BATTERY PACK (NUMERAL IN CIRCLE CORRESPONDS TO LUMINAIRE SCHEDULE)				EXTERIOR WORK: CONCRETE ENCASED UNDERGROUND DUCT LINE, SEE DUCT SECTION INDICATOR AND SCHEDULE.
7'-6"			LED LUMINAIRE, WALL MOUNTED (NUMERAL IN CIRCLE CORRESPONDS TO LUMINAIRE SCHEDULE)				SAWCUT ROADWAY/SIDEWALK. REPAIR TO MATCH EXISTING
7'-6"			LED LUMINAIRE, WALL MOUNTED WITH EMERGENCY BATTERY PACK (NUMERAL IN CIRCLE CORRESPONDS TO LUMINAIRE SCHEDULE)				CONCEALED CONDUIT IN CEILING OR WALLS, (HASHMARKS INDICATE 3-WIRES PLUS GROUND WITHIN, ALL OTHERS SIMILAR).
			LED LUMINAIRE, SERVED THRU ADJOINING LUMINAIRE				CONDUIT STUB
			LED LUMINAIRE, CEILING MOUNTED, ON NORMAL POWER CIRCUIT				EXPOSED RACEWAY, PROVIDE STRAP 8'-0" ON CENTER MAXIMUM
			LED LUMINAIRE, CEILING MOUNTED, FOR EMERGENCY LIGHTING, BACKED UP BY INVERTER POWER CIRCUIT				HOMERUN ARROW TO PANELBOARD. LETTER INDICATES PANELBOARD, NUMBERS INDICATES CIRCUITS.
			LED LUMINAIRE, CEILING MOUNTED, ON NORMAL POWER CIRCUIT				FIRE ALARM RACEWAY, 3/4" MINIMUM CONDUIT, CONDUCTORS AS REQUIRED
			LED LUMINAIRE, CEILING MOUNTED, FOR EMERGENCY LIGHTING, BACKED UP BY INVERTER POWER CIRCUIT				DENOTES 42" ABOVE FINISHED FLOOR OR GRADE
			LED LUMINAIRE, WALL MOUNTED, ON NORMAL POWER CIRCUIT				ABOVE FINISHED FLOOR
			LED LUMINAIRE, WALL MOUNTED, FOR EMERGENCY LIGHTING, BACKED UP BY INVERTER POWER CIRCUIT				AUTOMATIC TRANSFER SWITCH
8'-0"			ILLUMINATED EXIT SIGN, WALL MOUNTED, DIRECTIONAL ARROWS AS INDICATED				CATEGORY-3 CABLE
			ILLUMINATED EXIT SIGN, CEILING MOUNTED, DIRECTIONAL ARROWS AS INDICATED				CATEGORY-6 CABLE
46"			LIGHT SWITCH, FLUSH WALL MOUNTED, 1P20A, 120/277V, 1HP MAX. (LETTER INDICATES LUMINAIRES CONTROLLED)				ELECTRICAL MANHOLE
			MANUAL MOTOR STARTER WITH THERMAL OVERLOAD (SINGLE POLE OR DOUBLE POLE AS REQUIRED) 1HP MAX.				FIBER OPTIC CABLE
46"			OCCUPANCY SENSOR LIGHT SWITCH				GROUND FAULT CIRCUIT INTERRUPTER
			LOW VOLTAGE LIGHTING CONTROL SYSTEM SWITCH				GROUND
			LIGHTING CONTROL SYSTEM OCCUPANCY SENSOR, WALL/CEILING CORNER MOUNTED				KILOVOLT-AMPERE
			DAYLIGHT SENSOR, CEILING MOUNTED (LOWERCASE LETTER INDICATES LUMINAIRES/RECEPTACLES CONTROLLED)				LIGHTS
18"			RECEPTACLE, QUADRUPLX, GROUNDING TYPE, 125V, NEMA TYPE 5-20R				PROVISION FOR FUTURE BREAKER
18"			RECEPTACLE, DUPLEX, GROUNDING TYPE, 125V, NEMA TYPE 5-20R				RECEPTACLES
18"			RECEPTACLE, DUPLEX, GFCI TYPE, 125V, NEMA TYPE 5-20R				WEATHERPROOF
			REAR X-RAY FLOOR OUTLET				DENOTES DEMOLITION/REMOVAL
			POWER/TELECOM PEDESTAL FLOORBOX				DUCT SECTION INDICATOR
			FRONT X-RAY POWER/TELECOM PEDESTAL FLOORBOX				NOTE INDICATOR
18"			RECEPTACLE, SINGLE, SPECIAL PURPOSE, 250V-1Ø, NEMA CONFIGURATION AS NOTED				DETAIL INDICATOR: TOP HALF DENOTES DETAIL NUMBER, BOTTOM HALF DENOTES SHEET NUMBER
3'-6"			MAGNETIC MOTOR STARTER, FURNISHED BY MECHANICAL CONTRACTOR & INSTALLED BY ELECTRICAL CONTRACTOR				HIGH VOLTAGE TERMINATION
5'-0"			NON-FUSED DISCONNECT SWITCH, 3P3ØA UNLESS OTHERWISE NOTED, VOLTAGE TO MATCH CIRCUITING				POWER TRANSFORMER
6'-0"			SIGNAL CABINET FOR SYSTEM NOTED				GROUND
6'-0"			PANELBOARD				CIRCUIT BREAKER
			ELECTRICAL EQUIPMENT AS INDICATED				NON-FUSED DISCONNECT SWITCH
			PUSHBUTTON				FUSED DISCONNECT SWITCH
			TRANSFORMER, PAD OR FLOOR MOUNTED				AUTOMATIC TRANSFER/ISOLATION BYPASS SWITCH
			JUNCTION BOX, HORIZONTALLY MOUNTED, SIZE AS NOTED				AREA LIGHT ASSEMBLY, TWO LUMINAIRES PER POLE
			JUNCTION BOX, WALL MOUNTED, SIZE AS NOTED				AREA LIGHT ASSEMBLY, ONE LUMINAIRE PER POLE
18"			JUNCTION BOX, HORIZONTALLY MOUNTED				LIGHTNING PROTECTION COPPER AIR TERMINAL (DOT INDICATES LOCATION FOR AIR TERMINAL)
			JUNCTION BOX, WALL MOUNTED				GROUND ROD (DOT INDICATES LOCATION FOR GROUND ROD)
			EQUIPMENT TERMINATION WITH FLEXIBLE CONDUIT WHIP				GROUND ROD AND GROUND TEST BOX (DOT INDICATES LOCATION FOR GROUND ROD)
5'-0"			FIRE PROTECTION EQUIPMENT CABINET, TYPE AS INDICATED				EXPOSED LIGHTNING PROTECTION CONDUCTOR
46"			FIRE ALARM MANUAL PULL STATION				UNDERGROUND LIGHTNING PROTECTION SYSTEM GROUND RING CONDUCTOR
6'-10"			FIRE ALARM SPEAKER/VISUAL SIGNALLING DEVICE				LIGHTNING PROTECTION DOWN CONDUCTOR
6'-10"			FIRE ALARM AUDIO/VISUAL (110 CANDELA) SIGNALLING DEVICE, SEMI - FLUSH MOUNTED				
6'-10"			FIRE ALARM VISUAL (75 CANDELA) SIGNALLING DEVICE				
6'-10"			FIRE ALARM VISUAL (110 CANDELA) SIGNALLING DEVICE, SEMI - FLUSH MOUNTED				
			SMOKE DETECTOR, CEILING MOUNTED				
			DUCT SMOKE DETECTOR				
			HEAT DETECTOR, CEILING MOUNTED				
			FIRE ALARM FLOW SWITCH CONNECTION				
			FIRE SPRINKLER TAMPER SWITCH CONNECTION				
			FIRE SMOKE DAMPER				



STATE OF HAWAII  
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DSGN.	DRWN.	CHKD.	APPD.

**KEY PLAN / NOTES:**

	9/5/2023	ADDENDUM #3
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NO.	DATE	REVISION
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**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

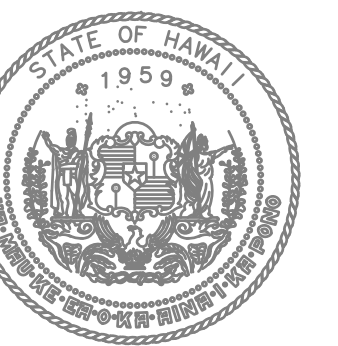
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ELECTRICAL SYMBOL LIST/MOUNTING HEIGHT SCHEDULE

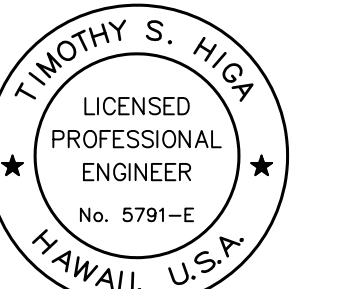
DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>E001</b>

SHEET:  
241 OF 333 SHEETS





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DEPARTMENT OF TRANSPORTATION  
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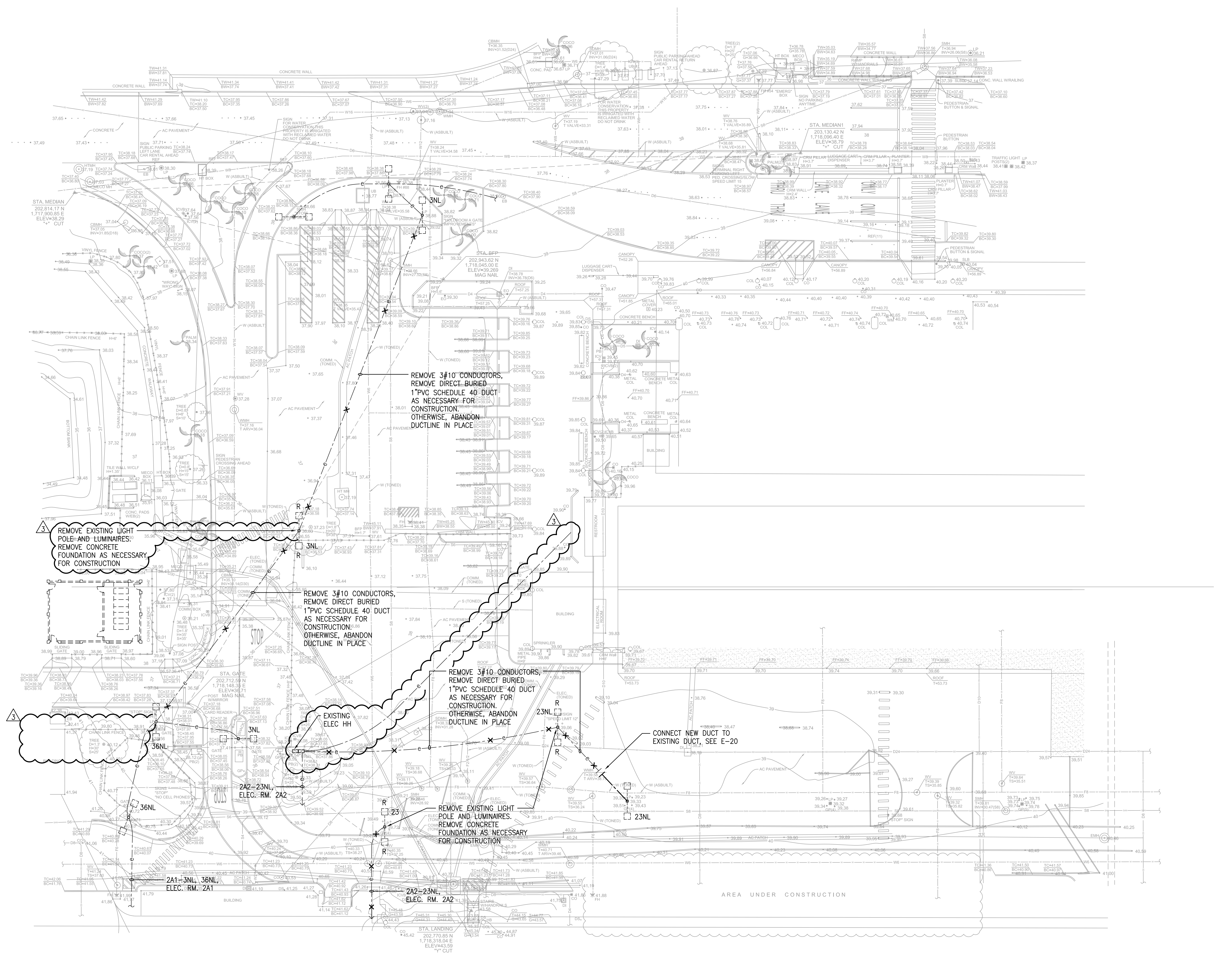


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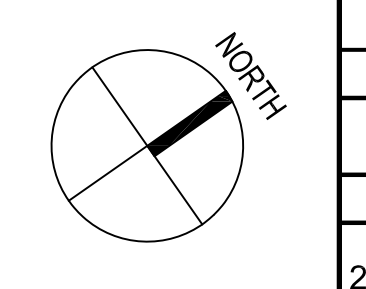
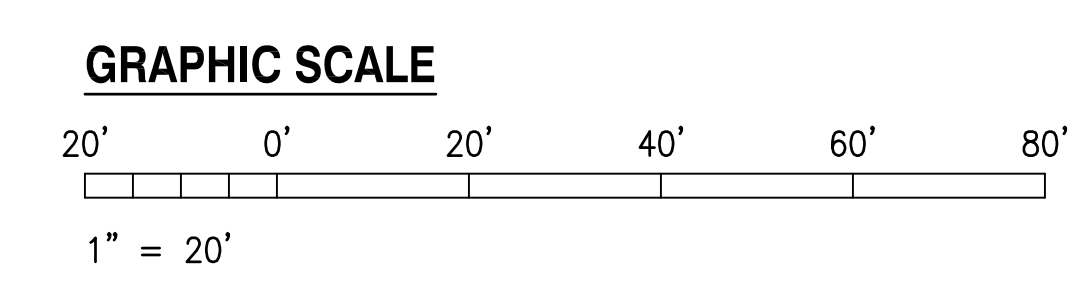
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KEY PLAN / NOTES:



**1 ELECTRICAL DEMOLITION SITE PLAN**  
1" = 20'-0"



3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

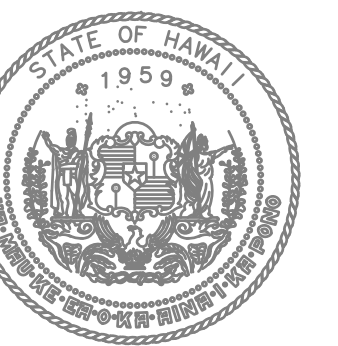
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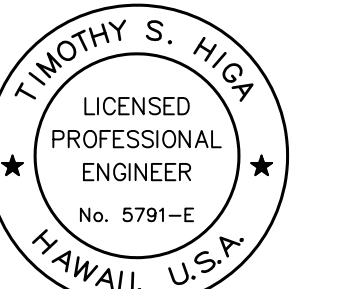
ELECTRICAL DEMOLITION SITE PLAN

DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>E101</b>
SHEET:	
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KEY PLAN / NOTES:



3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

**PROJECT TITLE:**  
SOUTH TSA CHECKPOINT

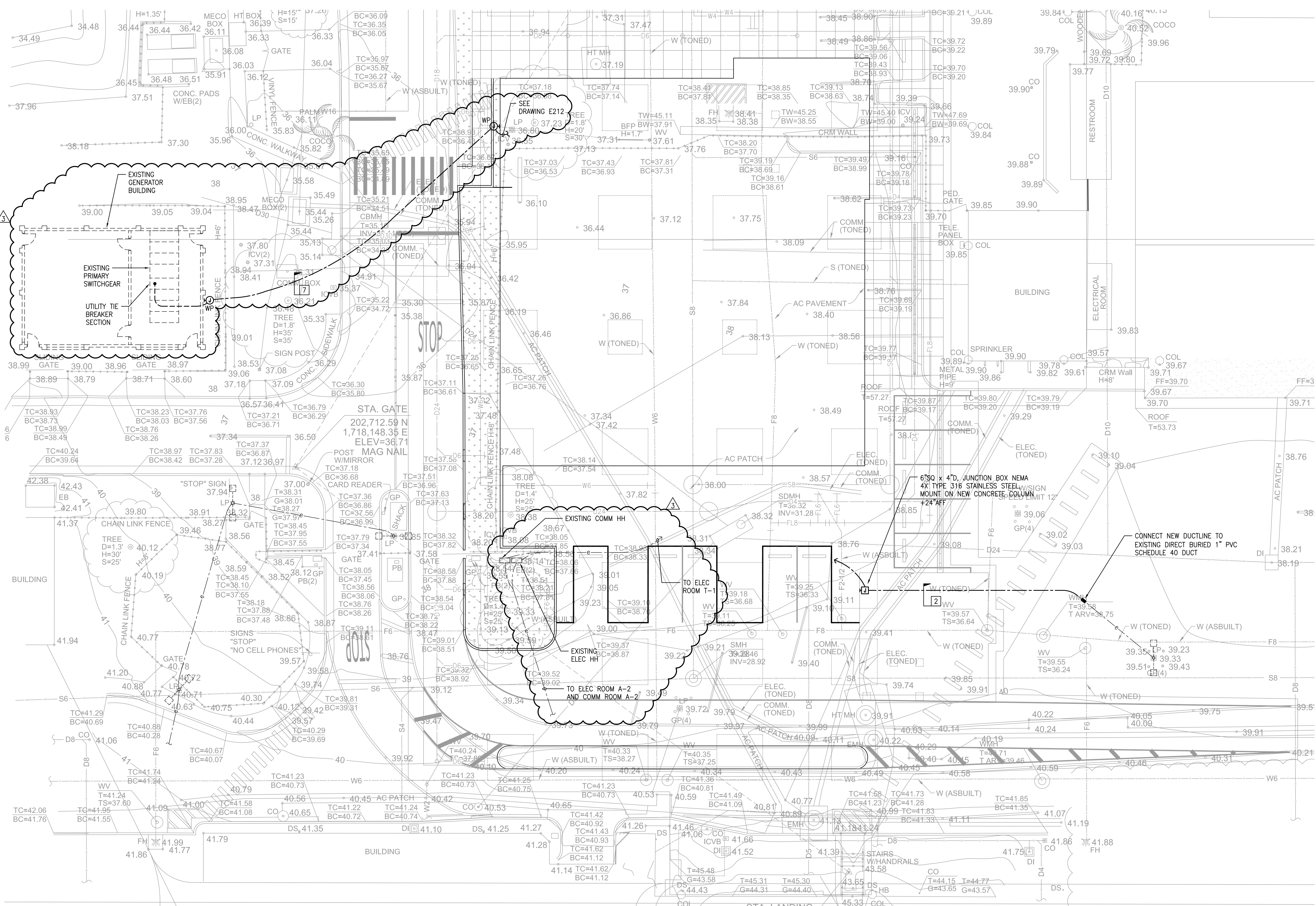
**PROJECT NO.:**  
AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

**AM1095-10**

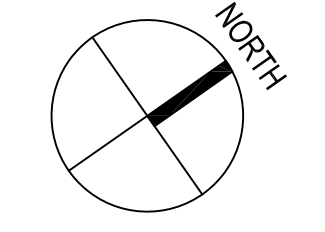
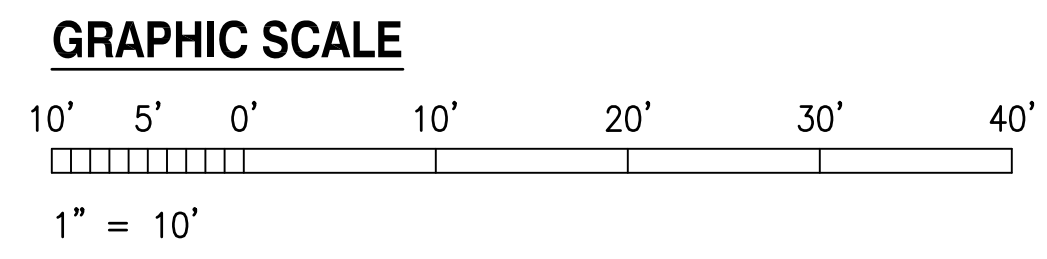
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NEW ELECTRICAL SITE PLAN

DATE:	DWG. NO.
MAY 26, 2023	E201

SHEET: 245 OF 333 SHEETS

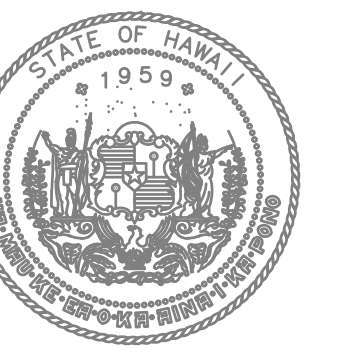


**1 NEW ELECTRICAL SITE PLAN**  
1" = 10'-0"

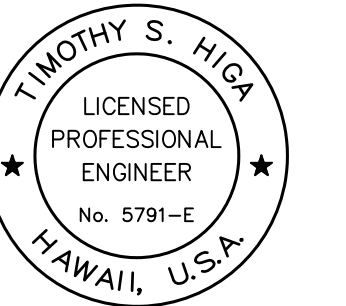


8/28/23-13:54 Y:\072\072\_079\_Kahului\_Airport\072\_079\_E201\_S02.dwg





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KEY PLAN / NOTES:

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

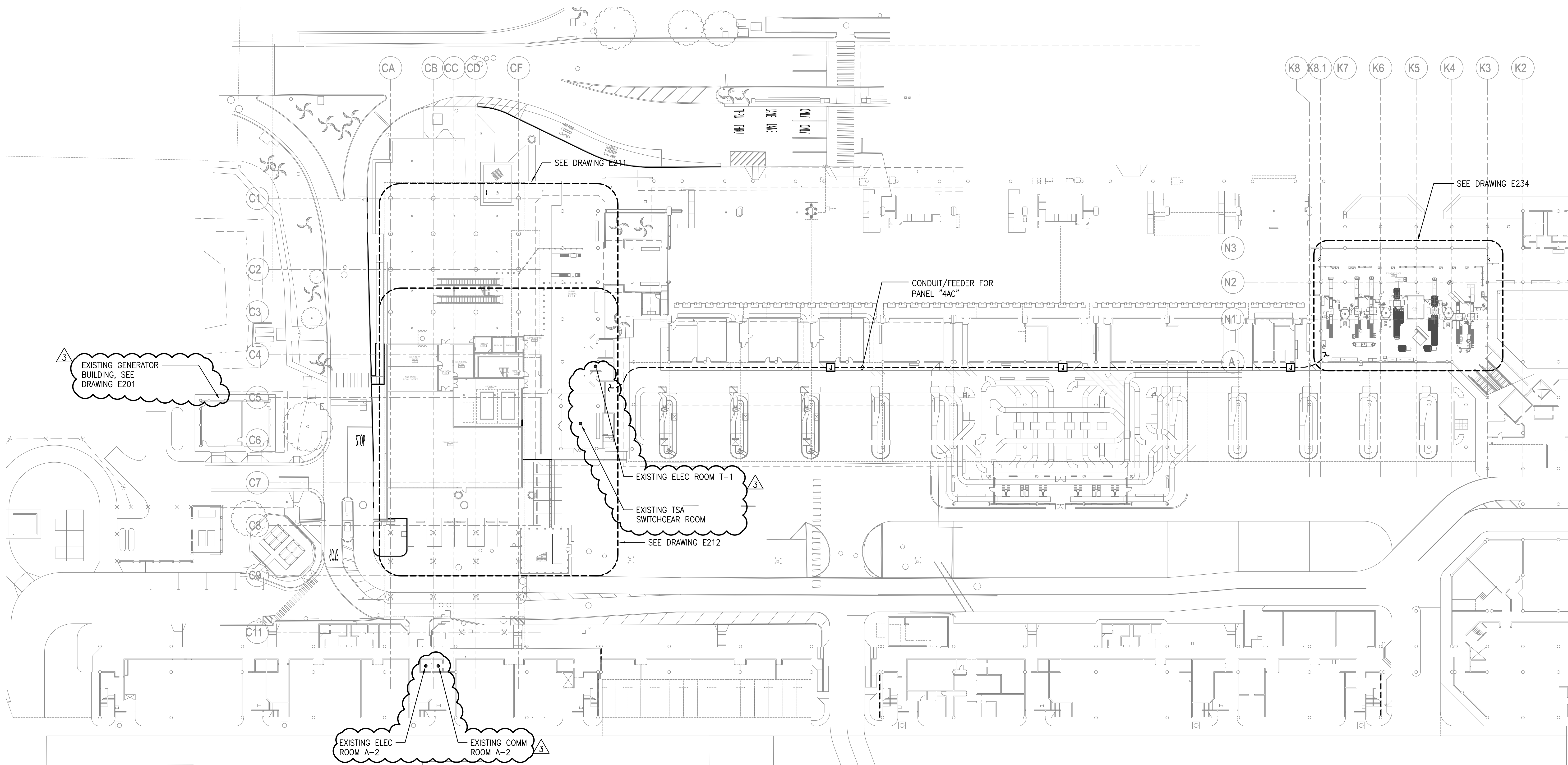
OVERALL ELECTRICAL FLOOR  
PLAN-GROUND LEVEL

DATE: DWG. NO.

