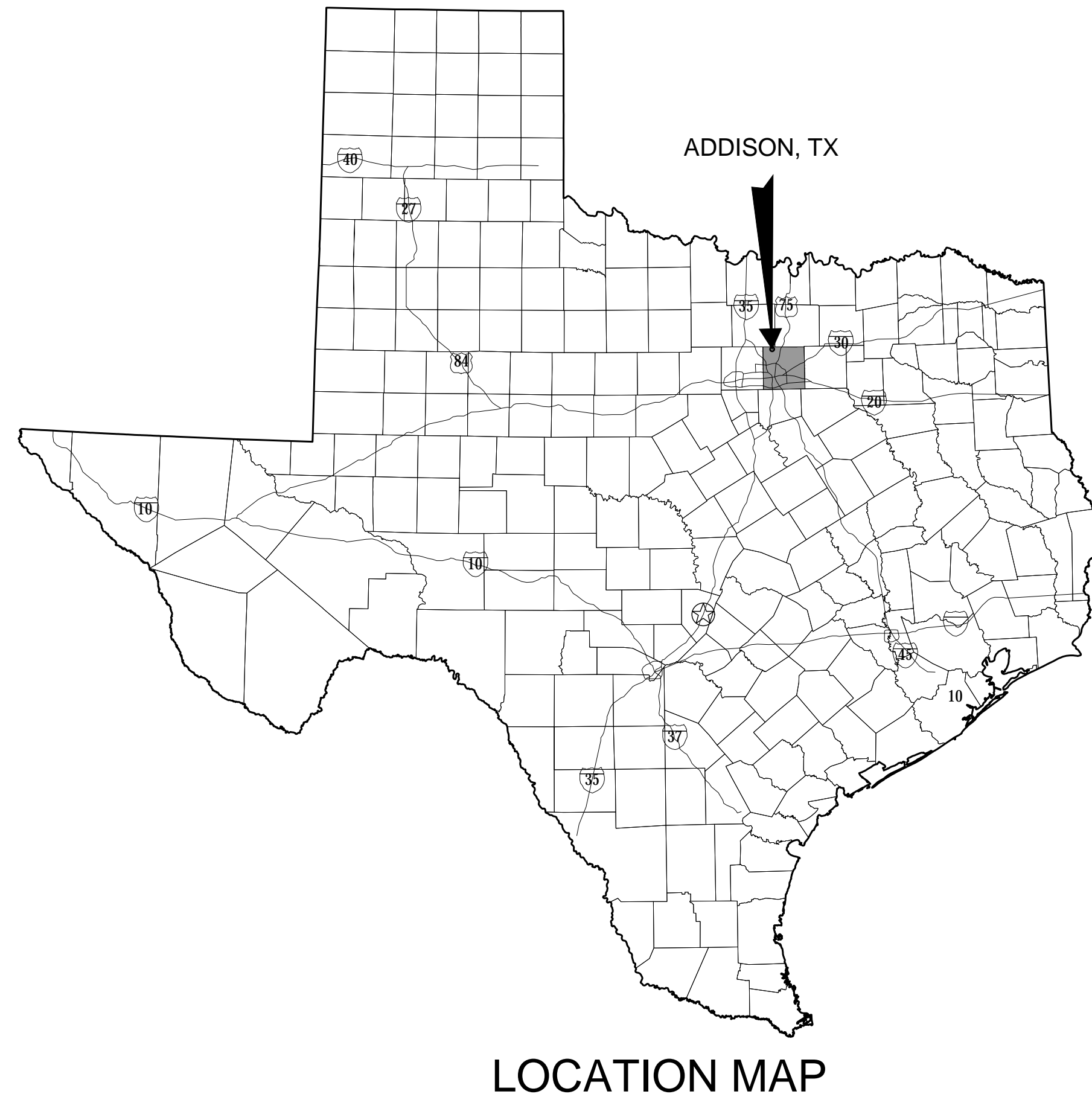


# FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

## ADDISON AIRPORT

### ADDISON, TEXAS



LOCATION MAP



TOWN OF ADDISON BID NO. 19-223  
 GARVER PROJECT NO. 19A11000  
 JUNE, 2019



3010 Gaylord Parkway  
 Suite 190  
 Frisco, TX 75034  
 (972) 377-7480

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**RECORD DRAWINGS**  
April 2020

To the best knowledge of the Engineer, these drawings have been generally conformed to the construction of the improvements based on information supplied by the owner, contractor and/or resident project representative. The accuracy of the information contained within these record drawings is not guaranteed.

*Mitchell McAnally* 4/27/2020  
 Mitchell McAnally, P.E. Date



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS  
FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

COVER SHEET

JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: JAH  
 DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
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DRAWING NUMBER  
**G-101**

SHEET NUMBER  
**1**

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS BEFORE WORK IS STARTED TO VERIFY UTILITY LOCATIONS (DIGTESS 1-800-344-8377).
2. THE CONTRACTOR SHALL NOTIFY ADDISON AIRPORT OPERATIONS AND THE LOCAL FAA OFFICE (FAA 972 615-2060) 48 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITY TO ALLOW SUFFICIENT TIME FOR COORDINATION OF NOTAMS AND TO LOCATE AND MARK EXISTING FIELD CABLES AND TO AVOID UNSCHEDULED FACILITY OUTAGES. THE CONTRACTOR SHALL PROVIDE 35 DAYS NOTICE TO FAA PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SCHEDULE TO FAA.
3. THE CONTRACTOR SHALL COMPLETE ALL WORK IN ACCORDANCE WITH THE FAA ADVISORY CIRCULAR 150/5370-2F, OR CURRENT VERSION, "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
4. THE CONTRACTOR'S STAGING AREA FOR OFFICE, STOCKPILE, EQUIPMENT, ENGINEER'S OFFICE, MATERIALS STORAGE AND EMPLOYEE PARKING SHALL BE NO CLOSER THAN 25 FEET FROM ANY FENCE LINE. ADDISON OPERATIONS SHALL APPROVE THE EXACT LOCATION OF THE STAGING AREA PRIOR TO ITS USE. THE SUGGESTED LOCATION IS SHOWN, OTHERS PROPOSED MAY BE ACCEPTABLE.
5. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING ACCESS AND HAUL ROADS OUTSIDE THE LIMITS OF CONSTRUCTION DURING CONSTRUCTION AND SHALL RESTORE THE ROADS TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER. THE LOCATION OF ANY ADDITIONAL HAUL ROADS DESIRED BY THE CONTRACTOR IS SUBJECT TO THE APPROVAL OF THE AIRPORT AND ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING TEMPORARY ACCESS AND/OR HAUL ROADS WHERE NECESSARY TO THE CONSTRUCTION LIMITS. THE CONTRACTOR SHALL COMPLETELY REMOVE THE TEMPORARY HAUL ROADS SHOWN ON THE PHASING PLANS UPON COMPLETION OF THE PROJECT AND SHALL RESTORE THE GROUND SURFACE AND TURF IN THE AREA TO ITS CONDITION PRIOR TO THIS CONSTRUCTION.
7. DURING MATERIAL DELIVERY / PAVING OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL. TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE TOTAL PROJECT.
8. ALL EMPLOYEES OF THE CONTRACTOR SHALL ENTER AND EXIT THE WORK SITE AT THE DESIGNATED CONTRACTOR'S ACCESS GATE (AG). AN ADEQUATE SIGN SHALL BE PROVIDED DESIGNATING THIS GATE LOCATION AS THE "CONSTRUCTION EMPLOYEE ENTRANCE". MINIMUM REQUIREMENTS FOR AN ACCESS GATE ARE AS FOLLOWS:
  - A. ALL VEHICLES MUST STOP PRIOR TO ENTERING THE AIRPORT. IF A GATE GUARD IS USED, THEY MUST WAIT FOR THE GATE GUARD TO SIGNAL THEM TO PROCEED. ONLY AUTHORIZED CONTRACTORS, FAA PERSONNEL, AIRPORT PERSONNEL, AND PROJECT ENGINEERS WILL BE ALLOWED ACCESS. THE CONTRACTOR WILL FURNISH TRAINING AND WRITTEN PROCEDURES TO THE GATE GUARD THAT MUST BE FOLLOWED DURING THE PROJECT.
  - B. A GATE GUARD IS REQUIRED WHEN THE PROJECT AREA IS OPEN TO THE AIRPORT OPERATIONS AREA (AOA). WHEN THE PROPOSED PERIMETER FENCE IS INSTALLED TO SECURE THE PROJECT SIRE FROM THE AOA, A GATE GUARD IS NOT REQUIRED.
  - C. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A SECURE PERIMETER.
  - D. THE ACCESS GATE MUST BE LOCKED AT THE END OF EVERY DAY.
  - E. ANY AND ALL FINES THAT MAY BE LEVIED ON THE AIRPORT FOR A SECURITY VIOLATION IN CONNECTION WITH THE CONTRACTOR'S ACTIVITIES SHALL BE PAID BY THE CONTRACTOR. THE FAA MAY ASSESS A FINE DEPENDING ON THE SERIOUSNESS OF THE INFRACTION.
  - F. THE CONTRACTOR SHALL AT ALL TIMES ENSURE AGAINST UNAUTHORIZED ACCESS TO THE AIRFIELD.
9. CONSTRUCTION WORK LIMITS ARE AS SHOWN ON THE PLANS. ANY AND ALL WORK CONDUCTED OUTSIDE THE CONSTRUCTION LIMITS, EXCEPT FOR MAINTENANCE ON BARRICADES SHALL BE ACCOMPLISHED WITH THE USE OF AN AIRPORT ESCORT. THE CONTRACTOR WILL PROVIDE AN ESCORT WITH A MINIMUM NOTICE OF TWO WORKING DAYS. NO WORK OR TRAVEL WILL BE PERMITTED OUTSIDE THE CONSTRUCTION LIMITS SHOWN WITHOUT PRIOR APPROVAL BY AIRPORT OPERATIONS AND AN AUTHORIZED ESCORT. AIRPORT OPERATIONS WILL NEED TO KEEP OPEN VARIOUS TAXIWAYS ADJACENT OR IN THE PROXIMITY OF OR CROSSING THE CONSTRUCTION AREA. THE WORK SHALL BE COORDINATED WITH AIRPORT OPERATIONS. NO WORK IS PERMITTED NOR ARE OPEN EXCAVATIONS, STORED MATERIALS, STOCKPILES OR EQUIPMENT ALLOWED OUTSIDE OF THE WORK AREA AS SHOWN IN THE PLANS WITHOUT PRIOR COORDINATION WITH AIRPORT OPERATIONS.
10. THE CONTRACTOR'S ACCESS TO THE AIRFIELD IS LIMITED TO THE LOCATIONS AS SHOWN ON THE PLANS. ACCESS FROM THE GATE TO THE STAGING, STORAGE AND WORK AREAS SHALL BE CONFINED TO THE ROUTES SHOWN AND WITHIN THE WORK AREA LIMITS. ACCESS VIA ANY OTHER ROUTES OR GATES WILL REQUIRE PRIOR WRITTEN APPROVAL BY AIRPORT OPERATIONS.
11. ANY TEMPORARY FACILITIES SHALL BE COMPLETELY REMOVED FROM THE SITE AT THE COMPLETION OF THE PROJECT AND THE SITE RESTORED TO ITS ORIGINAL CONDITION.
12. CONSTRUCTION LIMITS - ALL CONTRACTOR VEHICLES AND TRAFFIC (UNLESS OTHERWISE AUTHORIZED) SHALL REMAIN WITHIN THE DESIGNATED CONSTRUCTION LIMITS OR HAUL ROUTES. CONSTRUCTION, STORAGE AND STOCKPILING LIMITS MUST BE APPROVED BY THE AIRPORT OR ENGINEER.
13. FUEL, DIESEL FUEL, OR OTHER CONTAMINANTS SHALL NOT BE ALLOWED TO ENTER THE STORM SEWER SYSTEM. IF, IN THE EVENT SUCH CONTAMINANTS DO ENTER THE STORM SEWER SYSTEM OR GROUND WATER, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE AIRPORT OF THE SPILL. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS INCURRED FOR CLEANUP OF CONTAMINATED AREAS ON AND OFF AIRPORT PROPERTY.

14. CAUTION SHALL BE TAKEN BY THE CONTRACTOR IN PREVENTING ANY DUST OR MUD WHICH MAY BECOME A HAZARD TO AIR AND GROUND OPERATIONS. THE CONTRACTOR SHALL CONTROL DUST AND MUD AT ALL TIMES AND MAY REQUIRE FULL TIME OPERATION WATER TRUCKS OR SWEEPERS. IF, IN THE OPINION OF THE AIRPORT OR THE ENGINEER, DUST OR MUD IS NOT BEING ADEQUATELY CONTROLLED THEY MAY SUSPEND WORK AND MAKE NECESSARY ARRANGEMENTS FOR DUST OR MUD CONTROL. THE COSTS THEREFORE SHALL BE DEDUCTED FROM THE PROGRESS PAYMENTS DUE THE CONTRACTOR.
15. CONTRACTOR SHALL TAKE THE NECESSARY STEPS TO OBTAIN DRIVER'S TRAINING FOR CONTRACTOR EMPLOYEES PRIOR TO ENTERING THE AIR OPERATIONS AREA.
16. MATERIAL / TOPSOIL STOCKPILES SHALL BE AT LOCATIONS APPROVED BY THE AIRPORT. MAXIMUM STOCKPILE HEIGHT IS 20 FEET.
17. WHILE THE FENCE IS BEING CONSTRUCTED, OR DURING WORK OUTSIDE OF THE CONSTRUCTION FENCE, A SUPERINTENDENT WHO HAS BEEN NON-MOVEMENT AREA TRAINED MUST BE ON SITE.
18. NON-MOVEMENT AREA TRAINING IS CONDUCTED BY THE AIRPORT AT NO COST.
19. IF FOR ANY REASON, THE AIRPORT OR ENGINEER FEELS THAT SAFETY IS NOT BEING ADEQUATELY MAINTAINED, THEY MAY SUSPEND WORK UNTIL THE SAFETY ISSUE IS RESOLVED. THE COSTS THEREFORE SHALL BE DEDUCTED FROM THE PROGRESS PAYMENTS DUE THE CONTRACTOR.

SAFETY AND PHASING NOTES

1. AIRPORT SECURITY IS A PRIMARY CONCERN OF THE AIRPORT. THE CONTRACTOR SHALL BE ALLOWED ACCESS TO THE CONSTRUCTION AREAS AT THE LOCATIONS SHOWN ON THE PLANS. THE CONTRACTOR'S ACCESS GATES INTO THE SECURED AREA OF THE AIRPORT SHALL BE KEPT GUARDED OR LOCKED AT ALL TIMES. THE CONTRACTOR SHALL BE ALLOWED ACCESS AT ADDITIONAL LOCATIONS WITH THE APPROVAL OF THE OWNER AND THE ENGINEER.
2. THE INTENT OF THE CONTRACT DOCUMENTS IS TO ORGANIZE AND CONTROL THE WORK SO THAT IT IS ACCOMPLISHED WITH MINIMUM INCONVENIENCE TO THE AIRPORT, AND TO INSURE THE SAFETY OF AIRCRAFT MOVEMENTS AT THE AIRPORT DURING THE CONSTRUCTION PERIOD. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH FAA AC 150/5370-2F, OR LATEST VERSION.
3. AT ALL TIMES AIRCRAFT MOVEMENT SHALL HAVE THE RIGHT OF WAY OVER THE CONTRACTOR'S EQUIPMENT.
4. ALL WORK WITHIN THE AIRPORT PERIMETER FENCE SHALL BE ACCOMPLISHED AFTER NOTAMS HAVE BEEN ISSUED AND COORDINATION WITH THE OWNER, THROUGH THE ENGINEER, HAS BEEN COMPLETED.
5. ALL EQUIPMENT AND VEHICLES OPERATING INSIDE THE AIRPORT PERIMETER FENCE MUST BE MARKED WITH THE CONTRACTOR'S NAME AND BE LEGIBLE FROM 200 FEET. EQUIPMENT AND VEHICLES SHALL BE MARKED WITH 3' x 3' ORANGE CHECKED FLAGS AND YELLOW FLASHING DOME-TYPE LIGHTS.
6. THE CONTRACTOR'S OPERATIONS, MOVEMENTS AND WORK ARE RESTRICTED TO THE CONSTRUCTION WORK LIMITS AS SHOWN ON SHEET G-103.
7. EQUIPMENT SHALL NOT EXCEED A HEIGHT OF 15' UNLESS GIVEN PRIOR APPROVAL BY ENGINEER.

CAUTION: UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.

TEXAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES SUFFICIENT ADVANCE NOTIFICATION THROUGH THE TEXAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF AN EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-344-8377. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE TEXAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM.



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

GENERAL NOTES

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**G-102**  
SHEET NUMBER **2**



REGISTRATION NO. F-5713

RECORD DRAWINGS 04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

ADDISON AIRPORT

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

SUMMARY OF QUANTITIES

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

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DRAWING NUMBER  
**G-103**

SHEET NUMBER  
**3**

**BASE BID A  
FUEL FARM EXIT RELOCATION**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	SS-350-5.1	30' AUTOMATIC SLIDING CANTILEVER GATE AND OPERATOR SYSTEM, INSTALLED	L.S.	100%
3	F-162-5.1	8-FOOT BLACK PVC COATED CHAIN-LINK FENCE	L.F.	72
4	F-162-5.2	TEMPORARY CHAIN-LINK FENCE	L.F.	154
5	F-162-5.3	FENCE REMOVAL	L.F.	97
6	F-162-5.4	CONCRETE EROSION CONTROL STRIP	L.F.	72
7	P-152-4.1	UNCLASSIFIED EXCAVATION	C.Y.	51
8	TX-104-5.1	CONCRETE PAVEMENT REMOVAL	S.Y.	15
9	TX-104-5.2	SIDEWALK REMOVAL	S.Y.	41
10	TX-105-5.1	ASPHALT PAVEMENT REMOVAL	S.Y.	109
11	TX-162-5.1	BLOCK SODDING	S.Y.	355
12	TX-170-5.1	IRRIGATION RECONNECTION	L.S.	100%
13	TX-260-6.1	LIME	TON	11
14	TX-260-6.2	LIME-TREATED SUBGRADE (6" THICKNESS)	S.Y.	331
15	TX-360-5.1	CONCRETE PAVEMENT (10" THICKNESS)	S.Y.	306
16	TX-464-5.1	REINFORCED CONCRETE PIPE, 18", CLASS IV	L.F.	79
17	TX-465-5.1	4'X4' SINGLE GRATE PRE-FABRICATED INLET (COMPLETE)	EACH	2
18	TX-502-4.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING	L.S.	100%
19	TX-506-5.1	TEMPORARY EROSION CONTROL	L.S.	100%
20	TX-531-5.1	CONCRETE SIDEWALK (5')	S.Y.	30
21	TX-531-5.2	BARRIER FREE RAMP	EACH	2
22	TX-752-5.1	TREE REMOVAL	EACH	2

**BASE BID B  
PERIMETER ROAD RELOCATION**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	F-162-5.2	TEMPORARY CHAIN-LINK FENCE	L.F.	287
3	F-162-5.3	FENCE REMOVAL	L.F.	320
4	P-152-4.2	EMBANKMENT	C.Y.	843
5	P-152-4.3	UNSUITABLE EXCAVATION	C.Y.	150
6	TX-104-5.1	CONCRETE PAVEMENT REMOVAL	S.Y.	373
7	TX-105-5.1	ASPHALT PAVEMENT REMOVAL	S.Y.	2,054
8	TX-162-5.1	BLOCK SODDING	S.Y.	3,268
9	TX-247-6.1	FLEXIBLE BASE (DENSITY CONTROL) (COMPLETE IN PLACE) (TYPE D GRADE 1) (8')	S.Y.	404
10	TX-260-6.1	LIME	TON	72
11	TX-260-6.2	LIME-TREATED SUBGRADE (6" THICKNESS)	S.Y.	2,532
12	TX-360-5.1	CONCRETE PAVEMENT (10" THICKNESS)	S.Y.	2,170
13	TX-496-5.1	PIPE REMOVAL (LESS THAN 30" DIAMETER)	L.F.	40
14	TX-496-5.2	INLET REMOVAL	EACH	1
15	TX-506-5.1	TEMPORARY EROSION CONTROL LOCKOUT/TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES	L.S.	1
17	SS-301-5.1	EXISTING ELECTRICAL HANDHOLE, RELOCATED	EACH	2
18	SS-301-5.2	EXISTING CONCRETE ENCASED, ELECTRICAL JUNCTION STRUCTURE, REMOVED	EACH	2
19	SS-301-5.3	EXISTING BASE MOUNTED GUIDANCE SIGN, REMOVED	EACH	2
20	SS-301-5.4	EXISTING BASE MOUNTED EDGE LIGHT, REMOVED	EACH	4
21	SS-301-5.5	EXISTING L-861T BASE MOUNTED TAXIWAY EDGE LIGHT, RELOCATED	EACH	2
22	SS-310-5.1	TEMPORARY AIRFIELD LIGHTING	L.S.	1
23	L-108-5.1	TRENCHING FOR DIRECT-BURIED BARE COUNTERPOISE WIRE, 8-INCH MINIMUM DEPTH	L.F.	200
24	L-108-5.2	No. 8 AWG, 5kV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	L.F.	250
25	L-108-5.3	No. 6 AWG, SOLID, BARE COUNTERPOISE WIRE, INSTALLED IN TRENCH, ABOVE THE DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	L.F.	200
26	L-110-5.1	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY 2"C	L.F.	200
27	L-110-5.2	NON-ENCASED ELECTRICAL CONDUIT, 1-WAY 4"C	L.F.	825
28	L-110-5.3	CONCRETE ENCASED ELECTRICAL CONDUIT, 1-WAY 4"C	L.F.	100
29	L-125-5.1	L-858(L) BASE MOUNTED, SIZE 2, 4-MODULE GUIDANCE SIGN, INSTALLED	EACH	1

**BASE BID C**

**PAVEMENT REPAIRS AT AMERICAN FLYERS ROAD (NORTHBOUND)**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	SS-212-5.1	BIAXIAL GEOGRID	S.Y.	500
3	M-174-5.1	PCC PAVEMENT REPAIR (10") (CLASS P) - FULL SLAB	S.Y.	500
4	P-620-5.1	PAVEMENT MARKINGS, WHITE (TYPE I REFLECTIVE MEDIA)	S.F.	300
5	TX-275-6.1	CEMENT TREATED (NEW BASE) (6")	S.Y.	500

**PAVEMENT REPAIRS AT AMERICAN FLYERS APRON TANGO**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	M-174-5.1	PCC PAVEMENT REPAIR (10") (CLASS P) - FULL SLAB	S.Y.	48

**ADDITIVE ALTERNATE 1  
PAVEMENT REPAIRS AT AMERICAN FLYERS APRON ALPHA**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	SS-212-5.1	BIAXIAL GEOGRID	S.Y.	500
3	M-174-5.1	PCC PAVEMENT REPAIR (10") (CLASS P) - FULL SLAB	S.Y.	500
4	P-620-5.1	PAVEMENT MARKINGS, WHITE (TYPE I REFLECTIVE MEDIA)	S.F.	12
5	TX-275-6.1	CEMENT TREATED (NEW BASE) (6")	S.Y.	500

**ADDITIVE ALTERNATE 2**

**PAVEMENT REPAIRS AT TURBINE AIRCRAFT SERVICE ROAD**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	M-174-5.1	PCC PAVEMENT REPAIR (10") (CLASS P) - FULL SLAB	S.Y.	32

**PAVEMENT REPAIRS AT FLIGHTLINE APRON ENTRANCE**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	SS-212-5.1	BIAXIAL GEOGRID	S.Y.	767
3	M-174-5.2	PCC PAVEMENT REPAIR (12") (CLASS P) - FULL SLAB	S.Y.	767
4	P-620-5.1	PAVEMENT MARKINGS, WHITE (TYPE I REFLECTIVE MEDIA)	S.F.	160
5	TX-275-6.1	CEMENT TREATED (NEW BASE) (6")	S.Y.	767

**ADDITIVE ALTERNATE 3**

**PERIMETER ROAD REPAIR AT FLEXJET**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	M-174-5.1	PCC PAVEMENT REPAIR (10") (CLASS P) - FULL SLAB	S.Y.	96

**APRON REPAIR AT FLEXJET**

1	SS-120-3.1	SITE PREPARATION	L.S.	100%
2	M-174-5.2	PCC PAVEMENT REPAIR (12") (CLASS P) - FULL SLAB	S.Y.	48



REGISTRATION NO. F-5713

RECORD DRAWINGS 04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

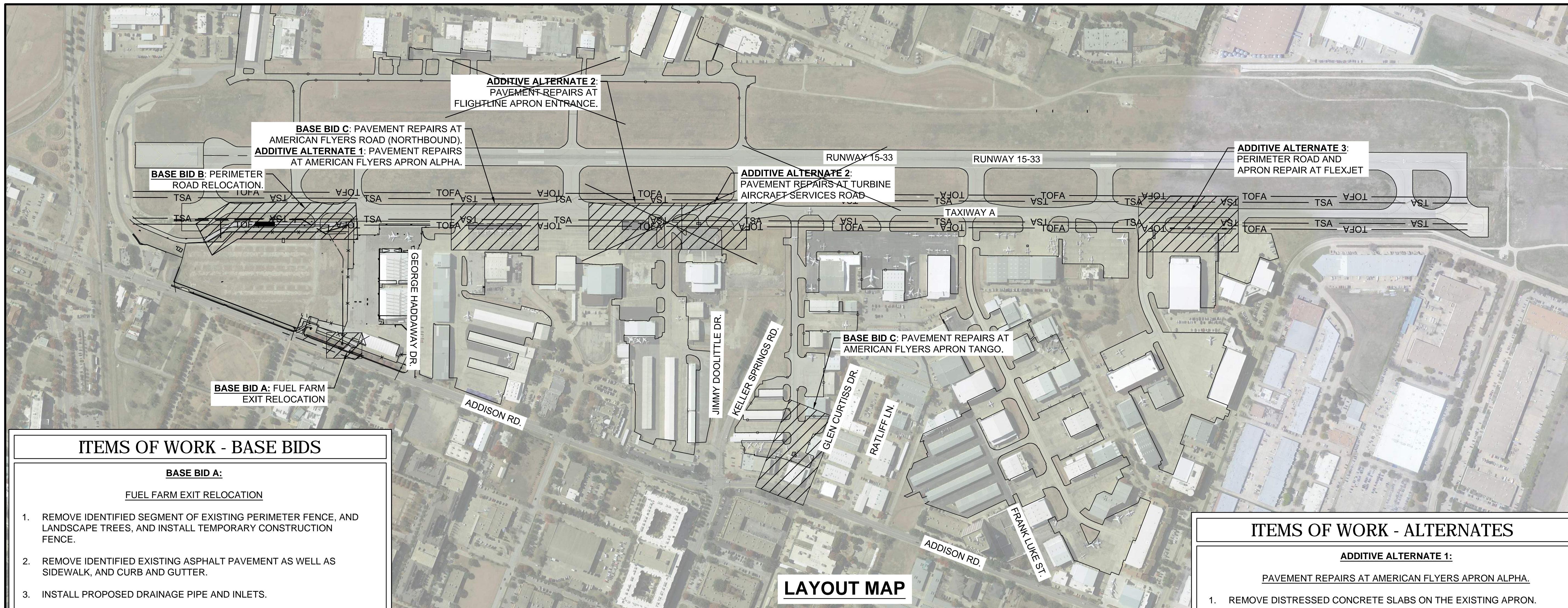
**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

OVERALL PROJECT LAYOUT

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DRAWN BY: JAH

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**G-104**  
SHEET NUMBER  
**4**



LAYOUT MAP

ITEMS OF WORK - BASE BIDS

BASE BID A:

FUEL FARM EXIT RELOCATION

- REMOVE IDENTIFIED SEGMENT OF EXISTING PERIMETER FENCE, AND LANDSCAPE TREES, AND INSTALL TEMPORARY CONSTRUCTION FENCE.
- REMOVE IDENTIFIED EXISTING ASPHALT PAVEMENT AS WELL AS SIDEWALK, AND CURB AND GUTTER.
- INSTALL PROPOSED DRAINAGE PIPE AND INLETS.
- CONSTRUCT THE PROPOSED FUEL FARM DRIVE PAVEMENT WITH THE FOLLOWING TYPICAL SECTION:
  - 10" TX-360 PORTLAND CEMENT CONCRETE PAVEMENT.
  - 6" TX-260 LIME-TREATED SUBGRADE.
- REMOVE TEMPORARY CONSTRUCTION FENCE AND INSTALL PERMANENT PERIMETER FENCE, GATE, AND BARRIER FREE RAMPS.

BASE BID B:

PERIMETER ROAD RELOCATION

- REMOVE THE EXISTING PERIMETER ROAD AND CONNECTOR PAVEMENT TO THE DELINEATED LIMITS AS WELL AS IDENTIFIED SIGNS AND LIGHTS.
- CONSTRUCT THE PROPOSED PERIMETER ROAD PAVEMENT WITH THE FOLLOWING TYPICAL SECTION:
  - 10" TX-360 PORTLAND CEMENT CONCRETE PAVEMENT.
  - 6" TX-260 LIME-TREATED SUBGRADE.
- EXCAVATE DRAINAGE DITCH, AND PLACE SOD.

BASE BID C:

PAVEMENT REPAIRS AT AMERICAN FLYERS ROAD (NORTHBOUND).

- REMOVE DISTRESSED CONCRETE SLABS ON THE EXISTING PERIMETER ROAD.
- REPLACE THE SLABS WITH THE FOLLOWING REPAIR TYPICAL SECTION:
  - 10" M-174 PORTLAND CEMENT CONCRETE PAVEMENT (CLASS P)
  - 6" TX-275 CEMENT TREATED BASE
- INSTALL THE PROPOSED ROADWAY EDGE MARKINGS.

PAVEMENT REPAIRS AT AMERICAN FLYERS APRON TANGO.

- REMOVE DISTRESSED PAVEMENT ON THE EXISTING APRON.
- PLACE THE FOLLOWING REPAIR TYPICAL SECTION:
  - 10" M-174 PORTLAND CEMENT CONCRETE PAVEMENT (CLASS P)

ITEMS OF WORK - ALTERNATES

ADDITIVE ALTERNATE 1:

PAVEMENT REPAIRS AT AMERICAN FLYERS APRON ALPHA.

- REMOVE DISTRESSED CONCRETE SLABS ON THE EXISTING APRON.
- REPLACE THE SLABS WITH THE FOLLOWING REPAIR TYPICAL SECTION:
  - 10" M-174 PORTLAND CEMENT CONCRETE PAVEMENT (CLASS P)
  - 6" TX-275 CEMENT TREATED BASE
- INSTALL THE PROPOSED ROADWAY EDGE MARKINGS.

ADDITIVE ALTERNATE 2:

PAVEMENT REPAIRS AT TURBINE AIRCRAFT SERVICES ROAD

- REMOVE DISTRESSED CONCRETE SLABS ON THE EXISTING PERIMETER ROAD.
- REPLACE THE SLABS WITH THE FOLLOWING REPAIR TYPICAL SECTION:
  - 10" M-174 PORTLAND CEMENT CONCRETE PAVEMENT (CLASS P)

PAVEMENT REPAIRS AT FLIGHTLINE APRON ENTRANCE.

- REMOVE DISTRESSED CONCRETE SLABS ON THE EXISTING APRON.
- REPLACE THE SLABS WITH THE FOLLOWING REPAIR TYPICAL SECTION:
  - 12" M-174 PORTLAND CEMENT CONCRETE PAVEMENT (CLASS P)
  - 6" TX-275 CEMENT TREATED BASE
- INSTALL THE PROPOSED ROADWAY EDGE MARKINGS.

ADDITIVE ALTERNATE 3:

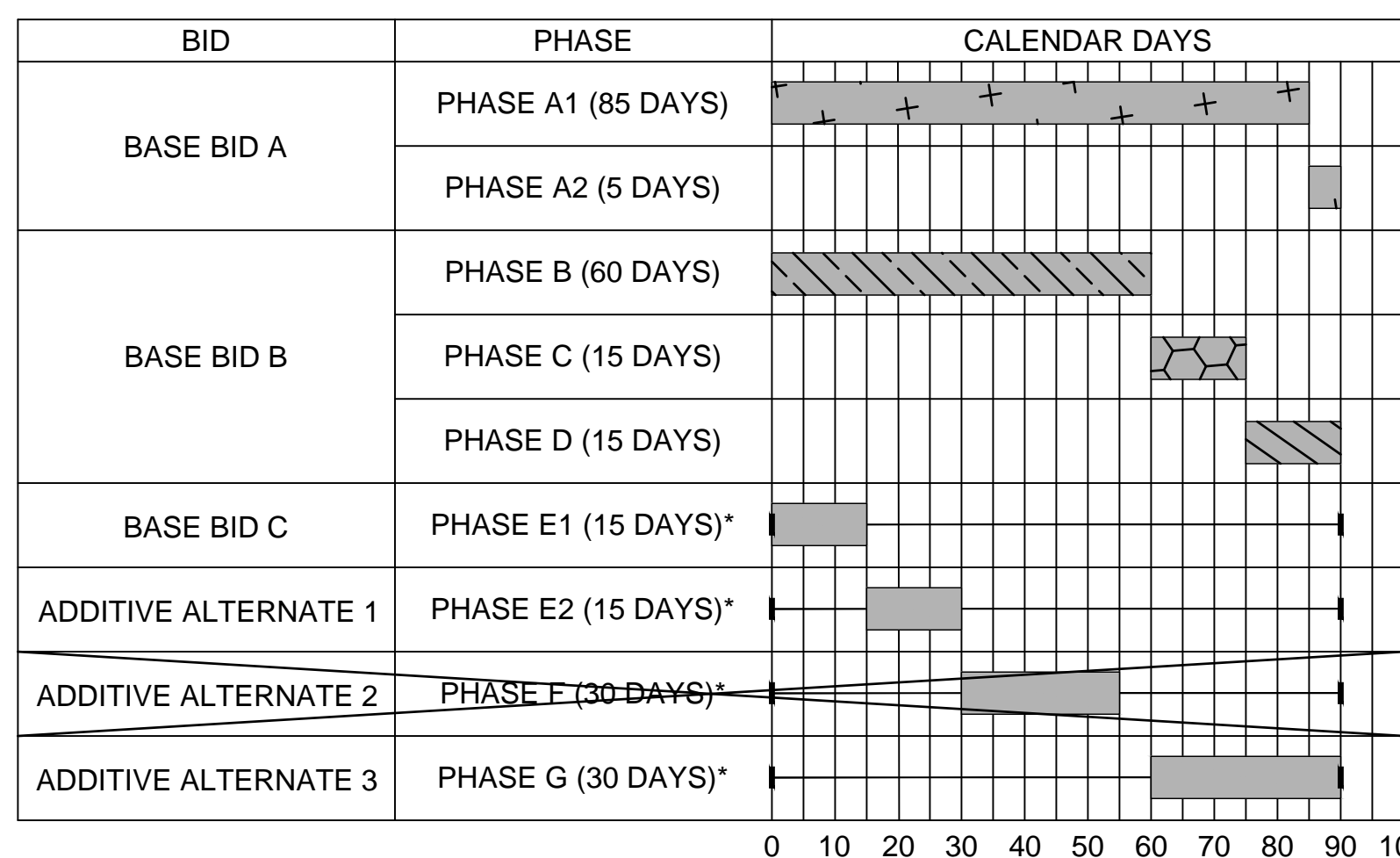
PERIMETER ROAD REPAIR AT FLEXJET

- REMOVE DISTRESSED CONCRETE SLABS ON THE EXISTING PERIMETER ROAD.
- REPLACE THE SLABS WITH THE FOLLOWING REPAIR TYPICAL SECTION:
  - 10" M-174 PORTLAND CEMENT CONCRETE PAVEMENT (CLASS P)

APRON REPAIR AT FLEXJET

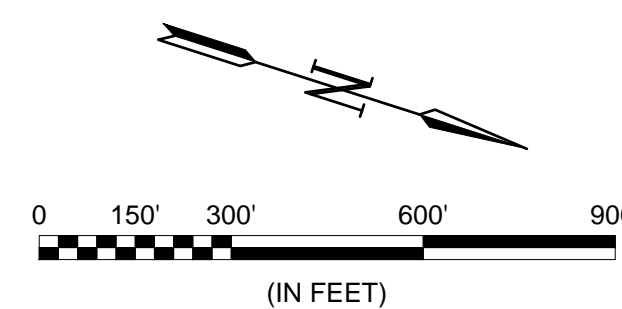
- REMOVE DISTRESSED CONCRETE SLABS ON THE EXISTING APRON.
- REPLACE THE SLABS WITH THE FOLLOWING REPAIR TYPICAL SECTION:
  - 12" M-174 PORTLAND CEMENT CONCRETE PAVEMENT (CLASS P)

CONTRACT TIME



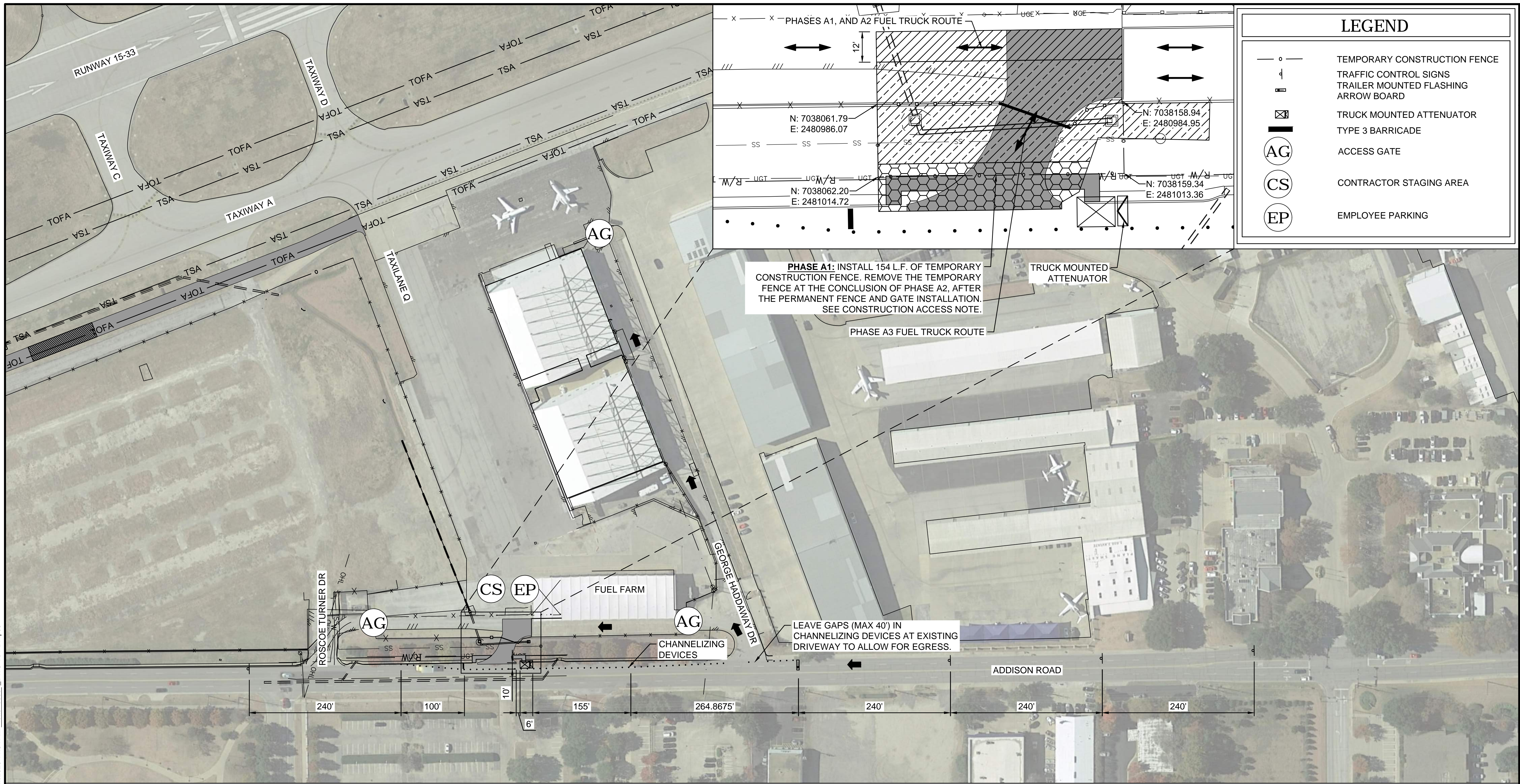
\*PHASING DURATION NOTE:

PHASES E1, E2, F, AND G CAN OCCUR AT ANY TIME DURING THE CONSTRUCTION PROJECT. ONCE STARTED, THE CONSTRUCTION PHASE MUST BE COMPLETED WITHIN THE ALLOCATED TIME WITHOUT INTERRUPTION OR TIME SUSPENSION UNLESS OTHERWISE APPROVED.



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 Last plotted by: Jessop, Alex M., Plot Style: AECmonochrome.ctb, Plot Scale: 1:1, Plot Date: 4/27/2020 11:34 AM, Plotter used: DWG To PDF.pc3



REGISTRATION NO. F-5713

RECORD DRAWINGS  
 04/27/2020

REV.	DATE	DESCRIPTION

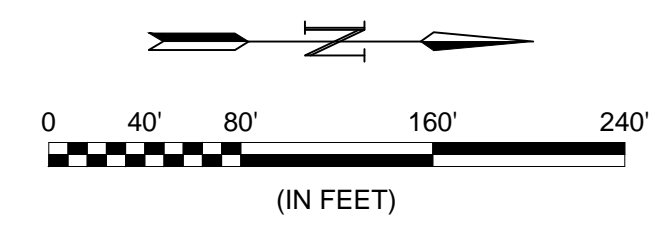
ADDISON AIRPORT  
 ADDISON, TEXAS  
 FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

CONSTRUCTION SAFETY & PHASING PLAN - FUEL FARM EXIT RELOCATION

JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: JAH  
 DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**G-201**  
 SHEET NUMBER  
**5**



**CONTRACT TIME**

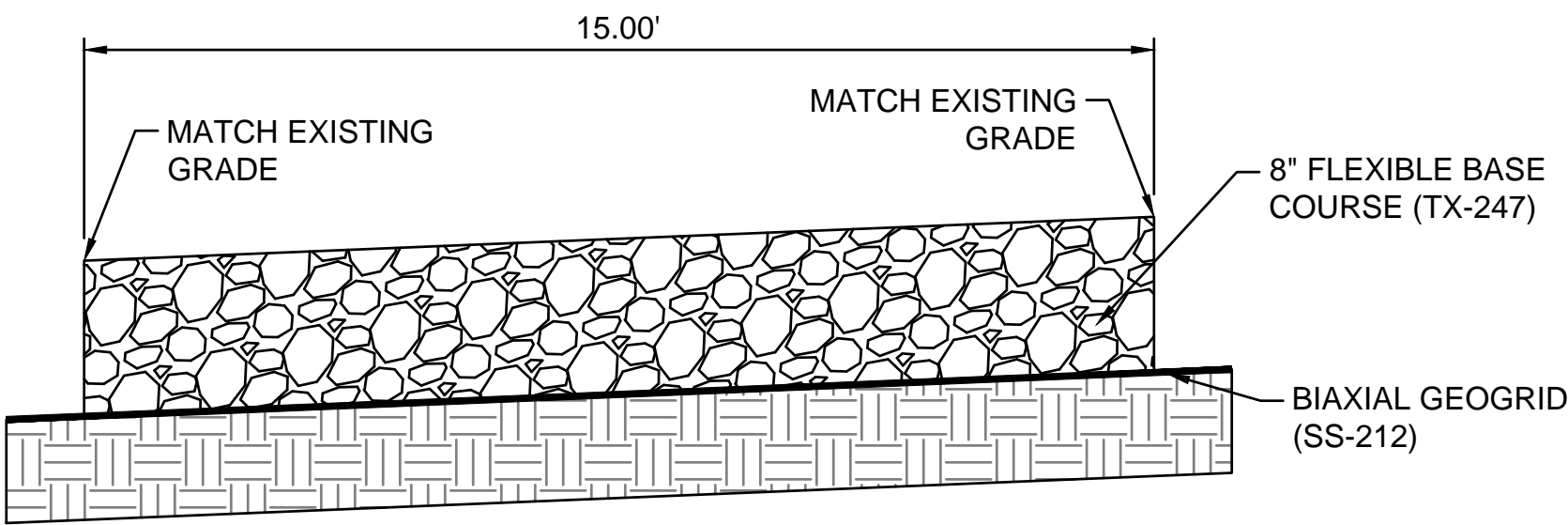
BASE BID A	PHASE	CALENDAR DAYS											
		0	10	20	30	40	50	60	70	80	90	100	
	PHASE A1 (60 DAYS)	[Hatched pattern]											
	PHASE A2 (15 DAYS)							[Hexagonal pattern]					
	PHASE A3 (15 DAYS)										[Hatched pattern]		

**TRAFFIC CONTROL NOTE**

- THIS TRAFFIC CONTROL PLAN MUST BE APPROVED BY THE TOWN OF ADDISON AND IMPLEMENTED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN THE RIGHT OF WAY.
- THIS TRAFFIC CONTROL PLAN CAN ONLY BE IMPLEMENTED DURING OFF PEAK HOURS: **9:00 AM TO 6:00 PM.**
- SEE BC(X)-14 FOR TRAFFIC CONTROL NOTES AND DETAILS.
- SEE TCP (2-5)-18 FOR FURTHER TRAFFIC CONTROL INFORMATION.

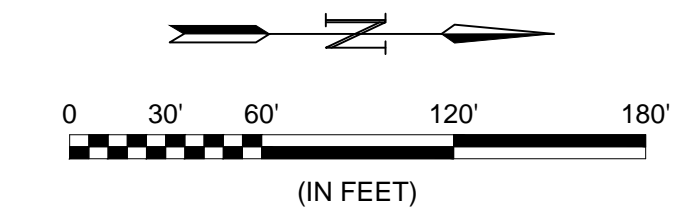
**CONSTRUCTION ACCESS NOTE:**

- A CONTRACTOR'S REPRESENTATIVE SHALL BE ON SITE AT ALL TIMES WHEN THE TEMPORARY FENCE AND/OR PROPOSED GATE DOES NOT PROVIDE A SECURE PERIMETER. ANY GATE OPENING SHALL BE CLOSED AND SECURE WHEN WORKERS ARE NOT PRESENT



1 TEMPORARY GRAVEL ROAD  
G-202 SCALE: NONE

- CONSTRUCTION PHASING NOTES:**
1. CONTRACTOR SHALL STAKE THE TAXIWAY A SAFETY AREA BEFORE ANY CONSTRUCTION ACTIVITIES.
  2. ALL WORK INSIDE THE TAXIWAY SAFETY AREA SHALL OCCUR DURING PHASE B2. PHASE B2 SHALL ONLY TAKE PLACE DURING NIGHTTIME AND WEEKEND CLOSURE.
  3. CONTRACTOR SHALL INSTALL BARRICADES, JUMPER CONNECTION, AND LIGHT FIXTURE COVERS PRIOR TO THE START OF THE CONSTRUCTION PHASE B2.



**LEGEND**

- PROPOSED PCC PAVEMENT
- TEMPORARY GRAVEL ROAD
- CONTRACTOR ROUTE
- AIRCRAFT ROUTE
- LOW PROFILE BARRICADES
- ACCESS GATE
- CONTRACTOR STAGING AREA
- EMPLOYEE PARKING



REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION

ADDISON AIRPORT  
ADDISON, TEXAS

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

CONSTRUCTION SAFETY & PHASING PLAN - PERIMETER ROAD RELOCATION

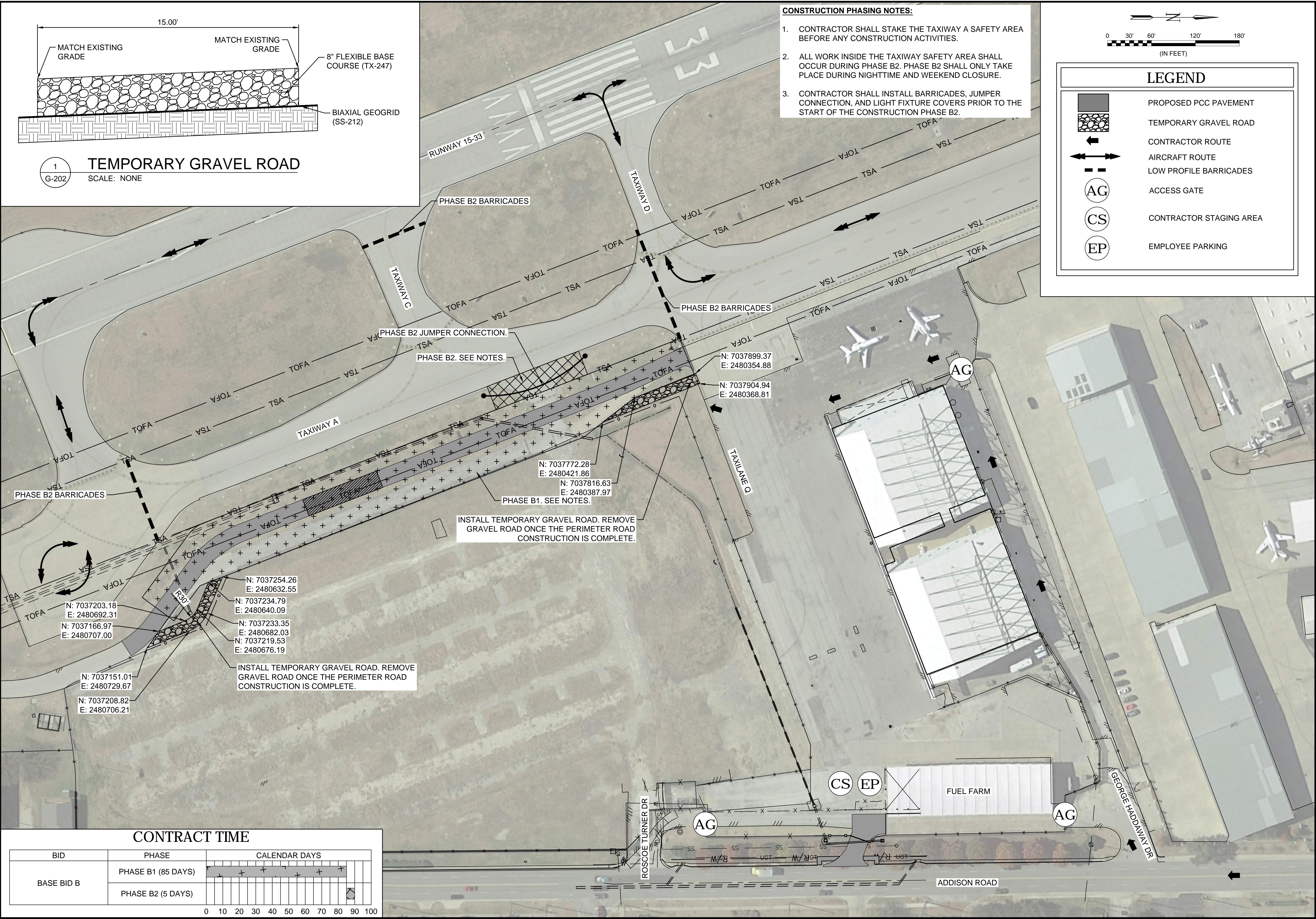
JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

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DRAWING NUMBER  
**G-202**

SHEET NUMBER  
**6**

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 Last plotted by: Jessop, Alex M., Plot Style: AECmonochrome.ctb, Plot Scale: 1:1, Plot Date: 4/27/2020 11:35 AM, Plotter used: DWG To PDF.pc3



INSTALL TEMPORARY GRAVEL ROAD. REMOVE GRAVEL ROAD ONCE THE PERIMETER ROAD CONSTRUCTION IS COMPLETE.

INSTALL TEMPORARY GRAVEL ROAD. REMOVE GRAVEL ROAD ONCE THE PERIMETER ROAD CONSTRUCTION IS COMPLETE.

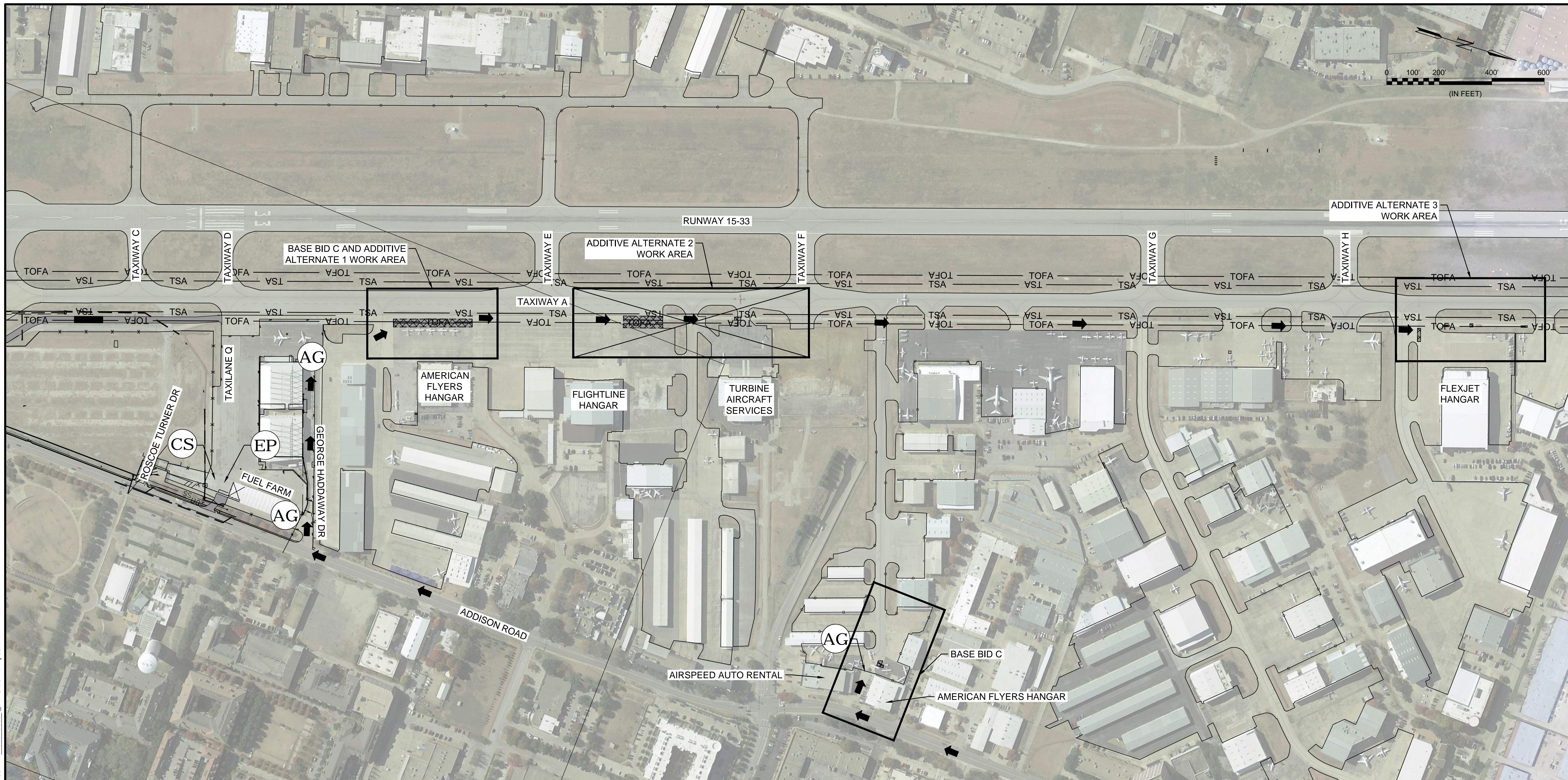
**CONTRACT TIME**

BID	PHASE	CALENDAR DAYS
BASE BID B	PHASE B1 (85 DAYS)	0 10 20 30 40 50 60 70 80 90 100
	PHASE B2 (5 DAYS)	0 10 20 30 40 50 60 70 80 90 100



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020



REV.	DATE	DESCRIPTION



ADDISON AIRPORT  
ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

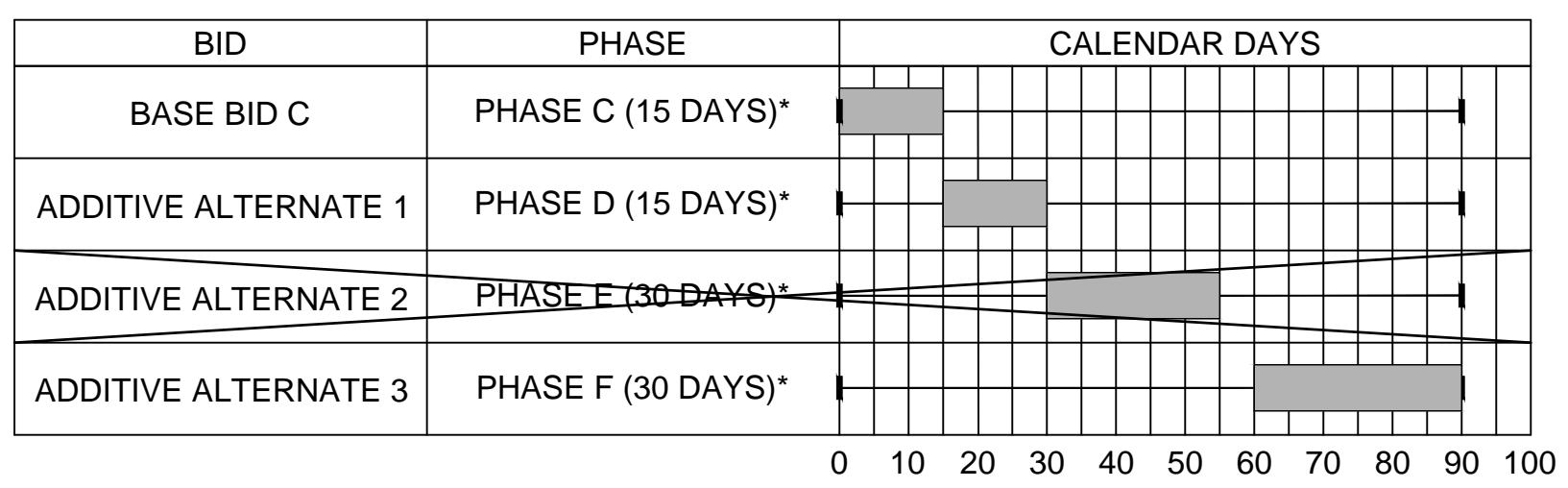
CONSTRUCTION  
SAFETY & PHASING  
PLAN - PAVEMENT  
REPAIRS

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON  
ORIGINAL DRAWING  
0 1" 1"  
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DRAWING NUMBER  
**G-203**  
SHEET NUMBER  
**7**

**CONTRACT TIME**

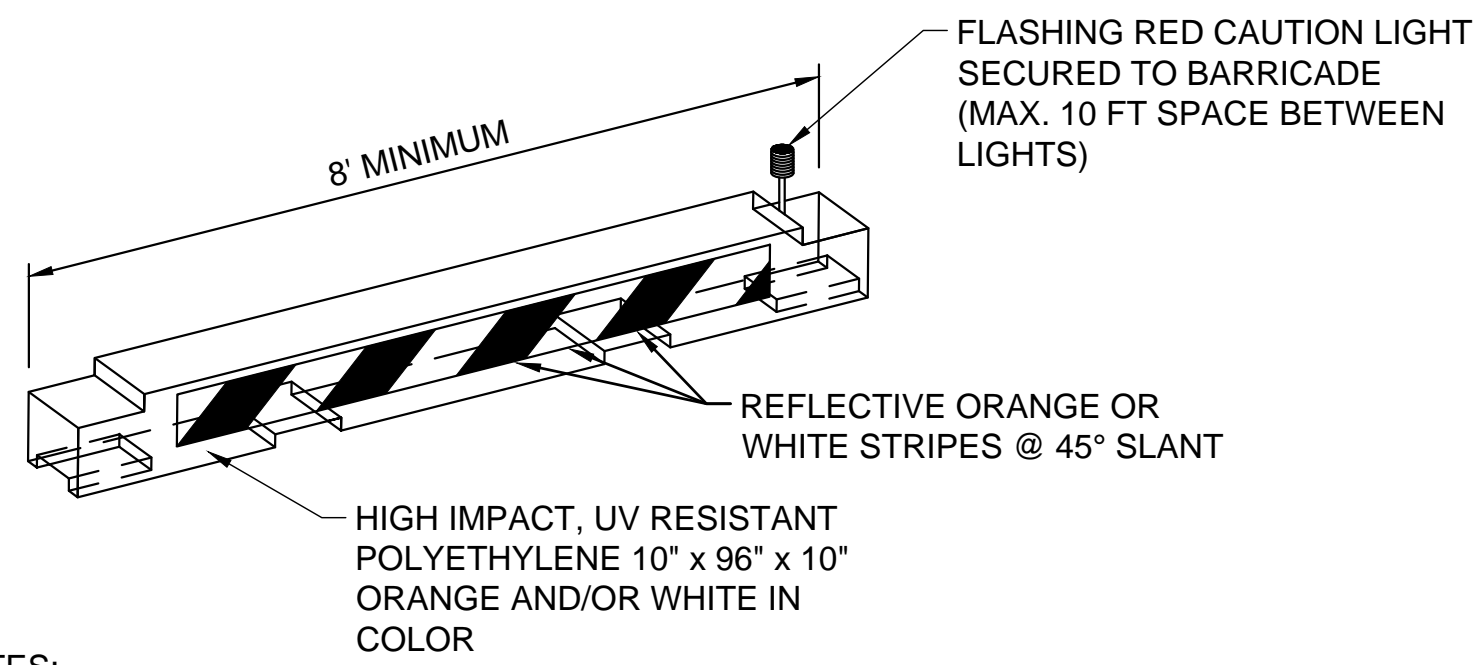


**\*PHASING DURATION NOTE:**  
PHASES C, D, E, AND F CAN OCCUR AT ANY TIME DURING THE CONSTRUCTION PROJECT. ONCE STARTED, THE CONSTRUCTION PHASE MUST BE COMPLETED WITHIN THE ALLOCATED TIME WITHOUT INTERRUPTION OR TIME SUSPENSION UNLESS OTHERWISE APPROVED.

**LEGEND**

- PROPOSED PCC PAVEMENT
- CONTRACTOR ROUTE
- AIRCRAFT ROUTE
- LOW PROFILE BARRICADES
- ACCESS GATE
- CONTRACTOR STAGING AREA
- EMPLOYEE PARKING

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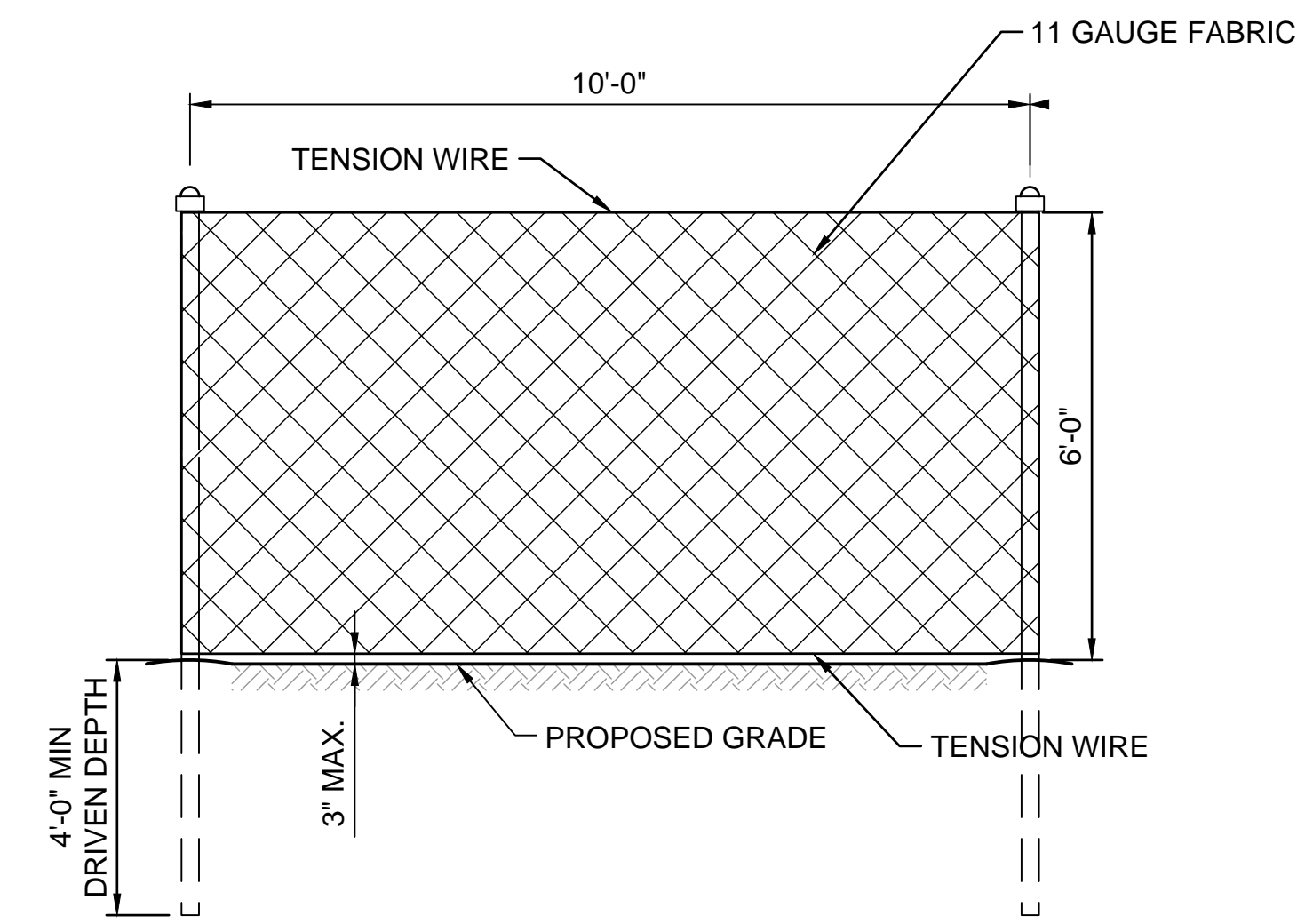
**NOTES:**

1. BARRICADES SHALL MEET THE REQUIREMENTS OF THE CURRENT FAA ADVISORY CIRCULAR 150/5370-2 AND BE APPROVED BY THE ENGINEER.
2. CONTRACTOR SHALL WEIGHT BARRICADE TO PREVENT DISPLACEMENT. THE METHOD SHALL BE APPROVED BY THE ENGINEER.
3. CONTRACTOR SHALL PROVIDE BARRICADES WITH WORKING LIGHTS, VIA BATTER OR OTHER MEASURE. OAR WILL MONITOR CONDITION OF LIGHTS DAILY. CONTRACTOR SHALL ENSURE LIGHTS ARE PROPERLY WORKING BEFORE LEAVING THE SITE EACH DAY.

**LOW PROFILE AIRCRAFT BARRICADE (MOVEMENT AREAS)**

1  
G-204

SCALE: NONE



2  
G-204

**TEMPORARY CONSTRUCTION FENCE**

SCALE: NONE

**NOTES:**

1. FENCE POSTS TO BE INSTALLED IN NATURAL GROUND SHALL BE DRIVEN.
2. ELECTRICAL GROUND RODS SHALL BE CONSTRUCTED AS GIVEN IN ITEM SS-300 OF THE SPECIFICATIONS.

File: I:\2019\19a11000 - ads on call 2019\Drawings\work order #11\RECRD\MDS\WO1-G202-CD.dwg Last Save: 4/27/2020 7:57 AM Last saved by: ANJLessep  
Last plotted by: Lessep, Alex M. Plot Style: AECmonochrome.ctb Plot Scale: 1:1 Plot Date: 4/27/2020 11:35 AM Plotter User: DWG To PDF.pc3



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY



ADDISON AIRPORT  
ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

CONSTRUCTION  
SAFETY & PHASING  
DETAILS

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

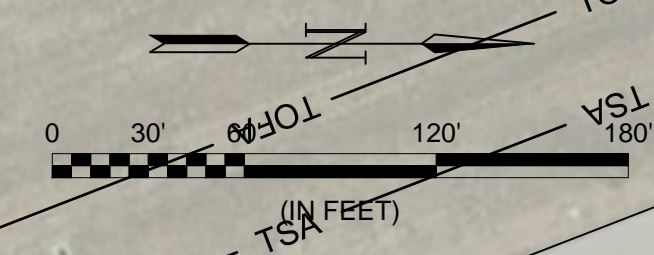
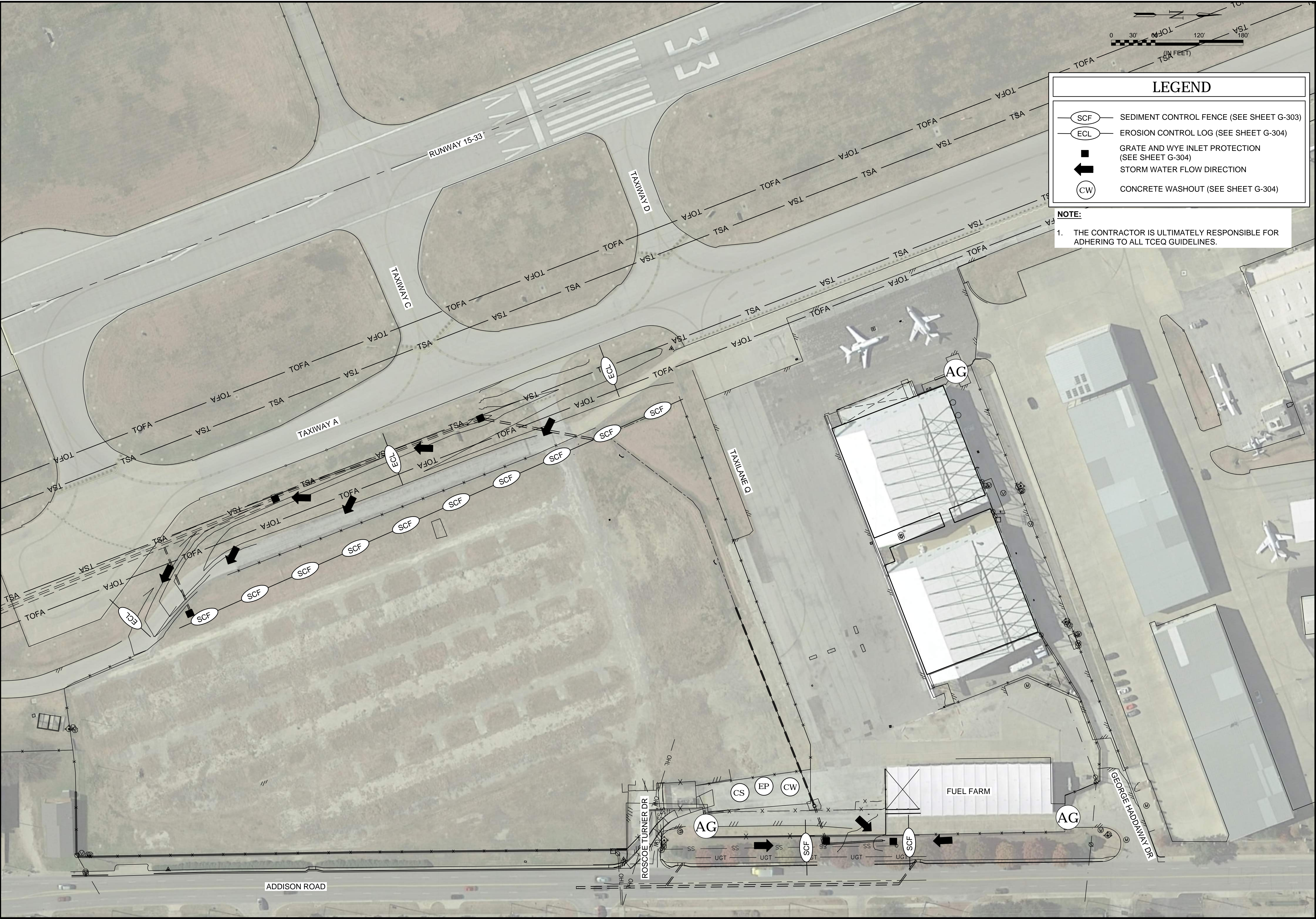
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SCALES ACCORDINGLY.

DRAWING NUMBER  
**G-204**

SHEET  
NUMBER **8**



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 Last plotted by: Lessop, Alex M. Plot Style: AECmonochrome.ctb Plot Scale: 1:1 Plot Date: 4/27/2020 11:35 AM Plotter used: DWG To PDF.pc3



### LEGEND

- SCF SEDIMENT CONTROL FENCE (SEE SHEET G-303)
- ECL EROSION CONTROL LOG (SEE SHEET G-304)
- GRATE AND WYE INLET PROTECTION (SEE SHEET G-304)
- STORM WATER FLOW DIRECTION
- CW CONCRETE WASHOUT (SEE SHEET G-304)

**NOTE:**  
 1. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ADHERING TO ALL TCEQ GUIDELINES.



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION

**ADDISON AIRPORT**  
ADDISON, TEXAS

**ADDISON AIRPORT**

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

SWPPP LAYOUT PLAN

JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: JAH  
 DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
 0" = 11'  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**G-301**

SHEET NUMBER  
**9**



REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

ADDISON AIRPORT

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

SWPPP NOTES

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER G-302

SHEET NUMBER 10

Site Description

PROJECT LIMITS: Addison Airport, Addison, TX

PROJECT DESCRIPTION: Construction of new perimeter road south of Taxiway Alpha and new fuel farm driveway that will intersect with Addison Road.

MAJOR SOIL DISTURBING ACTIVITIES: Demolition will disturb the entire area of the South East Quadrant. Grading will be performed to allow for surface drainage before the developer takes over the area for construction.

Demolition of the existing perimeter road will disturb the area East of Taxiway Alpha. Grading will be performed to allow for adequate surface drainage from the new perimeter road and fuel farm driveway.

TOTAL PROJECT AREA: 2.53 ACRES

TOTAL AREA TO BE DISTURBED: 1.88 ACRES

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.3

EXISTING CONDITON OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: The existing cover is clayey with Bermuda grass and is in fair condition. Existing vegetative cover is at 85%

NAME OF RECEIVING WATERS: The Addison airport is in the Hutton Branch watershed and the receiving water is Elm Fork Trinity River.

SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- PERMANENT PLANTING, SODDING, OR SEEDING
- MULCHING

- SOIL RETENTION BLANKET
- BUFFER ZONES
- PRESERVATION OF NATURAL RESOURCES

OTHER: \_\_\_\_\_

STRUCTURAL PRACTICES:

- SILT FENCES
- HAY BALES
- ROCK BERMS
- DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- DIVERSION DIKE AND SWALE COMBINATIONS
- PIPE SLOPE DRAINS
- PAVED FLUMES
- ROCK BEDDING AT CONSTRUCTION EXIT
- TIMBER MATTING AT CONSTRUCTION EXIT
- CHANNEL LINERS
- SEDIMENT TRAPS
- SEDIMENT BASINS
- STORM INLET SEDIMENT TRAP
- STONE OUTLET STRUCTURES
- CURBS AND GUTTERS
- STORM SEWERS
- VELOCITY CONTROL DEVICES

OTHER: \_\_\_\_\_

NARRATIVE – SEQUENCE OF CONTRUSTION (STORM WATER MANAGEMENT) ACTIVITIES: Erosion and sediment controls shall be installed at the beginning of the project. Once installed, these devices will be maintained during the duration of the project. Erosion and sediment controls will be removed at the project's completion.

STORM WATER MANAGEMENT: Existing storm sewers and drainage ditches will be used to remove water from the site. Storm water from the site will flow sediment trap to filter sediment from storm water runoff before it leaves the site.

OTHER EROSION AND SEDIMENT CONTROLS

MAINTENANCE: \_\_\_\_\_

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE DONE AT THE EARLIEST DATE POSSIBLE, BUT NO LATER THAN 7 CALENDAR DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT DAMAGE FROM HEAVY EQUIPMENT. THE AREAS ADJACENT TO CREEKS AND DRAINAGE WAYS SHALL HAVE PRIORITY FOLLOWED BY DEVICES USED FOR SILT REDUCTION IN THE DISTURBED AREAS.

INSPECTION:

AN INSPECTION WILL BE PERFORMED BY A RESIDENT PROJECT REPRESENTATIVE EVERY 7 DAYS AN INSPECTION REPORT WILL BE MADE PER EACH INSPECTION. BASED ON THE INSPECTION RESULTS, THE CONTROLS SHALL BE REVISED PER THE INSPECTION REPORT.

WASTE MATERIALS:

ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL STATE AND LOCAL SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION AT AN APPROVED LANDFILL. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING):

AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINTS ACIDS FOR CLEANING MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION, AND CONCRETE CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, THE SPILL COORDINATOR SHOULD BE CONTACTED IMMEDIATELY.

SANITARY WASTE:

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION.

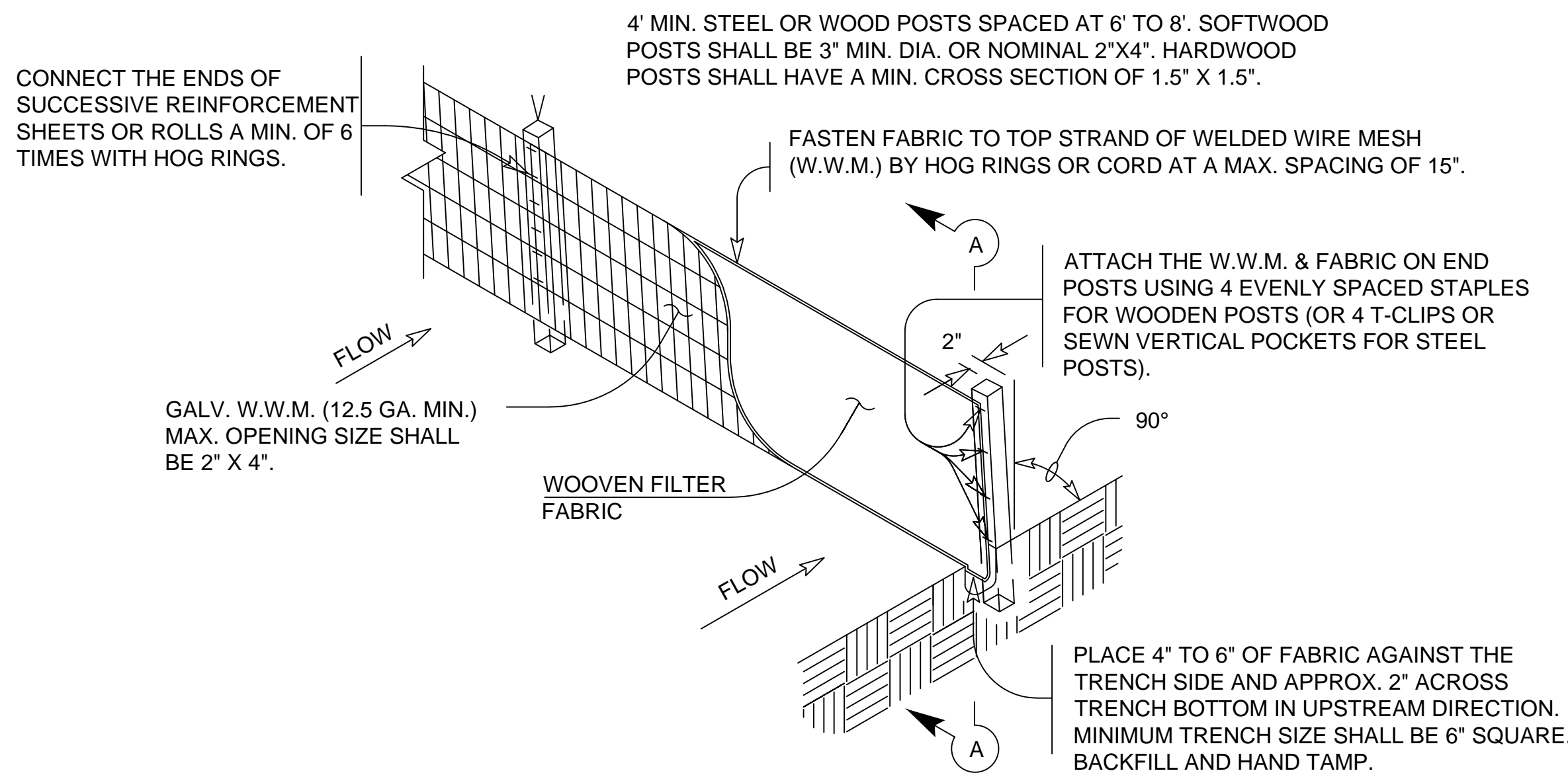
OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN
- EXCESS DIRT ON ROAD REMOVED DAILY
- STABILIZED CONSTRUCTION ENTRANCE

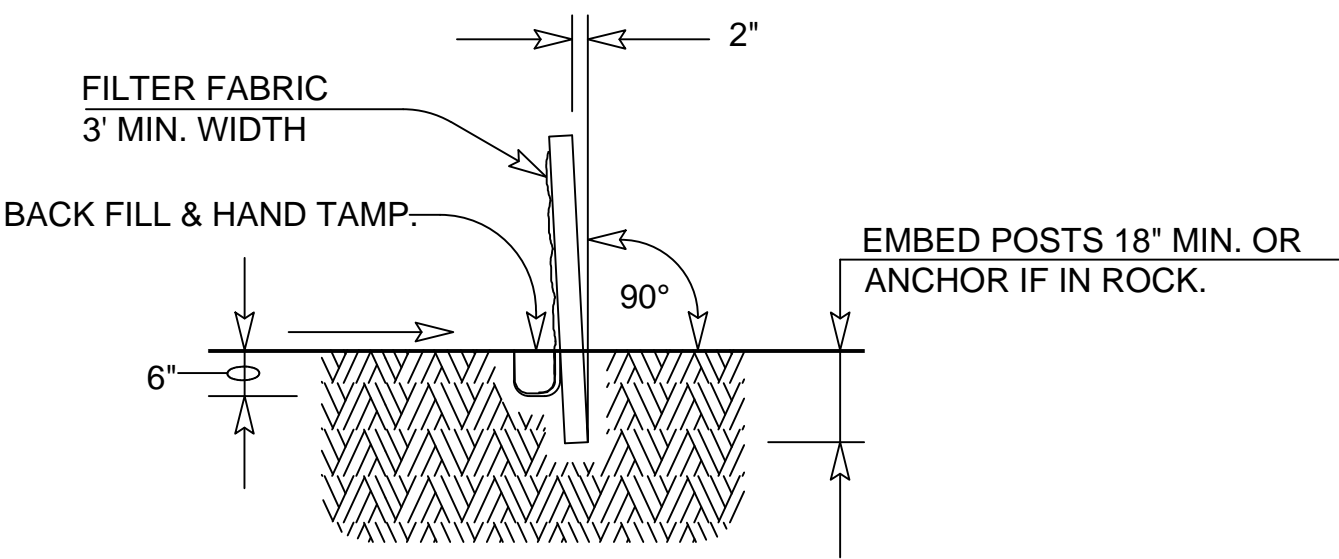
OTHER:

REMARKS:

DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLANDS, WATERBODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEARED AS SOON AS PRACTICAL OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSE WORK, PILING, DEBRIS OR OTHER OBSTRUCTIONS PACED DURING CONSTRUCTION OPERATION THAT ARE NOT A PART OF THE FINISHED WORK.



