

PTS STANDARDS - 100 SERIES DRAWINGS
STANDARDS FOR ROADWAY CONSTRUCTION
APRIL 2022 EDITION – CHANGE NO. 2 – NOVEMBER 2023

PTS – 100 SERIES DRAWINGS

PTS-113 – SHEET 1 OF 1

REVISED SPELLING CORRECTION “TRANSVERSE”.
REPOSITIONED THE LOCATION OF THE NOTES.

PTS-121 – SHEET 2 OF 2

REVISED SECTION A-A BY REMOVING EXTRANEIOUS REBAR INDICATIONS.
REVISED THE PLAN VIEW TO INDICATE THE QUANTITY OF REBAR.

PTS-122 – SHEET 1 OF 1

ADDED CALLOUT TO “REMOVE ANY BRICK”

PTS-124 – SHEET 1 OF 6

REVISED CALLOUT FOR SUBBASE UNDER GUIDE RAIL TO REFERENCE NOTE 5.
ADDED NOTE 5 “REFER TO PTS-130 GUIDE RAIL INSTALLATION – FILL CONDITION”.

PTS-124 – SHEET 5 OF 6

DELETED NOTE ABOUT PEDESTAL.

PTS-130 – SHEET 1 OF 3

REVISED CALLOUT FOR SUBBASE UNDER GUIDE RAIL TO INDICATE “DEPTH, 4” MIN.”.
EXTENDED THE LIMITS OF THE SHOULDER BACKUP IN THE PLAN AND SECTION VIEW.
ADDED SUBGRADE INDICATION IN BOTH THE SECTION A-A AND B-B VIEWS.

PTS-130 – SHEET 2 OF 3

ADDED TEXT TO NOTE 4. REVISED PLAN VIEW DETAILS TO ALIGN RAIL WITH STRUCTURE.

PTS-140 – SHEET 2 OF 3

REVISED NOTE FOR SLOTTED PLATE CONNECTION AND INDICATED SLOT DETAILS.

PTS-140 – SHEET 3 OF 3

REVISED TRANSITION PIECE LENGTH FROM VARIABLE TO 12’.
REORGANIZED SECTION AND PROFILE VIEWS TO ALIGN HORIZONTALLY.
ADDED TEXT CALLOUT TO THE PROFILE VIEW - 2" ELEVATION CHANGE / STEP BETWEEN PIECES AND
“SAWCUT THROUGH PAVEMENT TO ALLOW STEEL PLATE CONNECTION BETWEEN SECTIONS”.
ADDED NOTES 10 AND 11.

PTS-144 – SHEETS 1 OF 1

ADDED A PROFILE VIEW.
REVISED THE PLAN VIEW TO INDICATE THE REFERENCE SECTION LOCATIONS.
ALIGNED SECTION VIEWS VERTICALLY AND ADDED A PATTERN TO THE SUBBASE LAYER.

PTS-145 – SHEET 1 OF 2

SECTION X-X – REVISED DIMENSION OFFSET FOR ANCHORS.
ADDED THE USE OF A PACHOMETER TO THE NOTES.

CALLOUT FOR "BACKFILL WITH NO. 57 STONE" ADDED "TO WITHIN 6" OF THE TOP OF THE TRANSITION".

PTS-147 – SHEET 1 OF 1

REVISED THE PLAN VIEW AND REPOSITIONED THE SECTION A-A LOCATION AND REVISED THE SECTION A-A WIDTH TO REFLECT THE NEW LOCATION.

REORDERED SHEET NOTES AND ADDED THE USE OF A PACHOMETER TO NOTE 12.

PTS-148 – SHEET 1 OF 2

REVISED THE PLAN VIEW AND REPOSITIONED THE SECTION A-A LOCATION.

REORDERED SHEET NOTES AND ADDED THE USE OF A PACHOMETER TO NOTE 13.

PTS-148 – SHEET 2 OF 2

REVISED THE SECTION D-D WIDTH TO REFLECT THE NEW LOCATION.

PTS-170 – NEW SHEETS 1 & 2 OF 2

REVISED THE SHEET TITLE TO "ROUND LID JUNCTION BOX DETAILS".