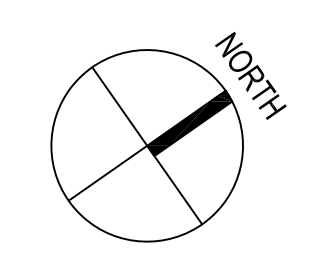
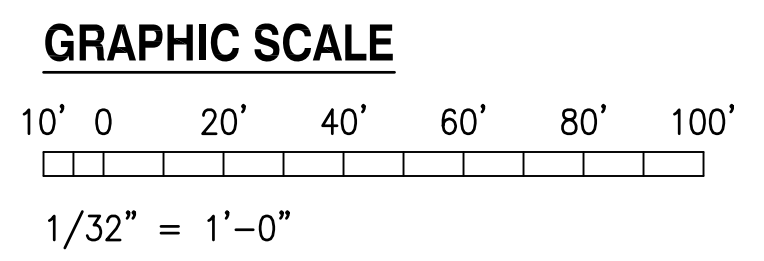
MAY 26, 2023

**E210**

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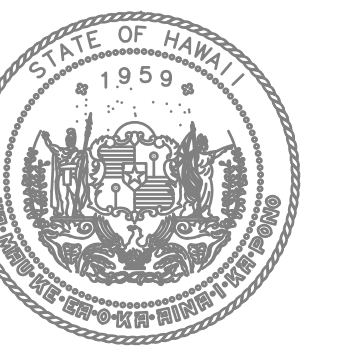


**1 OVERALL ELECTRICAL FLOOR PLAN-GROUND LEVEL**  
1/32" = 1'-0"

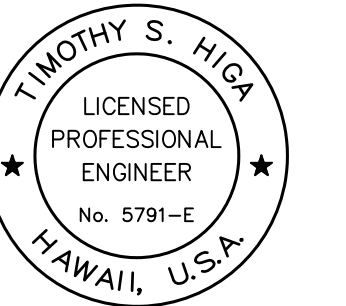


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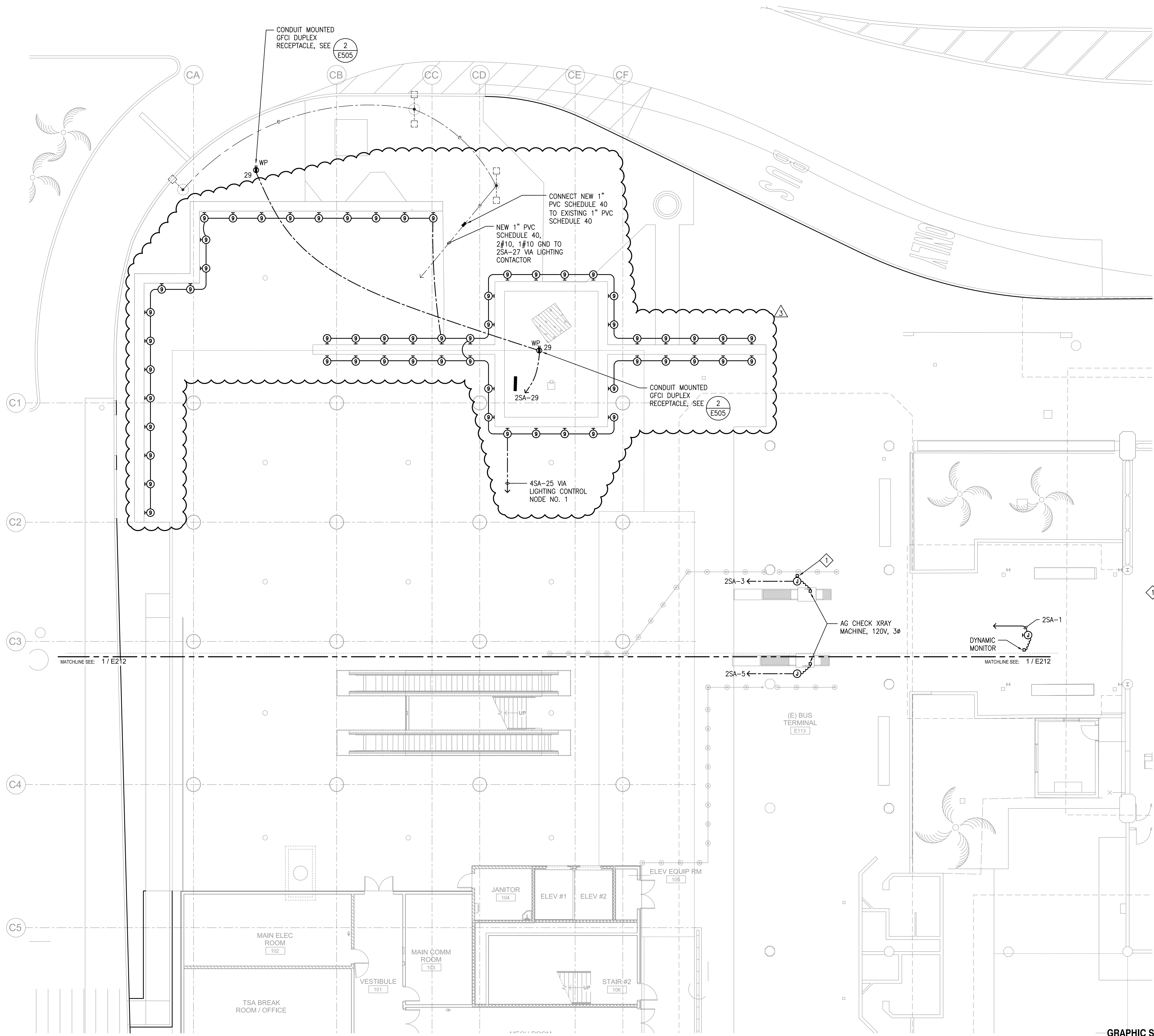


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License Expiration Date: 04/30/2024

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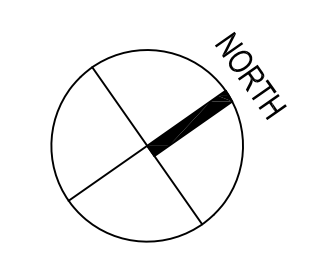
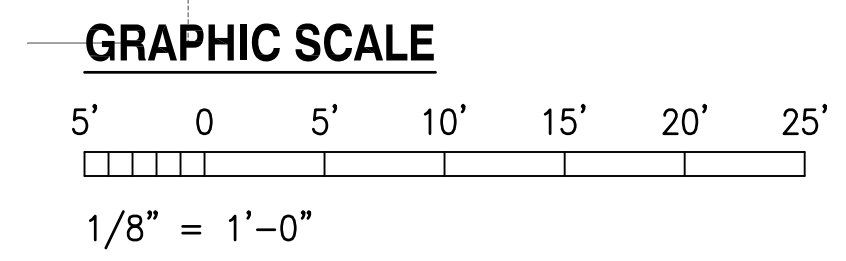
DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES:



**NOTE:**  
1 PROVIDE UNISTRUT FROM FLOOR TO CEILING TO SUPPORT JUNCTION BOX AND CONDUIT.

1 ELECTRICAL AND LIGHTING FLOOR PLAN - GROUND LEVEL - AREA A  
1/8" = 1'-0"



3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

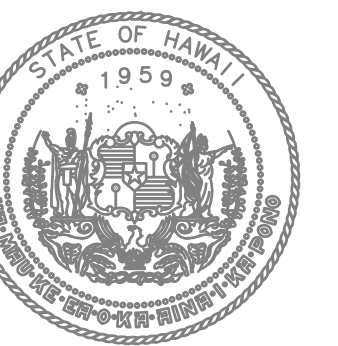
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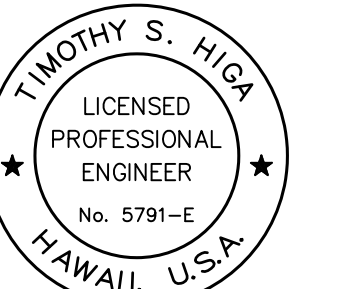
ELECTRICAL AND LIGHTING FLOOR PLAN - GROUND LEVEL - AREA A

DATE:	DWG. NO.
MAY 26, 2023	<b>E211</b>
SHEET:	247 OF 333 SHEETS

8/28/23-13:32 Y:\072\072\_079\_Kahului\_Airport\072\_079\_E211\_P01.dwg



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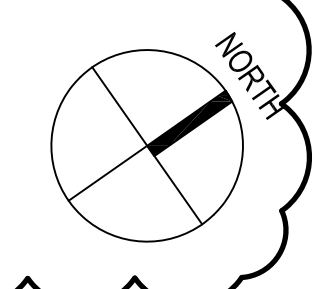
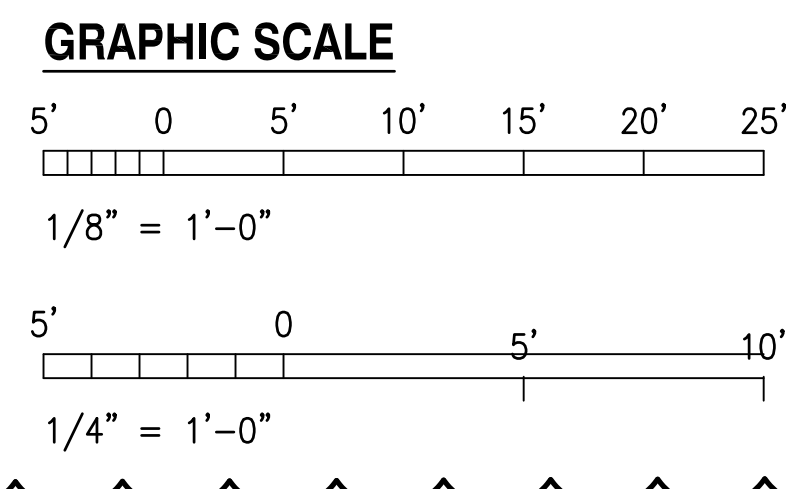
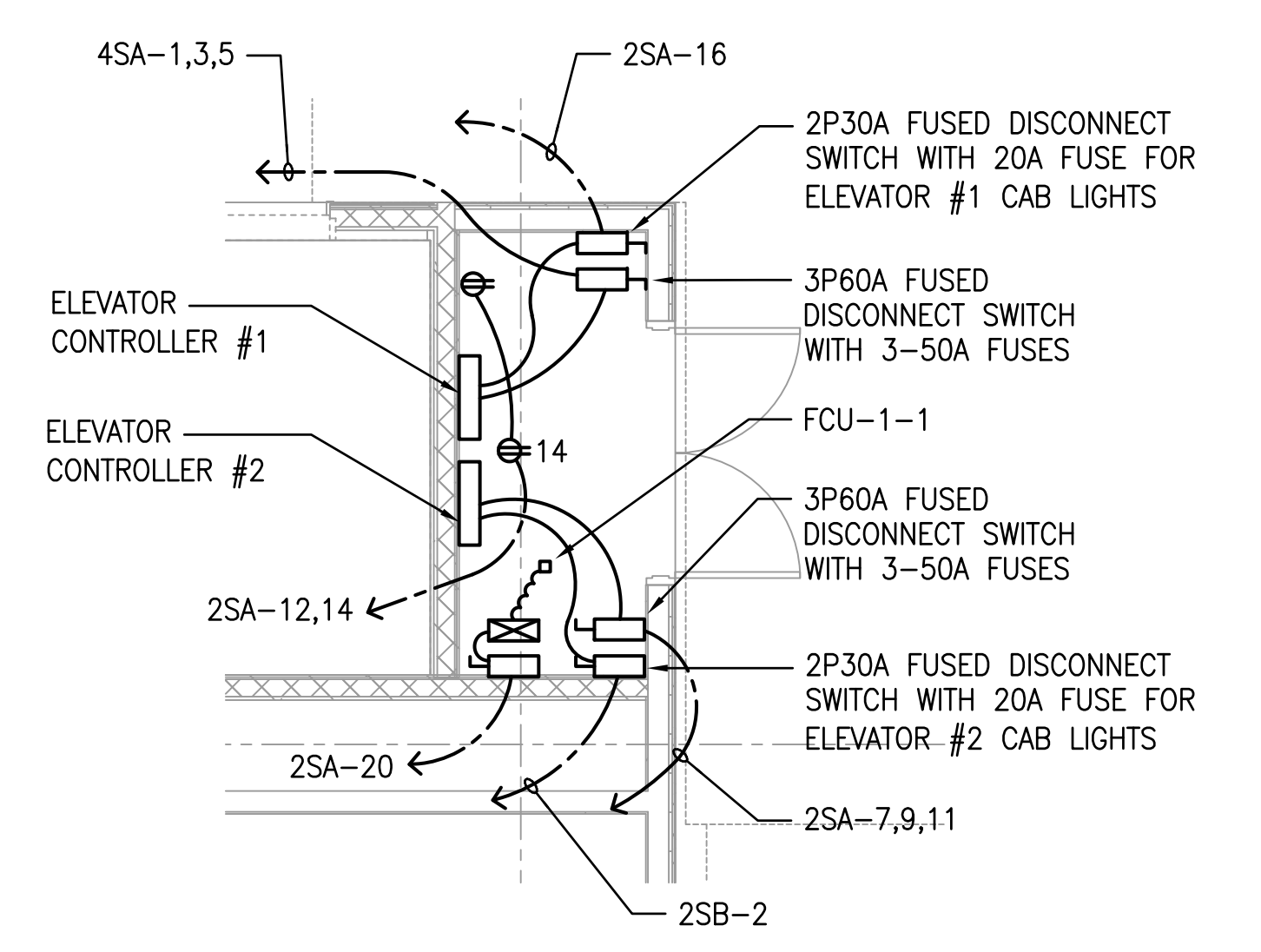
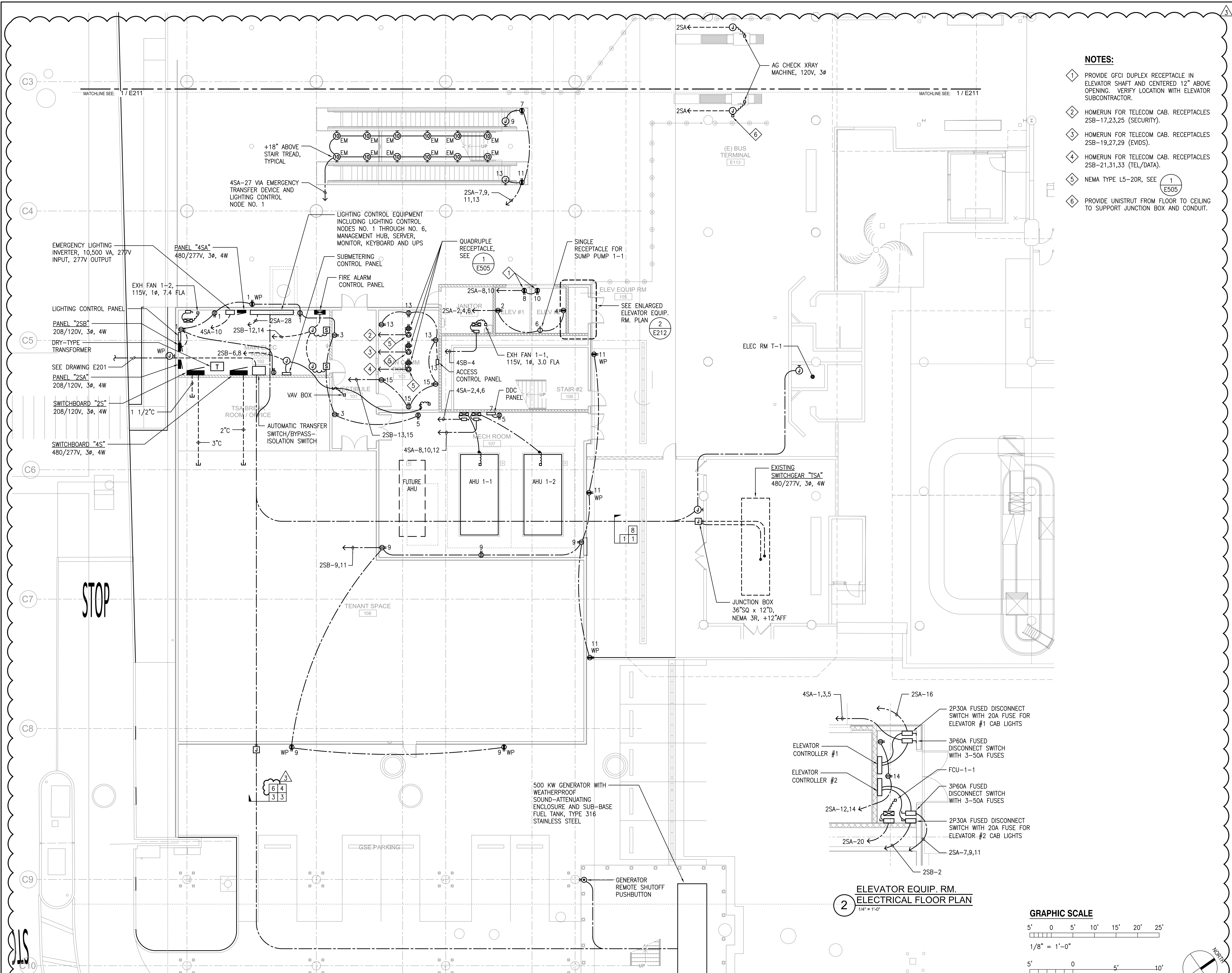
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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES:

NOTES:

- PROVIDE GFCI DUPLEX RECEPTACLE IN ELEVATOR SHAFT AND CENTERED 12" ABOVE OPENING. VERIFY LOCATION WITH ELEVATOR SUBCONTRACTOR.
- HOMERUN FOR TELECOM CAB. RECEPTACLES 2SB-17,23,25 (SECURITY).
- HOMERUN FOR TELECOM CAB. RECEPTACLES 2SB-19,27,29 (EVIDS).
- HOMERUN FOR TELECOM CAB. RECEPTACLES 2SB-21,31,33 (TEL/DATA).
- NEMA TYPE L5-20R, SEE 1 E505
- PROVIDE UNISTRUT FROM FLOOR TO CEILING TO SUPPORT JUNCTION BOX AND CONDUIT.



1 ELECTRICAL FLOOR PLAN - GROUND LEVEL - AREA B  
1/8" = 1'-0"

2 ELEVATOR EQUIP. RM. ELECTRICAL FLOOR PLAN  
1/4" = 1'-0"

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

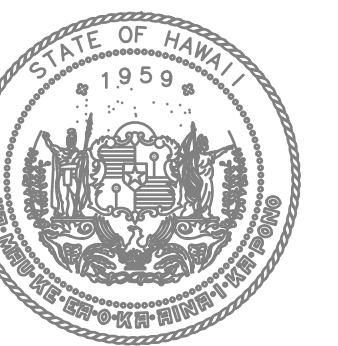
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ELECTRICAL FLOOR PLAN -  
GROUND LEVEL - AREA B

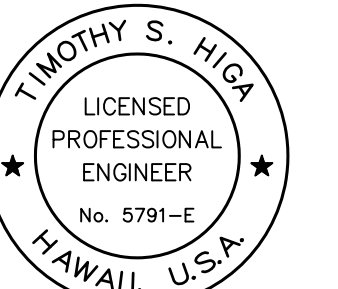
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MAY 26, 2023	<b>E212</b>

SHEET: 248 OF 333 SHEETS

8/29/23-15:48 Y:\072\072\_079\_Kahului\_Airport\072\_079\_E212.Plot.dwg



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KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

LIGHTING PLAN - GROUND LEVEL - AREA B

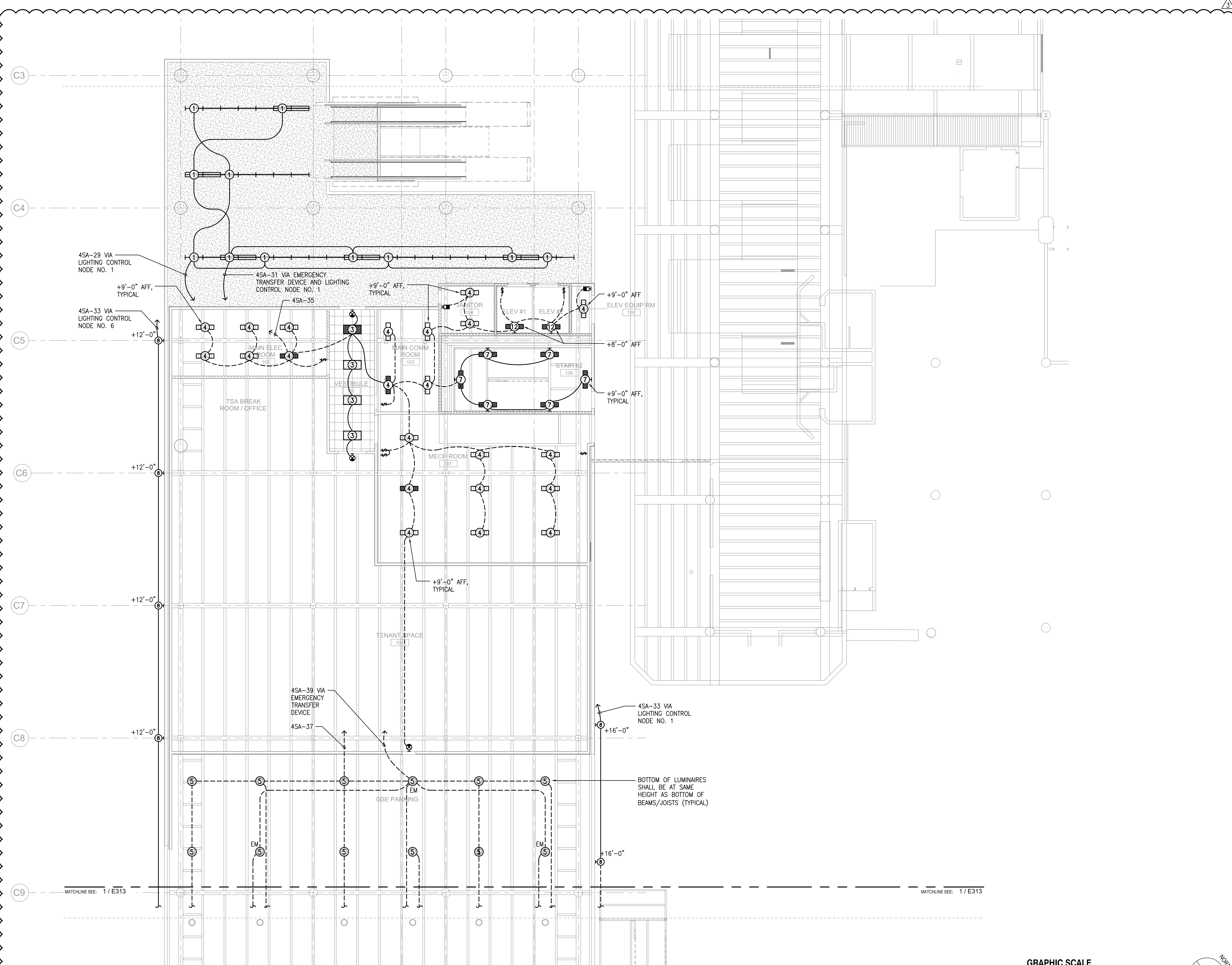
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MAY 26, 2023