1  
G-303  
**SEDIMENT CONTROL FENCE**  
SCALE: NONE



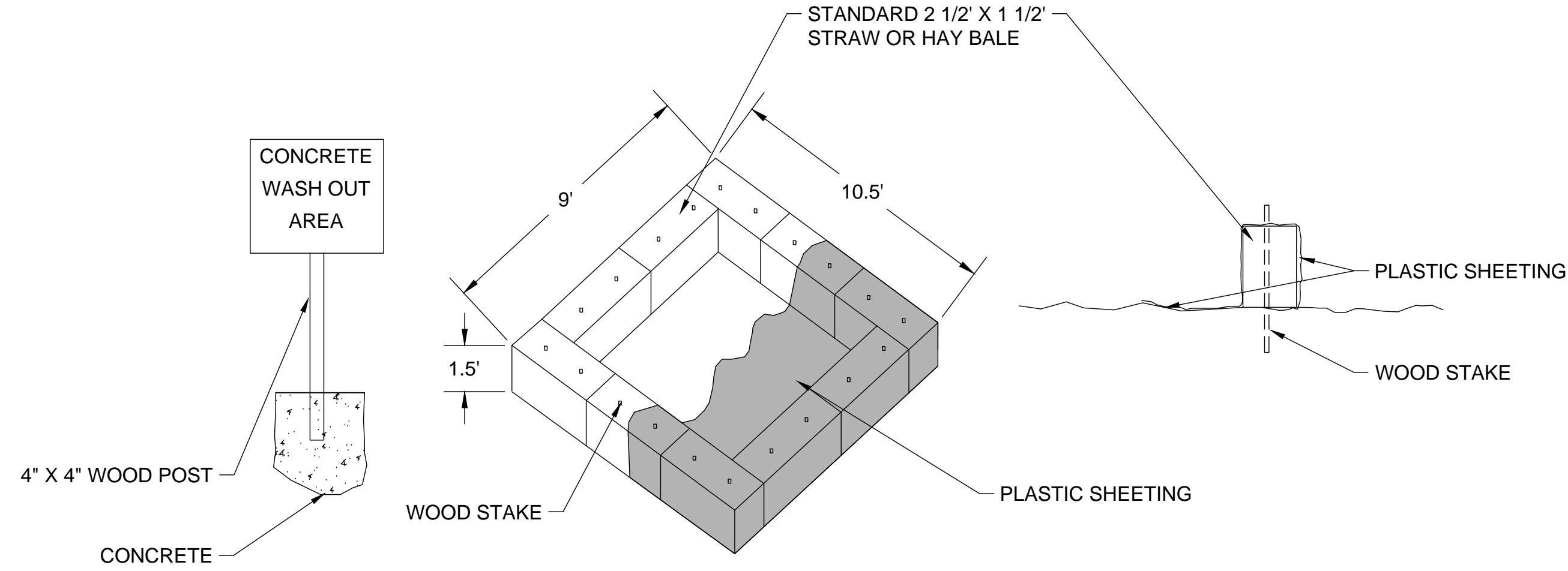
1A  
G-303  
**SECTION A-A**  
SCALE: NONE

**EROSION CONTROL NOTES:**

1. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSTALLATION OF THESE DEVICES AS SHOWN ON THIS SHEET, AND DESCRIBED IN THE SPECIFICATIONS. ADDITIONAL EROSION CONTROL AND/OR ADJUSTMENT OF LOCATIONS FOR EROSION CONTROL MAY BE REQUIRED.
2. SILT FENCES, DITCH CHEXX, INLET FILTERS AND INLET FILTER BARRIERS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS AND ACCORDING TO THESE PLANS.
3. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES ALREADY IN PLACE. CONTRACTOR SHALL REMOVE AND REPLACE EROSION CONTROL AS NEEDED FOR CONSTRUCTION OR ACCESS. ALL EROSION CONTROL MUST BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO USE WHATEVER MEANS NECESSARY TO CONTROL AND LIMIT SILT AND SEDIMENT LEAVING THE SITE. SPECIFICALLY, THE CONTRACTOR SHALL PROTECT ALL TAXIWAYS, TAXILANES, PARKING AREAS, STREAMS, CREEKS, STORM DRAIN SYSTEMS AND INLETS FROM EROSION DEPOSITS.

**GENERAL NOTES:**

1. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR "ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL".
3. SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDESLOPES OF 6:1 OR FLATTER.
4. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
5. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO EXISTING GROUND.
6. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
7. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT & SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
8. SACK GABIONS SHOULD BE STAKED DOWN WITH 3/4" DIA. REBAR STAKES.
9. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
10. THE GUIDELINES SHOWN HERE ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.



2  
G-303  
**CONCRETE WASH OUT AREA**  
SCALE: NONE

**NOTES:**

1. PLASTIC MUST BE 10 MIL THICK OR TWO 6 MIL PIECES OVERLAPPED.
2. ONCE CONCRETE DRIES, IT CAN BE ROLLED UP IN THE PLASTIC.
3. HAY BALES MUST BE STAKED WITH STAKED HOLDING PLASTIC LINER IN PLACE AND COVER ALL BALES. WOODEN STAKES MUST BE 3 FEET IN LENGTH.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A WASH OUT AREA.
5. THE CONCRETE TRUCK DRIVER AND CONTRACTOR CAN BE CITED FOR WASH OUTS CONDUCTED IN A NON-DESIGNATED AREA.
6. AFTER THE DESIGNATED AREA FOR THE WASH OUT IS DETERMINED, SIGNAGE INDICATING CONCRETE WASH OUT AREA SHALL BE INSTALLED THAT IS VISIBLE TO EXITING VEHICLES. THE SIGN SHALL BE PLACED ON A WOOD POST AND ANCHORED IN CONCRETE.



REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

ADDISON AIRPORT  
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

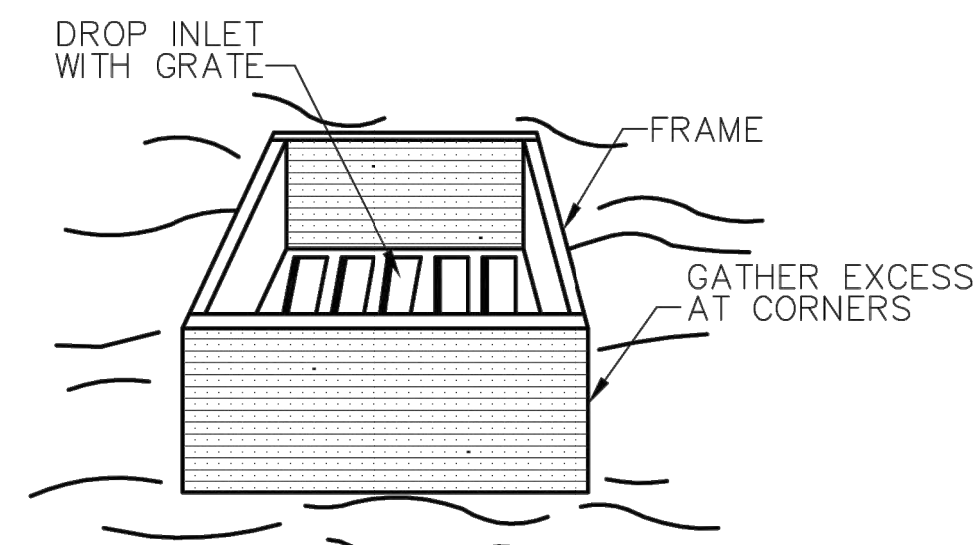
SWPPP DETAILS I

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

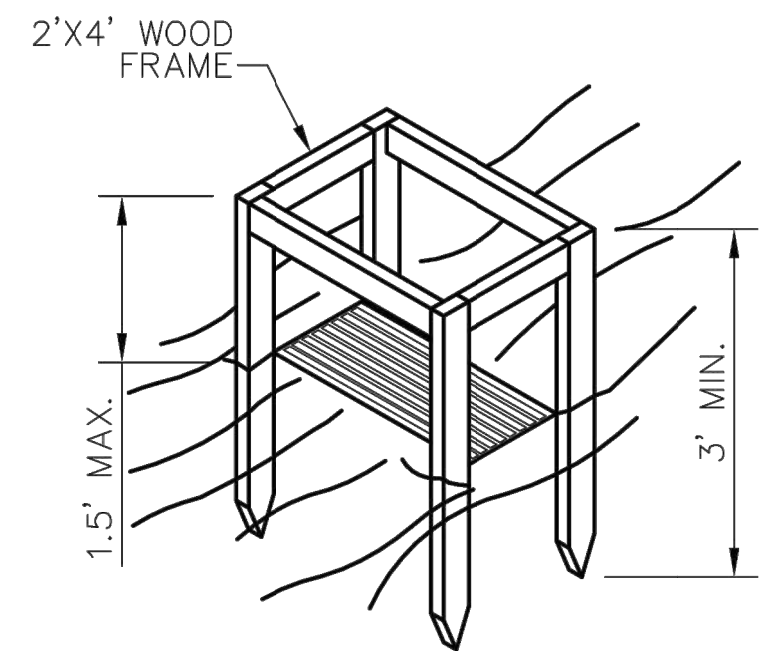
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**G-303**

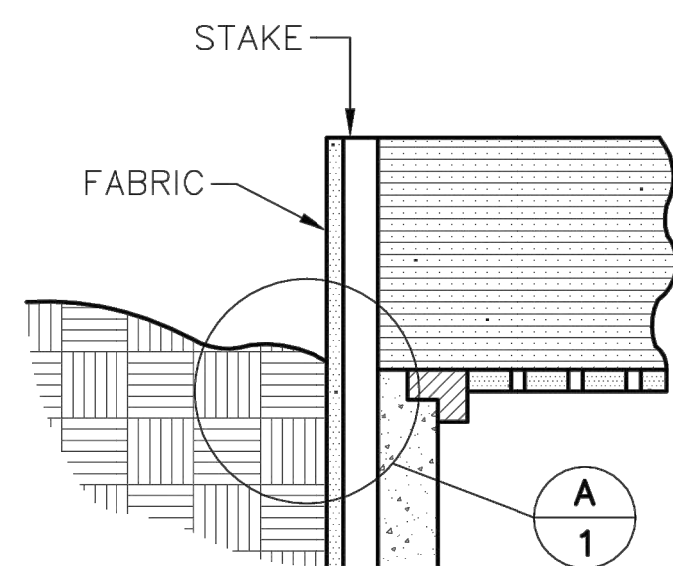
SHEET NUMBER  
**11**



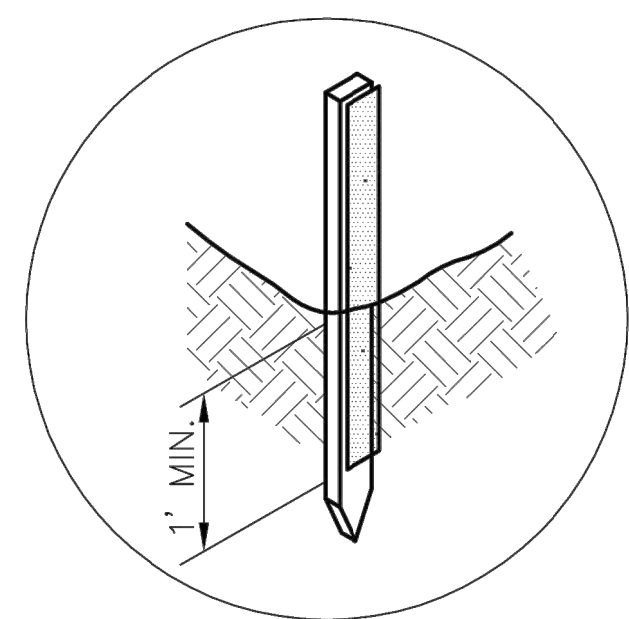
PERSPECTIVE VIEW



PERSPECTIVE VIEW



ELEVATION OR STAKE AND FABRIC ORIENTATION



DETAIL 'A'

**SPECIFIC APPLICATION**  
 THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVER-LAND FLOWS (NOT TO EXCEED 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREETS OR HIGHWAY MEDIANS.



PUBLIC WORKS DEPARTMENT

GRATE AND WYE INLET PROTECTION

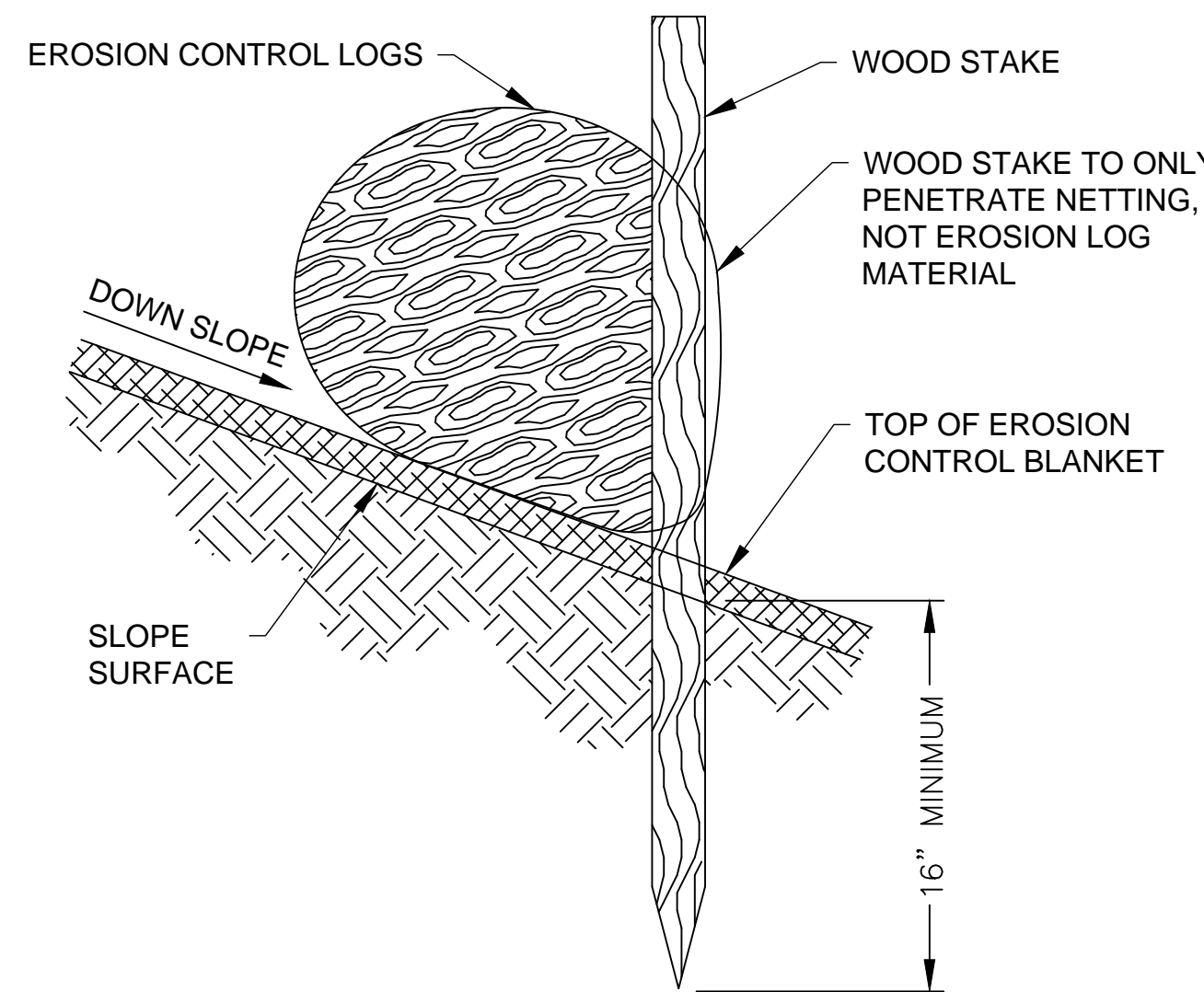
STANDARD CONSTRUCTION DETAILS EROSION CONTROL

DATE: AUGUST, 2010    REV DATE: -    SHEET: SD-EC04

1  
G-304

GRATE AND WYE INLET PROTECTION

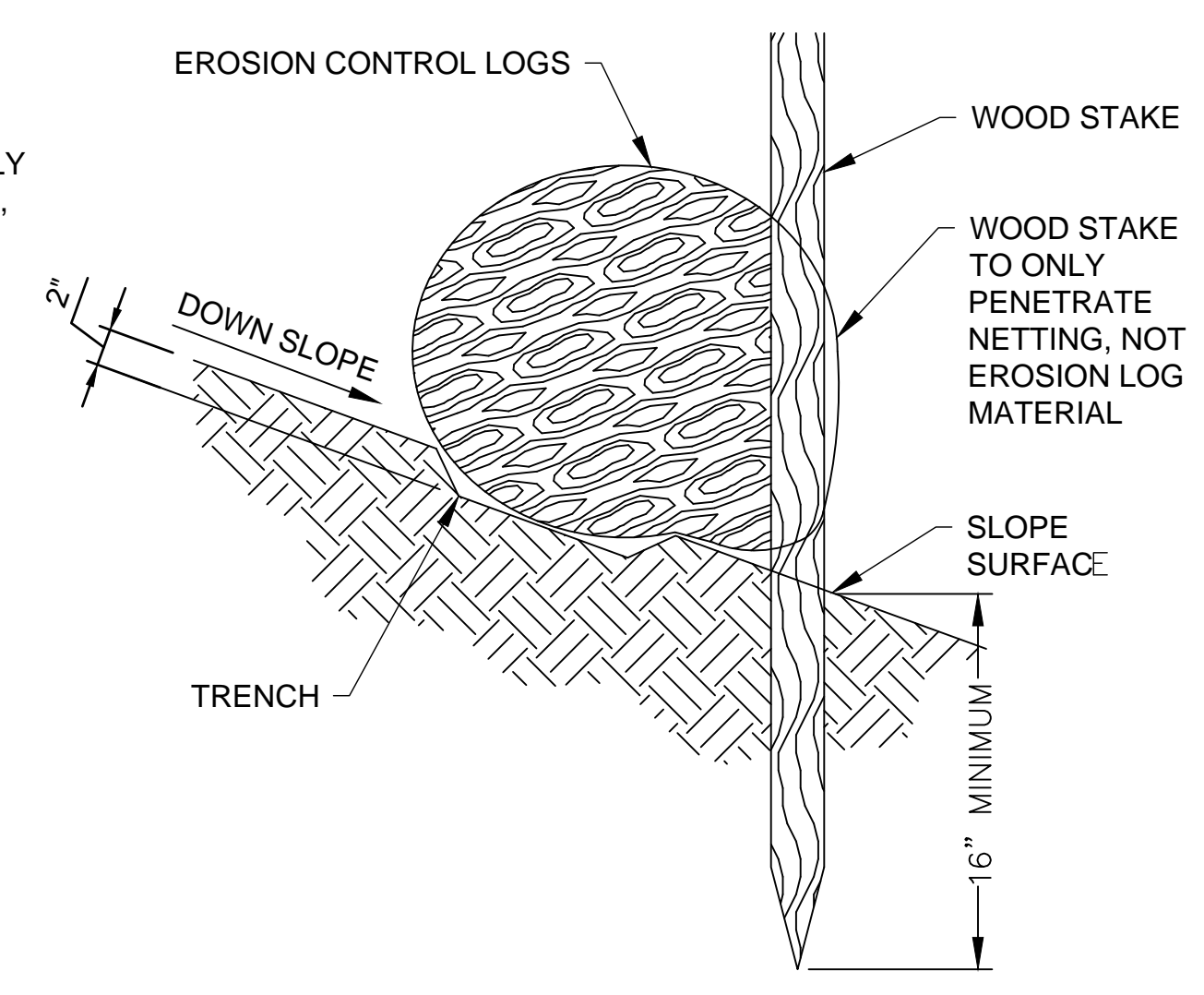
SCALE: NONE



2A  
G-304

INSTALLATION WITH BLANKET

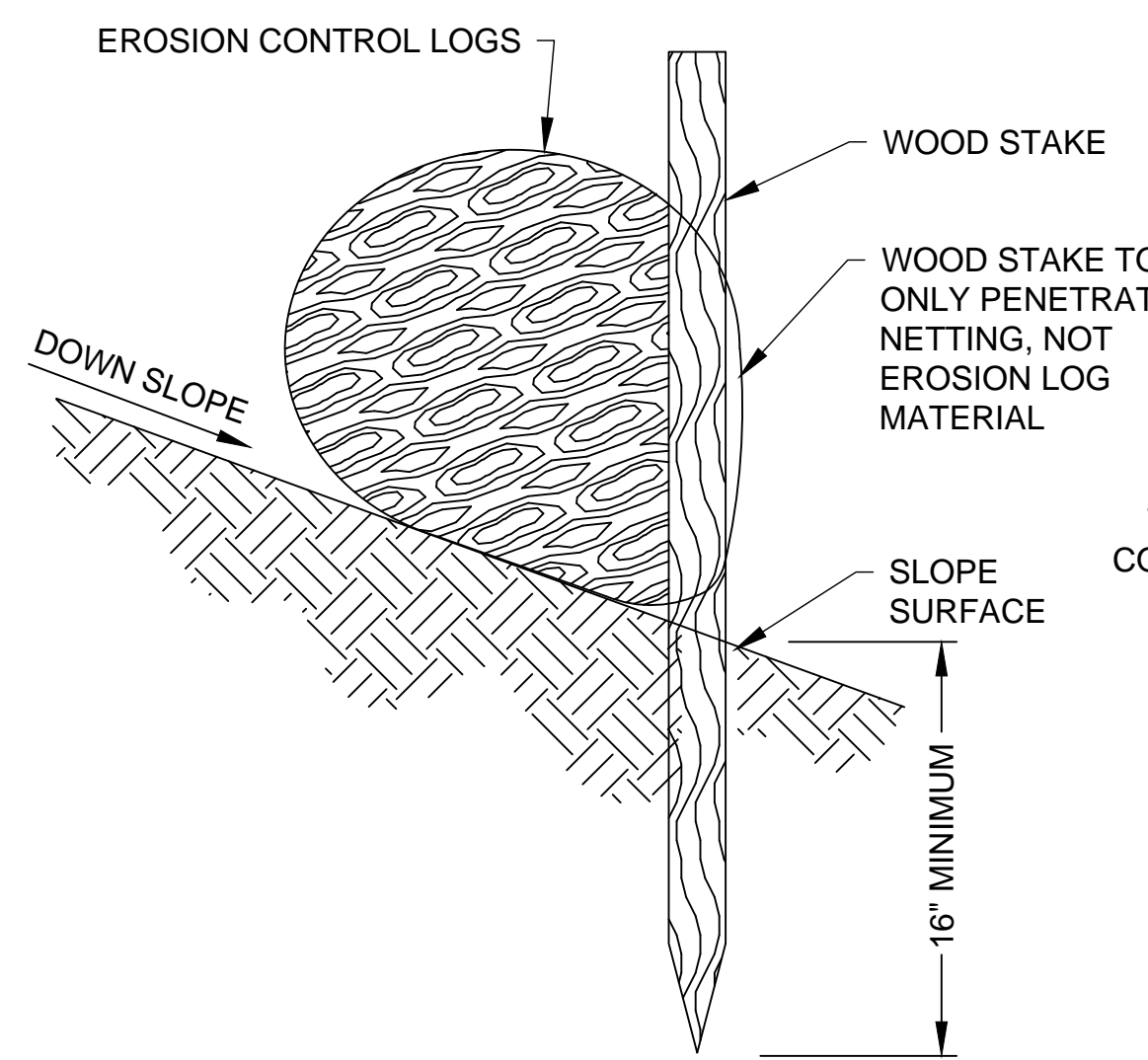
SCALE: NONE



2B  
G-304

INSTALLATION WITH TRENCH

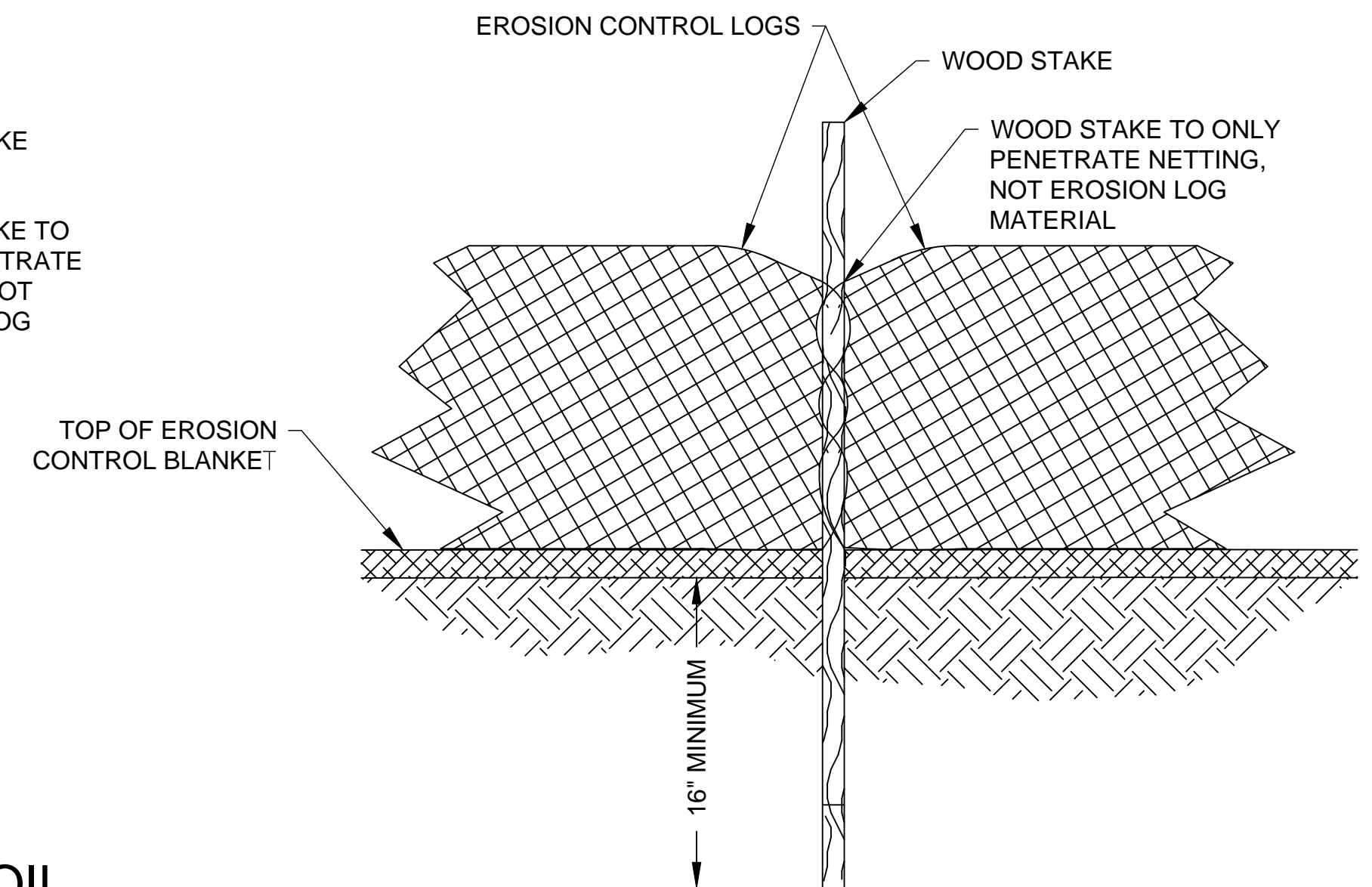
SCALE: NONE



2C  
G-304

INSTALLATION ON BARE SOIL

SCALE: NONE



2D  
G-304

INSTALLATION DETAILS (FRONT VIEW)

SCALE: NONE

2  
G-304

EROSION CONTROL LOG

SCALE: NONE

NOTES:

1. TRENCH OPTION IS MOST APPLICABLE IN LOOSE, UNCONSOLIDATED SOILS.
2. 1-1/8" X 1-1/8" X 30" WOODEN STAKES ARE RECOMMENDED FOR 6", 9", AND 12" SEDIMENT LOGS.
3. 1-1/8" X 1-1/8" X 48" WOODEN STAKES ARE RECOMMENDED FOR 20" SEDIMENT LOGS.



REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY



ADDISON AIRPORT  
ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

SWPPP DETAILS II

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

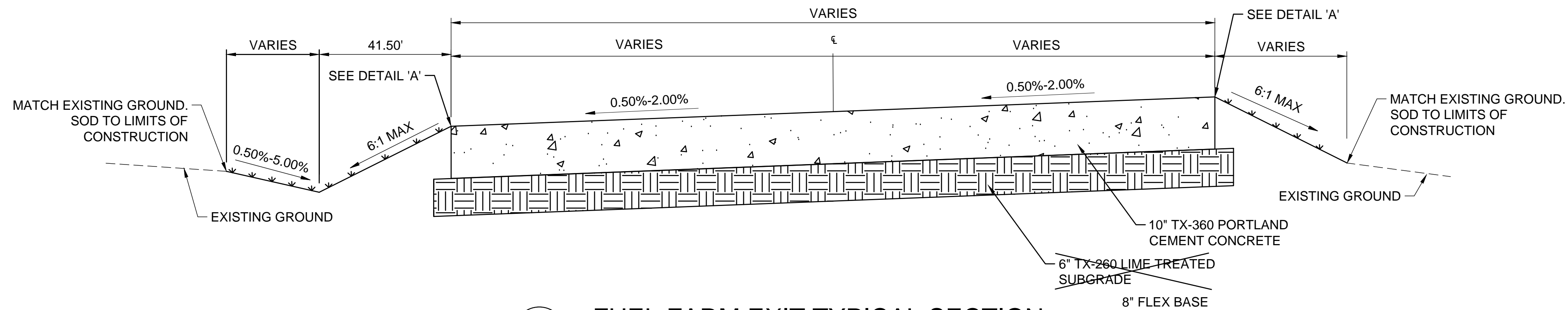
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DRAWING NUMBER

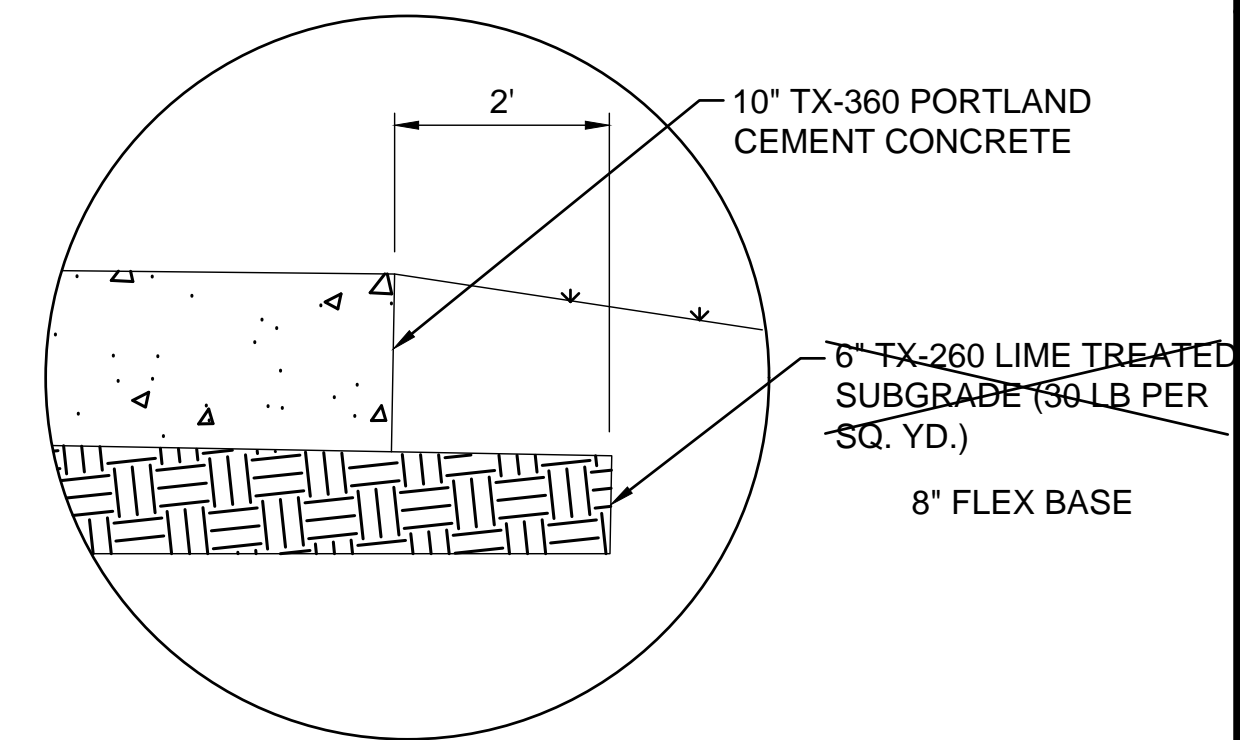
G-304

SHEET NUMBER 12

REV.	DATE	DESCRIPTION	BY



**1 FUEL FARM EXIT TYPICAL SECTION**  
C-100 SCALE: NONE



**A DETAIL 'A'**  
C-100 SCALE: NONE

**SAWED DUMMY JOINTS**  
NTS

**CONSTRUCTION JOINTS FOR PAVEMENT**  
NTS

**TRANSVERSE AND LONGITUDINAL JOINTS**

NOTE: CONTRACTOR SHALL PROTECT KEYWAY PRIOR TO SECOND POUR. IF LONGITUDINAL KEYWAY IS DAMAGED, CONTRACTOR SHALL REPAIR WITH THE USE OF LONGITUDINAL BUTT JOINT. DRILL AND GROUT DOWELS INTO FIRST POUR.

PUBLIC WORKS DEPARTMENT	JOINT DETAILS	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: AUGUST, 2010	REV DATE: -	SHEET: 3 SD-P18

**LONGITUDINAL BUTT JOINT**  
NTS

NOTES:

- NO. 5 DEFORMED BAR MAY BE USED IN 6 INCH PAVEMENT.
- LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTOR'S OPTION.
- DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.
- DRILLING BY HAND IS NOT ACCEPTABLE. PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

PUBLIC WORKS DEPARTMENT	LONGITUDINAL BUTT JOINT	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: AUGUST, 2010	REV DATE: -	SHEET: 3 SD-P19

**TRANSVERSE EXPANSION JOINT**  
N.T.S.

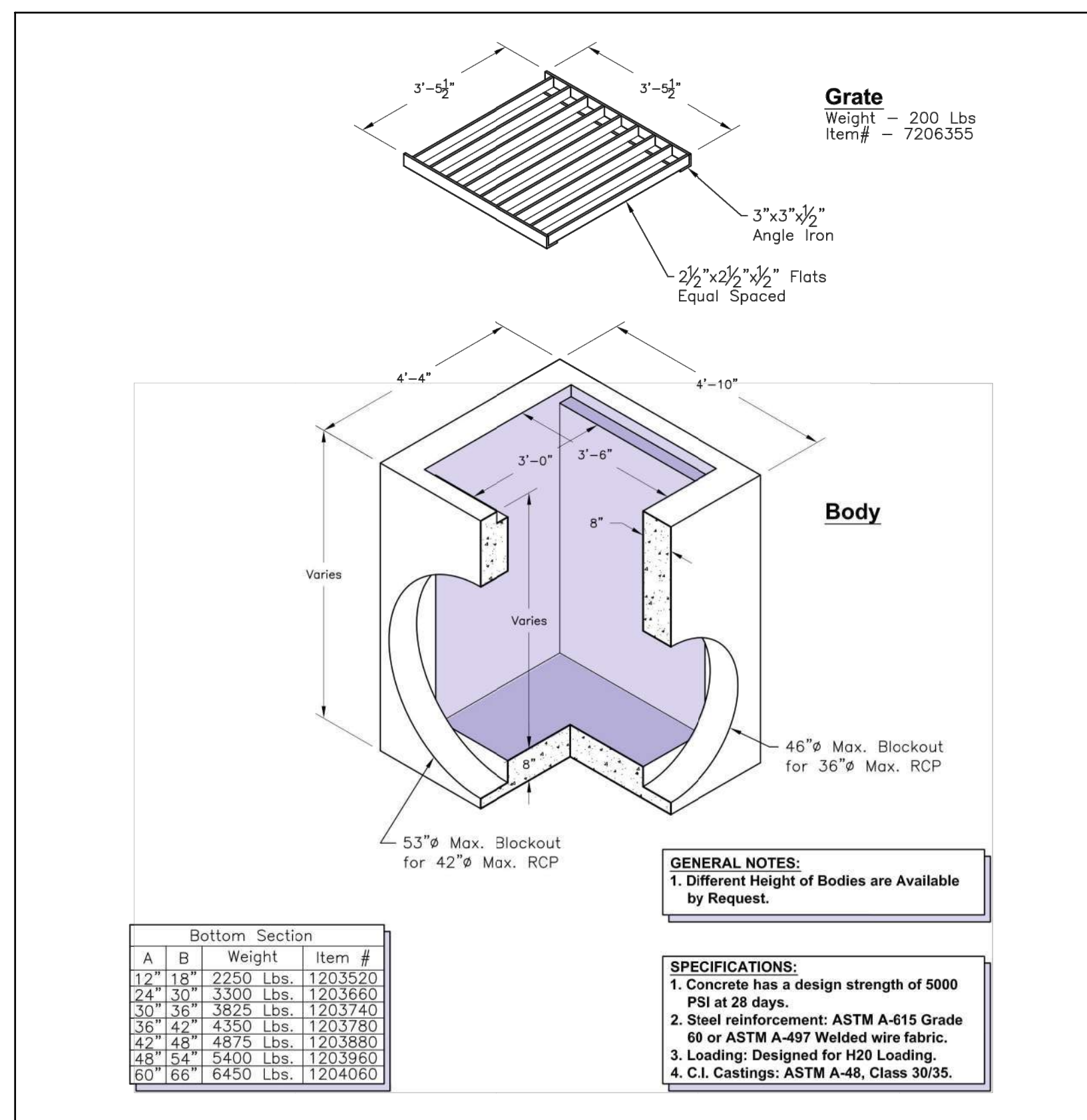
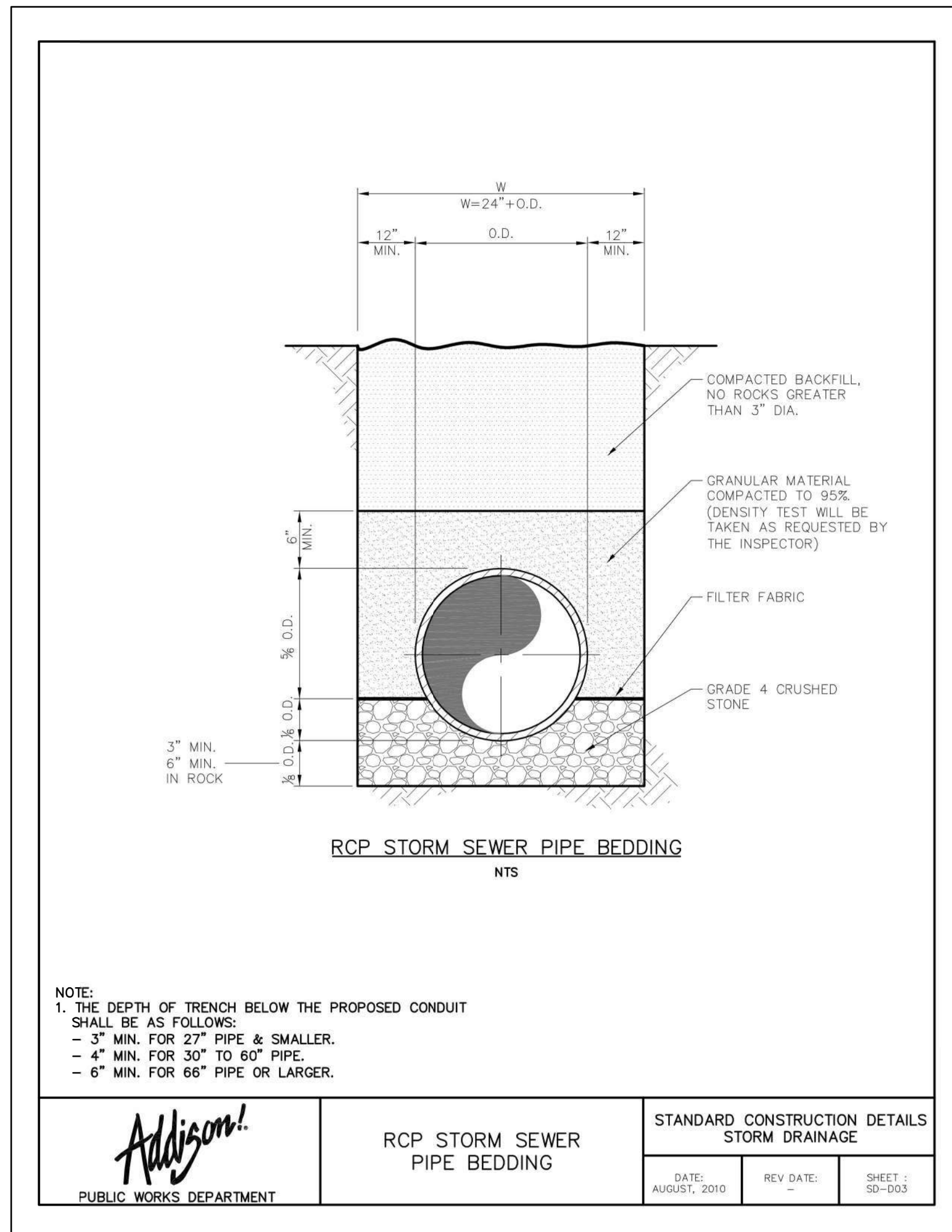
NOTES:

- DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE AND MUST BE TIED OR CHAIRED ON EACH SIDE.
- DOWELS MUST BE PERPENDICULAR TO FACE OF CONCRETE.
- NO. 5 SMOOTH DOWEL BARS MAY BE USED IN 6" PAVEMENT.
- TRANSVERSE EXPANSION JOINTS SHALL HAVE A MAXIMUM SPACING OF 600 FT.
- TRANSVERSE EXPANSION JOINTS SHALL BE LOCATED AT INTERSECTIONS.

PUBLIC WORKS DEPARTMENT	TRANSVERSE EXPANSION JOINT	STANDARD CONSTRUCTION DETAILS PAVING		
		DATE: AUGUST, 2010	REV DATE: -	SHEET: 3 SD-P20

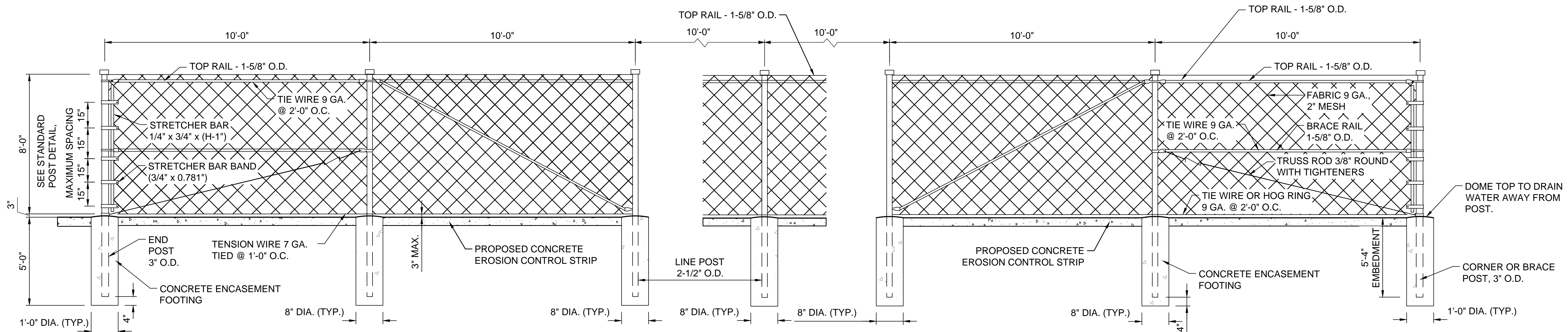
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REV.	DATE	DESCRIPTION	BY



1  
C-101

**GRATE INLET**  
SCALE: NONE



**1 END PANEL**  
C-102 SCALE: NONE

NOTES:

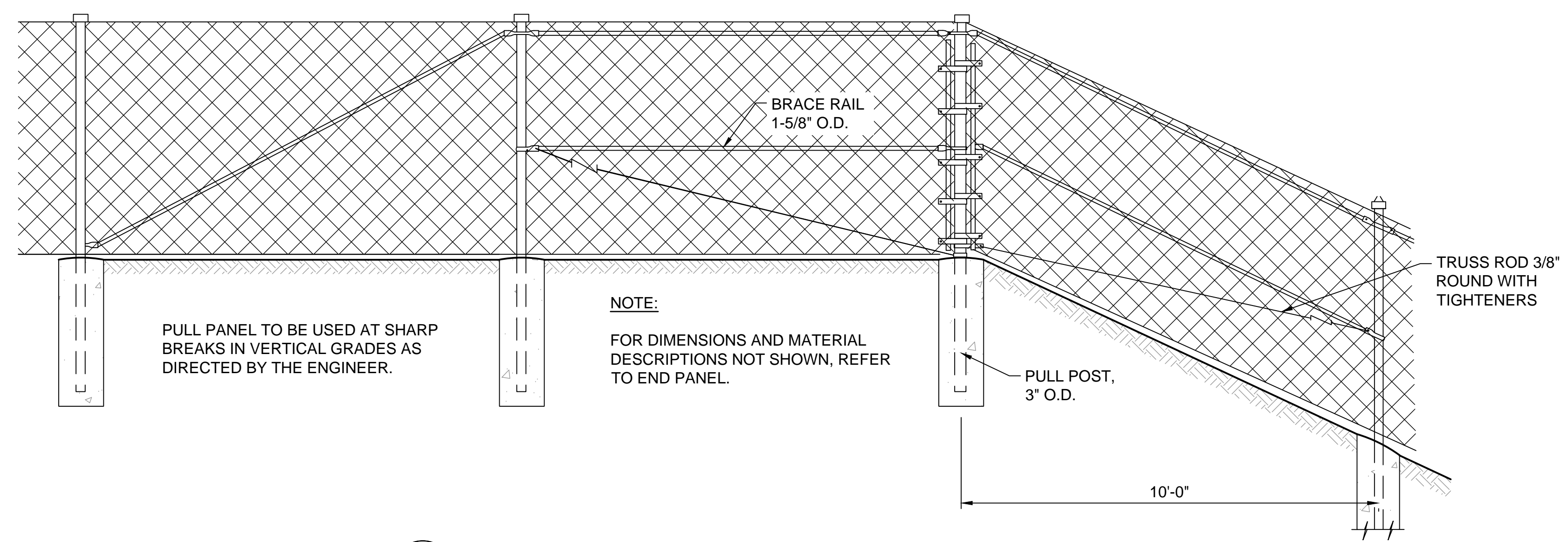
1. ALL FABRIC, POSTS, NAILS, BRACES, FITTINGS, AND HARDWARE FOR FENCE AND GATES SHALL CONFORM TO ITEM F-162 OF THE SPECIFICATIONS.
2. ELECTRICAL GROUND RODS SHALL BE CONSTRUCTED AS GIVEN IN ITEM F-162 OF THE SPECIFICATIONS.
3. ALL FENCE MATERIAL SHALL BE BLACK VINYL EXTRUDED (PVC COATED). ALL FENCE FABRIC SHALL CONTAIN BLACK PRIVACY SLATS.

**2 POST SPACING**  
C-102 SCALE: NONE

**3 BRACE OR CORNER PANEL**  
C-102 SCALE: NONE

NOTES:

1. BRACE PANEL SHALL BE PLACED A MAXIMUM OF 400 FEET CENTER TO CENTER FROM END, CORNER, OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30 DEGREES SHALL BE CONSIDERED A CORNER.
2. ALL FENCE MATERIAL SHALL BE BLACK VINYL EXTRUDED (PVC COATED). ALL FENCE FABRIC SHALL CONTAIN BLACK PRIVACY SLATS.

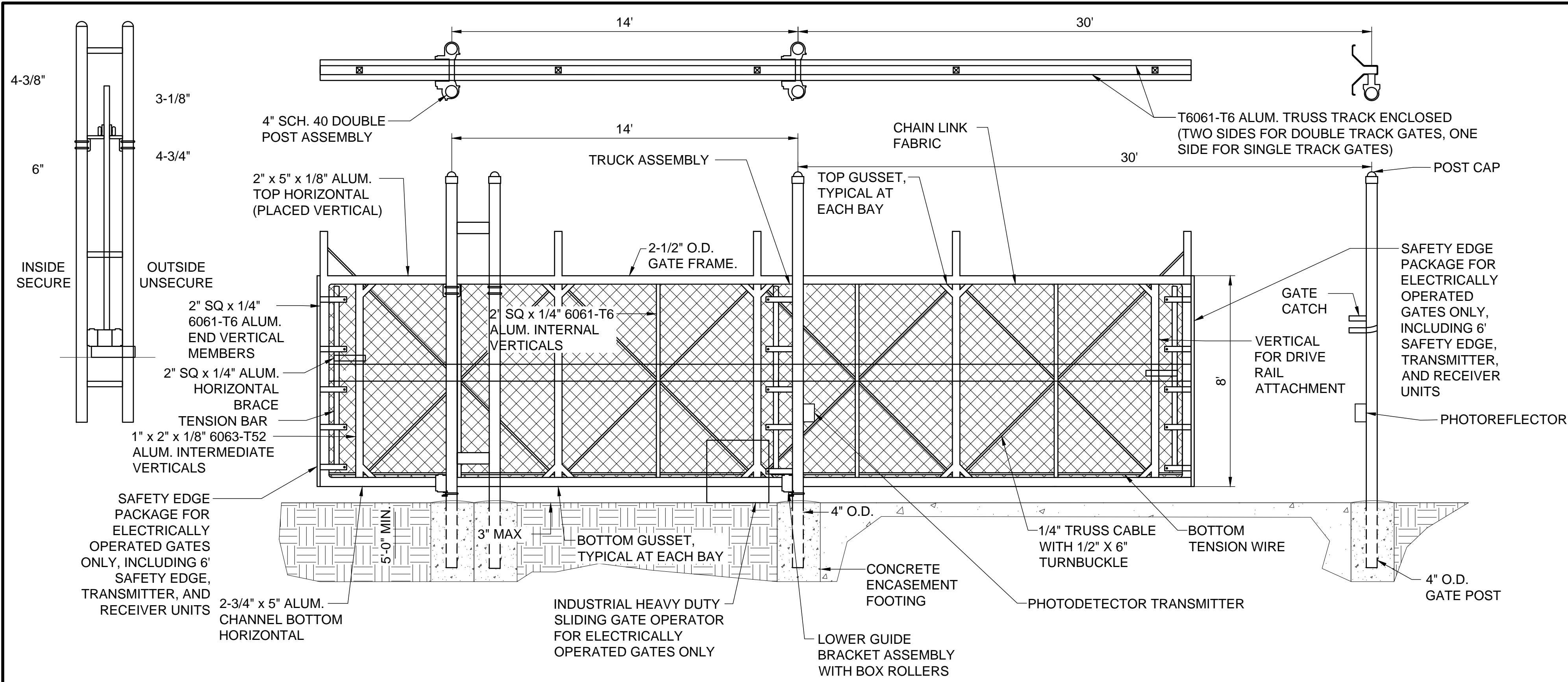


**4 PULL PANEL**  
C-102 SCALE: NONE

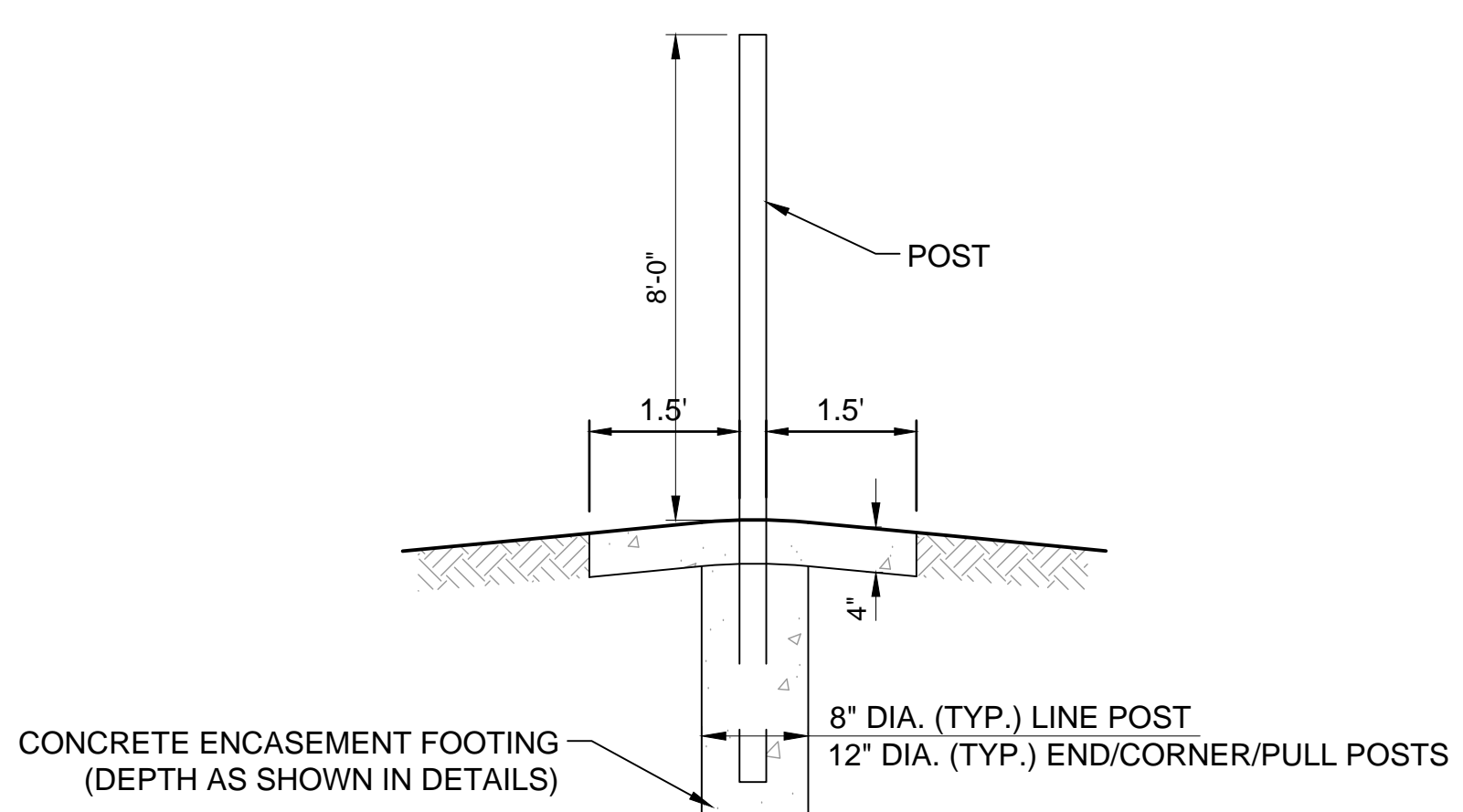
NOTE:  
FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN, REFER TO END PANEL.

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.

REV.	DATE	DESCRIPTION



1  
C-103 **AUTOMATIC SLIDING CANTILEVER GATE**  
SCALE: NONE



2  
C-103 **STANDARD POST INSTALLATION WITH EROSION CONTROL STRIP**  
SCALE: NONE

**SLIDING GATE NOTES:**

1. POWER SUPPLY TO ELECTRICALLY OPERATED GATES SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE GATE PAY ITEM.
2. MAKE ALL FINAL CONNECTIONS FOR A COMPLETE AND FULLY OPERATIONAL SYSTEM.
3. VERIFY ALL DIMENSIONS WITH ELECTRICALLY OPERATED GATE MANUFACTURER PRIOR TO CONSTRUCTION.
4. INSTALL TRANSMITTER / RECEIVER / SAFETY EDGE PACKAGE FOR ELECTRICALLY OPERATED GATES.
5. INSTALL AND CONNECT GROUND RODS TO BOTH SIDES OF FENCING AT GATE OPERATOR.
6. COORDINATE EXACT LAYOUT WITH OWNER AND ENGINEER IN FIELD PRIOR TO CONSTRUCTION.



REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

**ADDISON AIRPORT**  
ADDISON, TEXAS

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

FUEL FARM EXIT RELOCATION - DETAILS IV

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
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DRAWING NUMBER  
**C-103**  
SHEET NUMBER **16**

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**INTERNAL ROLLER ALUMINUM CANTILEVER SLIDE GATE SPECIFICATIONS:**

1. REFERENCES:
  - 1.1. ASTM F1184: STANDARD SPECIFICATION FOR INDUSTRIAL AND COMMERCIAL HORIZONTAL SLIDE GATES, TYPE 2, CLASS 2.
  - 1.2. ASTM A123: STANDARD SPECIFICATION FOR ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL.
  - 1.3. AWS D1.2: AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE.
  - 1.4. ASTM F2200: STANDARD SPECIFICATION FOR AUTOMATED VEHICULAR GATE CONSTRUCTION.
  - 1.5. U.L. 325: SAFETY STANDARDS BY UNDERWRITER'S LABORATORY.
2. SUBMITTALS:
  - 2.1. SHOP DRAWINGS OF GATES WITH ALL DIMENSIONS, DETAILS, AND FINISHES. DRAWINGS MUST INCLUDE POST FOUNDATIONS.
  - 2.2. GATE SPECIFICATIONS, MATERIAL CERTIFICATION AND / OR INSTALLATION INSTRUCTIONS FOR JOB-SPECIFIC CRITERIA.
  - 2.3. AWS WELDING PROCEDURE SPECIFICATIONS.
3. MANUFACTURER
  - 3.1. UPON WRITTEN NOTIFICATION PRIOR TO WELDMENT THAT GATES REQUIRE CONSTRUCTION IN A FABRICATING PLANT CERTIFIED TO AWS D1.2, MANUFACTURER'S FABRICATING PLANT SHALL PROVIDE PROOF OF CERTIFICATION THAT:
    - 3.1.1. ALL WELD PROCESSES CONFORM TO DOCUMENTED WELDING PROCEDURE SPECIFICATION AND PROCEDURE QUALIFICATION RECORD TO INSURE CONFORMANCE TO THE AWS D1.2 WELDING CODE.
    - 3.1.2. ALL WELDERS EMPLOYED FOR WELDING UNDER THIS SPECIFICATION HAVE SUCCESSFULLY COMPLETED THE QUALIFICATION REQUIREMENTS USING THE PROCEDURES OF THE AWS D1.2 CODE. INDIVIDUAL CERTIFICATES OF WELDER QUALIFICATION SHALL BE PROVIDED UPON REQUEST.
4. GATE FRAME CONSTRUCTION
  - 4.1. NO DISTINCTION OF LEFT-HAND OR RIGHT-HAND IS NECESSARY IN SPECIFYING OR FABRICATING THIS GATE.
  - 4.2. PRIMARY VERTICAL MEMBERS ARE TO BE EQUIDISTANT AND NOT TO EXCEED 6 FT. SPACING.
  - 4.3. INTERMEDIATE VERTICAL MEMBERS ARE TO BE EQUIDISTANT BETWEEN THE PRIMARY VERTICAL MEMBERS.
  - 4.4. HORIZONTAL TENSION BRACING IS PROVIDED AT EACH END OF THE GATE.
  - 4.5. GATE FRAMES THAT EXCEED SHIPPING CONSTRAINTS (OR REQUESTED TO SHIP IN SHORTER LENGTHS) WILL BE PROVIDED IN 2 HALVES WITH SPLICE PROVISIONS AS FOLLOWS:
    - 4.5.1. THE SPLICE LOCATION WILL BE A MINIMUM OF ONE BAY WIDTH (6') FROM ADJACENT GATE POSTS WHEN IN THE "FULL OPEN" AND "FULL CLOSED" POSITION.
    - 4.5.2. THE PRIMARY VERTICAL MEMBER LOCATED AT THE SPLICE JOINT WILL CONSIST OF (2) 1" x 2" 6061-T6511 SOLID RECTANGULAR ALUMINUM BARS WEIGHING NO LESS THAN 2.35 LBS/LF. MEMBERS ARE PRE-DRILLED TO MATE AT A MINIMUM OF 16" CENTERS.
    - 4.5.3. A 3/8". THICK PRE-DRILLED ALUMINUM SPLICE PLATE WILL SPAN THE SPLICE LOCATION ON THE BOTTOM HORIZONTAL CHANNEL. IT WILL BE WELDED TO ONE SIDE WITH MATING PRE-DRILLED HOLES ON THE OPPOSITE SIDE FOR FIELD ASSEMBLY AT THE JOB SITE.
    - 4.5.4. THE TRACK SPLICE LOCATION AND THE TOP PRIMARY HORIZONTAL MEMBER SPLICE LOCATIONS WILL NOT COINCIDE WITHIN 6 FT OF EACH OTHER. IN THE AREA OF OVERLAP, THE TRACK AND GATE FRAME WILL BE PRE-DRILLED FOR FIELD ASSEMBLY.
    - 4.5.5. ALL HARDWARE, CHAIN-LINK FILLER AND BARBED WIRE PROVIDED FOR FIELD ASSEMBLY.

- 4.5.6. ALL FRAME MEMBERS WHERE NEEDED TO BE BEVELED FOR DEEP WELD PENETRATION
- 4.6. COUNTER-BALANCE LENGTH SHALL BE 50% OF THE LEAF LENGTH EXTENDING OVER THE GATE OPENING. FILLER MATERIAL SHALL BE INSTALLED IN THE COUNTER-BALANCE AREA.
- 4.7. TRUSSING
  - 4.7.1. EACH BAY SHALL INCLUDE FOUR 1/4" THICK ALUMINUM GUSSETS WELDED INTO EACH CORNER OF THE BAY.
  - 4.7.2. STAINLESS STEEL WIRE ROPE IS CROSS TRUSSED DIAGONALLY BETWEEN ALL PRIMARY VERTICAL MEMBERS AND ATTACHED TO THE GUSSET VIA GALVANIZED TURNBUCKLES BETWEEN THE WIRE ROPE AND EACH BOTTOM CORNER GUSSET TO ALLOW FOR ADJUSTMENT. WIRE SIZE SHALL BE 1/4" AND TURNBUCKLE SIZE SHALL BE 1/2" x 6".
  - 4.7.3. WIRE ROPE SHALL BE SECURED TO THE GUSSET WITH A SINGLE CABLE THIMBLE AND A CRIMPED CABLE CLAMP. THE OVERHANG SHALL BE BRACED EXACTLY AS THE LEAD FRONT END OF THE GATE.
5. TRACK AND TRUCK ASSEMBLIES
  - 5.1. A SEPARATE EXTRUDED ONE-PIECE ALUMINUM ENCLOSED TRACK SHALL BE ATTACHED TO BOTH SIDES OF THE TOP HORIZONTAL GATE FRAME.
    - 5.1.1. THE TRACK IS WELDED TO THE TOP HORIZONTAL MEMBER ON BOTH THE TOP AND BOTTOM OF THE EXTRUSION AT NO MORE THAN 3' ON CENTER.
    - 5.1.2. THE ALUMINUM TRACK SHALL BE OF 6061-T6 ALUMINUM ALLOY WEIGHING NO LESS THAN 4.6 LB/LF.
    - 5.1.3. THE ALUMINUM TRACK IS TO BE RATED AS ADEQUATE FOR A 3000 LB TOTAL LOAD FROM EACH 10" TRUCK ASSEMBLY.
  - 5.2. FOUR SWIVEL TYPE 10" STEEL TRUCK ASSEMBLIES ARE SUPPLIED (TWO FOR EACH TRACK), EACH HAVING 8 WHEEL BEARINGS AND 2 HORIZONTAL ALIGNMENT WHEELS.
    - 5.2.1. EACH WHEEL BEARING TO BE 2" IN DIAMETER BY 9/16" WIDE WITH HARDENED AND GROUND STEEL RACEWAYS ENCASING SEALED CYLINDRICAL ROLLER BEARINGS. EACH BEARING TO HAVE A MINIMUM CAPACITY OF 6000 LBS EACH.
    - 5.2.2. THE FRONT AND REAR OF THE TRUCK SHALL INCLUDE 2 MATCHING SIDE-ROLLING WHEELS TO ENSURE TRUCK ALIGNMENT IN THE TRACK DURING ALL NORMAL OPERATIONS OF THE GATE.
    - 5.2.3. EACH 8-WHEEL TRUCK ASSEMBLY TO BE TESTED AT A 9500 LB PEAK LOAD CAPACITY.
    - 5.2.4. THE TRUCKS SHALL BE MOUNTED TO POST BRACKETS BY A GALVANIZED STEEL 5/8" DIAMETER SHANK.
6. HARDWARE
  - 6.1. ALL GATE HARDWARE; GUIDE ASSEMBLIES AND HANGERS SHALL BE MANUFACTURED FROM MALLEABLE IRON, LOW CARBON OR PRESSED STEEL, GALVANIZED AS PER ASTM A123 AFTER FABRICATION AND FURNISHED BY THE GATE MANUFACTURER.
  - 6.2. LATCHES SHALL HAVE A PROVISION FOR LOCKING DEVICES.
7. GATE FRAME FINISH
  - 7.1. NATURAL ALUMINUM TO MATCH FENCE COLOR AS SPECIFIED AND APPROVED BY THE OAR.
8. CHAIN LINK FENCE FABRIC FILLER
  - 8.1. GATES SHALL NOT HAVE ANY OPENING THAT WOULD ALLOW A 2-1/4" (OR LARGER) SPHERE TO PASS THROUGH THE BODY OF THE GATE FROM GRADE LEVEL THROUGH 6' HEIGHT FOR THE ENTIRE LENGTH OF THE GATE FRAME, INCLUDING THE TAIL SECTION.

- 8.2. THE CHAIN LINK FABRIC FILLER SHALL BE OF THE APPROVED TYPE AND SIZE AS SPECIFIED FOR THE APPLICABLE FENCE PROJECT.
- 8.3. THE CHAIN LINK FABRIC FILLER SHALL BE STRETCHED ALONG THE OVERALL LENGTH OF THE GATE INCLUDING THE COUNTER-BALANCED AREA.
- 8.4. ASSEMBLY:
  - 8.4.1. ATTACH THE FABRIC TO THE GATE FRAME BY INSERTING A STEEL TENSION BAR VERTICALLY THROUGH THE LAST LINK OF THE FABRIC AT BOTH ENDS OF THE GATE FRAME.
  - 8.4.2. THE TENSION BARS ARE SECURED TO THE GATE FRAME BY ATTACHING STEEL TENSION BANDS AROUND FRAME AND THROUGH THE LAST LINK OF FABRIC CONTAINING THE TENSION BAR.
  - 8.4.3. A TENSION WIRE SHALL BE STRETCHED AND ATTACHED ALONG THE TOP AND BOTTOM OF THE FABRIC FILLER AND ATTACHED TO THE GATE FRAME WITH THE WIRES LOOPED THROUGH PROVIDED SLOTS IN EACH OF THE ALUMINUM GUSSETS IN THE CORNERS OF EACH BAY. THIS ENSURES THAT THE FABRIC FILLER IS TAUT AND SECURE, THUS ADDING SUPPORT TO THE ENTIRE GATE FRAME. USE STANDARD FENCE INDUSTRY TIES TO SECURE FABRIC IN MIDDLE TO PRIMARY AND INTERMEDIATE VERTICALS.
9. GATE POST MATERIAL
  - 9.1. DOUBLE POST ASSEMBLIES ARE REQUIRED FOR SUPPORTING THE GATE/TRACK ON EACH SIDE OF THE FRAME. EACH GATE POST IS A MINIMUM OF 4" O.D. SCHEDULE 40 WEIGHING 9.11 LB/FT OR AS PER SPECIFICATIONS. ALL POSTS SHALL BE SUPPORTED BY CONCRETE FOOTINGS AS SPECIFIED.
  - 9.2. A MINIMUM OF 2 DOUBLE GATE POSTS ARE REQUIRED FOR CANTILEVERING THE TAIL SECTION OF THE GATE. THE LATCH PAST CAN BE EITHER A SINGLE GATE POST OR DOUBLE POST ASSEMBLY TO MATCH THE CANTILEVERING GATE POSTS (TOTAL OF 1 LATCH POST AND 2 DOULBE SUPPORT POSTS MINIMUM).
  - 9.3. DOUBLE POST ASSEMBLIES AT TAIL SECTION TO BE OFFSET TO INSIDE TO ALLOW CLEARANCE BETWEEN GATE FRAME AND POST FOR LINEAR-INDUCTION OPERATOR DRIVE RAIL.
10. GATE POST INSTALLATION
  - 10.1. FOOTING DIAMETER AND DEPTH ARE FUNCTIONS OF SOIL CONDITIONS, WIND LOAD, SIZE OF THE GATE AND POTENTIALLY OTHER JOB-SPECIFIC CONDITIONS. AS SUCH, THE ARCHITECT, ENGINEER OF RECORD OR OTHER TECHNICALLY CAPABLE RESOURCE MUST DETERMINE THE APPROPRIATE FOOTING SPECIFICATIONS.
    - 10.1.1. UNLESS OTHERWISE SPECIFIED, EXCAVATE FOOTINGS TO A DIAMETER A MINIMUM OF 4 TIMES THE DIAMETER AND 6" DEEPER THAN THE BOTTOM OF THE GATE POST. POSTS SHOULD BE SET A MINIMUM DEPTH OF 36" FOR ALL CANTILEVERED GATES. CROWN THE FINISHED CONCRETE AT THE TOP OF THE GRADE TO SHED WATER.
  - 10.2. CHECK EACH POST FOR VERTICAL AND TOP ALIGNMENT.
11. GATE INSTALLATION
  - 11.1. INSTALL GATE PER MANUFACTURER'S INSTRUCTIONS. GATE SHOULD BE SET LEVEL AND TRAVEL FREELY, WITHOUT RESISTANCE OR BINDING.
  - 11.2. ENSURE ALL SAFETY DEVICES AND SIGNS ARE INSTALLED AND IN PROPER WORKING ORDER.
  - 11.3. ATTACH LATCH AND MAKE SURE THAT GATE IS RECEIVED BY LATCH IN A SECURE MANNER.
12. CLEANING
  - 12.1. CLEAN UP DEBRIS AND REMOVE FROM THE SITE.
13. WARRANTY
  - 13.1. PROVIDE GATE WITH FIVE YEAR, LIMITED WARRANTY.

1  
C-104

**CANTILEVERED SLIDE GATE SPECIFICATIONS**

SCALE: NONE

2  
C-104

**CANTILEVERED SLIDE GATE MATERIAL TABLE**

SCALE: NONE

GATE SIZE, MATERIAL, AND WEIGHT			
COMPONENT	TUBE DIMENSIONS	ALUMINUM GRADE SPEC.	MIN. WEIGHT PER LINEAR FOOT
TOP PRIMARY MEMBERS	2" x 5"	6063-T52	2.02
	ENCLOSED TRACK	6061-T6	9.20
BOTTOM HORIZONTAL FRAME MEMBER	5" x 2-3/4" x .320/.190 CHANNEL	6061-T6	3.90
END VERTICAL MEMBERS	2" x 2"	6061-T6	2.10
PRIMARY INTERNAL VERTICAL MEMBERS	2" x 2"	6061-T6	2.10
INTERMEDIATE VERTICAL MEMBERS	1" x 2"	6063-T52	0.82
TENSION BRACING	2" x 2"	6061-T6	2.10
HORIZONTAL SPLICE RAILS	(2) 1" x 2"	6063-T52	0.82 (x2)

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REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS  
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

FUEL FARM EXIT RELOCATION - DETAILS V

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

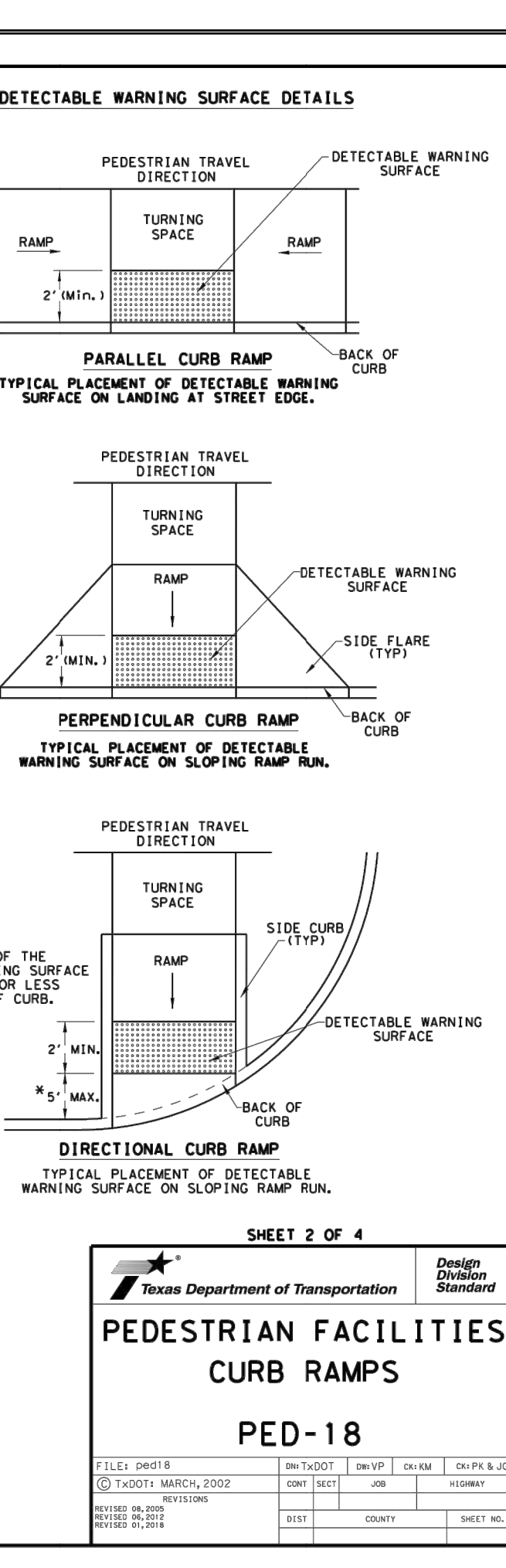
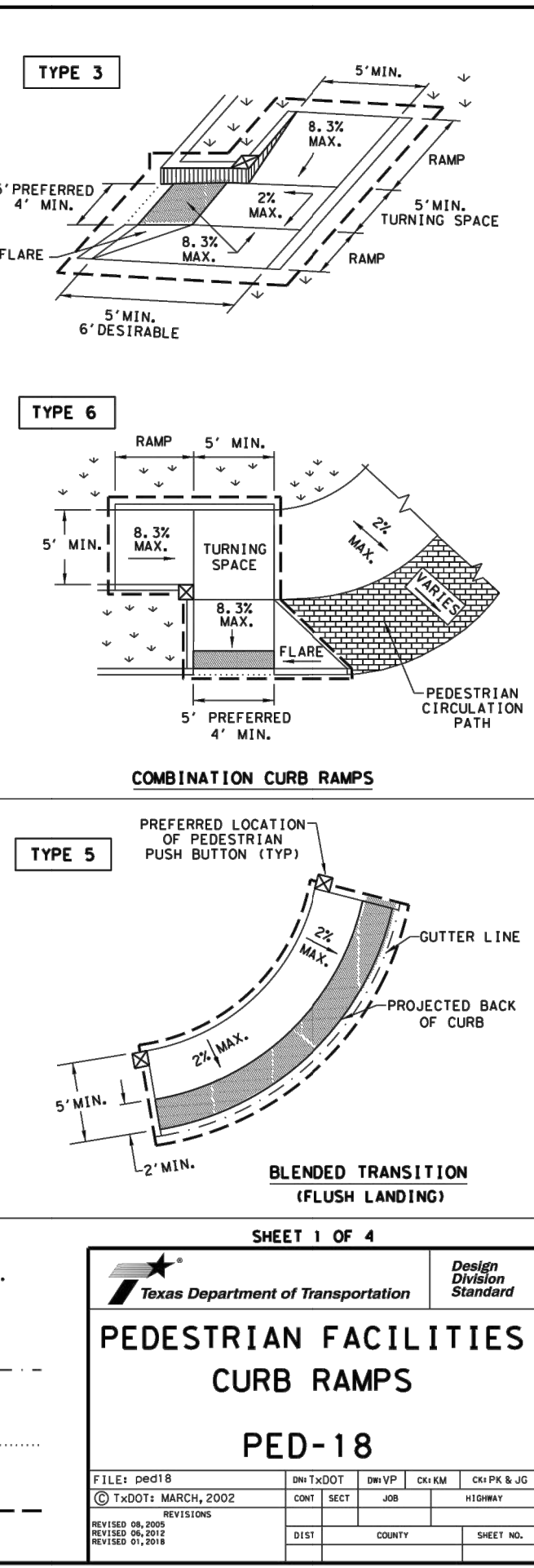
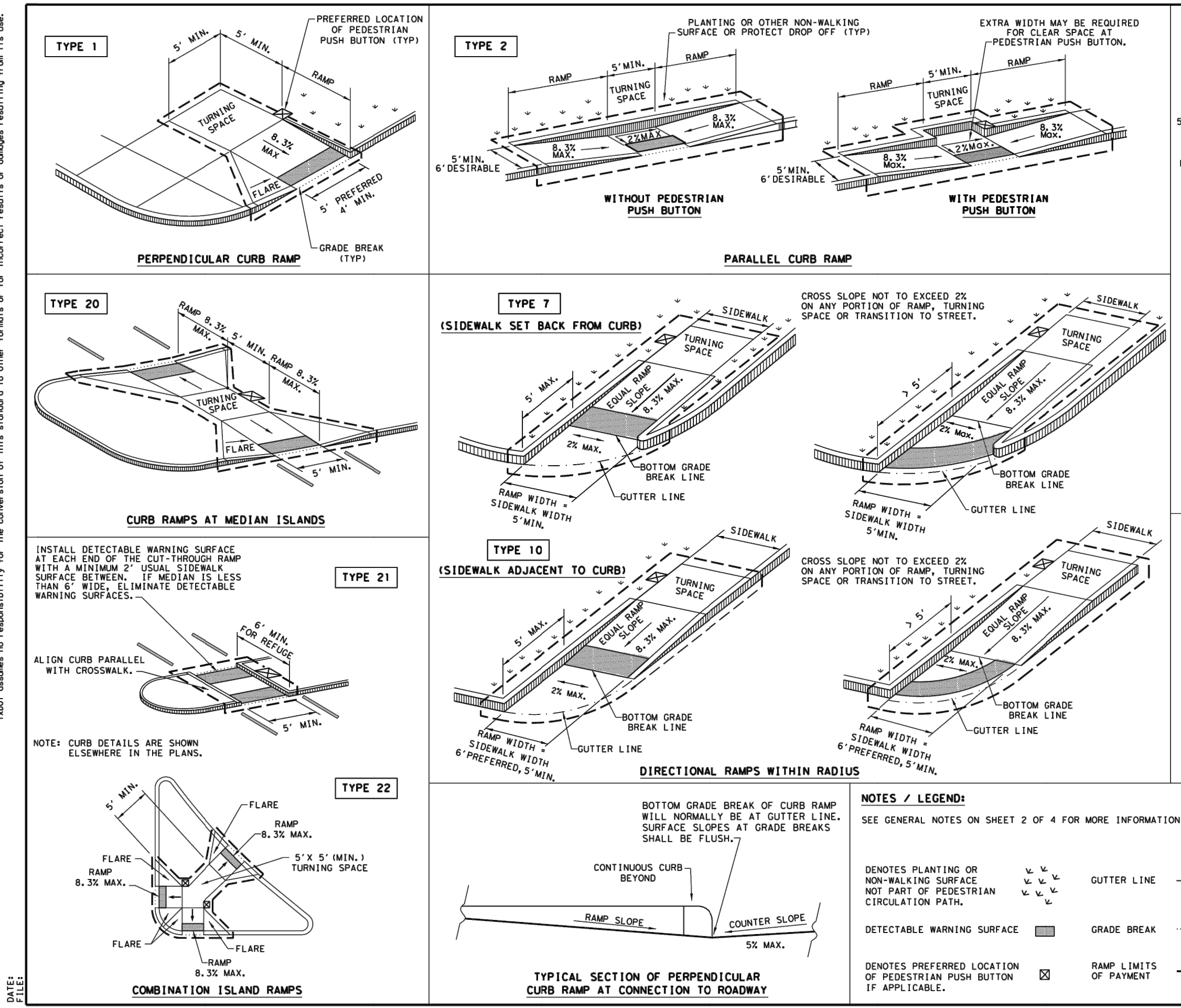
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**C-104**

SHEET NUMBER  
**17**

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 Last plotted by: Jessep, Alex M., Plot Style: AEC.ctb, Plot Scale: 1:1, Plot Date: 4/27/2020 11:37 AM, Plotter used: \_DWG To PDF.pc3

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TEXAS Department of Transportation Design Division Standard  
**PEDESTRIAN FACILITIES**  
**CURB RAMPS**  
**PED-18**

**GENERAL NOTES**

**CURB RAMPS**

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shall be maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' posting areas or intervals not to exceed 200' are required.
5. Turning spaces shall be 5' x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped of 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete to a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicable standards may remain in place unless otherwise shown on the plans.

**DETECTABLE WARNING MATERIAL**

19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

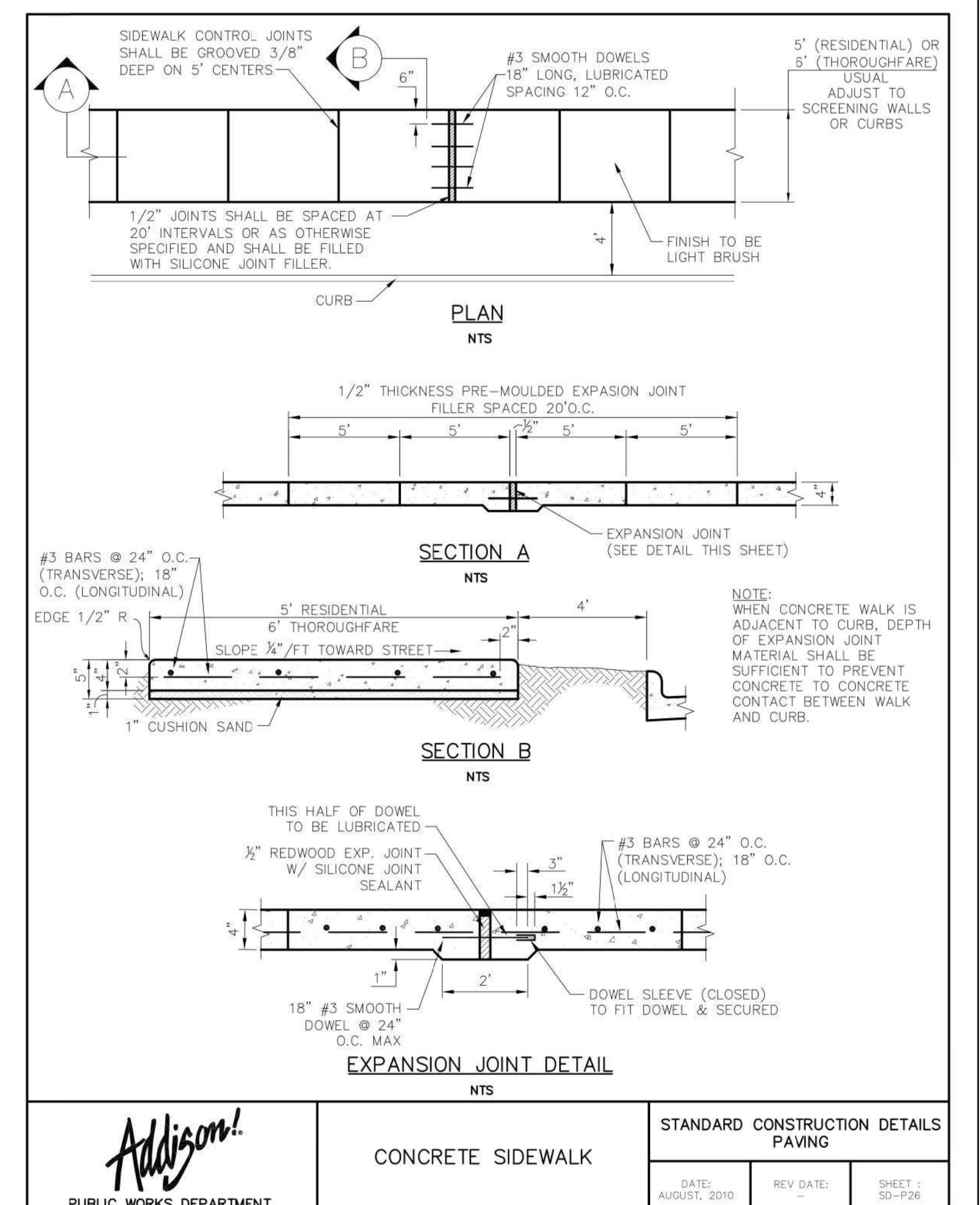
**DETECTABLE WARNING PAVERS (IF USED)**

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cur detectable warning paver units using a power saw.