PENNSYLVANIA TURNPIKE COMMISSION
INDEX OF STANDARDS FOR ROADWAY CONSTRUCTION

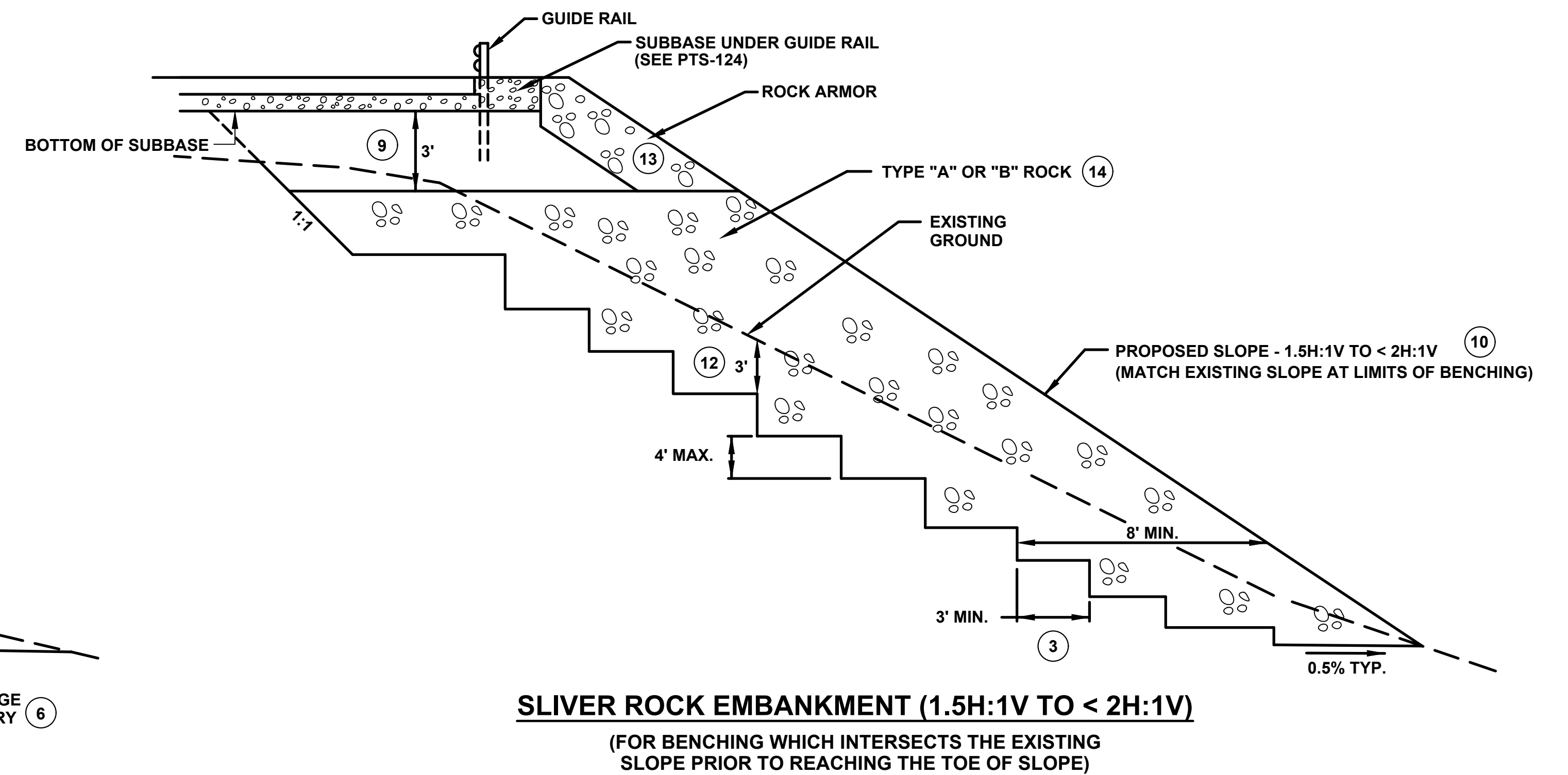
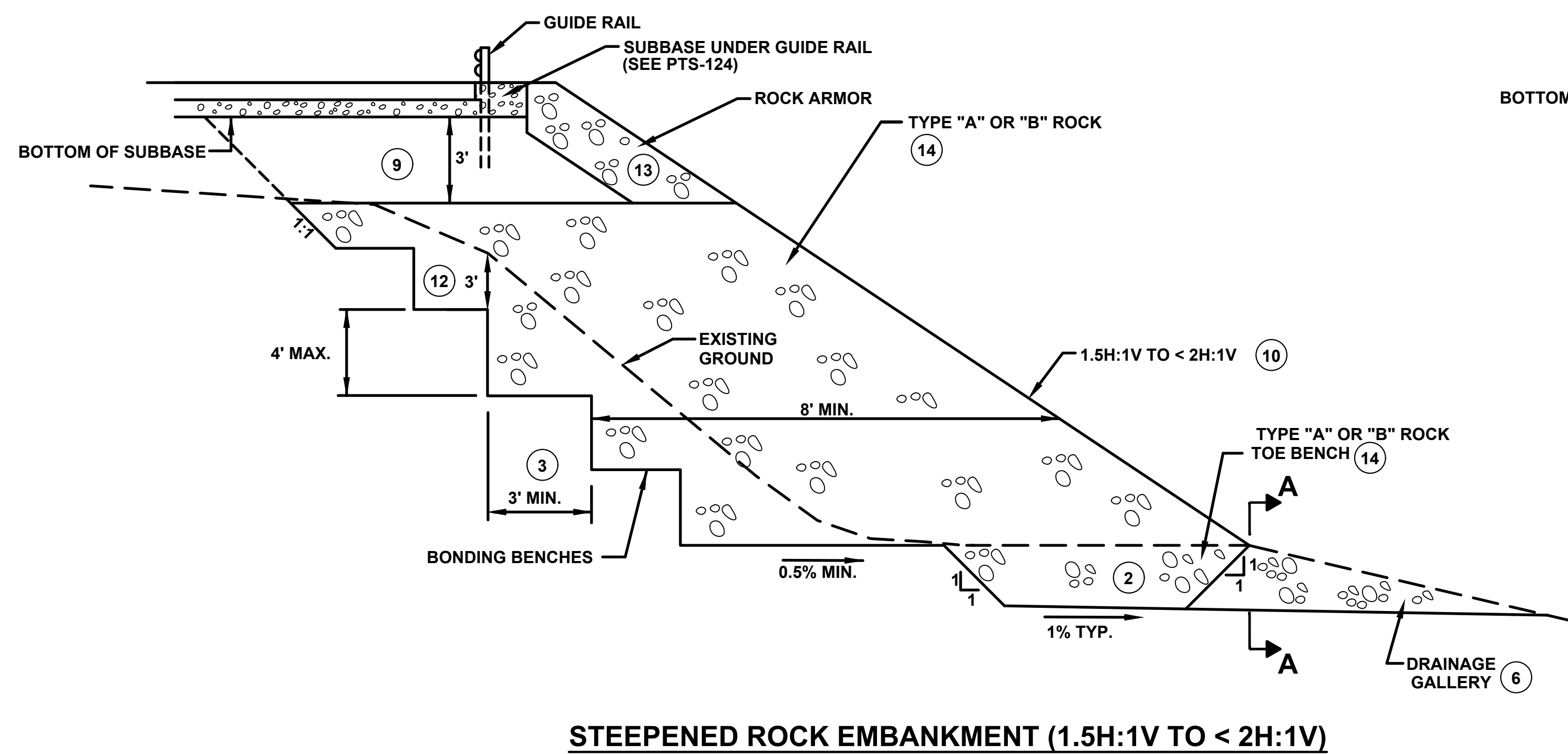
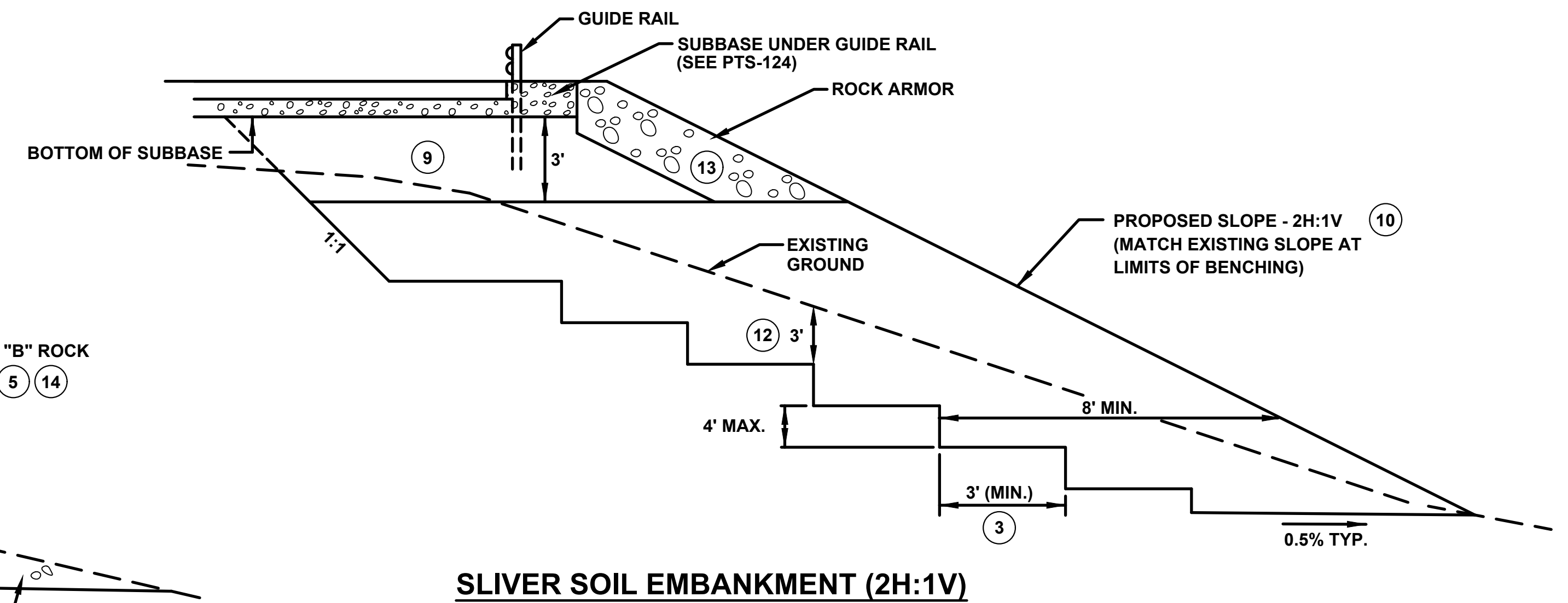
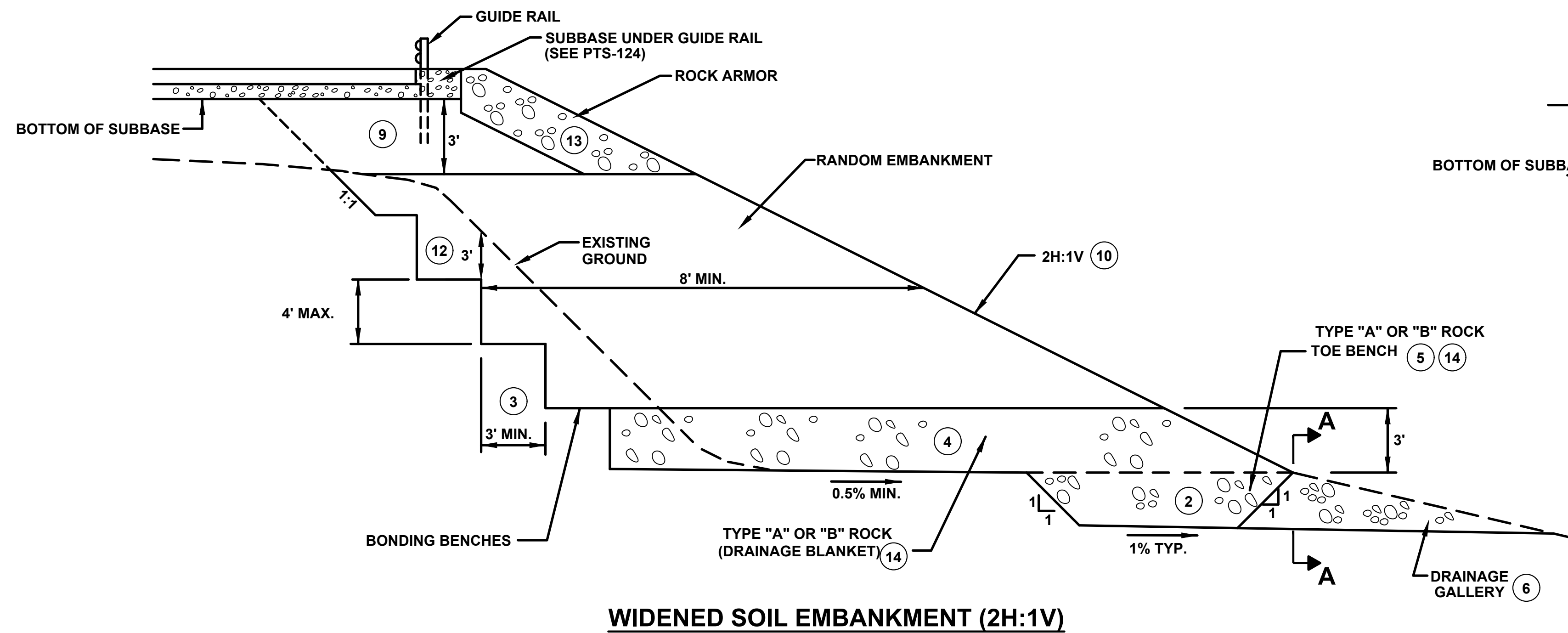
STANDARD DRAWING NUMBER	DRAWING DATE	DESCRIPTION	STANDARD DRAWING NUMBER	DRAWING DATE	DESCRIPTION
<u>EARTHWORK</u>			<u>ROADSIDE DEVELOPMENT</u>		
PTS-100 (2 SHEETS)	APRIL 2022	WIDENED EMBANKMENT DETAILS	PTS-180 PTS-181 (3 SHEETS)	APRIL 2022 APRIL 2022	ROADSIDE DEVELOPMENT WIDE AREAS
<u>PAVEMENTS</u>			<u>CUSTOMER SAFETY DEVICES</u>		
PTS-110	APRIL 2022	SLAB STABILIZATION	PTS-191 PTS-192	APRIL 2022 APRIL 2022	SNOWPLOWABLE RAISED PAVEMENT MARKERS (SRPM) SONIC NAP ALERT PATTERN (SNAP)