SHEET:

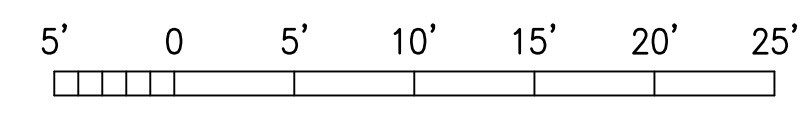
256 OF 333 SHEETS

**E312**

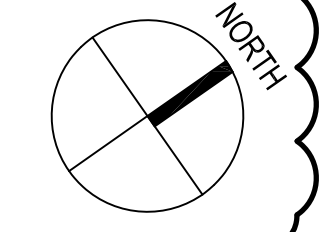


**1 LIGHTING PLAN - GROUND LEVEL - AREA B**  
1/8" = 1'-0"

**GRAPHIC SCALE**

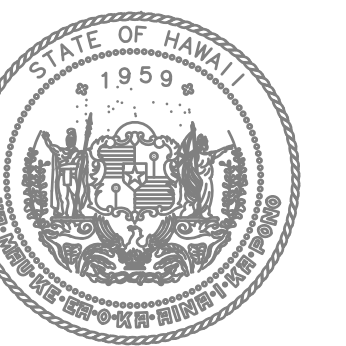


1/8" = 1'-0"

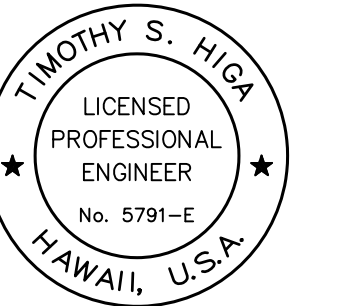


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License Expiration Date: 04/30/2024

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KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

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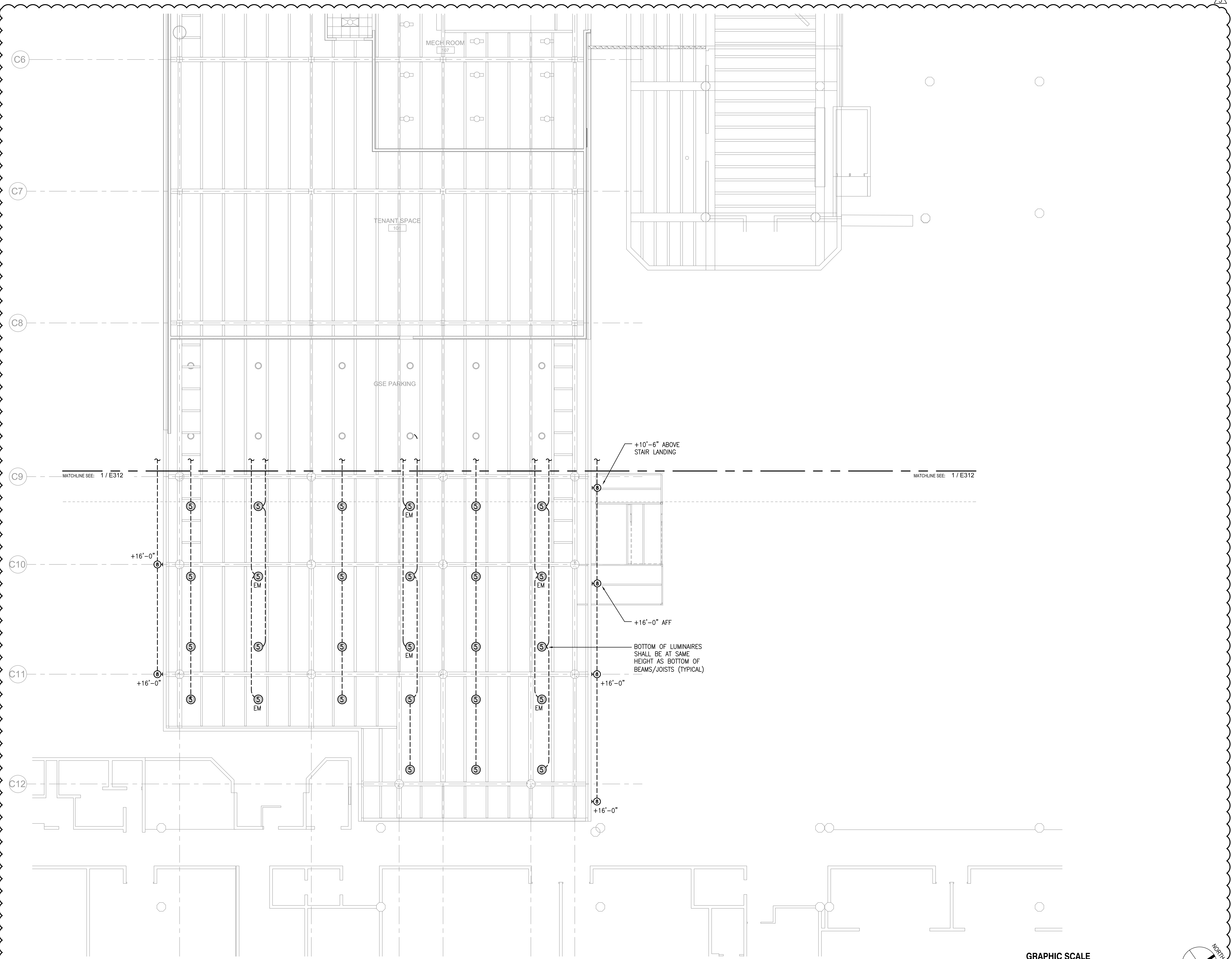
LIGHTING PLAN - GROUND LEVEL - AREA C

DATE: **MAY 26, 2023**

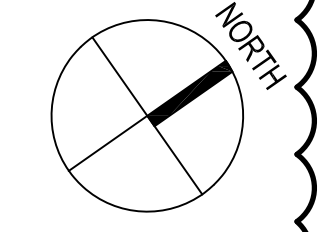
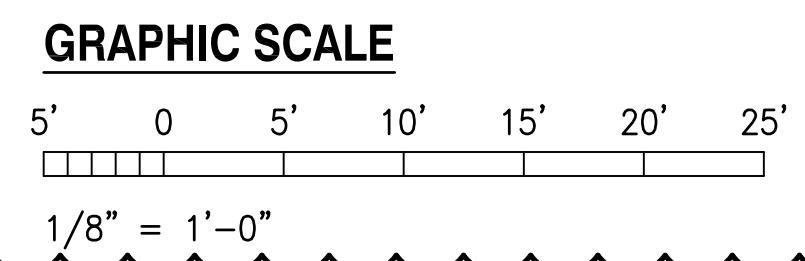
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257 OF 333 SHEETS

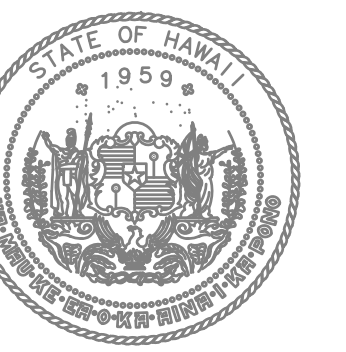
DWG. NO.  
**E313**



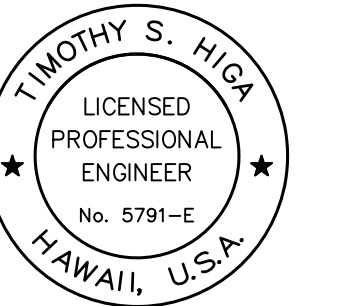
**1 LIGHTING PLAN - GROUND LEVEL - AREA C**  
1/8" = 1'-0"



8/28/23-13:36 Y:\072\072\_079\_Kahului\_Airport\072\_079\_E313.dwg



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

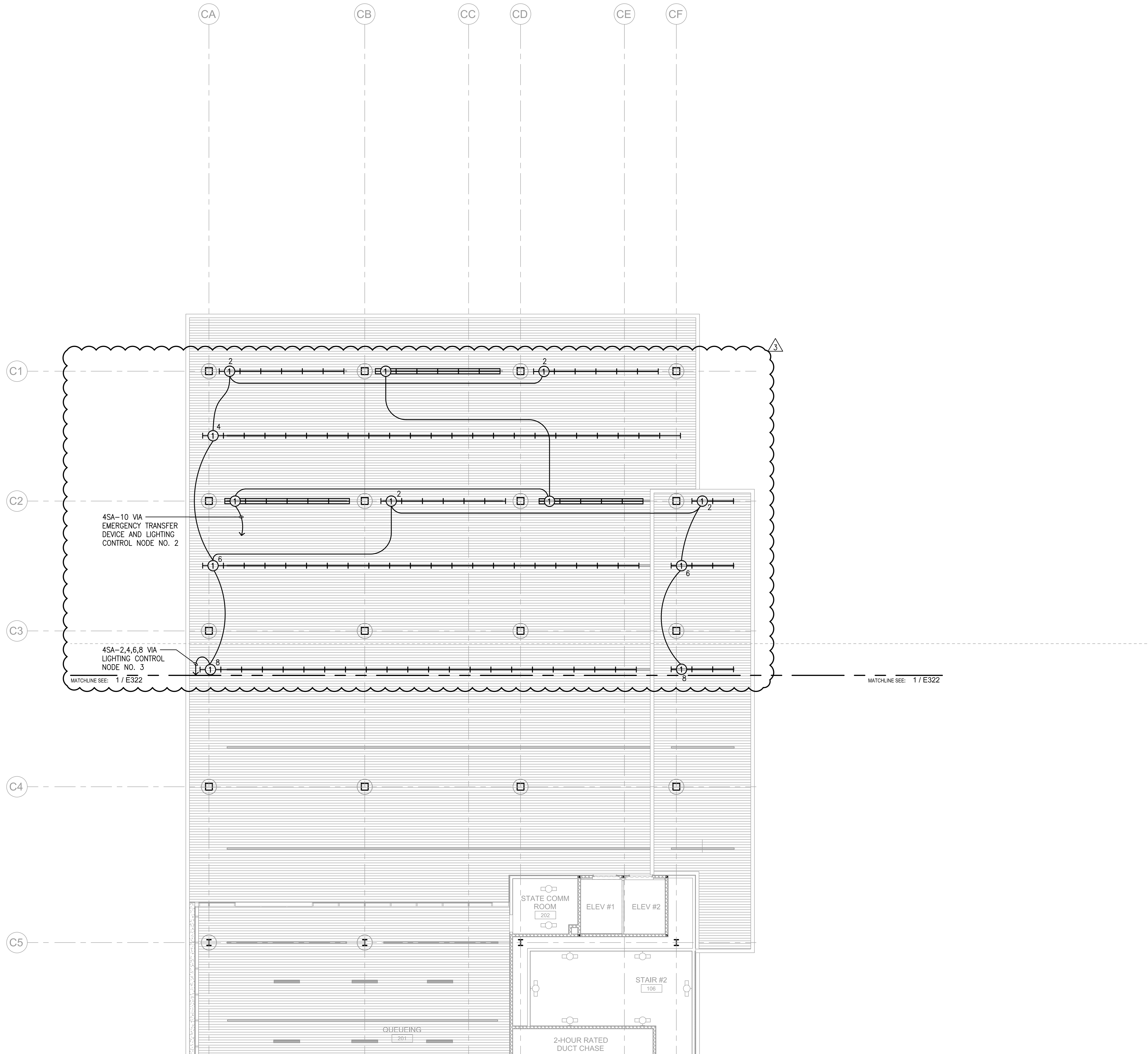


*Timothy S. Higa*  
L. HIGA  
License Expiration Date: 04/30/2024

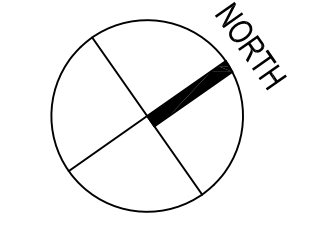
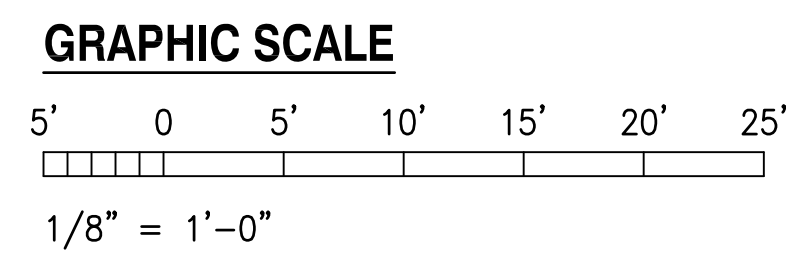
This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES:



**1** LIGHTING PLAN - CONCOURSE LEVEL - AREA A  
1/8" = 1'-0"



NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

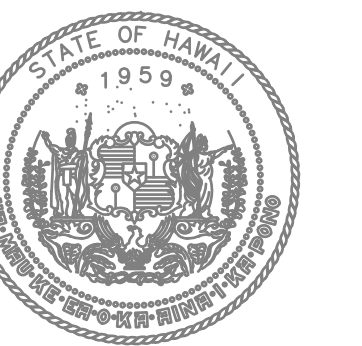
**AM1095-10**

SHEET TITLE:

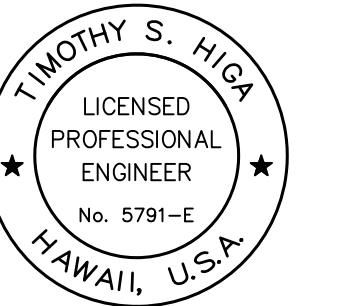
LIGHTING PLAN - CONCOURSE LEVEL - AREA A

DATE:	DWG. NO.
MAY 26, 2023	<b>E321</b>
SHEET:	259 OF 333 SHEETS

8/28/23-13:37 Y:\02\A072\079 Kahului Airport\072\079 E321.LUS.dwg



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
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*Timothy S. Higa*  
L. HIGA  
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No. 5791-E  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

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-------	-------	-------	-------

KEY PLAN / NOTES:

- NOTES:**
- 1 VIA EMERGENCY TRANSFER DEVICE AND LIGHTING CONTROL NODE NO. 2.
  - 2 VIA LIGHTING CONTROL NODE NO. 4.
  - 3 VIA EMERGENCY TRANSFER DEVICE AND LIGHTING CONTROL NODE NO. 5.
  - 4 VIA LIGHTING CONTROL NODE NO. 6.

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

LIGHTING PLAN - CONCOURSE LEVEL - AREA B

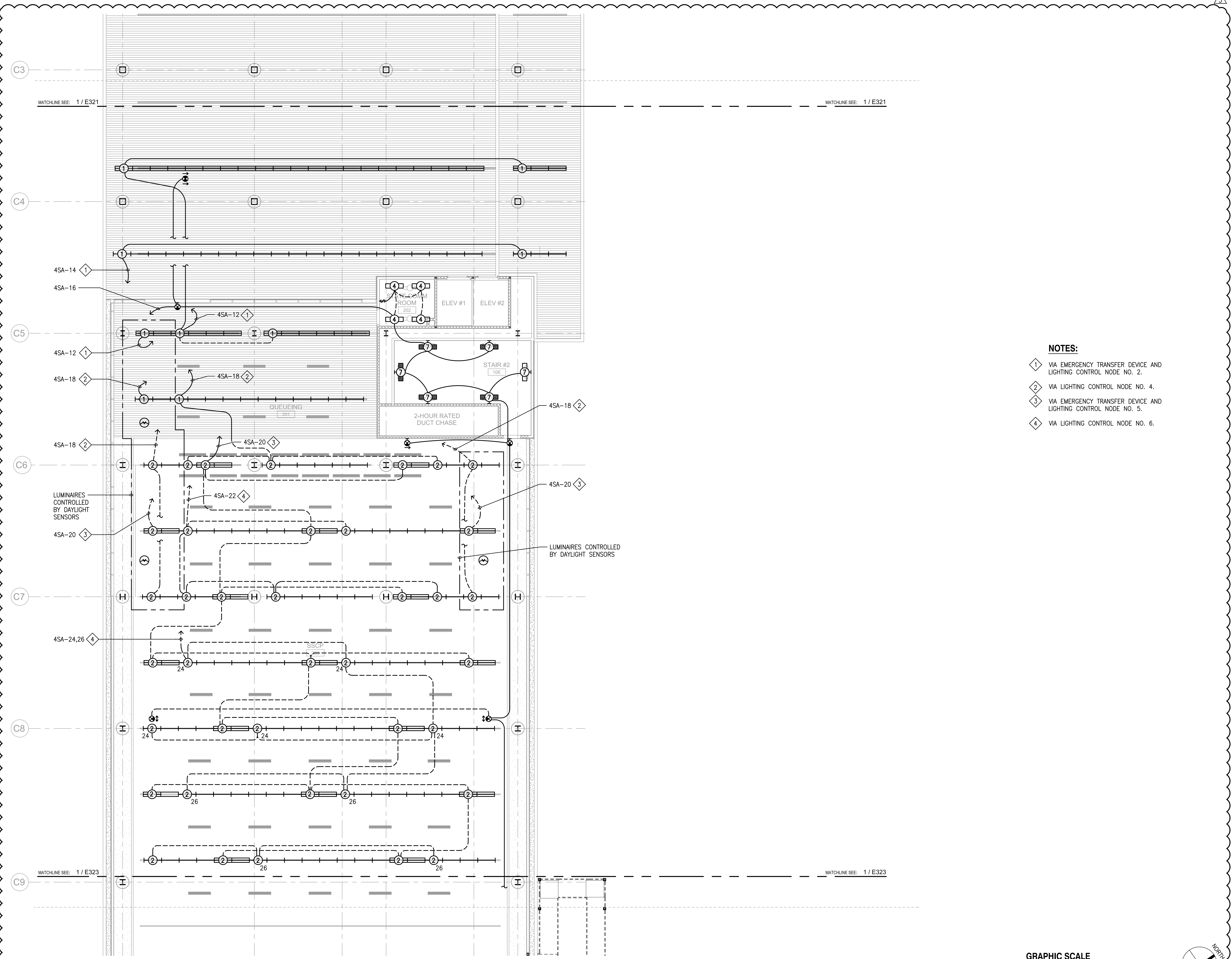
DATE: DWG. NO.

MAY 26, 2023

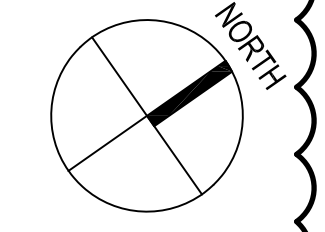
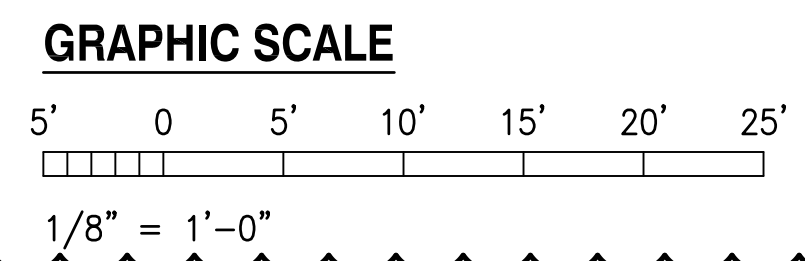
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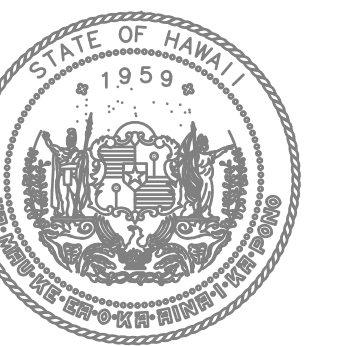
**E322**

260 OF 333 SHEETS

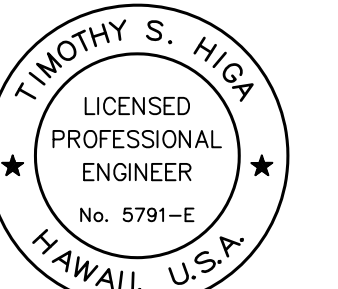


1 LIGHTING PLAN - CONCOURSE LEVEL - AREA B  
1/8" = 1'-0"





STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



TIMOTHY S. HIGA  
LICENSED PROFESSIONAL ENGINEER  
No. 5791-E  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

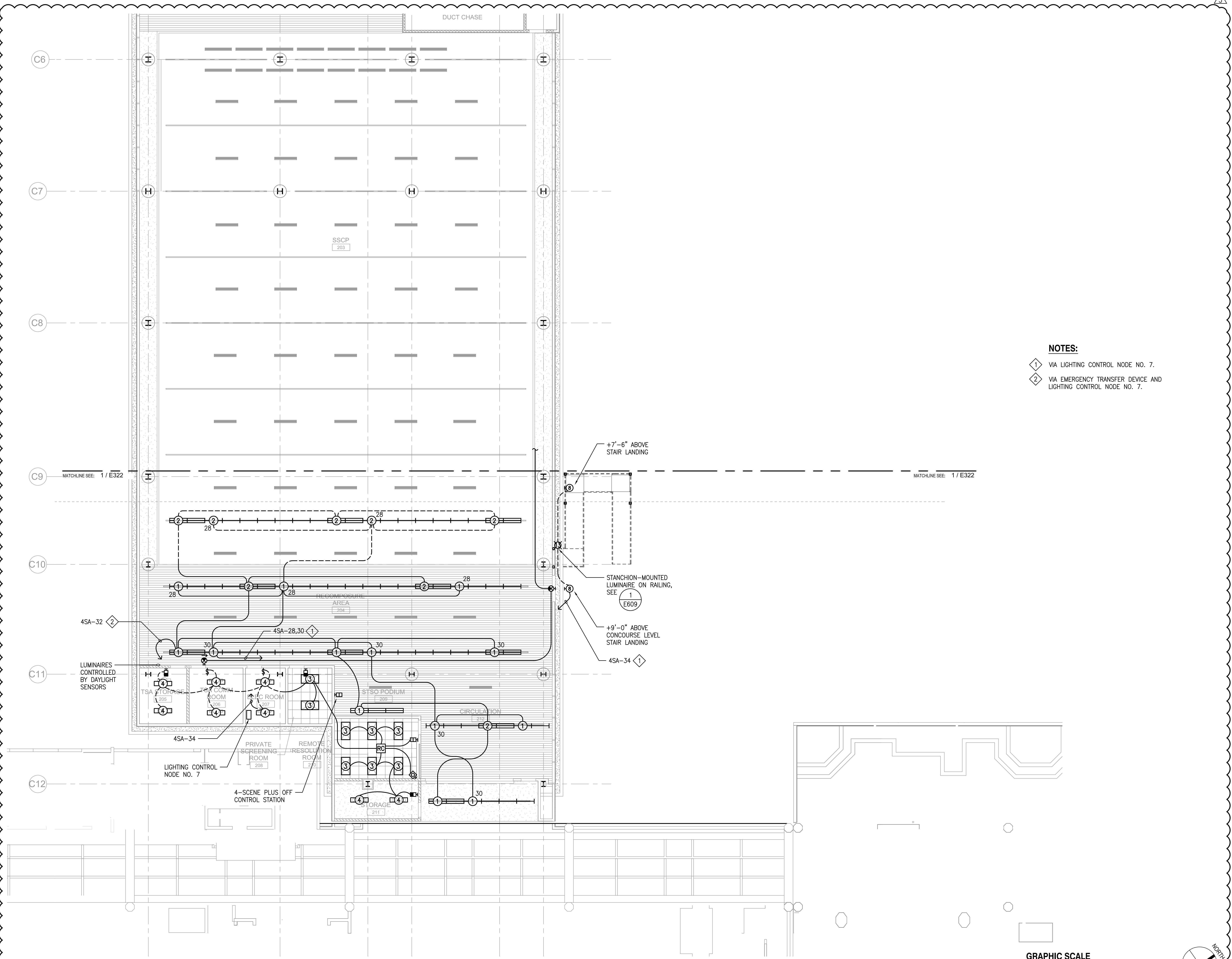
This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES:

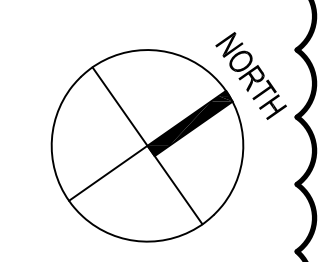
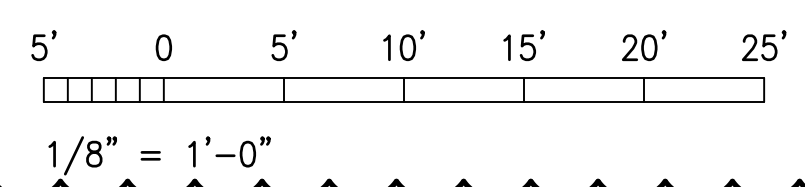
NOTES:

- 1 VIA LIGHTING CONTROL NODE NO. 7.
- 2 VIA EMERGENCY TRANSFER DEVICE AND LIGHTING CONTROL NODE NO. 7.