**SIDEWALKS**

27. Provide clear ground space of operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, signage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

TEXAS Department of Transportation Design Division Standard  
**PEDESTRIAN FACILITIES**  
**CURB RAMPS**  
**PED-18**



**EXPANSION JOINT DETAIL**

CONCRETE SIDEWALK

STANDARD CONSTRUCTION DETAILS PAVING

DATE: AUGUST, 2010 REV DATE: SHEET: SP-P06

TEXAS Department of Transportation Design Division Standard  
**PEDESTRIAN FACILITIES**  
**CURB RAMPS**  
**PED-18**



REGISTRATION NO. F-5713

RECORD DRAWINGS  
 04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
 ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

FUEL FARM EXIT RELOCATION - DETAILS VI

JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: JAH  
 DRAWN BY: JAH

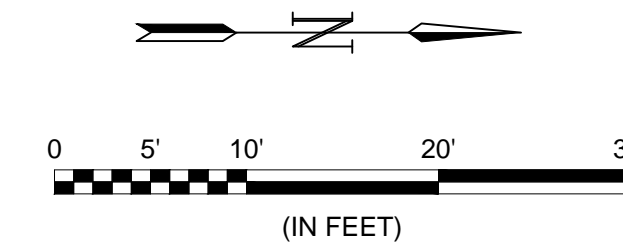
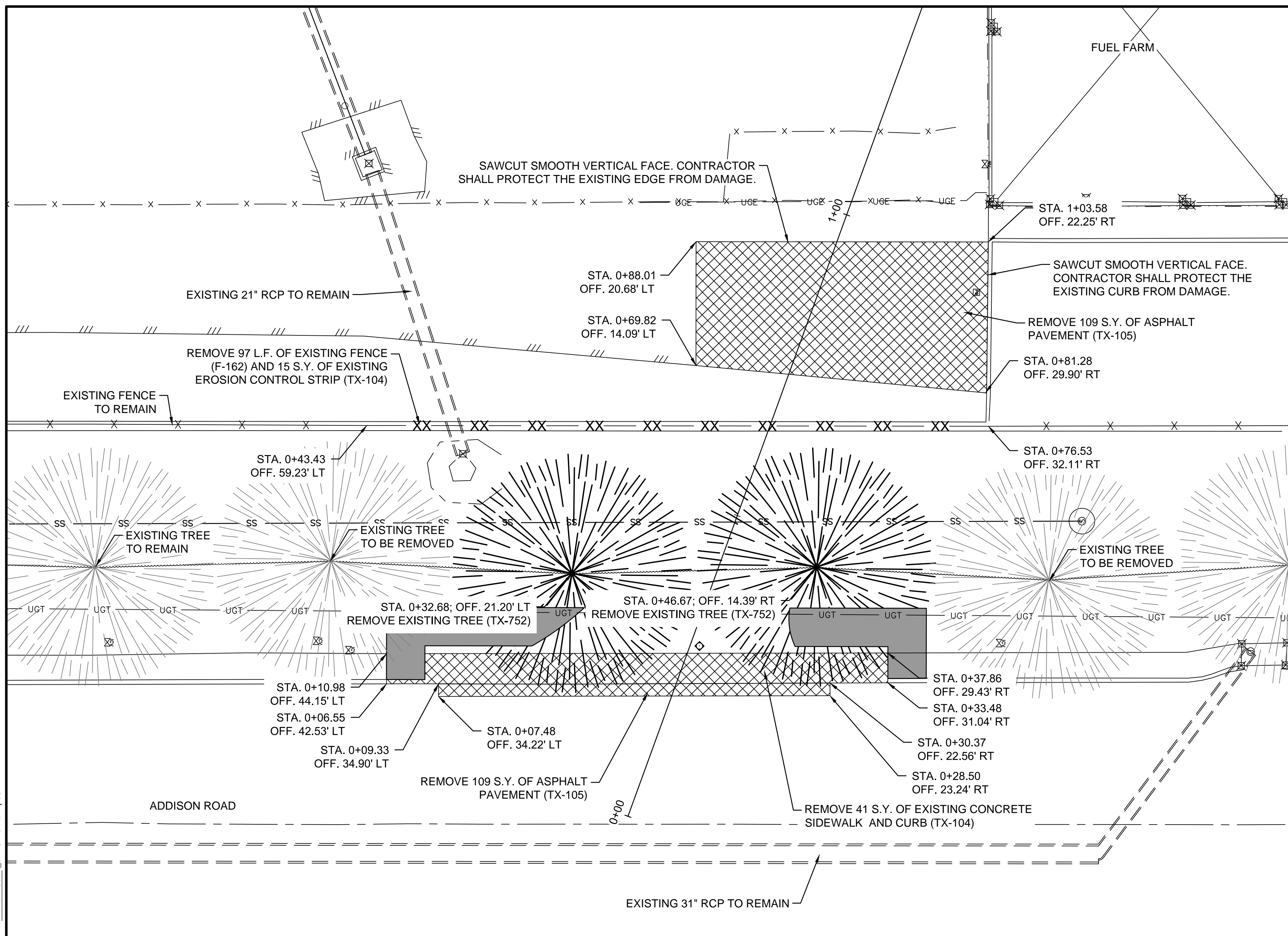
BAR IS ONE INCH ON ORIGINAL DRAWING  
 0" = 11'

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**C-105**

SHEET NUMBER  
**18**

REV.	DATE	DESCRIPTION	BY



LEGEND	
	PROPOSED DEMOLITION LIMITS
	EXISTING PERIMETER FENCE
	FENCE REMOVAL
	EXISTING DRAINAGE PIPE
	EXISTING SANITARY SEWER PIPE
	OVERHEAD ELECTRICAL LINE
	TAXIWAY OBJECT FREE AREA
	TAXIWAY SAFETY AREA

**DEMOLITION NOTES:** PRIOR TO DEMOLITION, THE CONTRACTOR SHALL INSPECT THE EXISTING VEGETATION IRRIGATION SYSTEM LOCATED AT THE FUEL FARM DRIVE WORK SITE. THE IRRIGATION SYSTEM SHALL BE DISCONNECTED AND ALTERED AS NEEDED DURING THE DEMOLITION PHASE AND THE CONTRACTOR SHALL RECONNECT IT AS SOON AS THE DEMOLITION IS COMPLETE.

**CAUTION:** UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.

TEXAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES SUFFICIENT ADVANCE NOTIFICATION THROUGH THE TEXAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF AN EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-344-8377. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE TEXAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM.

### KEY MAP





REGISTRATION NO. F-5713

RECORD DRAWINGS 04/27/2020

REV.	DATE	DESCRIPTION

ADDISON AIRPORT  
ADDISON, TEXAS

ADDISON AIRPORT  
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

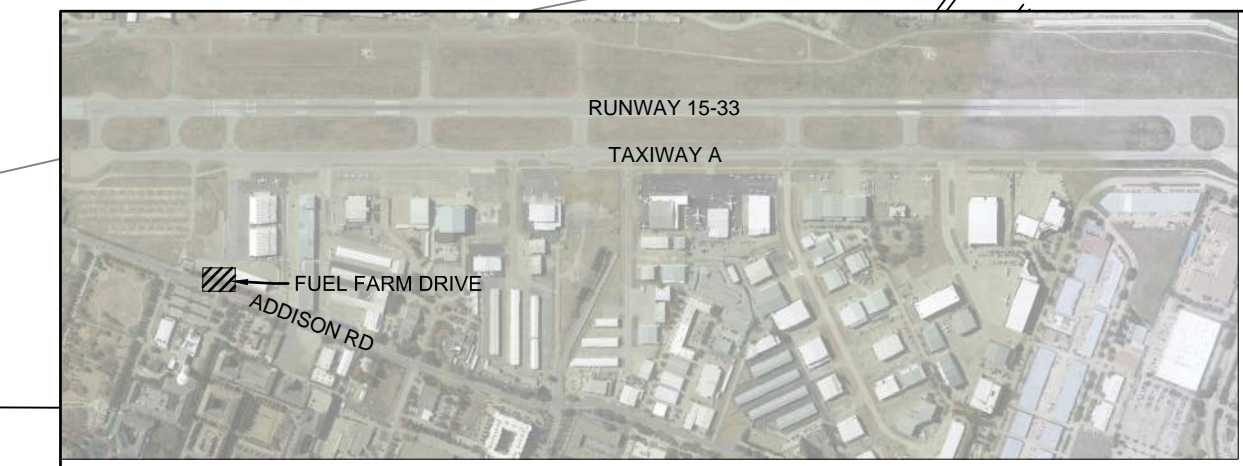
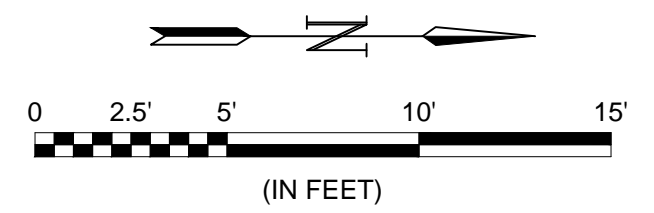
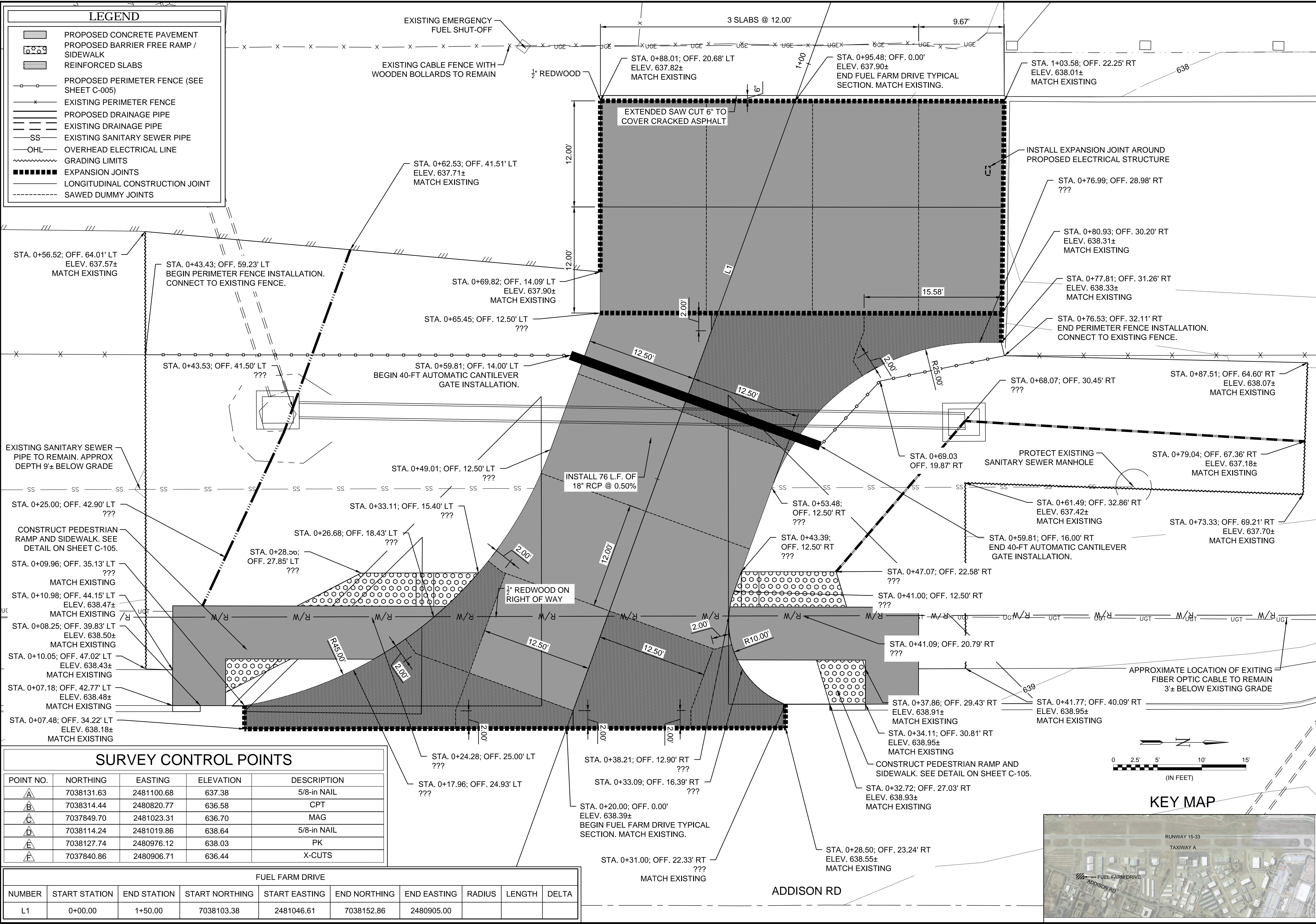
FUEL FARM EXIT RELOCATION - LAYOUT PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

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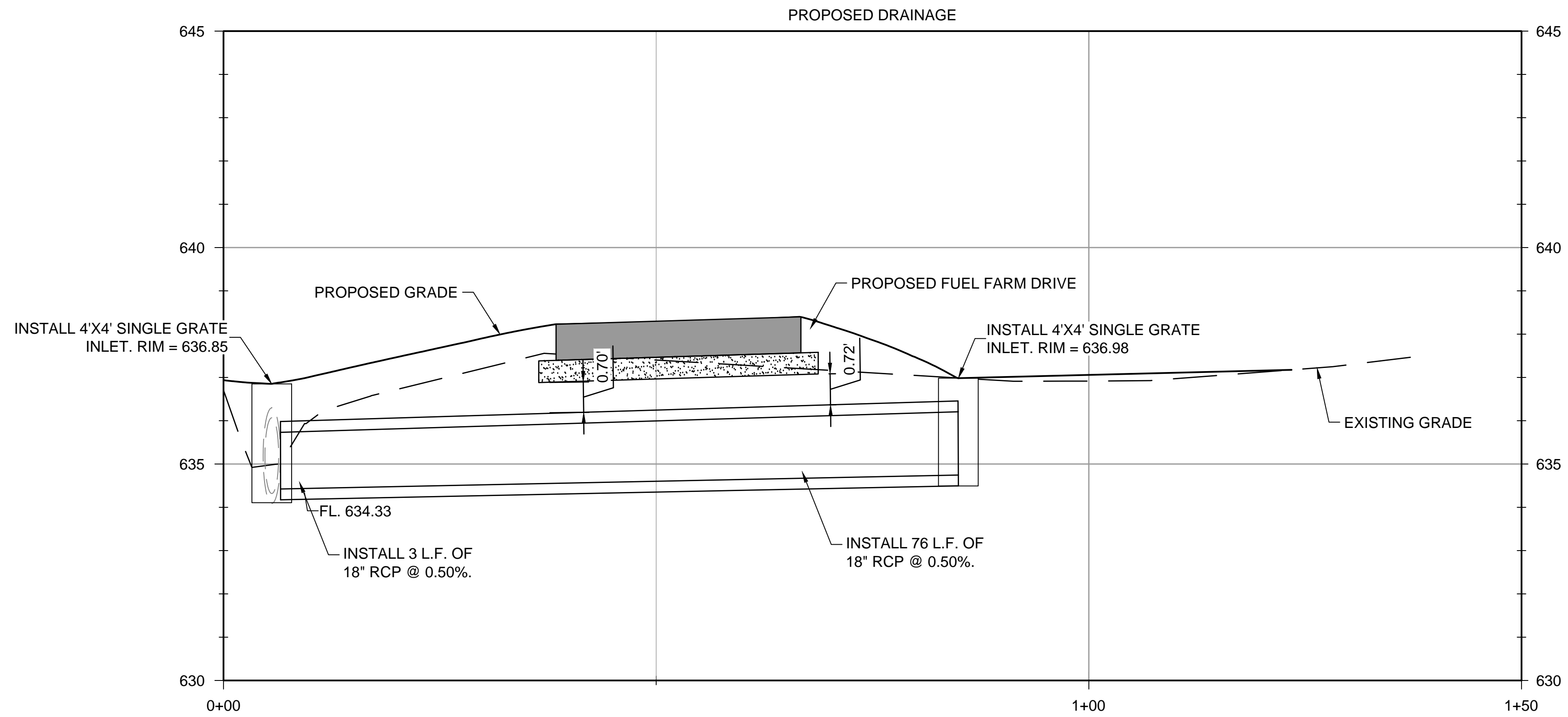
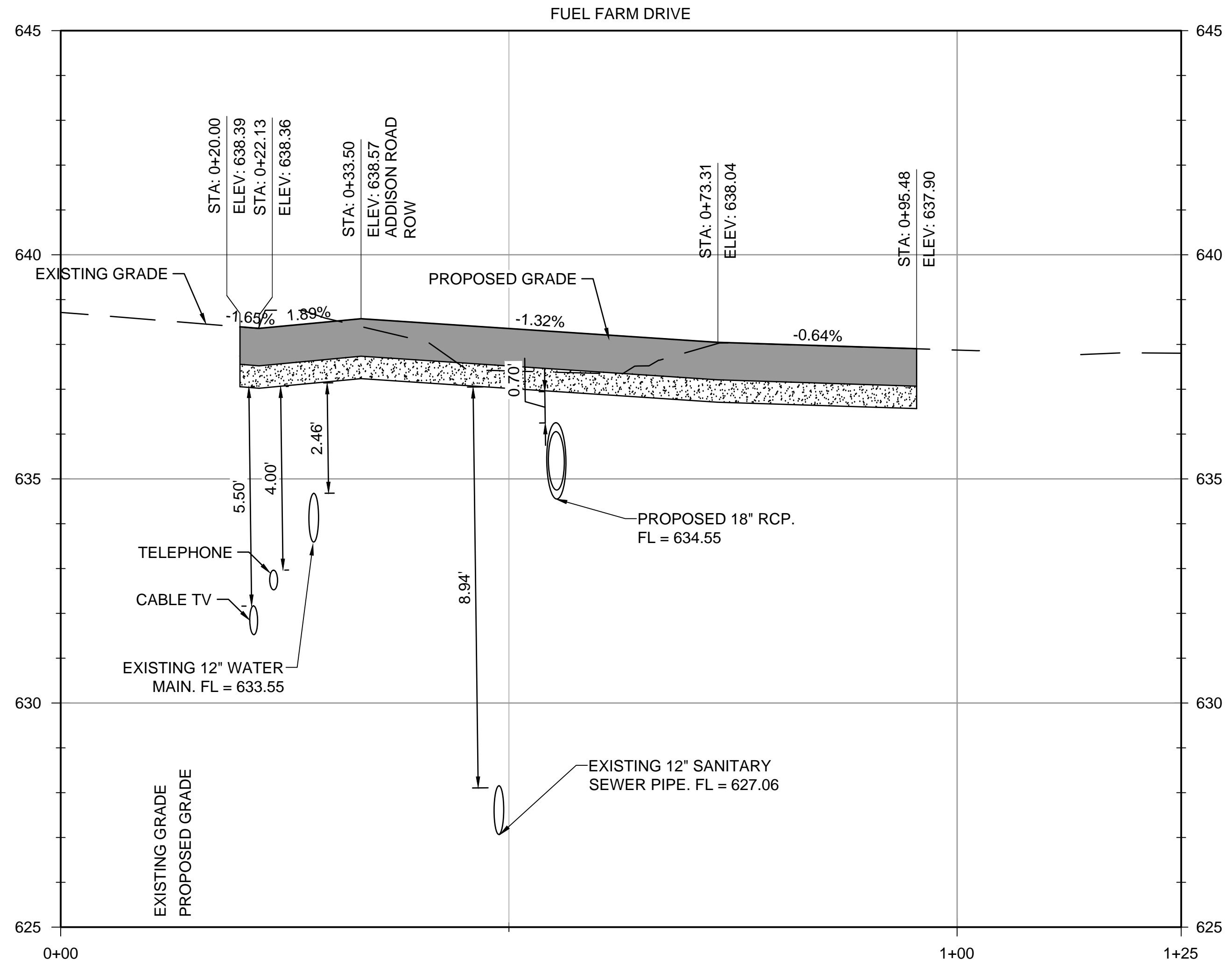
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SHEET NUMBER 20



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REGISTRATION NO. F-5713

RECORD DRAWINGS  
 04/27/2020

REV.	DATE	DESCRIPTION	BY



ADDISON AIRPORT  
 ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

FUEL FARM EXIT RELOCATION - PAVING & DRAINAGE PROFILE

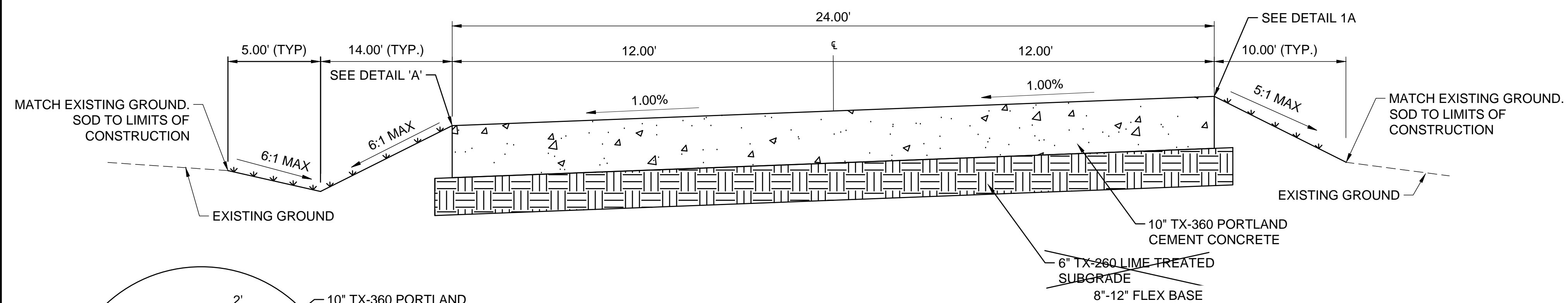
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 DATE: JUNE 2019  
 DESIGNED BY: JAH  
 DRAWN BY: JAH

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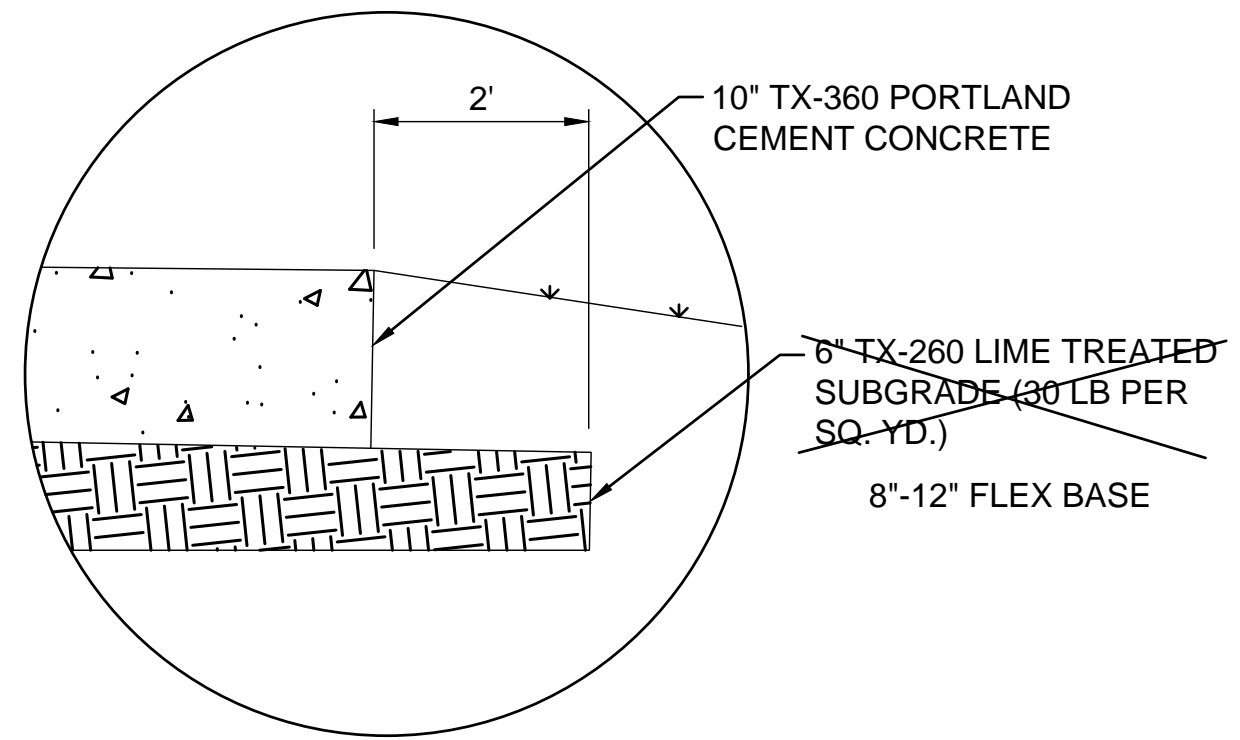
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**C-108**

SHEET NUMBER  
**21**

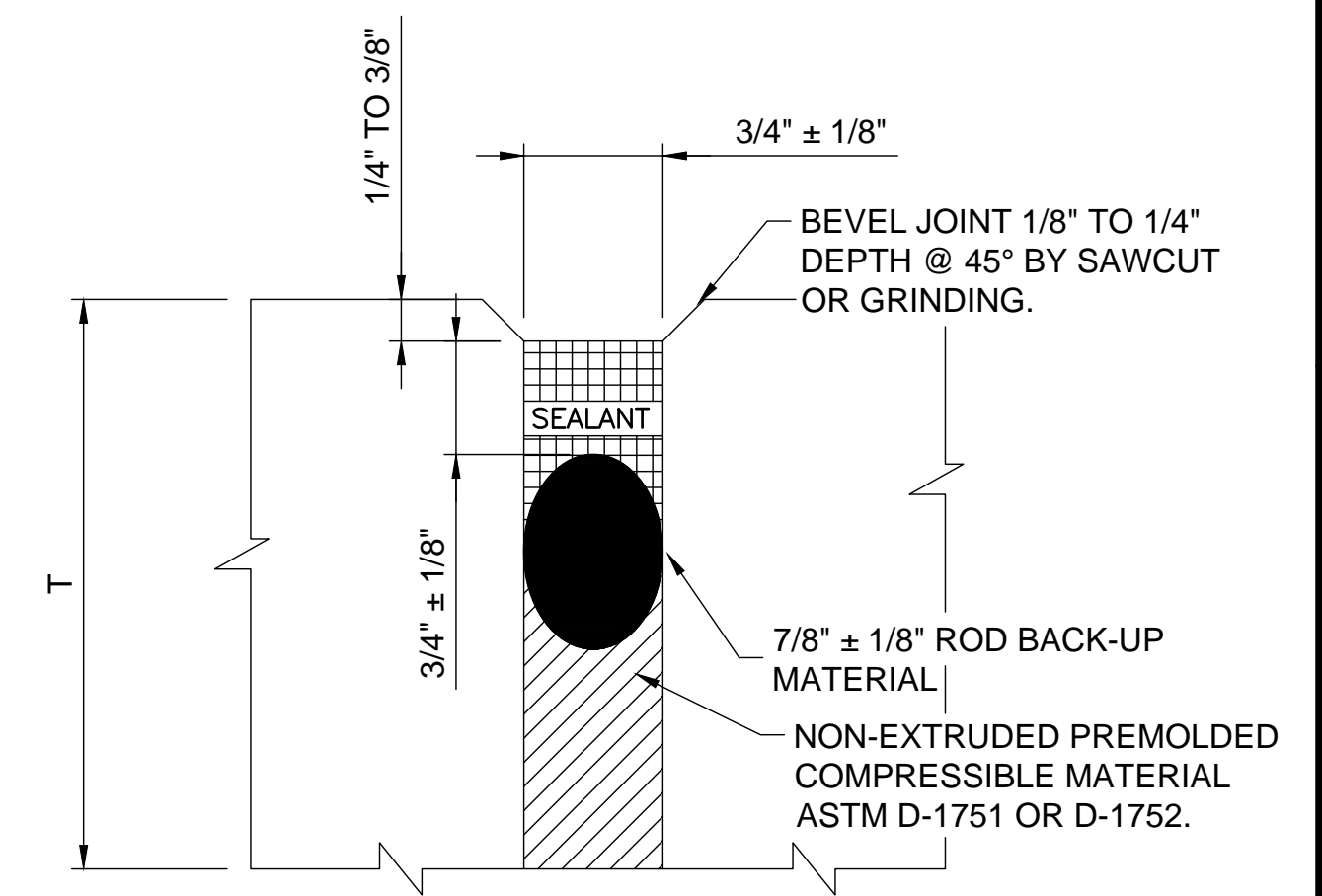
REV.	DATE	DESCRIPTION



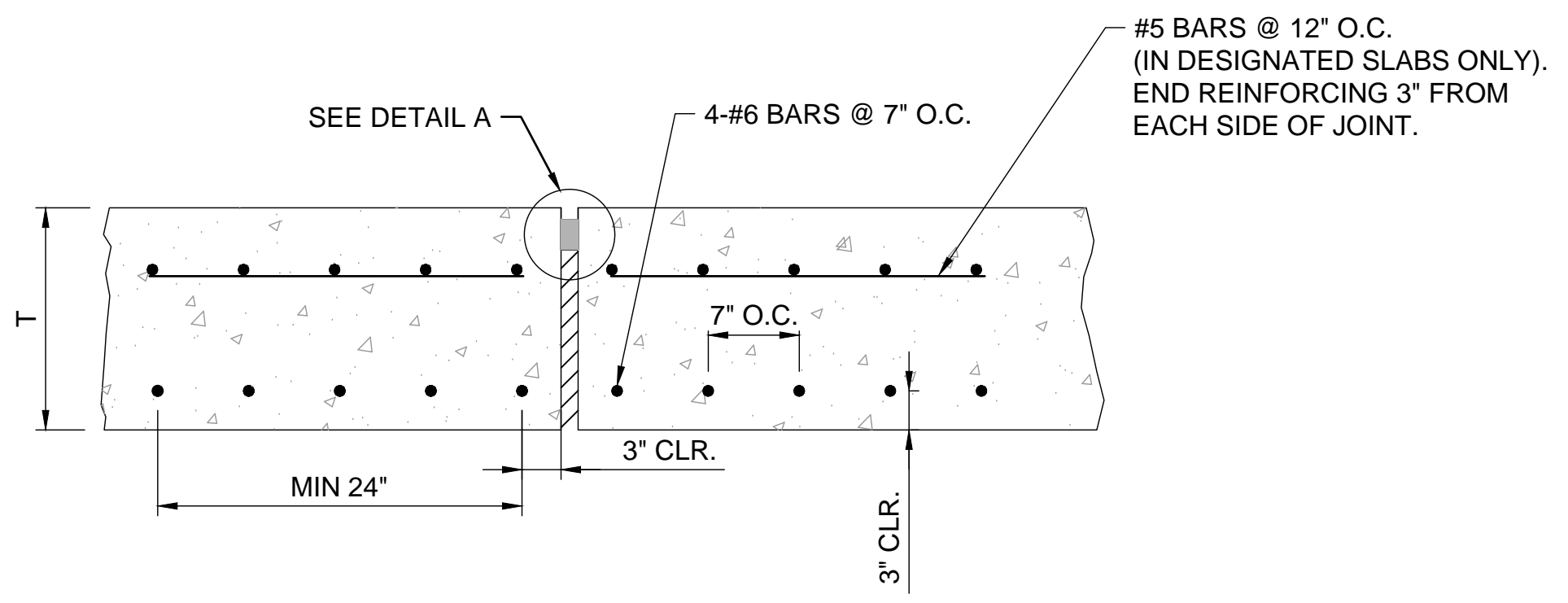
1 PERIMETER ROAD TYPICAL SECTION  
SCALE: NONE



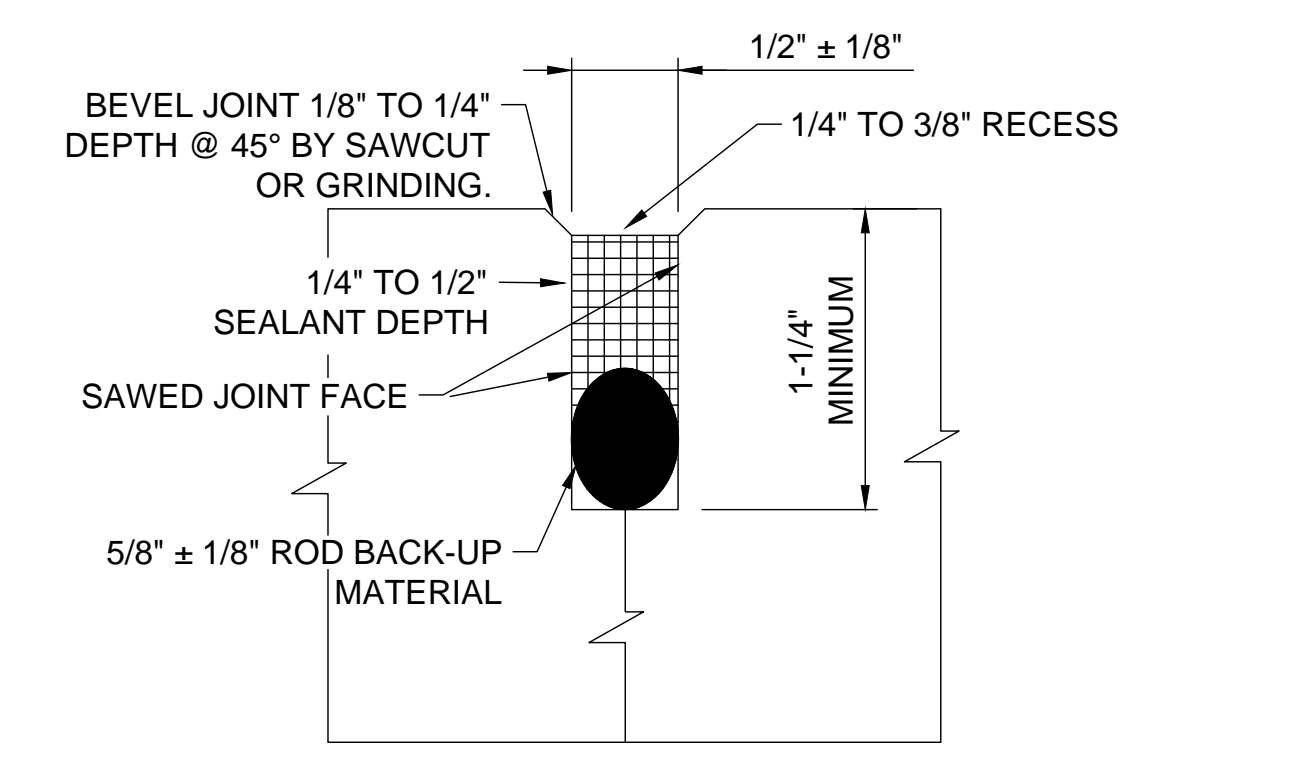
1A DETAIL 'A'  
SCALE: NONE



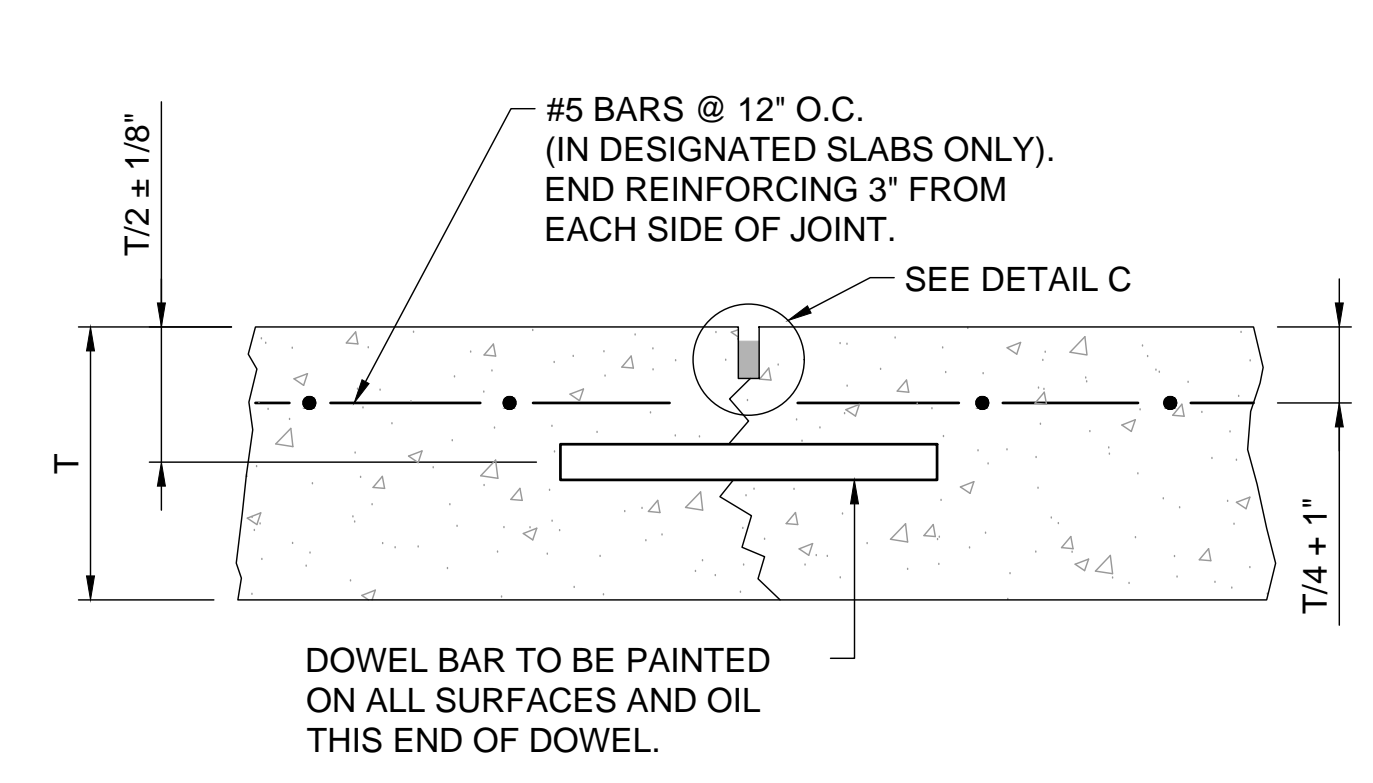
A ISOLATION JOINTS  
SCALE: NONE



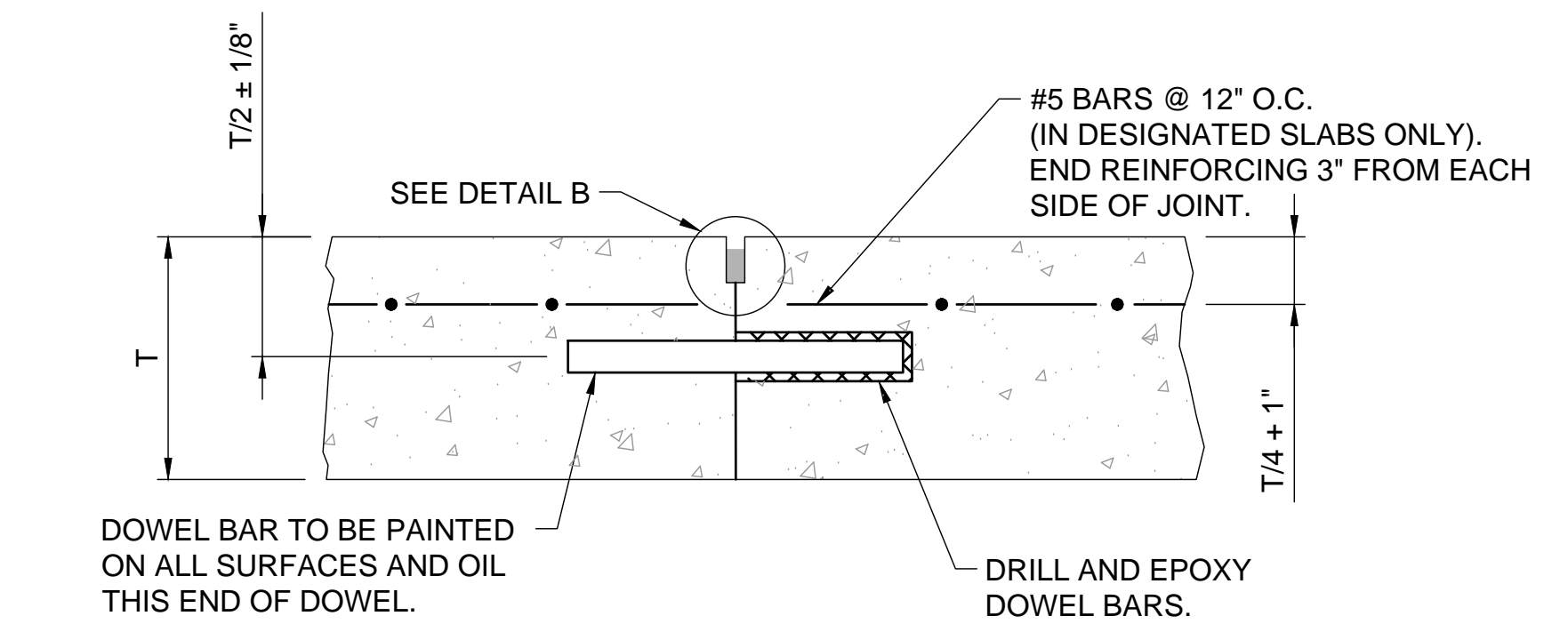
2 TYPE A1 - ISOLATION JOINT  
SCALE: NONE



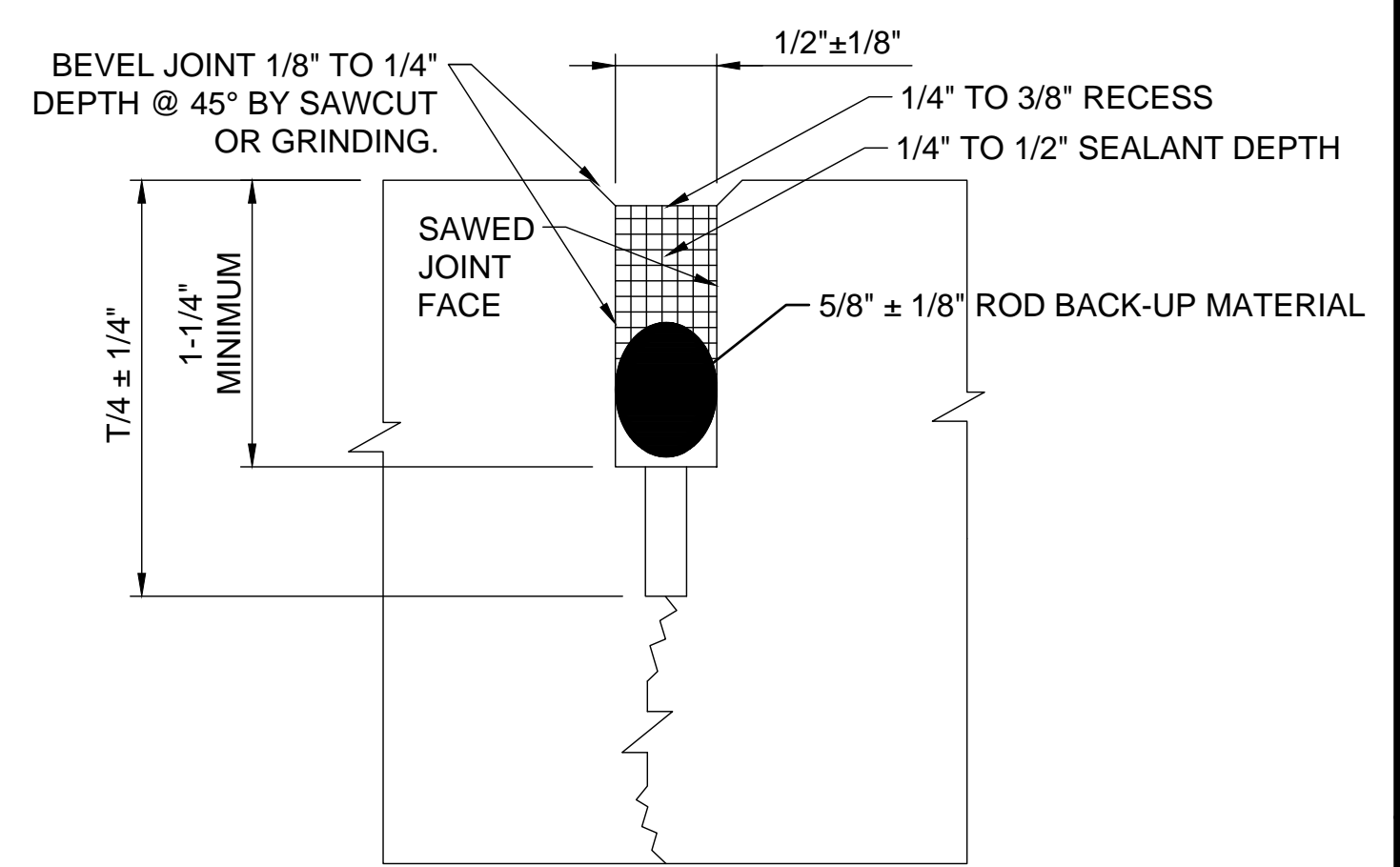
B CONSTRUCTION JOINT DETAIL  
SCALE: NONE



4 TYPE C-DOWELED CONTRACTION JOINT  
SCALE: NONE



3 TYPE E-DOWELED CONSTRUCTION JOINT  
SCALE: NONE



C CONTRACTION JOINTS  
SCALE: NONE

SLAB THICKNESS	DOWEL DIAMETER	DOWEL LENGTH	DOWEL SPACING
7.5" TO 12"	1"	18"	12"

5 DOWEL BAR SPECIFICATIONS  
SCALE: NONE

SLAB THICKNESS	REBAR SIZE
9"	#4 REBAR
> 9"	#5 REBAR

TIE-BAR SIZE	TIE-BAR LENGTH	TIE-BAR SPACING
#5	24"	24"

6 TIE-BAR REINFORCEMENT SPECIFICATIONS  
SCALE: NONE

LEGEND	
	SILICONE SEALANT (M-170)
	ROD BACK-UP MATERIAL CLOSED-CELL RESILIENT FOAM OR SPONGE RUBBER (M-170)
	RESILIENT FILLER (ASTM D1751)

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REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION

ADDISON AIRPORT  
ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

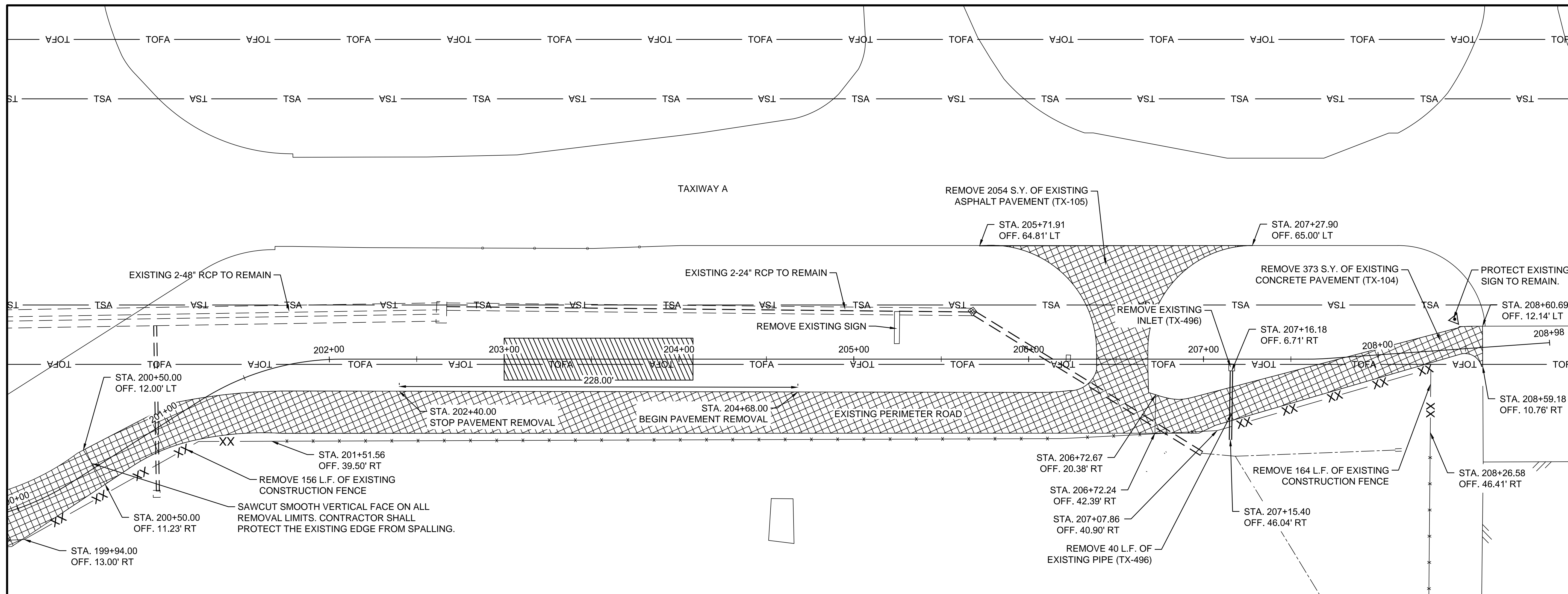
PERIMETER ROAD RELOCATION - DEMOLITION PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
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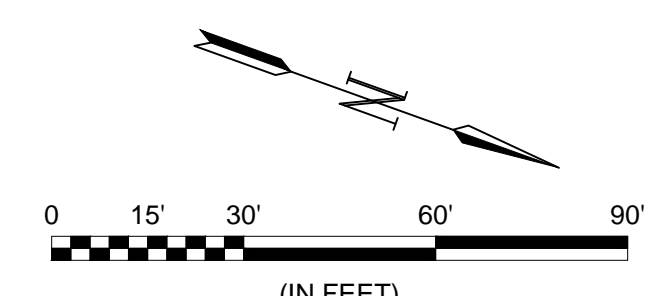
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C-201

SHEET NUMBER  
23



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### KEY MAP



### LEGEND

XXX	PROPOSED DEMOLITION LIMITS
—x—x—	EXISTING PERIMETER FENCE
—xx—xx—	FENCE REMOVAL
— — — —	EXISTING DRAINAGE PIPE
—TOFA—	TAXIWAY OBJECT FREE AREA
—TSA—	TAXIWAY SAFETY AREA

**CAUTION:** UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.

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REGISTRATION NO. F-5713

RECORD DRAWINGS 04/27/2020

REV.	DATE	DESCRIPTION	BY

**ADDISON AIRPORT**  
ADDISON, TEXAS

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

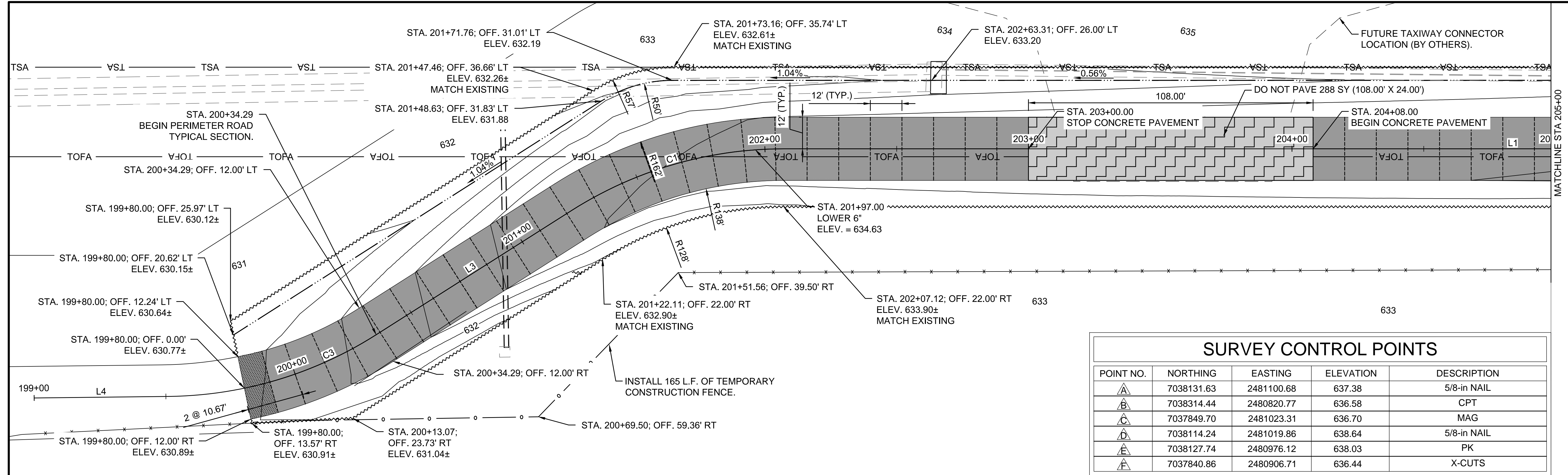
PERIMETER ROAD RELOCATION - LAYOUT PLAN & PROFILE I

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

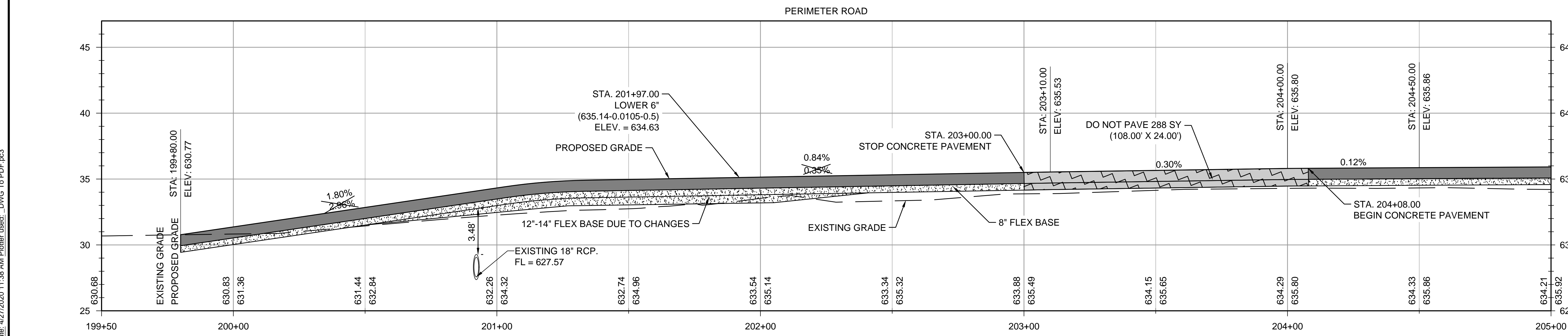
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DRAWING NUMBER  
**C-202**

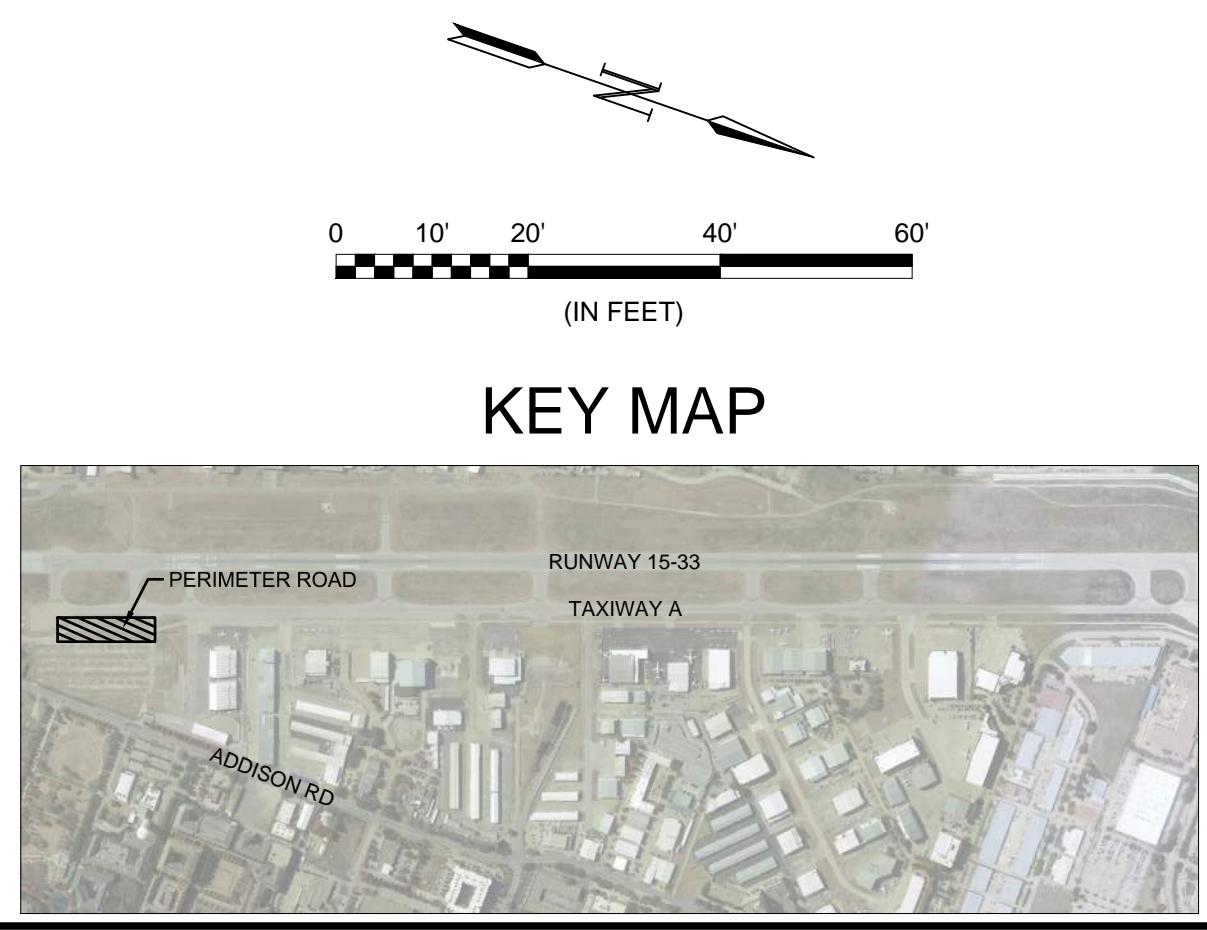
SHEET NUMBER  
**24**



POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
A	7038131.63	2481100.68	637.38	5/8-in NAIL
B	7038314.44	2480820.77	636.58	CPT
C	7037849.70	2481023.31	636.70	MAG
D	7038114.24	2481019.86	638.64	5/8-in NAIL
E	7038127.74	2480976.12	638.03	PK
F	7037840.86	2480906.71	636.44	X-CUTS



	PROPOSED CONCRETE PAVEMENT
	REINFORCED SLABS
	TEMPORARY CONSTRUCTION FENCE (SEE SHEET G-202)
	EXISTING PERIMETER FENCE
	PROPOSED DRAINAGE PIPE
	EXISTING DRAINAGE PIPE
	TOFA TAXIWAY OBJECT FREE AREA
	TSA TAXIWAY SAFETY AREA
	GRADING LIMITS
	TYPE A-1 ISOLATION JOINT
	TYPE E - DOWELED CONSTRUCTION JOINT
	TYPE C - DOWELED CONTRACTION JOINT



NUMBER	START STATION	END STATION	START NORTHING	START EASTING	END NORTHING	END EASTING	RADIUS	LENGTH	DELTA
L4	199+00.00	199+50.99	7037050.01	2480762.71	7037097.35	2480743.76			
C3	199+50.99	200+34.29	7037097.35	2480743.76	7037162.38	2480693.44	150.00'	83.29'	031°48'56.83"
L3	200+34.29	201+22.11	7037162.38	2480693.44	7037214.45	2480622.71			
C1	201+22.11	202+07.12	7037214.45	2480622.71	7037281.09	2480571.76	150.00'	85.01'	032°28'16.30"
L1	202+07.12	207+60.22	7037281.09	2480571.76	7037796.87	2480372.06			
C2	207+60.22	207+70.88	7037796.87	2480372.06	7037806.66	2480367.86	150.00'	10.66'	004°04'16.60"
L2	207+70.88	208+98.30	7037806.66	2480367.86	7037921.93	2480313.53			

File: I:\2019\19A11000 - ads on call 2019\Drawings\work order #1\RECORD\ADS\WO1-C202-PP.dwg, Last Save: 4/27/2020 8:48 AM, Last saved by: AMJlessop  
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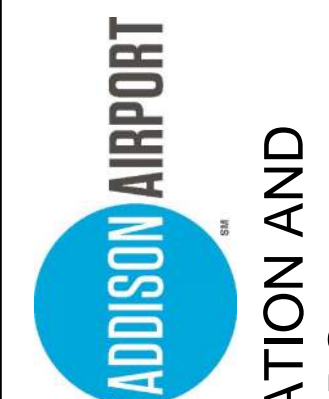




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ADDISON AIRPORT  
ADDISON, TEXAS

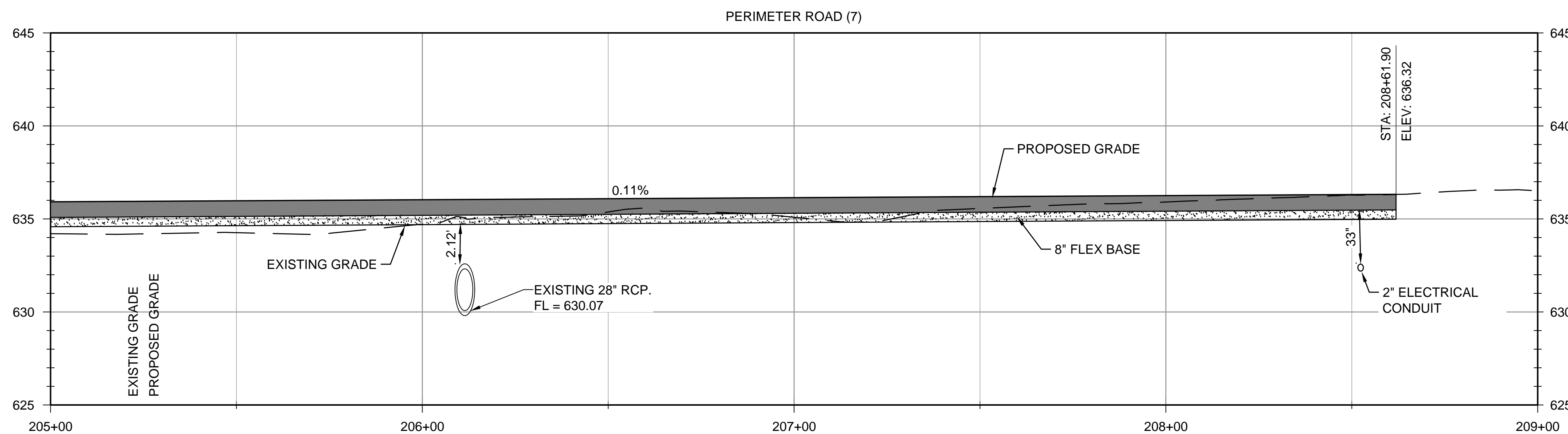
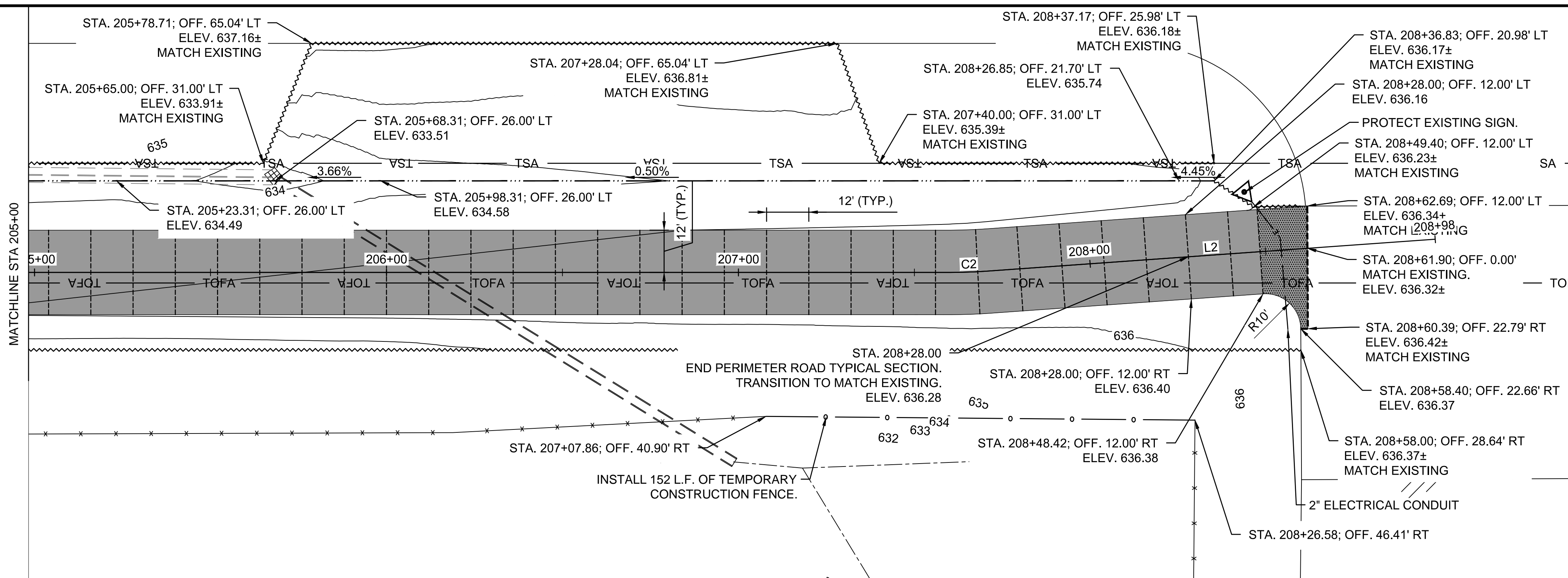
FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

PERIMETER ROAD  
RELOCATION -  
LAYOUT PLAN &  
PROFILE II

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON  
ORIGINAL DRAWING  
1" = 100'  
IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

DRAWING NUMBER  
**C-203**  
SHEET NUMBER  
**25**



**SURVEY CONTROL POINTS**

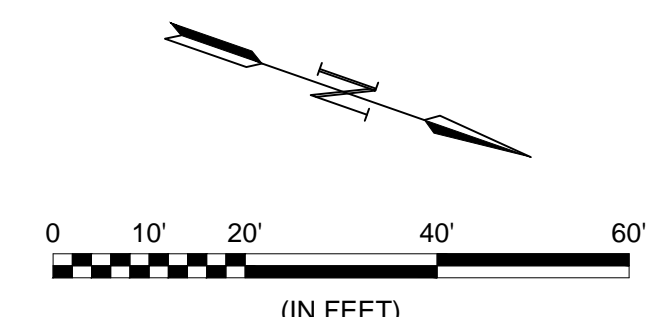
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
A	7038131.63	2481100.68	637.38	5/8-in NAIL
B	7038314.44	2480820.77	636.58	CPT
C	7037849.70	2481023.31	636.70	MAG
D	7038114.24	2481019.86	638.64	5/8-in NAIL
E	7038127.74	2480976.12	638.03	PK
F	7037840.86	2480906.71	636.44	X-CUTS

**PERIMETER ROAD**

NUMBER	START STATION	END STATION	START NORTHING	START EASTING	END NORTHING	END EASTING	RADIUS	LENGTH	DELTA
L4	199+00.00	199+50.99	7037050.01	2480762.71	7037097.35	2480743.76			
C3	199+50.99	200+34.29	7037097.35	2480743.76	7037162.38	2480693.44	150.00'	83.29'	031°48'56.83"
L3	200+34.29	201+22.11	7037162.38	2480693.44	7037214.45	2480622.71			
C1	201+22.11	202+07.12	7037214.45	2480622.71	7037281.09	2480571.76	150.00'	85.01'	032°28'16.30"
L1	202+07.12	207+60.22	7037281.09	2480571.76	7037796.87	2480372.06			

**LEGEND**

- PROPOSED CONCRETE PAVEMENT
- REINFORCED SLABS
- TEMPORARY CONSTRUCTION FENCE (SEE SHEET G-202)
- EXISTING PERIMETER FENCE
- PROPOSED DRAINAGE PIPE
- EXISTING DRAINAGE PIPE
- TAXIWAY OBJECT FREE AREA
- TAXIWAY SAFETY AREA
- GRADING LIMITS
- TYPE A-1 ISOLATION JOINT
- TYPE E - DOWELED CONSTRUCTION JOINT
- TYPE C - DOWELED CONTRACTION JOINT

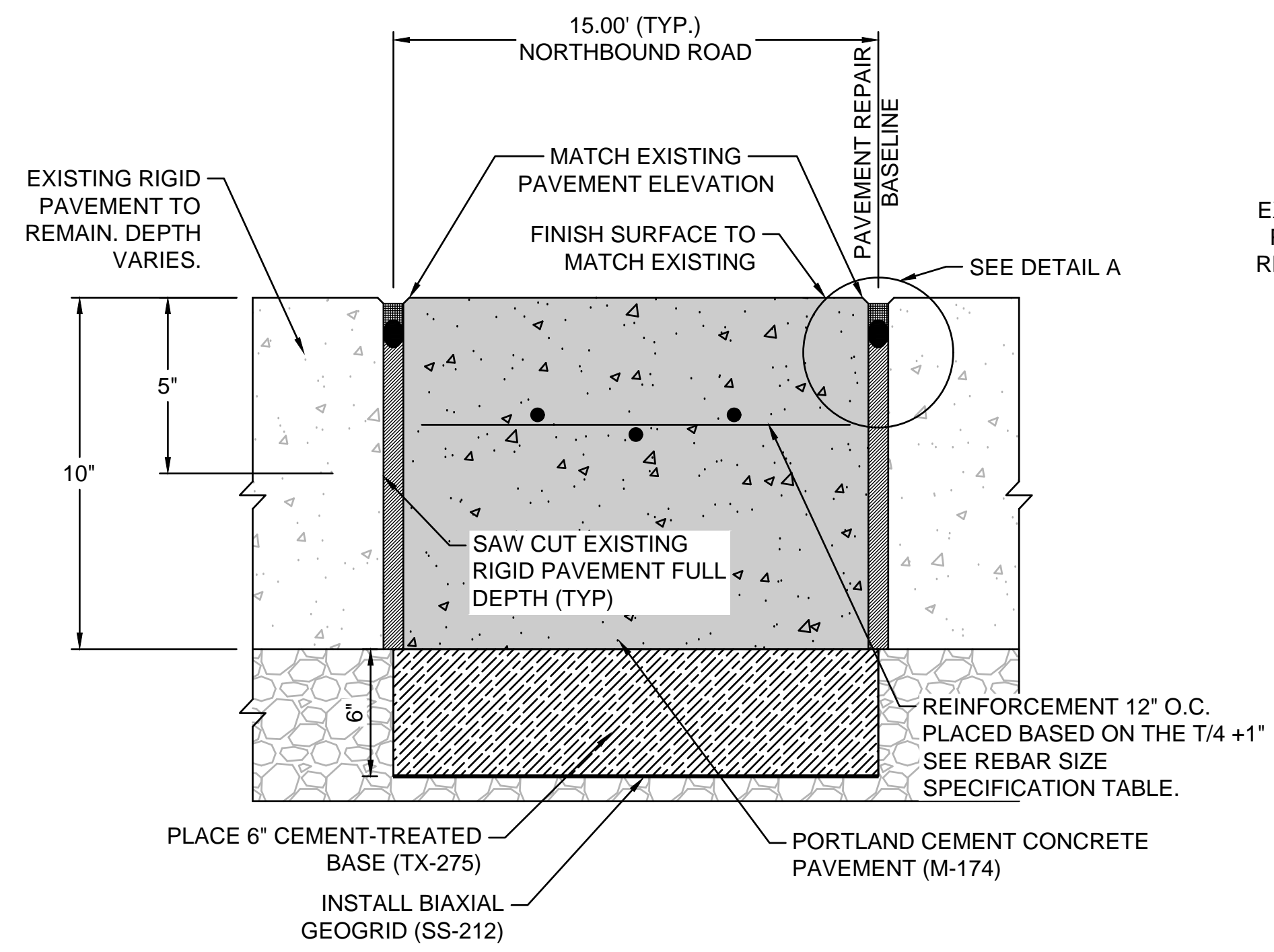


**KEY MAP**



File: I:\2019\19A11000 - ads on call 2019\Drawings\work order #1\RECORD\DWG\WO1-C203-PP.dwg, Last Save: 4/27/2020 8:48 AM, Last saved by: AMJlessop  
 Last plotted by: Jessop, Alex M., Plot Style: AECmon.ctb, Plot Scale: 1:1, Plot Date: 4/27/2020 11:39 AM, Plotter used: DWG To PDF.pc3

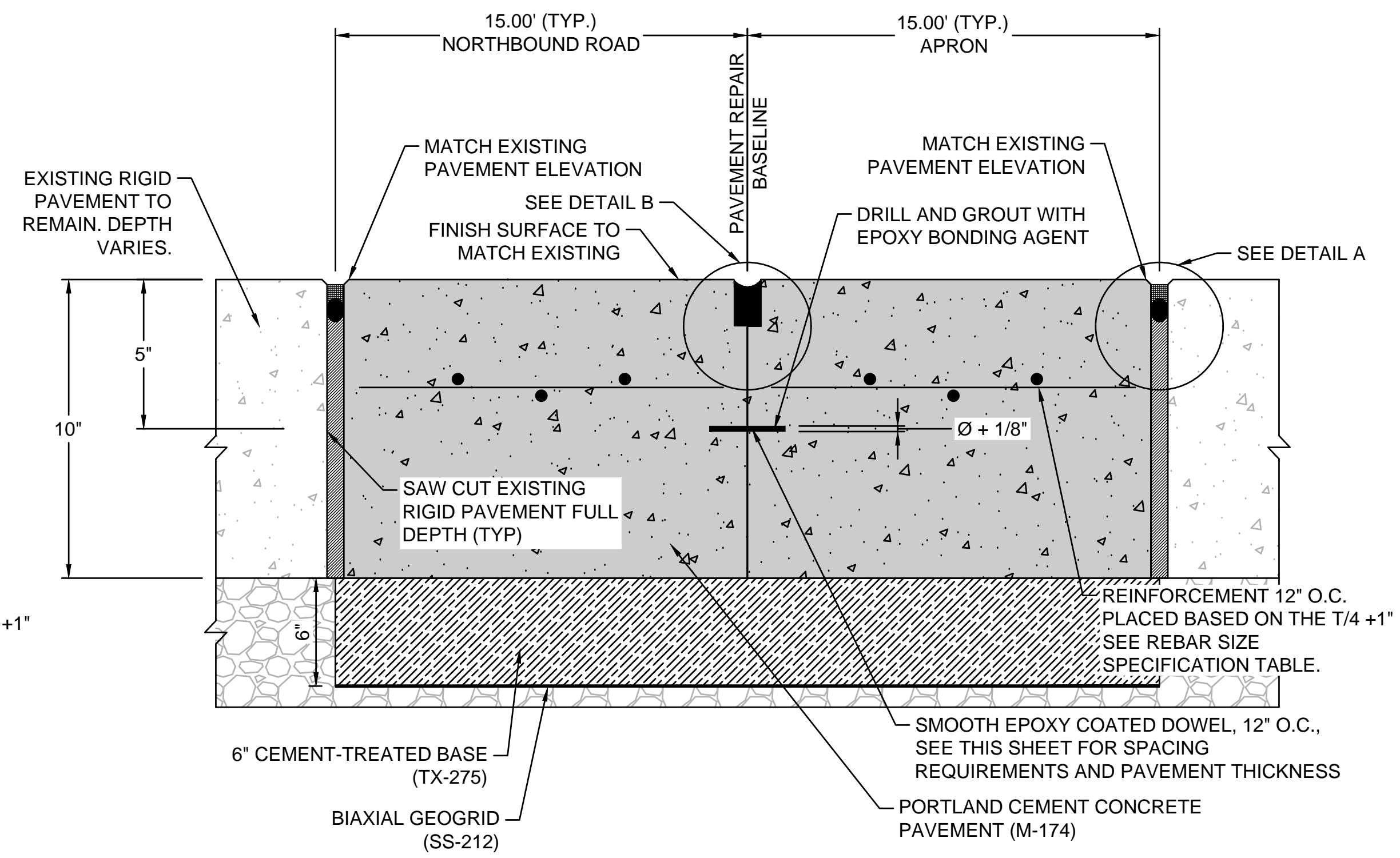
REV.	DATE	DESCRIPTION



**AMERICAN FLYERS ROAD TYPICAL SECTION (BASE BID ONLY)**

1  
C-300

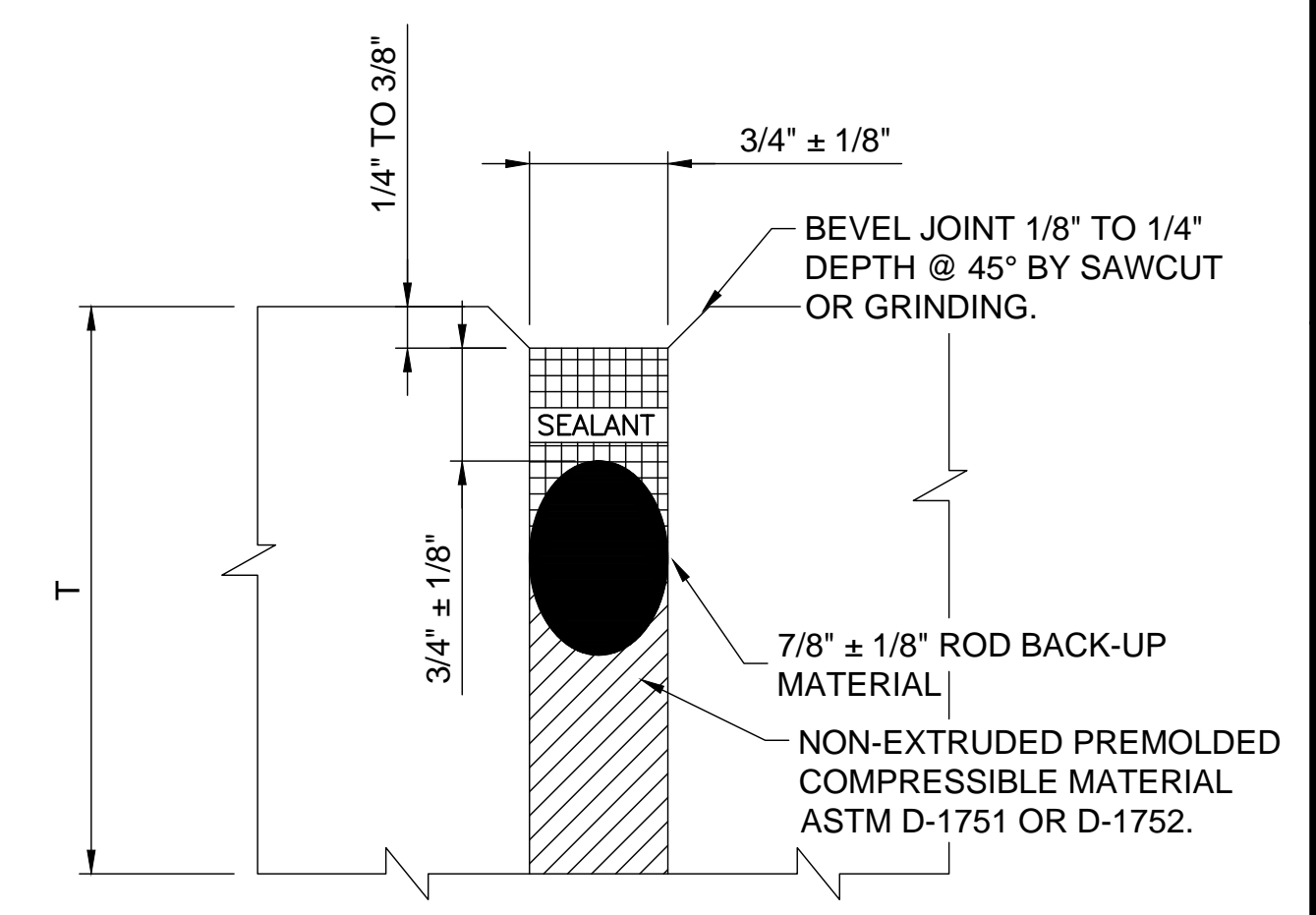
SCALE: NONE



**AMERICAN FLYERS ROAD AND APRON TYPICAL SECTION (ADDITIVE ALTERNATE 1)**

2  
C-300

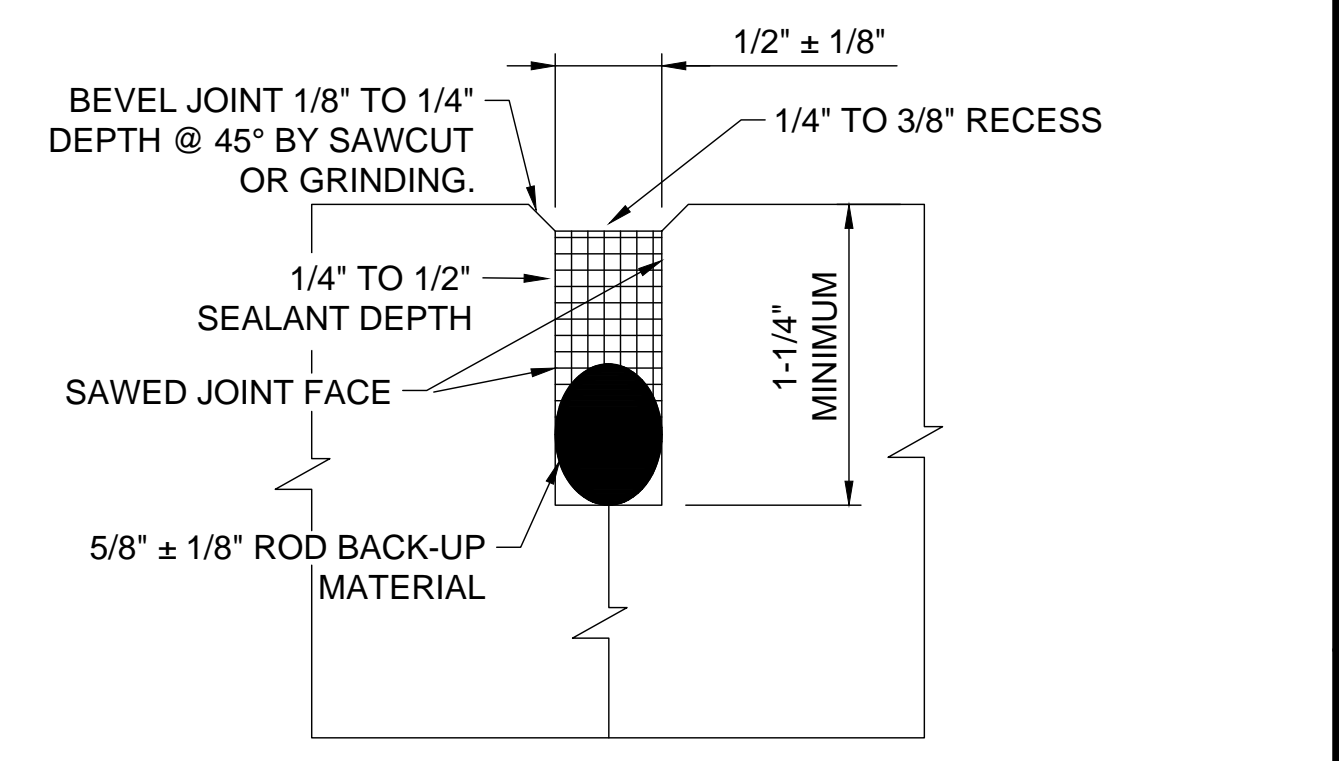
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**ISOLATION JOINTS**