PTS-111	APRIL 2022	RECESSED BRIDGE APPROACH SLAB			
PTS-112	APRIL 2022	PAVING JOINT AND SNAP PLACEMENT			
** PTS-113	NOVEMBER 2023	PAVEMENT PATCHING			
<u>DRAINAGE</u>					
PTS-120	APRIL 2022	TYPE RS INLETS AND GRATE			
** PTS-121 (2 SHEETS)	NOVEMBER 2023	MEDIAN INLET CONSTRUCTION & REPLACEMENT			
** PTS-122	NOVEMBER 2023	CAPPING OF MEDIAN INLETS			
PTS-123	APRIL 2022	6" PAVEMENT BASE DRAIN AND MEDIAN BASE DRAIN			
** PTS-124 (6 SHEETS)	NOVEMBER 2023	STANDARD DRAINAGE DETAILS			
PTS-125	APRIL 2022	INLET PLACEMENT			
<u>GUIDE RAIL</u>					
** PTS-130 (3 SHEETS)	NOVEMBER 2023	STRONG POST GUIDE RAIL INSTALLATION			
<u>CONCRETE BARRIER</u>					
** PTS-140 (3 SHEETS)	NOVEMBER 2023	CONCRETE MEDIAN BARRIER TRANSITION SECTIONS			
* PTS-142 (5 SHEETS)	SEPTEMBER 2022	SINGLE FACE CONCRETE BARRIER			
** PTS-144	NOVEMBER 2023	SINGLE FACE CONCRETE BARRIER BURIED IN CUT SLOPE			
** PTS-145 (2 SHEETS)	NOVEMBER 2023	ABUTMENT TRANSITION PIECES			
* PTS-146 (2 SHEETS)	SEPTEMBER 2022	TRANSITION, SINGLE FACE CONCRETE BARRIER, F-SHAPE, PRECAST SLOTTED PLATE TO THRIE-BEAM GUIDE RAIL			
** PTS-147	NOVEMBER 2023	PIER TRANSITION PIECE			
** PTS-148 (2 SHEETS)	NOVEMBER 2023	MONOPIPE CAISSON TRANSITION PIECE			
<u>FENCE</u>					
PTS-150 (2 SHEETS)	APRIL 2022	CANTILEVER SLIDING ACCESS GATE			
PTS-154	APRIL 2022	ROCK FALL FENCE			
<u>COMMUNICATIONS INFRASTRUCTURE</u>					
** PTS-170 (2 SHEETS)	NOVEMBER 2023	ROUND LID JUNCTION BOX DETAILS			