1 LIGHTING PLAN - CONCOURSE LEVEL - AREA C  
1/8" = 1'-0"

GRAPHIC SCALE



NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

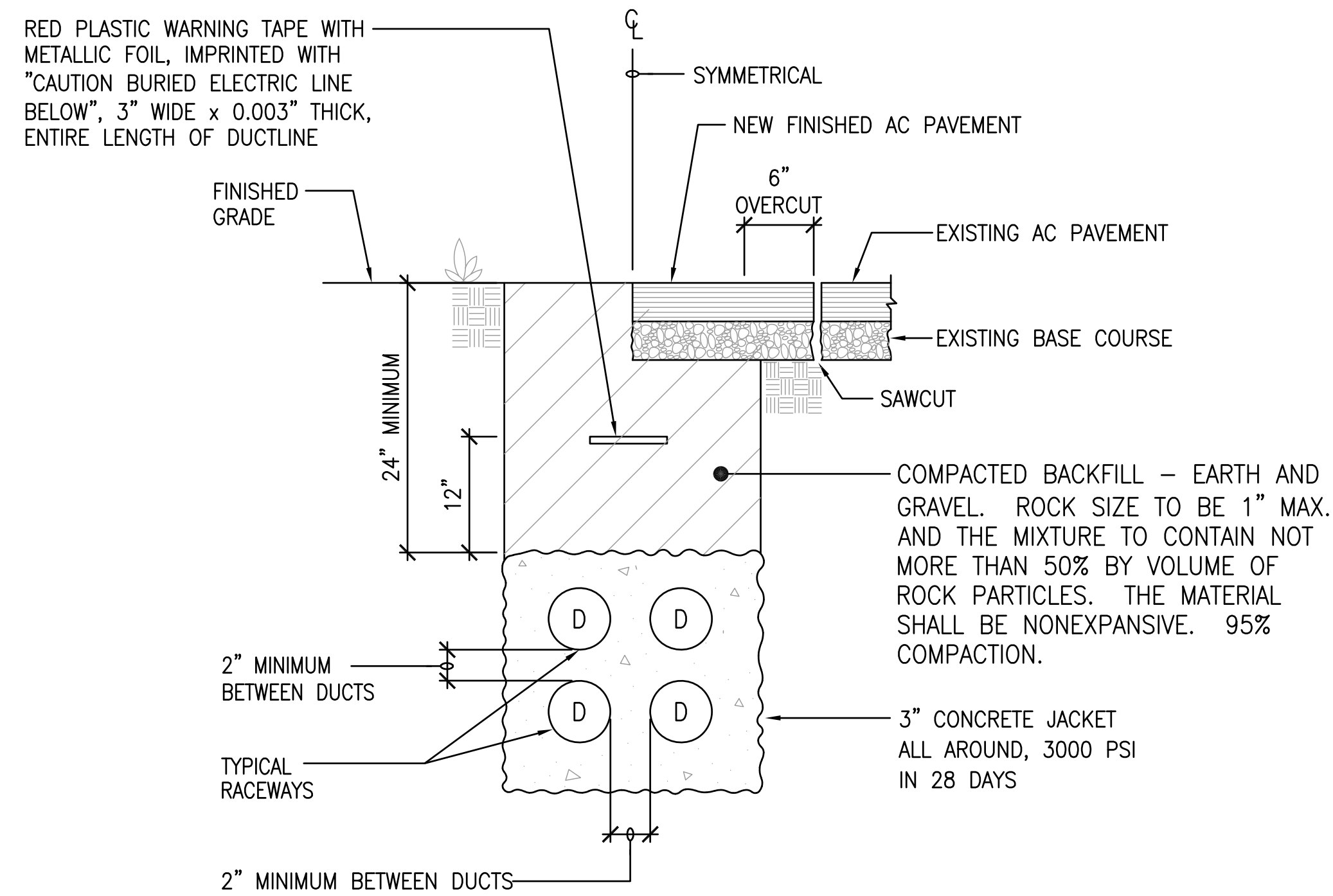
LIGHTING PLAN - CONCOURSE LEVEL - AREA C

DATE: **MAY 26, 2023** DWG. NO.

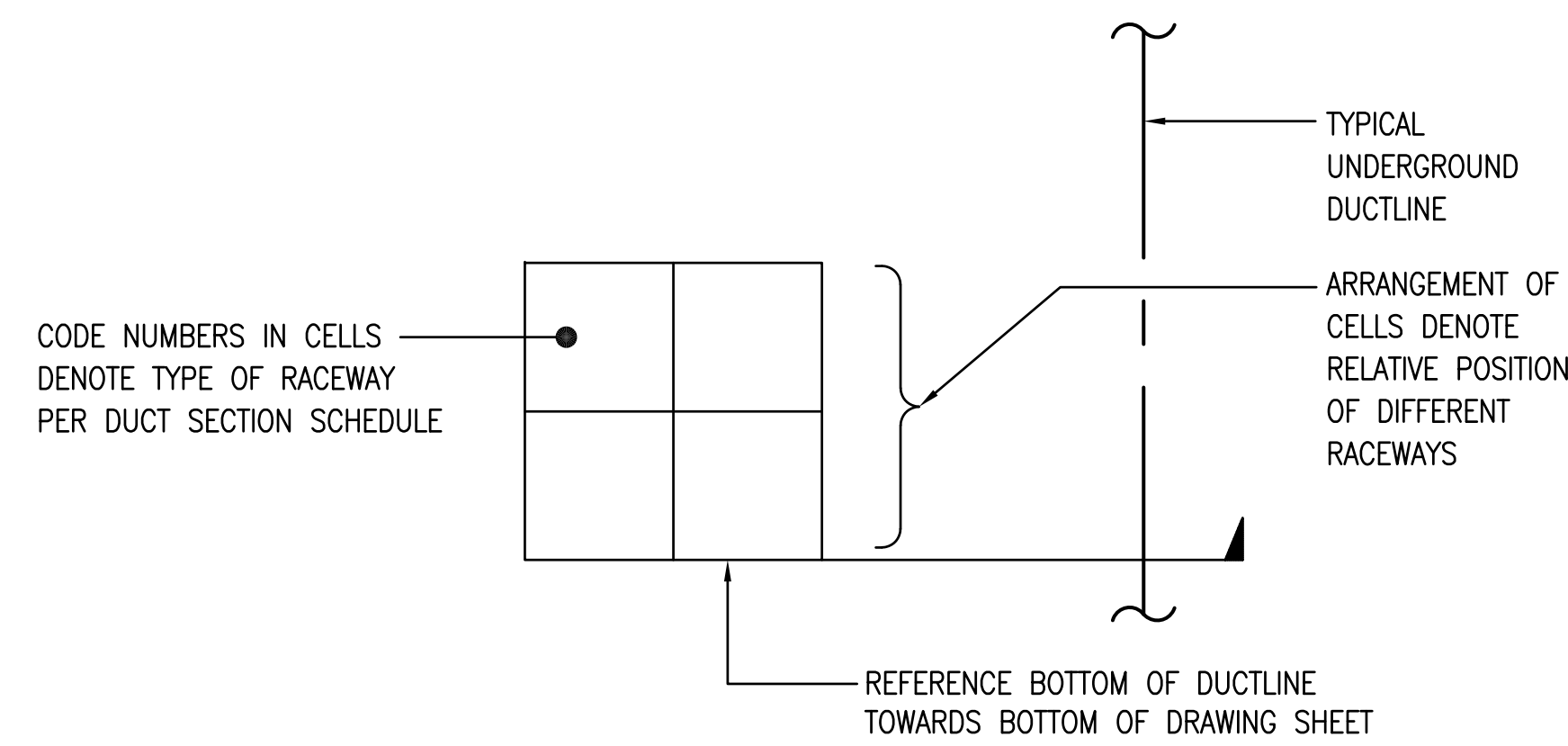
SHEET: **E323**

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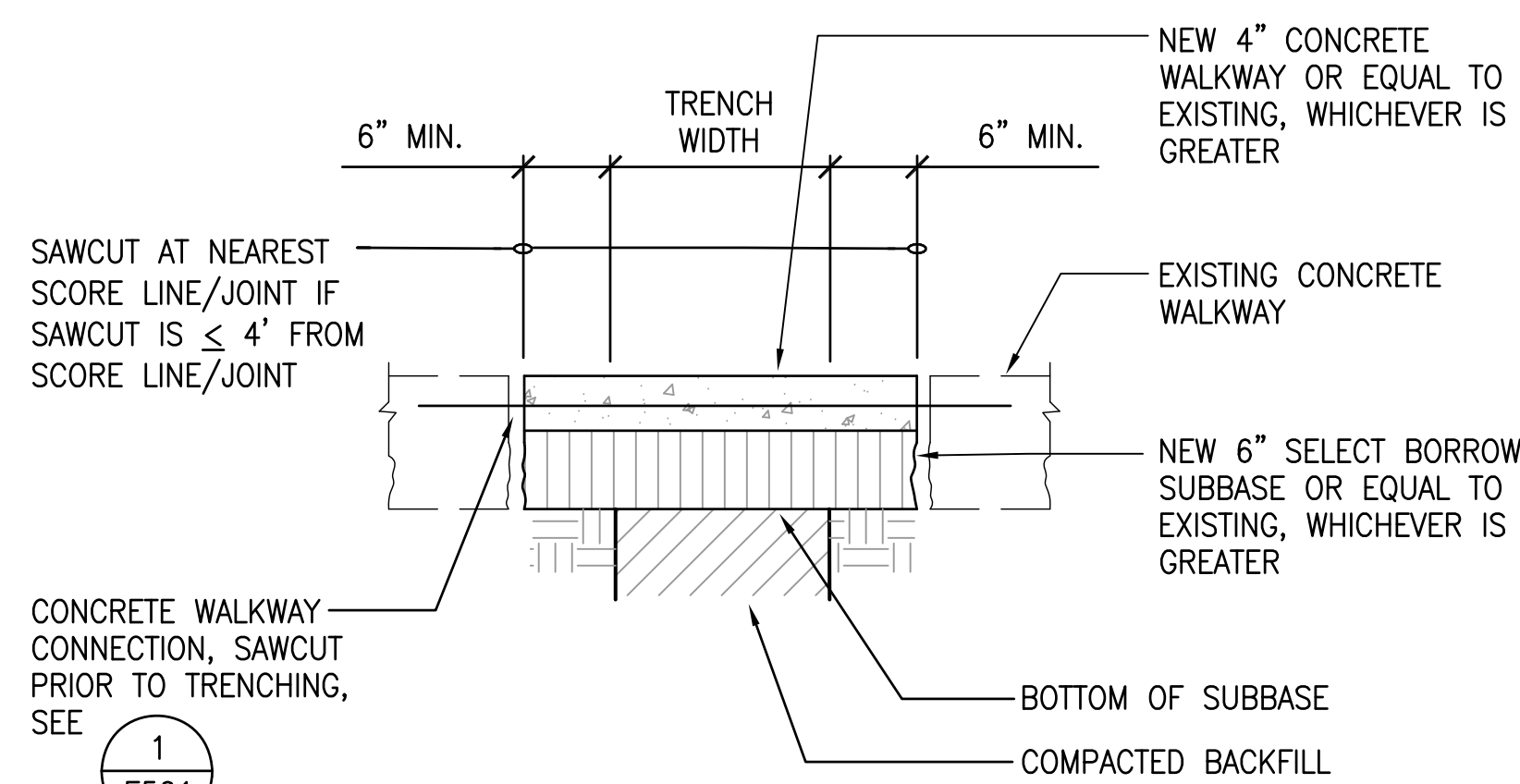


**3 TYPICAL DUCT SECTION**  
NOT TO SCALE

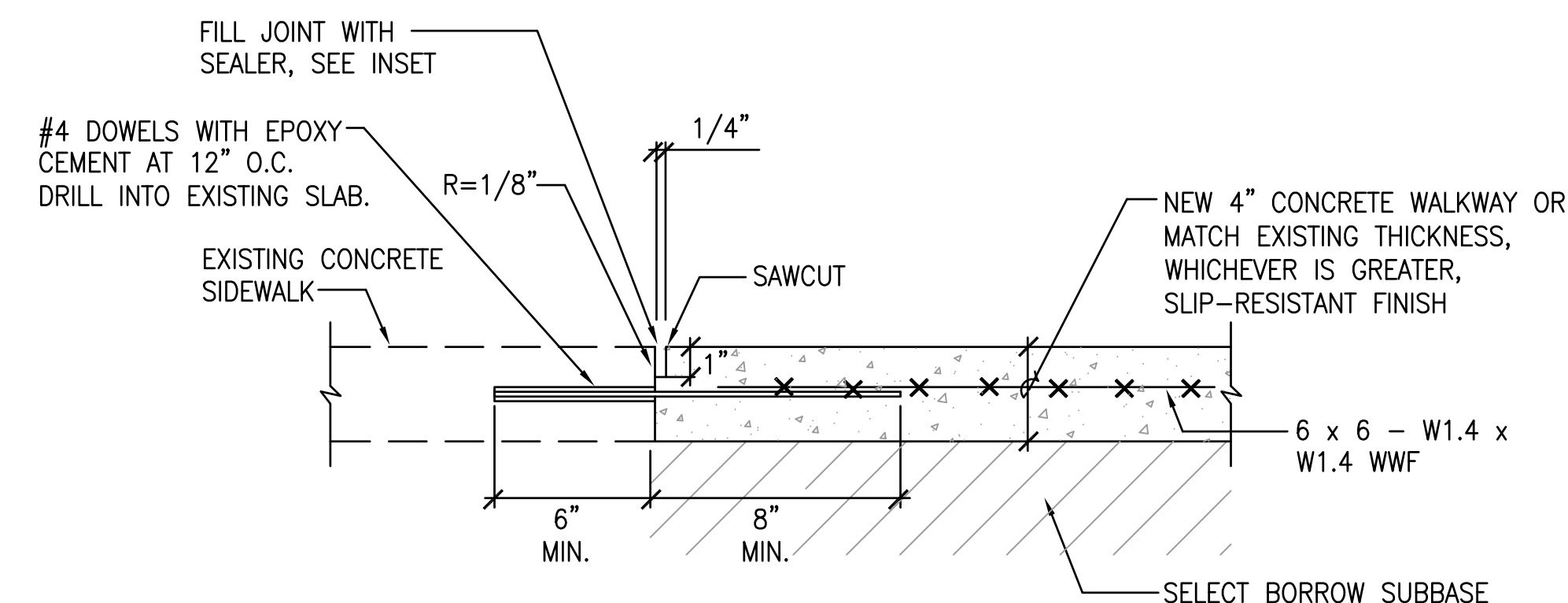


**2 DUCT SECTION FLAG CODE**  
NO SCALE

DUCT SECTION SCHEDULE		
TYPE	DESCRIPTION	CABLES
1	3" PVC SCHEDULE 40, SECONDARY FEEDER	SEE ONE-LINE DIAGRAM
2	1" PVC SCHEDULE 40, AREA LIGHT	2#8, 1#8 GND
3	3" PVC SCHEDULE 40, GENERATOR FEEDER	SEE ONE-LINE DIAGRAM
4	2" PVC SCHEDULE 40, GENERATOR SPACE HEATER, JACKET WATER HEATER AND BATTERY CHARGER FEEDER	4#4, 1#6 GND
5	1" PVC SCHEDULE 40, FIRE ALARM	CABLE AS REQUIRED
6	1" PVC SCHEDULE 40, GENERATOR START/STOP CONTROLS	3#12, VERIFY WITH MANUFACTURER
7	1" PVC SCHEDULE 40, ATS INTERLOCK	2#12, 1#12 GND
8	1" PVC SCHEDULE 40, LIGHTING CONTROL	FIBER OPTIC CABLE AS NECESSARY TO CONNECT TO JCI LIGHTING CONTROL NETWORK



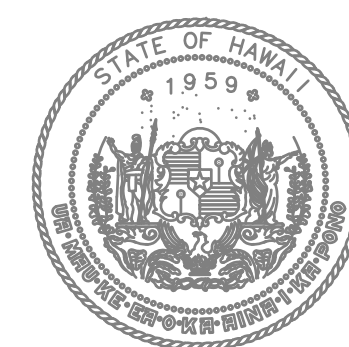
**4 CONCRETE WALKWAY RESTORATION DETAIL**  
NOT TO SCALE



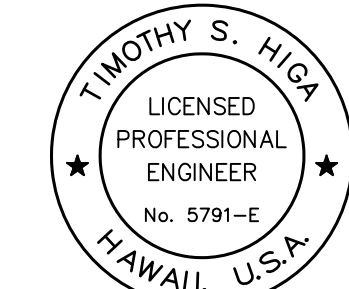
**INSET**

**1 CONCRETE WALKWAY CONNECTION DETAIL**  
NOT TO SCALE

**NOTE:**  
AT CONNECTIONS TO EXISTING SIDEWALK, CHANGE IN LEVEL SHALL NOT EXCEED 1/4-INCH AND CROSS SLOPES SHALL NOT EXCEED 2%. VARIATIONS IN EXCESS OF THESE VALUES ARE NOT ACCEPTABLE AND SHALL BE CORRECTED.



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KEY PLAN / NOTES:

3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

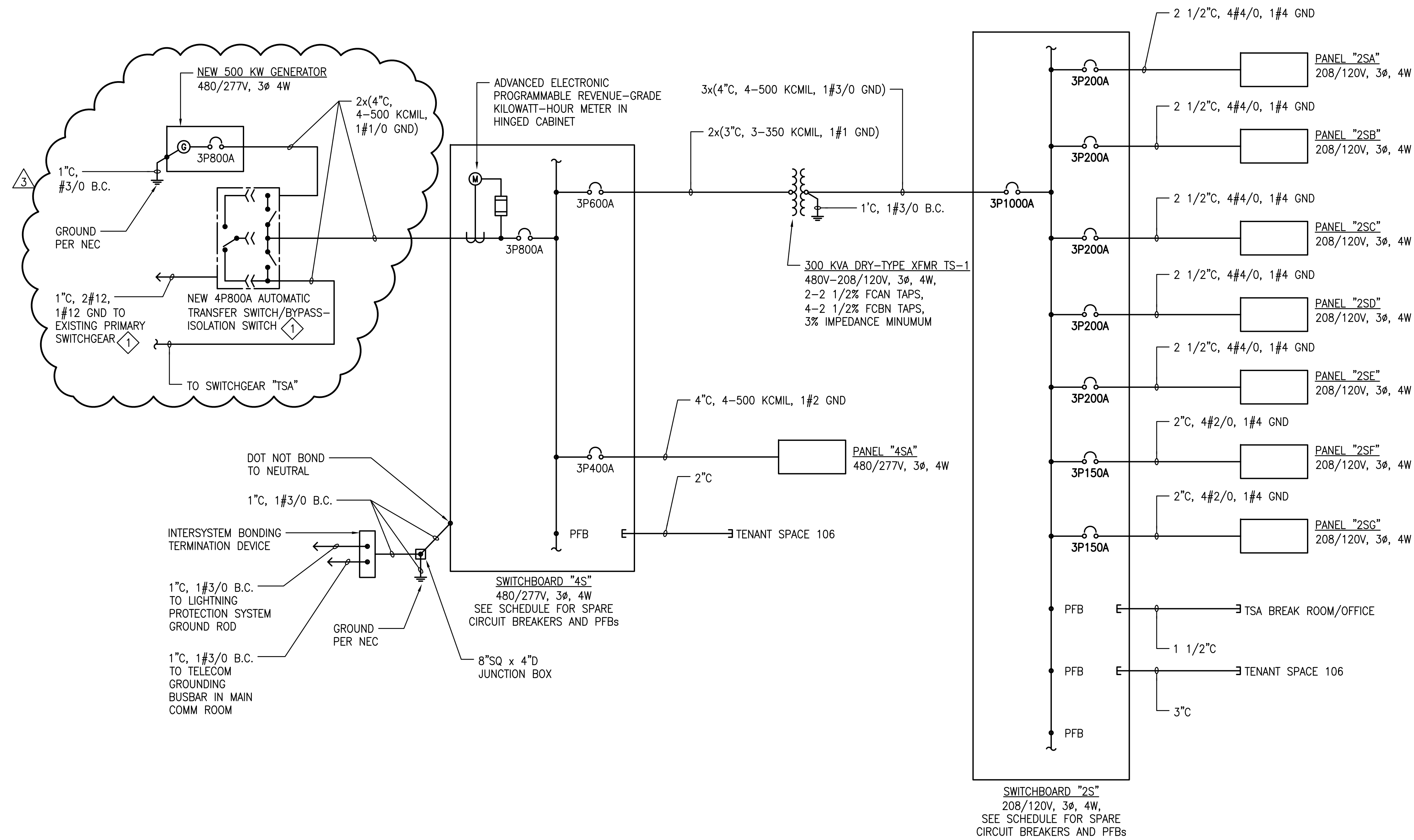
PROJECT NO:

**AM1095-10**

SHEET TITLE:

DUCT SECTION DETAILS

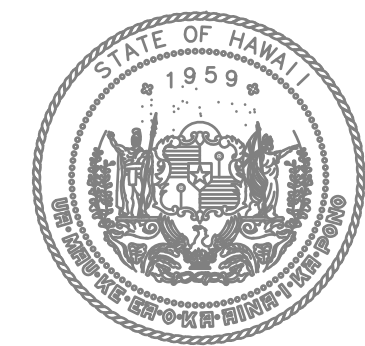
DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>E501</b>
SHEET:	
269 OF 333 SHEETS	



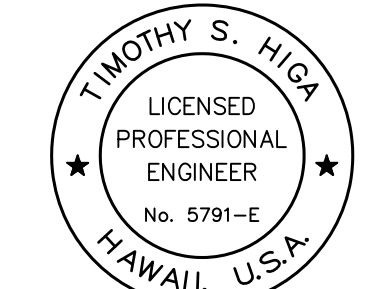
1 ONE-LINE DIAGRAM - SOUTH TSA CHECKPOINT  
NO SCALE

**NOTES:**

1 INTERLOCK NEW ATS WITH EXISTING AUTOMATIC TRANSFER SYSTEM FOR THE MAIN 12.47 KV SERVICE AND GENERATOR SYSTEM FOR THE AIRPORT IN EXISTING 12.47 KV SWITCHGEAR IN THE GENERATOR BUILDING. PROVIDE WIRES FROM THE NEW ATS TO EXISTING AUXILIARY CONTACTS ON EXISTING 12.47 KV UTILITY TIE CIRCUIT BREAKER, TO SIGNAL THE NEW ATS THAT THE MAIN 12.47 KV SWITCHGEAR HAS LOST UTILITY POWER AND WILL TRANSFER TO GENERATOR POWER. THE NEW ATS SHALL BE SET TO TRANSFER TO GENERATOR POWER FASTER THAN THE EXISTING MAIN TRANSFER SYSTEM TRANSFERS TO GENERATOR POWER. VERIFY INTERCONNECTION POINT IN THE EXISTING 12.47 KV SWITCHGEAR WITH THE CONTRACTING OFFICER.