A  
C-300

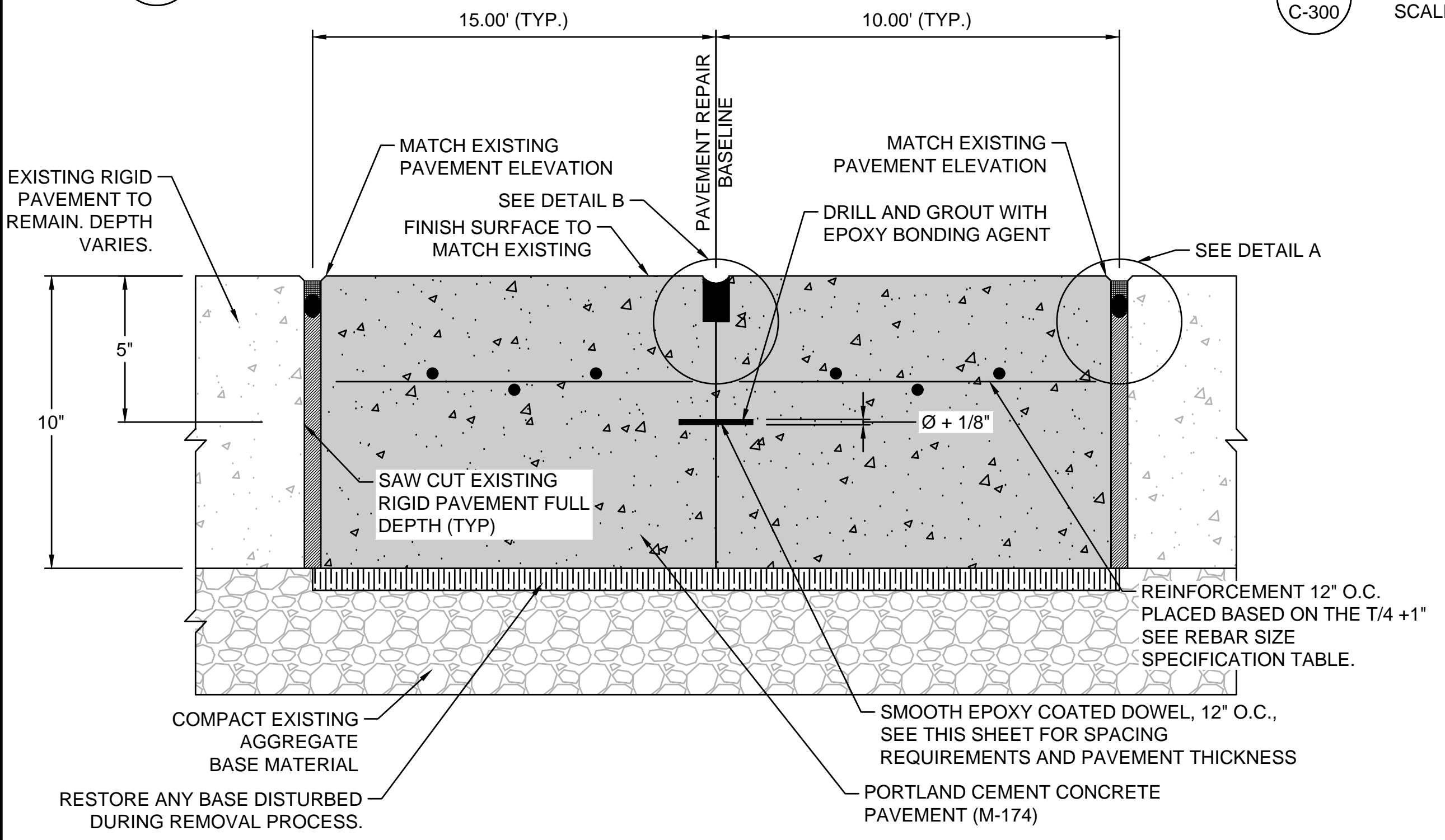
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**CONSTRUCTION JOINT DETAIL**

B  
C-300

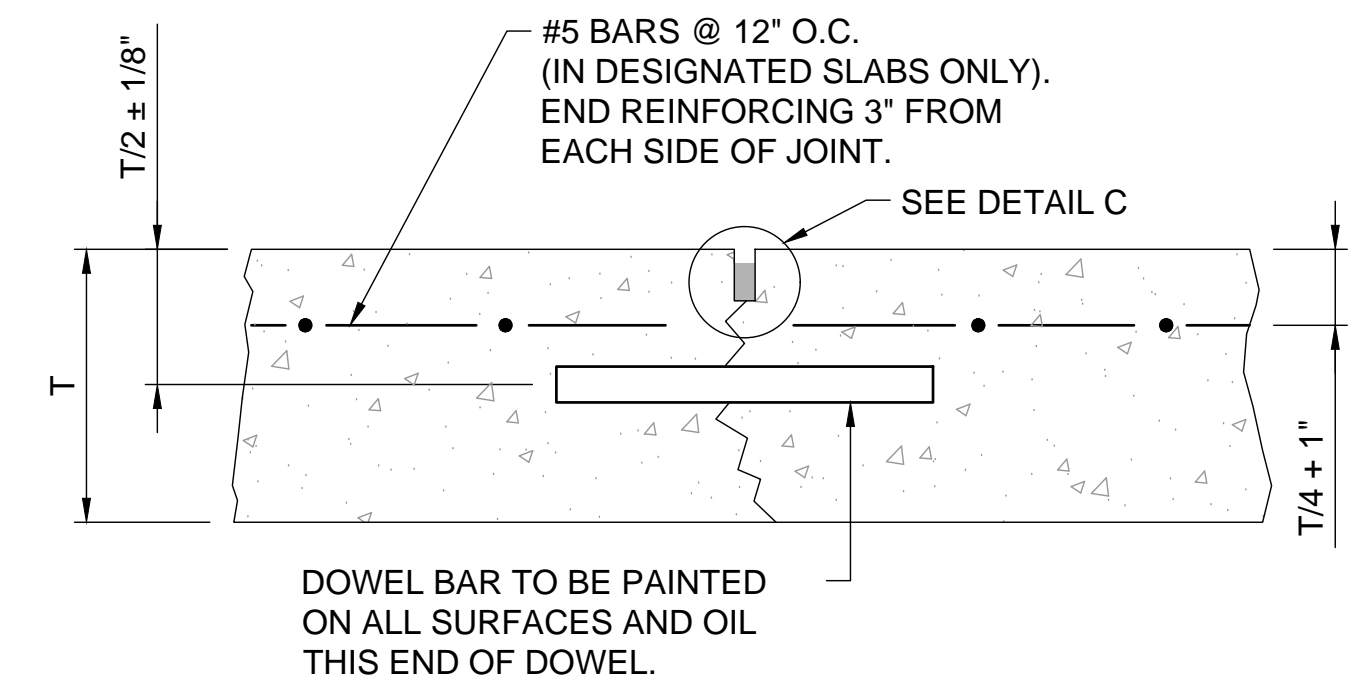
SCALE: NONE



**AMERICAN FLYERS APRON TYPICAL SECTION**

3  
C-300

SCALE: NONE



**TYPE C-DOWELED CONTRACTION JOINT**

4  
C-300

SCALE: NONE

SLAB THICKNESS	DOWEL DIAMETER	DOWEL LENGTH	DOWEL SPACING
7.5" TO 12"	1"	18"	12"

**DOWEL BAR SPECIFICATIONS**

5  
C-300

SCALE: NONE

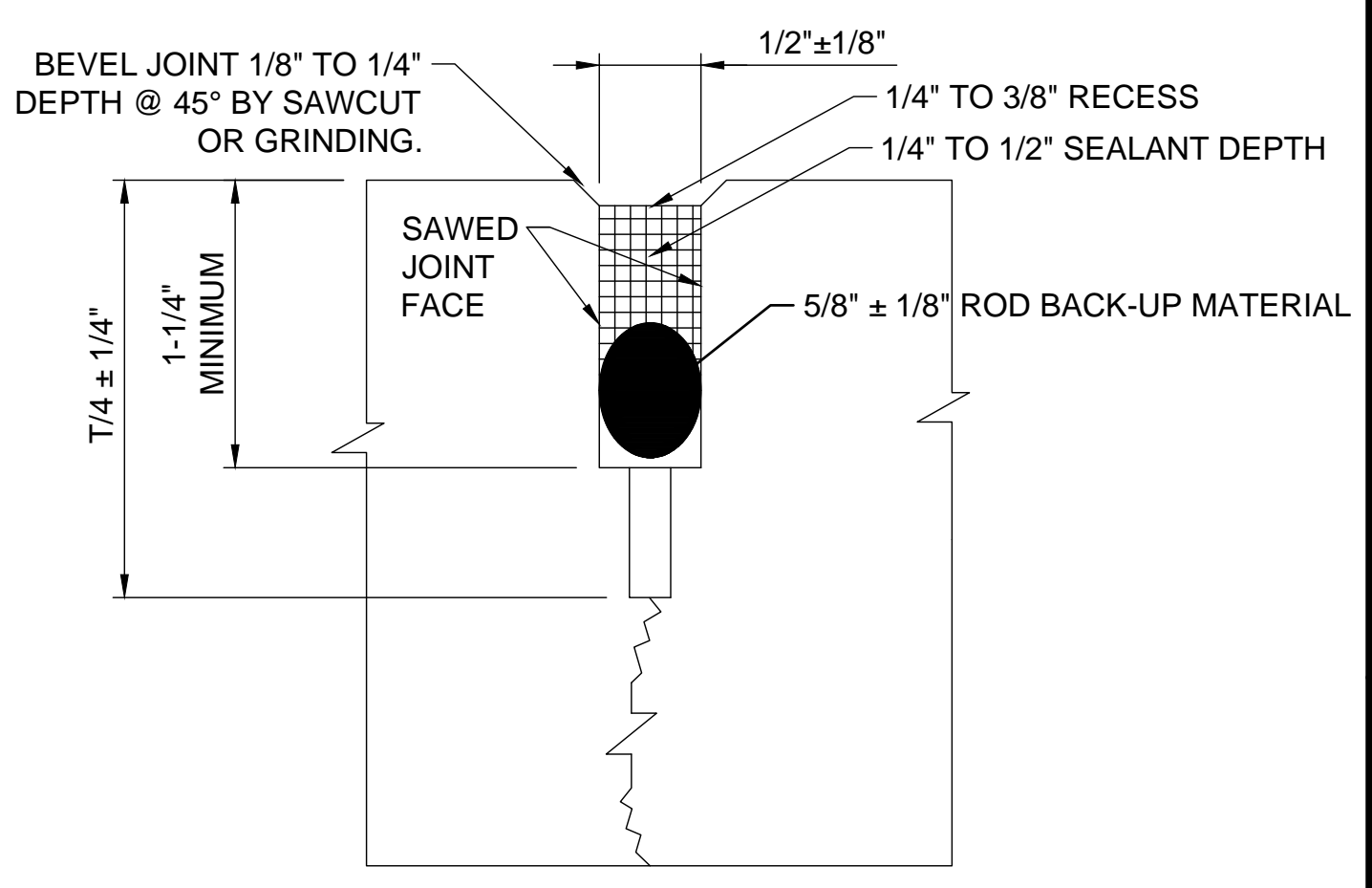
SLAB THICKNESS	REBAR SIZE
9"	#4 REBAR
> 9"	#5 REBAR

TIE-BAR SIZE	TIE-BAR LENGTH	TIE-BAR SPACING
#5	24"	24"

**TIE-BAR REINFORCEMENT SPECIFICATIONS**

6  
C-300

SCALE: NONE



**CONTRACTION JOINTS**

C  
C-300

SCALE: NONE

LEGEND	
	SILICONE SEALANT (M-170)
	ROD BACK-UP MATERIAL CLOSED-CELL RESILIENT FOAM OR SPONGE RUBBER (M-170)
	RESILIENT FILLER (ASTM D1751)

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REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

ALPHA AMERICAN FLYERS PAVEMENT REPAIR - DEMOLITION PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY:  
DRAWN BY: JAH


BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**C-301**  
SHEET NUMBER **27**



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**LEGEND**

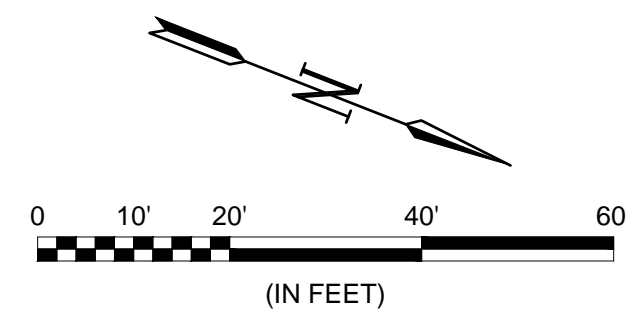
 PAVEMENT DEMOLITION LIMITS

**KEY MAP**



**PAVEMENT DEMOLITION NOTE:**  
PAVEMENT DEMOLITION FOR REPAIR PURPOSES SHALL NOT BE MEASURED FOR SEPARATE PAYMENT, BUT INSTEAD BE CONSIDERED SUBSIDIARY TO M-174.

**\*PAVEMENT REPAIR LOCATION NOTE:**  
COORDINATES PROVIDED ARE APPROXIMATE. CONTRACTOR MUST VERIFY PAVEMENT REPAIR LOCATION WITH ENGINEER PRIOR TO DEMOLITION.





REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

**ADDISON AIRPORT**

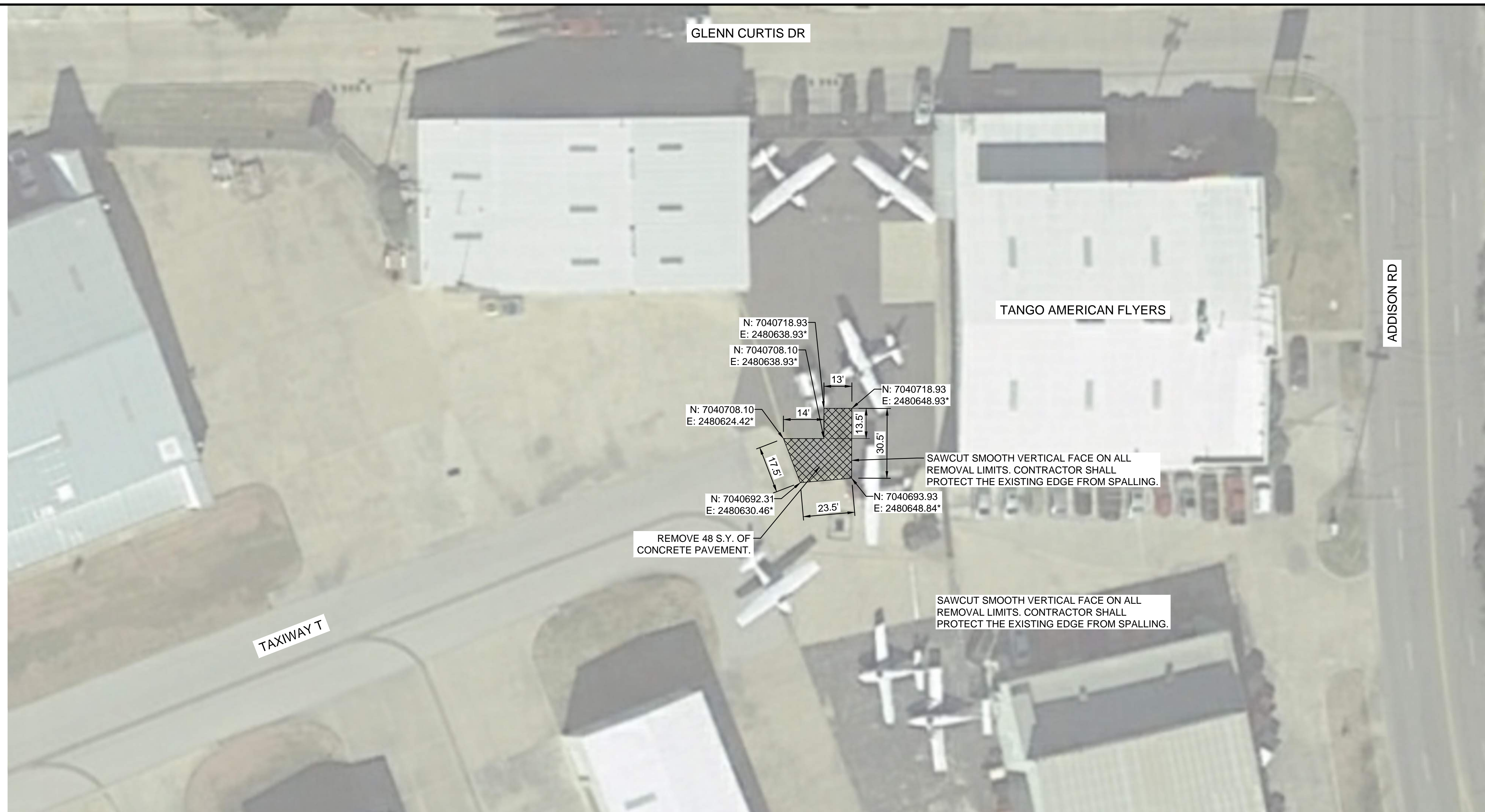
FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

TANGO AMERICAN  
FLYERS PAVEMENT  
REPAIR -  
DEMOLITION PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON  
ORIGINAL DRAWING  
0 10 20 40 60  
IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

DRAWING NUMBER  
**C-302**  
SHEET  
NUMBER **28**



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Last plotted by: lessop, Alex M., Plot Style: AECmonochrome.ctb, Plot Scale: 1:1, Plot Date: 4/27/2020 11:40 AM, Plotter used: DWG To PDF.pc3

LEGEND	
	PAVEMENT DEMOLITION LIMITS

### KEY MAP

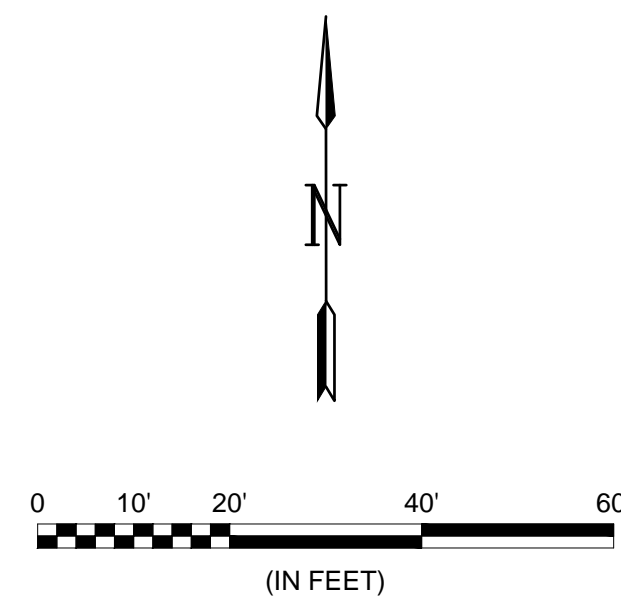


#### PAVEMENT DEMOLITION NOTE:

PAVEMENT DEMOLITION FOR REPAIR PURPOSES SHALL NOT BE MEASURED FOR SEPARATE PAYMENT, BUT INSTEAD BE CONSIDERED SUBSIDIARY TO M-174.

#### \*PAVEMENT REPAIR LOCATION NOTE:

COORDINATES PROVIDED ARE APPROXIMATE. CONTRACTOR MUST VERIFY PAVEMENT REPAIR LOCATION WITH ENGINEER PRIOR TO DEMOLITION.





REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

**ADDISON AIRPORT**

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

ALPHA AMERICAN FLYERS PAVEMENT REPAIR - LAYOUT PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
0 10' 20' 40' 60'  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.  
(IN FEET)

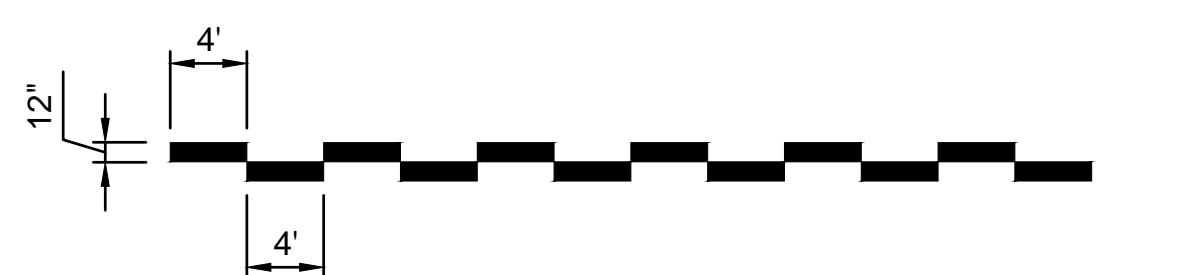
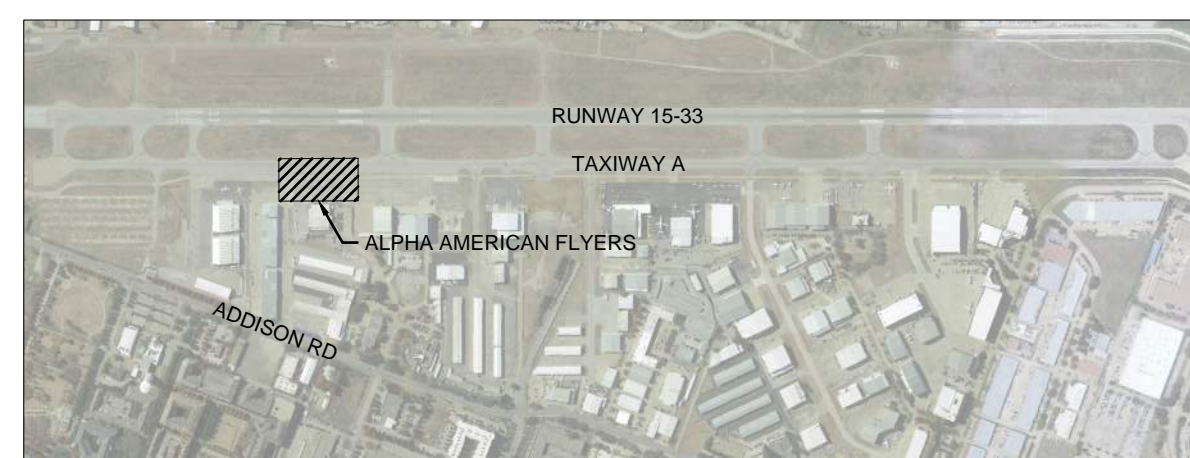
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**C-303**  
SHEET NUMBER  
**29**



### LEGEND

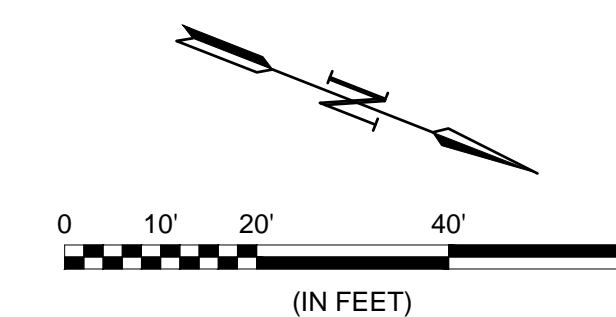
- NEW CONCRETE PAVEMENT
- ISOLATION JOINT (SEE SHEET C-300)
- CONTRACTION JOINT (SEE SHEET C-300)

### KEY MAP

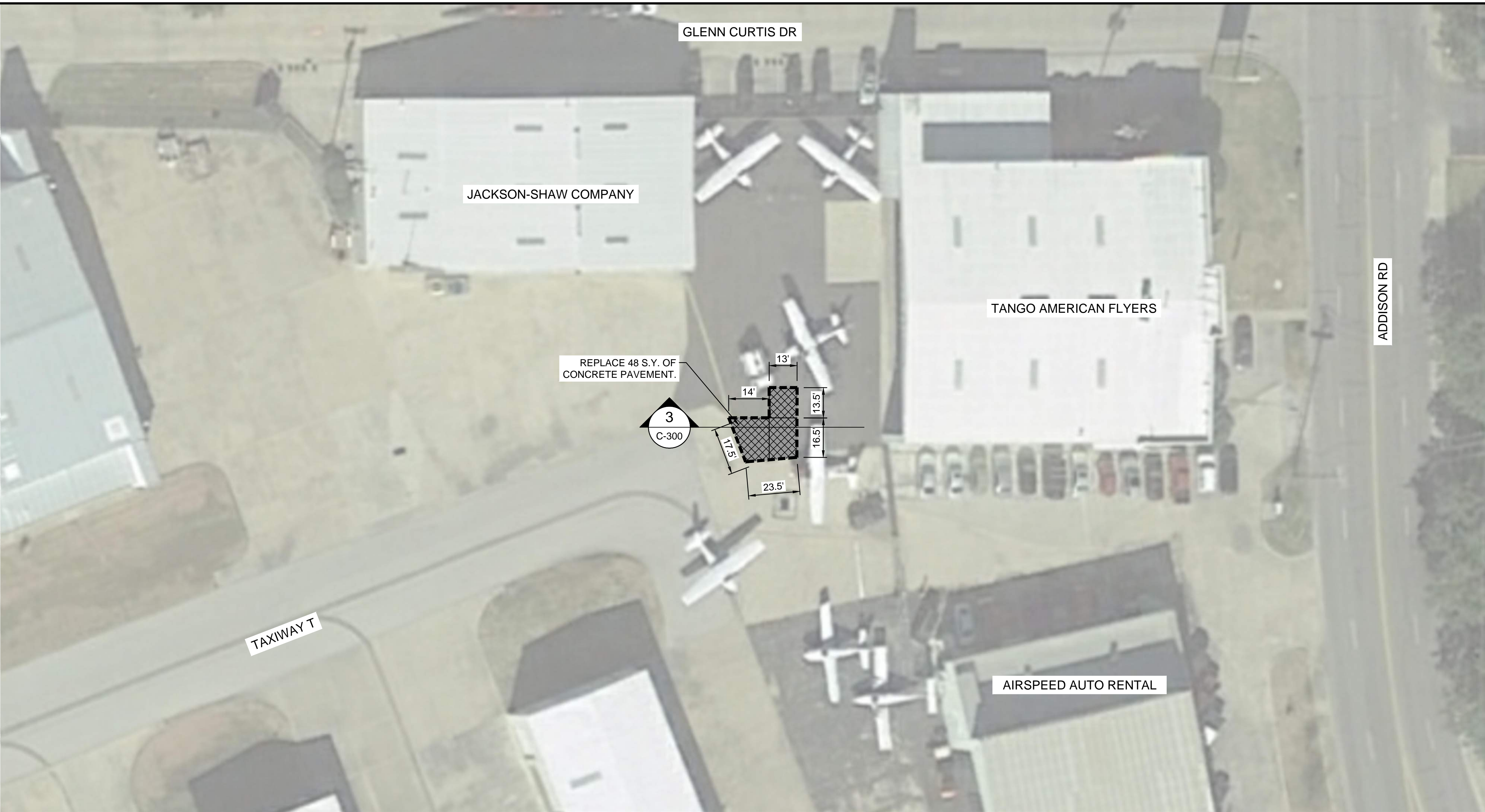


### ROADWAY EDGE STRIPES

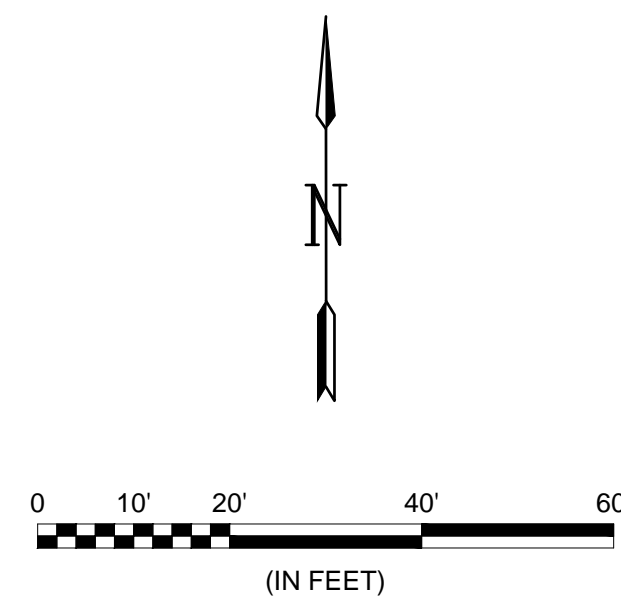
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NOTE:  
ROADWAY EDGE STRIPES ARE WHITE



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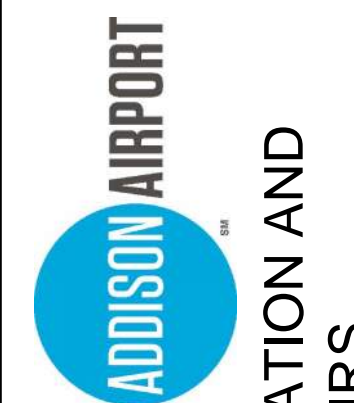
LEGEND	
	NEW CONCRETE PAVEMENT
	ISOLATION JOINT (SEE SHEET C-300)
	CONTRACTION JOINT (SEE SHEET C-300)



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY



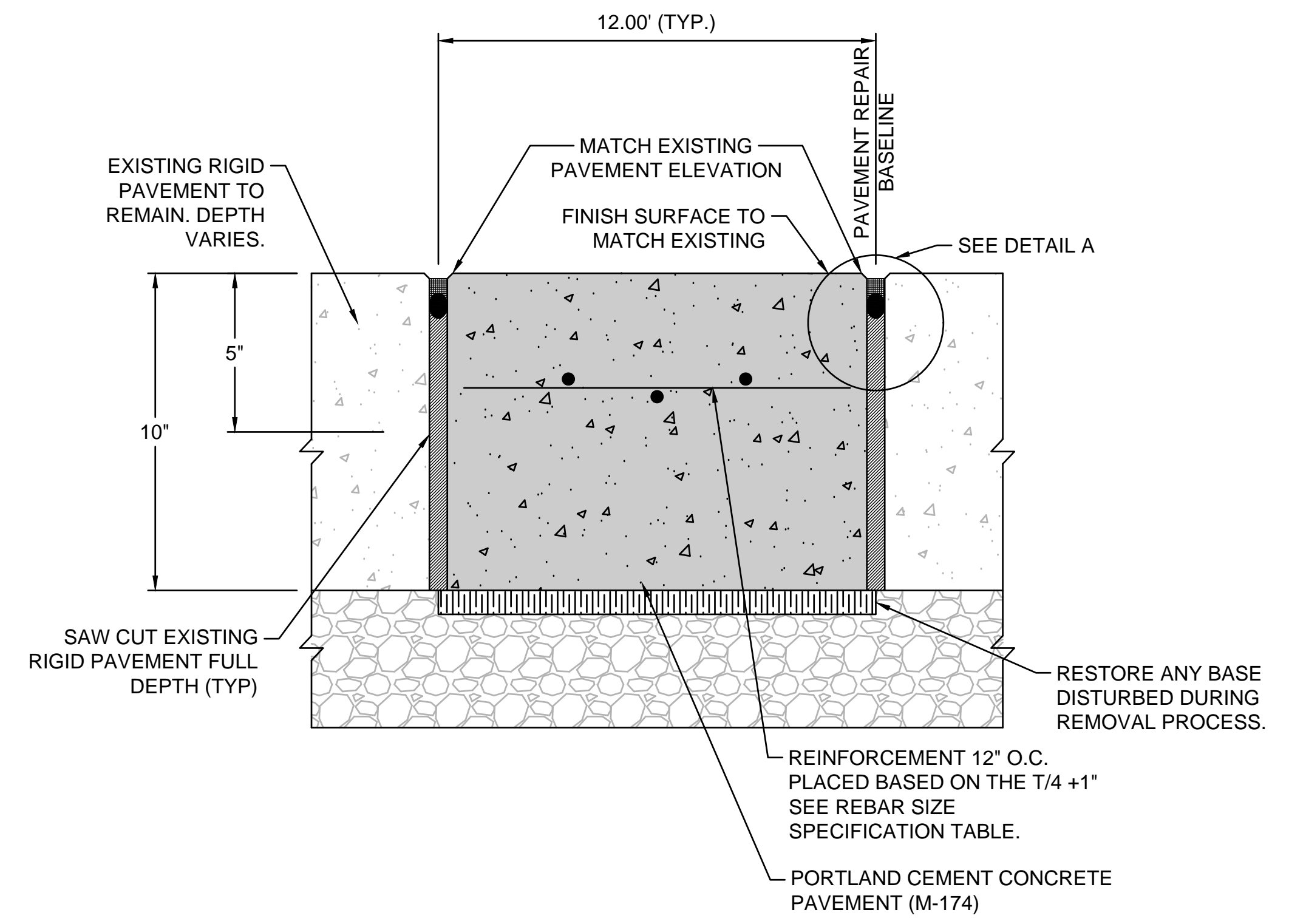
ADDISON AIRPORT  
ADDISON, TEXAS  
FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

TANGO AMERICAN  
FLYERS PAVEMENT  
REPAIR - LAYOUT  
PLAN

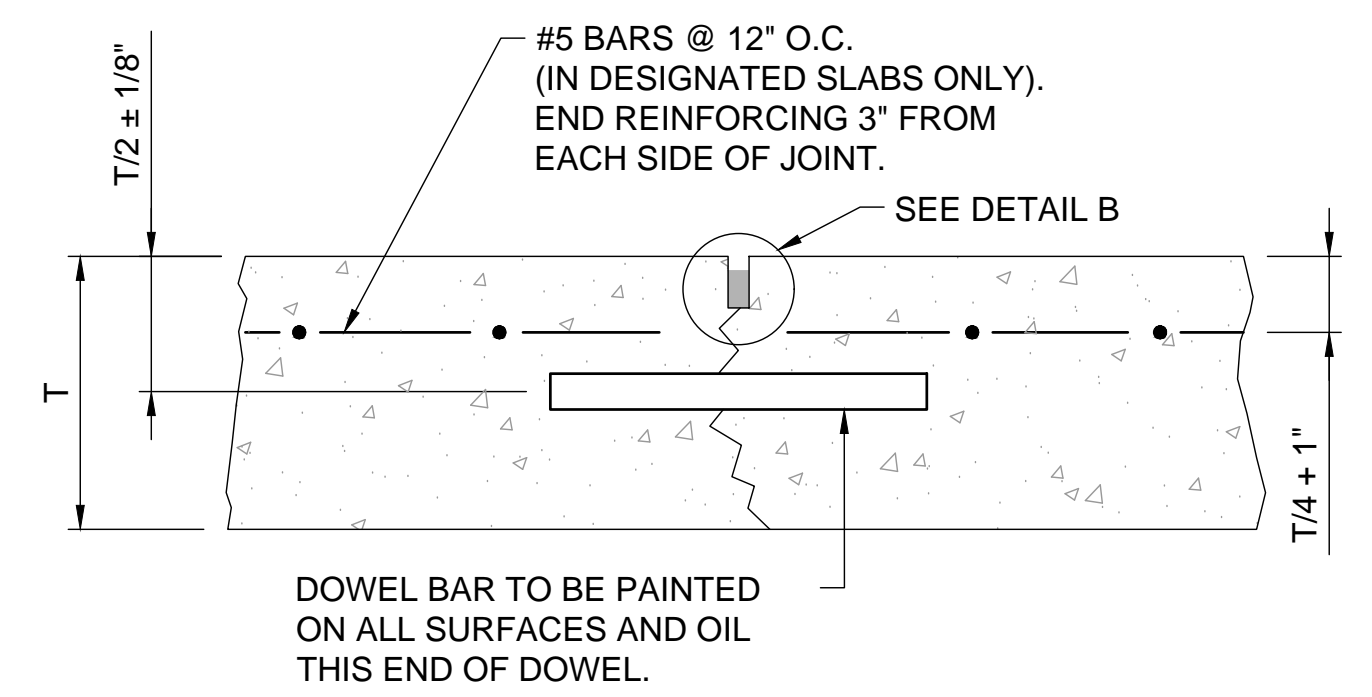
JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

BAR IS ONE INCH ON  
ORIGINAL DRAWING  
1"  
IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

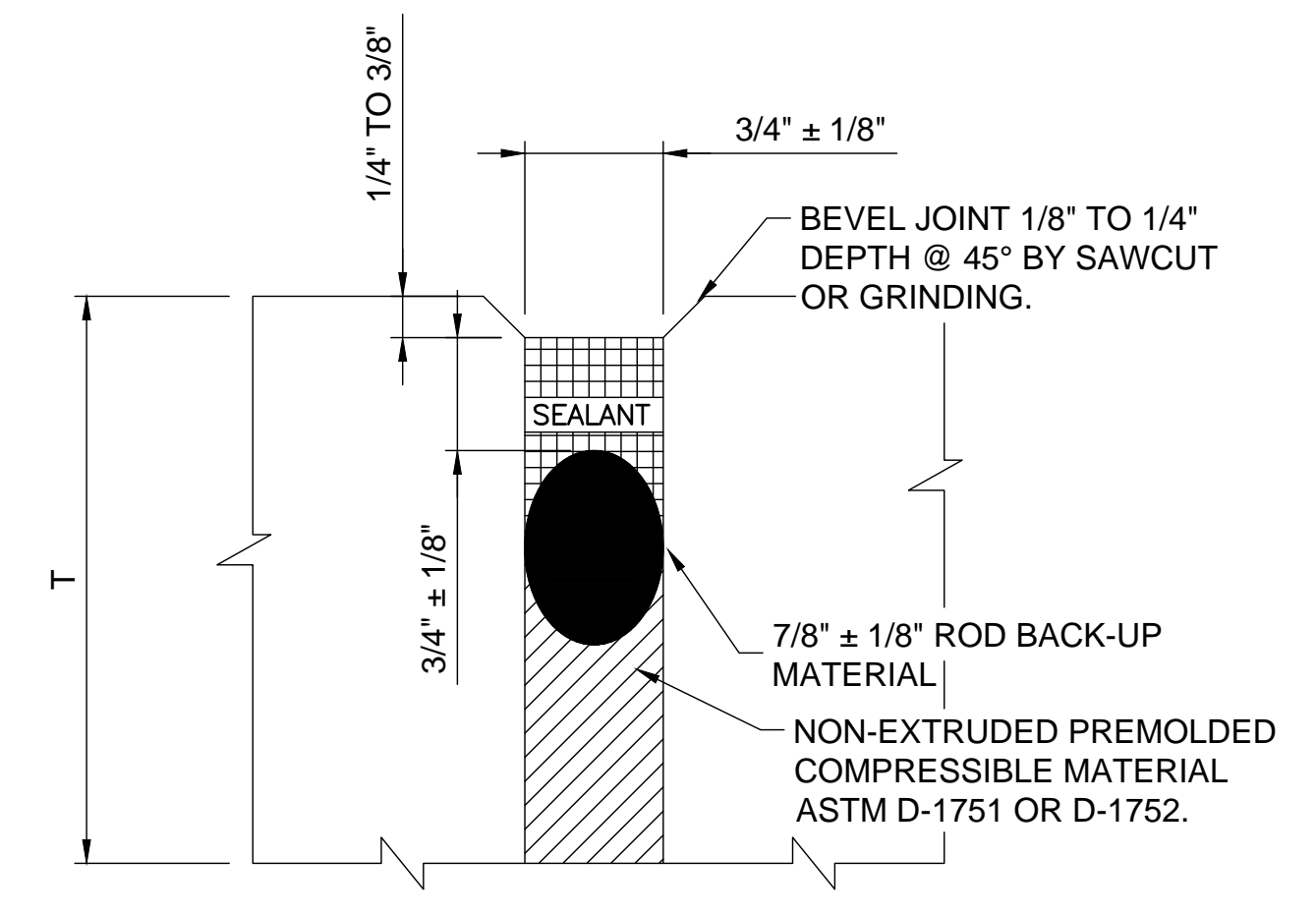
DRAWING NUMBER  
**C-304**  
SHEET NUMBER  
**30**



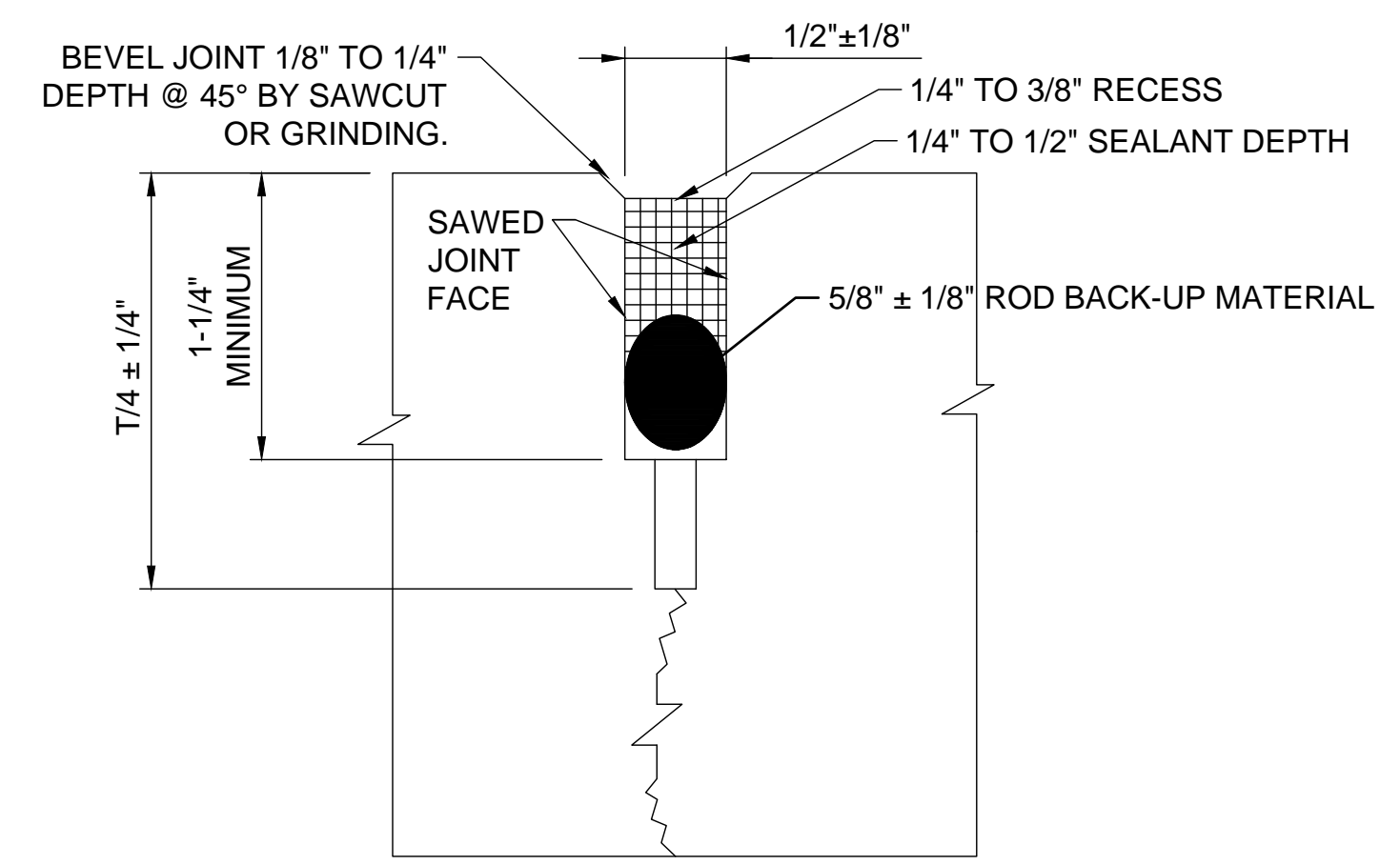
1 TURBINE ROAD TYPICAL SECTION  
C-400 SCALE: NONE



2 TYPE C-DOWELED CONTRACTION JOINT  
C-400 SCALE: NONE



A ISOLATION JOINTS  
C-400 SCALE: NONE



C CONTRACTION JOINTS  
C-400 SCALE: NONE

LEGEND	
	SILICONE SEALANT (M-170)
	ROD BACK-UP MATERIAL CLOSED-CELL RESILIENT FOAM OR SPONGE RUBBER (M-170)
	RESILIENT FILLER (ASTM D1751)

SLAB THICKNESS	DOWEL DIAMETER	DOWEL LENGTH	DOWEL SPACING
7.5" TO 12"	1"	18"	12"

3 DOWEL BAR SPECIFICATIONS  
C-400 SCALE: NONE

SLAB THICKNESS	REBAR SIZE
9"	#4 REBAR
> 9"	#5 REBAR

4 TIE-BAR REINFORCEMENT SPECIFICATIONS  
C-400 SCALE: NONE

TIE-BAR SIZE	TIE-BAR LENGTH	TIE-BAR SPACING
#5	24"	24"

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

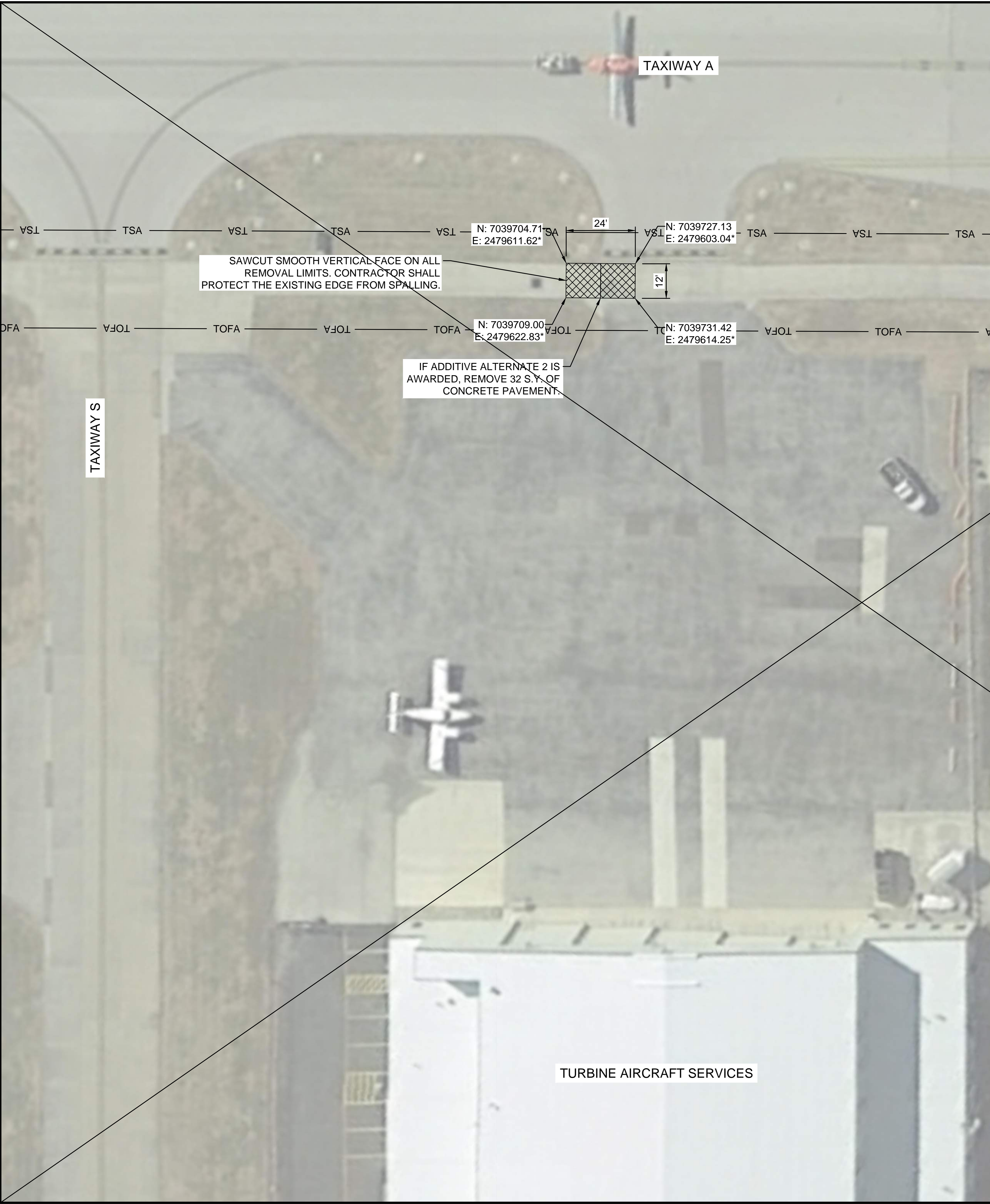
TURBINE AIRCRAFT SERVICES ROAD PAVEMENT REPAIR - DETAILS

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

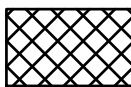
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

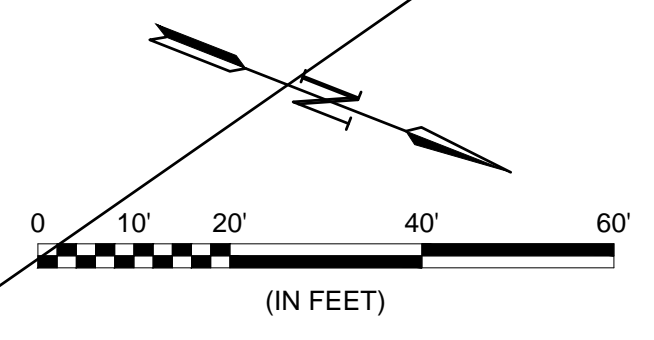
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SHEET NUMBER **31**

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 Last plotted by: lessop, Alex M, Plot Style: AECmonochrome.ctb, Plot Scale: 1:1, Plot Date: 4/27/2020 11:41 AM, Plotter used: \_DWG To PDF.pc3



**LEGEND**

 PAVEMENT DEMOLITION LIMITS



**KEY MAP**



**PAVEMENT DEMOLITION NOTE:**  
 PAVEMENT DEMOLITION FOR REPAIR PURPOSES SHALL NOT BE MEASURED FOR SEPARATE PAYMENT, BUT INSTEAD BE CONSIDERED SUBSIDIARY TO M-174.

**\*PAVEMENT REPAIR LOCATION NOTE:**  
 COORDINATES PROVIDED ARE APPROXIMATE. CONTRACTOR MUST VERIFY PAVEMENT REPAIR LOCATION WITH ENGINEER PRIOR TO DEMOLITION.



REGISTRATION NO. F-5713

RECORD DRAWINGS  
 04/27/2020

REV.	DATE	DESCRIPTION	BY

**ADDISON AIRPORT**  
 ADDISON, TEXAS

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

TURBINE AIRCRAFT SERVICES ROAD PAVEMENT REPAIR - DEMOLITION PLAN

JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: JAH  
 DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**C-401**

SHEET NUMBER **32**

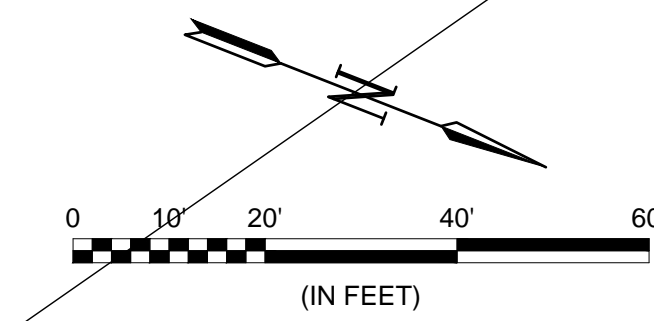


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**LEGEND**

- NEW CONCRETE PAVEMENT
- ISOLATION JOINT (SEE SHEET C-400)
- CONTRACTION JOINT (SEE SHEET C-400)



**KEY MAP**



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

TURBINE AIRCRAFT SERVICES ROAD PAVEMENT REPAIR - LAYOUT PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

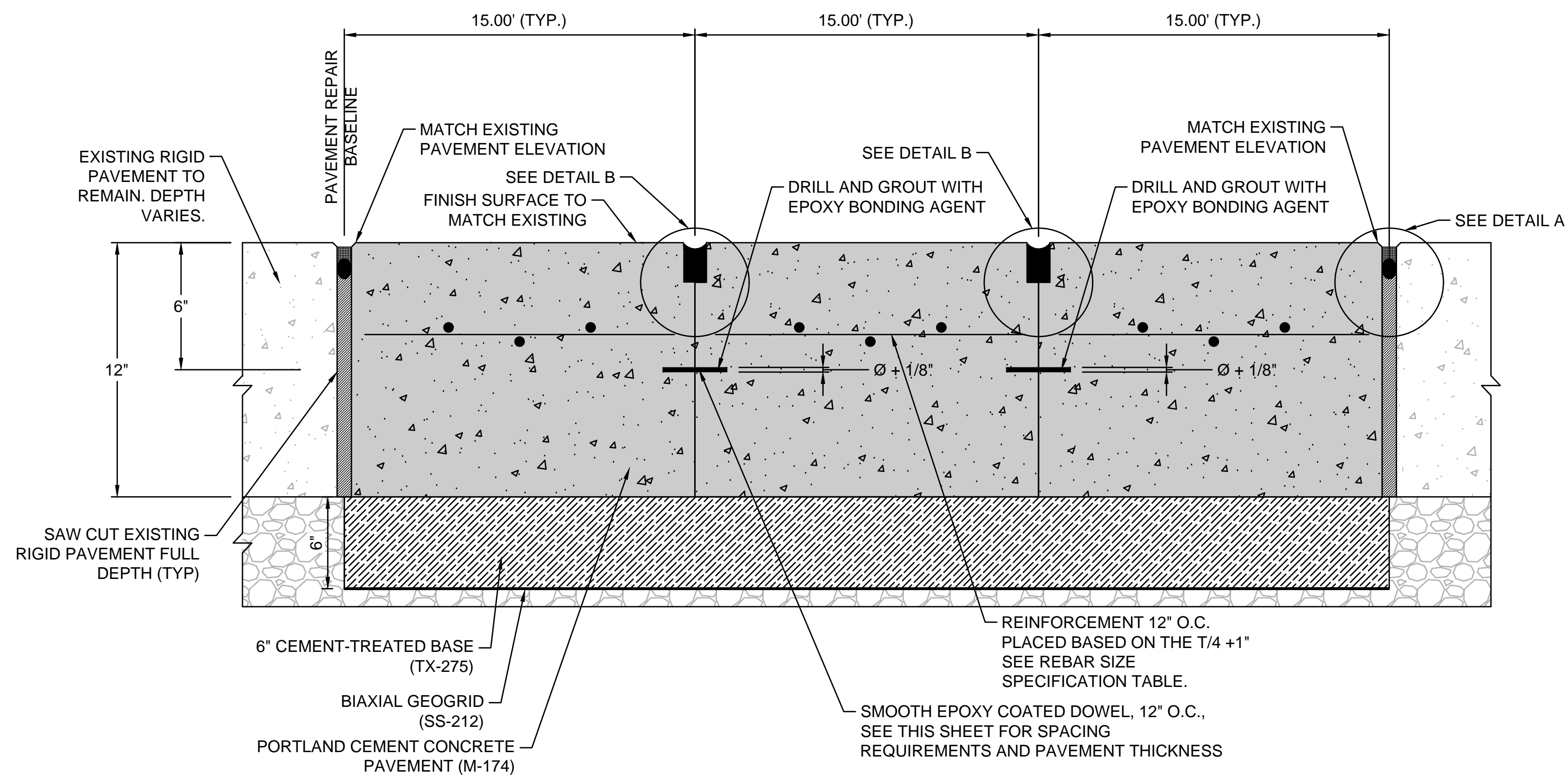
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**C-402**

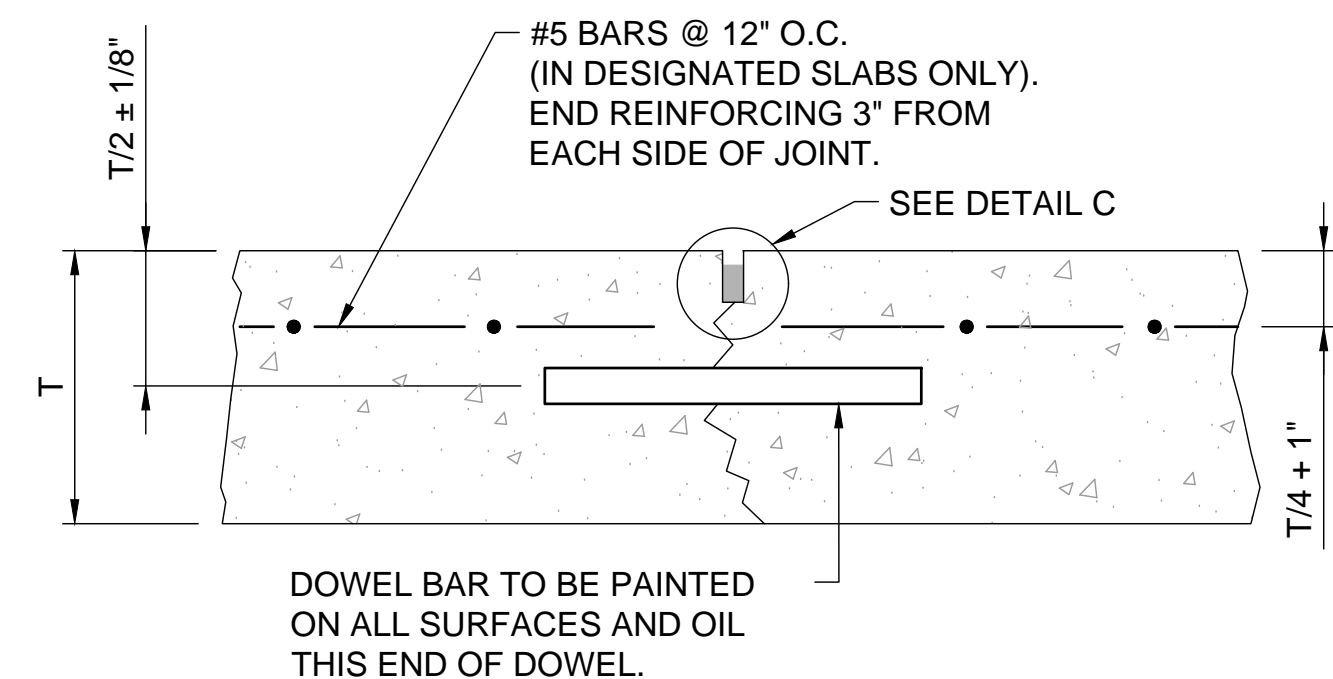
SHEET NUMBER  
**33**

ADDISON AIRPORT  
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

REV.	DATE	DESCRIPTION	BY



1 FLIGHTLINE APRON TYPICAL SECTION  
C-500 SCALE: NONE



2 TYPE C-DOWELED CONTRACTION JOINT  
C-500 SCALE: NONE

SLAB THICKNESS	DOWEL DIAMETER	DOWEL LENGTH	DOWEL SPACING
7.5" TO 12"	1"	18"	12"

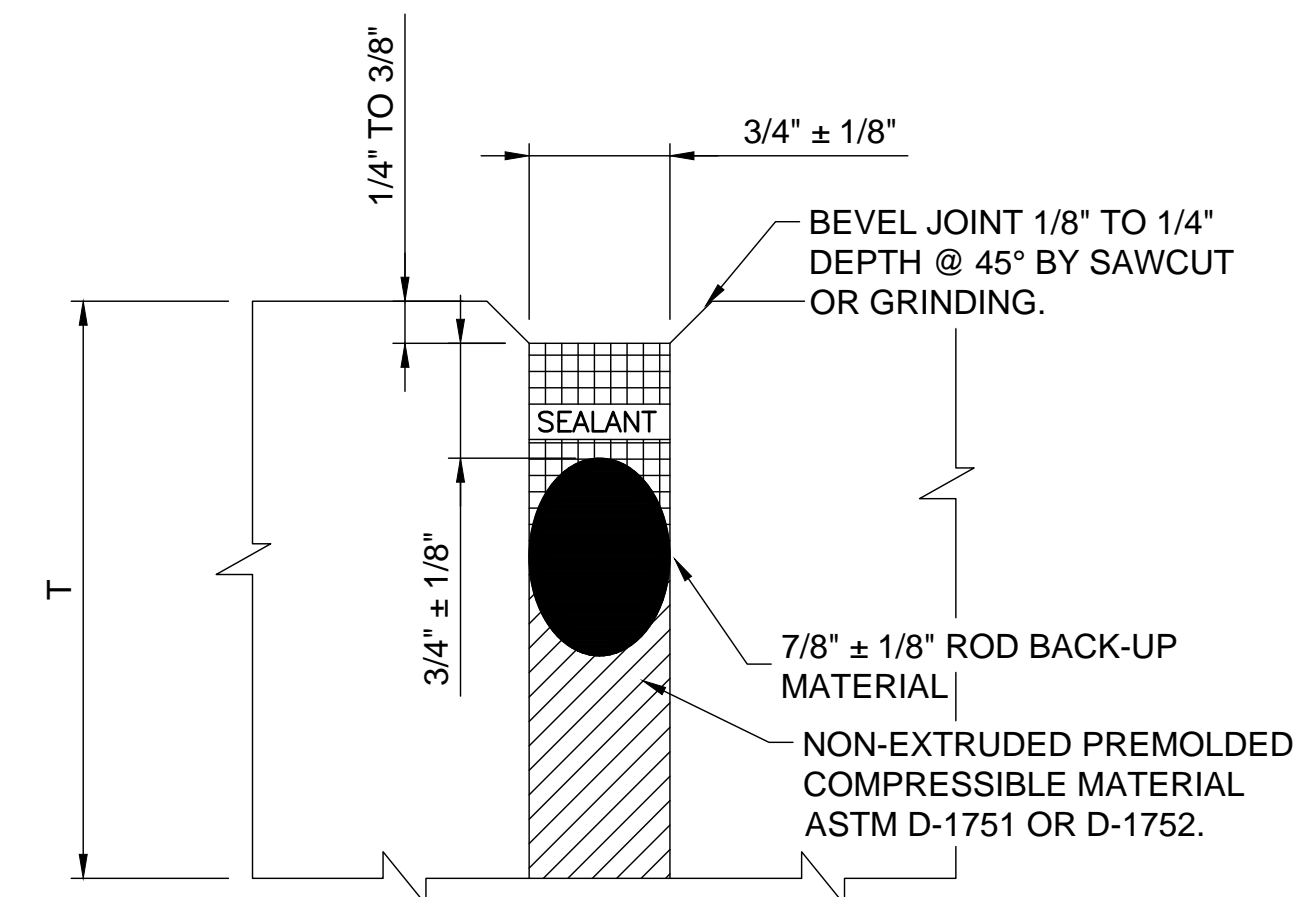
3 DOWEL BAR SPECIFICATIONS  
C-500 SCALE: NONE

SLAB THICKNESS	REBAR SIZE
9"	#4 REBAR
> 9"	#5 REBAR

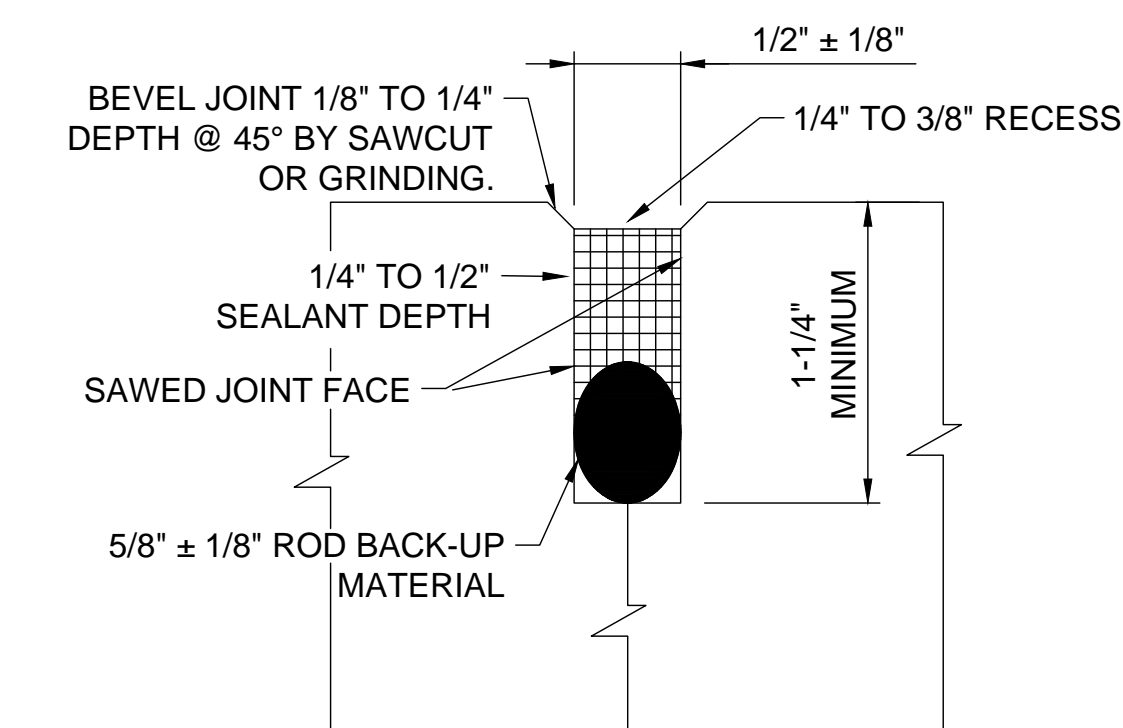
4 TIE-BAR REINFORCEMENT SPECIFICATIONS  
C-500 SCALE: NONE

TIE-BAR SIZE	TIE-BAR LENGTH	TIE-BAR SPACING
#5	24"	24"

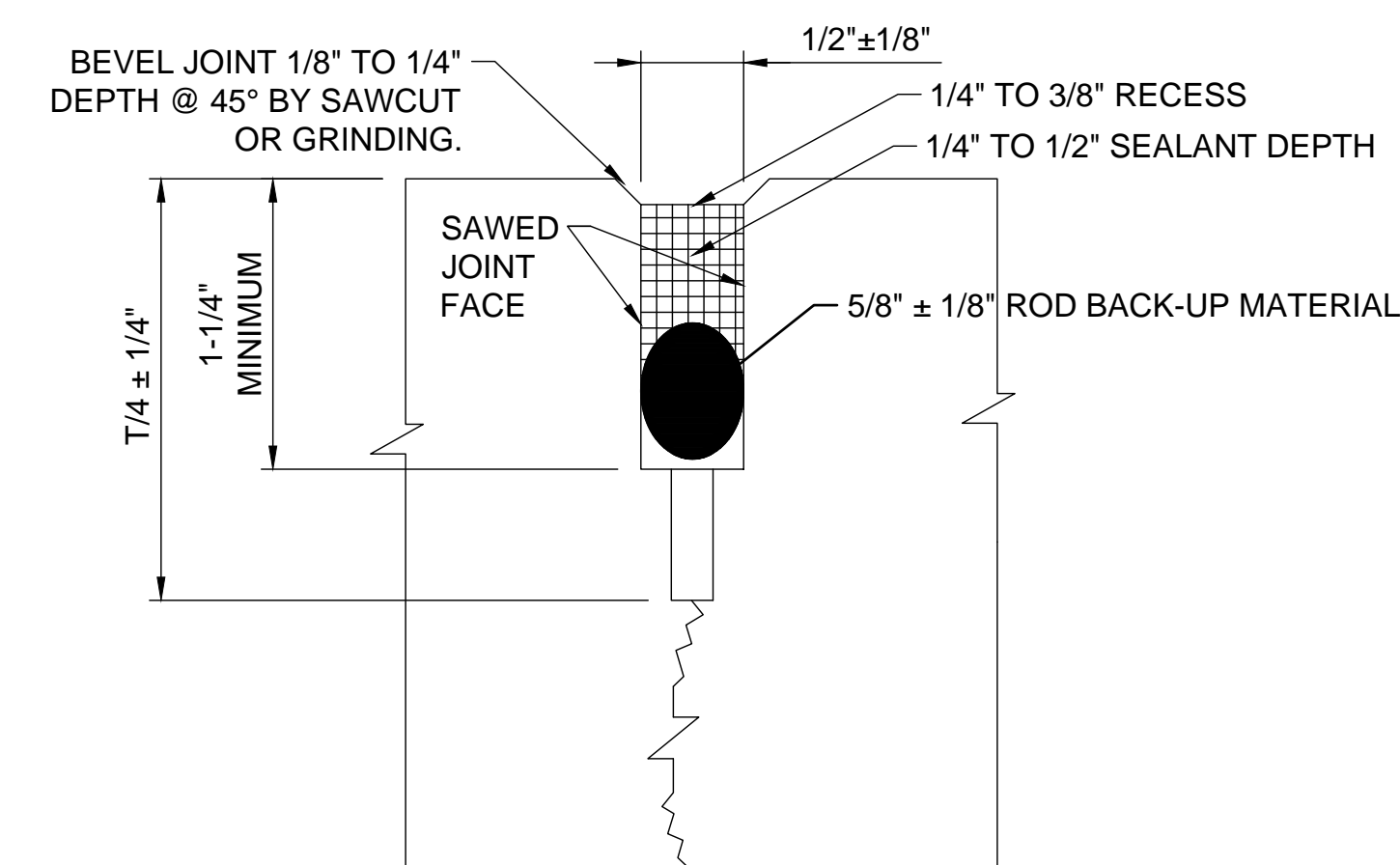
LEGEND	
	SILICONE SEALANT (M-170)
	ROD BACK-UP MATERIAL CLOSED-CELL RESILIENT FOAM OR SPONGE RUBBER (M-170)
	RESILIENT FILLER (ASTM D1751)



A ISOLATION JOINTS  
C-500 SCALE: NONE



B CONSTRUCTION JOINT DETAIL  
C-500 SCALE: NONE

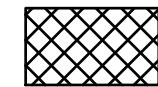


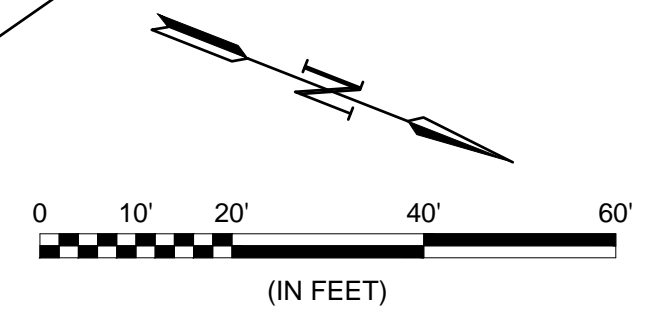
C CONTRACTION JOINTS  
C-500 SCALE: NONE

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 Last plotted by: Jessop, Alex M., Plot Style: AECmonochrome.ctb, Plot Scale: 1:1, Plot Date: 4/27/2020 11:42 AM, Plotter used: \_DWG To PDF.pc3



**LEGEND**

 PAVEMENT DEMOLITION LIMITS



**PAVEMENT DEMOLITION NOTE:**  
 PAVEMENT DEMOLITION FOR REPAIR PURPOSES SHALL NOT BE MEASURED FOR SEPARATE PAYMENT, BUT INSTEAD BE CONSIDERED SUBSIDIARY TO M-174.

**\*PAVEMENT REPAIR LOCATION NOTE:**  
 COORDINATES PROVIDED ARE APPROXIMATE. CONTRACTOR MUST VERIFY PAVEMENT REPAIR LOCATION WITH ENGINEER PRIOR TO DEMOLITION.