** CHANGE NO. 2, EFFECTIVE NOVEMBER 2023

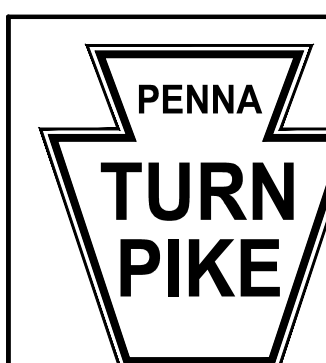
* CHANGE NO. 1, EFFECTIVE SEPTEMBER 2022





APRIL 2022 EDITION



SEE NOTES AND SECTIONS ON SHEET 2 OF 2



RECOMMENDED: APRIL 30, 2022

 ASSISTANT CHIEF ENGINEER - DESIGN
 APPROVED: APRIL 30, 2022

 CHIEF ENGINEER

WIDENED EMBANKMENT DETAILS

PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING

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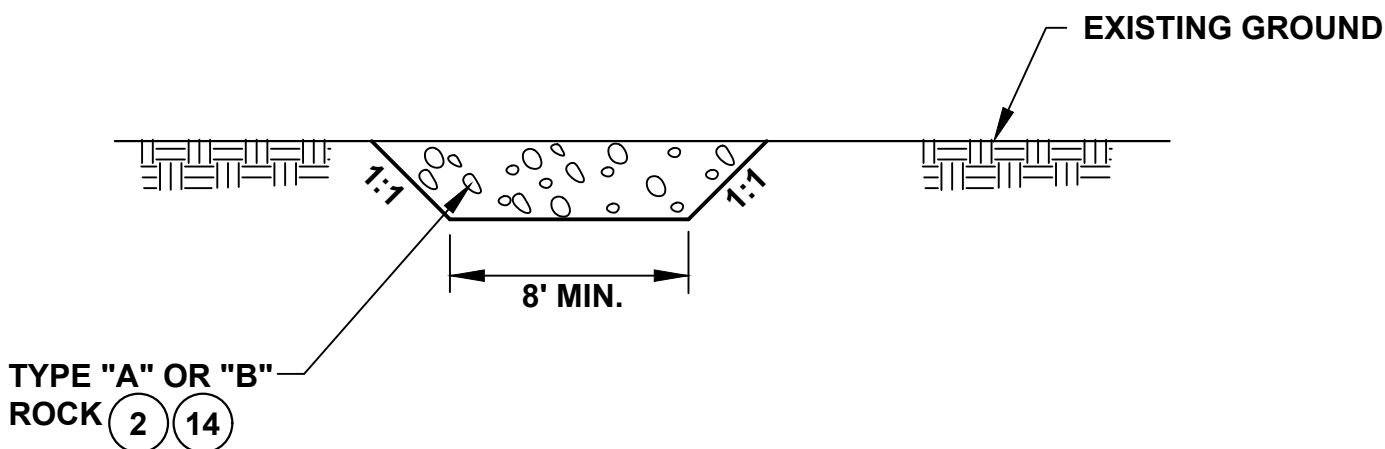
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DATE: APRIL 2022