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DEPARTMENT OF TRANSPORTATION  
AIRPORTS



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KEY PLAN / NOTES:

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

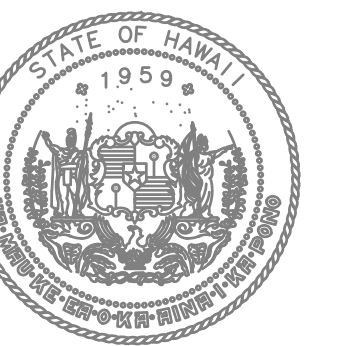
**AM1095-10**

SHEET TITLE:

ONE LINE DIAGRAM - SOUTH TSA CHECKPOINT

DATE:	DWG. NO.
MAY 26, 2023	<b>E603</b>
SHEET:	
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

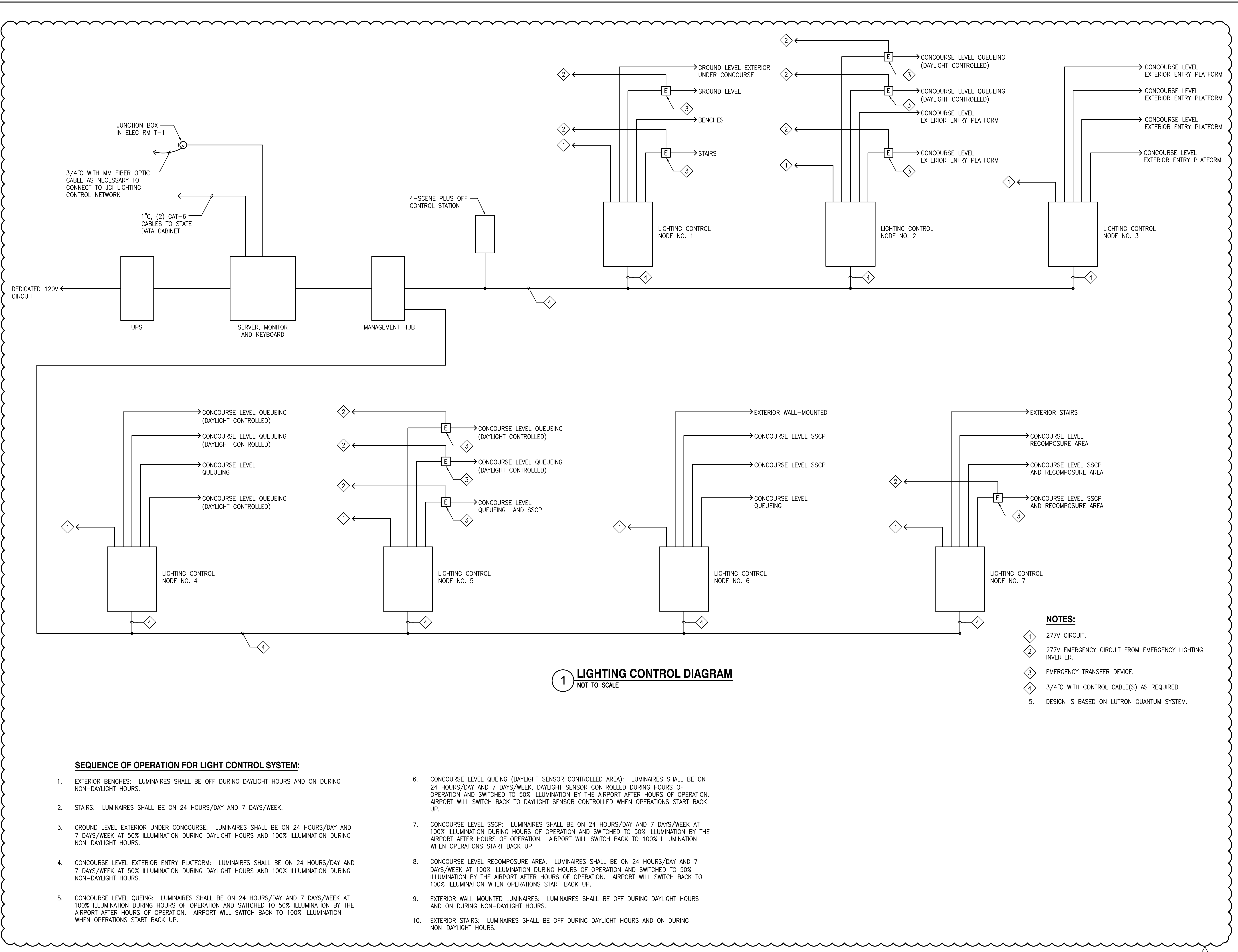


Timothy S. Higa  
LICENSURE EXPIRES: 04/30/2024  
No. 5791-E  
HAWAII, U.S.A.

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES:



1 LIGHTING CONTROL DIAGRAM  
NOT TO SCALE

- NOTES:**
- 1 277V CIRCUIT.
  - 2 277V EMERGENCY CIRCUIT FROM EMERGENCY LIGHTING INVERTER.
  - 3 EMERGENCY TRANSFER DEVICE.
  - 4 3/4" C WITH CONTROL CABLE(S) AS REQUIRED.
  - 5. DESIGN IS BASED ON LUTRON QUANTUM SYSTEM.

**SEQUENCE OF OPERATION FOR LIGHT CONTROL SYSTEM:**

1. EXTERIOR BENCHES: LUMINAIRES SHALL BE OFF DURING DAYLIGHT HOURS AND ON DURING NON-DAYLIGHT HOURS.
2. STAIRS: LUMINAIRES SHALL BE ON 24 HOURS/DAY AND 7 DAYS/WEEK.
3. GROUND LEVEL EXTERIOR UNDER CONCOURSE: LUMINAIRES SHALL BE ON 24 HOURS/DAY AND 7 DAYS/WEEK AT 50% ILLUMINATION DURING DAYLIGHT HOURS AND 100% ILLUMINATION DURING NON-DAYLIGHT HOURS.
4. CONCOURSE LEVEL EXTERIOR ENTRY PLATFORM: LUMINAIRES SHALL BE ON 24 HOURS/DAY AND 7 DAYS/WEEK AT 50% ILLUMINATION DURING DAYLIGHT HOURS AND 100% ILLUMINATION DURING NON-DAYLIGHT HOURS.
5. CONCOURSE LEVEL QUEING: LUMINAIRES SHALL BE ON 24 HOURS/DAY AND 7 DAYS/WEEK AT 100% ILLUMINATION DURING HOURS OF OPERATION AND SWITCHED TO 50% ILLUMINATION BY THE AIRPORT AFTER HOURS OF OPERATION. AIRPORT WILL SWITCH BACK TO 100% ILLUMINATION WHEN OPERATIONS START BACK UP.
6. CONCOURSE LEVEL QUEING (DAYLIGHT SENSOR CONTROLLED AREA): LUMINAIRES SHALL BE ON 24 HOURS/DAY AND 7 DAYS/WEEK, DAYLIGHT SENSOR CONTROLLED DURING HOURS OF OPERATION AND SWITCHED TO 50% ILLUMINATION BY THE AIRPORT AFTER HOURS OF OPERATION. AIRPORT WILL SWITCH BACK TO DAYLIGHT SENSOR CONTROLLED WHEN OPERATIONS START BACK UP.
7. CONCOURSE LEVEL SSCP: LUMINAIRES SHALL BE ON 24 HOURS/DAY AND 7 DAYS/WEEK AT 100% ILLUMINATION DURING HOURS OF OPERATION AND SWITCHED TO 50% ILLUMINATION BY THE AIRPORT AFTER HOURS OF OPERATION. AIRPORT WILL SWITCH BACK TO 100% ILLUMINATION WHEN OPERATIONS START BACK UP.
8. CONCOURSE LEVEL RECOMPOSURE AREA: LUMINAIRES SHALL BE ON 24 HOURS/DAY AND 7 DAYS/WEEK AT 100% ILLUMINATION DURING HOURS OF OPERATION AND SWITCHED TO 50% ILLUMINATION BY THE AIRPORT AFTER HOURS OF OPERATION. AIRPORT WILL SWITCH BACK TO 100% ILLUMINATION WHEN OPERATIONS START BACK UP.
9. EXTERIOR WALL MOUNTED LUMINAIRES: LUMINAIRES SHALL BE OFF DURING DAYLIGHT HOURS AND ON DURING NON-DAYLIGHT HOURS.
10. EXTERIOR STAIRS: LUMINAIRES SHALL BE OFF DURING DAYLIGHT HOURS AND ON DURING NON-DAYLIGHT HOURS.

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3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

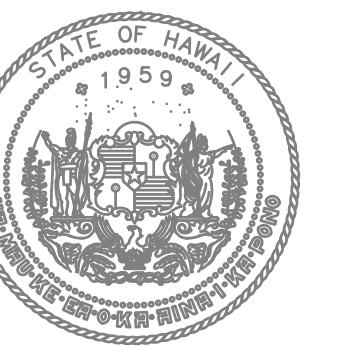
PROJECT NO:

**AM1095-10**

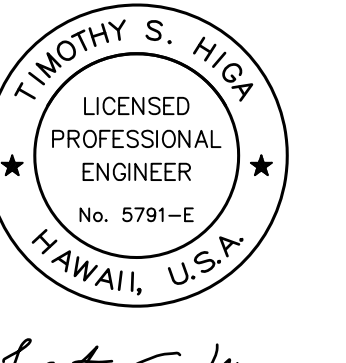
SHEET TITLE:

LIGHTING CONTROL DIAGRAM

DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>E605</b>
SHEET:	
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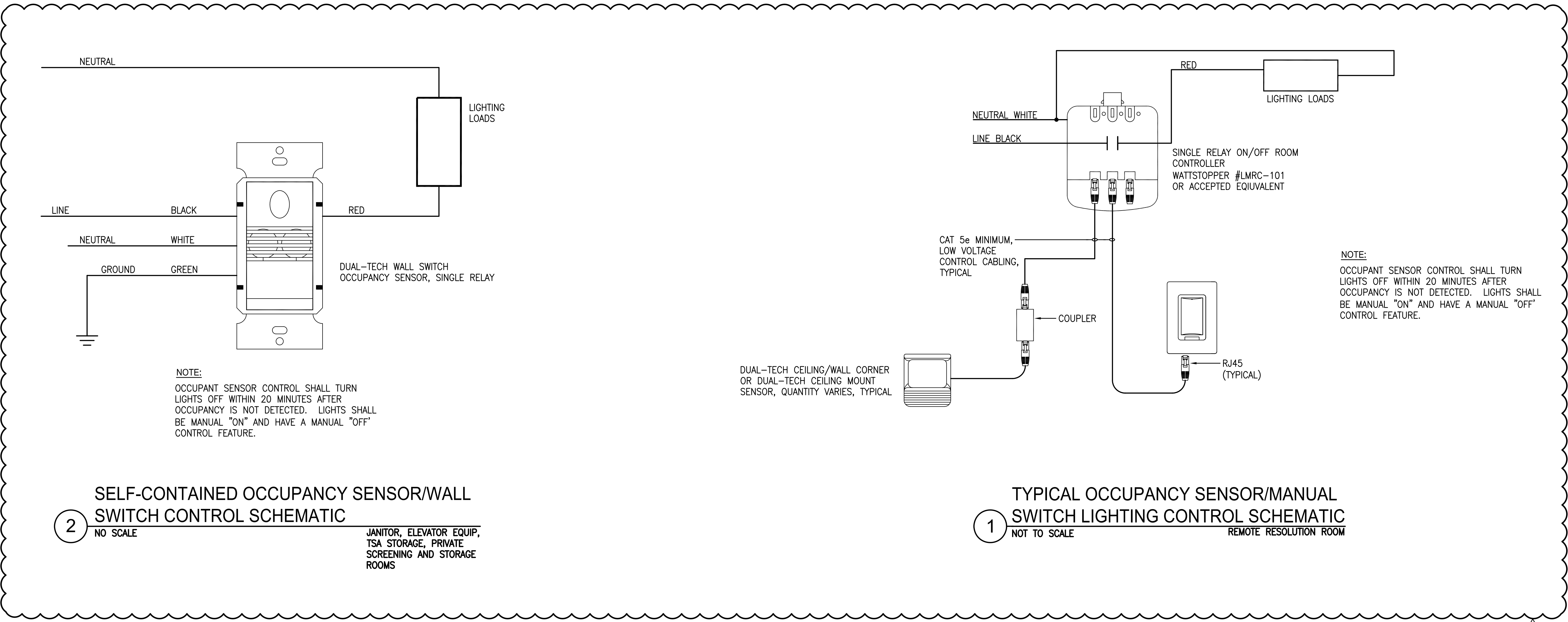
Timothy S. Higa  
LICENSED PROFESSIONAL ENGINEER  
No. 5791-E  
HAWAII, U.S.A.  
License Expiration Date: 04/30/2024

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES:

NOTE:  
OCCUPANT SENSOR CONTROL SHALL TURN LIGHTS OFF WITHIN 20 MINUTES AFTER OCCUPANCY IS NOT DETECTED. LIGHTS SHALL BE MANUAL "ON" AND HAVE A MANUAL "OFF" CONTROL FEATURE.



3	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

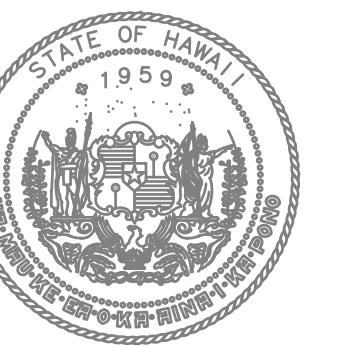
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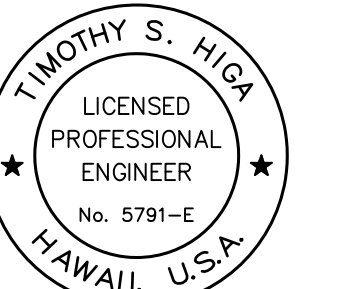
LIGHTING CONTROL DETAILS

DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>E606</b>
SHEET:	
279 OF 333 SHEETS	





STATE OF HAWAII  
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*Timothy S. Higa*  
Licensed Professional Engineer  
No. 5791-E  
HAWAII, U.S.A.  
License Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES:

Blank area for key plan and notes.

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

SWITCHBOARD AND PANEL SCHEDULES

DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>E607</b>
SHEET:	
280 OF 333 SHEETS	

SEE ONE-LINE DIAGRAM FOR WIRE SIZES

SWITCHBOARD "4S"													
480/277 VOLTS, 3 PHASE, 4 WIRE MIN AIC: 65,000													
3P800 AMP MAIN BREAKER MOUNTING: SURFACE													
REQ'D OPTIONS: COPPER BUSSES, COPPER GROUND BUS													
GND WIRE (AWG)	WIRE SIZE (AWG)	CKT NO	USE	CKT BKR POLE	AMP	CONNECTED LOAD (KVA)			CKT BKR AMP	USE	CKT NO	WIRE SIZE (AWG)	GND WIRE (AWG)
						PHASE A	PHASE B	PHASE C					
-	-	1							3		2	12	12
-	-	3	XFMR (PANEL "2SDP")	3		100.0	65.2				4	500	2
-	-	5									6	500	2
-	-	7				15.0	10.0				8		
-	-	9	SPARE								10		
-	-	11									12		
-	-	13	PFB	1	400AF						14	10	12
-	-	15	PFB	1	400AF						16	10	12
-	-	17	PFB	1	400AF						18	10	12
-	-	19	PFB	1	225AF						20	10	12
-	-	21	PFB	1	225AF						22	10	12
-	-	23	PFB	1	225AF						24	10	12
-	-	25	PFB	1	225AF						26		
-	-	27	PFB	1	225AF						28		
-	-	29	PFB	1	225AF						30		
CONNECTED LOAD/PHASE						211.2	211.2	209.6	PROVIDE METER AS SHOWN ON ONE-LINE DIAGRAM				
TOTAL CONNECTED LOAD						632.0 KVA							
DEMAND FACTOR						0.8							
TOTAL DEMAND LOAD						505.6 KVA= 608 AMPS							

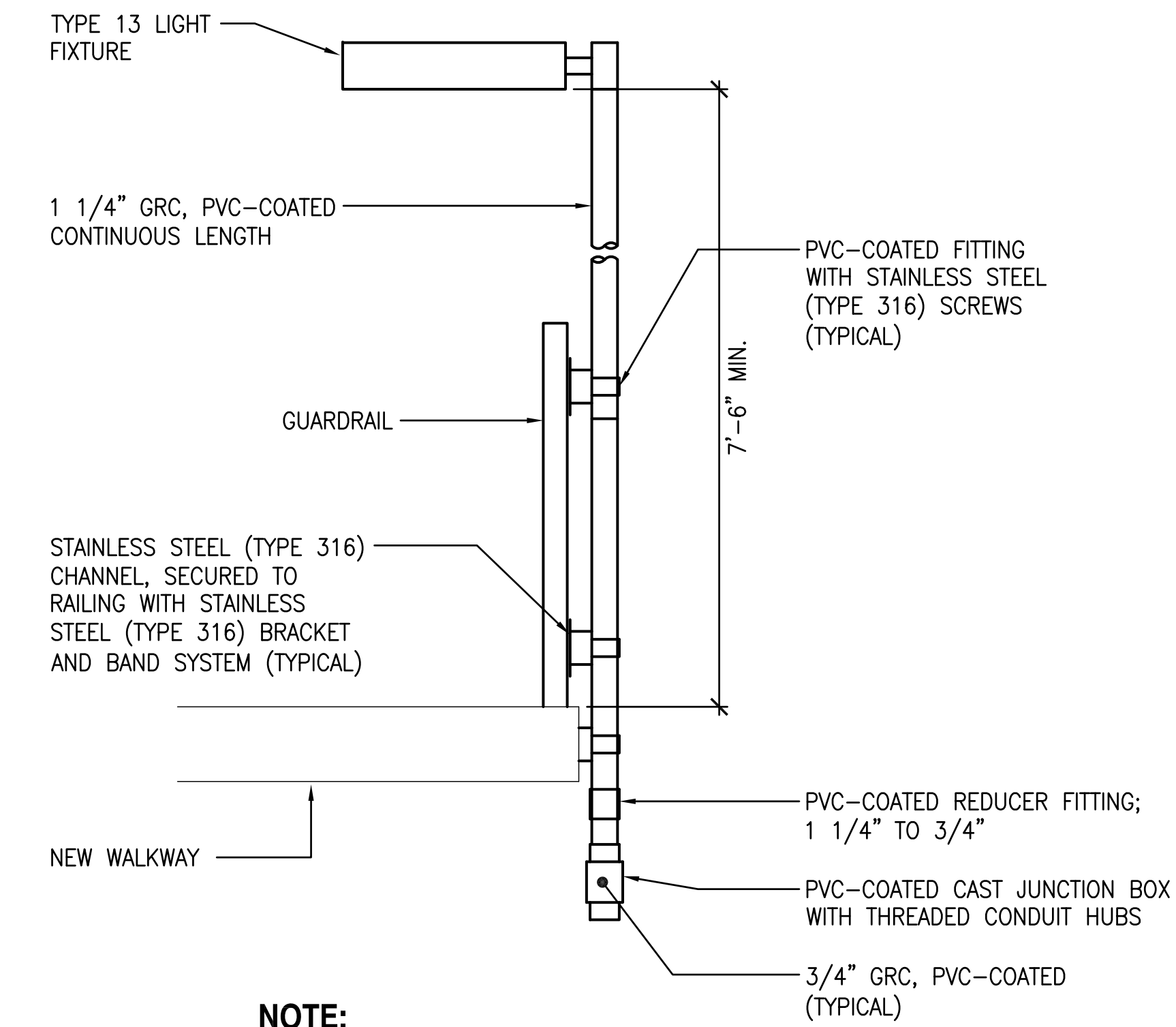
PANEL "4SA"																
480/277 VOLTS, 3 PHASE, 4 WIRE MIN AIC: 65,000																
400A MAIN LUGS ONLY MOUNTING: SURFACE																
REQ'D OPTIONS: COPPER BUSSES, COPPER GROUND BUS																
GND WIRE (AWG)	WIRE SIZE (AWG)	CKT NO	USE	CKT BKR POLE	AMP	CONNECTED LOAD (KVA)			CKT BKR AMP	USE	CKT NO	WIRE SIZE (AWG)	GND WIRE (AWG)			
						PHASE A	PHASE B	PHASE C								
-	-	1				7.0	1.1				20	1	L	2	12	12
-	-	3	ELEVATOR #1	3							20	1	L	4	12	12
-	-	5									20	1	L	6	12	12
-	-	7									20	1	L	8	12	12
-	-	9	ELEVATOR #2	3							50	1	EMERGENCY LTG INVERTER	10	6	10
-	-	11									20	1	L	12	12	12
-	-	13									20	1	L	14	12	12
-	-	15	ESCALATOR #1	3							20	1	L	16	12	12
-	-	17									20	1	L	18	12	12
-	-	19									20	1	L	20	12	12
-	-	21	ESCALATOR #2	3							20	1	L	22	12	12
-	-	23									20	1	L	24	12	12
-	-	25	L	1	20						20	1	L	26	12	12
-	-	27	L	1	20						20	1	L	28	12	12
-	-	29	L	1	20						20	1	L	30	12	12
-	-	31	L	1	20						20	1	L	32	12	12
-	-	33	L	1	20						20	1	L	34	12	12
-	-	35	L	1	20						20	1	L	36	-	-
-	-	37	L	1	20						20	1	L	38	-	-
-	-	39	SPARE	1	20						20	1	SPARE	40	-	-
-	-	41	SPARE	1	20						20	1	SPARE	42	-	-
CONNECTED LOAD/PHASE						47.0	42.3	51.1	L = LIGHTS							
TOTAL CONNECTED LOAD						140.4 KVA										
DEMAND FACTOR						0.80										
TOTAL DEMAND LOAD						112.3 KVA= 135 AMPS										

PANEL "4AC"													
480/277 VOLTS, 3 PHASE, 4 WIRE MIN AIC: 65,000													
3P225 AMP MAIN BREAKER MOUNTING: SURFACE													
REQ'D OPTIONS: COPPER BUSSES, COPPER GROUND BUS, NEMA 4X TYPE 316 STAINLESS STEEL ENCLOSURE													
GND WIRE (AWG)	WIRE SIZE (AWG)	CKT NO	USE	CKT BKR POLE	AMP	CONNECTED LOAD (KVA)			CKT BKR AMP	USE	CKT NO	WIRE SIZE (AWG)	GND WIRE (AWG)
						PHASE A	PHASE B	PHASE C					
-	-	1				3.7	10.0				2	4	8
-	-	3	AHU 2-1	3							4	4	8
-	-	5									6	4	8
-	-	7				3.7	3.7				8	4	8
-	-	9	AHU 2-2	3							10	-	-
-	-	11									12	-	-
-	-	13				3.7	3.7				14	-	-
-	-	15	AHU 2-3	3							16	-	-
-	-	17				3.7	1.0				18	-	-
-	-	19	PFB								20	-	-
-	-	21	PFB								22	-	-
-	-	23	PFB								24	-	-
-	-	25	PFB								26	-	-
-	-	27	PFB								28	-	-
-	-	29	PFB								30	-	-
CONNECTED LOAD/PHASE						25.8	25.8	25.8					
TOTAL CONNECTED LOAD						77.4 KVA							
DEMAND FACTOR						0.80							
TOTAL DEMAND LOAD						61.9 KVA= 75 AMPS							