REGISTRATION NO. F-5713

RECORD DRAWINGS  
 04/27/2020

REV.	DATE	DESCRIPTION	BY

**ADDISON AIRPORT**  
 ADDISON, TEXAS

**ADDISON AIRPORT**

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

FLIGHTLINE APRON PAVEMENT REPAIR - DEMOLITION PLAN

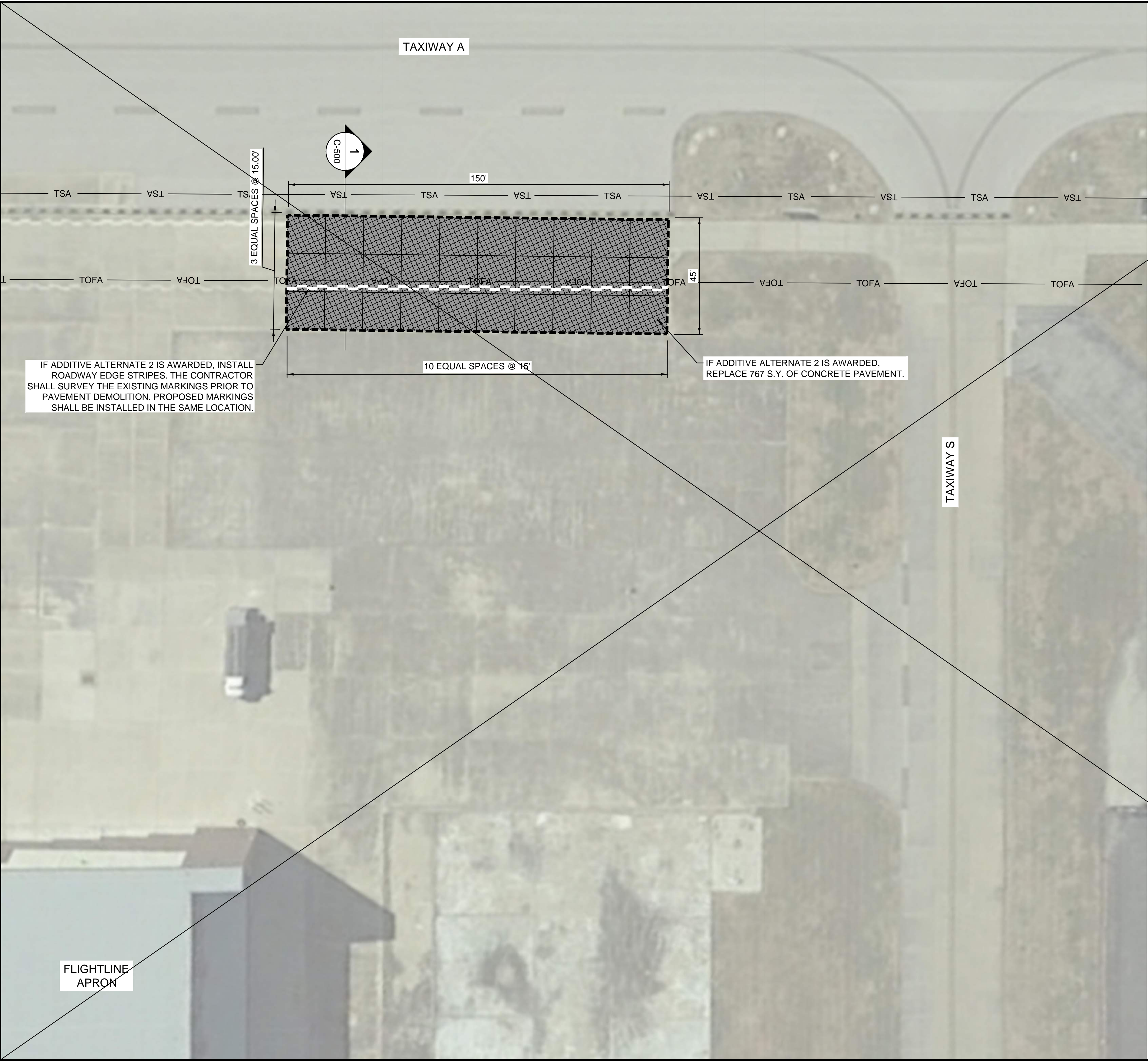
JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: JAH  
 DRAWN BY: JAH

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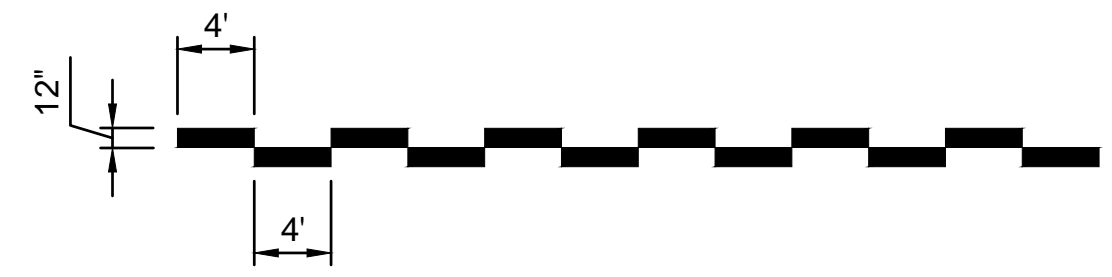
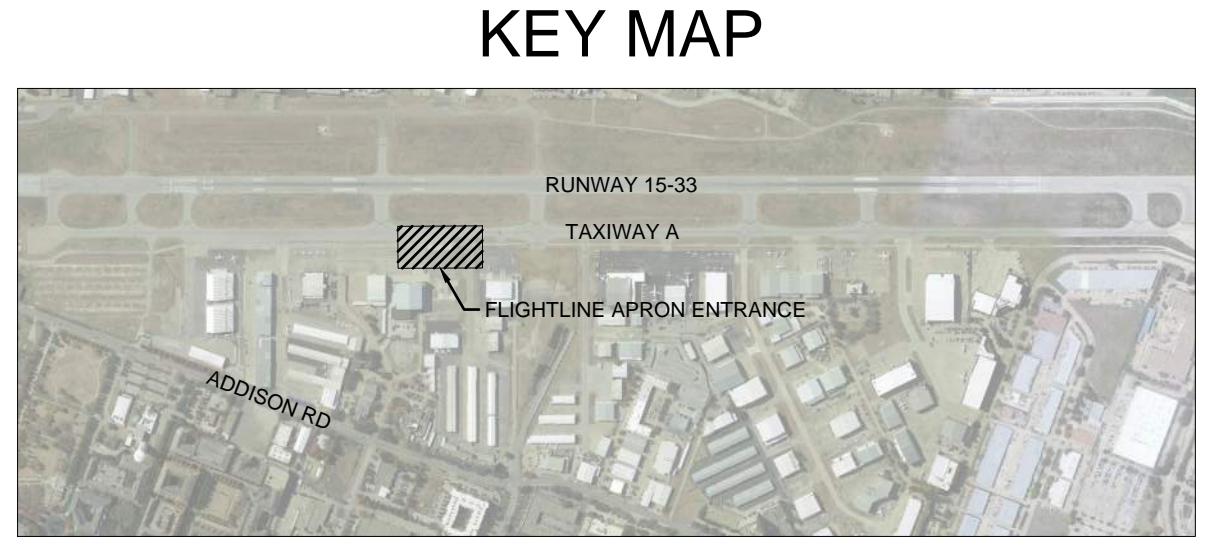
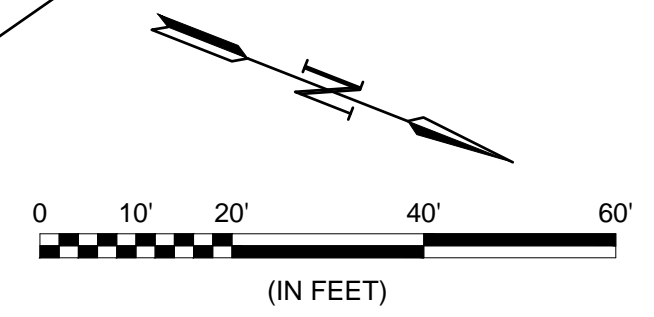
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**LEGEND**

- NEW CONCRETE PAVEMENT
- ISOLATION JOINT (SEE SHEET C-500)
- CONTRACTION JOINT (SEE SHEET C-500)



**1 ROADWAY EDGE STRIPES**  
 C-502  
 SCALE: NONE  
 NOTE:  
 ROADWAY EDGE STRIPES ARE WHITE



REGISTRATION NO.  
F-5713

**RECORD DRAWINGS**  
04/27/2020

REV.	DATE	DESCRIPTION	BY

**ADDISON AIRPORT**  
 ADDISON, TEXAS

**ADDISON AIRPORT**

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

FLIGHTLINE APRON PAVEMENT REPAIR - LAYOUT PLAN

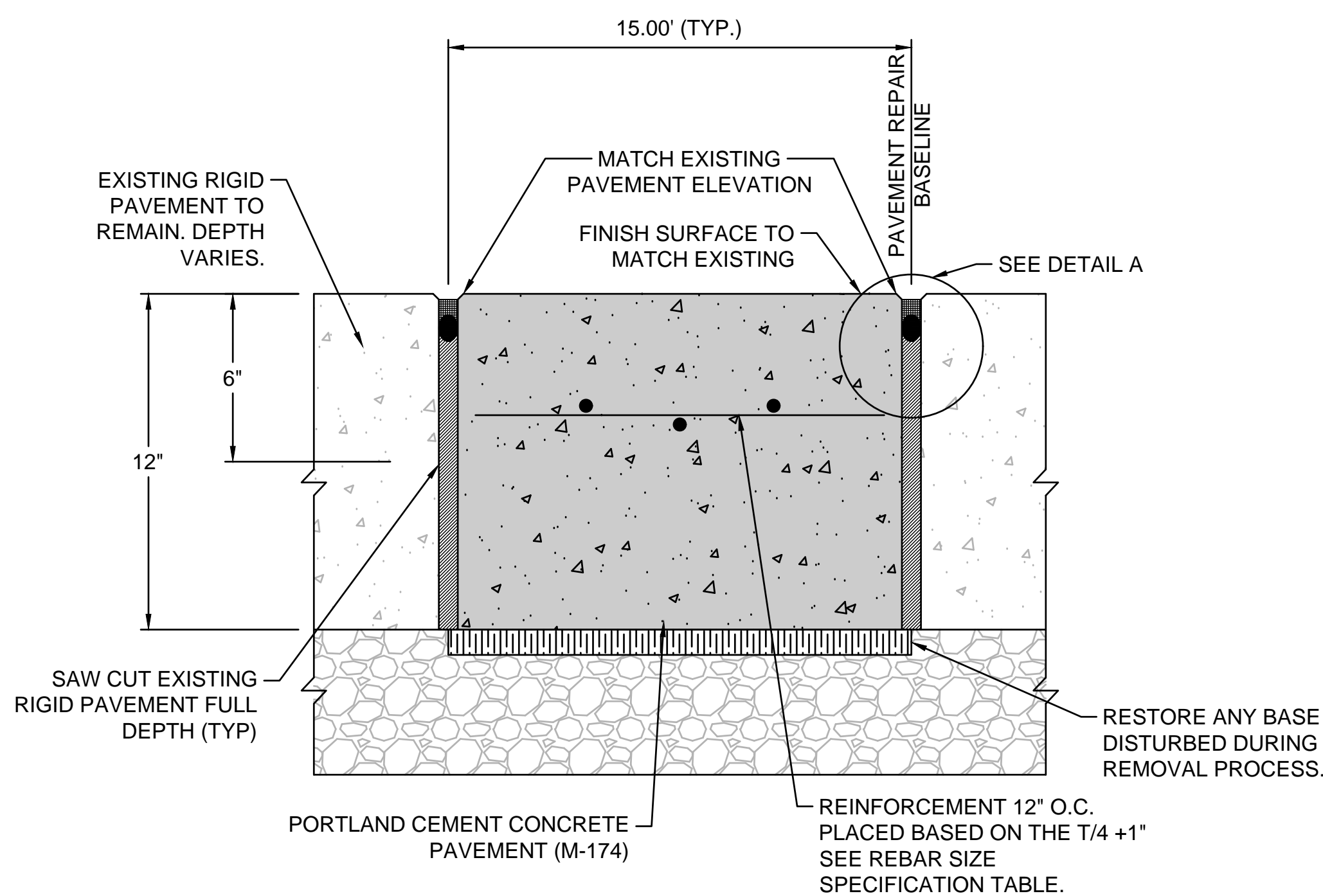
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 DATE: JUNE 2019  
 DESIGNED BY: JAH  
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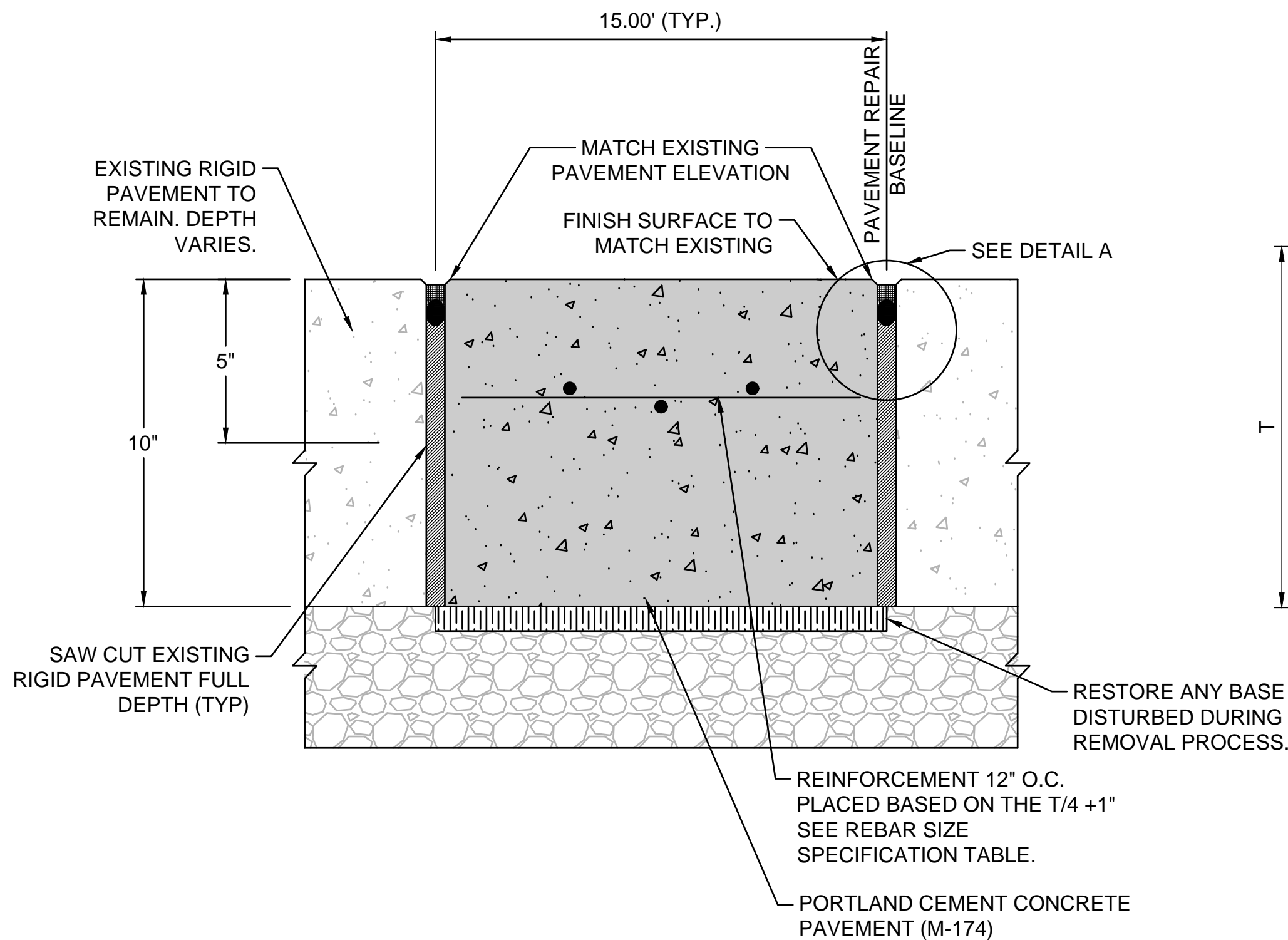
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**C-502**

SHEET NUMBER **36**

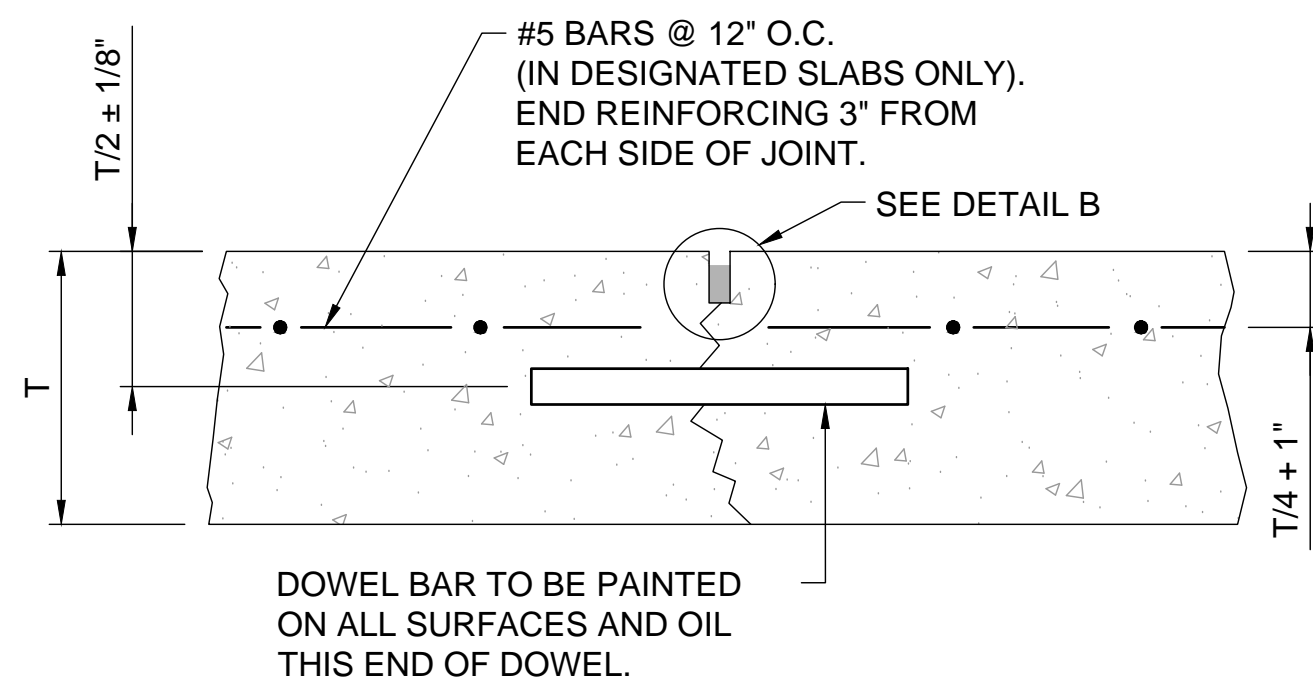
REV.	DATE	DESCRIPTION	BY



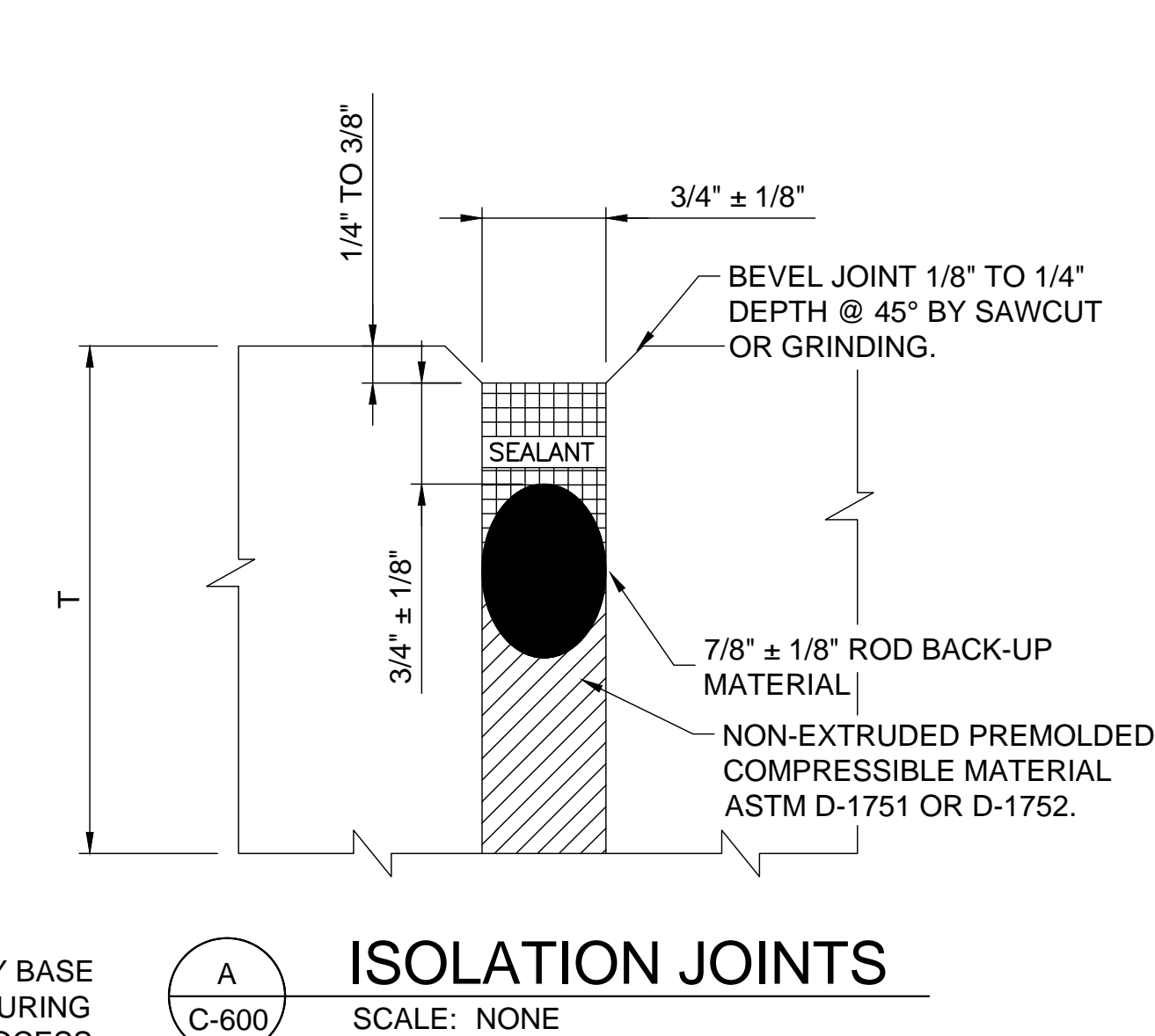
1 FLEXJET APRON TYPICAL SECTION  
C-600 SCALE: NONE



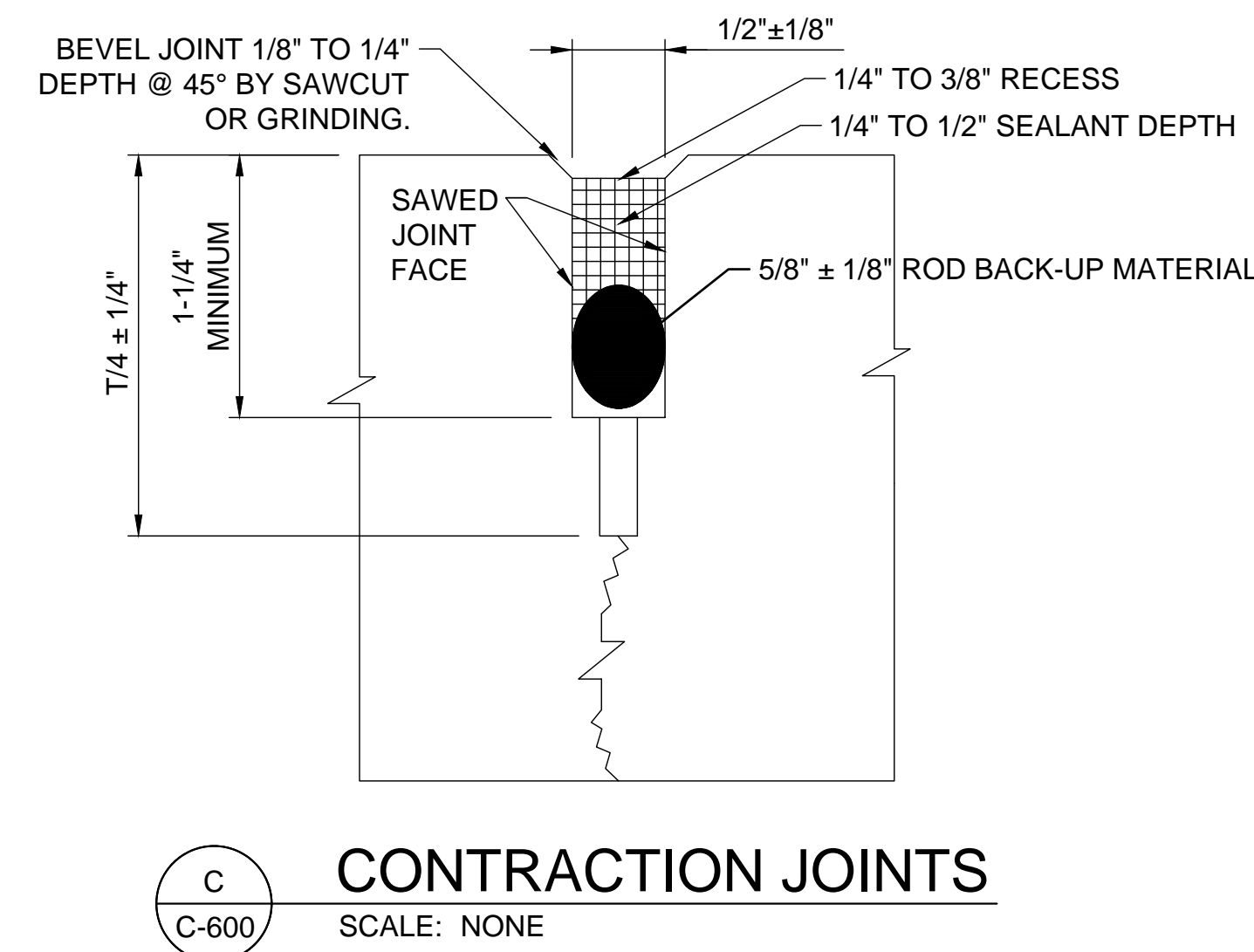
2 FLEXJET ROAD TYPICAL SECTION  
C-600 SCALE: NONE



3 TYPE C-DOWELED CONTRACTION JOINT  
C-600 SCALE: NONE



A ISOLATION JOINTS  
C-600 SCALE: NONE



C CONTRACTION JOINTS  
C-600 SCALE: NONE

LEGEND	
	SILICONE SEALANT (M-170)
	ROD BACK-UP MATERIAL CLOSED-CELL RESILIENT FOAM OR SPONGE RUBBER (M-170)
	RESILIENT FILLER (ASTM D1751)

SLAB THICKNESS	DOWEL DIAMETER	DOWEL LENGTH	DOWEL SPACING
7.5" TO 12"	1"	18"	12"

4 DOWEL BAR SPECIFICATIONS  
C-600 SCALE: NONE

SLAB THICKNESS	REBAR SIZE
9"	#4 REBAR
> 9"	#5 REBAR

5 TIE-BAR REINFORCEMENT SPECIFICATIONS  
C-600 SCALE: NONE

TIE-BAR SIZE	TIE-BAR LENGTH	TIE-BAR SPACING
#5	24"	24"



REGISTRATION NO. F-5713

RECORD DRAWINGS

04/27/2020

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ADDISON AIRPORT  
ADDISON, TEXAS

**ADDISON AIRPORT**

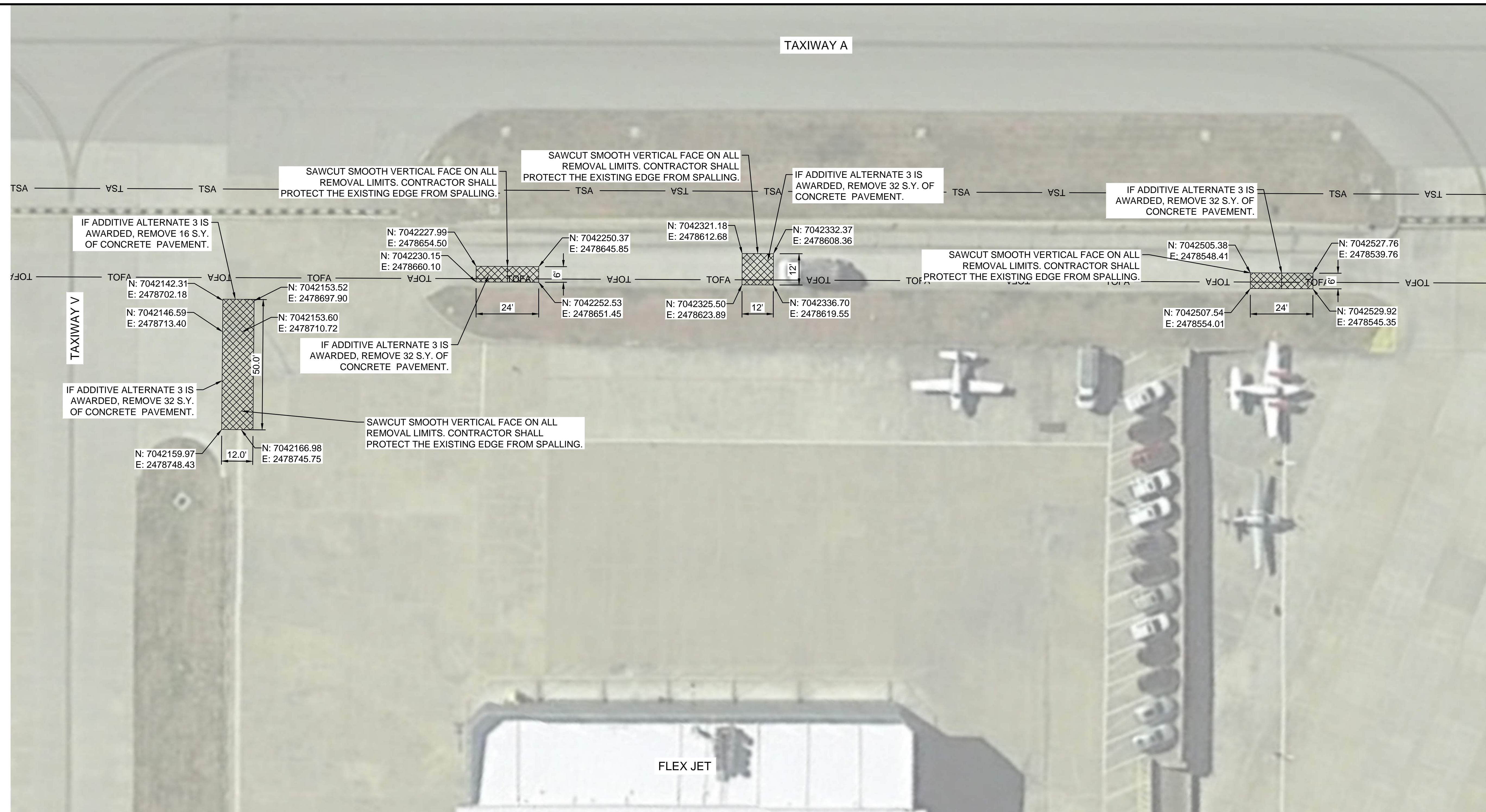
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

FLEX JET APRON PAVEMENT REPAIR - DEMOLITION PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: JAH  
DRAWN BY: JAH

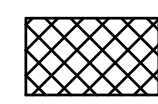
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DRAWING NUMBER  
**C-601**  
SHEET NUMBER **38**



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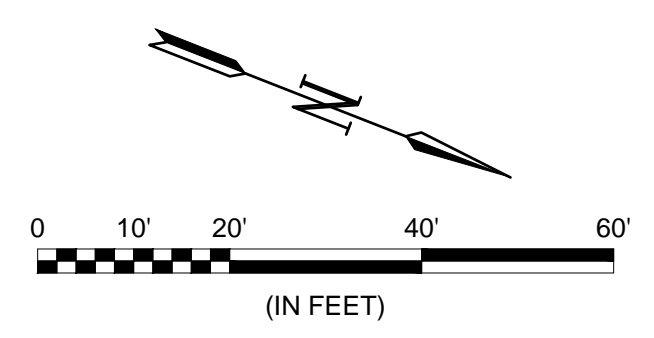
**LEGEND**

 PAVEMENT DEMOLITION LIMITS



**PAVEMENT DEMOLITION NOTE:**  
PAVEMENT DEMOLITION FOR REPAIR PURPOSES SHALL NOT BE MEASURED FOR SEPARATE PAYMENT, BUT INSTEAD BE CONSIDERED SUBSIDIARY TO M-174.

**\*PAVEMENT REPAIR LOCATION NOTE:**  
COORDINATES PROVIDED ARE APPROXIMATE. CONTRACTOR MUST VERIFY PAVEMENT REPAIR LOCATION WITH ENGINEER PRIOR TO DEMOLITION.





REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

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**ADDISON AIRPORT**

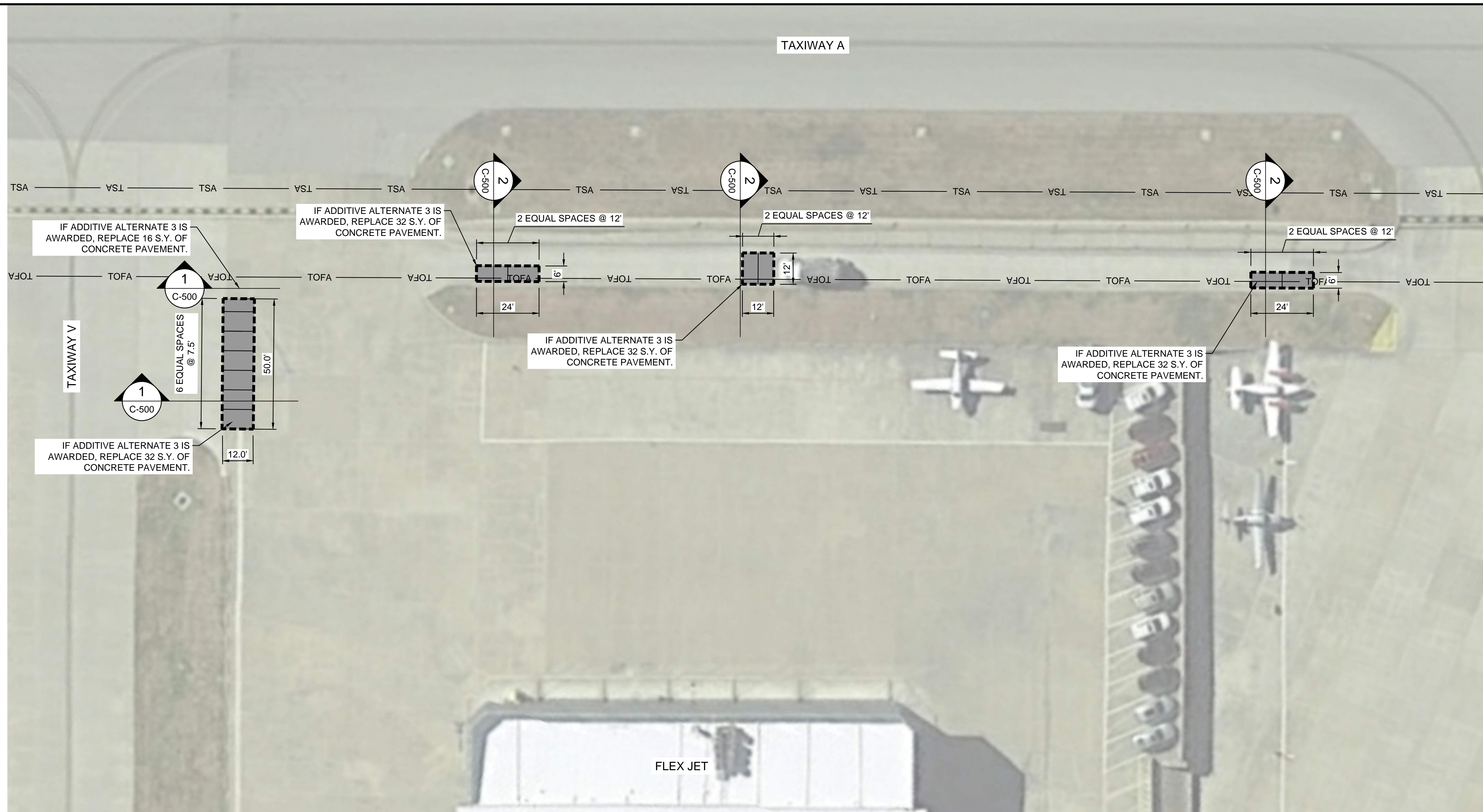
FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

FLEX JET APRON  
PAVEMENT REPAIR -  
LAYOUT PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY:  
DRAWN BY: JAH

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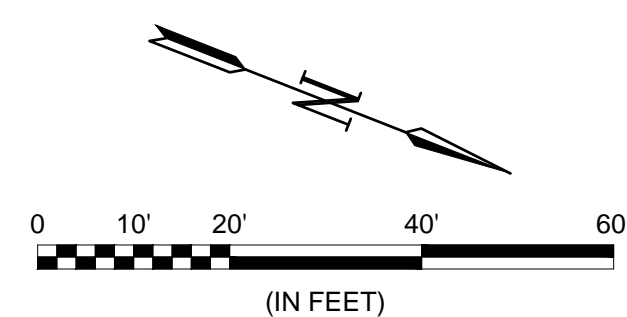
DRAWING NUMBER  
**C-602**  
SHEET NUMBER  
**39**



### LEGEND

- NEW CONCRETE PAVEMENT
- ISOLATION JOINT (SEE SHEET C-600)
- CONTRACTION JOINT (SEE SHEET C-600)

### KEY MAP





REGISTRATION NO. F-5713

RECORD DRAWINGS 04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

ELECTRICAL NOTES AND LEGEND

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: MCL  
DRAWN BY: MCL

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DRAWING NUMBER  
**E-001**  
SHEET NUMBER  
**40**

SYMBOL	ITEM DESCRIPTION
---	NEW EQUIPMENT
- - - - -	EXISTING EQUIPMENT
×	EXISTING EQUIPMENT TO BE COMPLETELY DEMOLISHED AND REMOVED, AREA TO BE RESTORED
○	L-861T TAXIWAY EDGE LIGHT
●	L-852T IN-PAVEMENT TAXIWAY EDGE LIGHT
□ □	BASE MOUNTED LIGHT
Ⓜ	L-852G IN-PAVEMENT RUNWAY GUARD LIGHT
Ⓧ	L-867D LIGHT BASE JUNCTION CAN
1	L-858 GUIDANCE SIGN, SEE SIGN INDEX
4W-4"	ELECTRICAL DUCT, NUMBER AND SIZE OF CONDUITS AS INDICATED
■	DUCT MARKER
H	HANDHOLE
⊕	3/4" x 10' COPPER CLAD STEEL GROUND ROD
//	SERIES LIGHTING CIRCUIT WITH COUNTERPOISE, NUMBER OF HASH MARKS INDICATES NUMBER OF CABLES
AFG	ABOVE FINISHED GRADE
AOA	AIRCRAFT OPERATIONS AREA
OFA	OBJECT FREE AREA
OFZ	OBSTACLE FREE ZONE
RSA	RUNWAY SAFETY AREA
TSA	TAXIWAY SAFETY AREA
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
DEB	DIRECT EARTH BURIED
WP	WEATHERPROOF

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL STAKE THE AIRFIELD LIGHTING SYSTEMS, PRIOR TO INSTALLATION OF ANY TRENCH, CABLE, OR LIGHTING APPARATUS. THE INTENT IS TO STAKE THE INSTALLATION AT THE LOCATIONS INDICATED, NOTING ANY DEVIATION FROM PLAN DIMENSIONS TO THE ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF AN EXPERIENCED AND LICENSED SURVEYOR TO PERFORM THIS WORK.
2. THE ENGINEER WILL PROVIDE ELECTRONIC CADD FILES TO THE CONTRACTOR FOR THIS STAKING WORK. THE CONTRACTOR SHALL STAKE THE ITEMS AND HIS SURVEYOR SHALL PROVIDE A CADD FILE SUBMITTAL BACK TO THE ENGINEER. BASED UPON THIS SUBMITTAL, THE ENGINEER WILL COORDINATE AND PROVIDE DIRECTIONS ON ANY ADJUSTMENTS NECESSARY TO MEET EXISTING FIELD CONDITION REQUIREMENTS AND COMPLY WITH FAA ADVISORY CIRCULAR REQUIREMENTS ON THE LAYOUT AND SPACING OF EQUIPMENT.
3. THE CONTRACTOR AND HIS SURVEYOR SHALL THEN MAKE ANY ELECTRONIC CADD FILE SPACING ADJUSTMENTS AND / OR FIELD STAKING ADJUSTMENTS PRIOR TO INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.
4. THE CONTRACTOR SHALL VERIFY EXACT PAVEMENT EDGE DIMENSIONS WITH THIS INITIAL SURVEY WORK.
5. THE CONTRACTOR SHALL FIELD MARK AND IDENTIFY TAXIWAY POINT OF TANGENCY (PT) AND INTERSECTION POINTS (IP) LOCATIONS WITH EMBEDDED BRASS MARKERS.
6. THE EXISTING AND THE PROPOSED LOCATIONS OF LIGHTING CABLES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING AND IDENTIFYING THE EXISTING LIGHTING CIRCUITS TO DETERMINE THEIR EXACT ROUTING. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING THE LIGHTING SYSTEMS IN A WORKING CONDITION UNTIL THE NEW LIGHTING CIRCUITS HAVE BEEN INSTALLED AND TESTED. THE CONTRACTOR SHALL PROACTIVELY AND EXPEDITIOUSLY ACCOMPLISH THIS CABLE IDENTIFICATION WORK PRIOR TO PERFORMING ANY MODIFICATIONS TO THE LIGHTING CIRCUITS. COORDINATE IDENTIFICATION WORK WITH THE OWNER AND ENGINEER AND MAKE ALL CORRECTIONS, ADDITIONS, ETC. ON THE AS-BUILT DRAWINGS.
7. THE CONTRACTOR SHALL BE EXTREMELY CAREFUL WHILE EXCAVATING IN THE AREA OF LIGHTING CIRCUITS. ANY CABLE OR CONDUIT / DUCT WHICH IS NICKED OR DAMAGED DURING EXCAVATION SHALL BE PROPERLY AND EXPEDITIOUSLY SPLICED OR THE LENGTH OF CABLE AND CONDUIT / DUCT REPLACED. A SPLICE OR CONDUIT / DUCT MARKER SHALL BE INSTALLED AT ALL SPLICE OR OTHER REPAIR LOCATIONS MORE THAN 2' AWAY FROM A LIGHT, SIGN, HANDHOLE, MANHOLE, OR JUNCTION STRUCTURE. ALL REPAIR AND / OR REPLACEMENT WORK AND MATERIALS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.
8. ALL ELECTRICAL CABLES SHALL BE CLEARLY IDENTIFIED, LABELED, AND TAGGED AT ALL POINTS WHERE THEY ARE AVAILABLE FOR CONNECTIONS OR INSPECTION, INCLUDING, BUT NOT LIMITED TO MANHOLES, HANDHOLES, PULL BOXES, JUNCTION BOXES, AND LIGHT BASES.
9. THE CONTRACTOR SHALL PERFORM MEGGER TESTS ON EACH EXISTING SERIES CIRCUIT PRIOR TO ANY WORK ON THE ELECTRICAL SYSTEM AND EACH NEW AND EXISTING SERIES CIRCUIT AFTER THE ACCEPTANCE TEST PERIOD. MEGGER TESTING REQUIREMENTS SHALL BE SUBSIDIARY TO AND PAID FOR BY L-108 PAY ITEMS.
10. THE CONTRACTOR SHALL COORDINATE WITH THE ON-SITE ENGINEER FOR OWNER AND ENGINEER WITNESS OF ALL MEGGER TESTING. THE CONTRACTOR SHALL SUBMIT HIS INITIAL MEGGER TEST REPORTS TO THE OWNER AND ENGINEER PRIOR TO ANY WORK ON THE ELECTRICAL SYSTEM. THIS REPORT SHALL BE APPROVED AND SIGNED BY THE OWNER AND ENGINEER PRIOR TO THE CONTRACTOR PROCEEDING WITH HIS WORK.
11. THE CONTRACTOR SHALL CHECK THE LOAD ON EACH EXISTING REGULATOR PRIOR TO ANY WORK ON THE ELECTRICAL SYSTEM AND ON EACH EXISTING REGULATOR AFTER THE ACCEPTANCE TEST PERIOD.
12. THE CONTRACTOR SHALL CALIBRATE EACH EXISTING REGULATOR FOLLOWING THE PERFORMED WORK.
13. LOCKOUT / TAGOUT AND CONSTANT CURRENT REGULATOR CALIBRATION PROCEDURES SHALL BE PAID FOR BY SS-300 PAY ITEMS UNLESS OTHERWISE NOTED.
14. CONDUITS AND DUCTS UNDER PAVED AREAS SHALL BE CONCRETE ENCASED.
15. CONDUITS AND DUCTS UNDER NON-PAVED AREAS SHALL BE NON-ENCASED, UNLESS OTHERWISE NOTED.
16. DURING CONSTRUCTION, PROTECT ALL EQUIPMENT, DUCTS, CONDUITS, CABLES, ETC. THAT ARE TO REMAIN IN PLACE. WHERE EXISTING ITEMS ARE CUT, BROKEN, OR DAMAGED, THE CONTRACTOR SHALL REPLACE OR REPAIR PROACTIVELY AND EXPEDITIOUSLY THE ITEMS WITH THE SAME TYPE OF ORIGINAL MATERIAL AND CONSTRUCTION OR BETTER AT NO ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.

ELECTRICAL SAFETY NOTES:

1. SERIES CIRCUITS CAN BE DANGEROUS AND / OR FATAL.
2. LOCKOUT / TAGOUT PROCEDURES SHALL BE FOLLOWED.
3. LIGHTING REGULATORS SHALL BE TURNED OFF, LOCKED, AND TAGGED OFF OF SERVICE BEFORE ANY WORK IS DONE ON THE SERIES CIRCUIT.
4. THE ELECTRICAL RESISTANCE AND INSULATION INTEGRITY OF EACH MODIFIED CIRCUIT SHALL BE TESTED BEFORE THE CIRCUIT IS ENERGIZED.

CAUTION NOTES:

1. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS, HOWEVER, ALL EXISTING UTILITIES MAY NOT BE SHOWN AND THE ACTUAL LOCATIONS OF THE UTILITIES MAY VARY FROM THE LOCATIONS SHOWN. PRIOR TO BEGINNING ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITIES ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.
2. TEXAS STATE LAW, THE UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, REQUIRES TWO WORKING DAYS ADVANCE NOTIFICATION THROUGH THE TEXAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMENT OR EXPLOSIVES (EXCEPT IN THE CASE OF AN EMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-245-4545. THE CONTRACTOR IS ADVISED THAT THERE IS A SEVERE PENALTY FOR NOT MAKING THIS CALL. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE TEXAS ONE-CALL SYSTEM; THEREFORE, THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE-CALL SYSTEM.

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REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

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ADDISON AIRPORT  
ADDISON, TEXAS

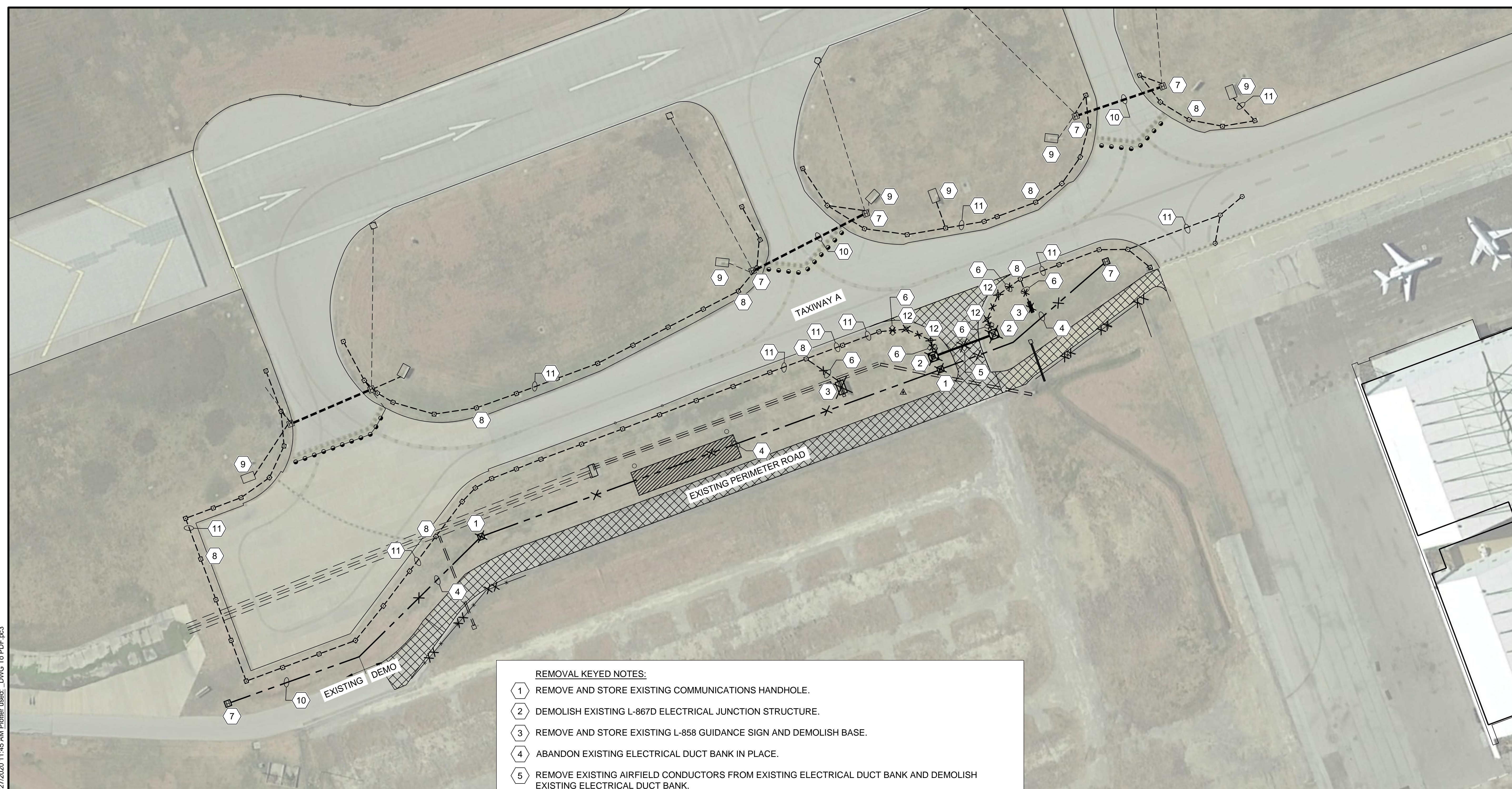
FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

ELECTRICAL  
DEMOLITION  
PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: MCL  
DRAWN BY: MCL

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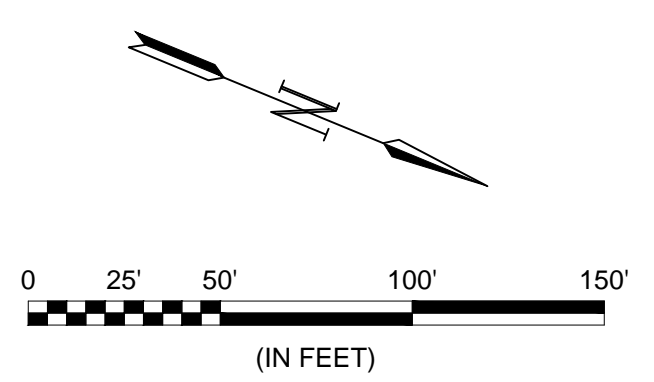
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**E-101**  
SHEET NUMBER  
**41**



- REMOVAL KEYED NOTES:**
- 1 REMOVE AND STORE EXISTING COMMUNICATIONS HANDHOLE.
  - 2 DEMOLISH EXISTING L-867D ELECTRICAL JUNCTION STRUCTURE.
  - 3 REMOVE AND STORE EXISTING L-858 GUIDANCE SIGN AND DEMOLISH BASE.
  - 4 ABANDON EXISTING ELECTRICAL DUCT BANK IN PLACE.
  - 5 REMOVE EXISTING AIRFIELD CONDUCTORS FROM EXISTING ELECTRICAL DUCT BANK AND DEMOLISH EXISTING ELECTRICAL DUCT BANK.
  - 6 REMOVE EXISTING AIRFIELD CONDUCTORS FROM EXISTING CONDUIT AND ABANDON CONDUIT IN PLACE.
  - 7 EXISTING ELECTRICAL JUNCTION STRUCTURE TO REMAIN.
  - 8 EXISTING L-861T BASE MOUNTED TAXIWAY EDGE LIGHT TO REMAIN. (TYPICAL)
  - 9 EXISTING L-858 BASE MOUNTED GUIDANCE SIGN TO REMAIN.
  - 10 EXISTING ELECTRICAL DUCT BANK TO REMAIN.
  - 11 EXISTING AIRFIELD ELECTRICAL CIRCUIT(S) TO REMAIN. (TYPICAL)
  - 12 REMOVE AND STORE EXISTING L-861T TAXIWAY EDGE LIGHT AND DEMOLISH BASE.
  - 13 REMOVE AND STORE EXISTING GATE OPERATOR, BATTERY BACKUP CABINET, AND GATE CONTROLLER ANTENNA. CONTRACTOR SHALL PROVIDE KEY LOCK AND CHAIN FOR EXISTING GATE.
  - 14 DEMOLISH EXISTING ELECTRICAL PULL BOX. PROTECT CONDUCTORS AND CONDUIT INSIDE.
  - 15 EXISTING ELECTRICAL JUNCTION BOX TO REMAIN.
  - 16 EXISTING GATE OPERATOR CIRCUIT TO REMAIN.

**LEGEND**

DEMOLITION LIMITS



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REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

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ADDISON, TEXAS

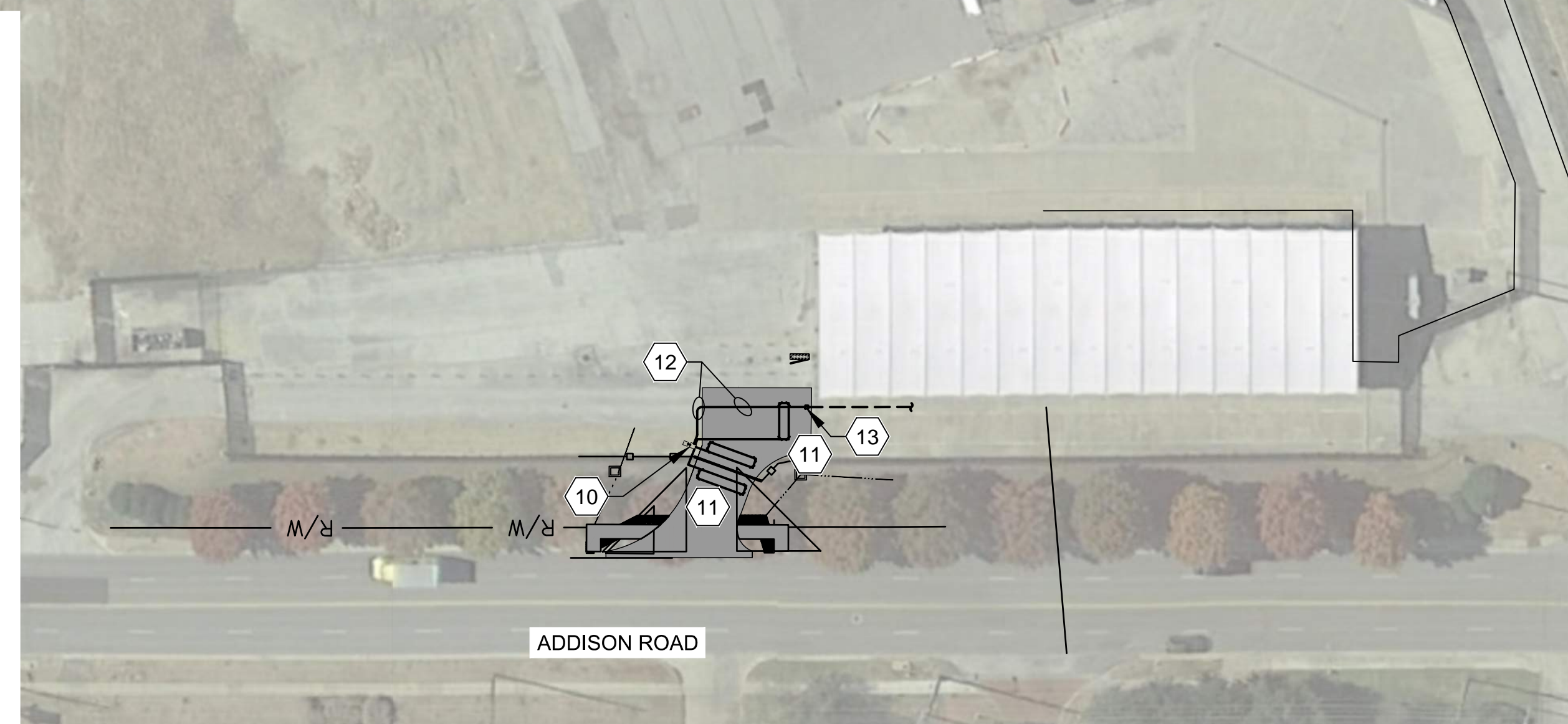
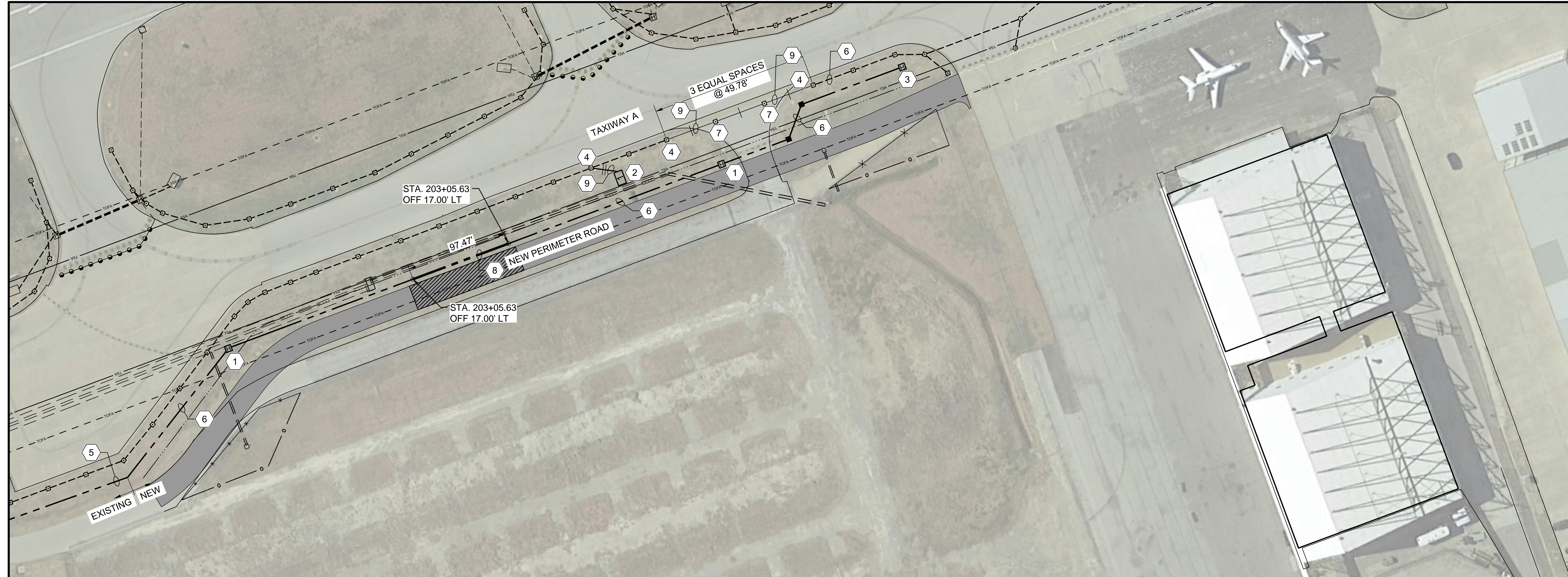
ELECTRICAL  
INSTALLATION  
PLAN

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: MCL  
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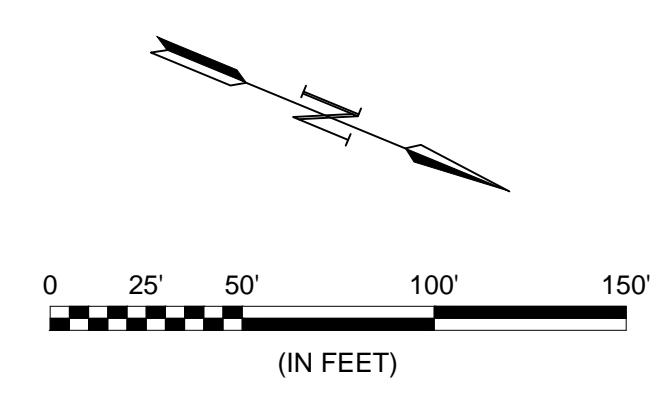
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**E-201**

SHEET NUMBER  
**42**



**LEGEND**

PROPOSED PCC PAVEMENT



**INSTALLATION KEYED NOTES:**

- 1 RE-INSTALL EXISTING COMMUNICATIONS HANDHOLE.
- 2 INSTALL NEW BASE MOUNTED L-858 GUIDANCE SIGN ON NEW BASE.
- 3 CONNECT NEW ELECTRICAL CONDUIT TO EXISTING ELECTRICAL JUNCTION STRUCTURE.
- 4 CONNECT NEW ELECTRICAL CONDUIT TO EXISTING L-861T BASE MOUNTED TAXIWAY EDGE LIGHT.
- 5 CONNECT NEW ELECTRICAL CONDUIT TO EXISTING ELECTRICAL CONDUIT.
- 6 INSTALL NEW 1-WAY 4" NON-ENCASED ELECTRICAL CONDUIT WITH PULL ROPE FOR FUTURE CABLE INSTALLATIONS.
- 7 RE-INSTALL EXISTING BASE MOUNTED L-861T TAXIWAY EDGE LIGHT ON NEW BASE.

- 8 INSTALL 98 LINEAR FEET OF NEW 1-WAY 4" CONCRETE ENCASED ELECTRICAL CONDUIT WITH PULL ROPE FOR FUTURE CABLE INSTALLATIONS.
- 9 INSTALL NEW 1-WAY 2" NON-ENCASED ELECTRICAL CONDUIT WITH NEW AIRFIELD CONDUCTOR(S). (SEE HASH MARKS FOR NUMBER OF CONDUCTORS)
- 10 INSTALL RELOCATED GATE OPERATOR AND BATTERY BACKUP CABINET ON NEW CONCRETE FOUNDATION. INSTALL RELOCATED ANTENNA ON NEW FENCE WITH NEW COAXIAL CABLE AND RECONNECT TO EXISTING DOORING GATE OPENER. PROVIDE NEW DRIVE RAIL FOR NEW GATE AND REPLACE THE DRIVE WHEELS IN THE GATE OPERATOR.
- 11 INSTALL NEW LOOP DETECTOR CABLES FOR NEW FUEL FARM EXIT GATE.
- 12 INSTALL NEW 1W-1" WITH SAWCUT PAVEMENT REPAIR. INSTALL 3#8 AWG CONDUCTORS FOR GATE OPERATOR POWER AND 5#12 AWG CONDUCTORS FOR GATE CONTROL.

- 13 INSTALL NEW 17"WX30"LX18"D TIER 22 ELECTRICAL HANDHOLE. SPLICE AND EXTEND GATE OPERATOR POWER AND CONTROL CIRCUITS.

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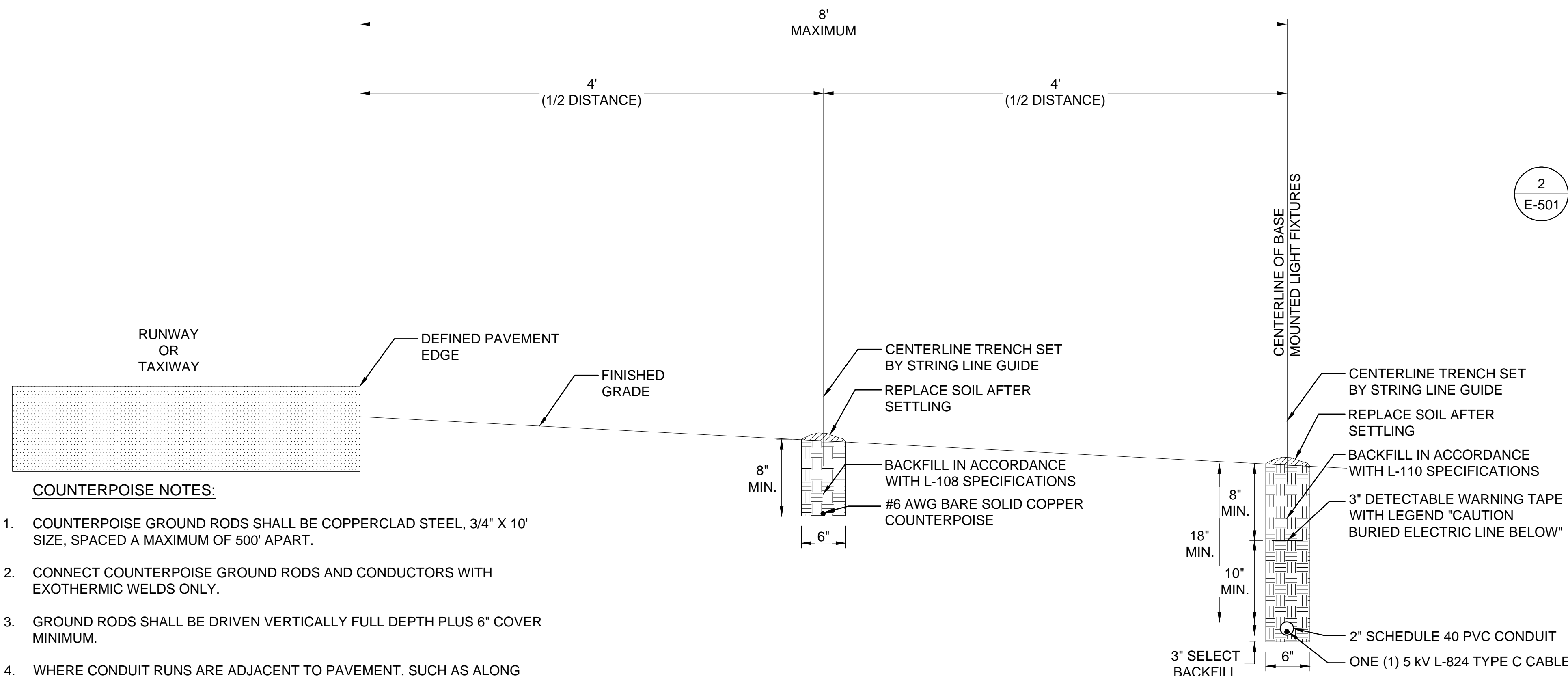

**NOTES:**

- POWER MARKING TAPES SHALL BE DETECTABLE TYPE CONSTRUCTION WITH RED BACKGROUND AND BLACK LETTERING.
- TAPE SHALL BE DETECTABLE, DURABLE, HIGHLY VISIBLE, RESISTANT TO ELEMENTS, MEETING AND / OR EXCEEDING ALL INDUSTRY STANDARDS.
- PROVIDE MULTIPLE AND / OR WIDER TAPES FOR WIDER DUCT BANKS. COORDINATE WITH ENGINEER.

 2  
E-501

**UNDERGROUND DETECTABLE WARNING TAPE**

SCALE: NONE

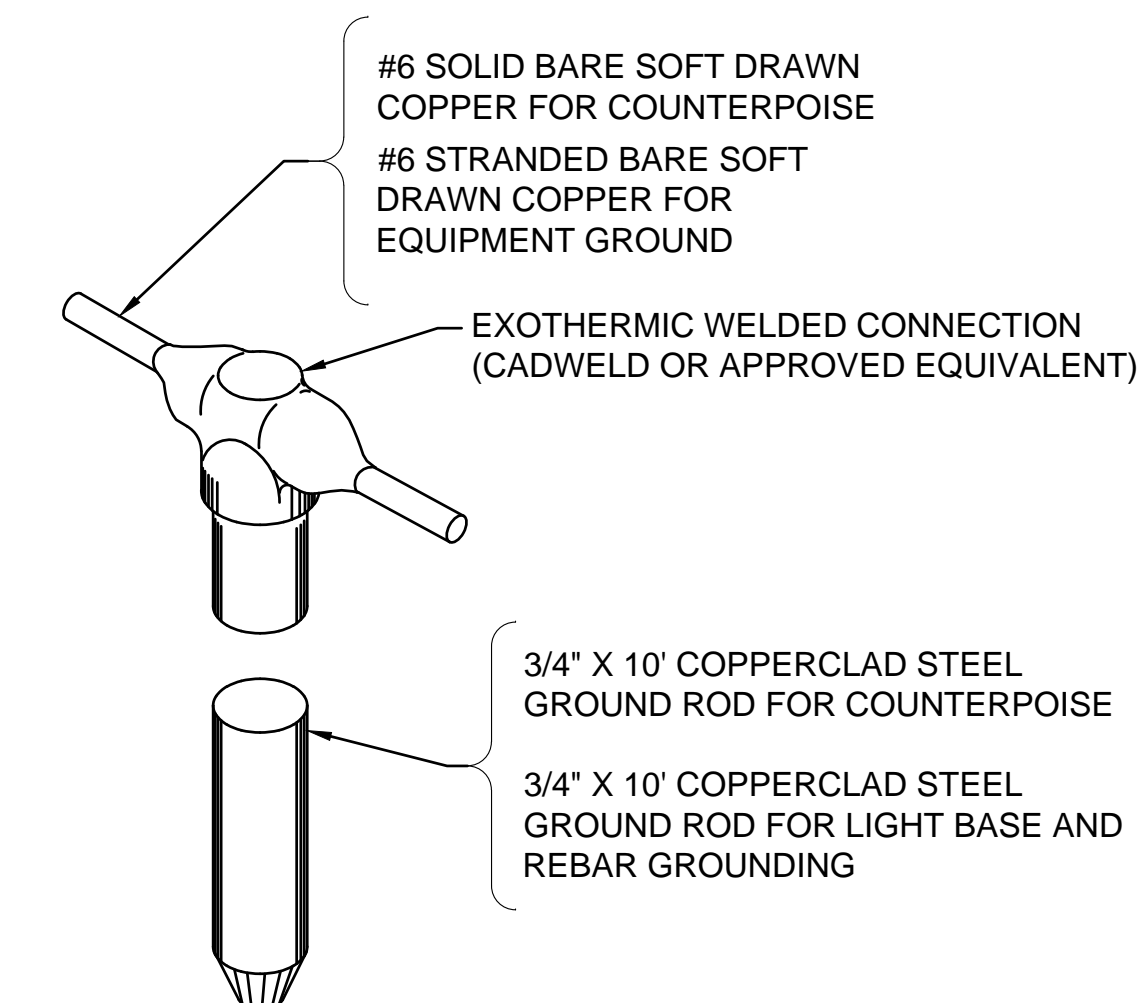

**COUNTERPOISE NOTES:**

- COUNTERPOISE GROUND RODS SHALL BE COPPERCLAD STEEL, 3/4" X 10' SIZE, SPACED A MAXIMUM OF 500' APART.
- CONNECT COUNTERPOISE GROUND RODS AND CONDUCTORS WITH EXOTHERMIC WELDS ONLY.
- GROUND RODS SHALL BE DRIVEN VERTICALLY FULL DEPTH PLUS 6" COVER MINIMUM.
- WHERE CONDUIT RUNS ARE ADJACENT TO PAVEMENT, SUCH AS ALONG RUNWAY OR TAXIWAY EDGES, THE COUNTERPOISE SHALL BE INSTALLED 8" BELOW GRADE, LOCATED HALF THE DISTANCE FROM EDGE OF PAVEMENT TO THE CONDUIT RUNS.
- WHERE CONDUIT RUNS ARE NOT ADJACENT TO PAVEMENTS, THE COUNTERPOISE SHALL BE INSTALLED 4" MINIMUM ABOVE THE CONDUIT.

**BASE MOUNTED FIXTURES AND CONDUIT TRENCH DETAILS  
(CURRENT SYSTEM WITH SEPARATE COUNTERPOISE TRENCH)**

 1  
E-501

SCALE: NONE

**TRENCH TYPE "A" SHOWN**

**GROUND ROD NOTES:**

- GROUND RODS SHALL BE INSTALLED NOT MORE THAN 500 FEET APART FOR COUNTERPOISE AND AS SHOWN ON LAYOUT PLAN SHEETS.
- ONE GROUND ROD SHALL BE INSTALLED AT EACH LIGHT BASE FOR GROUNDING THE LIGHT BASE AND ASSOCIATED STEEL REINFORCEMENT.

 3  
E-501

**TYPICAL GROUND ROD CONNECTION**

SCALE: NONE

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
 ADDISON, TEXAS  
 FUEL FARM EXIT RELOCATION AND  
 PERIMETER ROAD REPAIRS

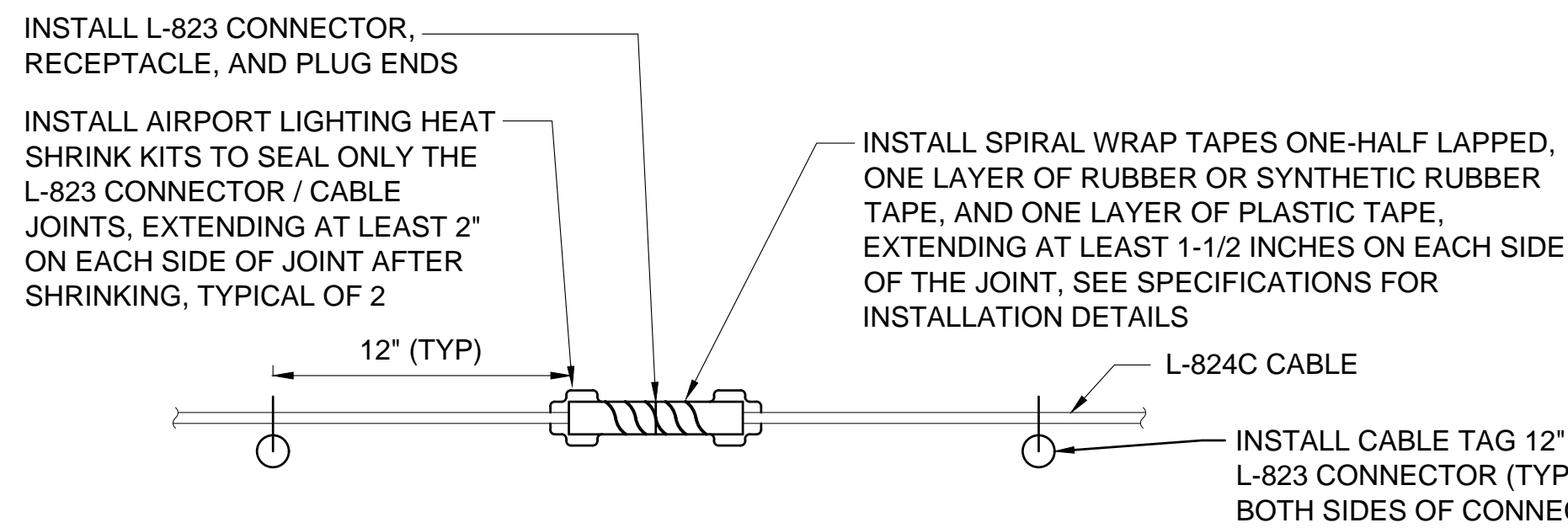
 ELECTRICAL  
DETAILS I

 JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: MCL  
 DRAWN BY: MCL

 BAR IS ONE INCH ON  
 ORIGINAL DRAWING  
 0" 1"  
 IF NOT ONE INCH ON  
 THIS SHEET, ADJUST  
 SCALES ACCORDINGLY.

 DRAWING NUMBER  
**E-501**

 SHEET  
 NUMBER **43**

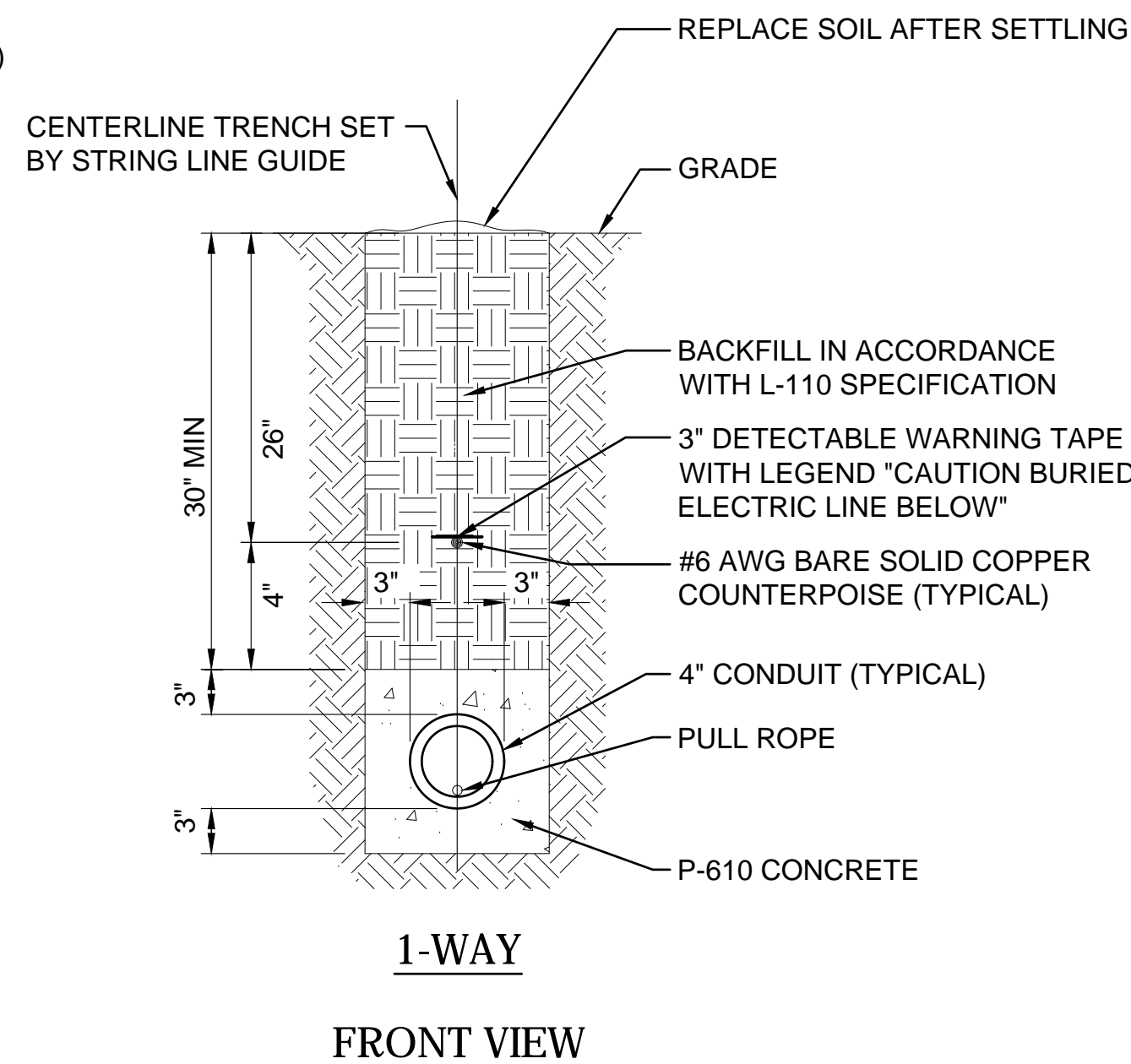


**CONNECTOR NOTES:**

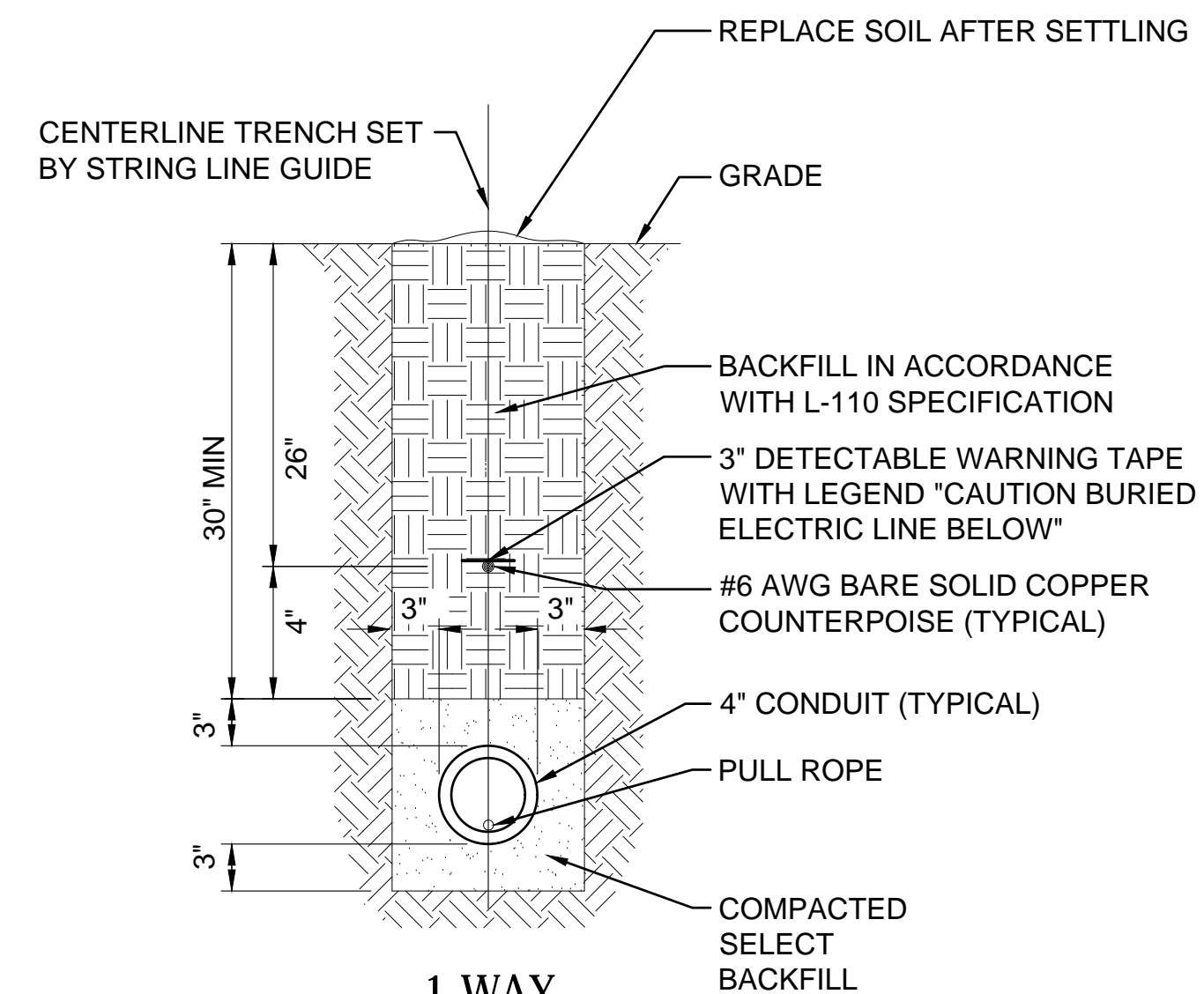
1. IN-LINE CONNECTIONS OR SPLICES OF UNDERGROUND CABLES WITHIN MANHOLES, HANDHOLES, LIGHT BASES, OR OTHER ACCESSIBLE LOCATIONS SHALL BE MADE USING L-823 CONNECTOR KITS.
2. PROVIDE CABLE IN CONTINUOUS LENGTHS FOR HOME RUNS OR OTHER LONG CABLE RUNS WITHOUT CONNECTIONS, UNLESS AUTHORIZED IN WRITING BY THE ENGINEER OR SHOWN ON THE PLANS.
3. INSTALL 2-PIECE HEAT SHRINK KIT ON PRIMARY CABLE CONNECTORS.
4. DO NOT INSTALL HEAT SHRINK ON SECONDARY CABLE CONNECTORS OF THE ISOLATION TRANSFORMERS.
5. AS AN OPTION, THE CONTRACTOR MAY UTILIZE ENHANCED FAA CERTIFIED L-823 CONNECTOR KITS, SUCH AS THE AMERACE 54 SUPER KIT, OR AN APPROVED EQUAL. THESE KITS DO NOT REQUIRE TAPING OR HEAT SHRINKING. THESE KITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION REQUIREMENTS. NOTE THAT THE MIXING OF CONNECTOR KITS IS UNACCEPTABLE. THE CONTRACTOR SHALL CLEARLY LIST AND SUBMIT THE CONNECTOR KITS HE PROPOSES TO UTILIZE ON THE PROJECT FOR APPROVAL PRIOR TO ANY FIELD CONSTRUCTION WORK, AND HE SHALL ONLY INSTALL THAT TYPE DURING CONSTRUCTION UNLESS OTHERWISE NOTED BY THE ENGINEER.

**L-823 CONNECTOR INSTALLATION FOR CAN AND CONDUIT SYSTEM**

1 E-502 SCALE: NONE



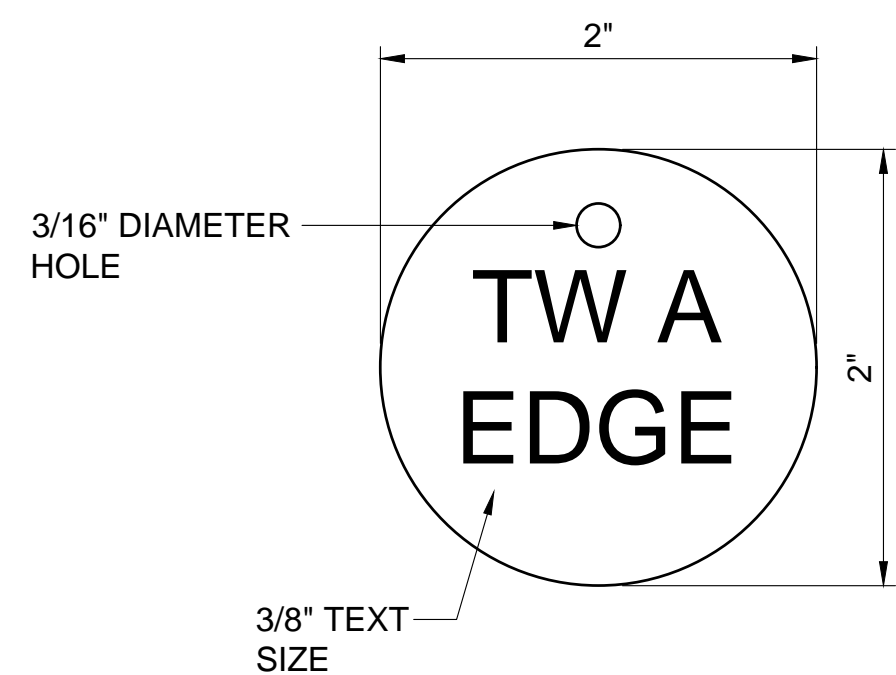
**1-WAY FRONT VIEW**



**NON-ENCASED NOTES 1-WAY**

1. INSTALL 3/4" x 10' COPPERCLAD GROUND RODS AT EACH END OF ELECTRICAL DUCT AND BOND COUNTERPOISES USING EXOTHERMIC WELDS.
2. INSTALL CONDUIT SPACERS WITH LOCKING COLLARS AT 5' O.C. SPACING INTERVALS. INSTALL #4 REINFORCING BARS MINIMUM 6" INTO SOIL TO ANCHOR THE ASSEMBLY PRIOR TO PLACING THE CONCRETE ENCASUREMENT.
3. INSTALL A COUNTERPOISE 4" ABOVE EACH CONDUIT.
4. INSTALL DUCT MARKERS IN ACCORDANCE WITH ADVISORY CIRCULAR 150/5340-30 REQUIREMENTS, INCLUDING AT THE ENDS OF DUCT BANKS.
5. SIMILAR FOR OTHER DUCT SIZES.

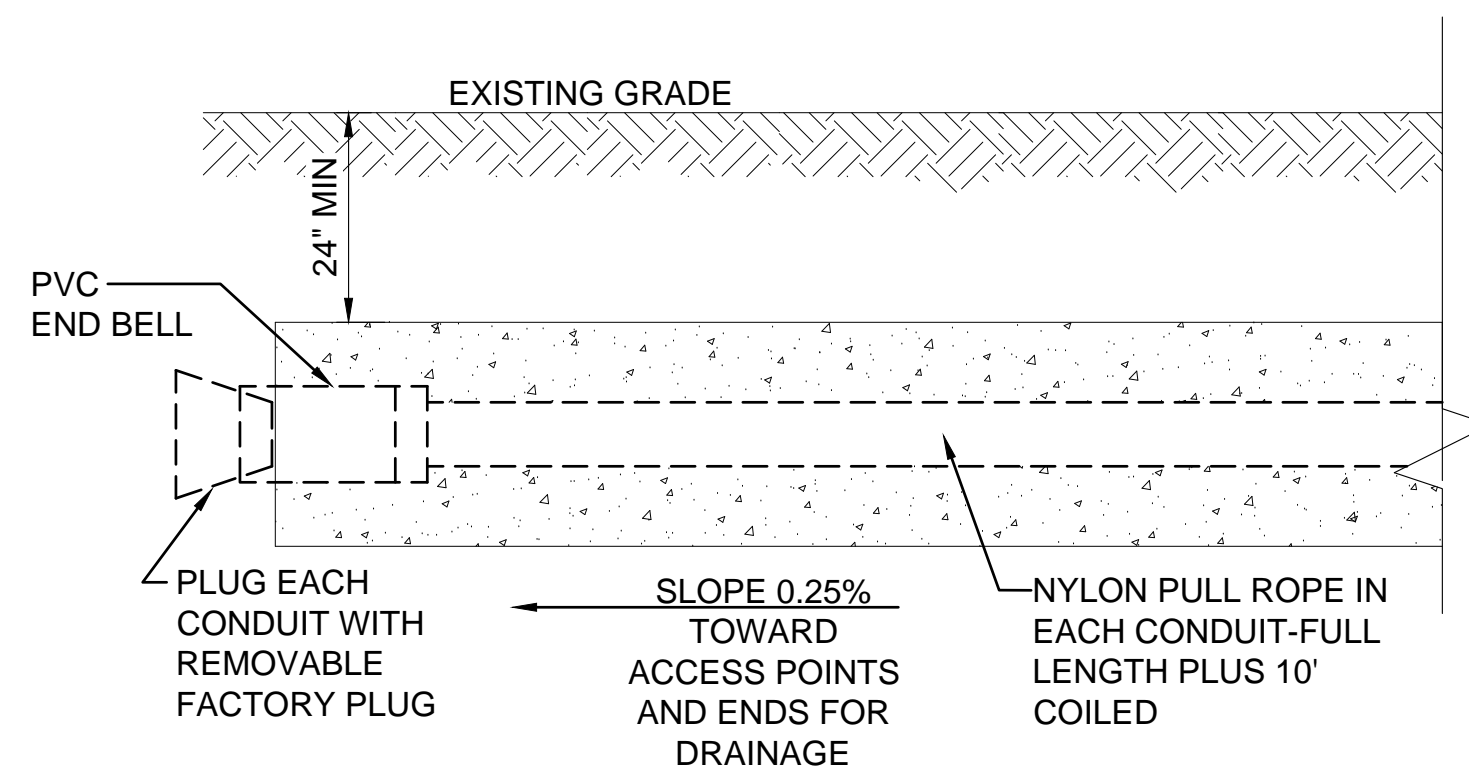
**4 1-WAY 4"C NON-ENCASED CONDUIT**  
E-502 SCALE: NONE



**CABLE TAG NOTES:**

1. ALL CABLES SHALL BE IDENTIFIED. INSTALL CABLE TAGS IN ALL ACCESSIBLE LOCATIONS INCLUDING JUNCTION BOXES, PULL BOXES, MANHOLES, HANDHOLES, AND LIGHT BASES.
2. INSTALL CABLE TAGS 12" FROM THE L-823 CONNECTORS. IF NO CONNECTORS ARE REQUIRED, INSTALL A CABLE TAG NEAR EACH CABLE ENTRANCE VIA DUCT OR CONDUIT.
3. CABLE IDENTIFICATION TAGS SHALL BE MADE FROM A NON-CORROSIVE STAINLESS STEEL MATERIAL WITH THE CIRCUIT AND / OR LOOP IDENTIFICATION NUMBER STAMPED OR ETCHED ONTO THE TAG.
4. TAGS SHALL BE CIRCULAR IN SHAPE, 2-INCH MINIMUM DIAMETER AND 20 GAUGE NON-CORROSIVE STAINLESS STEEL MATERIAL.
5. SECURE EACH TAG TO THE CABLE USING WEATHER AND ULTRAVIOLET RESISTANT NYLON CABLE TIES.
6. TAG IDENTIFICATION TEXT SHALL BE COORDINATED WITH THE OWNER AND THE ENGINEER DURING SUBMITTALS PRIOR TO THE WORK.