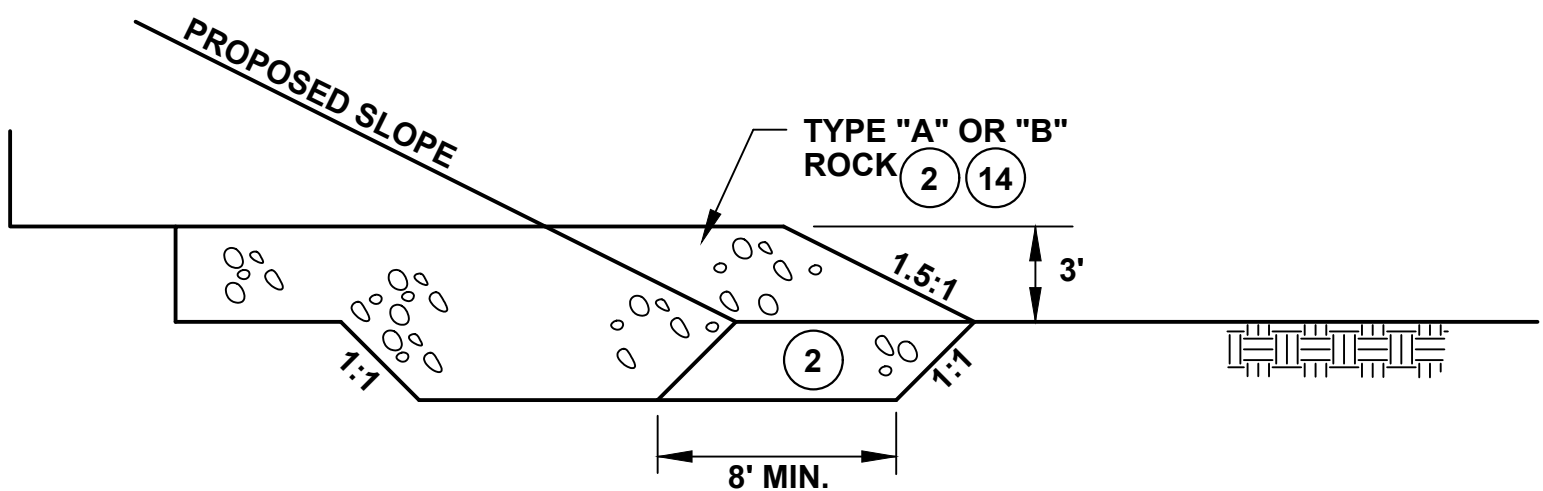
PTS-100

NOTES:

- SEE SECTION 206 FOR ROCK TYPE DEFINITIONS (TYPE A, TYPE B, ETC.).
- EXCAVATE TOE BENCH AND DRAINAGE GALLERY EITHER A MINIMUM OF 3 FEET, OR TO COMPETENT SOIL AS DIRECTED BY THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE AND AS SHOWN ON THE PLAN DRAWINGS AND CROSS SECTIONS.
- IF DISTANCE BETWEEN NEW AND EXISTING EMBANKMENT SLOPE EXCEEDS 8 FEET THEN BONDING BENCHES SHOULD BE 3 FEET MAX. IN WIDTH.
- TYPE "A" OR "B" ROCK DRAINAGE BLANKET WILL BE PLACED A MAXIMUM OF 3 FEET ABOVE TOE OF SLOPE, AS SHOWN ON THE CROSS SECTIONS AND/OR AS DIRECTED BY THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE. (PLACE TYPE "A" OR "B" ROCK AS DESCRIBED IN SECTION 206 UNLESS OTHERWISE APPROVED BY THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE.
- ROCK MAY BE ELIMINATED FROM THE TOE BENCH WHEN THE HEIGHT OF FILL IS LESS THAN 10 FEET. SUBJECT TO APPROVAL BY THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE.
- LOCATE DRAINAGE GALLERIES AT LOW POINTS OR 300 FEET CENTER TO CENTER, WHERE RIGHT-OF-WAY IS AVAILABLE. DAYLIGHT ON EXISTING SLOPE WHENEVER POSSIBLE. USE ALTERNATE GALLERY DETAIL WHERE CONSTRAINTS EXIST (EX. LIMITED RIGHT-OF-WAY, ENVIRONMENTAL CONCERNS, ETC.).
- THESE DETAILS HAVE BEEN PROVIDED AS A GUIDE FOR BENCHING OPERATIONS AND MAY BE MODIFIED TO MEET EXISTING CONDITIONS.
- WASTE ANY UNSUITABLE MATERIAL IN ACCORDANCE WITH SECTION 105.14.
- PLACE THE TOP 3 FEET OF NEW EMBANKMENT IN LAYERS NOT EXCEEDING AN 8 INCH LIFT AT 100% COMPACTION ACCORDING TO SECTION 206.3 (B). DO NOT PLACE MATERIAL THAT WILL IMPEDE GUIDE RAIL INSTALLATION.
- A DETAILED SLOPE STABILITY ANALYSIS MAY BE REQUESTED BY THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE.
- ALTERNATIVES TO "STEEPENED ROCK EMBANKMENTS" (GEOSYNTHETICS, RETAINING STRUCTURES, ETC.) MUST BE APPROVED BY THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE AND ACCOMPANIED BY A DETAILED SLOPE STABILITY ANALYSIS.
- REMOVE AN ADDITIONAL 3 FEET OF EXISTING EMBANKMENT MATERIAL WHEN PERFORMING BONDING BENCH CONSTRUCTION. THIS REQUIREMENT MAY BE ELIMINATED, WITH THE APPROVAL OF THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE, WHERE CONSTRAINTS EXIST. CONSTRUCT BONDING BENCHES CONCURRENTLY WITH THE PLACEMENT OF EMBANKMENT MATERIAL.
- PLACE ROCK ARMOR ON ALL FILL SLOPES 2H:1V OR STEEPER IN ACCORDANCE WITH PTS-124. EXTEND ROCK ARMOR TO THE TOP OF ROCK EMBANKMENT.
- UNLESS OTHERWISE SHOWN ON THE CROSS-SECTIONS. IF SUFFICIENT TYPE "B" ROCK IS NOT AVAILABLE FROM ON-SITE SOURCES, USE EITHER TYPE "A" OR TYPE "B" ROCK FROM FOREIGN BORROW. ALL TYPE "B" ROCK FROM FOREIGN BORROW REQUIRES ADVANCE APPROVAL BY THE COMMISSION'S GEOTECHNICAL REPRESENTATIVE.
- WHEN WITHIN 100 FEET OF STRUCTURES SEE CONTRACT DOCUMENTS FOR PROPOSED WIDENED EMBANKMENT SLOPE TREATMENT.
- SLOPES STEEPER THAN 1.5H:1V ARE NOT ACCEPTABLE.