PANEL "2AC"																
208/120 VOLTS, 3 PHASE, 4 WIRE MIN AIC: 10,000																
3P100 AMP MAIN BREAKER MOUNTING: SURFACE																
REQ'D OPTIONS: COPPER BUSSES, COPPER GROUND BUS, NEMA 4X TYPE 316 STAINLESS STEEL ENCLOSURE																
GND WIRE (AWG)	WIRE SIZE (AWG)	CKT NO	USE	CKT BKR POLE	AMP	CONNECTED LOAD (KVA)			CKT BKR AMP	USE	CKT NO	WIRE SIZE (AWG)	GND WIRE (AWG)			
						PHASE A	PHASE B	PHASE C								
-	-	1	VAV	2		0.9	0.5				20	1	R-ROOF	2	12	12
-	-	3									20	1	R-ROOF	4	12	12
-	-	5	VAV	2							30	1	VAV	6	12	12
-	-	7				0.9	1.6				30	1	VAV	8	12	12
-	-	9	VAV	2							20	1	SPARE	10	-	-
-	-	11				0.9	1.0				20	1	SPARE	12	-	-
-	-	13	VAV	2							20	1	SPARE	14	-	-
-	-	15				0.9	1.0				20	1	SPARE	16	-	-
-	-	17	VAV	2							20	1	SPARE	18	-	-
-	-	19				0.9	1.0				20	1	SPARE	20	-	-
-	-	21	VAV	2							20	1	SPARE	22	-	-
-	-	23				0.9	1.0				20	1	SPARE	24	-	-
-	-	25	PFB										PFB	26	-	-
-	-	27	PFB										PFB	28	-	-
-	-	29	PFB										PFB	30	-	-
-	-	31	PFB										PFB	32	-	-
-	-	33	PFB										PFB	34	-	-
-	-	35	PFB										PFB	36	-	-
CONNECTED LOAD/PHASE						7.7	7.1	8.2								
TOTAL CONNECTED LOAD						23.0 KVA										
DEMAND FACTOR						0.70										
TOTAL DEMAND LOAD						16.1 KVA= 44.7 AMPS										



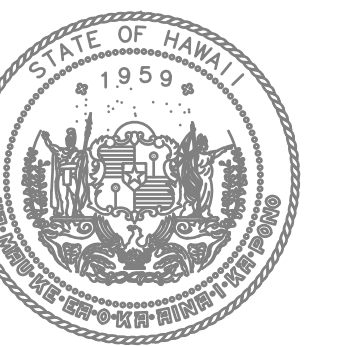
LUMINAIRE SCHEDULE		
TYPE	DESCRIPTION	LAMPS
①	RECESSED LED, EXTRUDED ALUMINUM, POWDER COAT SILVER FINISH, CLEAR LENS WITH MICRO-PRISMATIC INLAY, 120-277V, UL LISTED FOR WET LOCATIONS, DIMMABLE SELUX M125 SERIES OR APPROVED EQUIVALENT	1830 LUMENS/FT, 20.9 W/FT, 3000K, 90 CRI MIN.
②	PENDANT LED, EXTRUDED ALUMINUM, POWDER COAT SILVER FINISH, CLEAR LENS WITH MICRO-PRISMATIC INLAY, 120-277V, UL LISTED FOR WET LOCATIONS, DIMMABLE SELUX M125 SERIES OR APPROVED EQUIVALENT	1830 LUMENS/FT, 20.9 W/FT, 3000K, 90 CRI MIN.
③	RECESSED LED, HEAVY GAUGE STEEL, 4 T-BAR CLIPS INTEGRAL TO HOUSING, SPRING-LOADED LATCHES, HIGH REFLECTANCE WHITE POWDER COAT FINISH, HIGH TRANSMISSION EXTRUDED ACRYLIC LENSES, 120-277V, UL LISTED, 4'-0"L COLUMBIA LSER24 OR APPROVED EQUIVALENT	3915 LUMENS 34.1 WATTS 3000K, 80 CRI MIN.
④	LED WRAPAROUND, CODE-GAUGE STEEL HOUSING, WHITE HIGH REFLECTANCE BAKED ENAMEL FINISH, 100% ACRYLIC PRISMATIC LENS, 120-277V, UL LISTED, 4'-0"L, PENDANT MOUNTED COLUMBIA LAW SERIES OR APPROVED EQUIVALENT	5442 LUMENS, 51W, 3000K, 80 CRI MIN.
⑤	EDGE-LIT LED, DIE-CAST ALUMINUM HOUSING, DARK BRONZE POWDER COAT FINISH, EDGE-LIT ACRYLIC GUIDE, 120-277V, UL LISTED FOR WET LOCATIONS. PENDANT-MOUNTED SUCH THAT BOTTOM OF FIXTURE ALIGNS WITH THE BOTTOM OF THE ADJACENT STRUCTURAL BEAMS. PROVIDE BIRD DETERRENT SHROUD, INTEGRAL DAYLIGHT SENSOR BEACON SRT2 EDGE-LIT SERIES OR APPROVED EQUIVALENT	5700 LUMENS, 50W, 3000K, 70 CRI MIN., 80 CRI MIN.
⑥	2' x 2' SURFACE-MOUNTED ALUMINUM-SIDED LED, EXTRUDED ALUMINUM, WHITE FINISH, EDGE LIT WAVE GUIDE WITH SECONDARY ACRYLIC DIFFUSER, 120-277V PRUDENTIAL LIGHTING GAZE SQUARE SERIES OR APPROVED EQUIVALENT	5875 LUMENS, 52W, 3500K, 80 CRI MIN.
⑦	VANDAL-RESISTANT LED, MARINE GRADE EXTRUDED ALUMINUM HOUSING WITH CAST ALUMINUM ENDCAPS, WHITE POWDER COAT FINISH FOLLOWING MULTISTATE IRON PHOSPHATE PRETREATMENT, FACETED 22 GAUGE SPECULAR ALUMINUM REFLECTOR, LINEAR RIBBED CLEAR POLYCARBONATE LENS, 120-277V, UL LISTED FOR WET LOCATION UNDER COVERED CEILING, 4'-0"L NEW STAR VICTORY NARROW SERIES OR APPROVED EQUIVALENT	8800 LUMENS, 75W, 3000K, 80 CRI MIN.
⑧	EXTERIOR WALL-MOUNTED LED, DIE-CAST LOW-COPPER ALUMINUM HOUSING, DARK BRONZE GLOSS SMOOTH TGIC POLYESTER POWDER COAT FINISH, CLEAR INJECTION MOLDED PMMA ACRYLIC OPTICAL LENS AND SECONDARY IMPACT RESISTANT 1/8" TEMPERED GLASS LENS WITH ANTI-REFLECTIVE COATING, 120-277V, UL LISTED FOR WET LOCATIONS, FULL CUTOFF KIM LIGHTING WDM SERIES OR APPROVED EQUIVALENT	10,000 LUMENS, 85W, AMBER
⑨	BENCH RECESSED LED, MARINE GRADE DIE-CAST ALUMINUM, POLYESTER POWDER COAT FINISH, CLEAR TEMPERED GLASS LENS, 120V, UL LISTED FOR WET LOCATIONS, FULL CUTOFF FC LIGHTING FCSL 105A SERIES, BEGA SIMILAR OR APPROVED EQUIVALENT	71 LUMENS MIN, 10W, AMBER
⑩	STAIR RECESSED LED, MARINE GRADE COPPER FREE DIE-CAST ALUMINUM, SILVER POLYESTER POWDER COAT FINISH, TEMPERED GLASS OR HEAVY PRESSED CRYSTAL GLASS LENS, 120-277V, UL LISTED FOR WET LOCATIONS BEGA WALL LUMINAIRE, FC LIGHTING SIMILAR OR APPROVED EQUIVALENT	244 LUMENS, 6W, AMBER
⑪	NOT USED	
⑫	VAPOR TIGHT LED, FIBERGLASS HOUSING, CHEMICAL RESISTANT FINISH, RIBBED ACRYLIC FROSTED LENS, CAPTIVE LATCHES TO SECURE LENS TO HOUSING, 120-277V, IP65, IP66, IP67, NEMA 4X, ETL LISTED WET LOCATION ILP WIZ SERIES OR APPROVED EQUIVALENT	5128 LUMENS, 40W, 3500K
⑬	AREA LED, STANCHION MOUNTED, DIE CAST ALUMINUM HOUSING, GRAY POLYESTER POWDER COAT, UV AND IMPACT RESISTANT PMMA LENS, FULL CUTOFF, 120-277V, UL LISTED FOR WET LOCATIONS GE EAL-03 SERIES OR APPROVED EQUIVALENT	4900 LUMENS, 34W, AMBER
☒	LED EXIT SIGN, DIE-CAST ALUMINUM HOUSING WITH BRUSHED ALUMINUM FINISH, RED LETTERING AND BREAK-OUT CHEVRONS, UNIVERSAL MOUNTING, INTEGRAL EMERGENCY BATTERY BACKUP EVENLITE SENTRY SERIES OR APPROVED EQUIVALENT	2.5W



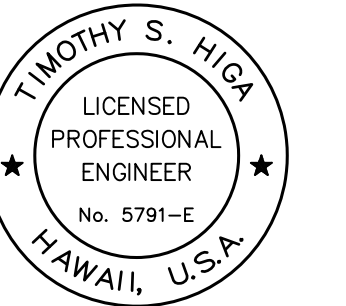
**NOTE:**

PROVISIONS FOR SECURING ELECTRICAL EQUIPMENT TO RAILING SHALL NOT COMPROMISE OR DAMAGE STRUCTURE'S INTEGRITY, FINISH OR CORROSION-PROTECTION.

**1 STANCHION MOUNTED LUMINAIRE DETAIL**  
NOT TO SCALE



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



Timothy S. Higa  
LICENSED PROFESSIONAL ENGINEER  
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License Expiration Date: 04/30/2024

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DSGN.	DRWN.	CHKD.	APPD.

**KEY PLAN / NOTES:**

③	9/5/2023	ADDENDUM #3
NO.	DATE	REVISION

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

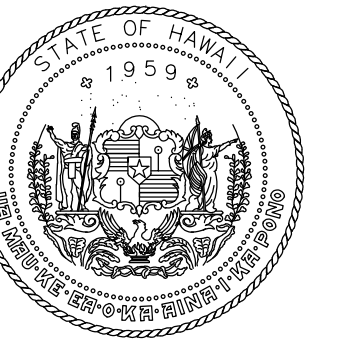
**AM1095-10**

SHEET TITLE:

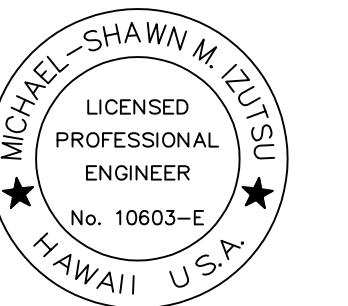
LUMINAIRE SCHEDULE

DATE:	DWG. NO.
<b>MAY 26, 2023</b>	<b>E609</b>
SHEET:	
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



Michael Shawn M. Szyta  
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No. 10663-E  
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License Expiration Date: 04/30/2024

DSGN.	DRWN.	CHKD.	APPD.
MMI	FCC	MMI	MMI

**KEY PLAN / NOTES:**

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

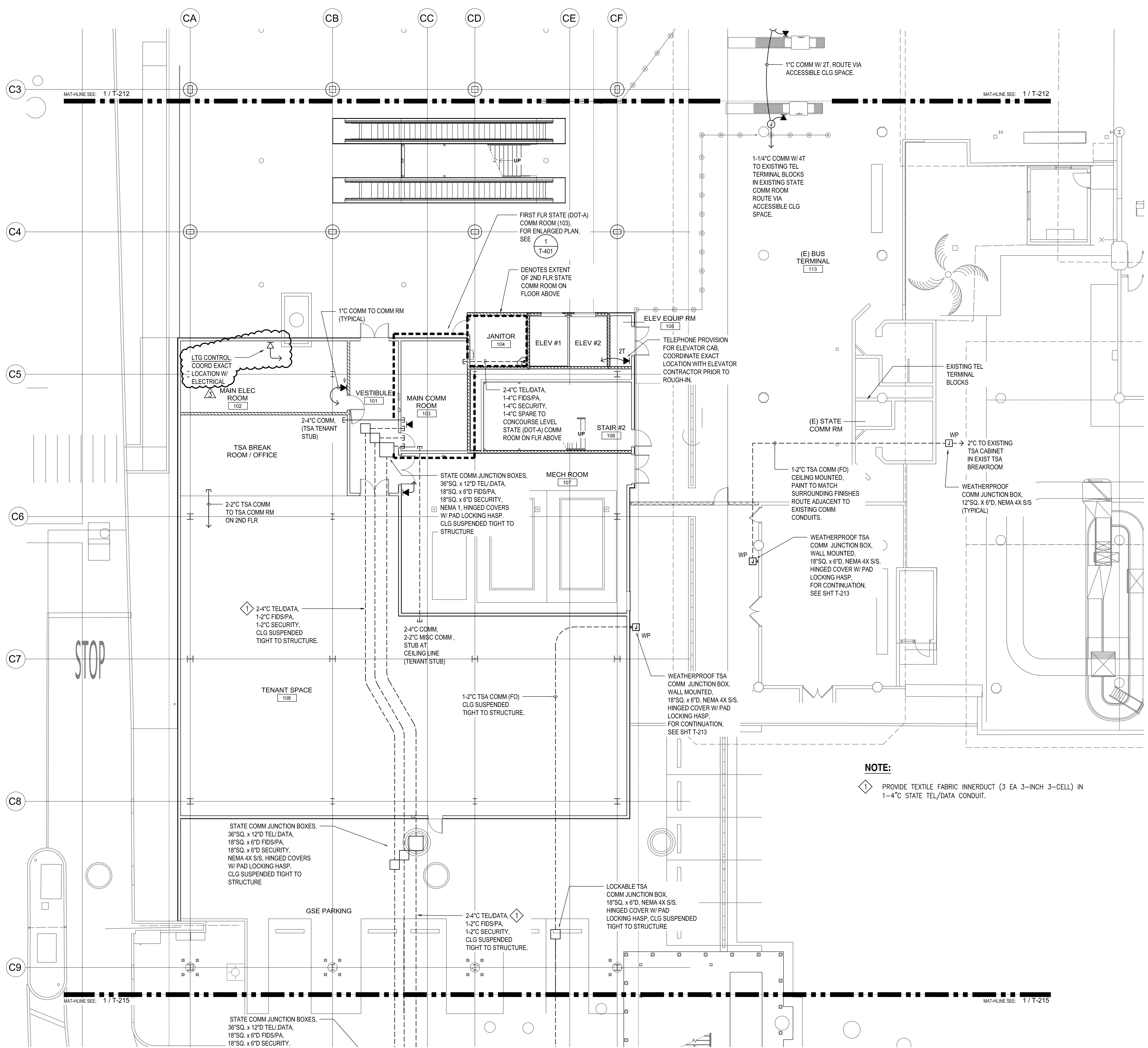
PROJECT TITLE:  
**SOUTH TSA CHECKPOINT**

PROJECT NO:  
**AM1095-10**

SHEET TITLE:  
**TELECOMMUNICATIONS PLAN - GROUND LEVEL - AREA B - OVERHEAD DISTRIBUTION**

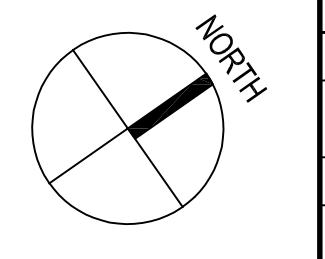
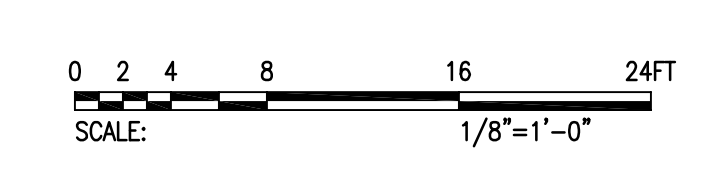
DATE:  
**MAY 26, 2023**

DWG. NO.  
**T214**  
289 OF 333 SHEETS

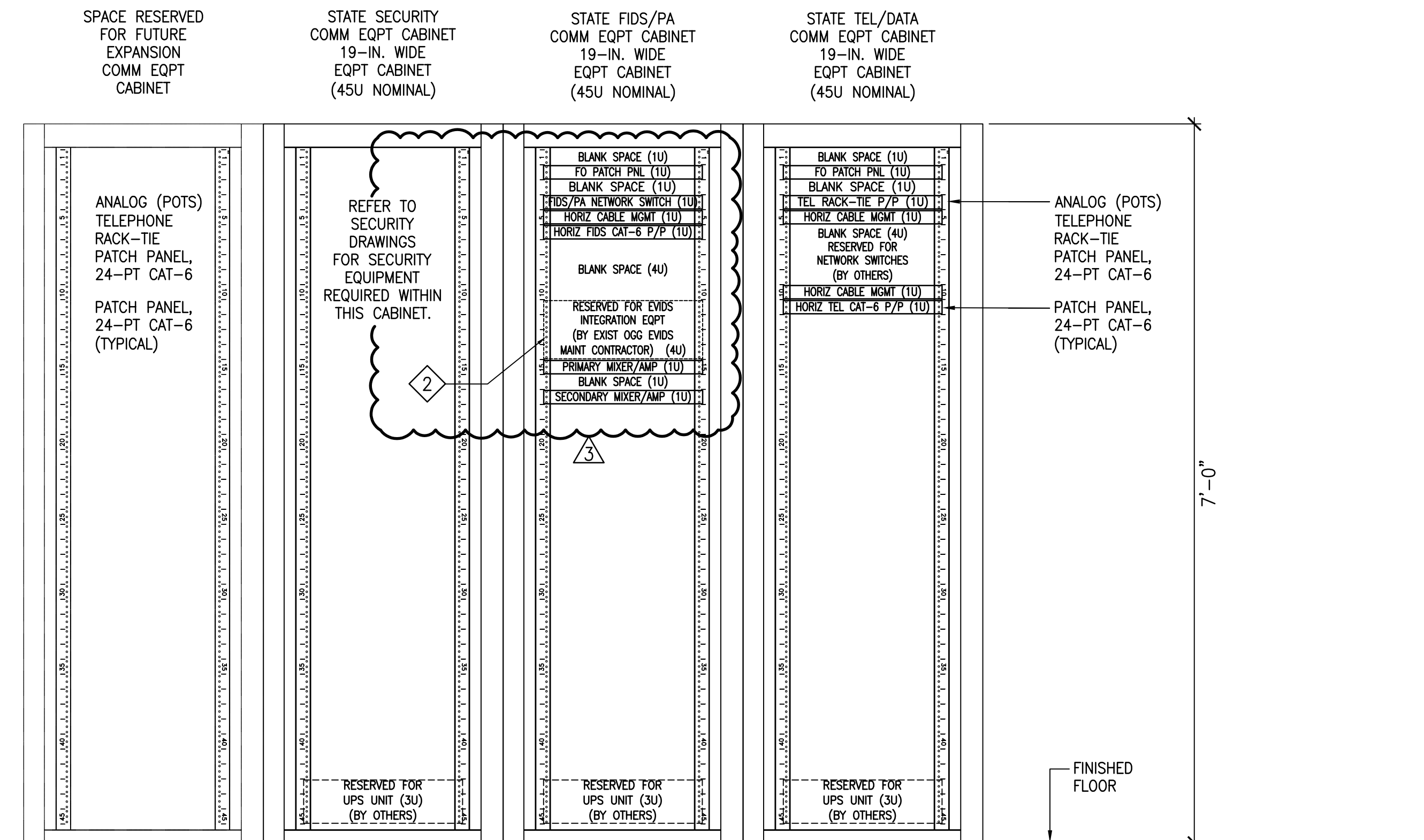


**NOTE:**  
1 PROVIDE TEXTILE FABRIC INNERDUCT (3 EA 3-INCH 3-CELL) IN 1-4" STATE TEL/DATA CONDUIT.

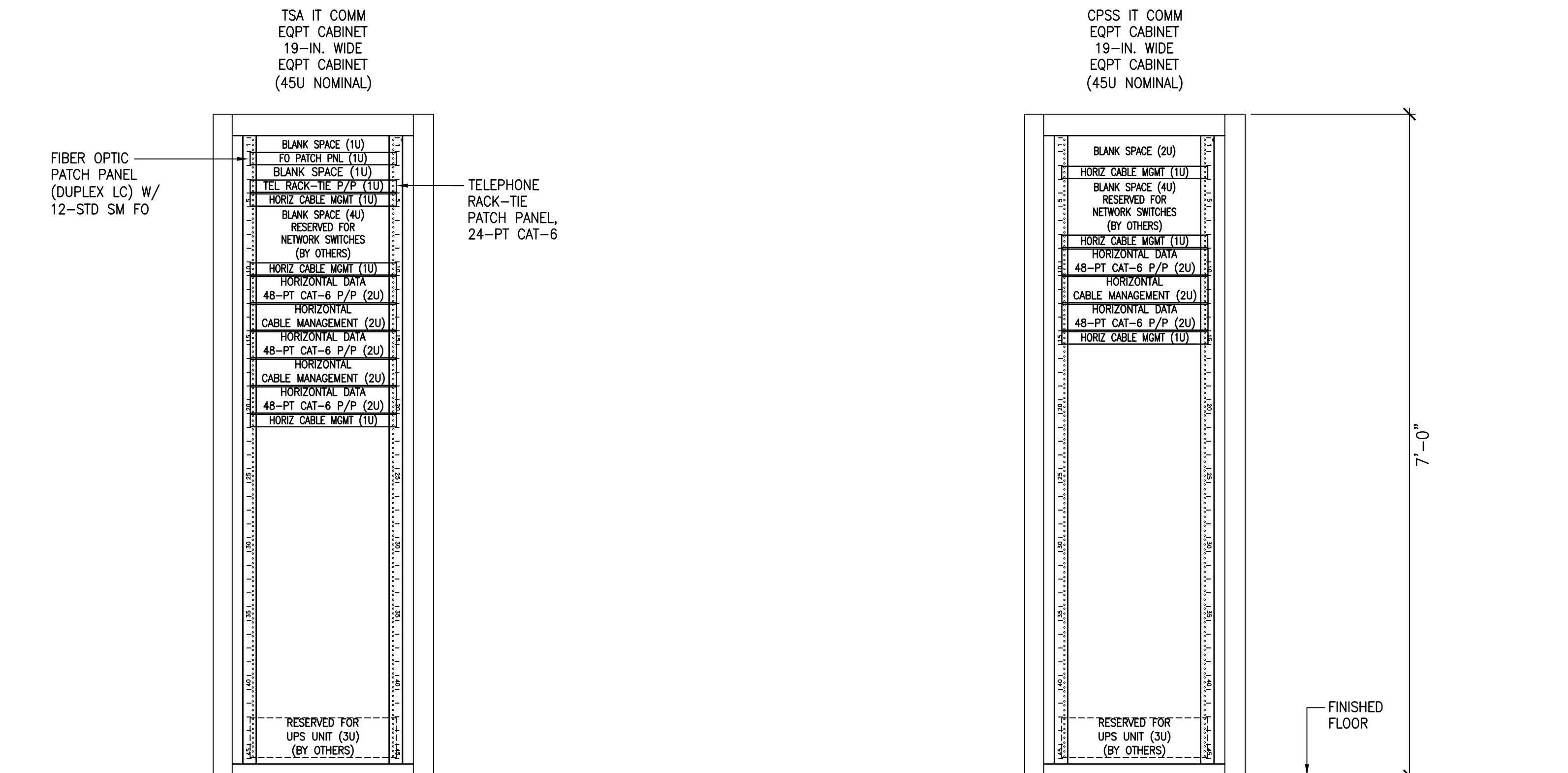
**1 TELECOMMUNICATIONS PLAN - GROUND LEVEL - AREA B - OVERHEAD DISTRIBUTION**  
1/8" = 1'-0"