**2 TYPICAL CABLE TAG**  
E-502 SCALE: NONE

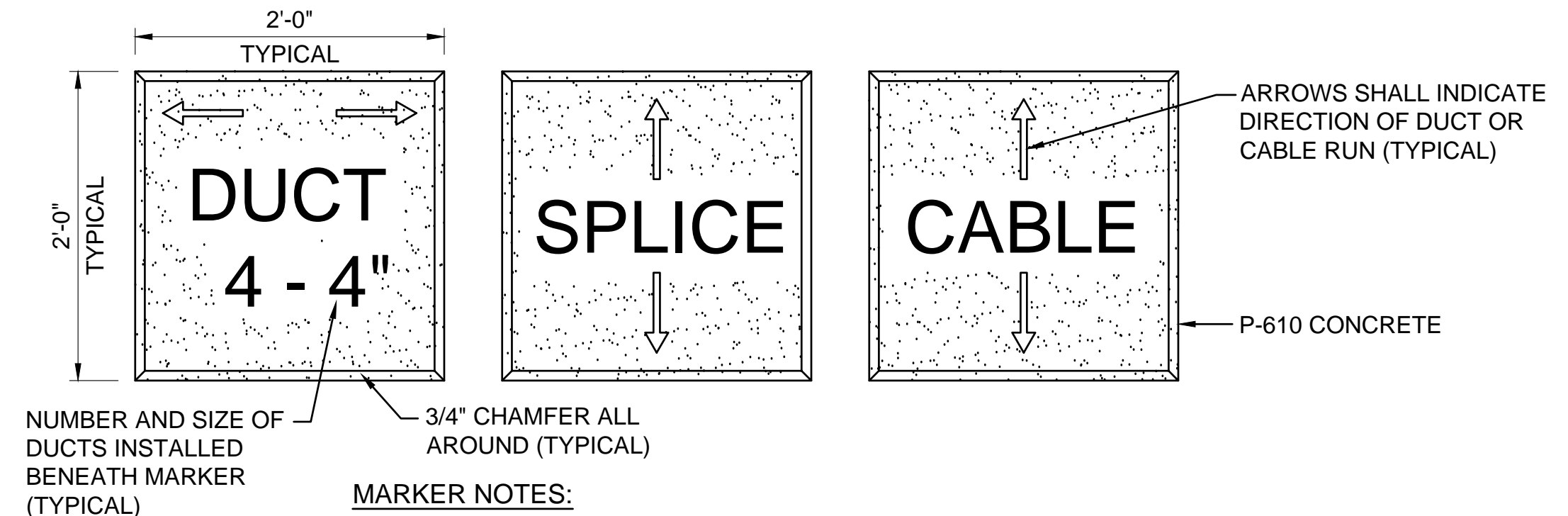


**SIDE VIEW**

**ENCASED NOTES**

1. INSTALL 3/4" x 10' COPPERCLAD GROUND RODS AT EACH END OF ELECTRICAL DUCT AND BOND COUNTERPOISES USING EXOTHERMIC WELDS.
2. INSTALL CONDUIT SPACERS WITH LOCKING COLLARS AT 5' O.C. SPACING INTERVALS. INSTALL #4 REINFORCING BARS MINIMUM 6" INTO SOIL TO ANCHOR THE ASSEMBLY PRIOR TO PLACING THE CONCRETE ENCASUREMENT.
3. INSTALL A COUNTERPOISE 4" ABOVE EACH CONDUIT.
4. INSTALL DUCT MARKERS IN ACCORDANCE WITH ADVISORY CIRCULAR 150/5340-30 REQUIREMENTS, INCLUDING AT THE ENDS OF DUCT BANKS.
5. SIMILAR FOR OTHER DUCT SIZES.

**3 1-WAY 4"C CONCRETE ENCASED CONDUIT**  
E-502 SCALE: NONE



**MARKER NOTES:**

1. LETTERS SHALL BE 4" HIGH, 3" WIDE, STROKE 1/2" WIDE, IMPRESSED 1/4" DEEP. LETTERS SHALL BE STENCILED.
2. MARKERS SHALL BE 4" THICK MINIMUM AND PROJECT 1" AFG MAXIMUM.
3. MARKERS SHALL BE PAINTED AVIATION ORANGE.
4. COST OF CONCRETE MARKERS IS INCIDENTAL TO THE ASSOCIATED ITEMS OF DUCT OR CABLE.
5. CABLE AND SPLICE MARKERS SHALL IDENTIFY THE CIRCUITS WHICH THE CABLES BELONG TO.
6. EACH DUCT OF CONDUIT RUN SHALL BE MARKED APPROXIMATELY EVERY 200 FEET ALONG THE DUCT OR CONDUIT RUN, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF DUCT OR CONDUIT RUN.
7. EMPLOY THE FOLLOWING METHODS WHERE ADDITIONAL SPACE TO FIT THE LEGEND IS REQUIRED:
  - A. REDUCE LETTER SIZE TO 3" HIGH, 2" WIDE.
  - B. INCREASE THE MARKER SIZE TO 30"x30" MAX.
  - C. PROVIDE ADDITIONAL MARKERS PLACED SIDE BY SIDE.

**5 CONCRETE SLAB MARKERS**  
E-502 SCALE: NONE



REGISTRATION NO. F-5713

RECORD DRAWINGS 04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS  
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

ELECTRICAL DETAILS II

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: MCL  
DRAWN BY: MCL

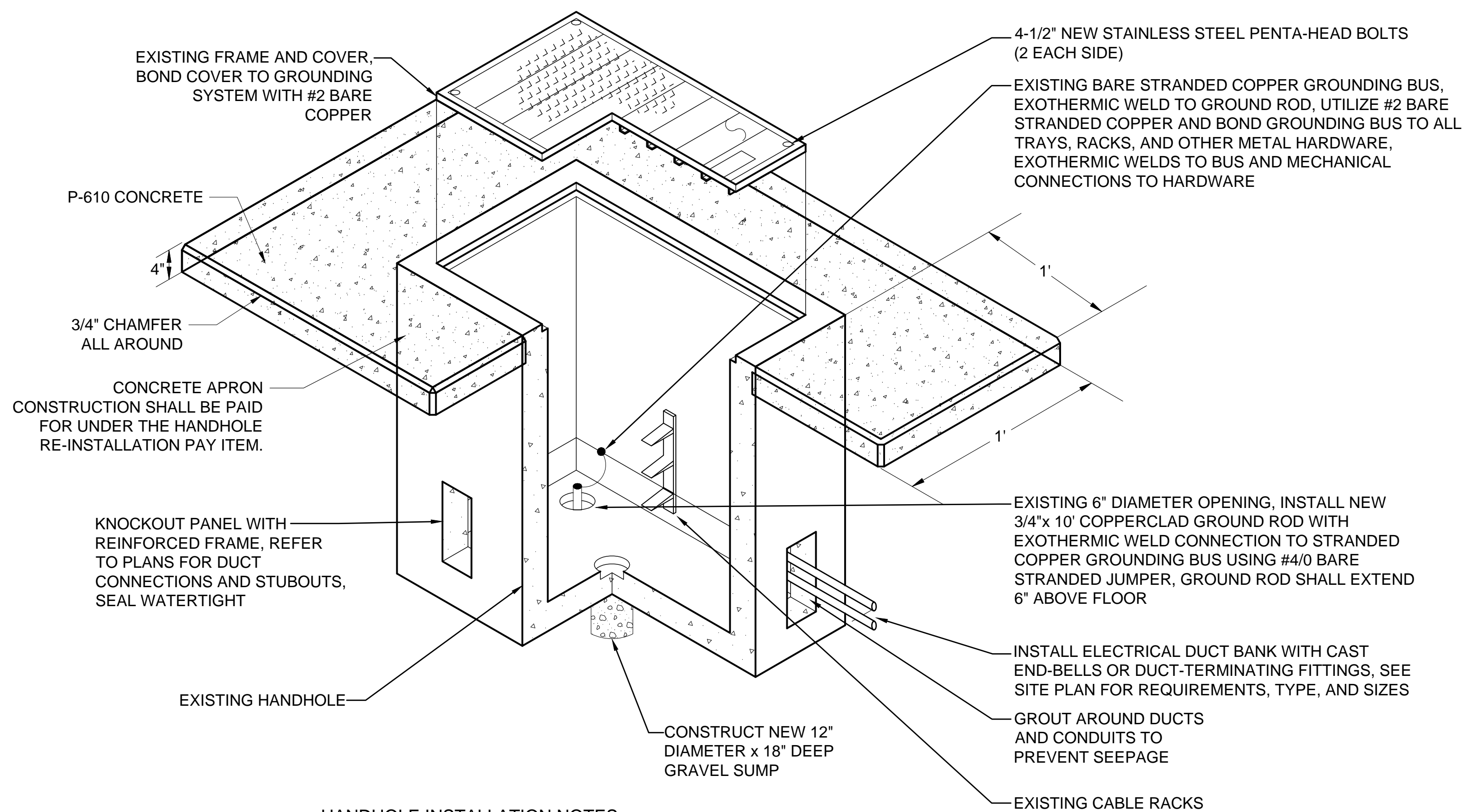
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DRAWING NUMBER  
**E-502**

SHEET NUMBER  
**44**

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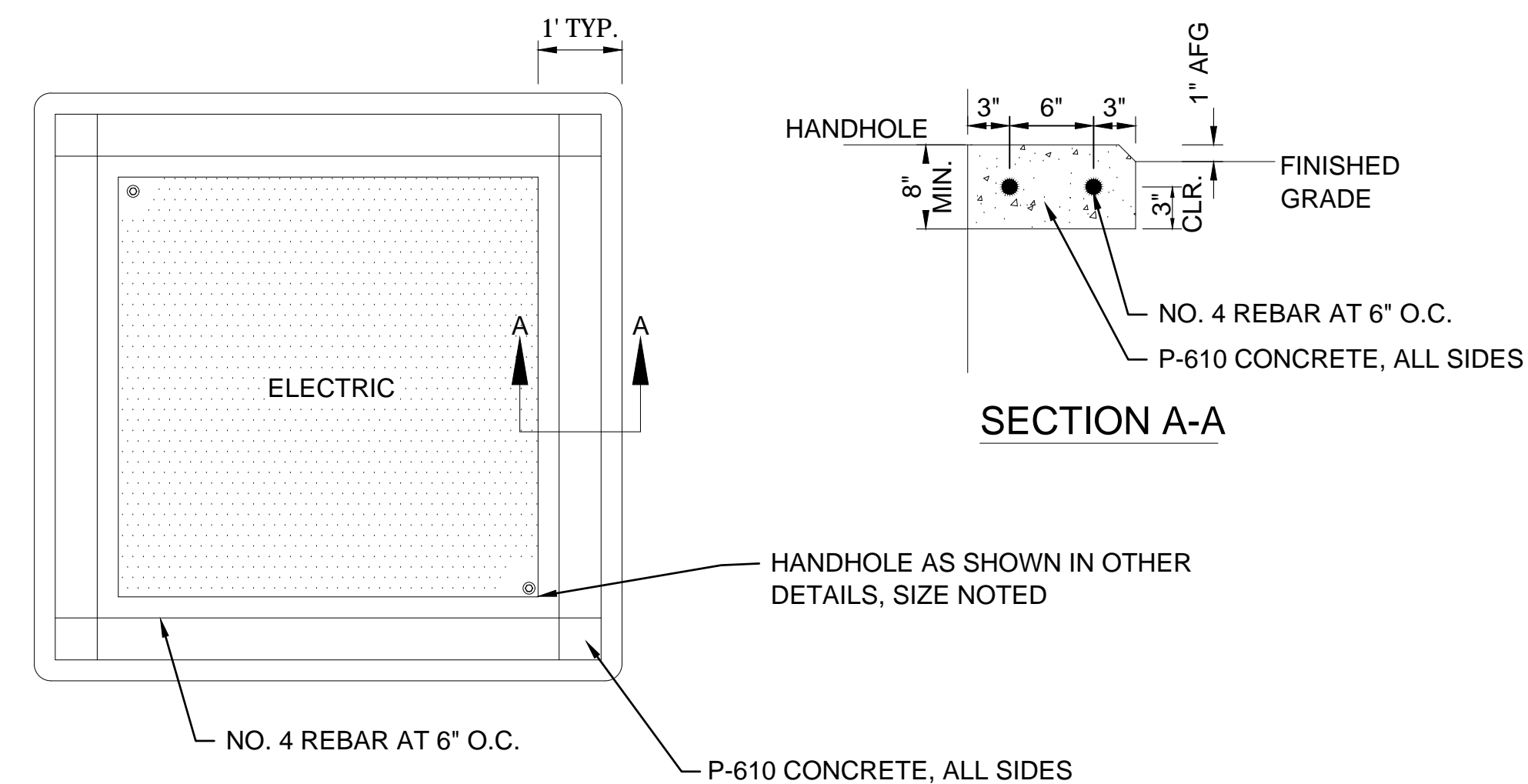
REV.	DATE	DESCRIPTION	BY


**HANDHOLE INSTALLATION NOTES:**

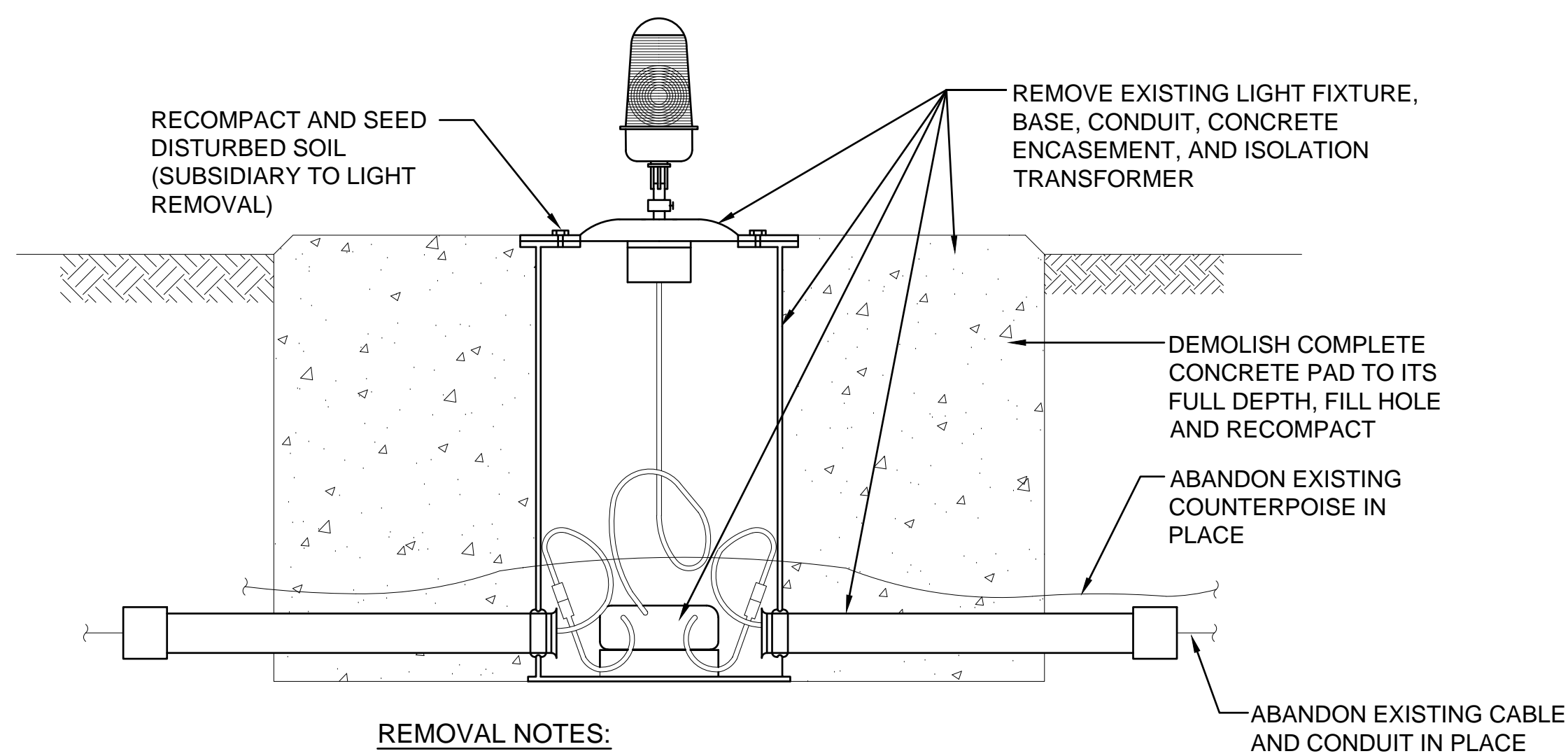
1. AT ROD OPENING, DRIVE GROUND ROD INTO EARTH LEAVING 6" EXTENDING ABOVE FLOOR. SEAL HOLE WATERTIGHT WITH PORTLAND CEMENT GROUT AROUND ROD.
2. EXCAVATION AND BACKFILL NECESSARY FOR THE CONSTRUCTION OF THE HANDHOLE SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATION REQUIREMENTS.
3. PROVIDE WATERTIGHT CONDUIT BUSHING AND WATERTIGHT SEALS FOR ALL DIRECT BURIED CABLES ENTERING THE HANDHOLE VIA A CONDUIT STUBOUT.
4. COVER SHALL BE 1" MAXIMUM ABOVE FINISHED GRADE. AREA SURROUNDING HANDHOLE SHALL BE GRADED TO DRAIN AWAY FROM HANDHOLE.
5. BOND AND GROUND COVER AND FRAME TO ROD USING BRAIDED COPPER GROUND STRAP EQUIVALENT AMPACITY TO #2 AWG STRANDED COPPER WIRE.
6. GRADE THE AREA AROUND THE HANDHOLE 10' IN ALL DIRECTIONS SUCH TO PREVENT WATER AND DIRT ACCUMULATION ACROSS THE TOP OF THE COVER AND ALLOW WATER TO DRAIN AWAY FROM THE HANDHOLE.

**RELOCATED PREFABRICATED  
CONCRETE HANDHOLE**

1  
E-503 SCALE: NONE


**PLAN VIEW**
**2 HANDHOLE HOUSEKEEPING PAD DETAILS**

E-503 SCALE: NONE


**REMOVAL NOTES:**

1. THE AIRPORT RESERVES THE RIGHT TO SALVAGE USABLE COMPONENTS.
2. ALL LIGHTING AND DEVICES SHALL BE REMOVED BY THE CONTRACTOR. THE ENGINEER AND AIRPORT WILL REVIEW THE REMOVED EQUIPMENT. ITEMS DESIGNATED AS SALVAGE SHALL THEN BE MOVED AND STORED AS DIRECTED BY AIRPORT.
3. ALL ITEMS THAT ARE NOT TO BE SALVAGED SHALL BE CAREFULLY REMOVED FROM THE AIRPORT AND PROPERLY DISPOSED.
4. THE AREA DISTURBED BY THE REMOVAL OPERATION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNER AND THE ENGINEER. THIS SHALL INCLUDE BACKFILLING WITH SELECT FILL, COMPACTION, GRADING, AND SODDING. AREA RESTORATION SHALL BE SUBSIDIARY TO THE EQUIPMENT PAY ITEM.

**3 BASE MOUNTED EDGE LIGHT REMOVAL**

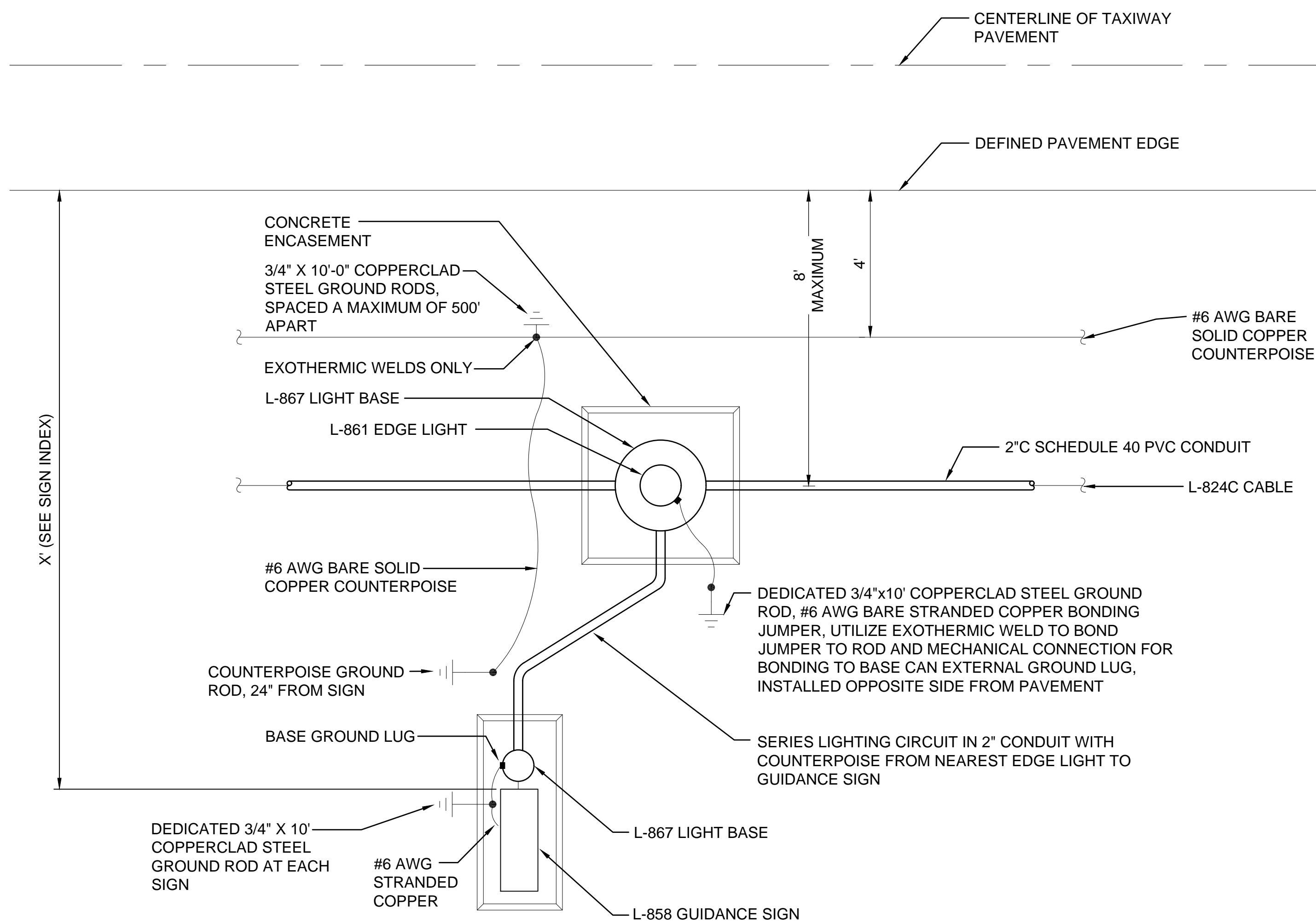
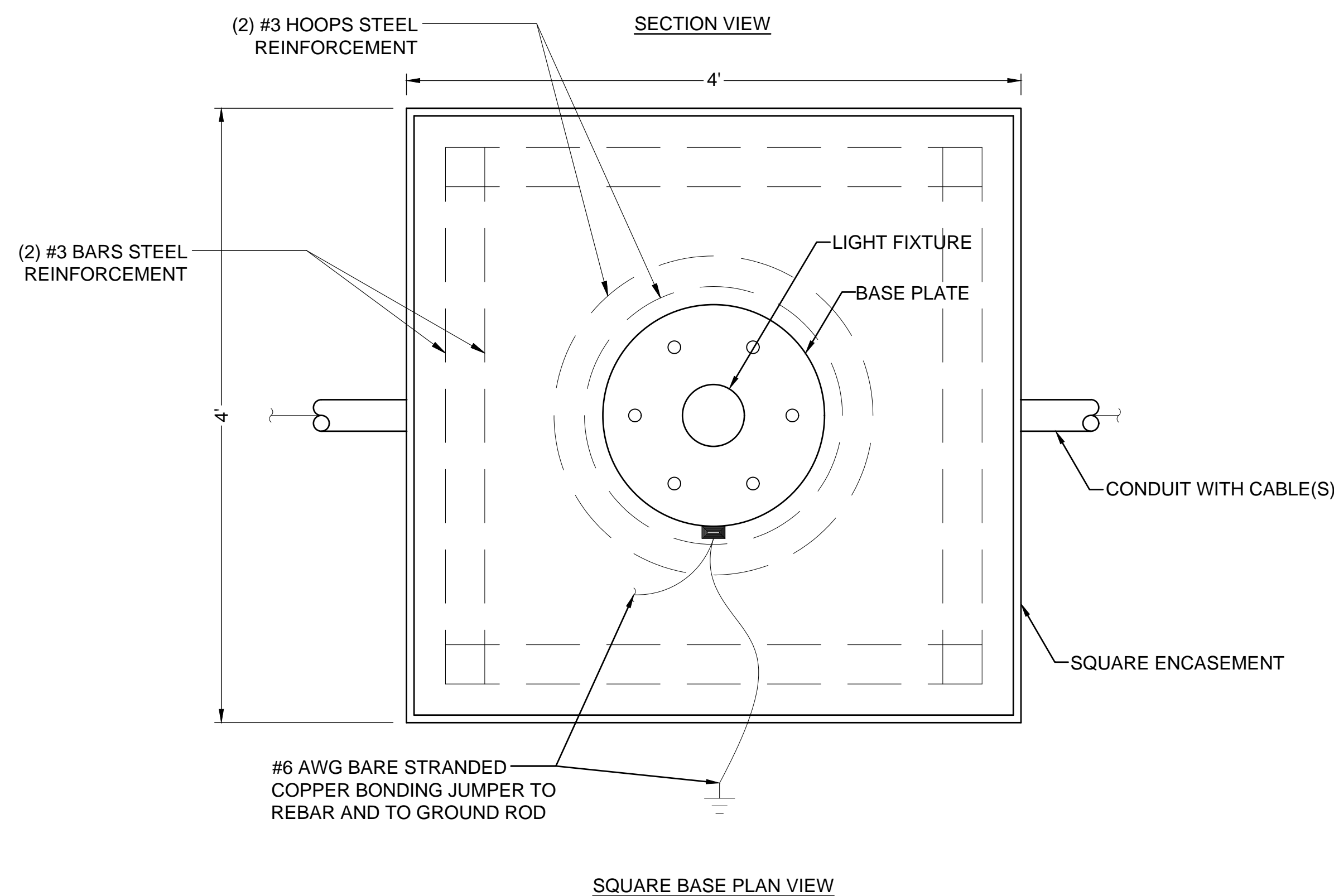
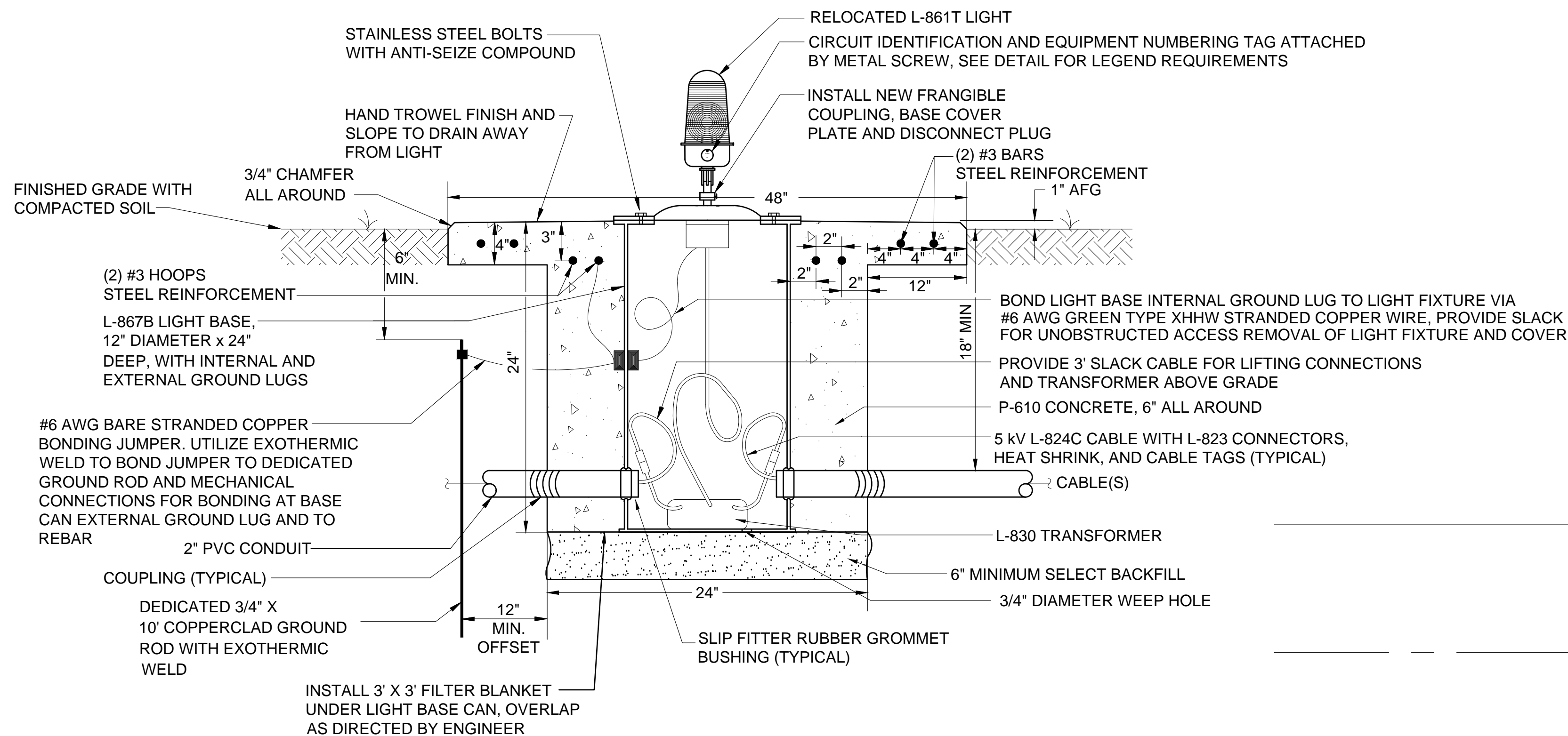
E-503 SCALE: NONE

**BASE MOUNTED LIGHT FIXTURE NOTES:**

1. INSTALL FIXTURE SO NUMBERING TAG AND SET SCREW FACE PAVEMENT EDGE.
2. INSTALL NEW L-823 CONNECTOR KITS WITH HEAT SHRINK AND CABLE TAGS AT ALL LIGHTS AND GUIDANCE SIGNS.
3. DEDICATED GROUND ROD SHALL NOT BE BONDED TO SEPARATE COUNTERPOISE SYSTEM.

**LAYOUT NOTES:**

1. INSTALL NEW L-823 CONNECTOR KITS WITH HEAT SHRINK AND CABLE TAGS AT ALL LIGHTS AND GUIDANCE SIGNS.
2. ATTACH AND CONNECT COUNTERPOISE SYSTEM AND GROUND RODS USING EXOTHERMIC WELDS ONLY.
3. INSTALL FIXTURE NUMBERING TAG AND SET SCREW FACING PAVEMENT EDGE.
4. INSTALL CABLE TAGS ON CIRCUITS IN EACH BASE MOUNTED LIGHT AND SIGN.
5. SUBMIT LIGHT / SIGN AND BASE CAN INSTALLATION METHOD SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO STARTING WORK.
6. DEMONSTRATE PROPER INSTALLATION LOCATION, ALIGNMENT, ELEVATION, AND ORIENTATION PRIOR TO CONSTRUCTION WORK.
7. UTILIZE ONLY EXOTHERMIC WELDS BELOW GRADE.
8. PROVIDE MINIMUM 3' SLACK CABLE FOR EACH CABLE ENTERING LIGHT BASE SO THAT L-823 CONNECTIONS AND ISOLATION TRANSFORMER CAN BE LIFTED OUT OF THE BASE ABOVE GRADE.
9. SUBMIT EXACT LOCATION LAYOUT OF EACH LIGHT AND SIGN INSTALLATION FOR APPROVAL PRIOR TO INSTALLATION.
10. INSTALL DEDICATED EQUIPMENT SAFETY GROUND ROD WITH EXOTHERMIC WELD AT EACH LIGHT FIXTURE AND SIGN.
11. DO NOT CONNECT THIS SAFETY GROUND ROD OR THE BASE TO THE COUNTERPOISE SYSTEM (ISOLATION METHOD LIGHTNING PROTECTION).



**1 BASE MOUNTED LIGHT INSTALLATION**  
SCALE: NONE

**2 EDGE LIGHT AND GUIDANCE SIGN LAYOUT PLAN**  
SCALE: NONE

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REGISTRATION NO. F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION

ADDISON AIRPORT  
ADDISON, TEXAS  
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

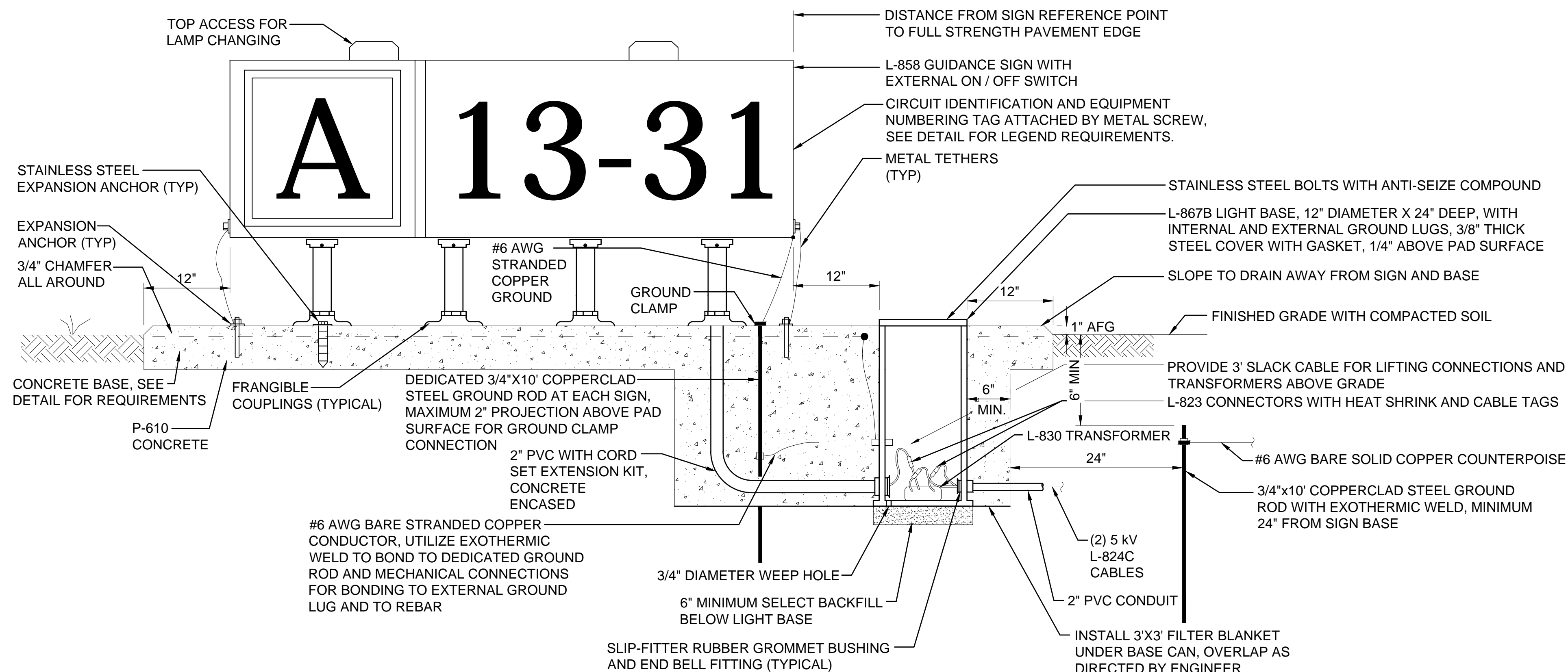
ELECTRICAL DETAILS IV

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: MCL  
DRAWN BY: MCL

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DRAWING NUMBER  
**E-504**

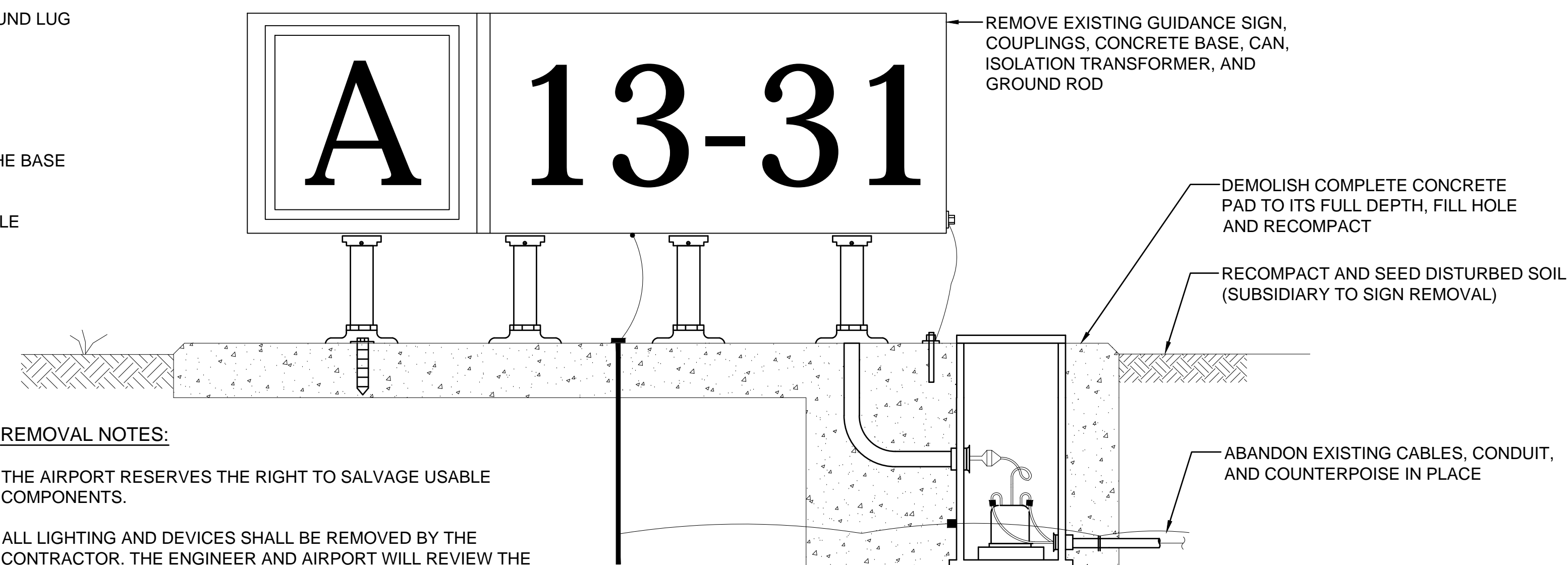
SHEET NUMBER  
**46**


**GUIDANCE SIGN NOTES:**

- INSTALL SIGN IN ACCORDANCE WITH FAA GUIDELINES AND MANUFACTURER'S RECOMMENDATIONS.
- INSTALL NEW L-823 CONNECTOR KITS WITH HEAT SHRINK AND CABLE TAGS AT ALL LIGHTS AND GUIDANCE SIGNS.
- SUBMIT SIGN AND BASE CAN INSTALLATION METHOD SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO STARTING WORK.
- DEMONSTRATE PROPER INSTALLATION LOCATION, ELEVATION, AND ORIENTATION PRIOR TO CONCRETE WORK.
- CONNECT THE COUNTERPOISE TO GROUND ROD 24" FROM CONCRETE PAD. DO NOT CONNECT COUNTERPOISE TO LIGHT BASE GROUND LUG (ISOLATION METHOD LIGHTNING PROTECTION).
- INSTALL A DEDICATED EQUIPMENT SAFETY GROUND ROD WITH EXOTHERMIC WELD AT EACH SIGN.
- UTILIZE ONLY EXOTHERMIC WELDS BELOW GRADE.
- PROVIDE MINIMUM 3' SLACK CABLE FOR EACH CABLE ENTERING LIGHT BASE SO THAT L-823 CONNECTIONS CAN BE LIFTED OUT OF THE BASE ABOVE GRADE.
- PROVIDE TETHER FOR ALL SIGNS USING 3/16" STAINLESS STEEL AIRCRAFT CABLE AND STAINLESS STEEL HARDWARE. PROVIDE SINGLE MODULE SIGNS WITH ONE TETHER. PROVIDE MULTIPLE MODULE SIGNS WITH A TETHER AT BOTH ENDS.
- TETHERS AND GROUND BONDING CONDUCTOR SHALL BE SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE PROPERLY AND POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER.
- SOD THE DISTURBED AREAS AROUND THE SIGN AND GRADE SOIL TO PROVIDE DRAINAGE AWAY FROM SIGN BASE.

1  
E-505

**BASE MOUNTED SIGN INSTALLATION**  
SCALE: NONE


**REMOVAL NOTES:**

- THE AIRPORT RESERVES THE RIGHT TO SALVAGE USABLE COMPONENTS.
- ALL LIGHTING AND DEVICES SHALL BE REMOVED BY THE CONTRACTOR. THE ENGINEER AND AIRPORT WILL REVIEW THE REMOVED EQUIPMENT. ITEMS DESIGNATED AS SALVAGE SHALL THEN BE MOVED AND STORED AS DIRECTED BY AIRPORT.
- ALL ITEMS THAT ARE NOT TO BE SALVAGED SHALL BE CAREFULLY REMOVED FROM THE AIRPORT AND PROPERLY DISPOSED.
- THE AREA DISTURBED BY THE REMOVAL OPERATION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNER AND THE ENGINEER. THIS SHALL INCLUDE BACKFILLING WITH SELECT FILL, COMPACTION, GRADING, AND SODDING. AREA RESTORATION SHALL BE SUBSIDIARY TO THE EQUIPMENT PAY ITEM.

2  
E-505

**BASE MOUNTED SIGN REMOVAL**  
SCALE: NONE

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

ADDISON AIRPORT  
FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS

 ELECTRICAL  
DETAILS V

 JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: RVD  
DRAWN BY: RVD

 BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

 DRAWING NUMBER  
**E-505**

 SHEET NUMBER  
**47**

REV.	DATE	DESCRIPTION	BY

NEW GUIDANCE SIGN INDEX														
SIGN NO.	DESC.	SIDE 1				SIDE 2				SIZE	STYLE	CLASS	MODE	CIRCUIT
		1	2	3	4	1	2	3	4					
1	LEGEND	NOISE ABATEMENT**				*	*	*	*	2	2	2	2	TW A
	TYPE	Y												

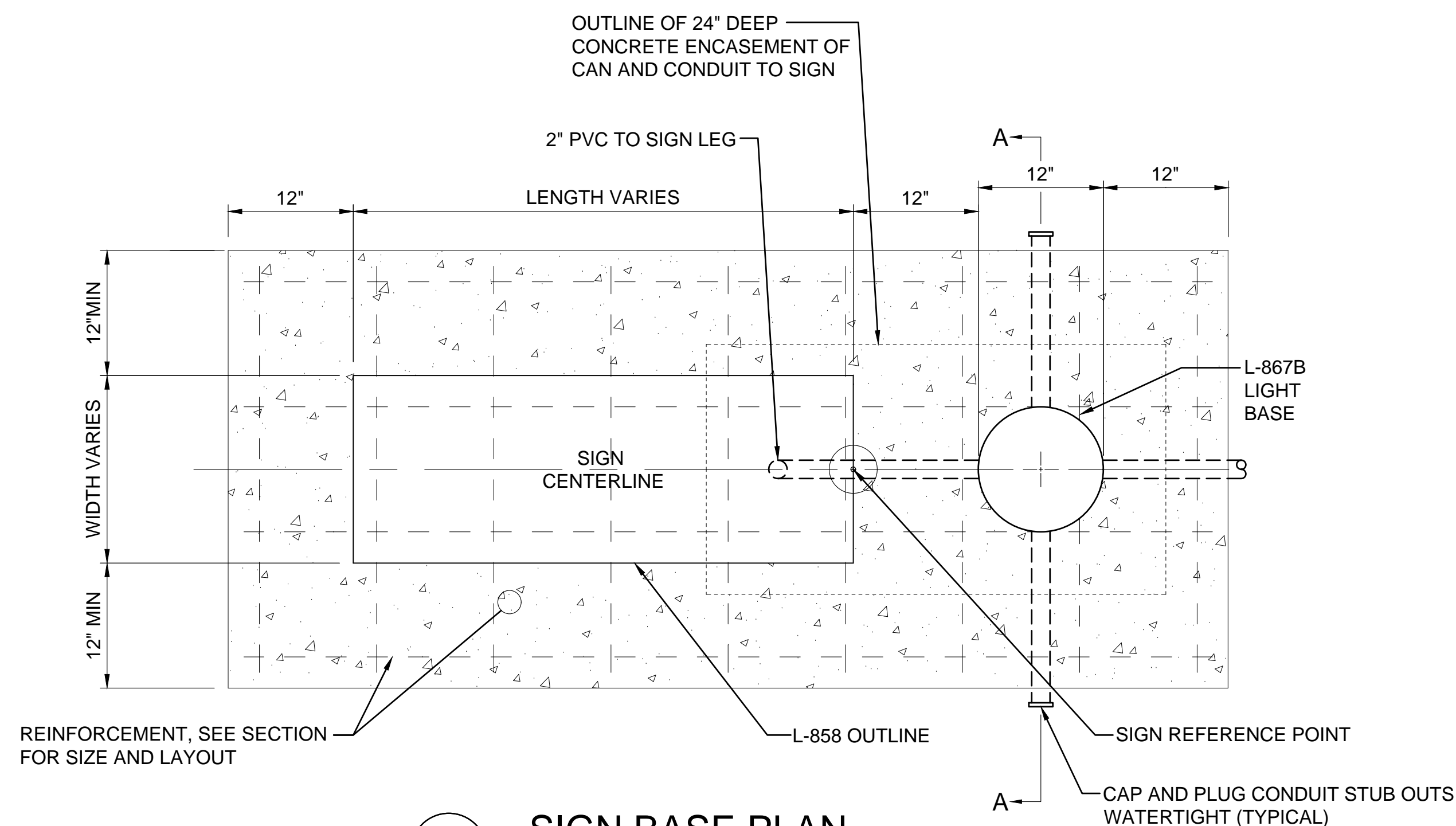
**LEGEND:**  
L-858Y DIRECTION / DESTINATION / BOUNDARY

**INDEX NOTES:**

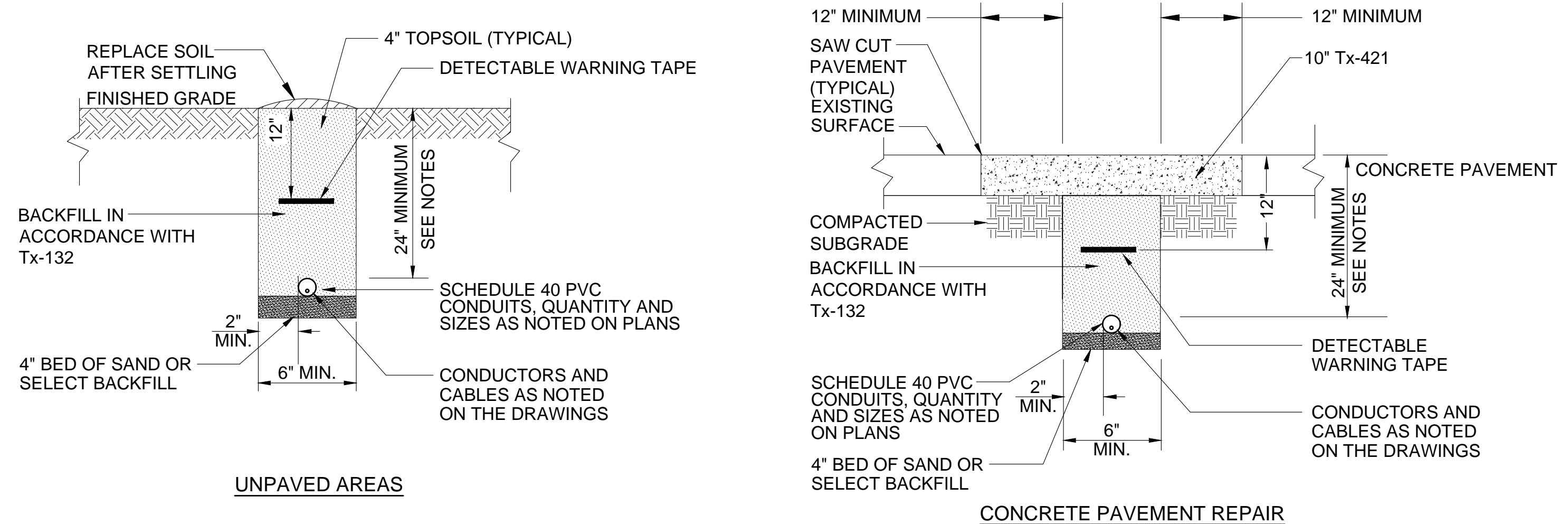
- THIS INDEX SHOWS THE ANTICIPATED SIGN MODULES REQUIRED FOR THE CHARACTERS AND MESSAGE INDICATED.
  - THE CONTRACTOR SHALL SUBMIT SUBMITTALS / SHOP DRAWINGS FOR ALL SIGNS THAT FULLY COMPLY WITH THE CONSTRUCTION REQUIREMENTS LISTED IN AC 150/5345-44 (LATEST EDITION).
  - TAXIWAY INFORMATION SIGNS: PERPENDICULAR DISTANCE FROM DEFINED TAXIWAY EDGE TO NEAR SIDE OF SIGN SHALL BE 20 FEET FOR SIZE 2 SIGNS.
- \* SIGN PANEL SHALL BE BLANK.  
\*\* PROVIDE NOISE ABATEMENT SIGN WITH THE FOLLOWING TEXT:

NOISE ABATEMENT PROCEDURE:  
TURBOJET AND TURBOPROP AIRCRAFT  
USE NBAA STANDARD DEPARTURE PROCEDURES.  
FLY HEADING AND ALTITUDE AS ASSIGNED BY ATC.

**3 NEW GUIDANCE SIGN INDEX**  
E-506 SCALE: NONE



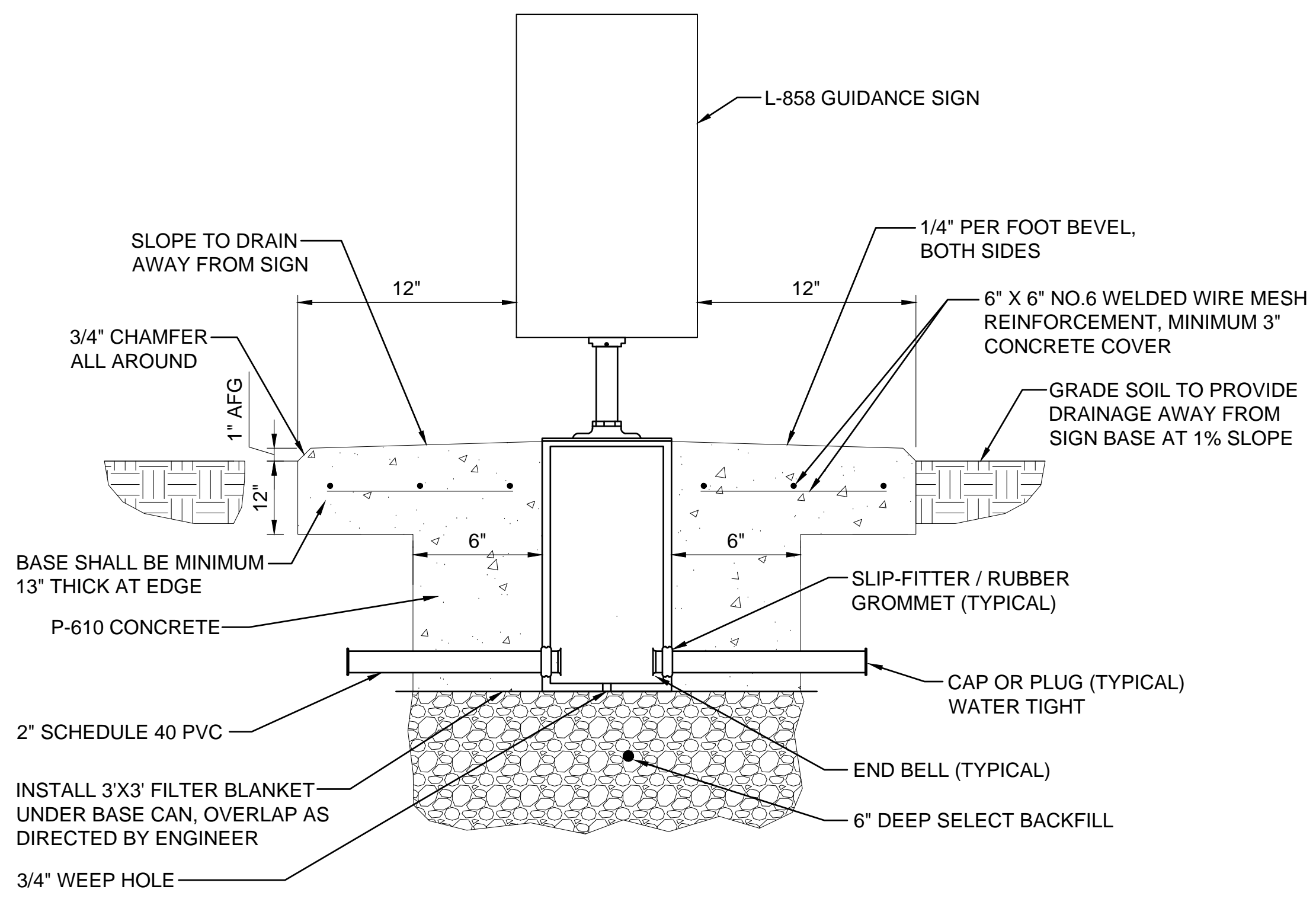
**1 SIGN BASE PLAN**  
E-506 SCALE: NONE



**1 NON-ENCASED ELECTRICAL CONDUIT DETAILS (FUEL FARM GATE)**  
E-506 SCALE: NONE

**ELECTRICAL DUCT NOTES**

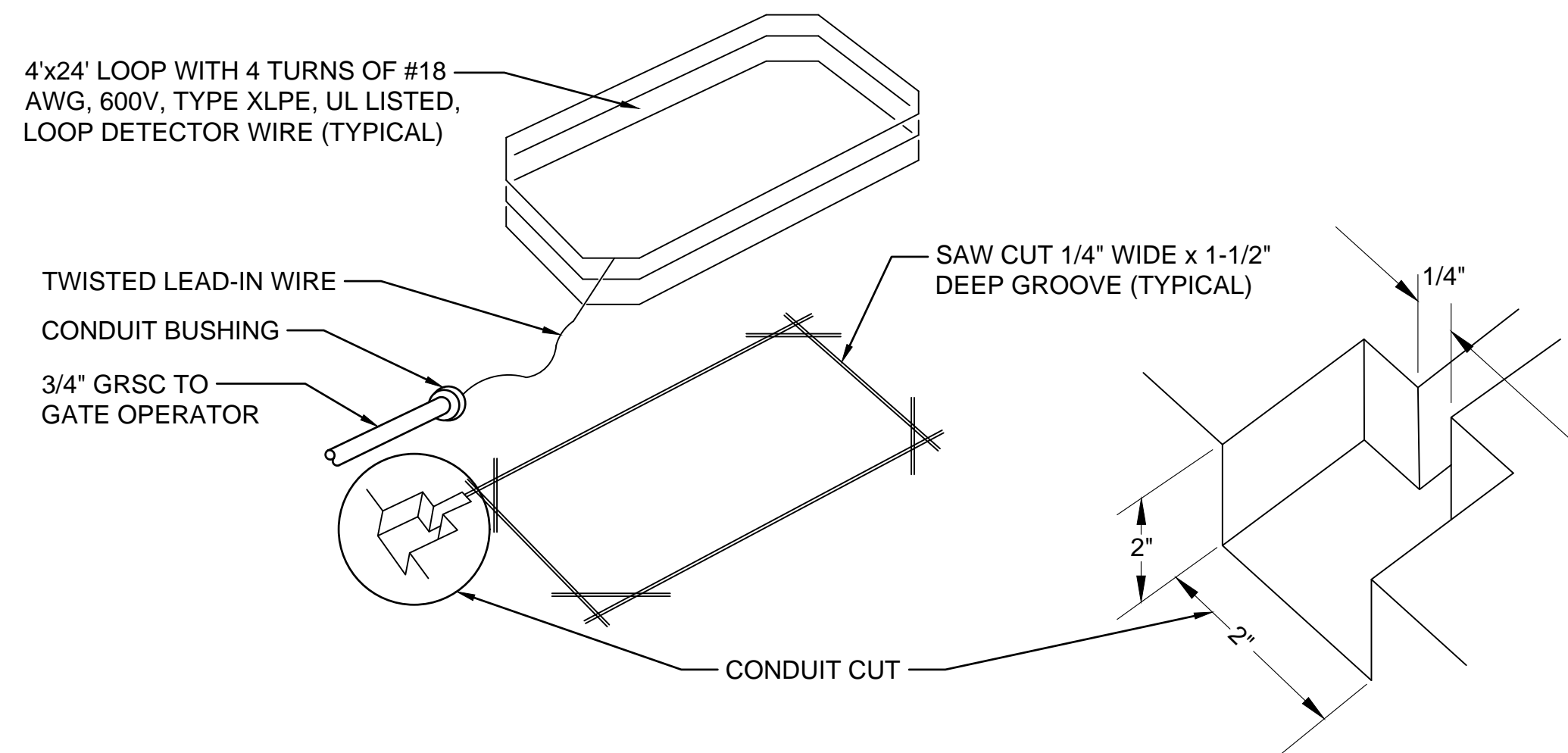
- CONTRACTOR SHALL STAKE THE DUCT INSTALLATION IN PLAN AND ELEVATION FOR NEW ELECTRICAL DUCTS TO AVOID EXISTING UTILITIES. STAKING PLAN SHALL BE APPROVED BY OWNER AND ENGINEER PRIOR TO WORK.
- CONTRACTOR SHALL ADJUST THE DEPTH OF THE ELECTRICAL DUCTS AS REQUIRED TO MAINTAIN THE MINIMUM COVER REQUIREMENT INDICATED AND AVOID EXISTING UTILITIES.
- SIMILAR CONSTRUCTION FOR OTHER DUCT SIZES. SEE DUCT BANK SCHEDULE FOR QUANTITY AND SIZES.
- INSTALL DUCT CONDUIT SUPPORTS AT 5'-0" O.C. MAXIMUM SPACING. UTILIZE LOCKING COLLARS OR HOLD DOWN BARS WITH ANCHORS TO PREVENT DUCT FLOTATION. (TYPICAL ALL DUCTS).
- OFFSETS AND BENDS OVER 1- DEGREES AND ELBOWS IN PVC CONDUIT RUNS SHALL BE SCHEDULE 80 PVC CONDUIT.
- NO PVC SHALL EMERGE FROM THE GROUND OR CONCRETE SLAB OR ENCASUREMENT, PVC SHALL CONVERT TO PVC COATED GALVANIZED RIGID STEEL CONDUIT PRIOR TO ITS EMERGENCE.
- INSTALL CONDUCTORS AND CABLES AS NOTED ON DRAWING. INSTALL PULLWIRE IN ALL SPARE DUCTS/CONDUITS.
- MINIMUM COVER REQUIREMENT FOR DUCT BANKS UNDER ROADS, DRIVEWAYS AND PARKING LOTS SHALL BE 24".
- VERTICAL AND HORIZONTAL DISTANCES BETWEEN CONDUITS SHALL BE 3" MINIMUM FOR DUCTS CONTAINING CIRCUITS OVER 600 VOLTS.
- MARKER TAPE SHALL BE A DETECTABLE TYPE CONSTRUCTION WITH RED BACKGROUND AND BLACK LETTERING, "CAUTION-BURIED ELECTRICAL LINE BELOW".
- END BELLS OR COUPLINGS WITH REMOVABLE FACTORY PLUGS SHALL BE INSTALLED FLUSH WITH THE CONCRETE ENCASUREMENT AT ACCESS POINTS.
- ROCK REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO DUCT INSTALLATION.
- BACKFILL IN ACCORDANCE WITH Tx-132.



**2 SIGN BASE SECTION A-A**  
E-506 SCALE: NONE

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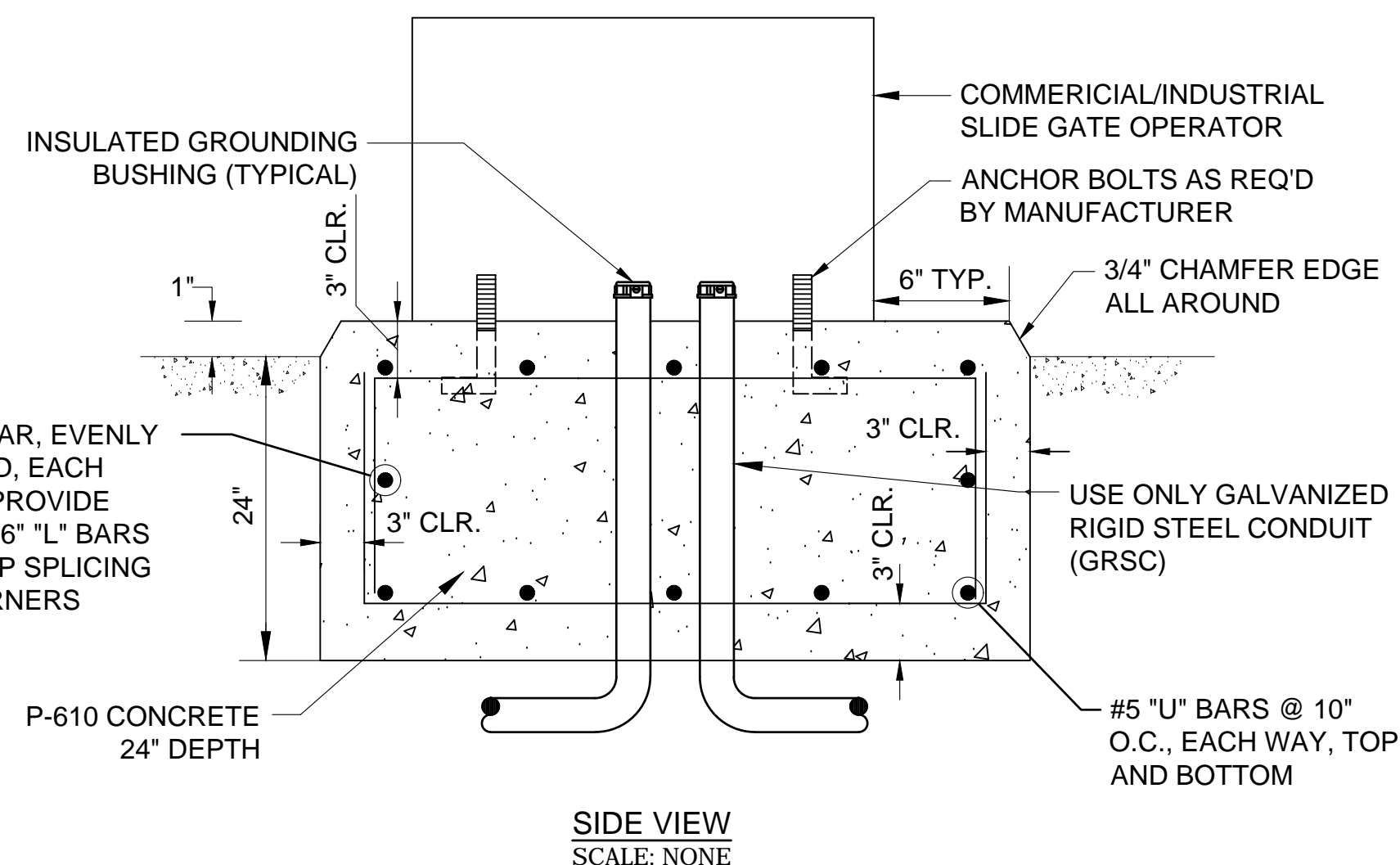
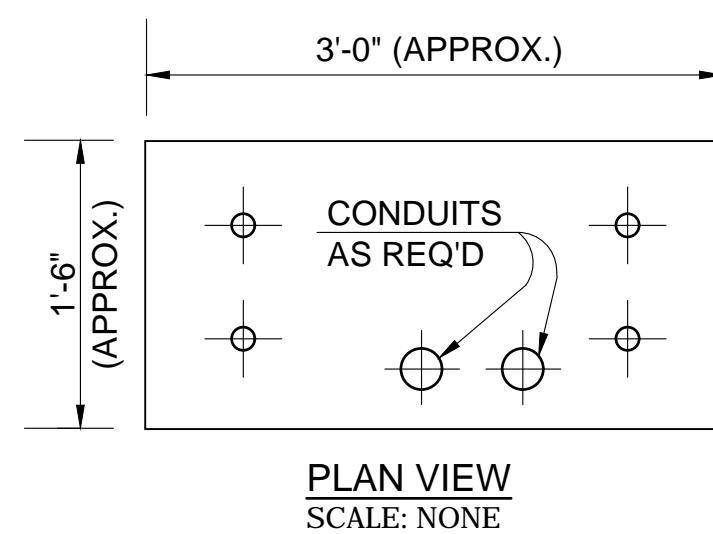
**1**  
E-507

### VEHICLE DETECTION LOOP

SCALE: NONE

**LOOP NOTES:**

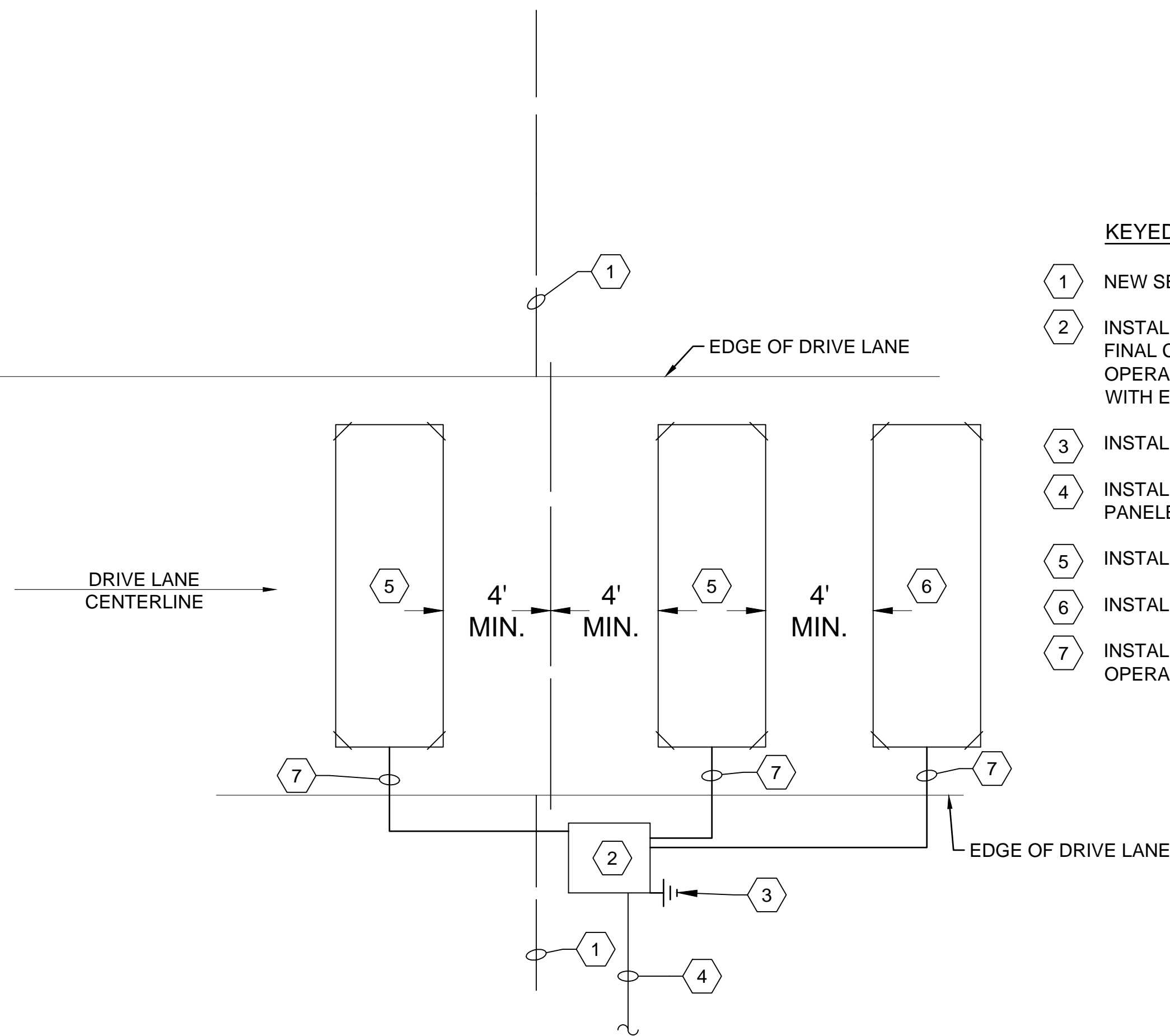
1. ALL LOOPS SHALL BE THE SAME SIZE. SEE LAYOUT ON SHEET 5. COORDINATE LAYOUT PRIOR TO ANY WORK.
2. VERIFY ALL DIMENSIONS AND INSTALLATION REQUIREMENTS WITH ELECTRICALLY OPERATED GATE MANUFACTURER PRIOR TO WORK.
3. ALL LOOP DETECTORS SHALL BE SELF-TUNING.
4. UTILIZE MATCHING ASPHALT SEALANT.



**2**  
E-507

### SLIDING GATE OPERATOR INSTALLATION

SCALE: NONE



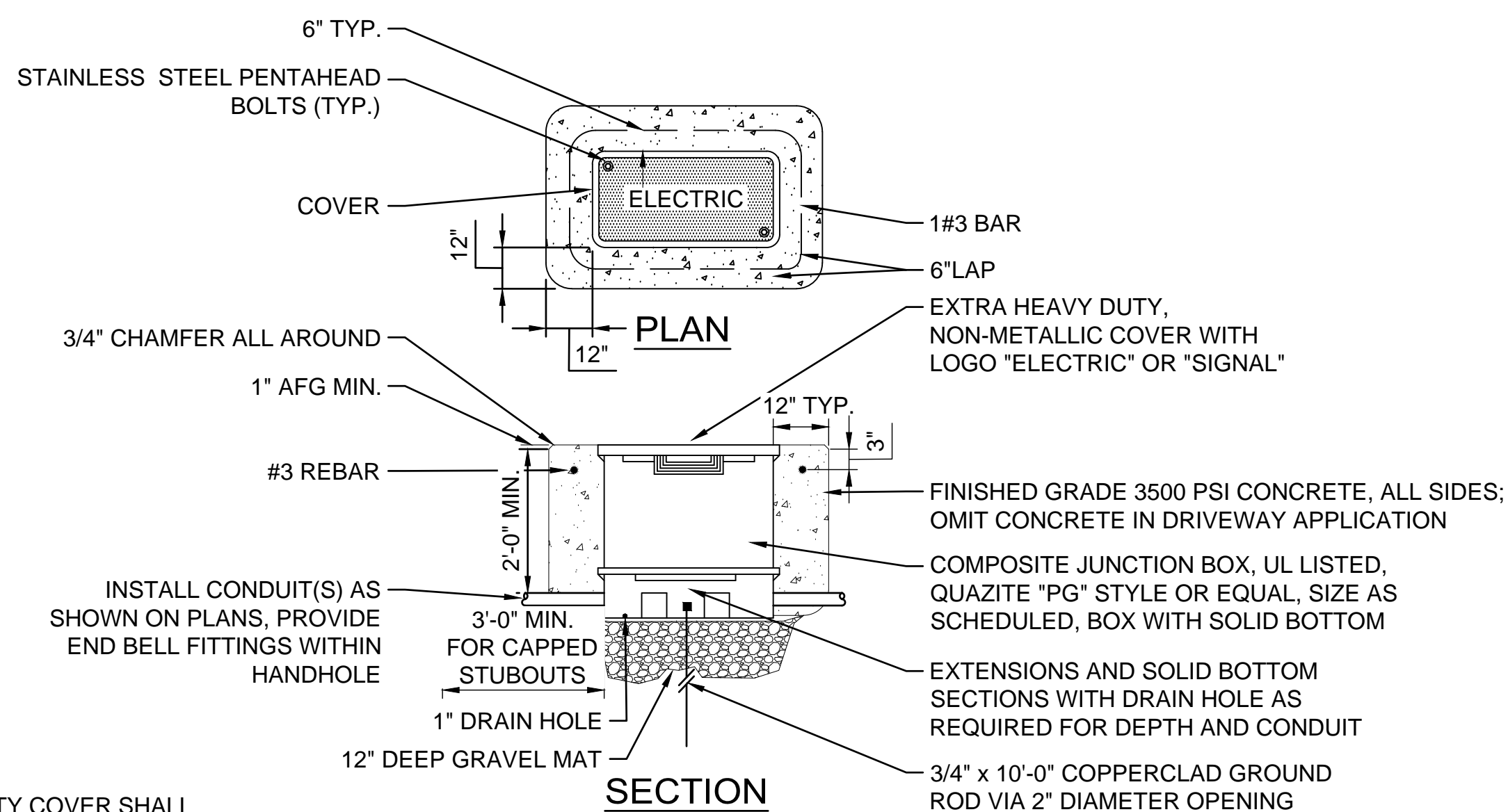
**3**  
E-507

### AUTOMATIC GATE LAYOUT PLAN

SCALE: NONE

**KEYED NOTES:**

- 1 NEW SECURITY FENCING.
- 2 INSTALL NEW 30' AUTOMATIC SLIDING GATE SYSTEM. MAKE ALL FINAL CONNECTIONS. RE-INSTALL EXISTING HYSECURITY GATE OPERATOR. COORDINATE EXACT LOCATIONS AND LAYOUT WITH ENGINEER PRIOR TO WORK.
- 3 INSTALL NEW DEDICATED GROUND ROD AT OPERATOR.
- 4 INSTALL POWER CIRCUIT FROM GATE OPERATOR TO PANELBOARD.
- 5 INSTALL NEW 4'x12' REVERSE LOOP.
- 6 INSTALL NEW 4'x12' EXIT LOOP.
- 7 INSTALL NEW LEAD-IN CABLE CIRCUIT FROM LOOP TO GATE OPERATOR.



**4**  
E-507

### HANDHOLE DETAILS

SCALE: NONE

**NOTES:**

1. UL LISTED PULLBOX AND EXTRA HEAVY-DUTY COVER SHALL BE DESIGNED FOR A TEST LOAD OF 33,750 LBS AND A DESIGN LOAD OF 22,500 LBS.
2. PROVIDE PULLBOX WITH 2-2" C STUBOUTS IN EACH FACE, CAPPED WATERTIGHT.
3. PULLBOX INTERIOR DIMENSIONS SHALL BE 30" L x 17" W x 18" D.
4. PROVIDE MINIMUM 36" SLACK CABLE LOOP FOR EACH CABLE.
5. COLOR CODE, TAG, AND IDENTIFY ALL CABLES IN UL LISTED PULLBOX.
6. EXACT LOCATION OF EACH UL LISTED PULLBOX SHALL BE APPROVED BY THE OWNER AND ENGINEER.



REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS

**ADDISON AIRPORT**

FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

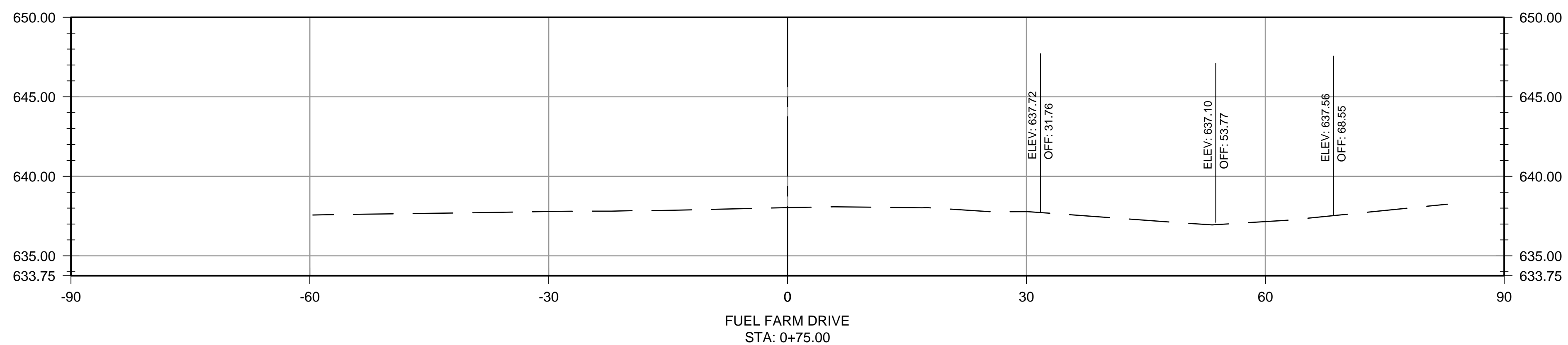
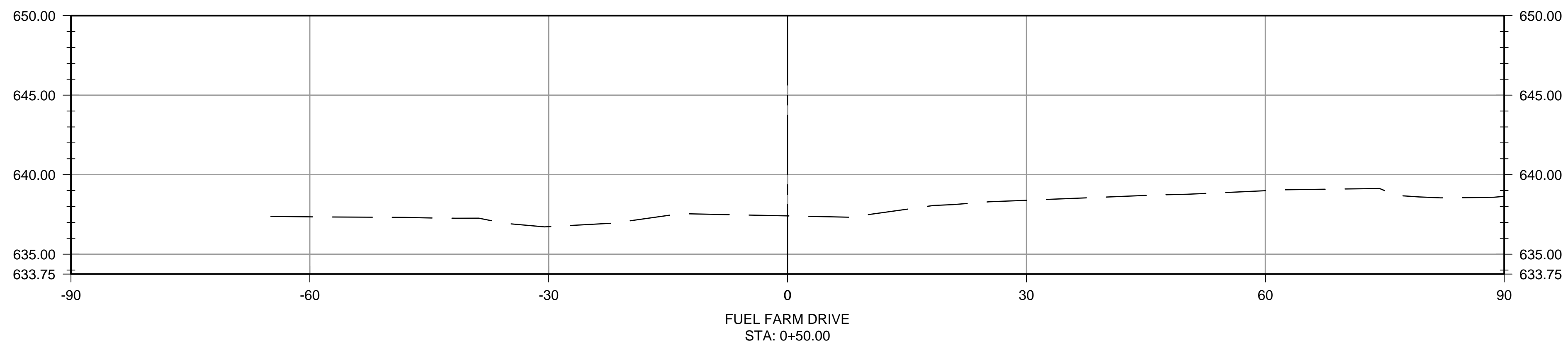
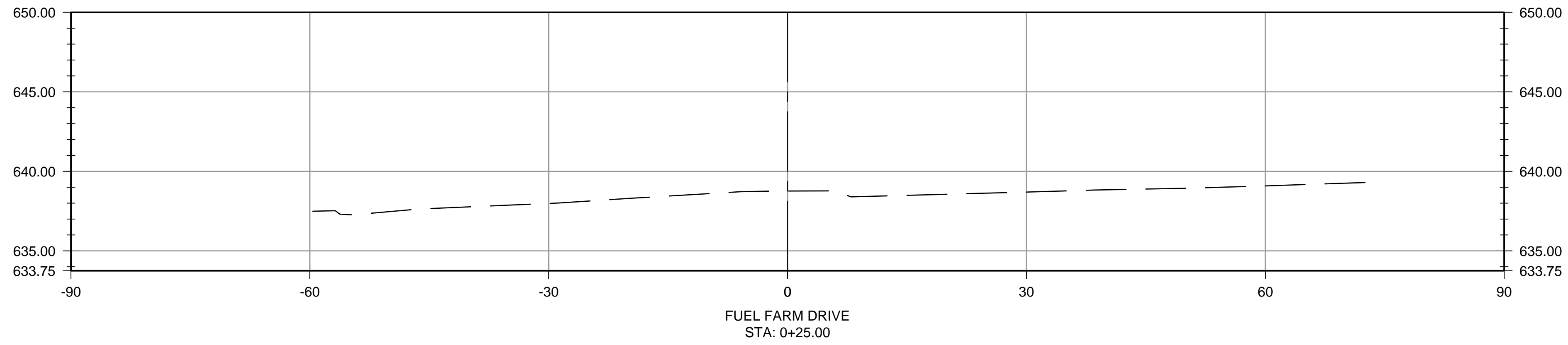
FUEL FARM DRIVE  
CROSS SECTIONS 1

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: KKR  
DRAWN BY: KKR

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IF NOT ONE INCH ON  
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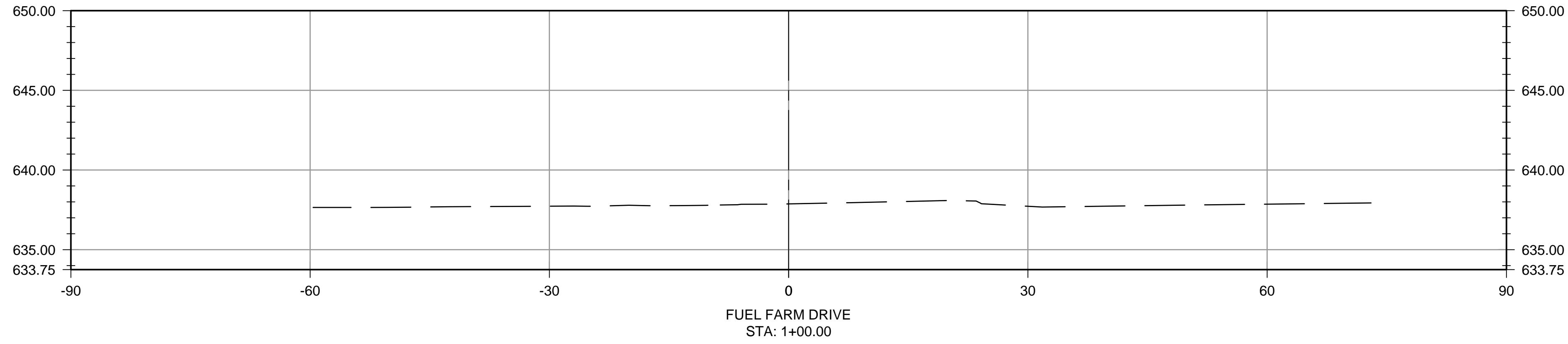
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SHEET NUMBER  
**50**



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REGISTRATION NO.  
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REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
ADDISON, TEXAS



FUEL FARM EXIT RELOCATION AND  
PERIMETER ROAD REPAIRS

FUEL FARM DRIVE  
CROSS SECTIONS 2

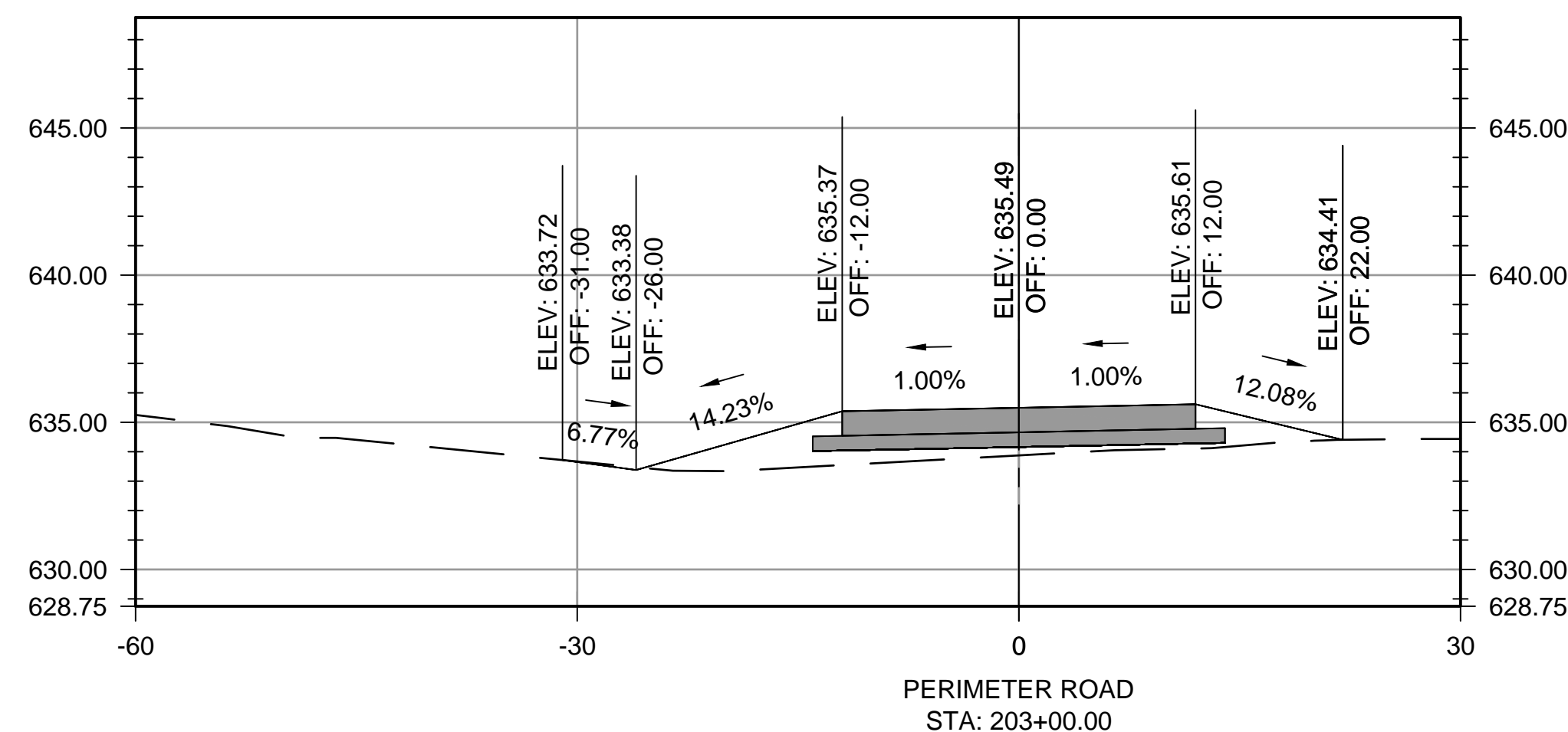
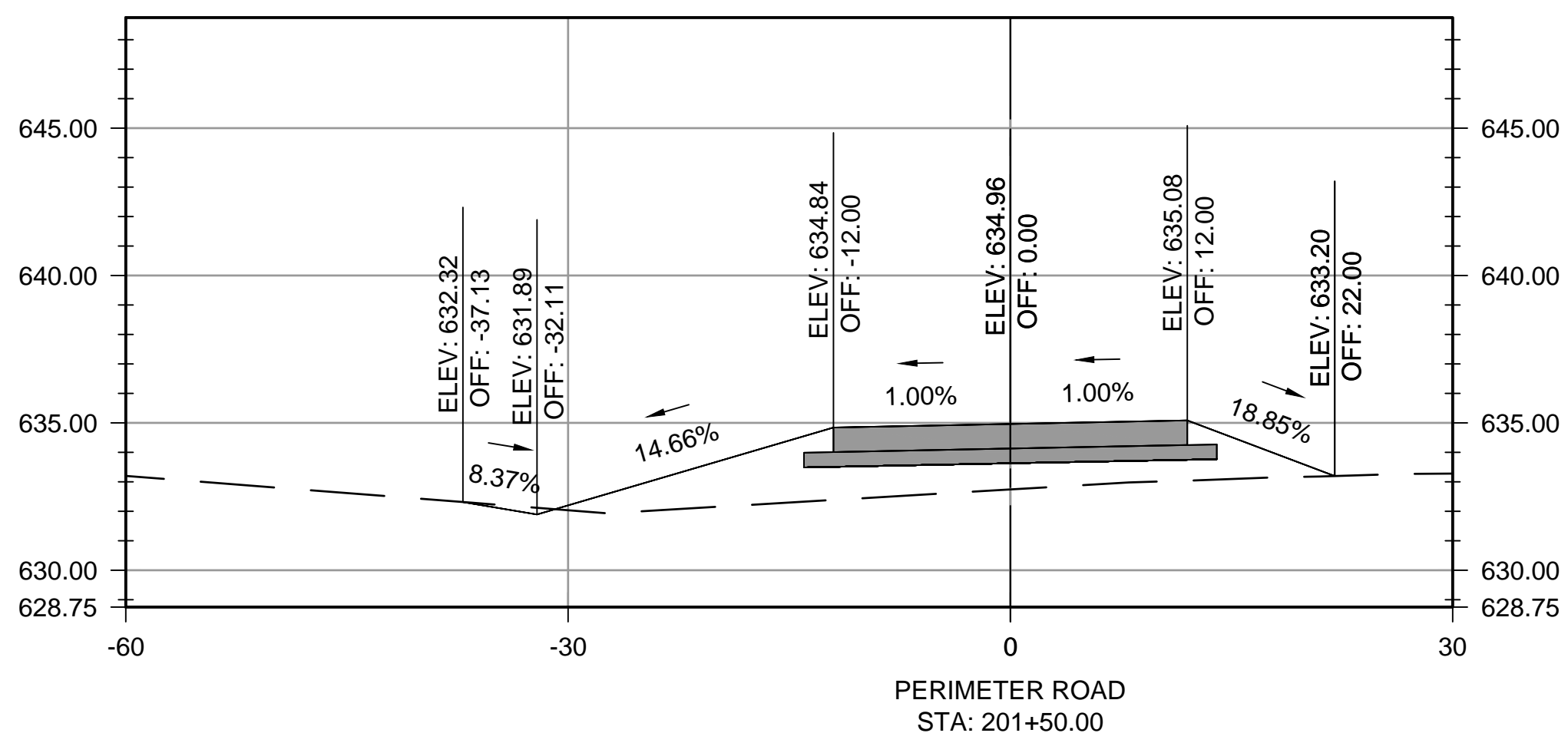
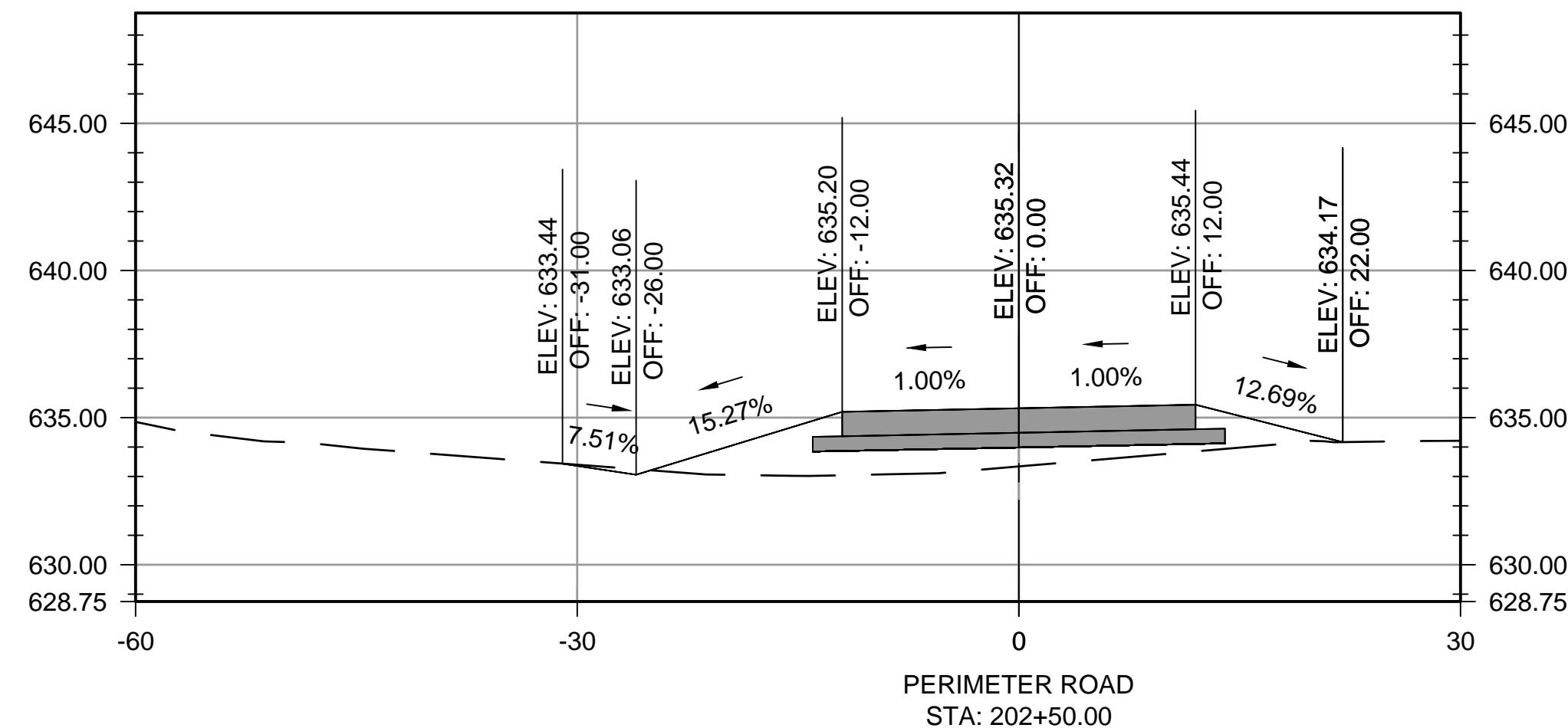
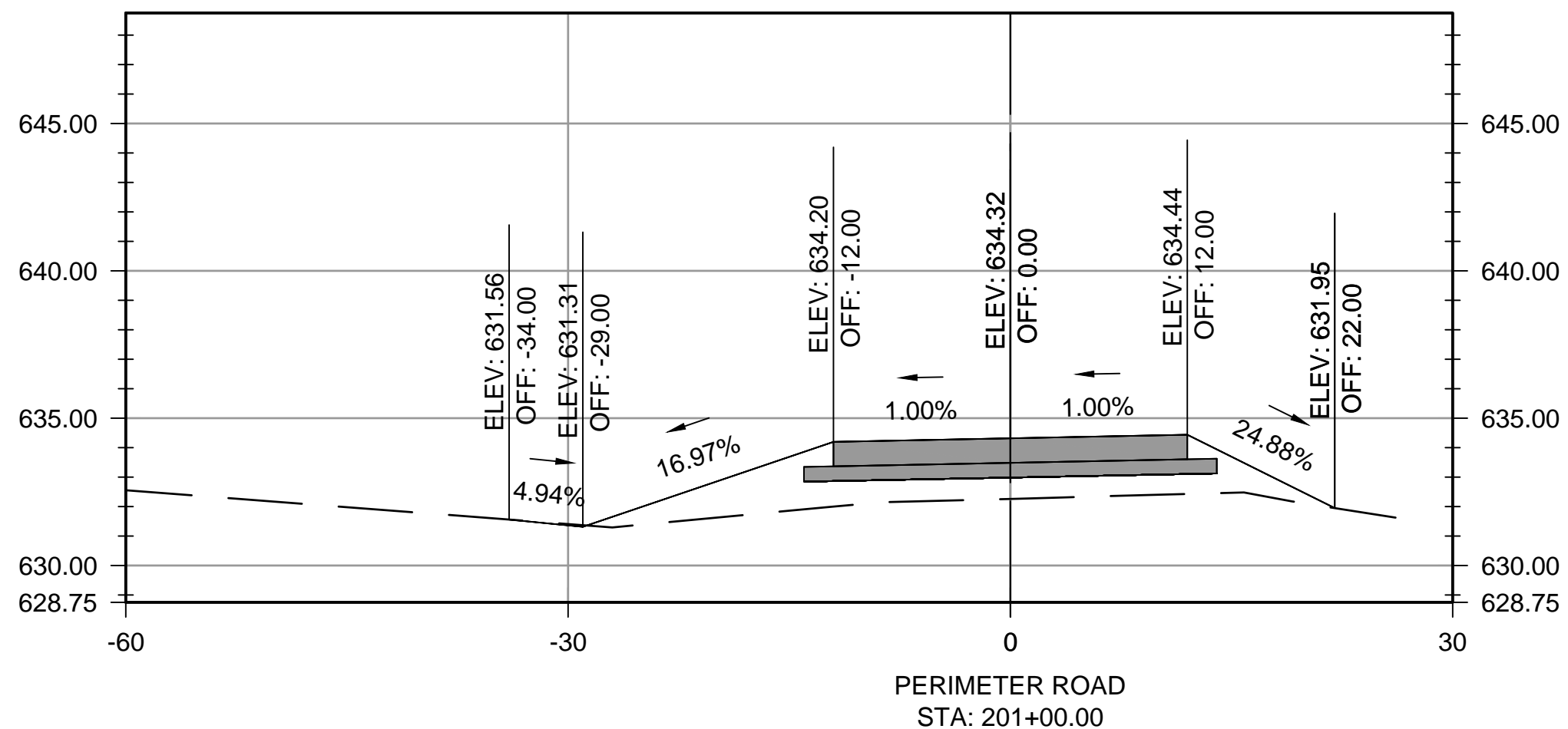
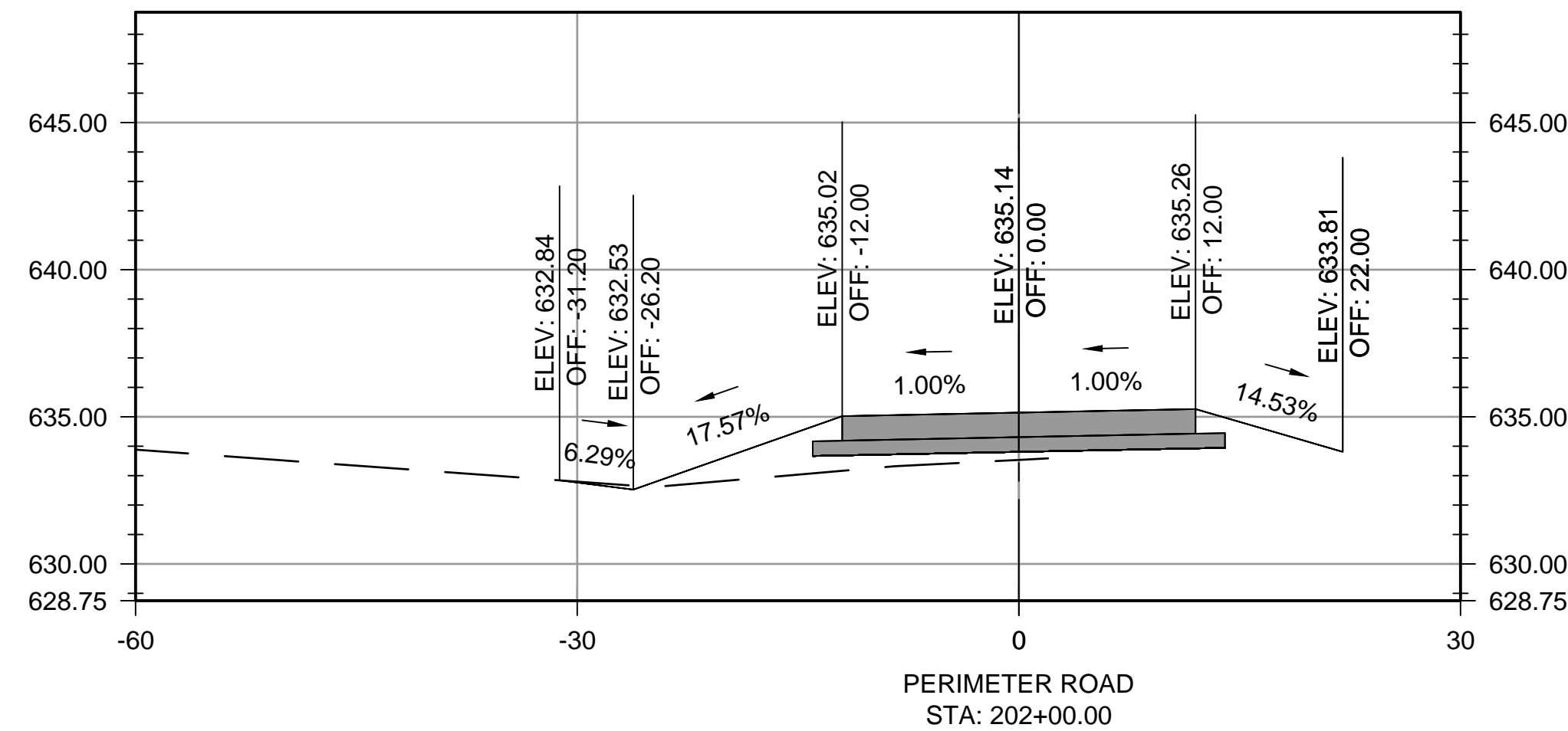
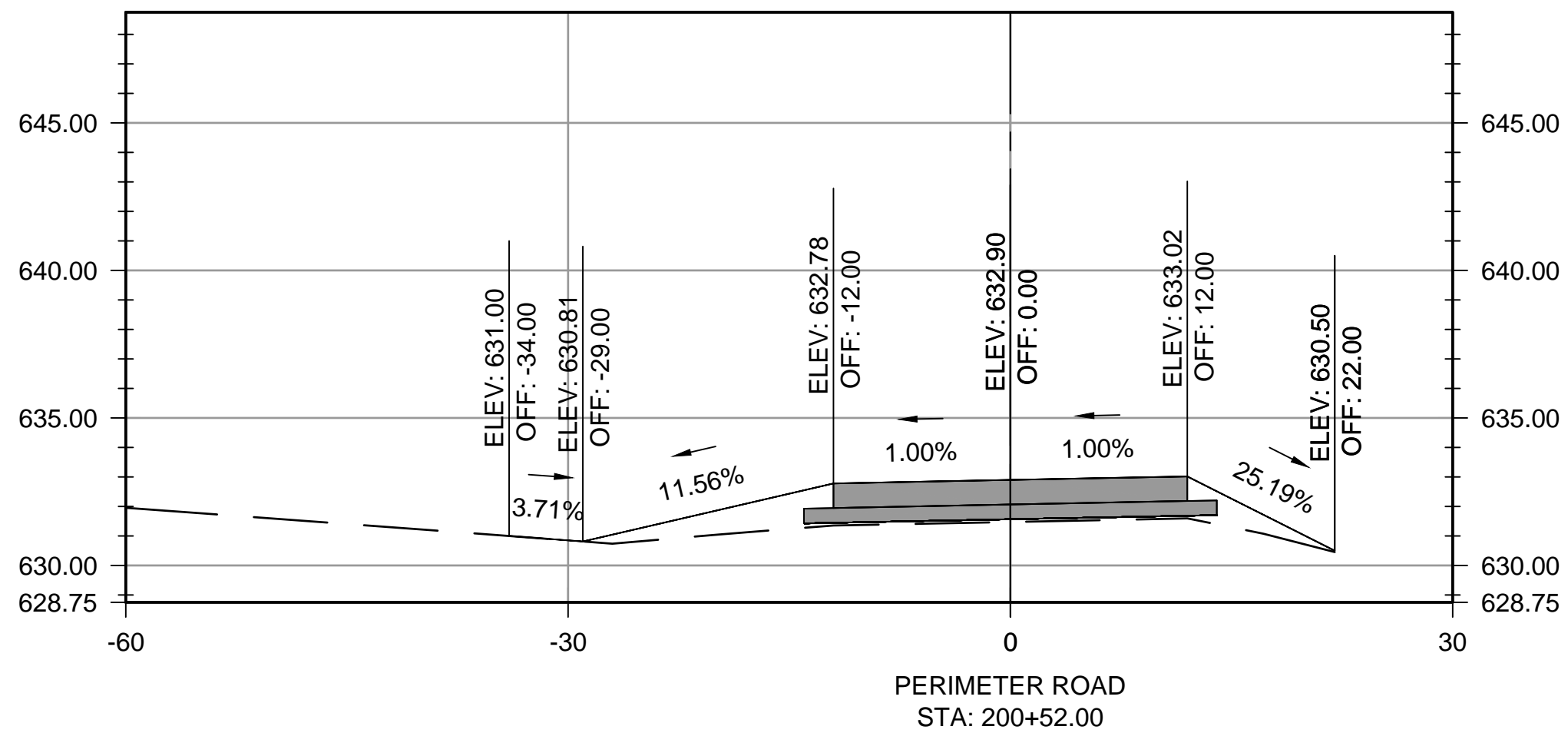
JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: KKR  
DRAWN BY: KKR

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SHEET NUMBER  
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REV.	DATE	DESCRIPTION	BY

ADDISON AIRPORT  
 ADDISON, TEXAS  
**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

PERIMETER ROAD  
CROSS SECTIONS 1

JOB NO.: 19A11000  
 DATE: JUNE 2019  
 DESIGNED BY: KKR  
 DRAWN BY: KKR

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**PRR-X1**

SHEET NUMBER  
**52**



REGISTRATION NO. F-5713

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ADDISON AIRPORT  
ADDISON, TEXAS

**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

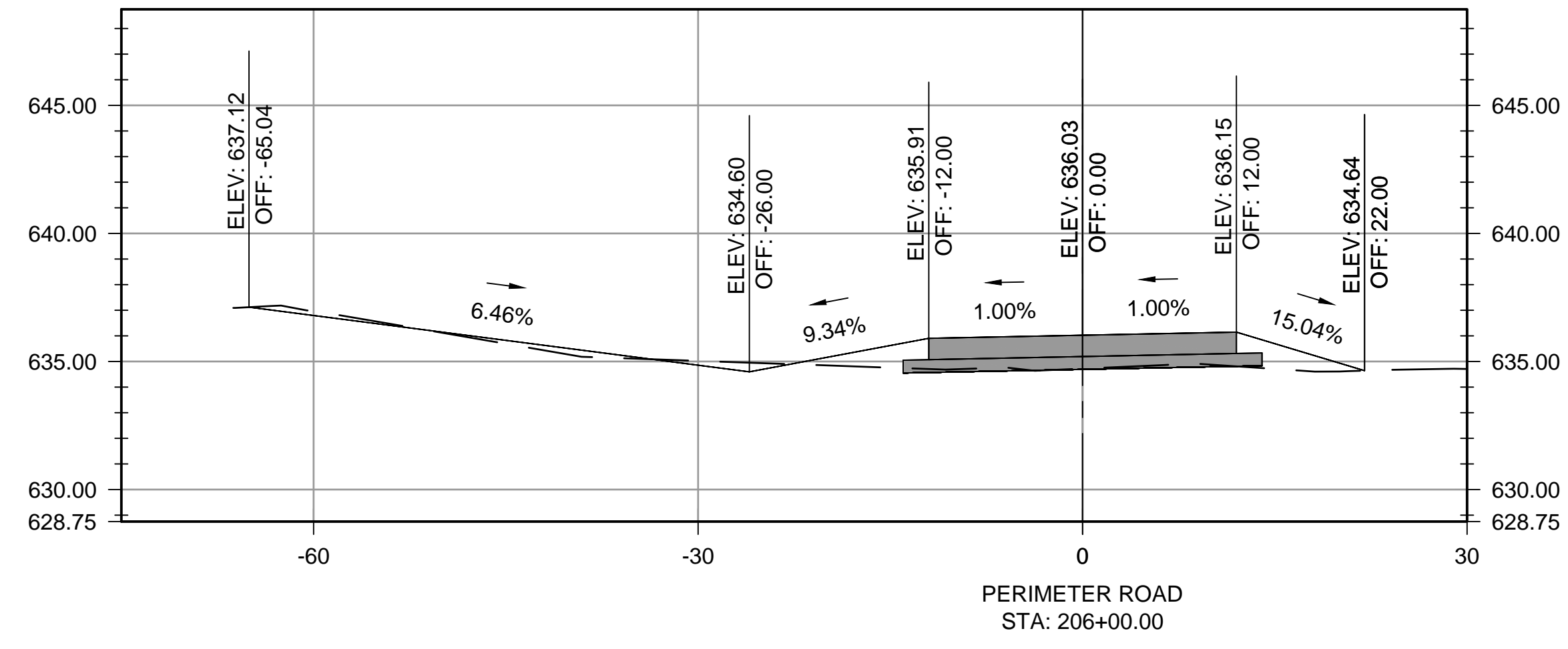
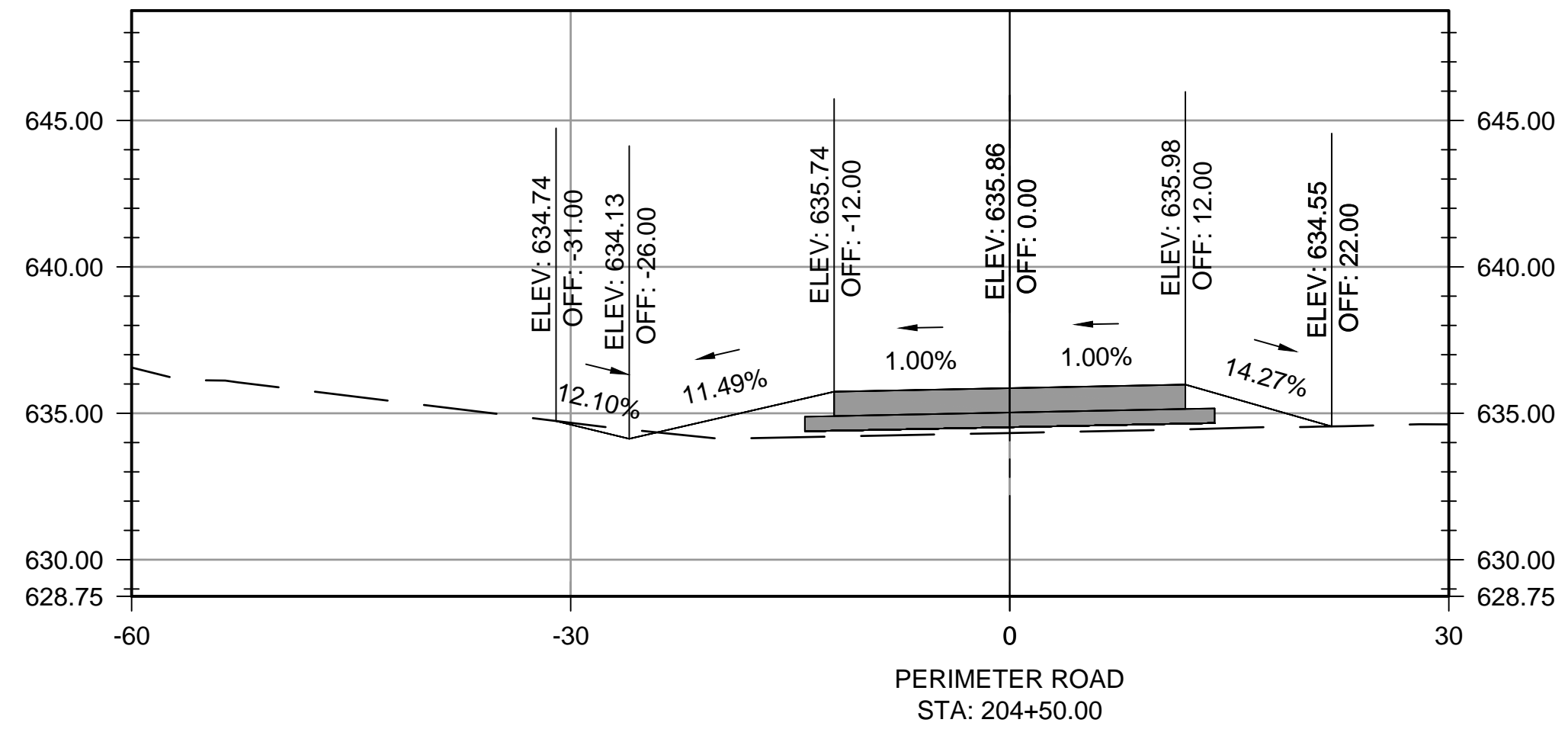
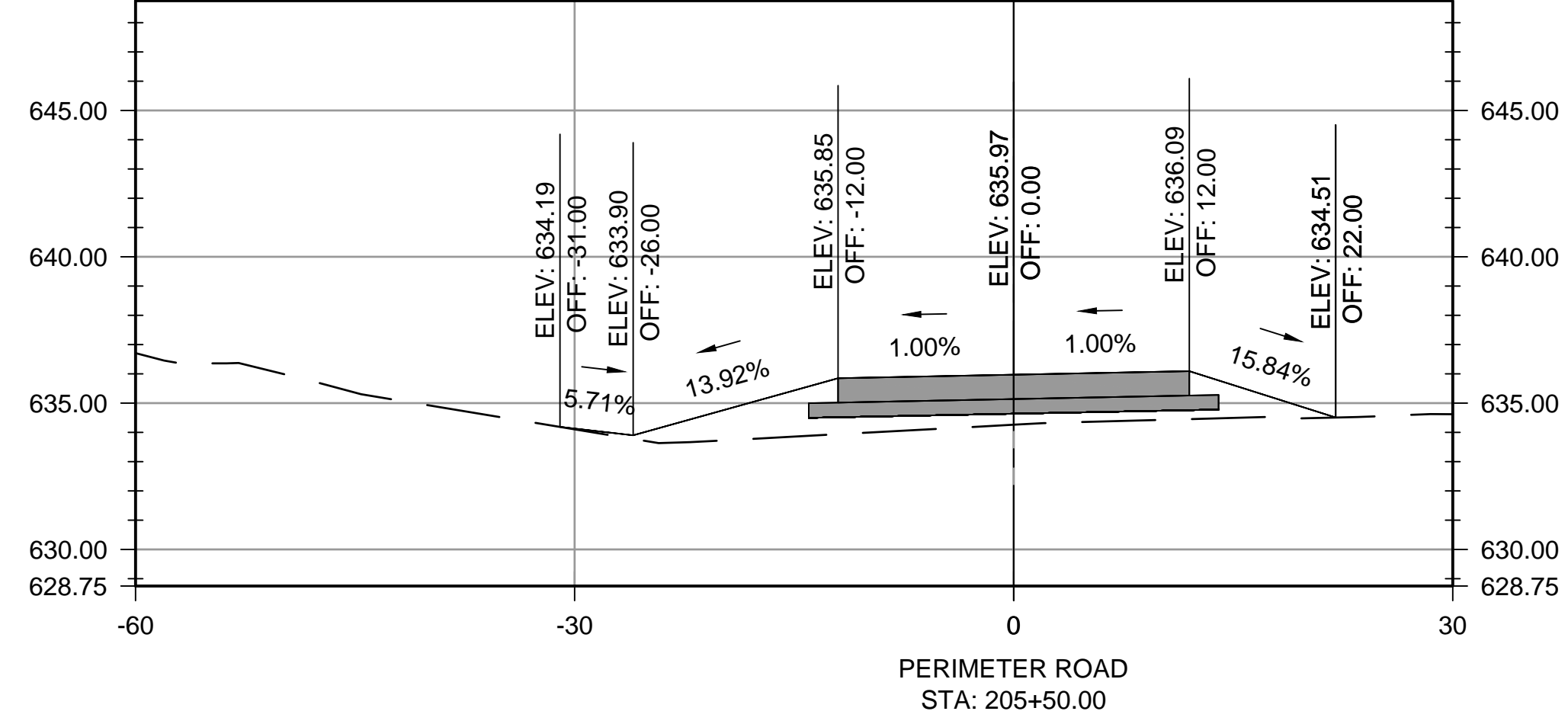
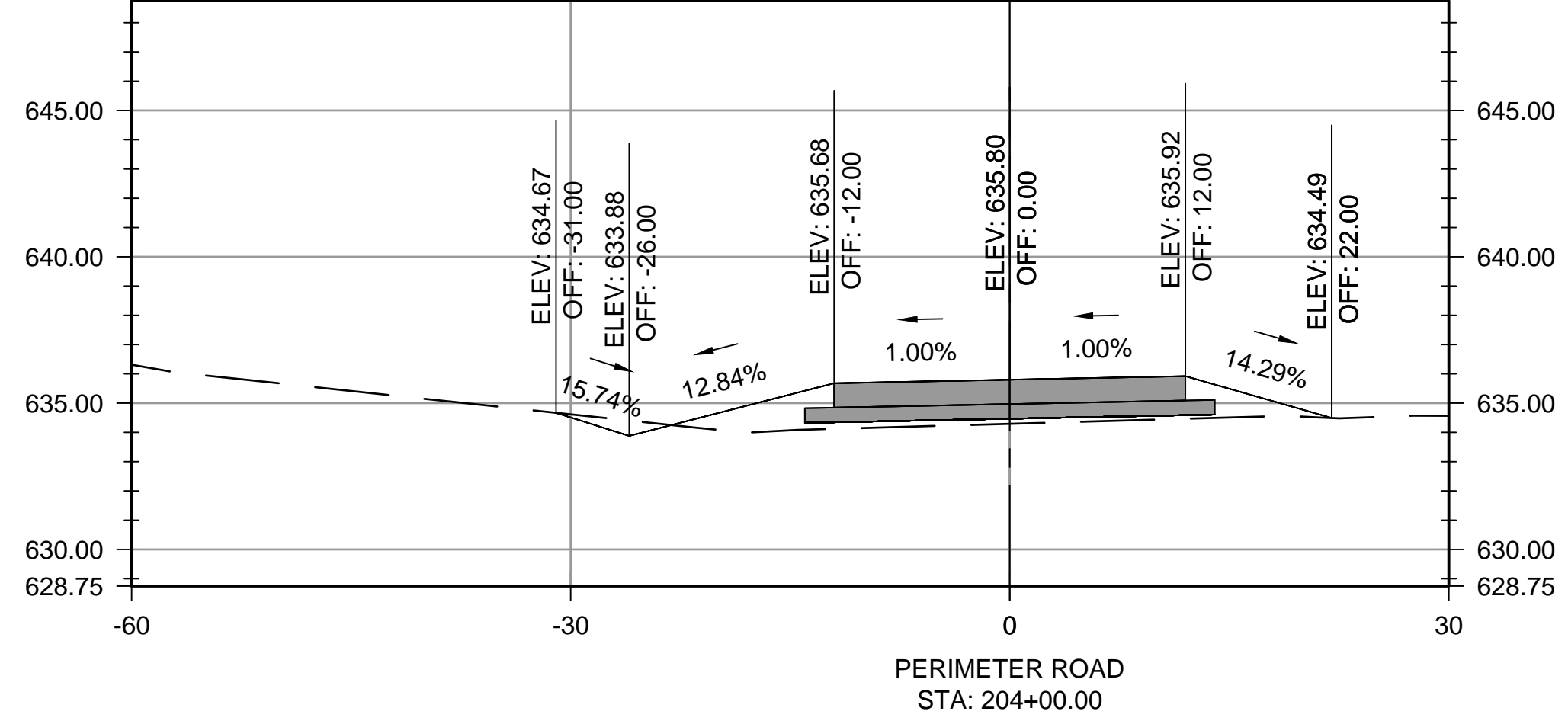
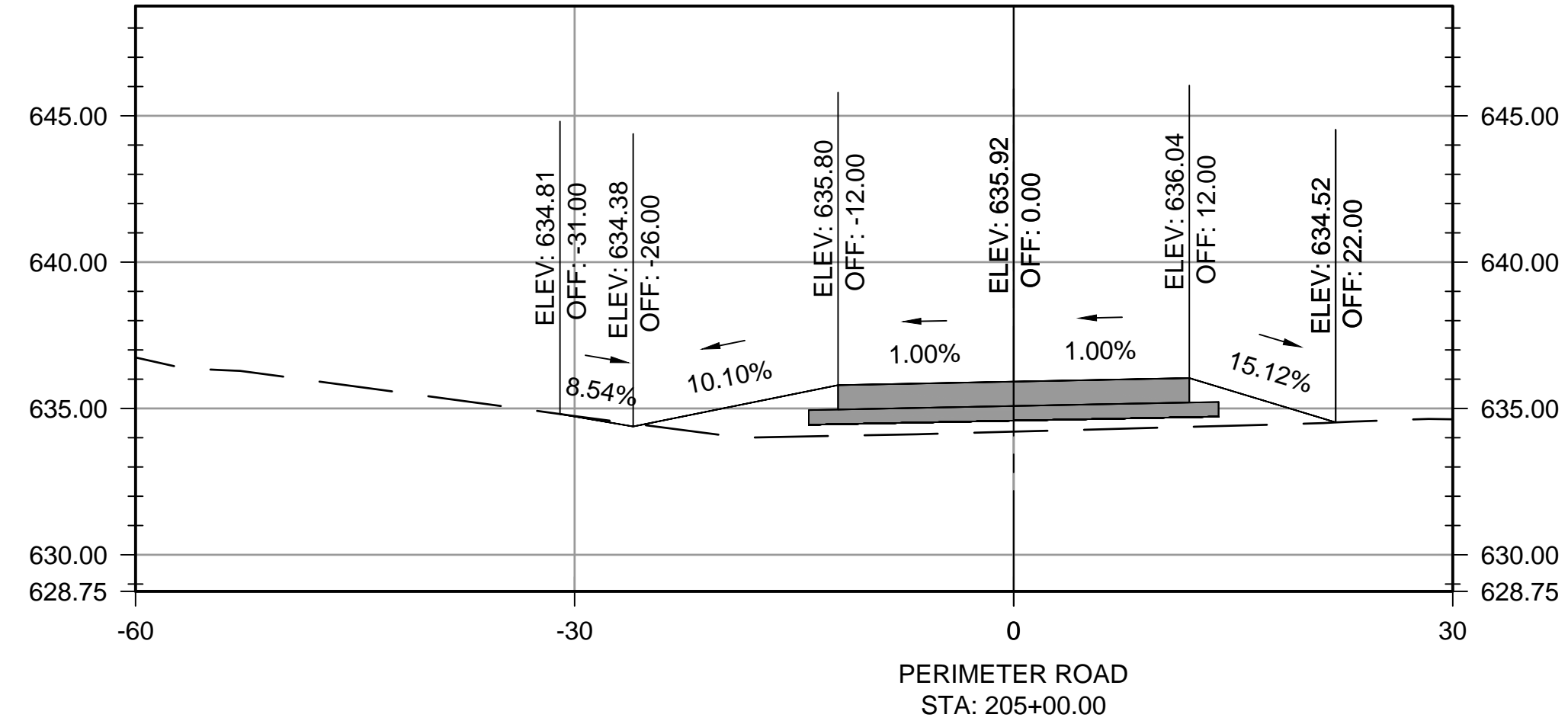
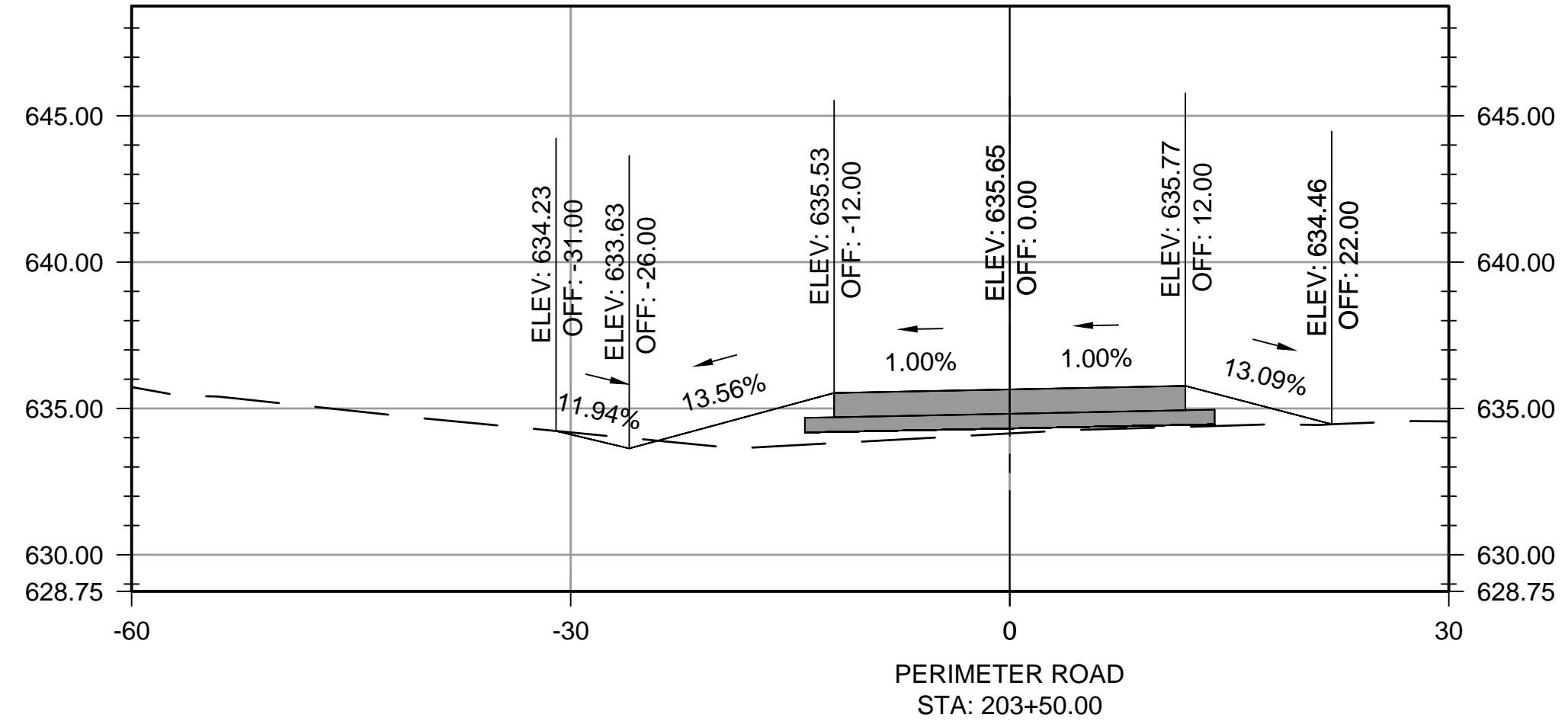
PERIMETER ROAD CROSS SECTIONS 2

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: KKR  
DRAWN BY: KKR

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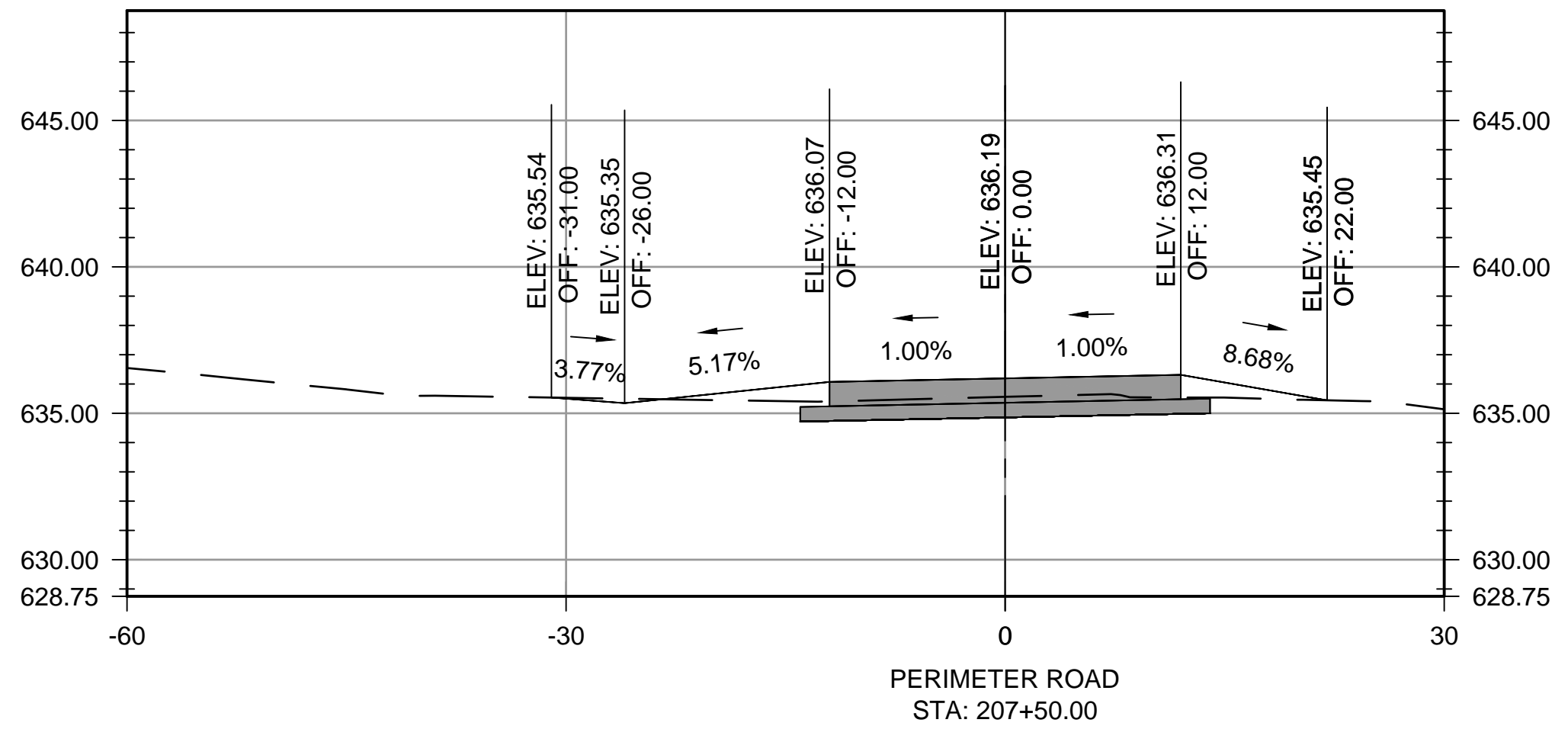
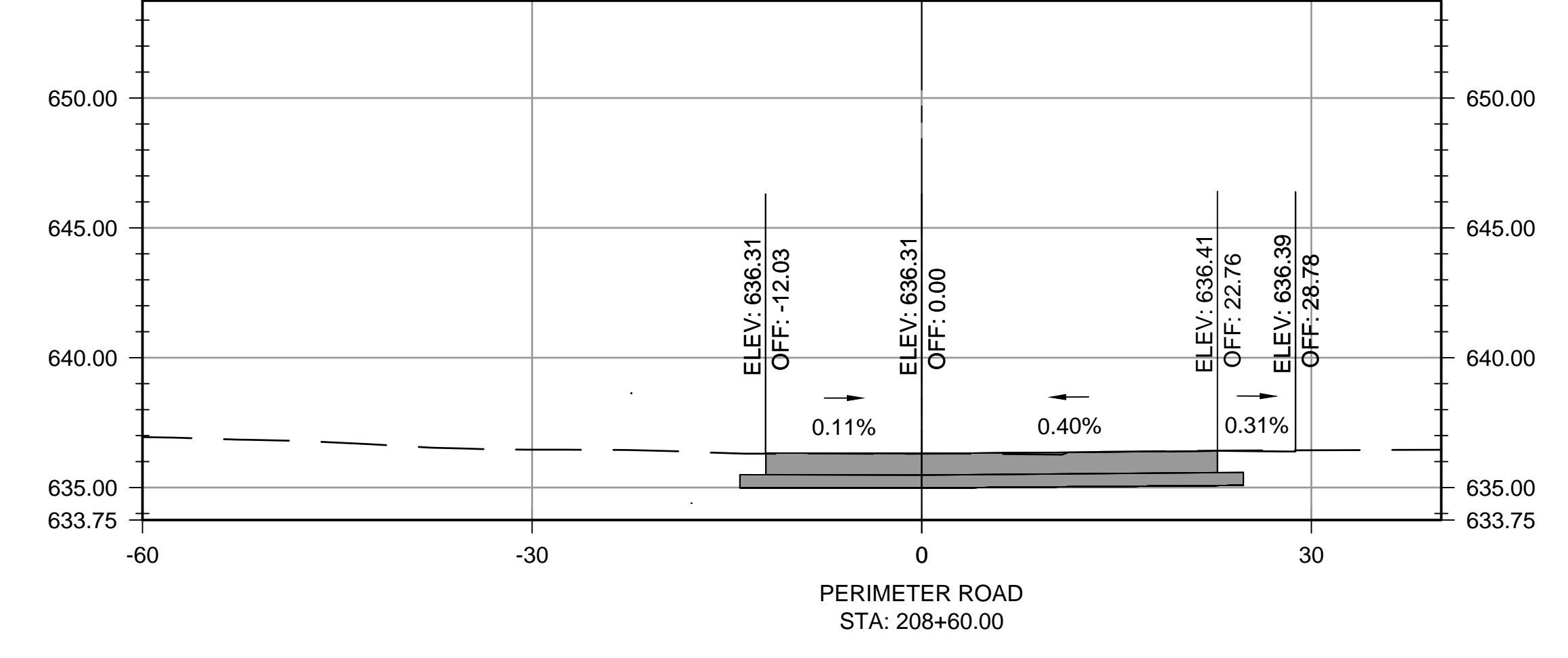
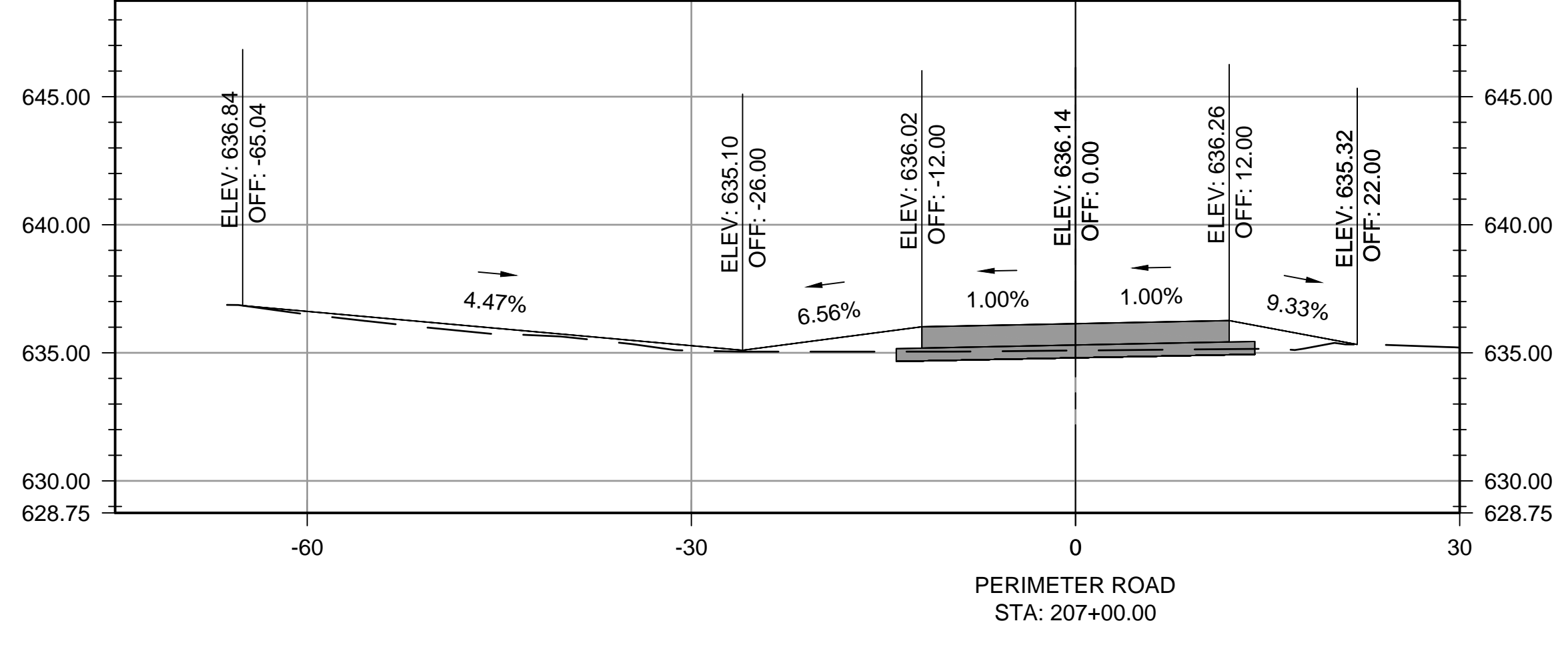
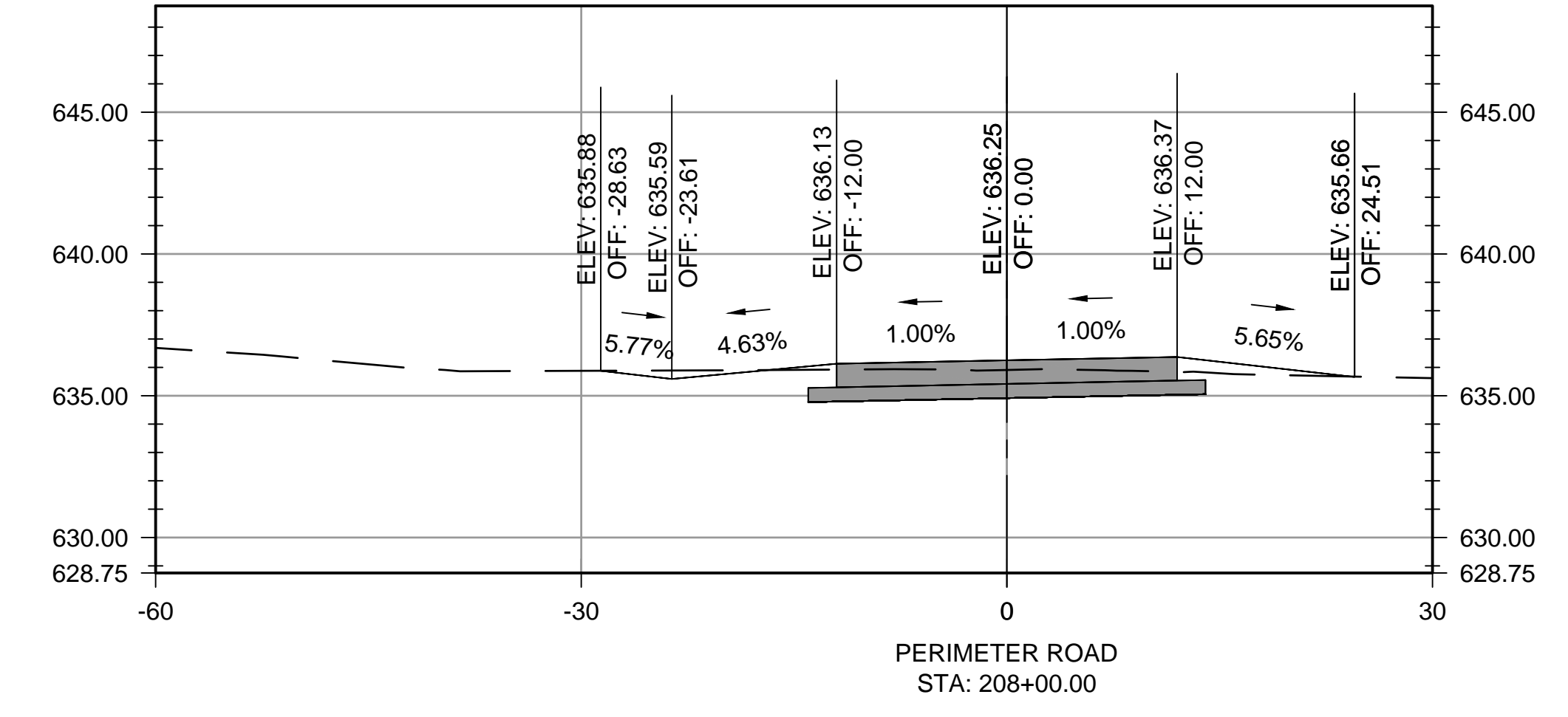
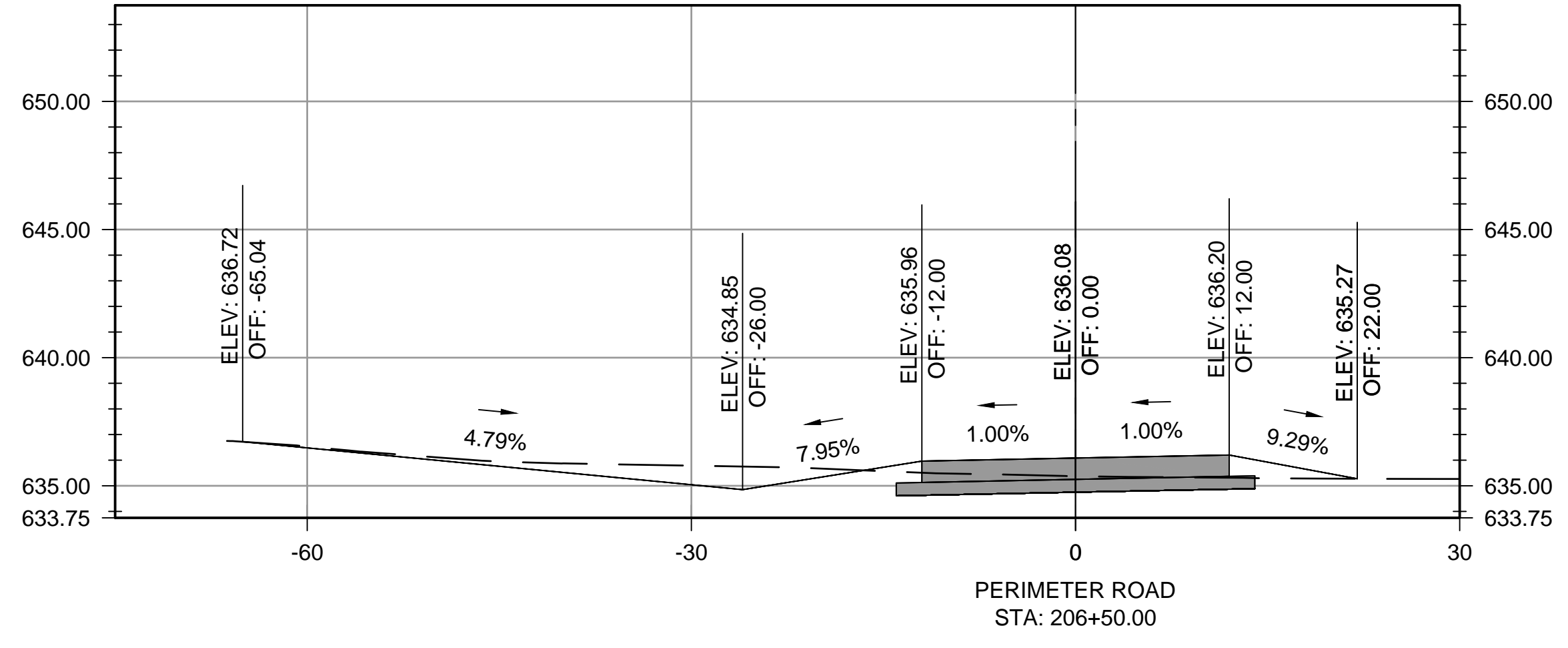
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SHEET NUMBER 53



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REGISTRATION NO.  
F-5713

RECORD DRAWINGS  
04/27/2020

REV.	DATE	DESCRIPTION	BY

**ADDISON AIRPORT**  
 ADDISON, TEXAS  
**FUEL FARM EXIT RELOCATION AND PERIMETER ROAD REPAIRS**

PERIMETER ROAD  
CROSS SECTIONS 3

JOB NO.: 19A11000  
DATE: JUNE 2019  
DESIGNED BY: KKR  
DRAWN BY: KKR

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**PRR-X3**

SHEET NUMBER  
**54**

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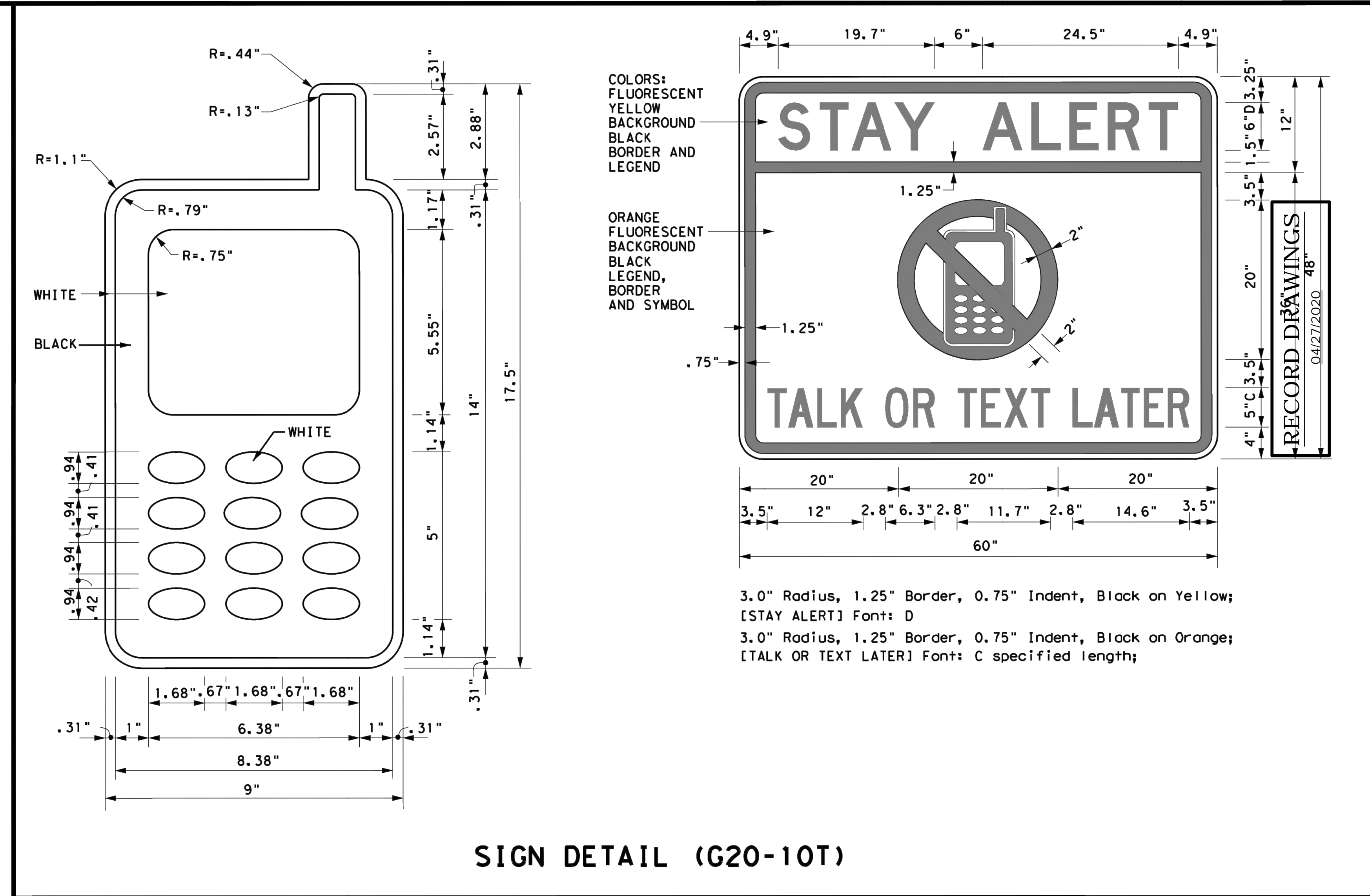
**BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:**

- The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
- The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
- Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.
- When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
- The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
- All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
- The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
- As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
- Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
- The Engineer has the final decision on the location of all traffic control devices.
- Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

**WORKER SAFETY APPAREL NOTES:**

- Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

DATE:  
 FILE:



Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation  
 Traffic Operations Division - TE  
 Phone (512) 416-3118

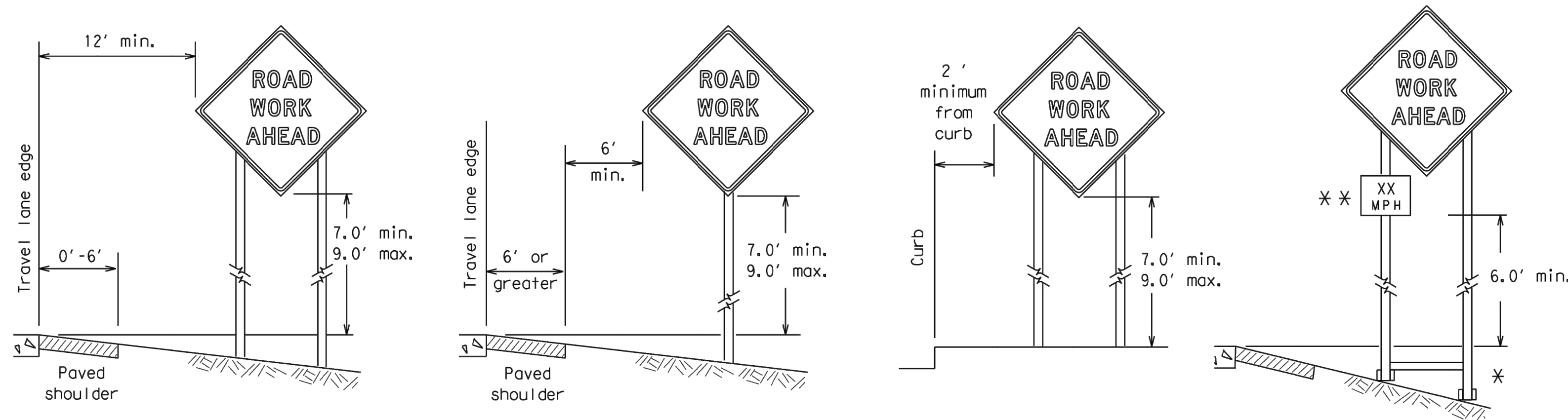
<b>THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT</b> <a href="http://www.txdot.gov">http://www.txdot.gov</a>	
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)	
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)	
MATERIAL PRODUCER LIST (MPL)	
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"	
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)	
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)	
TRAFFIC ENGINEERING STANDARD SHEETS	

SHEET 1 OF 12

		<i>Traffic Operations Division Standard</i>
<b>BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS</b>		
<b>BC(1) - 14</b>		
FILE: bc-14.dgn	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT
REVISIONS	JOB	
4-03 5-10 8-14	HIGHWAY	
9-07 7-13	DIST	COUNTY
		SHEET NO.

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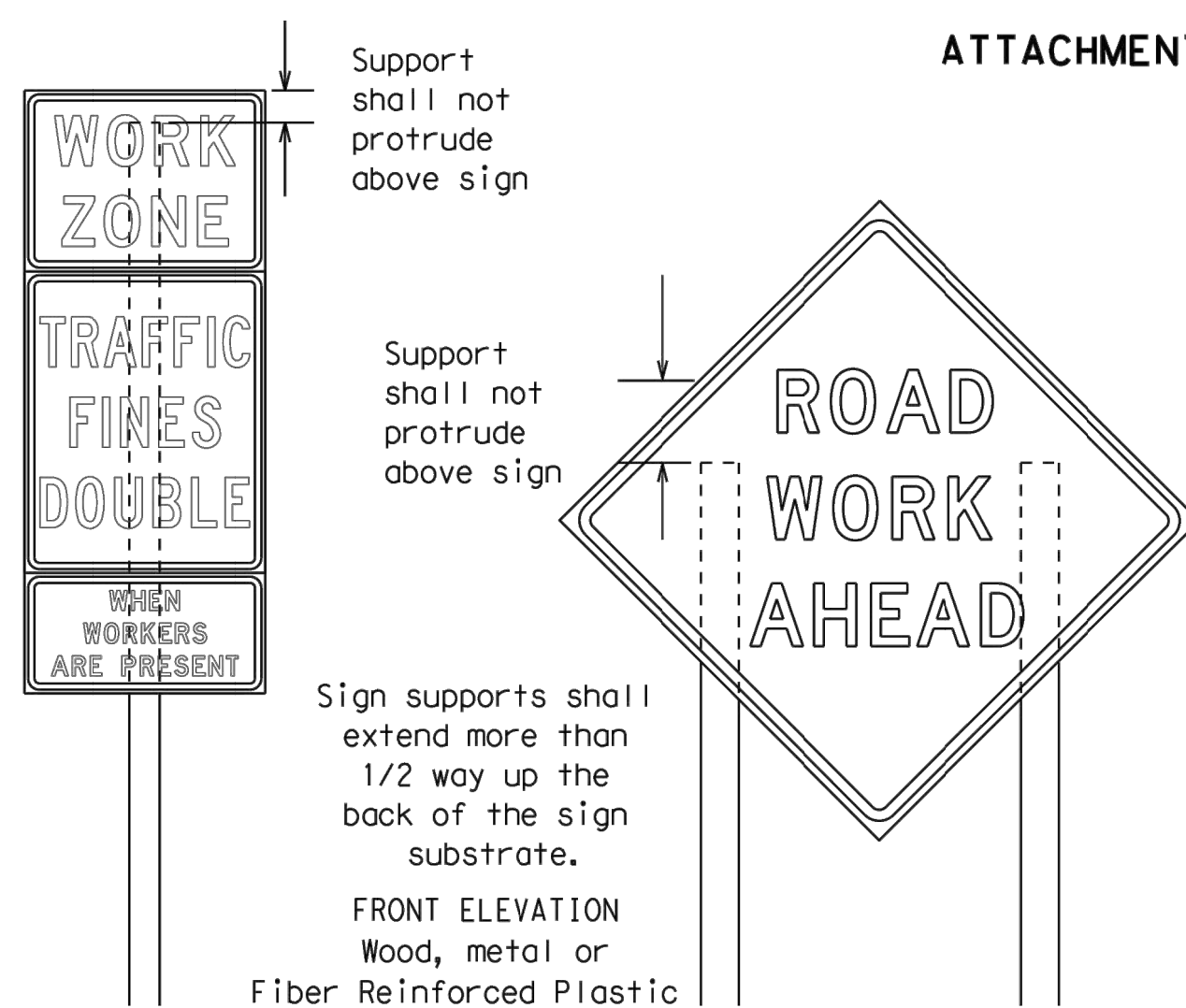
### TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



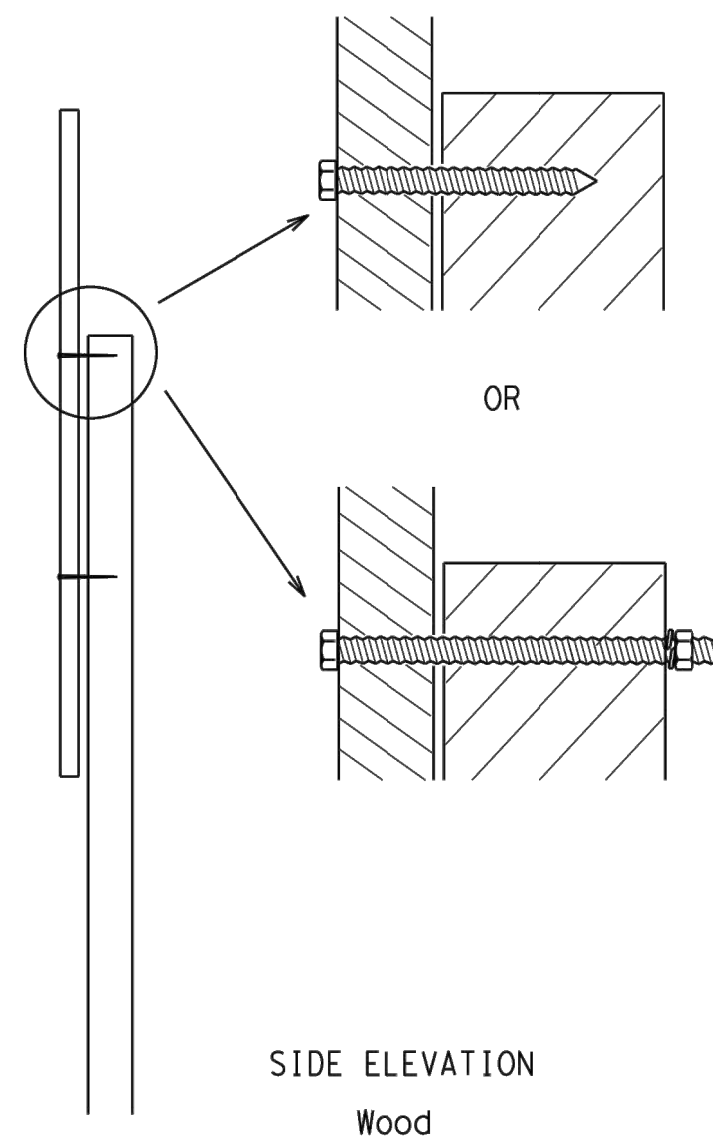
\* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

\*\* When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

### ATTACHMENT FOR SIGN SUPPORTS



Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

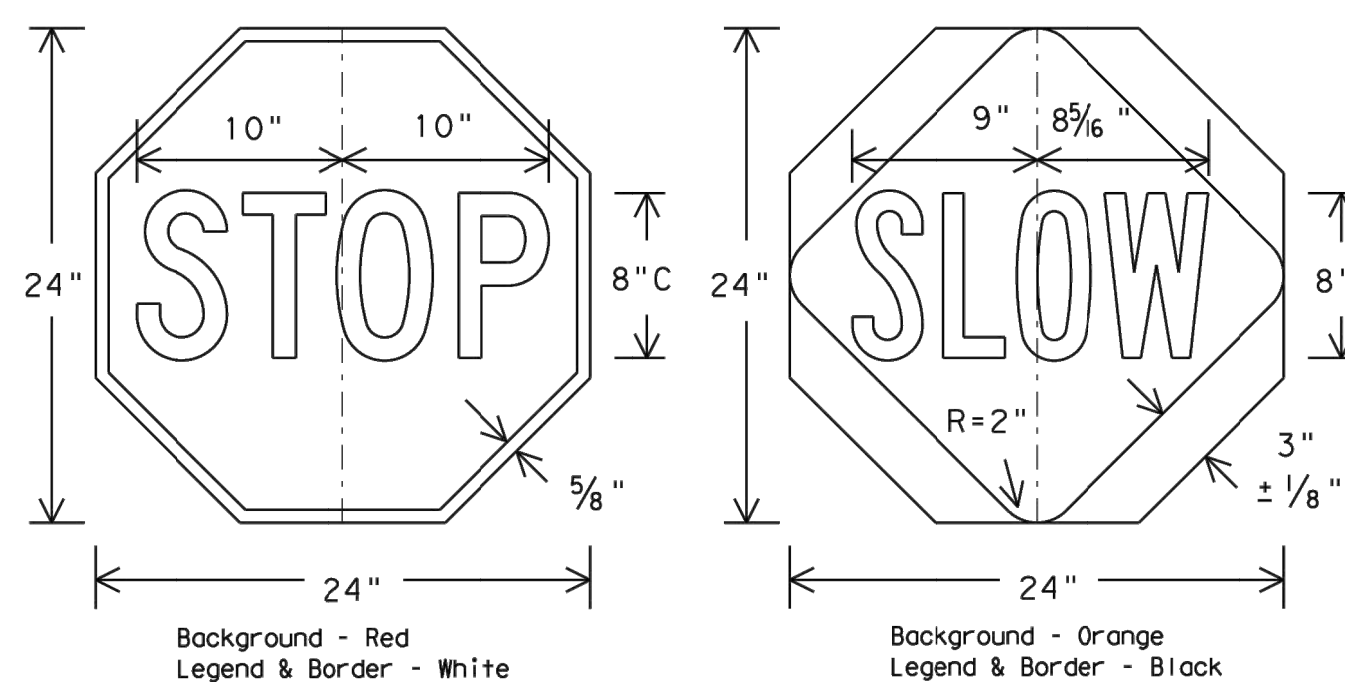


**Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.**

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the splice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

### STOP/SLOW PADDLES

- STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
- When used at night, the STOP/SLOW paddle shall be retroreflectORIZED.
- STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
- Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



### CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

- Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
- When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
- When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
- If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
- If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
- Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

### GENERAL NOTES FOR WORK ZONE SIGNS

- Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
  - Wooden sign posts shall be painted white.
  - Barricades shall NOT be used as sign supports.
  - All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
  - The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
  - The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
  - The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
  - Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
  - The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.
- DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)**
- The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations regarding to crashworthiness and duration of work requirements.
    - Long-term stationary - work that occupies a location more than 3 days.
    - Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work more than one hour.
    - Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
    - Short, duration - work that occupies a location up to 1 hour.
    - Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

### SIGN MOUNTING HEIGHT

- The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
- The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
- Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
- Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
- Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

### SIZE OF SIGNS

- The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

### SIGN SUBSTRATES

- The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
- "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
- All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

### REFLECTIVE SHEETING

- All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
- White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
- Orange sheeting, meeting the requirements of DMS-8300 Type B<sub>FL</sub> or Type C<sub>FL</sub>, shall be used for rigid signs with orange backgrounds.

### SIGN LETTERS

- All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

### REMOVING OR COVERING

- When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
- Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
- Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
- When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
- Burlap shall NOT be used to cover signs.
- Duct tape or other adhesive material shall NOT be affixed to a sign face.
- Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

### SIGN SUPPORT WEIGHTS

- Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
- The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
- Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
- Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
- Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
- Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
- Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
- Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

### FLAGS ON SIGNS

- Flags may be used to draw attention to warning signs. When used the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

SHEET 4 OF 12



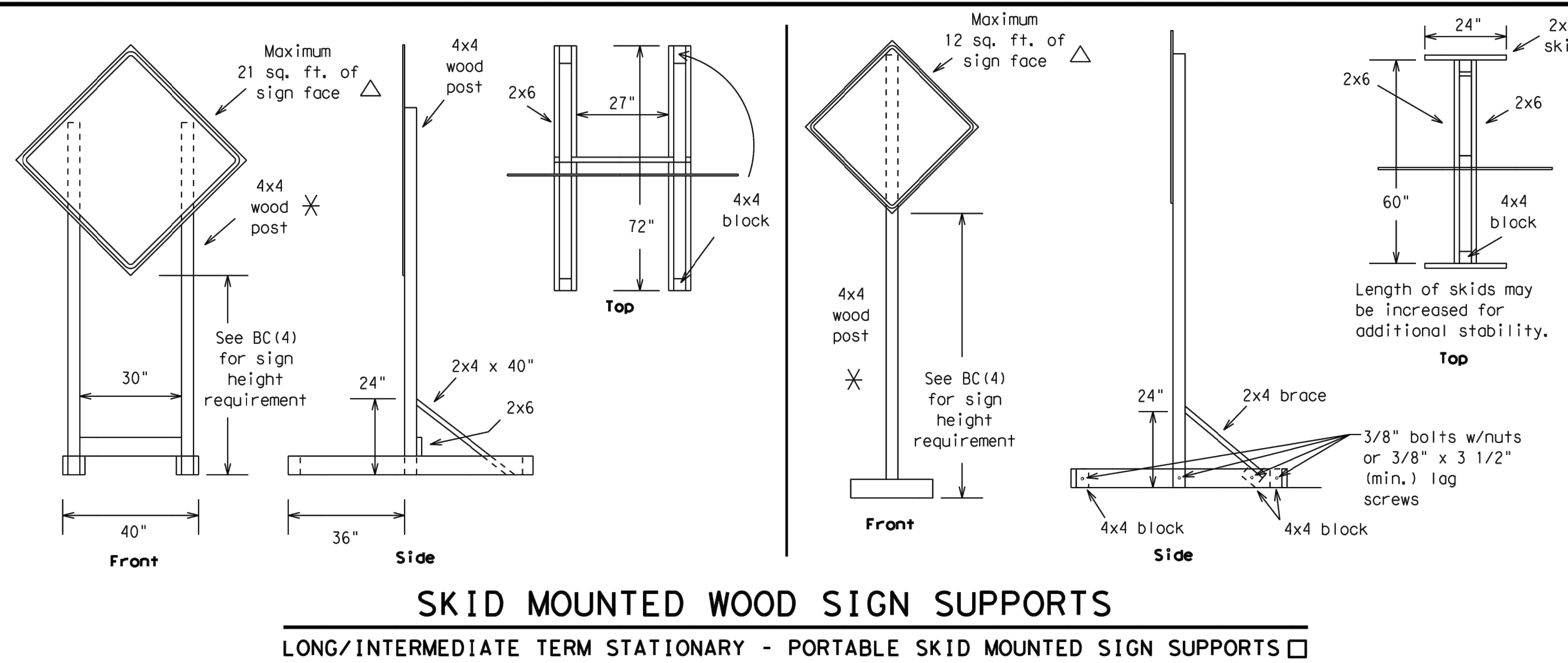
## BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC (4) - 14

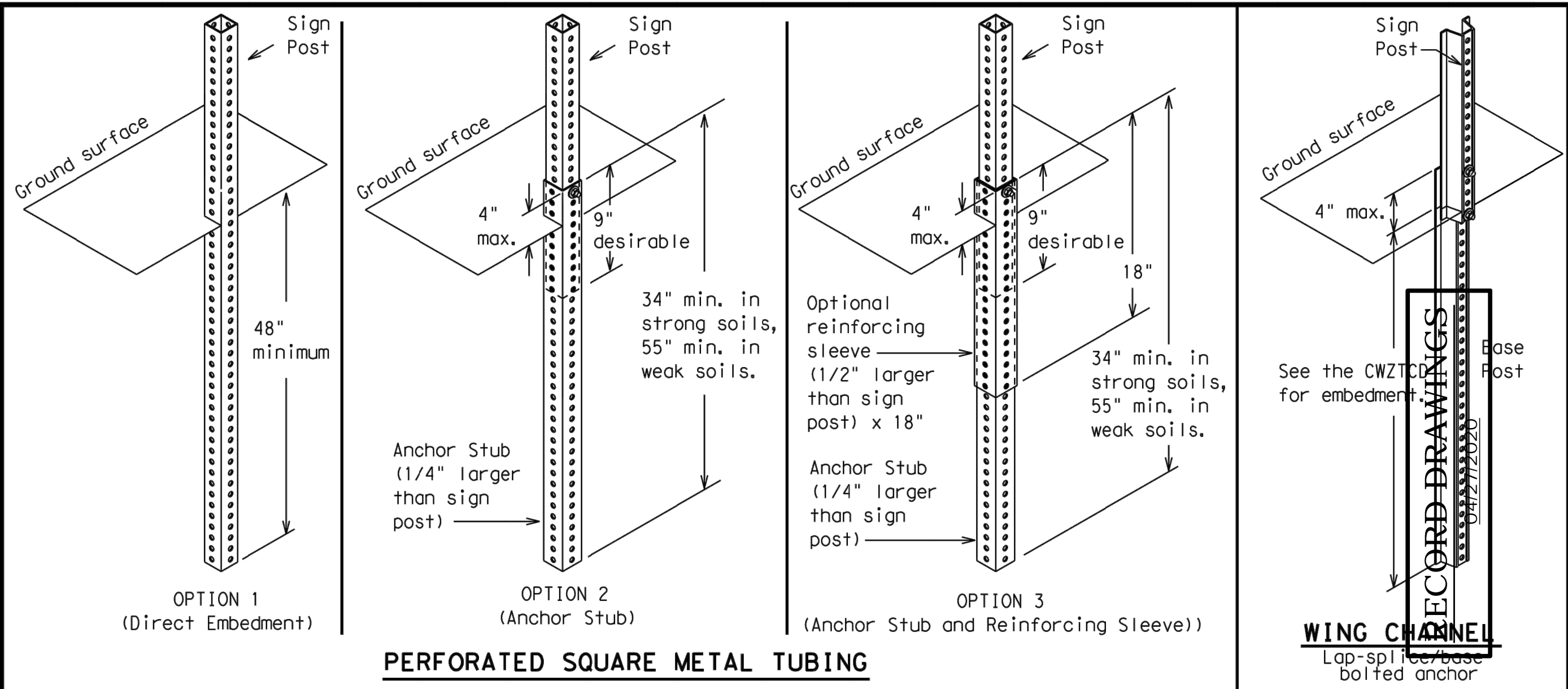
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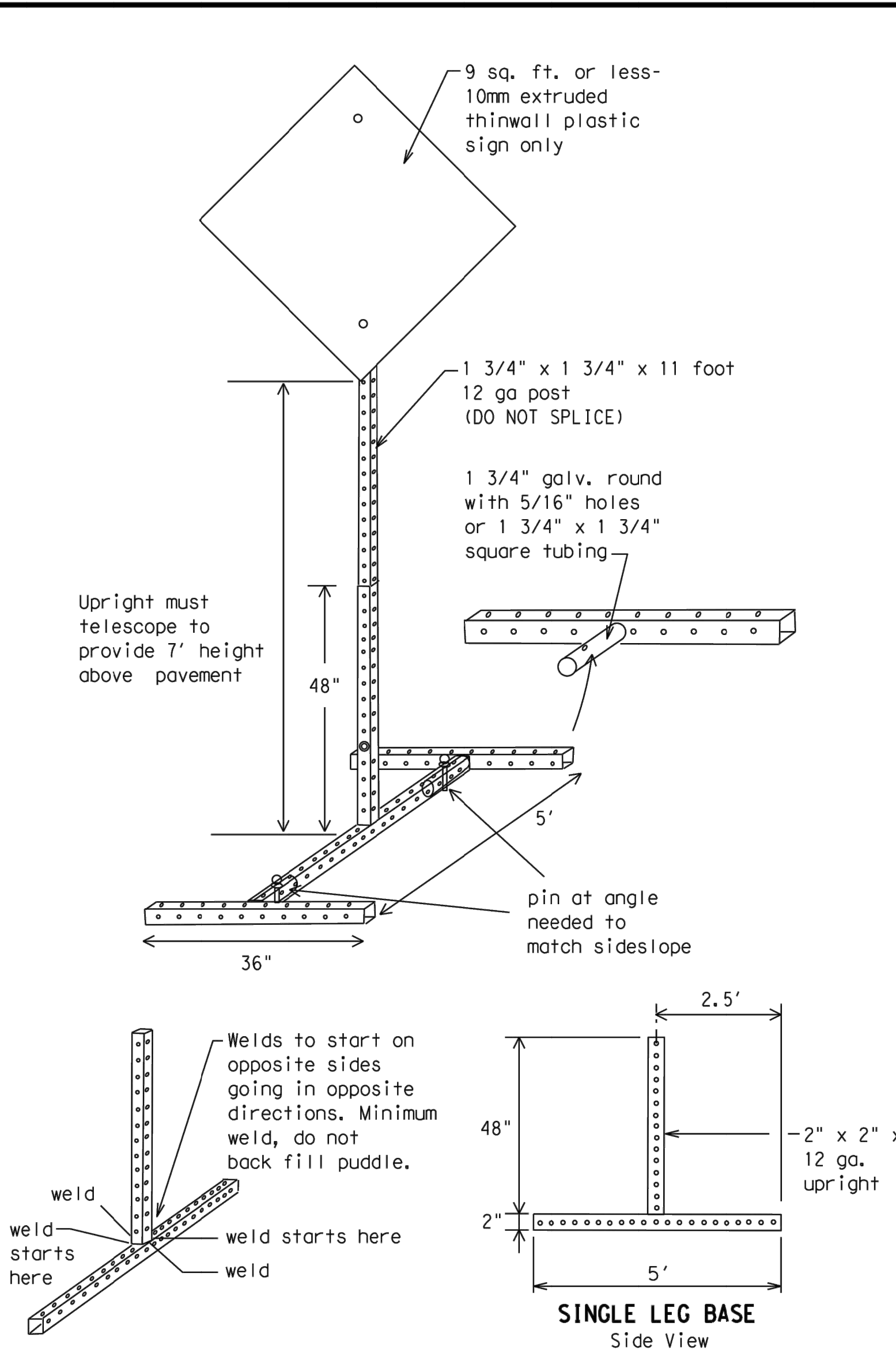
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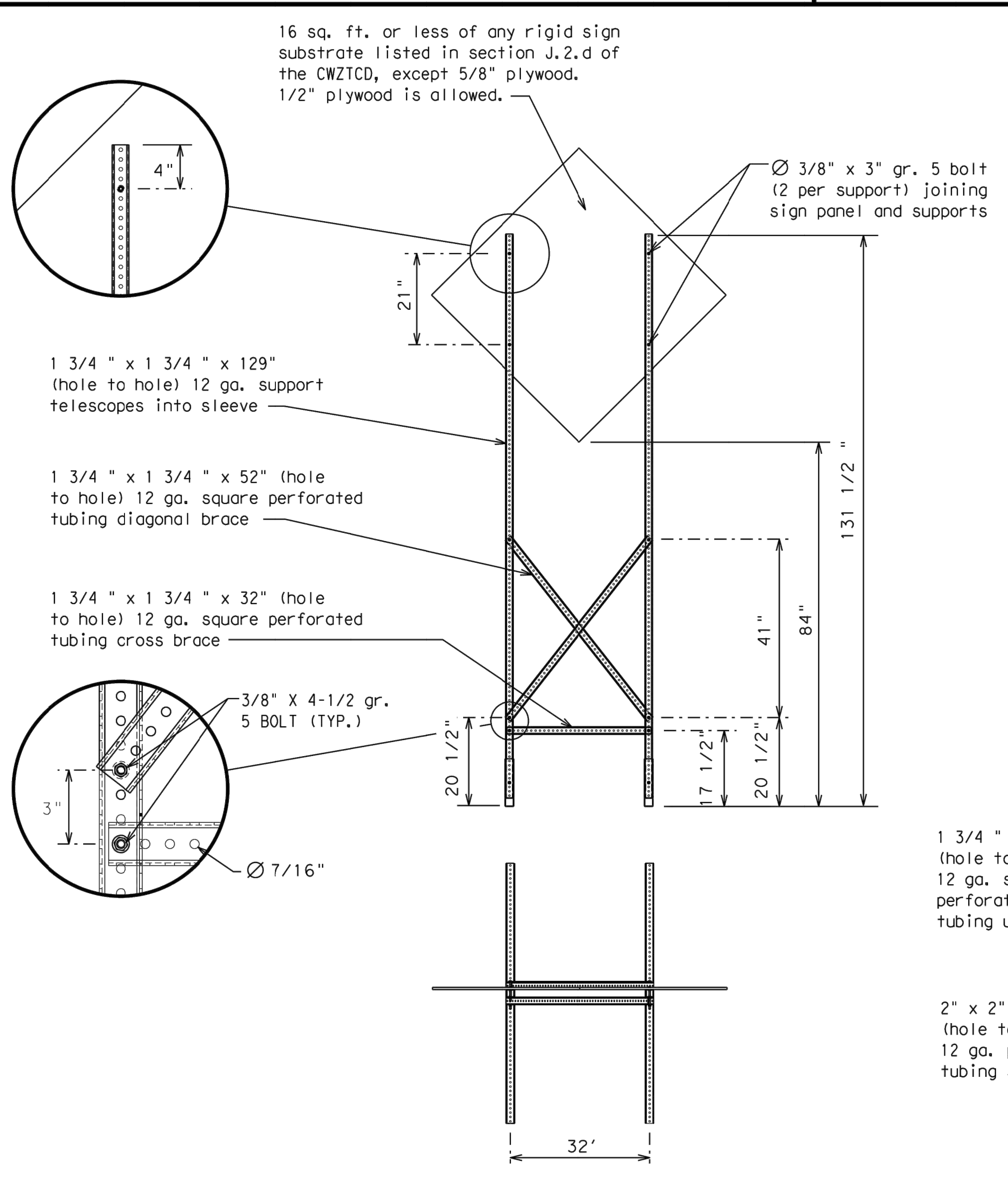
**SKID MOUNTED WOOD SIGN SUPPORTS**  
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □



**GROUND MOUNTED SIGN SUPPORTS**  
Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support. The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.

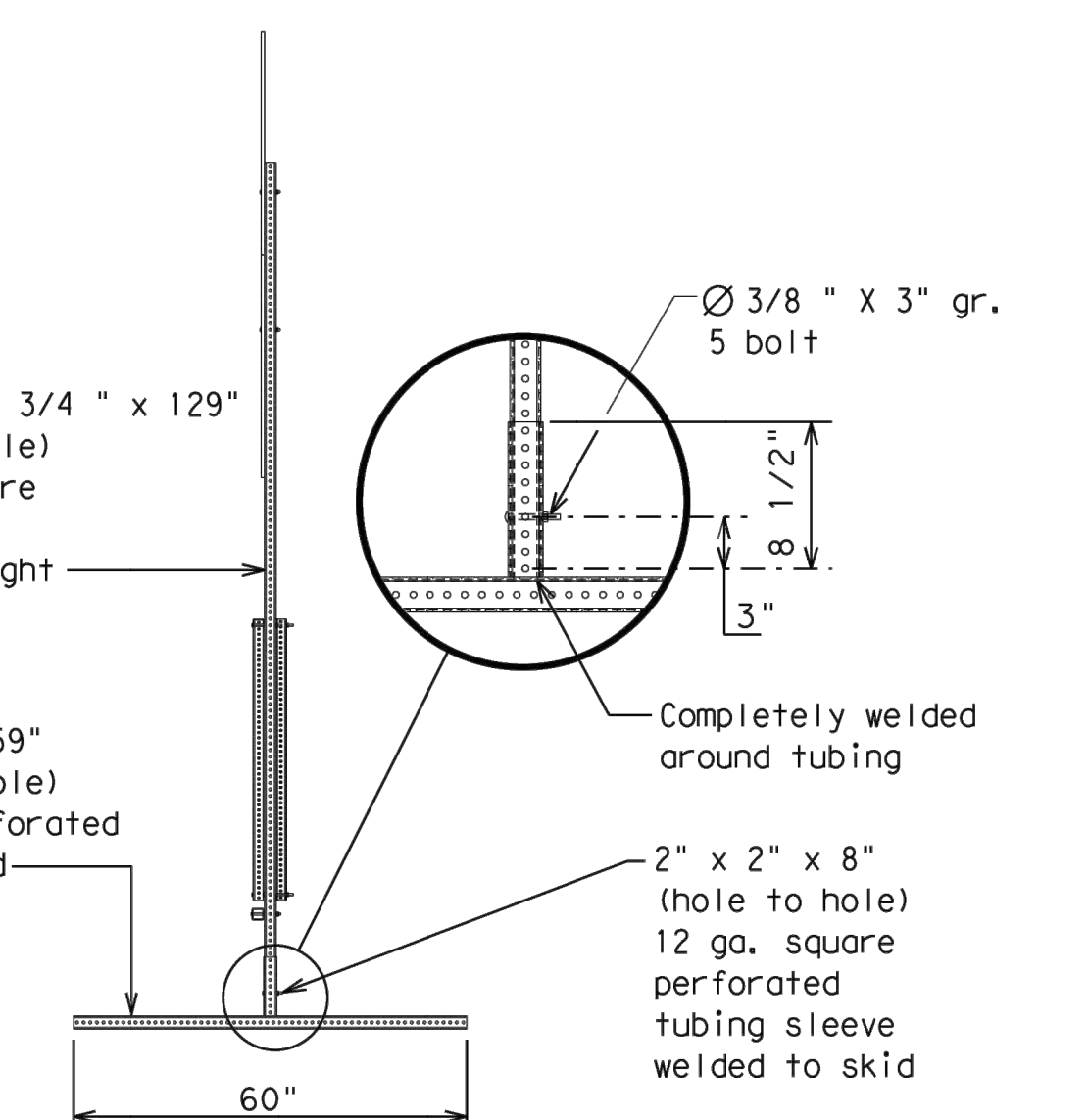


**SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS**



**WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS**

Nominal Post Size	Number of Posts	Maximum Sq. feet of Sign Face	Minimum Soil Embedment	Drilled Hole(s) Required
4 x 4	1	12	36"	NO
4 x 4	2	21	36"	NO
4 x 6	1	21	36"	YES
4 x 6	2	36	36"	YES



**WEDGE ANCHORS**  
Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

**OTHER DESIGNS**  
MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

- GENERAL NOTES**
- Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
  - No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
  - When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

- See BC(4) for definition of "Work Duration."
- ✱ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.
- △ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

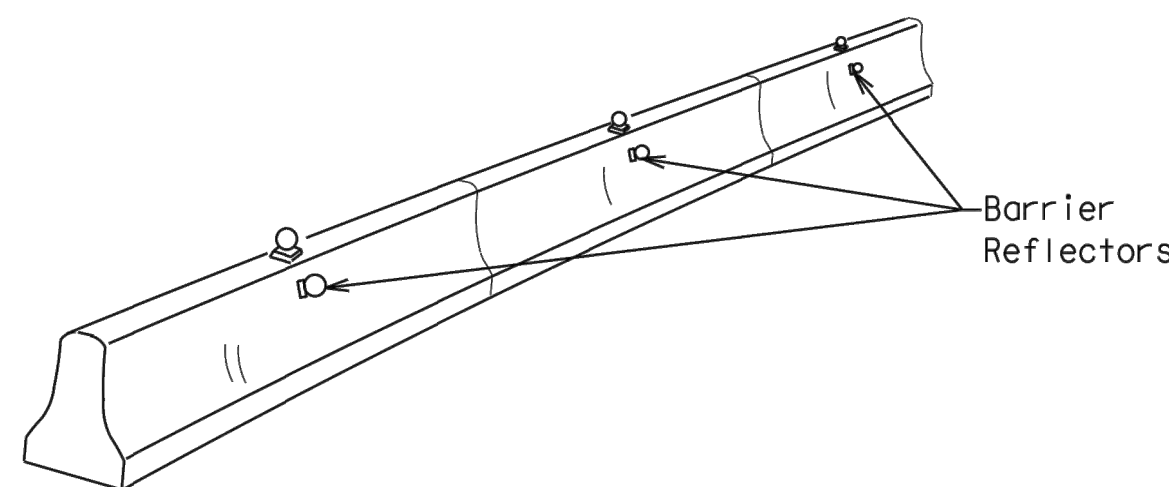
**BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT**  
BC(5) - 14

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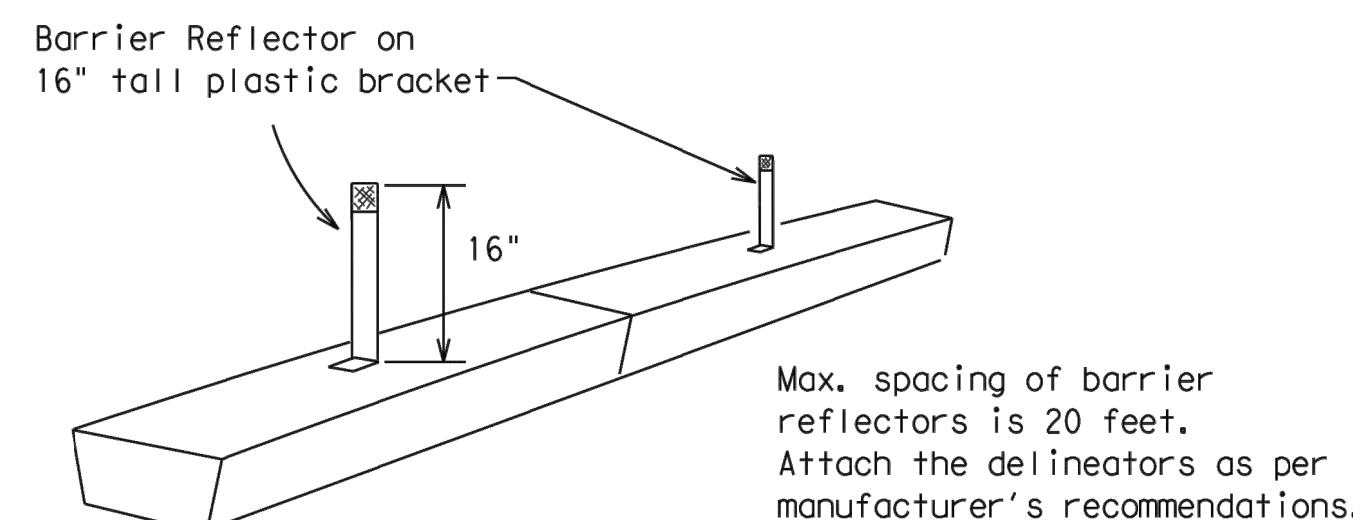
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- Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
- Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.

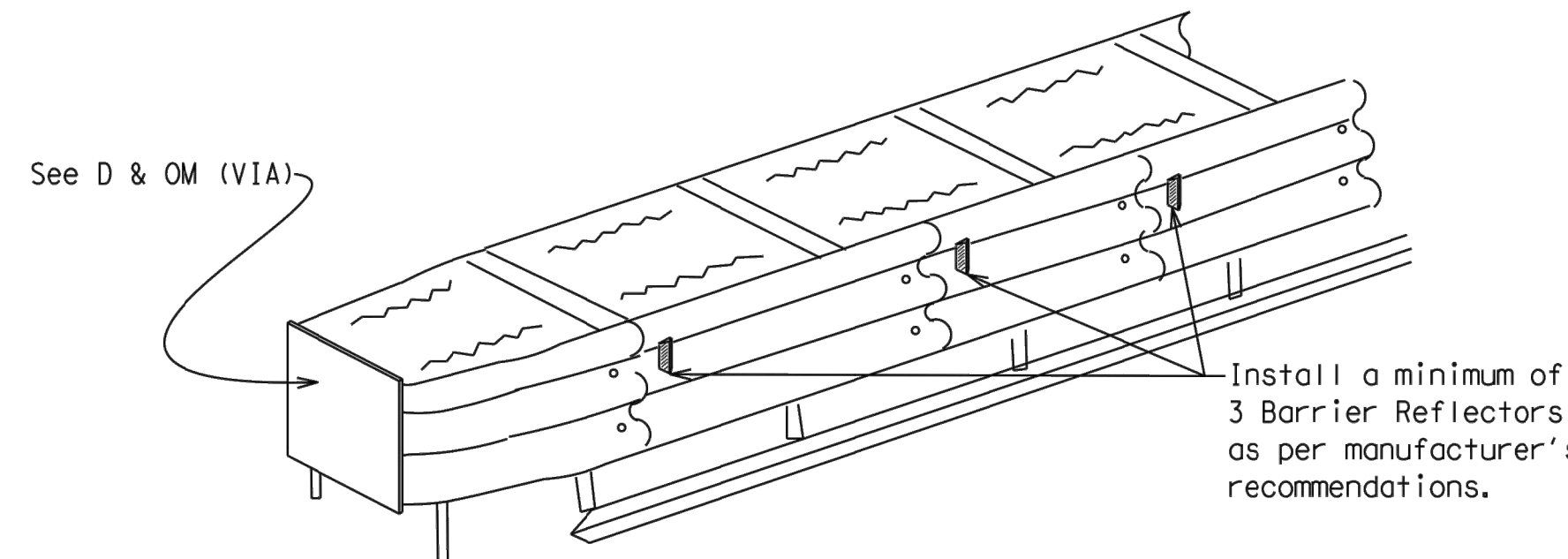


**CONCRETE TRAFFIC BARRIER (CTB)**

- Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
- Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional) while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
- When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
- Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
- Maximum spacing of Barrier Reflectors is forty (40) feet.
- Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
- Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
- Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
- Single slope barriers shall be delineated as shown on the above detail.



**LOW PROFILE CONCRETE BARRIER (LPCB)**



**DELINEATION OF END TREATMENTS**

**END TREATMENTS FOR CTB'S USED IN WORK ZONES**

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

**BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS**

**WARNING LIGHTS**

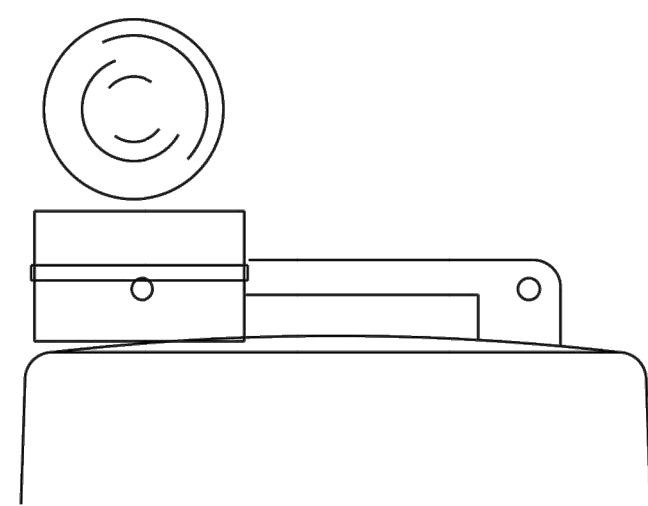
- Warning lights shall meet the requirements of the TMUTCD.
- Warning lights shall NOT be installed on barricades.
- Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B<sub>FL</sub> or C<sub>FL</sub> Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
- Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
- The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
- When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
- When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
- The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

**WARNING LIGHTS MOUNTED ON PLASTIC DRUMS**

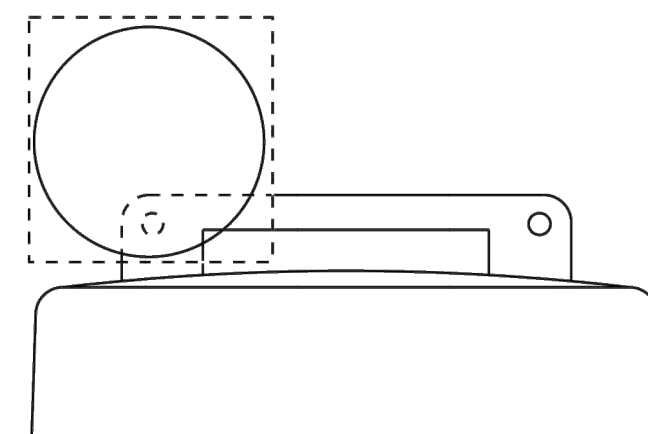
- Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
- Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
- A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
- Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
- Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
- Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
- The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

**WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS**

- A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
- The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
- The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
- Round reflectors shall be fully reflectorized, including the area where attached to the drum.
- Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
- The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
- When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
- The warning reflector should be mounted on the side of the handle nearest approaching traffic.
- The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.



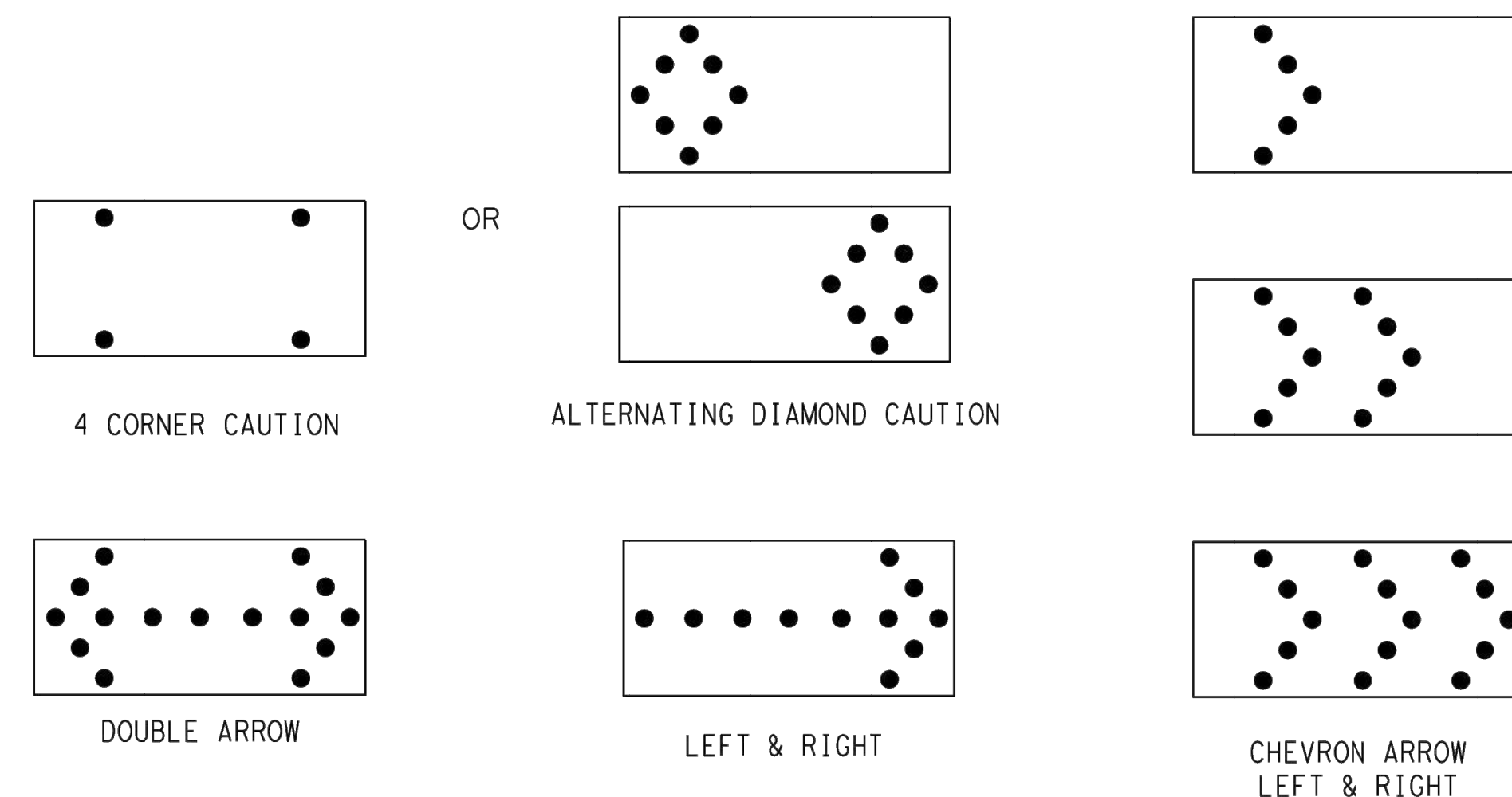
Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

- The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
- Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
- The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
- The Flashing Arrow Board should be able to display the following symbols:



- The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
- The straight line caution display is NOT ALLOWED.
- The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
- Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
- The sequential arrow display is NOT ALLOWED.
- The flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.
- The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
- A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
- A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
- Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

**ATTENTION**  
 Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

**FLASHING ARROW BOARDS**

SHEET 7 OF 12

**TRUCK-MOUNTED ATTENUATORS**

- Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350) or the Manual for Assessing Safety Hardware (MASH).
- Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
- Refer to the CWZTCD for a list of approved TMAs.
- TMAs are required on freeways unless otherwise noted in the plans.
- A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
- The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.



**BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR**

**BC (7) - 14**

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**GENERAL NOTES**

- For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
- For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
- For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
- Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
- The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

**GENERAL DESIGN REQUIREMENTS**

Pre-qualified plastic drums shall meet the following requirements:

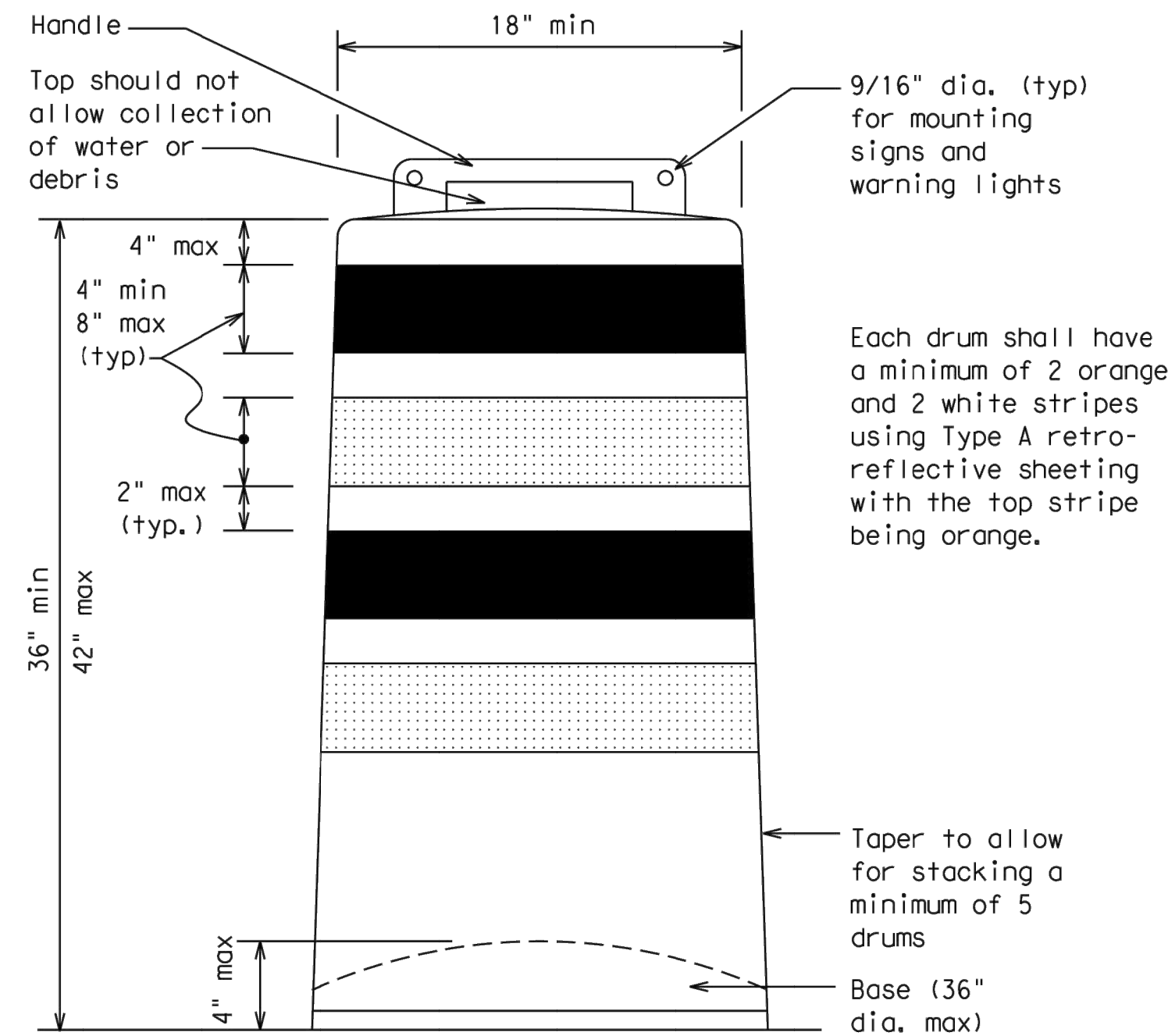
- Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
- The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
- Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
- Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
- The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
- The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectORIZED space between any two adjacent stripes shall not exceed 2 inches in width.
- Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
- Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
- Drum body shall have a maximum unballasted weight of 11 lbs.
- Drum and base shall be marked with manufacturer's name and model number.

**RETROREFLECTIVE SHEETING**

- The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A reflective sheeting shall be supplied unless otherwise specified in the plans.
- The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

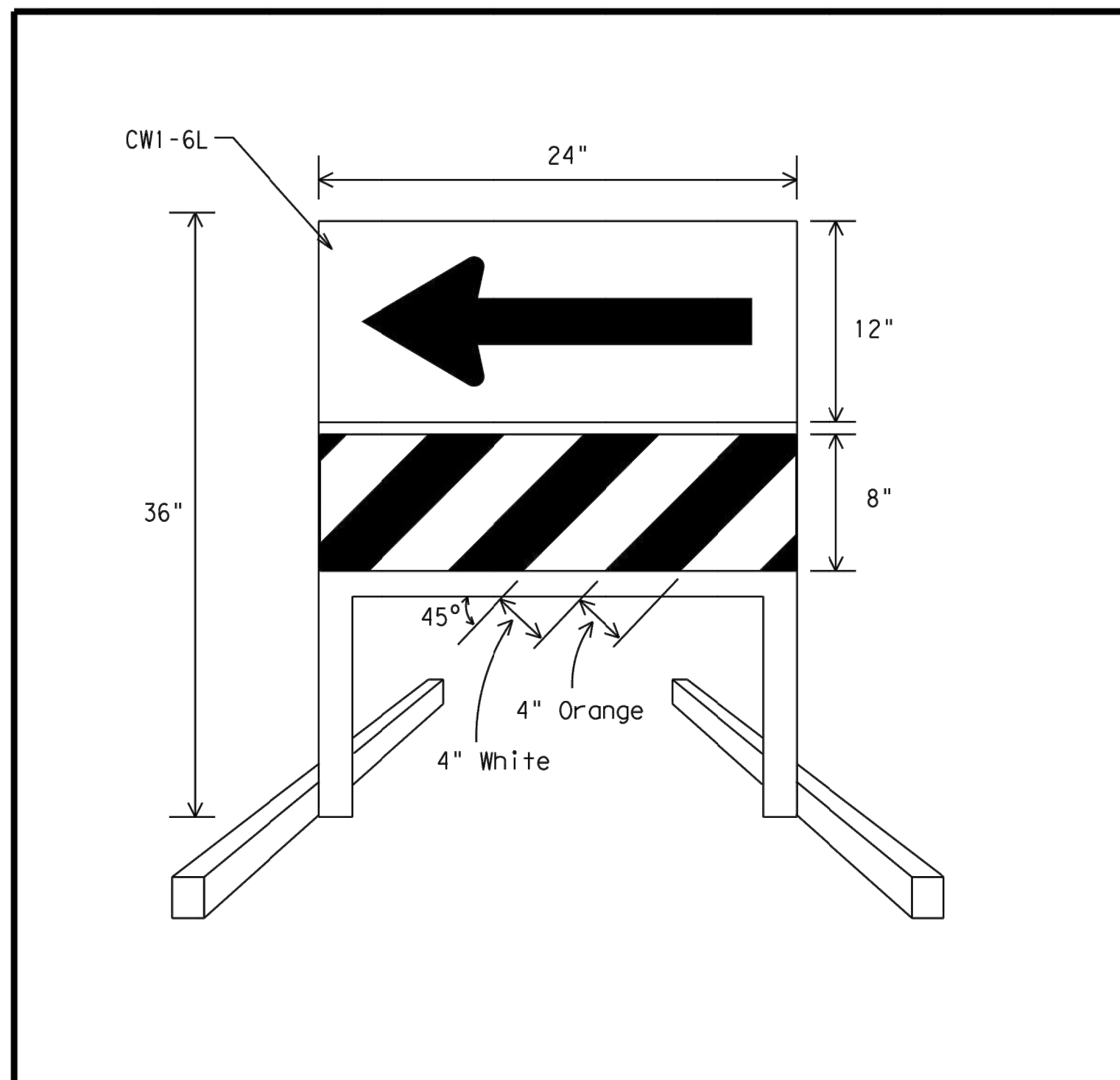
**BALLAST**

- Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
- Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
- Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
- The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
- When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
- Ballast shall not be placed on top of drums.
- Adhesives may be used to secure base of drums to pavement.



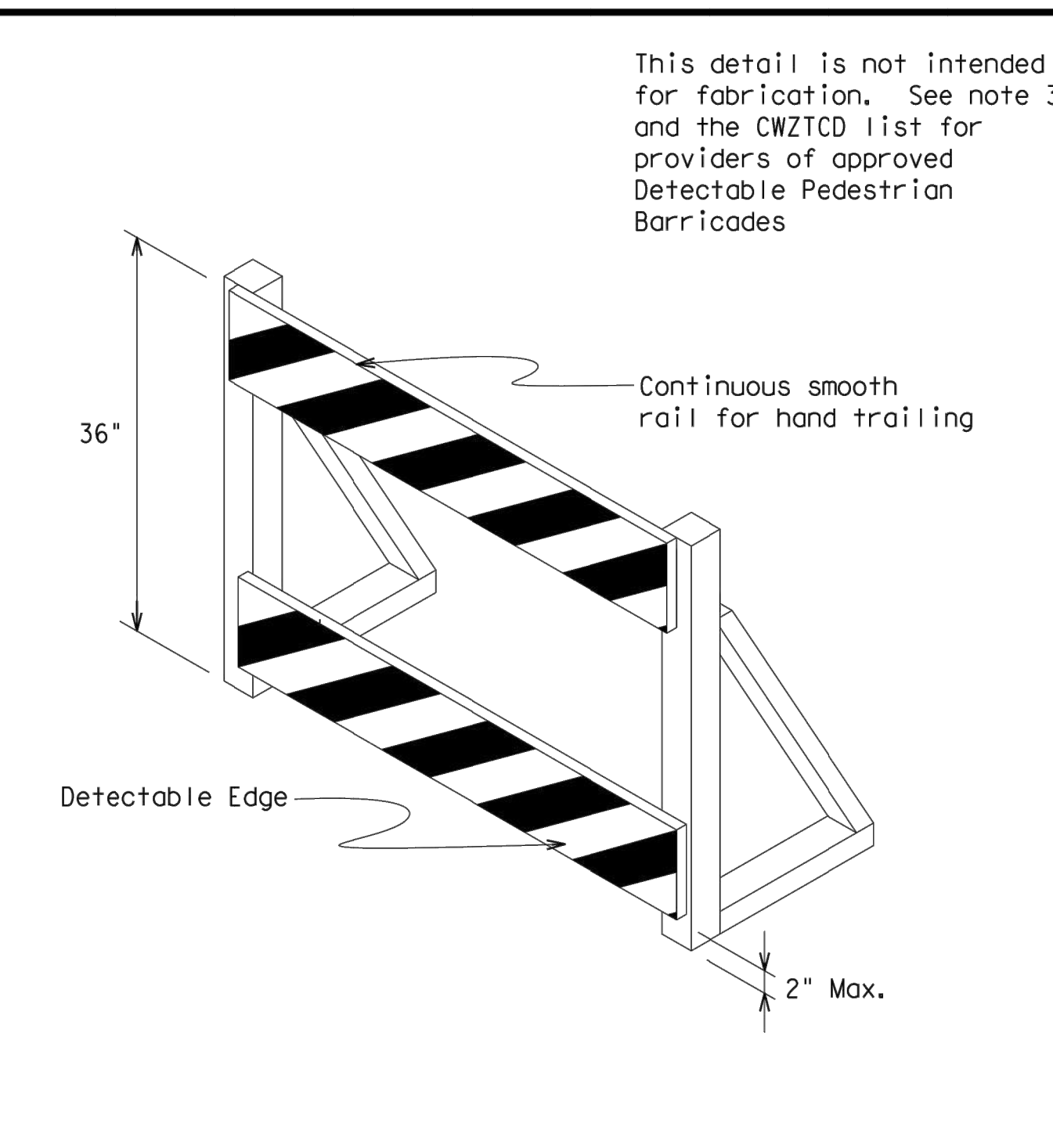
Each drum shall have a minimum of 2 orange and 2 white stripes using Type A retro-reflective sheeting with the top stripe being orange.

Taper to allow for stacking a minimum of 5 drums



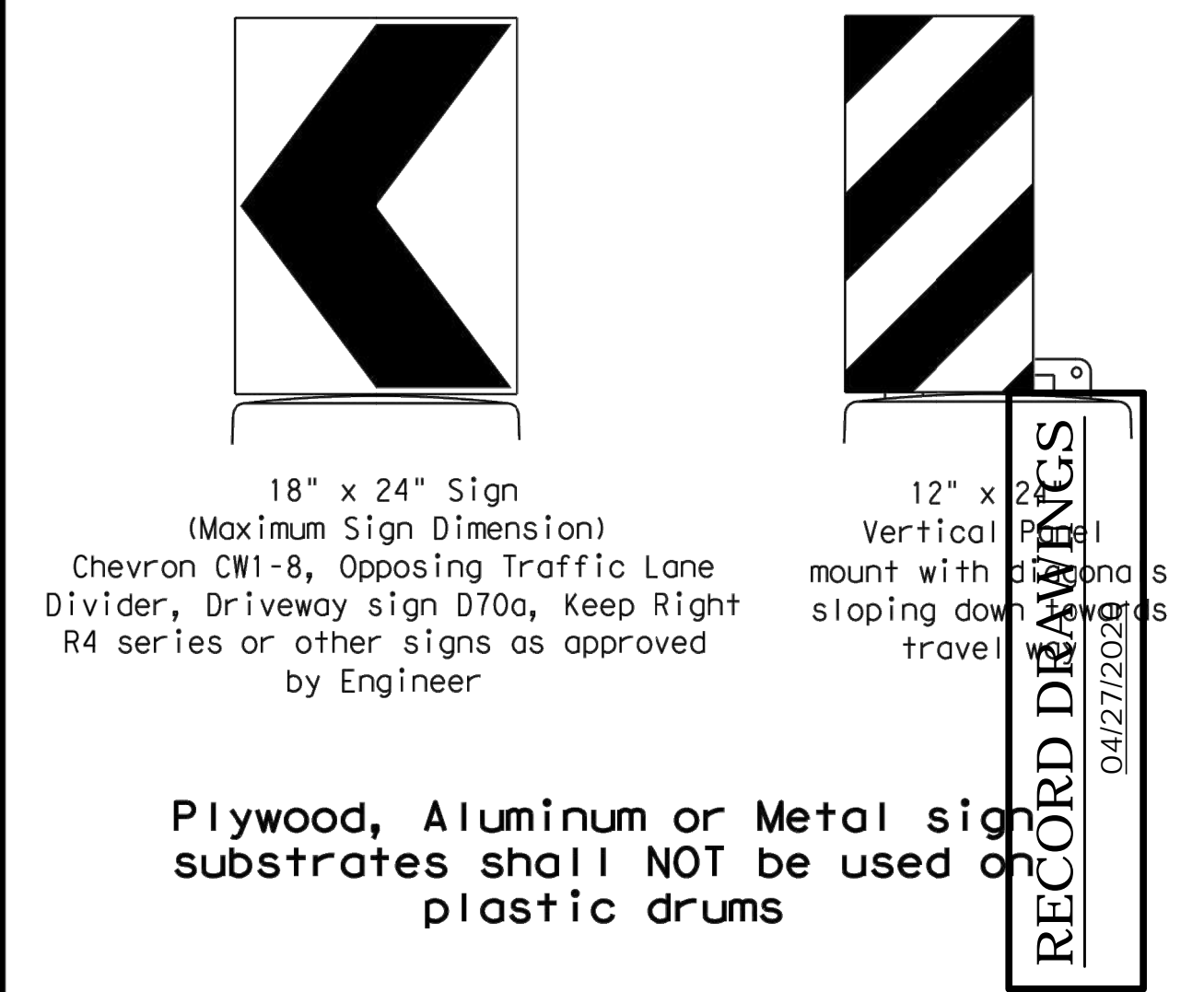
**DIRECTION INDICATOR BARRICADE**

- The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
- If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
- The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CWI-6) sign in the size shown with a black arrow on a background of Type B<sub>FL</sub> or Type C<sub>FL</sub> Orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheeting types shall be as per DMS 8300.
- Double arrows on the Direction Indicator Barricade will not be allowed.
- Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.



**DETECTABLE PEDESTRIAN BARRICADES**

- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
- Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
- Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
- Warning lights shall not be attached to detectable pedestrian barricades.
- Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

**SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS**

- Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
- Chevrons and other work zone signs with an orange background shall be manufactured with Type B<sub>FL</sub> or Type C<sub>FL</sub> Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
- Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
- Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
- Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
- Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
- Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
- R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

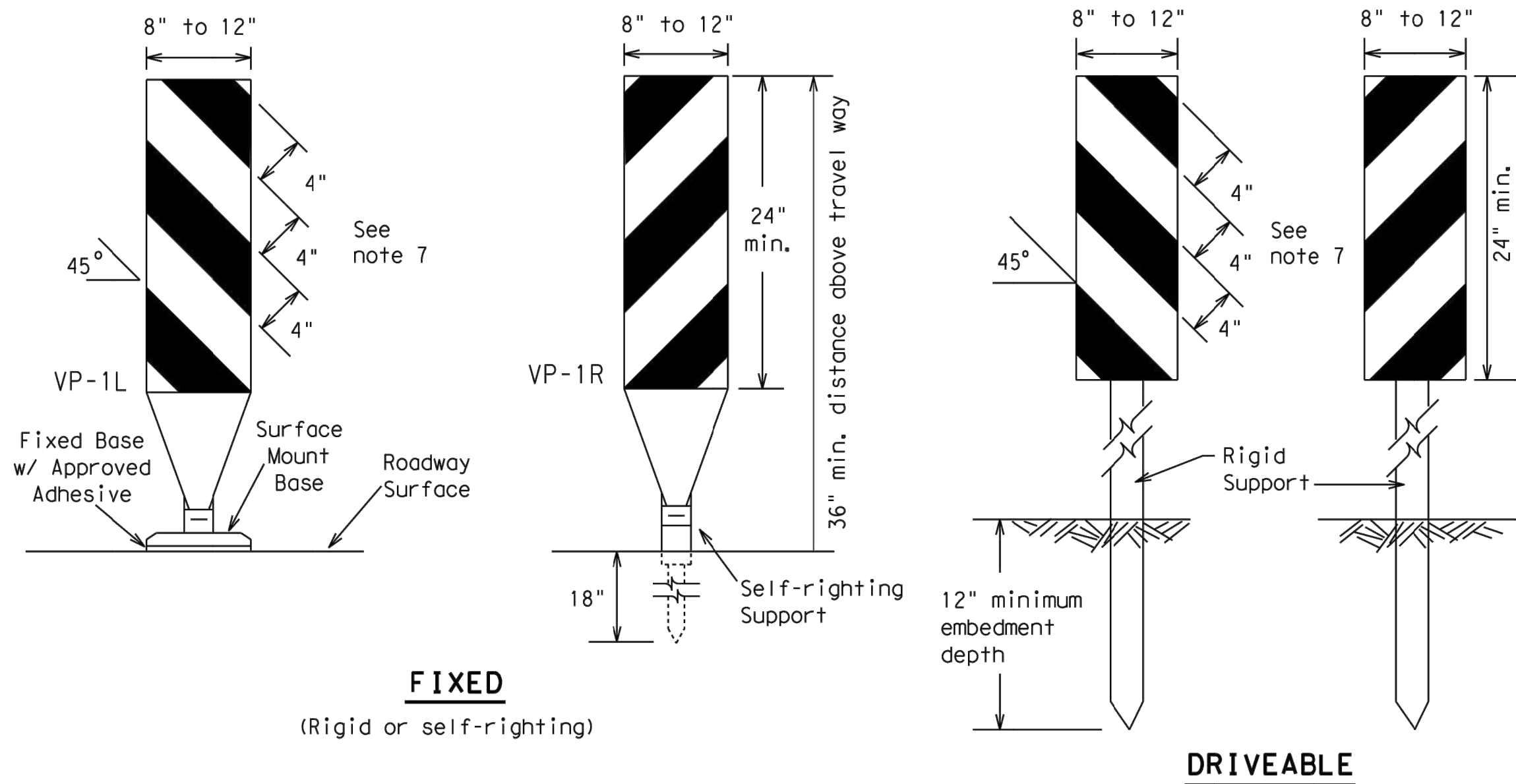
**BC (8) - 14**

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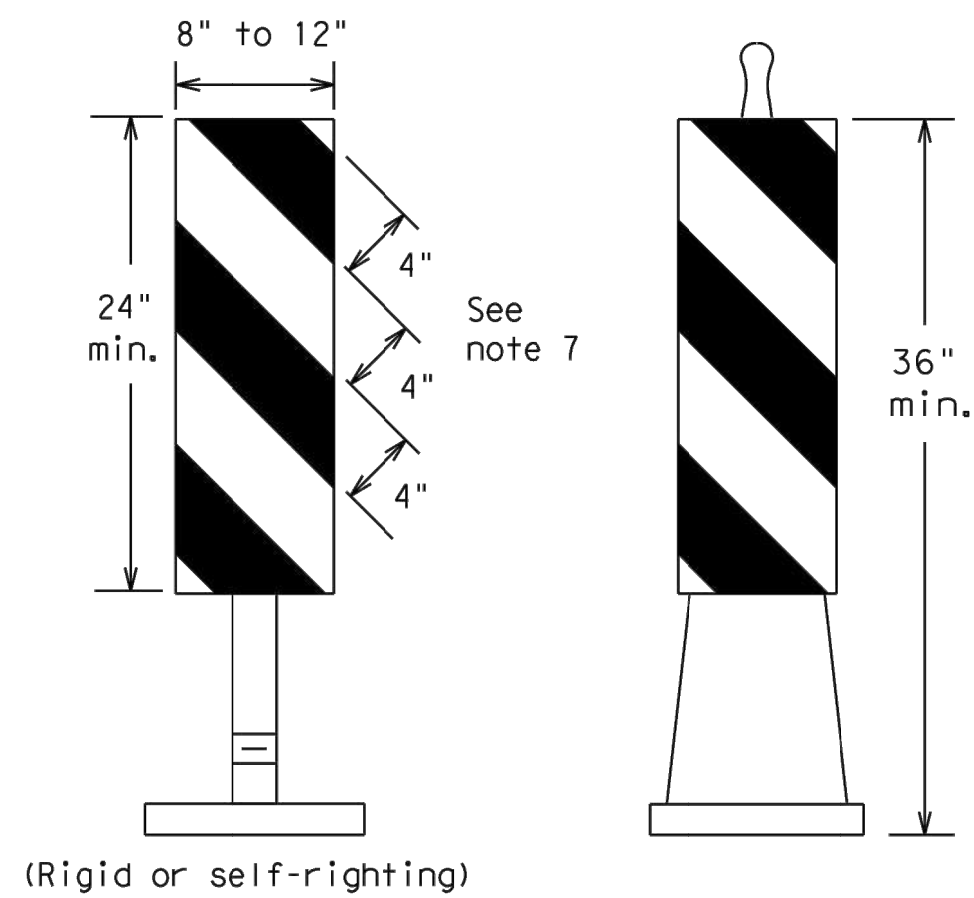
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**FIXED**  
(Rigid or self-righting)

**DRIVEABLE**

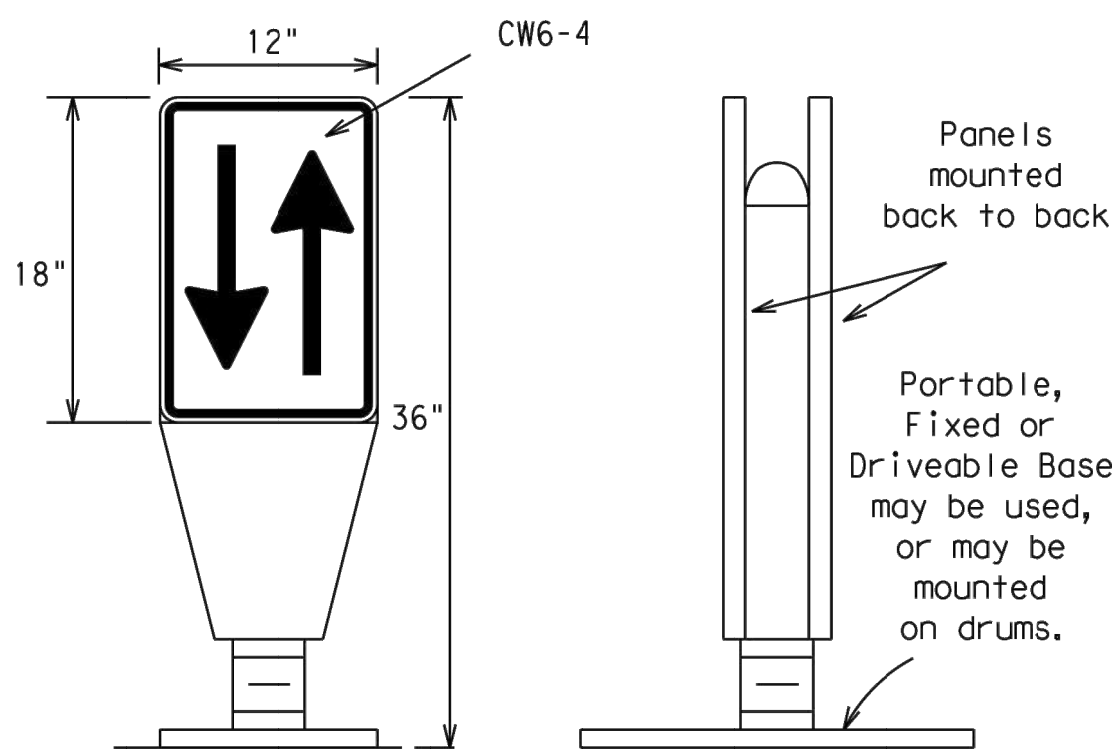


(Rigid or self-righting)

**PORTABLE**

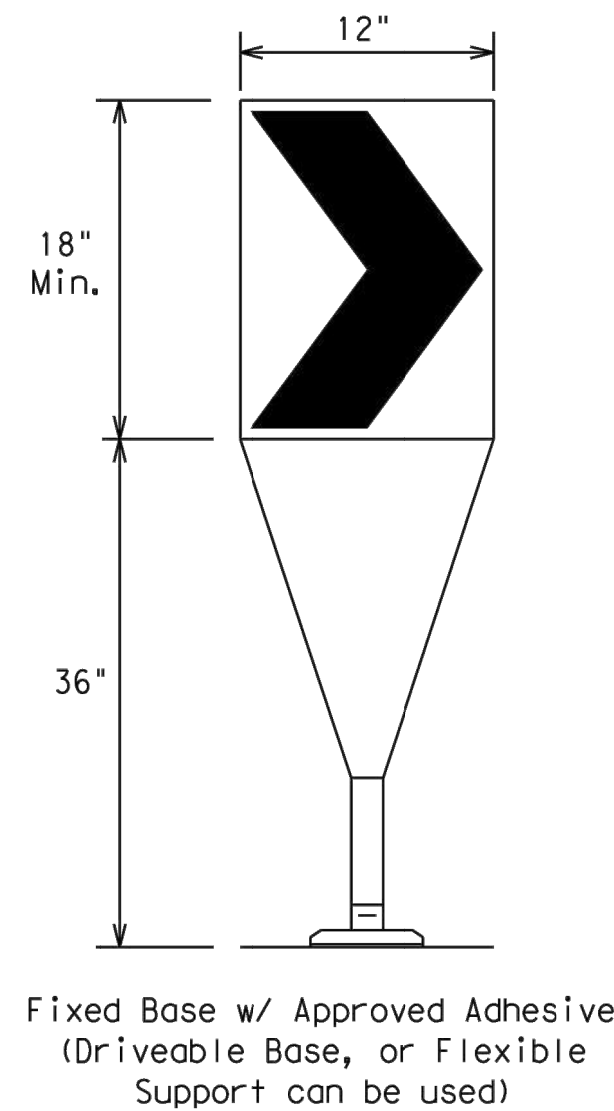
**VERTICAL PANELS (VPs)**

- Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
- VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
- VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
- VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
- Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Sheeting for the VP's shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
- Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.



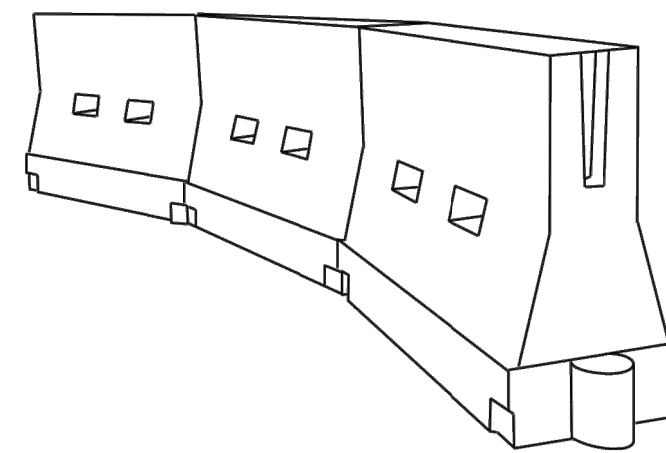
**OPPOSING TRAFFIC LANE DIVIDERS (OTLD)**

- Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
- The OTLD may be used in combination with 42" cones or VPs.
- Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
- The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B<sub>FL</sub> or Type C<sub>FL</sub> conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.



- The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
- Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
- To be effective, the chevron should be visible for at least 500 feet.
- Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B<sub>FL</sub> or Type C<sub>FL</sub> conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
- For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

**CHEVRONS**



**LONGITUDINAL CHANNELIZING DEVICES (LCD)**

- LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
- LCDs may be used instead of a line of cones or drums.
- LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
- LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
- LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

**WATER BALLASTED SYSTEMS USED AS BARRIERS**

- Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
- Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
- Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
- When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

**HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS**

**GENERAL NOTES**

- Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
- Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
- Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
- Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
- The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.

Posted Speed X	Formula	Minimum Desirable Taper Lengths X X			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	L = WS <sup>2</sup> / 60	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L = WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

\*\*Taper lengths have been rounded off.  
L=Length of Taper (FT.) W=Width of Offset (FT.)  
S=Posted Speed (MPH)

**SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS**

SHEET 9 OF 12



**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

**BC (9) - 14**

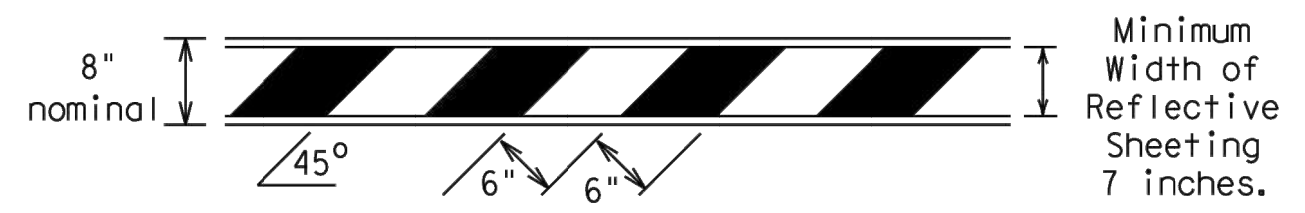
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© TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY				
REVISIONS									
9-07	8-14	DIST	COUNTY		SHEET NO.				
7-13									

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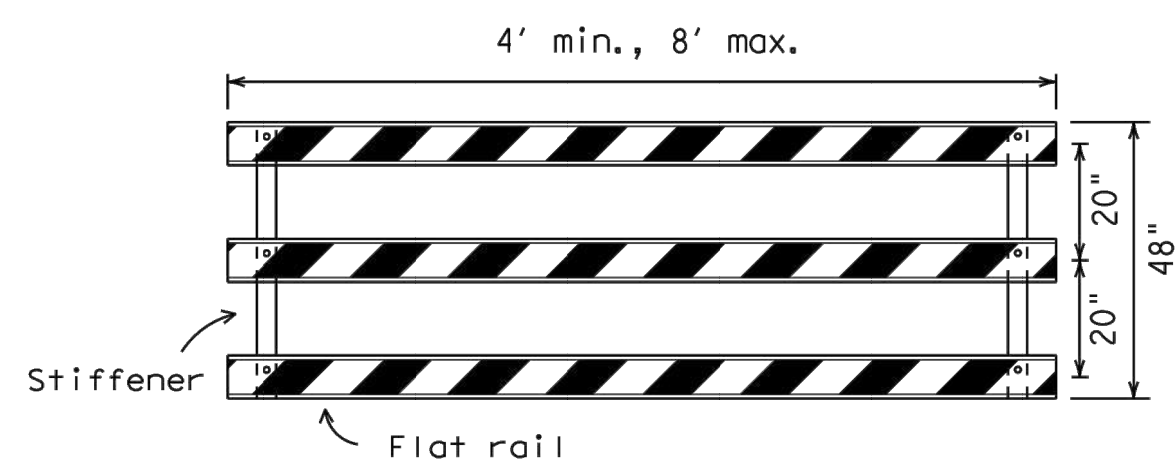
**TYPE 3 BARRICADES**

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

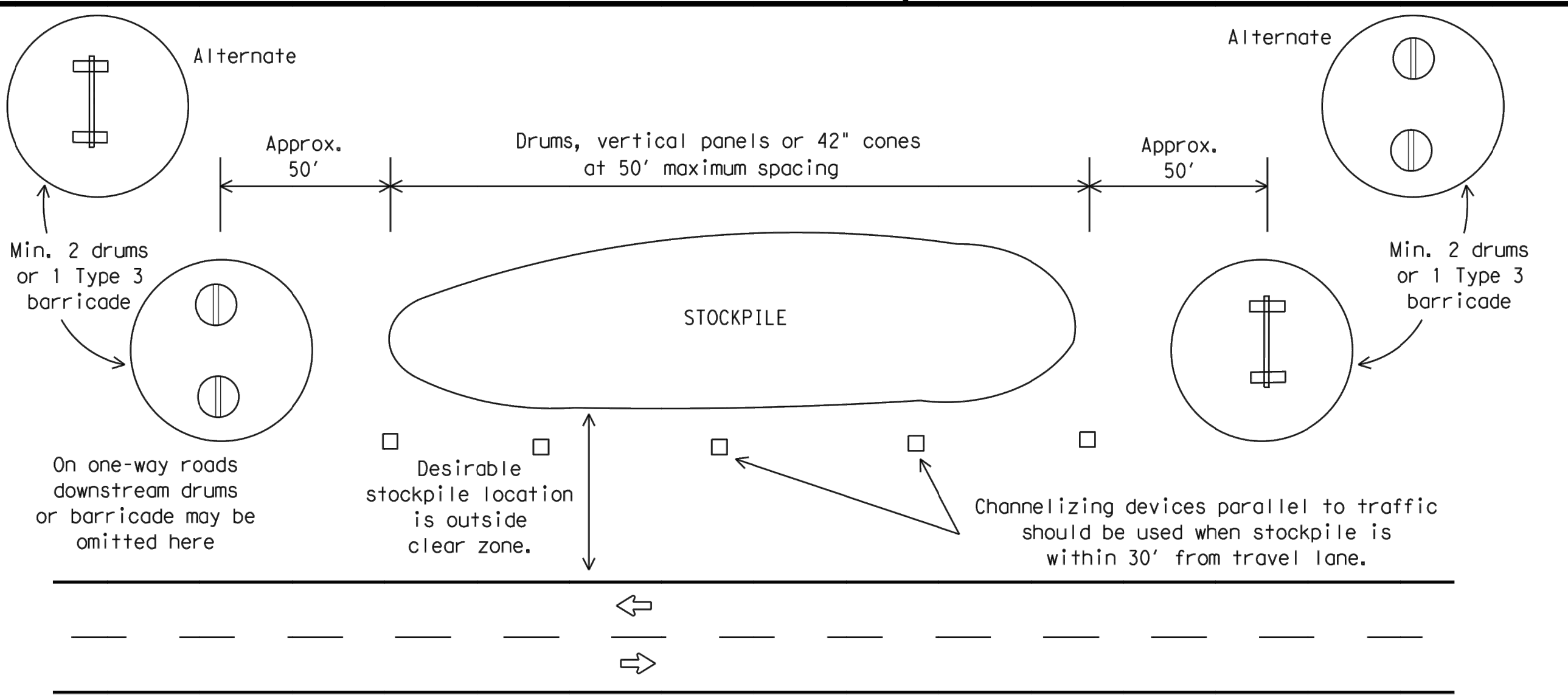


**TYPICAL STRIPING DETAIL FOR BARRICADE RAIL**



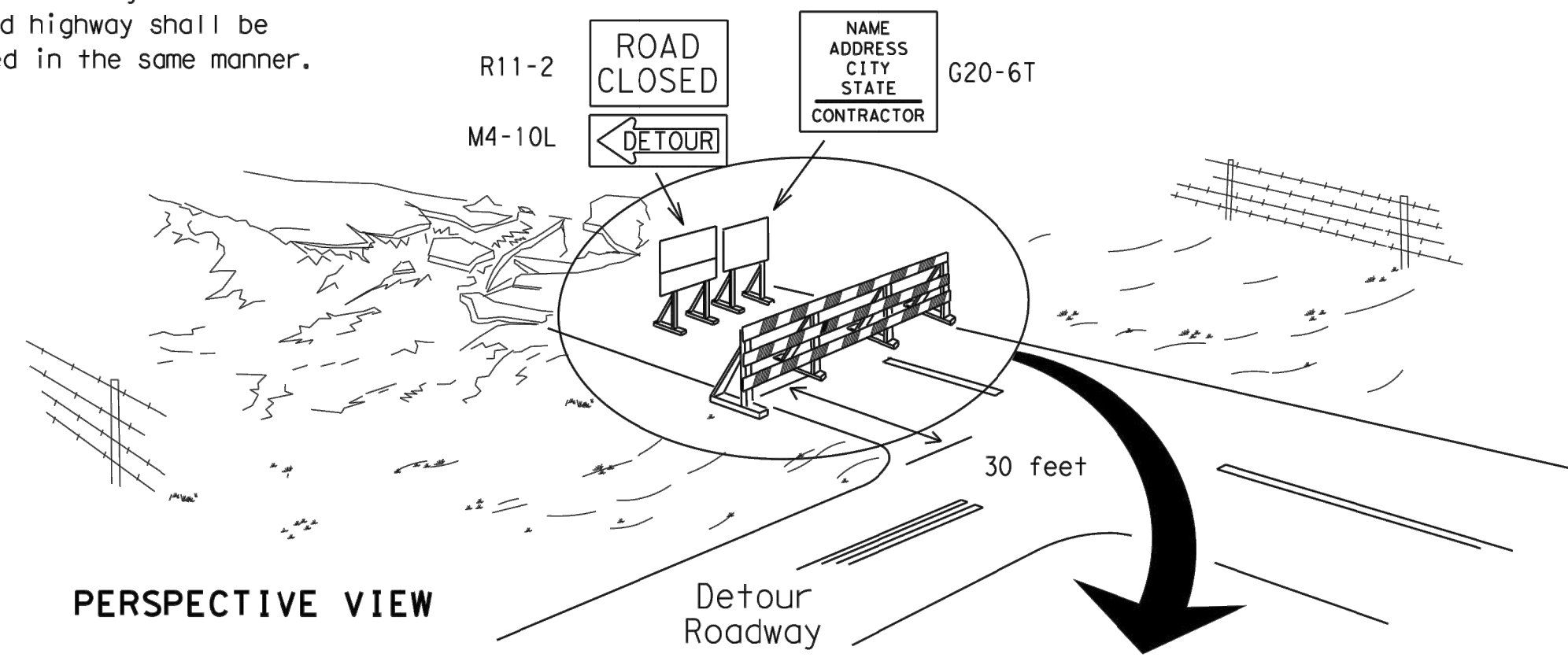
Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

**TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES**



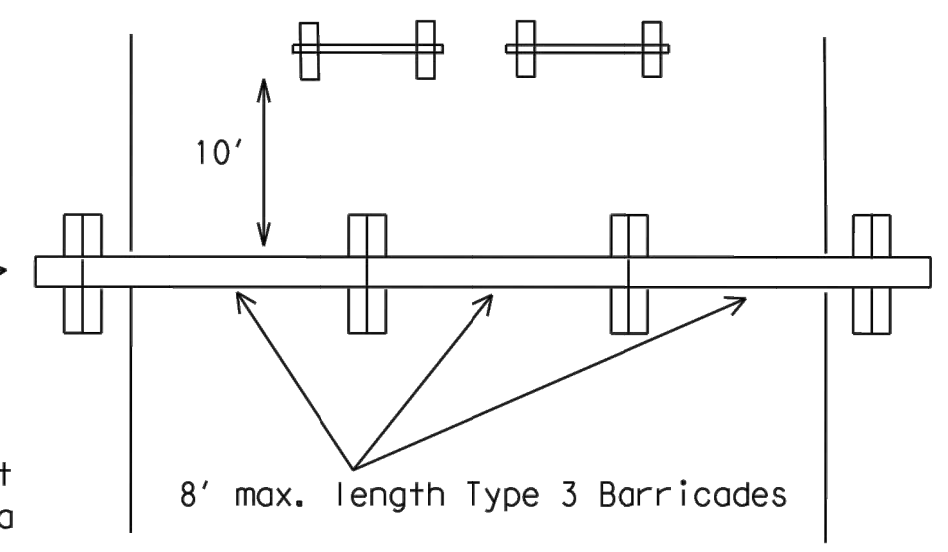
**TRAFFIC CONTROL FOR MATERIAL STOCKPILES**

Each roadway of a divided highway shall be barricaded in the same manner.



**PERSPECTIVE VIEW**

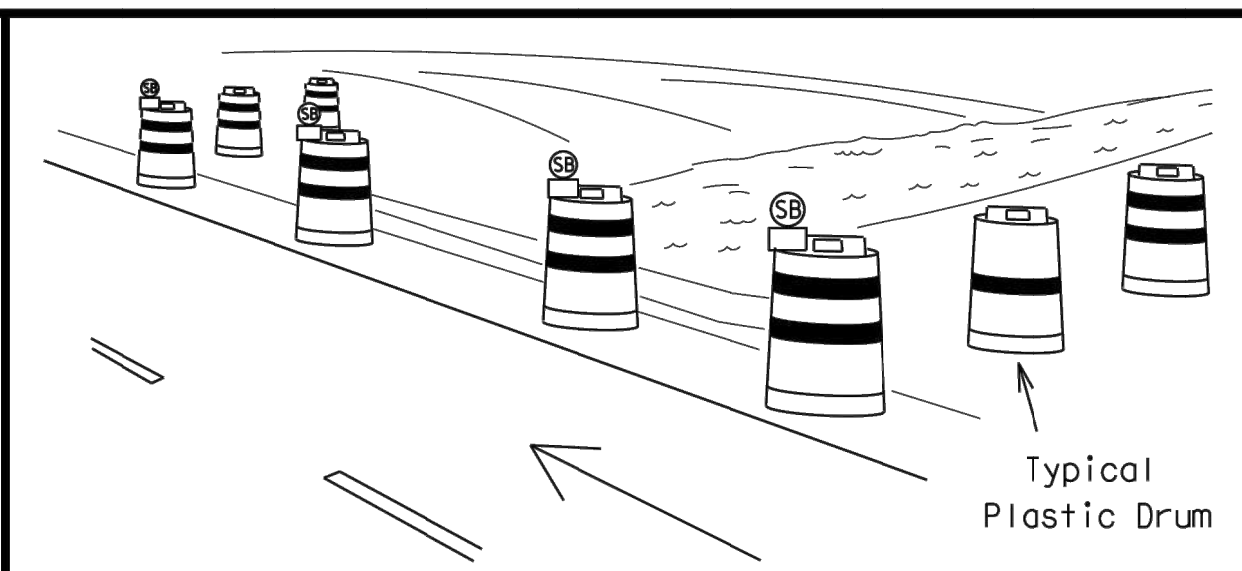
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic. Barricade striping should slant downward in the direction of detour.



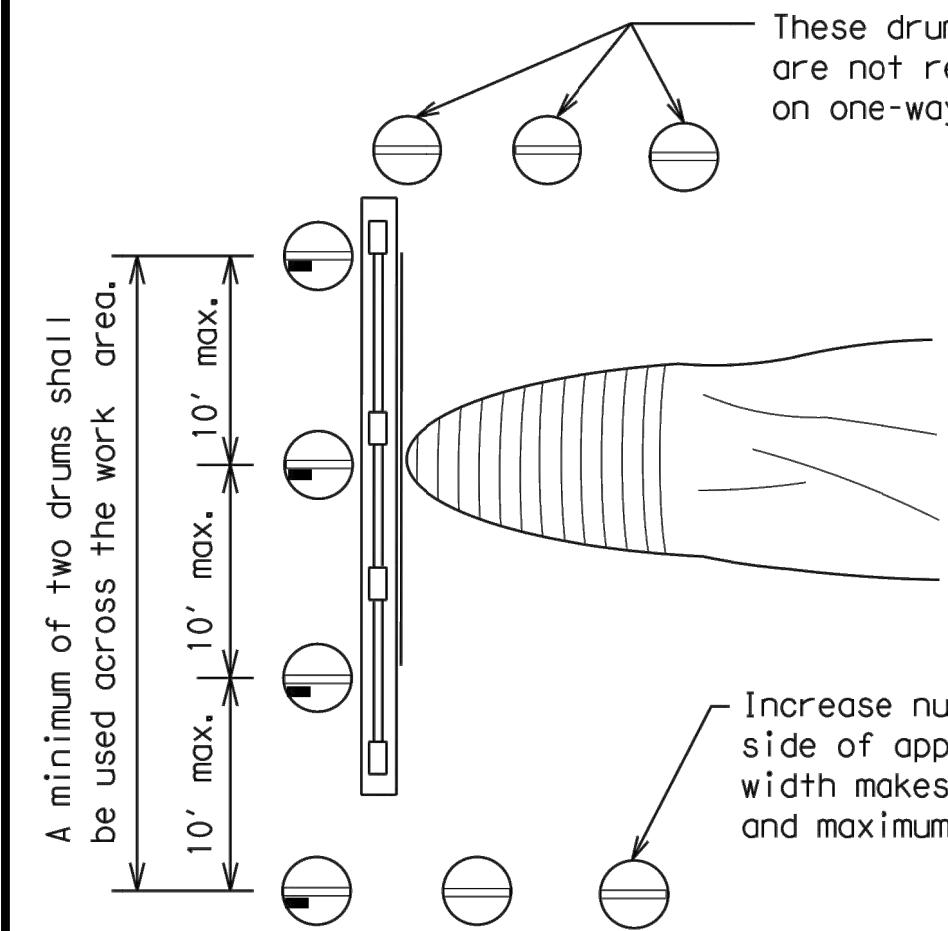
**PLAN VIEW**

1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

**TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION**



**PERSPECTIVE VIEW**

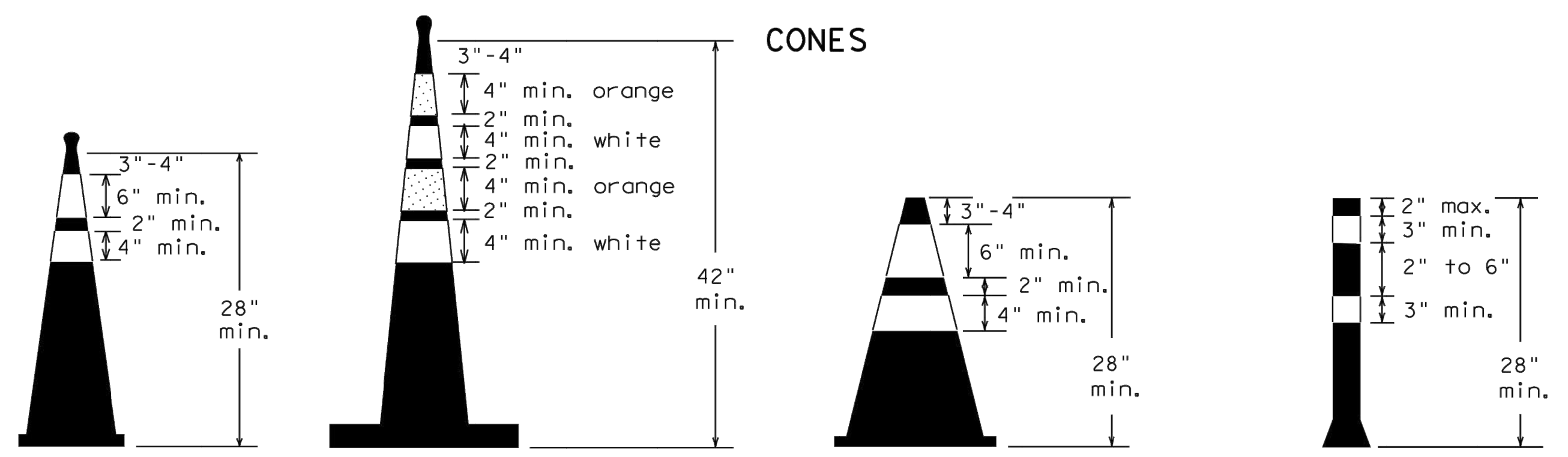


**PLAN VIEW**

1. Where positive redirection capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.

LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
	Steady burn warning light or yellow warning reflector

**CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS**



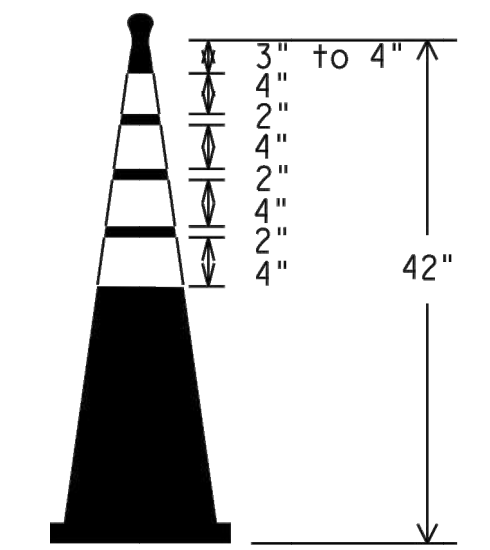
Two-Piece cones

One-Piece cones

Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.  
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

THIS DEVICE SHALL NOT BE USED ON PROJECTS LET AFTER MARCH 2014.



EDGELINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

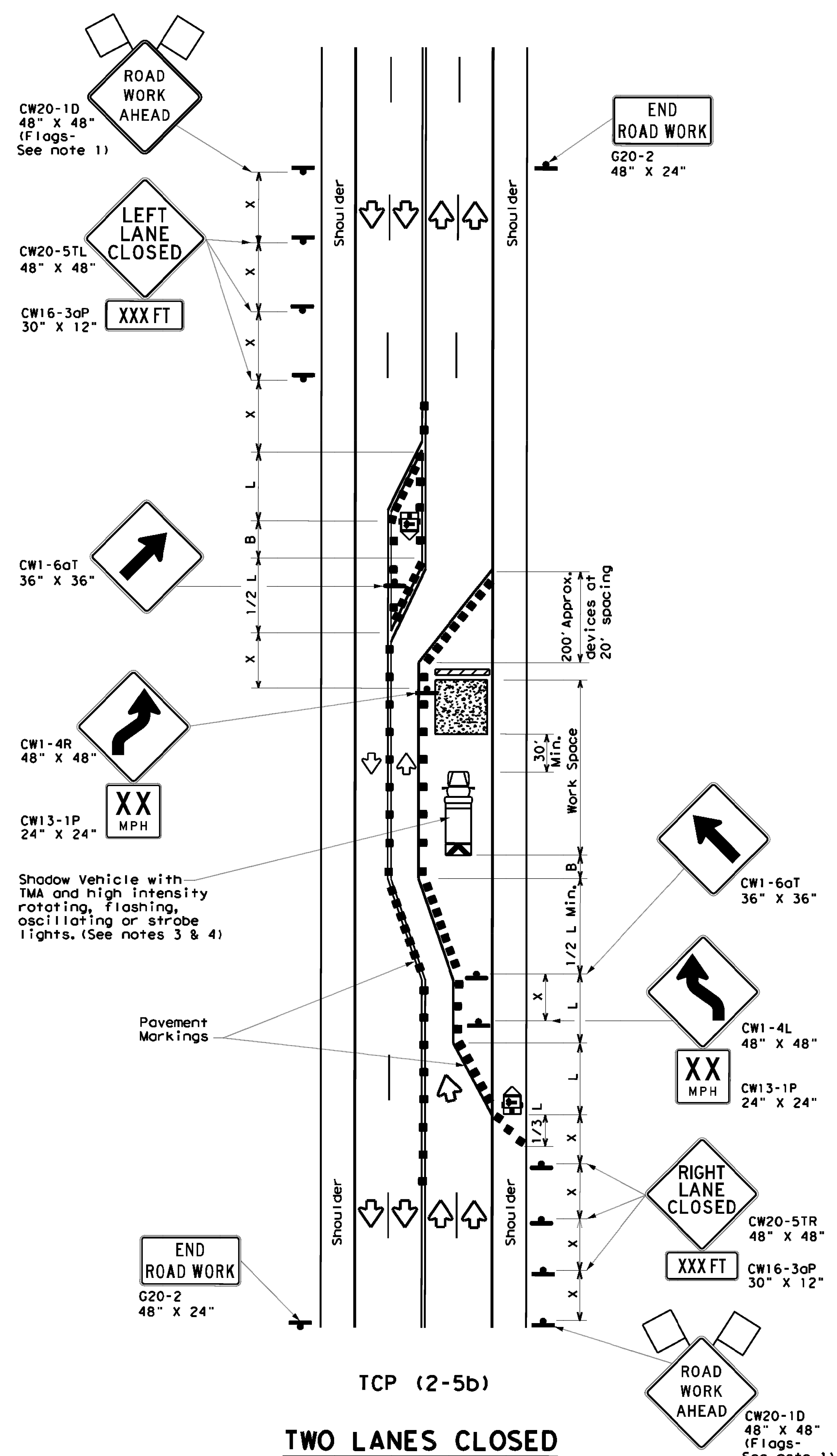
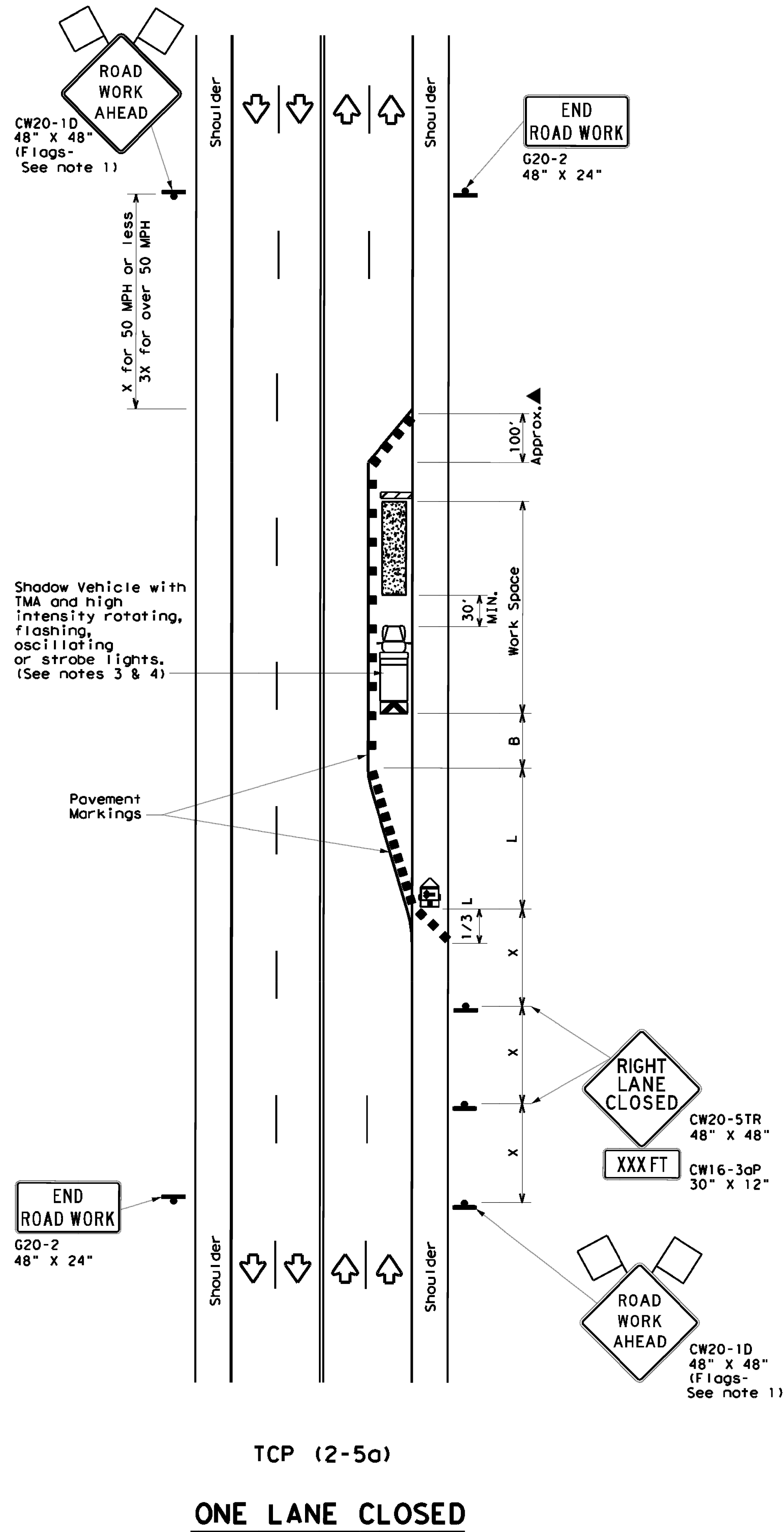
**BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES**

**BC (10) - 14**

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	DIST	COUNTY		SHEET NO.

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LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x" Distance	Suggested Longitudinal Buffer Space
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	L = WS <sup>2</sup> / 60	150'	165'	180'	30'	60'	120'	50'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	165'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

\* Conventional Roads Only  
 \*\* Taper lengths have been rounded off.  
 L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
			✓	✓

- GENERAL NOTES**
- Flags attached to signs where shown, are REQUIRED.
  - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the Plans, or for routine maintenance work, when approved by the Engineer.
  - A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
  - Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.
  - The downstream taper is optional. When used, it should be 100 feet approximately per lane, with channelizing devices spaced at 20 feet.

- TCP (2-5a)**
- If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic, with the arrow board placed in the closed lane near the end of the merging taper.
- TCP (2-5b)**
- Conflicting pavement markings shall be removed for long-term projects.

Texas Department of Transportation

Traffic Operations Division Standard

**TRAFFIC CONTROL PLAN**  
**LONG TERM LANE CLOSURES**  
**MULTILANE CONVENTIONAL RDS.**

**TCP (2-5) - 18**

FILE: tcp2-5-18.dgn	DN:	CK:	DW:	CK:
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4-98 2-18				