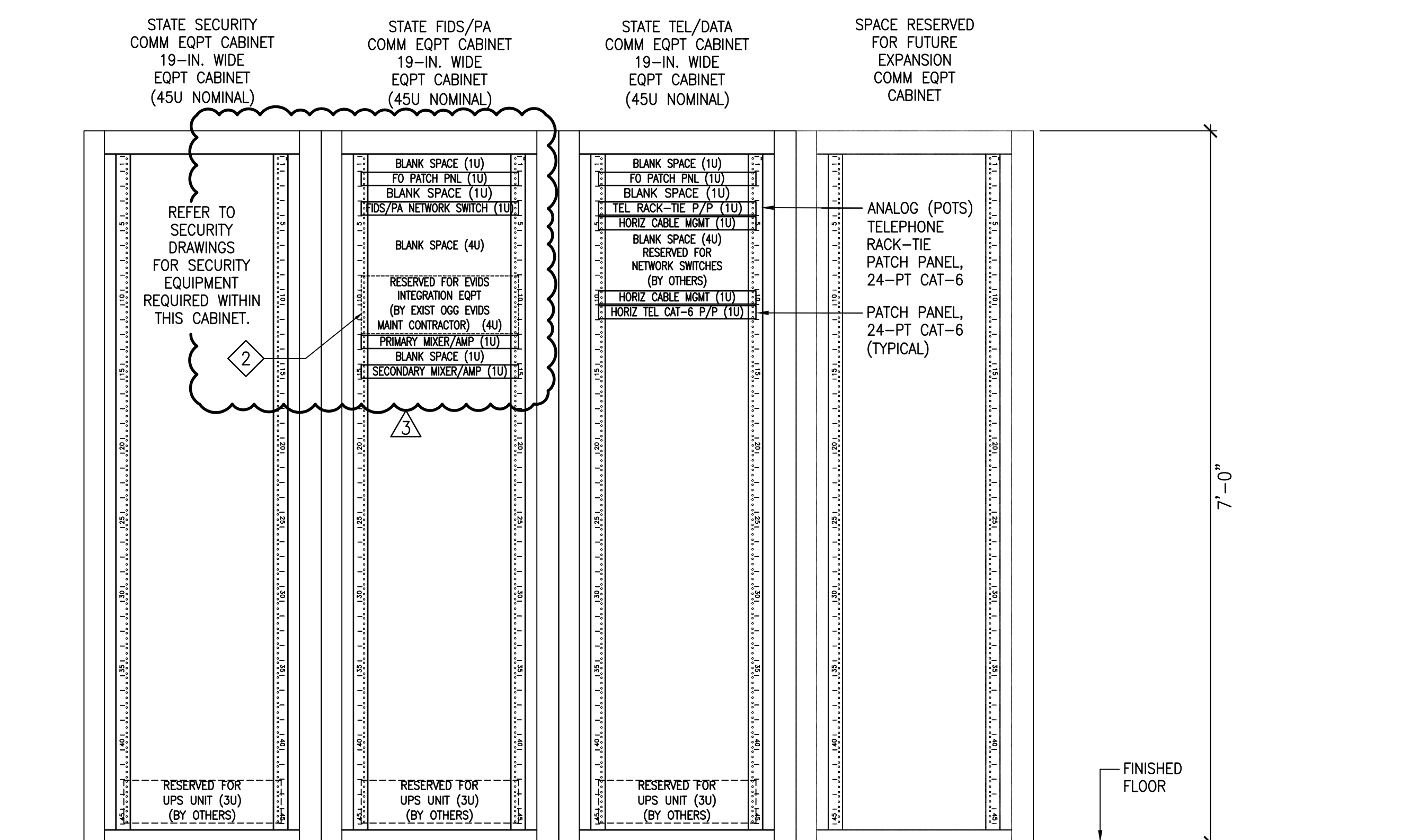
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1 COMM CABINET ELEVATION - 2ND FLR STATE (DOT-A) COMM ROOM (202)  
NOT TO SCALE



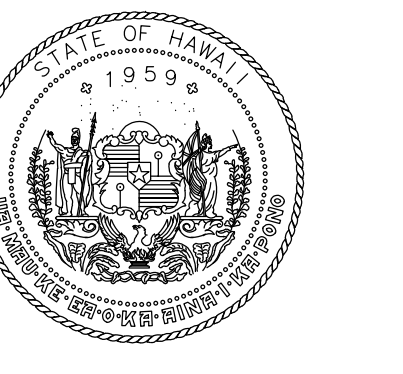
2 COMM CABINET ELEVATION - 2ND FLR TSA COMM ROOM (206)  
NOT TO SCALE



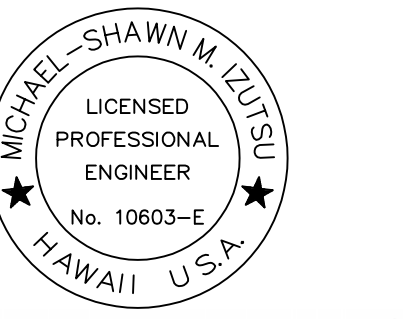
3 COMM CABINET ELEVATION - 1ST FLR STATE (DOT-A) COMM ROOM (103)  
NOT TO SCALE

**NOTES:**

- ALL STATE (DOT-A) TELECOMMUNICATIONS AND EVIDS INFRASTRUCTURE SHALL BE PROVIDED IN ACCORDANCE WITH ANSI/TIA/EIA WIRING STANDARDS AND LABELED IN ACCORDANCE WITH DOT-A LABELING STANDARDS REQUIREMENTS.
- WORK FOR INTEGRATION/INTERFACE OF NEW EVIDS SYSTEM/EQUIPMENT WITH EXISTING EVIDS SYSTEMS BY EXISTING AIRPORT EVIDS MAINTENANCE CONTRACTOR WILL BE CONDUCTED UNDER COST ALLOWANCES IN SPEC SECTIONS 16770 AND 16771. WORK WILL INCLUDE INTEGRATION EQUIPMENT IN THE NEW COMMUNICATIONS ROOMS AS WELL AS WORK/EQUIPMENT AT EXISTING EVIDS HEADEND.



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS



*Michael Shawn M. Szyta*  
64302024  
License Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
MMI	FCC	MMI	MMI

**KEY PLAN / NOTES:**

NO.	DATE	REVISION
△	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

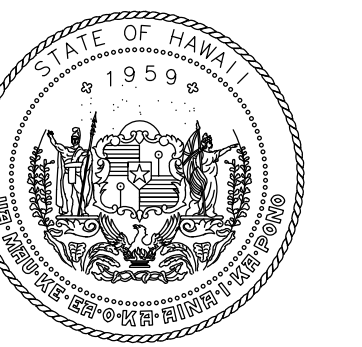
PROJECT NO:

**AM1095-10**

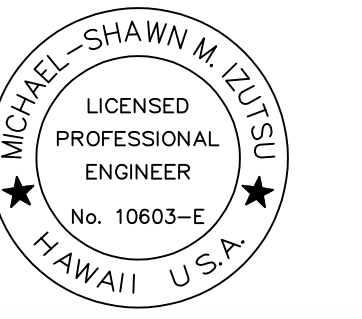
SHEET TITLE:

TELECOMMUNICATIONS  
DETAILS

DATE:	DWG. NO.
MAY 26, 2023	<b>T506</b>
SHEET:	
308 OF 333 SHEETS	



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS

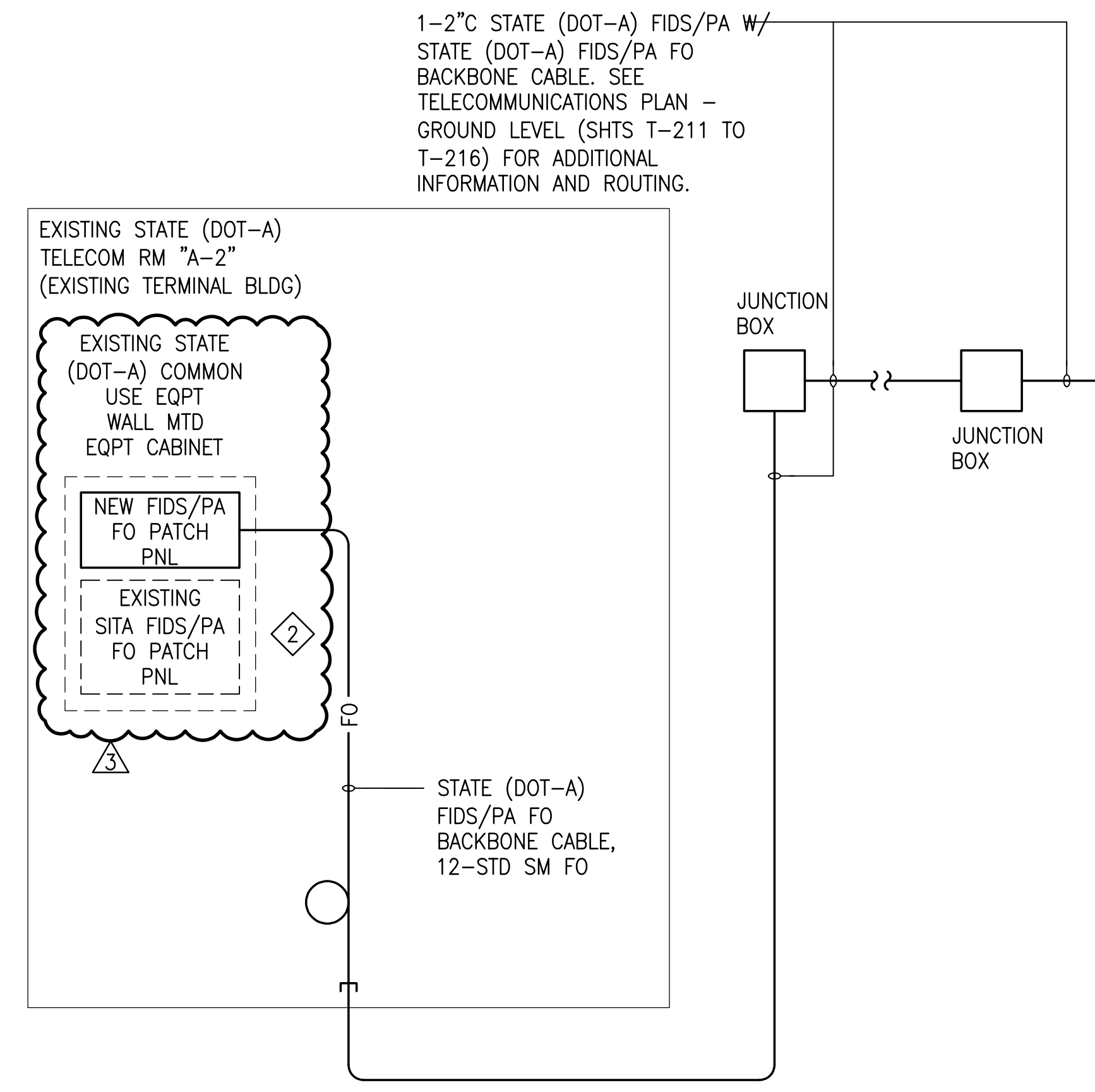
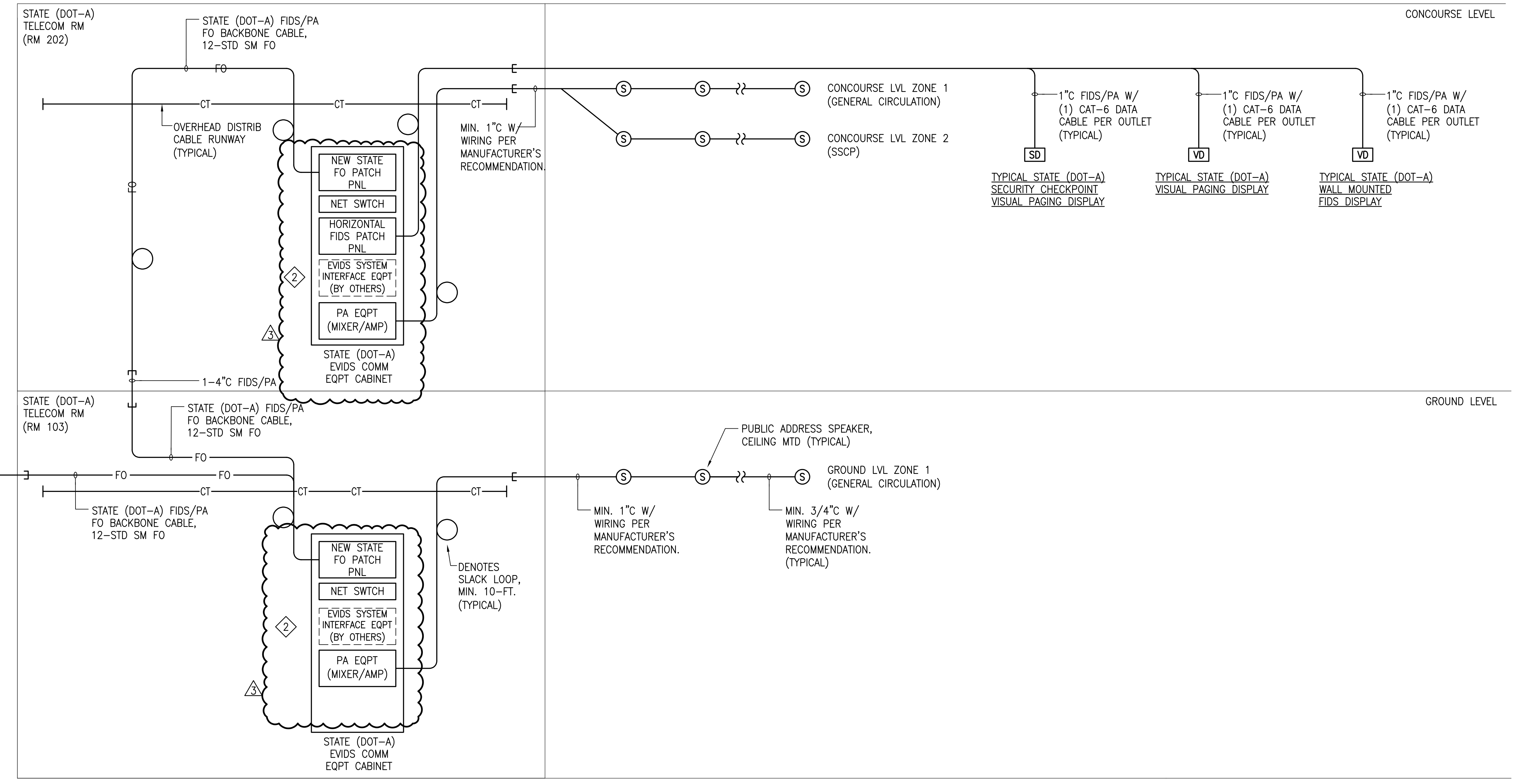


Michael Shawn M. Sposito  
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04/30/2024  
License Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
MMI	FCC	MMI	MMI

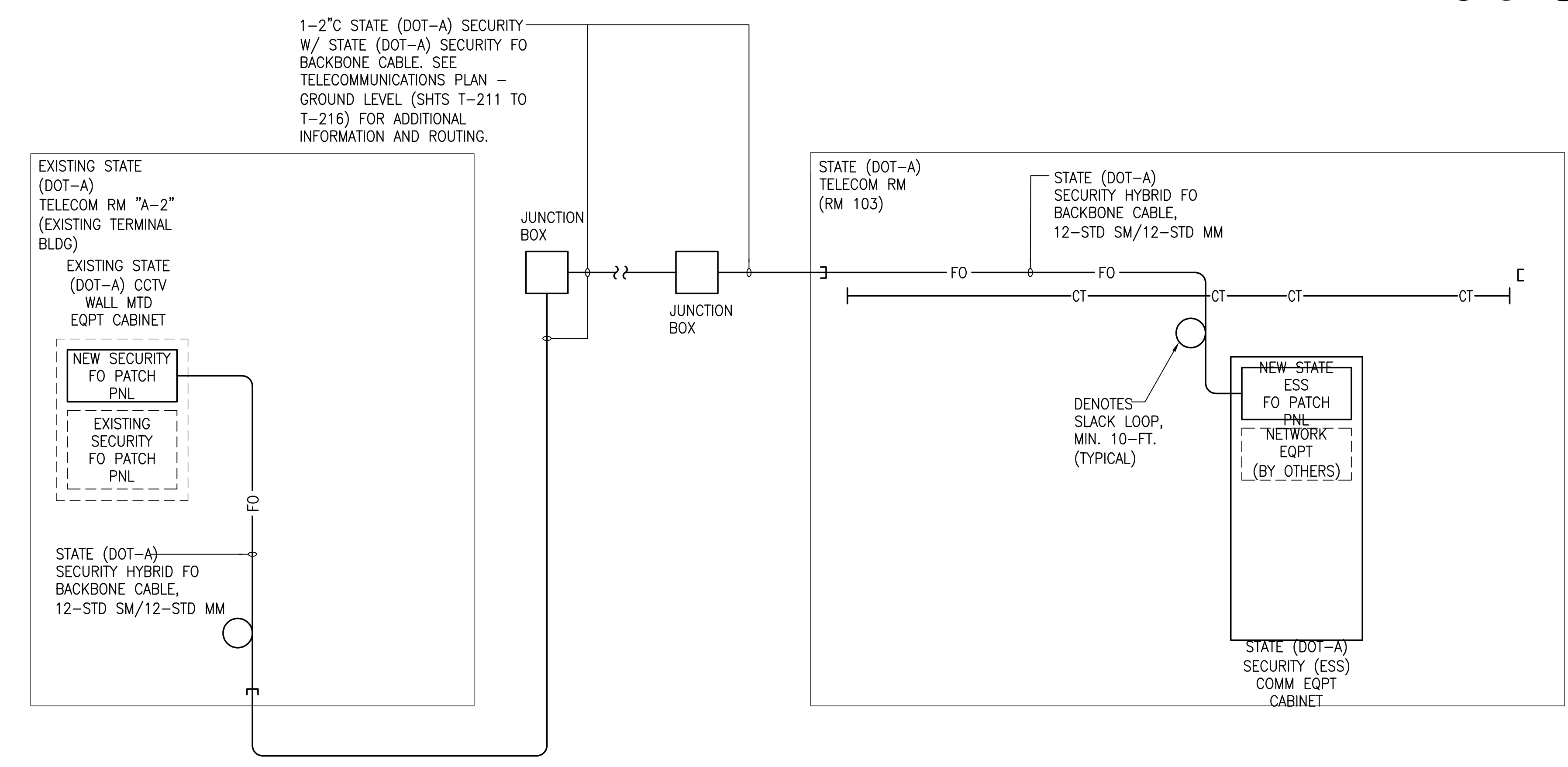
**KEY PLAN / NOTES:**



**1 TELECOMMUNICATIONS DISTRIBUTION DIAGRAM - STATE (DOT-A) FIDS / PA / VISUAL PAGING**  
NO SCALE

**NOTES:**

- ALL STATE (DOT-A) EVIDS INFRASTRUCTURE SHALL BE PROVIDED IN ACCORDANCE WITH ANSI/TIA/EIA WIRING STANDARDS AND LABELED IN ACCORDANCE WITH DOT-A LABELING STANDARDS REQUIREMENTS.
- WORK FOR INTEGRATION/INTERFACE OF NEW EVIDS SYSTEM/EQUIPMENT WITH EXISTING EVIDS SYSTEMS BY EXISTING AIRPORT EVIDS MAINTENANCE CONTRACTOR WILL BE CONDUCTED UNDER COST ALLOWANCES IN SPEC SECTIONS 16770 AND 16771. WORK WILL INCLUDE INTEGRATION EQUIPMENT IN THE NEW COMMUNICATIONS ROOMS AS WELL AS WORK/EQUIPMENT AT EXISTING EVIDS HEADEND.



**2 TELECOMMUNICATIONS DISTRIBUTION DIAGRAM - STATE (DOT-A) SECURITY FO BACKBONE CABLE**  
NO SCALE

NO.	DATE	REVISION
3	9/5/2023	ADDENDUM #3

**CONSTRUCTION DOCUMENTS**  
MAY 26, 2023  
DATE

PROJECT TITLE:

**SOUTH TSA CHECKPOINT**

AT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII

PROJECT NO:

**AM1095-10**

SHEET TITLE:

TELECOMMUNICATIONS  
DISTRIBUTION DIAGRAM -  
STATE (DOT-A) FIDS / PA /  
VISUAL PAGING

DATE:	DWG. NO.
MAY 26, 2023	<b>T603</b>
SHEET:	
312 OF 333 SHEETS	

SOUTH TSA CHECKPOINT  
KAHULUI AIRPORT  
KAHULUI, MAUI, HAWAII  
STATE PROJECT NO. AM1095-10  
AIP PROJECT NO. 3-15-0006-##

RESPONSES TO REQUEST FOR INFORMATION (RFIs/QUESTIONS)

Question 1: Is there a Geotechnical Investigation (Soils) Report available for our review? If so, is it available for us to see or download?

Response: No geotechnical report is available at this time.

Question 2: On sheet C401, should Drain Line "7" size be 8" coming off of DL "2" to Floor Drain (Note #21) similar to Drain Line "5"

Response: See revised Sheet C401 issued in this Addendum No. 3.

Question 3: Detail 4/C203 for the subject project provides two different pavement sections. Please clearly specify on the Site Plans which area each pavement section corresponds to, such as with different hatching.

Response: See revised Sheet C201 and C202 issued in this Addendum No. 3.

Question 4: Drawing M234 has a callout that states "refer to ground floor plan area D, sheet M214, for cont. of 8" CHWR and 8" CHWS lines." All other plans show 6" lines. Please confirm these lines are 6".

Response: Confirmed, lines in questions are 6". See revised Sheet M234 issued in this Addendum No. 3.

Question 5: The end of paragraph 1.03.C.1 states "After this training period is completed, Phase 2 can commence." How long does the training period take in calendar days?

Response: See revised Specification Section 01014 issued in this Addendum No. 3.

Question 6: Please provide size and detail for PED-3.

Response: See revised Sheet S301 issued in this Addendum No. 3.

Question 7: S212 GL C9 shows Ped-1 on CF-2, but it appears that pedestals on GL CA & CF are a different size. Additionally on S213, it shows these pedestals as Ped-3. Please confirm sizes of pedestals along GL C9.

Response: See revised Sheet S212 and S213 issued in this Addendum No. 3.

Question 8: S614 has a callout for a 12" thick concrete pad at ground level, but callout appears to point to nothing. Please clarify what this is in reference to.

Response: See revised Sheet S614 issued in this Addendum No. 3.

Question 9: Please confirm if pad at the space for future tenant space AHU is to be provided. Pad is shown on Architectural, but not on Structural.

Response: See revised Sheet A202 and A203 issued in this Addendum No. 3.

Question 10: Architectural Slab Edge drawings call for CJ Typical, but also note to See Structural. Structural drawings do not show Control Joints. Also, architectural drawings do not show diamond blockouts at columns, but there is a typical detail on S003 for them. Lastly the detail for typical column footings on S301 shows a slab w/ thickened edge that butts up to pedestal, but column block out detail shows an isolation joint 4" outside of column. Seems like this would cut your thickened edge. Please confirm which drawings and details control joints are to follow.

Response: Reference Structural sheets for CJ requirements at ground level. Reference Architectural sheets for CJ requirements at concourse level. Reference Architectural sheets for CJ dimensions. See revised Sheet S212 issued in this Addendum No. 3.

Question 11: A211 calls out relocated sculpture plaque and concrete pedestal. Please provide size and detail for concrete pedestal for sculpture plaque.

Response: Statue relocation work including concrete pedestal is not part of this project. See revised Sheets A114, A211, A860, and revised Specification Section 01010 issued in this Addendum No. 3.

Question 12: A213 calls out Concrete Encased Steel Columns. Please provide detail & size of columns.

Response: See revised Sheet S212, S213, and S601 issued in this Addendum No. 3.

Question 13: Detail 3/A860 shows handrail on a retaining wall. Detail is called out on A212. But no retaining wall is shown on S212 or on civil sheets. Please provide detail for retaining wall.

Response: See revised S211 and S601 issued in this Addendum No. 3.

Question 14: 3/A842 shows water stop and construction joints at top and bottom of elevator & escalator pit walls. 2/S623 Also depicts the elevator pit walls, but no waterstop is called out and top of wall does not tie into slab. Please clarify water stop and joint requirements here.

Response: See revised Sheet A842 and S623 issued in this Addendum No. 3.

Question 15: S601 shows Pedestal for Statue is a 6'x6'x6' mass of concrete. Typically, concrete placements larger than 3' in smallest dimension are considered "Mass Concrete". Please clarify if there are any mass concrete requirements on this project.

Response: See Response to Question #11 issued in this Addendum No. 3.

Question 16: The answer to Question 1 states that any DBEs used for the project need to be certified before the bid opening? How long does this certification process take? If it takes more than a month, shall we assume that we're restricted to the DBEs listed on the State HDOT Certification and Contract Compliance Management System "Search Certified Vendor Directory" under DBE or FAA Only DBE?

Response: HDOT has 90 days to review the DBE application and make a determination, and may request additional time, if needed. The firms listed on the HDOT DBE Directory are certified DBEs in the State of Hawaii. When searching the HDOT DBE Directory a best practice for searching would be to select all 4 certification types in the "Search by Certification Type" and filling in the desired field(s) in the remaining categories (Search by Business Name or DBA, Search by Business Description, Search by Commodity Code, Search by Contact Person, Search by Location, Search by Reference).

Question 17: Detail 4/S301 shows column to have 4 anchor bolts which appear to be embedded in both the pedestal and footing. Detail 1/S301 shows 8 anchor bolts at 8-3/4". Please confirm which anchor bolt layout and sizing to follow.

Response: See revised Sheet S301 issued in this Addendum No. 3.

Question 18: How long is the award period. I.e. how long should bids be good for?

Response: Refer to Section 2.20 Bid Evaluation and Award in the General Provisions for bid award period.

Question 19: Please confirm if there are Federal funds involved in this procurement?

Response: Yes, this project is part federally funded.

Question 20: Please verify that the building permit costs are required to be included in the price submitted by the Contractor.

Response: Cost for grading permit and deferred submittal and permits shall be included in Contractor's bid price.

Question 21: Have all permits for the work been submitted and approved? If not, what is the schedule for approval?

Response: Contractor is required to submit grading permit. All other permits required by the project are expected to be approved prior to the start of construction. Deferred submittal and permits to be submitted by the contractor, see Sheet G003.

Question 22: Please verify that the State will pay for stored materials.

Response: Stored materials shall be included as part of the Contractor's bid price.

Question 23: Please verify that the warranty period for the project starts at completion of each milestone (i.e. new TSA lobby, renovated TSA lobby).

Response: Yes.

Question 24: Spec Section 03300 2.01 – Materials – calls for Portland Cement that conforms to ASTM C150 Type I. Approximately 4th Quarter 2023 to 1st quarter 2024 all Portland Cement on the islands will be transitioning to Type 1L ASTM C-595. Please confirm that Type 1L ASTM C-595 cement is acceptable.

Response: Using Type 1L ASTM C-595 cement is acceptable.

Question 25: Can you provide the specific part number for the Card Reader specified in Access Control 16750-20 (2.01 G #6)? Concern is if OGG has a specific model that is preconfigured for them similar to the readers for HNL.

Response: HID RK40 921N or approved equal. Exact part number to be submitted by the contractor for review as part of the submittal process.

Question 26: Can you provide the specific part number for the 9200 Cisco switch shown in the Security Drawing EY300 and if Cisco support is required to be purchased as well?

Response: Cisco C9200-24-P-E switch, with Cisco 1000BASE-LX/LH SFP's, Cisco PWR-C5-600WAC power supply, and Cisco C9200-DNA-E-24-3Y term license or approved equal.

Question 27: Please provide date of projected project commencement. Please provide timeline for issuance of notice to proceed.

Response: The State intends to issue the Notice to Proceed immediately after execution of the contract.



Question 28: Sheets E231, E232, E233, E503, and E504 illustrate Lightning Protection as a project requirement. Contract Documents often include written specifications outlining required submittals, installer qualifications, and generally tests and inspections to obtain LPI certification as well as UL Master Label Certificate upon completion. Will written specifications be issued? Please confirm UL Master Label Certificate and LPI certification shall be a project requirement for the new lighting protection system installed for this project?

Response: See Specification Section 16410 issued in this Addendum No. 3.

Question 29: Specification Section '16740 - Building Telecommunication Systems' references conformity to 'TSA Structured Cabling System Guidelines' and the 'TSA Checkpoint Requirements and Planning Guide (CRPG)'. Can these documents be issued as a part of this projects contract documents?

Response: The TSA Structured Cabling System Guidelines and the TSA Checkpoint Requirements and Planning Guide can be found at the following link for reference only:

<https://www.tsa.gov/sites/default/files/checkpoint-requirements-and-planning-guide.docx>

Question 30: Project requires new distribution/apparatus gear to be installed. Generally the DOT Airport Projects issue written specifications requiring an Device Coordination Study. Will written specifications be issued? Please confirm a Power System Study is required for new apparatus gear only and that Arc-Flash Warning Labels are required on new apparatus gear installed for this project.

Response: See Specification Section 16055 issued in this Addendum No. 3.

Question 31: Generally the DOT Airport Projects require testing to be performed or supervised by a 3rd party testing agency who is NETA certified for quality assurance. Will this be a project requirement? If required, is it possible to make clear which tests shall be performed or supervised by this 3rd party NETA accredited agency?

Response: Testing to be performed or supervised by a 3rd party testing agency who is NETA certified will not be required.

Question 32: Specification Section '16740 - Building Telecommunication Systems' states, "RCDD shall be employed by the Contractor. Sub-contracting personnel with RCDD accreditation is not acceptable unless there is a written commitment to work on this project at time of bid." It may be in the best interest of the DOT to remove the ambiguity of "unless there is a written commitment to work on this project at time of bid" and clarify that a direct (W-2) employed RCDD. Also consider requiring all Telecom installations shall be supervised by BICSI certified installers.

Response: RCDD requirements shall remain as indicated in Specification Section 16740.

Question 33: Specification Section 16100(2.05) Wiring Devices denotes specification grade devices. Confirm Federal Specification Grade type devices will required.

Response: Receptacles conforming to UL 498 and NEMA WD 6 will be required.

Question 34: Contract documents require Electrical Contractor to furnish and install Specification Sections '16770 - Public Address System' and '16771 - Public Address Visual Paging System' systems while integrating into existing facility. The only qualified offeror for these systems is SITA. It has come to our attention SITA is not able to support pricing this project's requirements as the existing systems are antiquated, utilizing Cobranet Protocol, and that these products are discontinued. We're led to believe DOTA Engineering, in concert with SITA, have a future plan to issue an RFP upgrading the existing and future facility systems, however this is not finalized and subsequently new system pricing cannot be generated. Please consider adding allowances for SITA's two aforementioned specification sections within this project's Proposal Schedule to ensure contractor compliance with supplying a responsible bid offering.

Response: See revised Sheets T506, T603 and revised Specification Section 16770 and 16771 issued in this Addendum No. 3. Integration and interface with existing EVIDS system will be completed by the existing OGG EVIDS Maintenance Contractor under allowances. Contractor shall ensure new PA and FIDS/Visual Paging system equipment is compatible with existing EVIDS system.

Question 35: Specification Section 16100(3.01) Raceways describes required means and methods for indoor vs. outdoor locations. Specifically, it states EMT is permissible for exposed indoor installations, with some exceptions. Please clarify if the exposed locations with roof cover, i.e. from column line C1 thru ~C5 and similar, are considered indoor or outdoor. We believe these location to be classified as "Damp Location" per NEC Article 100 and believe them to be infer outdoor compliance. Confirm these areas are considered "outdoor" and that EMT is not permissible in these exposed locations; typical of all similar locations.

Response: Exposed locations with roof cover and no walls on at least one side, i.e. from column line C1 thru C5 and similar, are considered as outdoor locations.

Question 36: All electrical lighting sheets (i.e. sheet E211, E312, E313, E321, E322, E323, and E324) illustrate numerous lighting fixtures without any circuitry information which would designate sizing and control expectations. Please furnish the circuit identifiers for all lighting fixtures.

Response: See revised Sheets E211, E312, E313, E321, E323 issued in this Addendum No. 3.

Question 37: Spec Section 08441 Paragraph 2.01.O calls out glazing to comply with ASTM E 1996 and ASTM E1886. Spec Section 0841 Aluminum Framed Entrances and Storefronts does not include any requirement to comply with these standards. Please advise.

Response: See revised Specification Section 08411 issued in this Addendum No. 3.

Question 38: On Sheet A701, for GL-2 and GL-3, there is a 0.060 PVB interlayer called out. To meet ASTM E 1996/1886, a 0.060 SGP or 0.090 PVB interlayer is required. Please advise.

Response: See revised Sheet A701 and revised Specification Section 08800 issued in this Addendum No. 3.

Question 39: Spec Section 08800 Paragraph 3.08.B states GL-1 thickness to be 1", however it states 2 plies of 1/4" glass and an interlayer of 0.060. Please advise the correct thickness of the glass.

Response: See revised Specification Section 08800 issued in this Addendum No. 3.

Question 40: Spec Section 08442 Paragraph 2.03.B.4 calls out for a UC70092F "Sunstorm Silversmith" finish. Sheet A701 calls out the finish for a Dark Bronze anodized finish. Please advise.

Response: Reference Specification Section 08411.2.08 for description of both finishes.

Question 41: For Section 03300 for Cast-In-Place Concrete, please confirm ASTM C595 Type IL cement (Portland limestone cement) is acceptable. One of the CIP concrete suppliers on island will be changing to use this type of cement and this will allow for more competitive pricing.

Response: See Response to Question #24 issued in this Addendum No. 3.

Question 42: On Sheet A213, it calls out for the steel columns from GL C9 to C12 to be encased in concrete. The Structural Drawings do not show the columns to be concrete encased and do not show any reinforcing. Please confirm that no reinforcing is needed for these columns. Also, please advise if this steel will need to be coated with bitumastic paint.

Response: See Response to Question #12 issued in this Addendum No. 3

Question 43: Sheet A114 calls out to remove and store all the security screening equipment. The Proposal Schedule includes an allowance to reinstall the screening equipment at the existing TSA checkpoint. Please advise if the work to remove and store the equipment will fall under this allowance.

Response: Reference Specification Section 01010.1.12, The removal and storage of existing screening equipment shall be part of Contractor's bid price. The reinstallation work of existing screening equipment will be paid for by the allowance item.

Question 44: Sheets S231 to S233 show future PV panel supports. Please advise if these supports are not in contract. If they are part of the contract, please provide details.

Response: PV panel supports are part of this contract. Reference detail 7/A851.

Question 45: On Sheet S222, please advise if there should be a W21 x 44 beam at GL CA/C7.

Response: See revised Sheet S222, W21x44 added at GL CA/C6

Question 46: Please Confirm that light poles 1 through 9 will be removed, and light pole 10 will remain.

Response: See revised Sheet E101 issued in this Addendum No. 3.

Question 47: Please Confirm that the Three Palms and Three unknown trees will be removed.

Response: See revised Sheet L100 issued in this Addendum No. 3.

Question 48: Does the security exit gate track and curb remain or get demolished and replaced?

Response: The track would have to be removed and replaced since we will be repaving this area. The curb will remain except for the portions that will need to be removed for the utility work.

Question 49: Cross walk striping outside of security checkpoint appears that it will need to be removed in order to end at bottom of new ramp/sidewalk. Please confirm.

Response: Yes, the full length of the crosswalk will need to be removed.

Question 50: All items listed on sheets C102, C103, & E101 for Demo are shown in red. Additional items will be required to remove, such as the backflow preventer near the existing CRM wall. Is there an existing asbuilt that shows all utilities in the jobsite as well as a schematic to prevent any loss of service?

Response: The backflow preventer in question is for the irrigation system, see revised Sheet L100 issued in this Addendum No. 3. Reference Civil sheets for existing utilities plan.

Question 51: Footing at gridlines C12&CE, is shown on top of existing sewer manhole and possibly electrical jacket. See Sheets C101, C103, S213

Response: Reference Sheet S210 series, Contractor shall field verify exact locations of all utilities. Foundation design may be revised. Bidders to price per plans and specifications.

Question 52: Footing at gridlines C11&CF is shown on top of existing HTC and Meco Vault. One bollard is also shown on top of this same vault. See Sheets C101, C103, S213.

Response: See Response to Question 51 issued in this Addendum No. 3.

Question 53: Structural plans list "Gravel Fill in Tenant Space". Will gravel need to be filled to bottom of slab only, or will additional gravel be required to fill up to finish grade once slab is poured?

Response: Provide gravel fill in tenant space up to bottom of slab only.

Question 54: Area D is not included in the Civil Plans, appears to have very little gradework required. Please confirm that the two lines, CHWR & CHWS (Sheets M214 & M215 would require digging and patching. It is unclear if these are in the subgrade or overhead mounted.

Response: Yes, both CHWR & CHWS in question are overhead mounted.

Question 55: Sewer Pipe "VCP" please verify material type. Is there approved alternate to Clay Pipe, such as SDR?

Response: Vitrified clay pipe (VCP) has been revised to PVC C-900 pipe. See revised Sheet C405 and Specification Section 02722 issued in this Addendum No. 3.

Question 56: Statue Relocation, are there required steps or procedure for relocating the sculpture, such as crating?

Response: See Response to Question #11 issued in this Addendum No. 3.

Question 57: Ramp from access road to TSA checkpoint, outside of security gate has unclear details regarding the retaining wall and handrail. Grading Spot elevations unclear along this edge. Note on Sheet A211 shows a handrail and retaining wall at this edge and refers to the retaining detail in structural plans, which are not included.

Response: See revised Sheets S211, S501 and S601 issued in this Addendum No. 3.

Question 58: Ramp from access road to TSA checkpoint, outside of security gate has unclear details regarding the retaining wall and handrail. 2.5ft retained height. Tapers to 0 retained height in 57.30 feet. Are there details available for retaining wall to meet these requirements?

Response: Reference Section 2/S601

Question 59: Ramp from access road to TSA checkpoint, outside of security gate has unclear details regarding the retaining wall and handrail. Steep drop from sidewalk to roadway. May require thickened edge of sidewalk or retaining wall. Will curbing and handrail along steep drop of sidewalk be required?

Response: Handrail is not required.

Question 60: Footings along Grid Line CA are exposed to lower exterior grade and do not have much cover. The footings could be lowered or the grade raised to obtain more cover. (See image above)

Response: See revised Sheet S211 to S213 issued in this Addendum No. 3

Question 61: Please Confirm that Furnishing and Installation of the new TSA Screening equipment is Owner Furnished and Owner Installed and not included in this contract.

Response: TSA screening equipment in the new checkpoint will be provided and installed by TSA.

Question 62: Please confirm that Agriculture Xray machines are OFCI. If so please provide specifications for machines. Including Electrical and telecom requirements and mounting

Response: Reference electrical and telecom drawings for infrastructure requirements. The Agriculture screening machines are not part of this contract, See revised Sheet A211 issued in this Addendum No. 3.

Question 63: As per sheet E212, Electrical Floor Plan - Ground Level - Area B, shows a 350kW generator. But on E603, One-Line Diagram - South TSA Checkpoint, shows a 500kW generator. Please clarify which generator is required.

Response: See revised Sheet E212 issued in this Addendum No. 3.

Question 64: Please confirm that the access road Parallel to the holdroom building is to remain air-side through out construction.

Response: Yes, access road parallel to the Holdroom must remain airside / SIDA throughout construction.

Question 65: In the spec section Description of work 01010-2-1.06-A " Noise, including demolition work, shall occur from 12:00 a.m. to 5:00 a.m." Please define Noise work as a measurable decibel level over a measurable duration.

Response: Any demolition and any work that disrupts airport and airlines operations are considered noise work.

Question 66: The Hawaii market will be transitioning cement types in the near future from ASTM C-150 (Type I/II) to ASTM C-595 Blended Hydraulic Cement (Type 1L, portland limestone cement). Timeline for this transition is approximately 4th quarter 2023 to 1st quarter 2024. Current project specifications does not have a provision for C-595 cements. Please advise if providing C-595 cements are acceptable.

Response: Using Type 1L ASTM C-595 cement is acceptable.

Question 67: Please provide list (name and contact information) of approved vendors for moving and installing TSA equipment (screening equipment).

Response: An approved vendor list will not be provided at this time.

Question 68: Reference sheet S213, Drawing shows conflicts between new footings and existing/new utilities. Please provide updated location of footings.

Response: See Response to Question 51 issued in this Addendum No. 3.



Question 69: Please confirm that the general contractor shall be responsible for removal, storage, and reinstallation of existing chairs in front of new entrance into existing Holdroom.

Response: Contractor is not responsible for removal, storage and reinstallation of existing chairs in question.

Question 70: Is there an allowance to patch and repair existing carpet tile where new checkpoint building ties into the existing Holdroom?

Response: Any patching and repair should be included as part of contractor's bid price.

Question 71: Please provide a barricade plan where the new checkpoint building ties into the existing Holdroom.

Response: Reference detail 3/G006.

Question 72: Is it acceptable to pull electrical power from overhead?

Response: Reference Sheet E001.

Question 73: S614 shows a 12" thk concrete pad at stair #3, but S613 shows a 5" thk s.o.g. with an 18" thk pad. Please confirm which drawing is correct.

Response: See revised Sheets S613 and S614 issued in this Addendum No. 3.

Question 74: Please provide thickness of mechanical equipment pads.

Response: Reference detail B/M414 for equipment pad thickness.

Question 75: Please provide detail for pedestal PED-3.

Response: See Response to Question #6 issued in this Addendum No. 3.

Question 76: Provide reinforcement requirement for 4" thk s.o.g. at first floor.

Response: Reference Sheet C203.

Question 77: Please provide reinforcement requirements for stair #2 walls.

Response: Reference architectural sheets for wall information.

Question 78: Please provide reinforcement requirements for elevator shaft.

Response: Reference architectural sheets for elevator shaft information.

Question 79: Please provide reinforcement requirements for exterior curbs.

Response: Reference detail 8/S003 for concrete curb information.

Question 80: Specification Section 14310, 1.03.J and 2.02.O.1: Section 1.03.J specifies an inclined solid balustrade design (high deck condition). Section 2.02.O.1 describes a vertical solid balustrade design (low deck condition). An inclined solid balustrade design is more robust and durable as compared to a vertical solid balustrade design and therefore the recommended design for this type of facility. Please confirm that an inclined solid balustrade design is required.

Response: Inclined solid balustrade is required. See revised Specification Section 14310 issued in this Addendum No. 3.

Question 81: Specification Section 14310, 2.02.O.2: This section describes an “option 2” for balustrade panel joints to be perpendicular to the floor. The base bid condition is not specified but is assumed to be a standard design where the balustrade panel joints are perpendicular to the truss. Please advise intent of “option 2” as specified in this section. Please also note that the balustrade panel joint condition is only applicable with a vertical solid balustrade design.

Response: See revised Specification Section 14310 issued in this Addendum No. 3.

Question 82: Specification Section 14310, 2.02.D, 1 and 2: Specifications require that details of the escalator motor and a list of motor protection be submitted with the tender/bid. Please confirm if this is required as a bid attachment and if so, will not invalidate the bid.

Response: See revised Specification Section 14310 issued in this Addendum No. 3.

Question 83: Specification Section 14310, 2.02.W: Specifications state that the tenderer shall define the method of lubrication and state by what means oil and other debris are removed from the escalators at periodic intervals. Please advise if this is a required bid attachment or if this is to be submitted as part of the submittal review/approval process.

Response: See revised Specification Section 14310 issued in this Addendum No. 3.

Question 84: Specification Section 14310, 2.02.Y: Specifications state that the tenderer shall detail the load requirements of each power supply and the preferred locations of the incoming cables at the time of tender. Please advise if this is a required bid attachment or if this is to be submitted as part of the submittal review/approval process.

Response: See revised Specification Section 14310 issued in this Addendum No. 3.

Question 85: Specification Section 14210, 1.03.J: The dimensions of 7' 11 1/2" x 10' 5 1/16" specified in this section appear to be the minimum clear inside hoistway dimensions. It is our understanding that the intent of this section is to identify the minimum clear inside cab dimensions. Please confirm that the minimum clear inside cab dimensions should be 5' 9 13/32" W x 9' 0 7/16" D for both project elevators.

Response: See revised Specification Section 14310 issued in this Addendum No. 3.

Question 86: Specification Section 14210, 1.03.K & L: Specifications call for a cab height of 8' 5" and a clear height under cab ceiling of 7' 7". These dimensions do not coincide with the basis of design product offering. Please advise if an 8' 0" cab with approximately 7' 5" clear height under ceiling meets the design intent. Alternatively, a 9' 0" cab can be supplied with a clear height under ceiling of approximately 8' 5". Please advise.

Response: See revised Specification Section 14310 issued in this Addendum No. 3.

Question 87: There do not appear to be any provisions in the structural drawings with rebar details for the "CONCRETE ENCASED STEEL COLUMNS" as indicated in the Architectural sheets. Please confirm if rebar is required.

Response: See Response to Question #12 issued in this Addendum No. 3.

Question 88: A213 indicates bollards around columns on grid lines C9, C10, C11 & C12. The detail for these bollards is shown on 2/A860. This detail conflicts with the footing details shown on S301.2/A860 indicates bottom of bollard footing @ 3'-6" below bottom of slab. Sheet S301 indicates top of structural footing @ 2'-8" below bottom concrete/ or asphalt concrete paving. Please confirm bottom of bollard footing elevation and top of structural footing elevations.

Response: See Revised Sheet A213 issued in this Addendum No. 3.

Question 89: Please provide details for removing and reconnecting bronze sculpture. Please provide the estimated weight of the sculpture. We recommend including this as an allowance item.

Response: See Response to Question #11 issued in this Addendum No. 3.

Question 90: Ped-3 was called out on S212 and S213, but was not list on schedule. Please clarify the dimensions and reinforcing details of Ped-3.

Response: See Response to Question #6 issued in this Addendum No. 3.

Question 91: Screening equipment shown on A620 are called to be installed by TSA, but check Xray machine and table shown on A211 is called to be installed by Contractor. Could the Xray machine and table can be install by TSA? If not, please provide a list of certified installer for the Xray machine and table.

Response: Ag screening machine installation is not part of this project. See Revised Sheet A211 issued in this Addendum No. 3.

Question 92: HlePRO shows three bid line items. Please confirm if the price should be following the HlePRO breakdown or bid proposal in the specification. If we were to follow bid proposal, can bid line items on HlePRO be consolidated into one line item for ease of submitting bid?

Response: The complete bid Proposal Schedule shall be uploaded into HlePRO per Notice To Bidders. Contractor to consolidate bid price into one line item under Line Item #1 on HlePRO. Line Item #2 and #3 to be left blank.

Question 93: Please confirm sculpture base reinforcing detail, if any.

Response: See Response to Question #11 issued in this Addendum No. 3.

Question 94: Please confirm sculpture base foundation and foundation reinforcing detail. A860 refers to structural sheet, but none was found in the structural sheets.

Response: See Response to Question #11 issued in this Addendum No. 3.