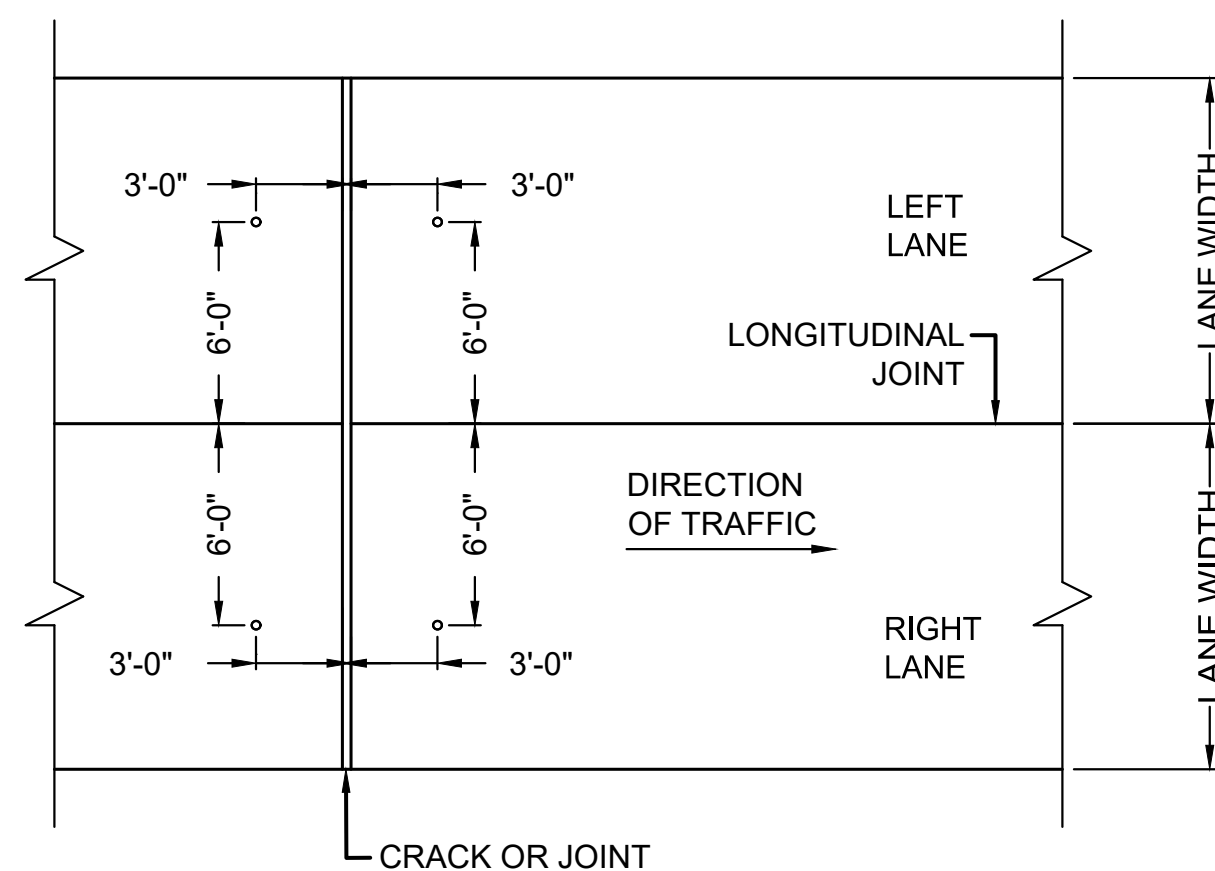
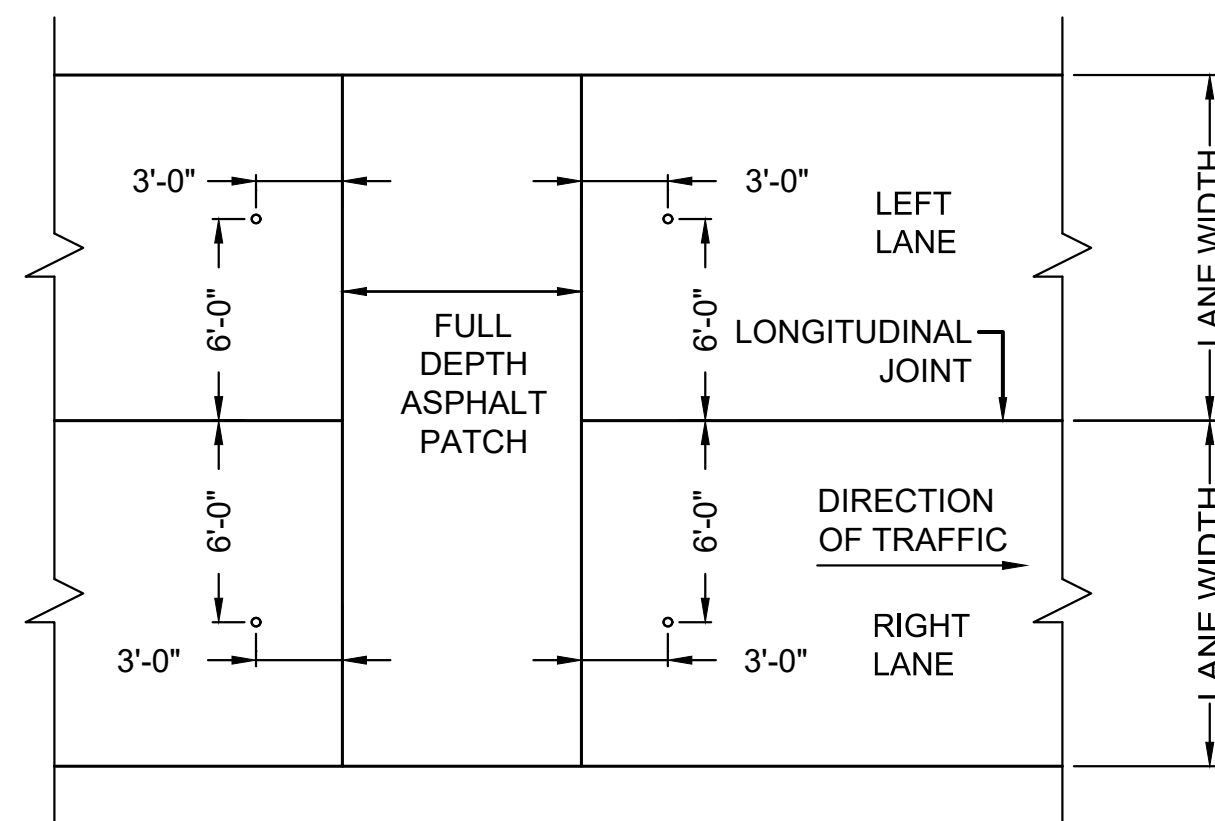
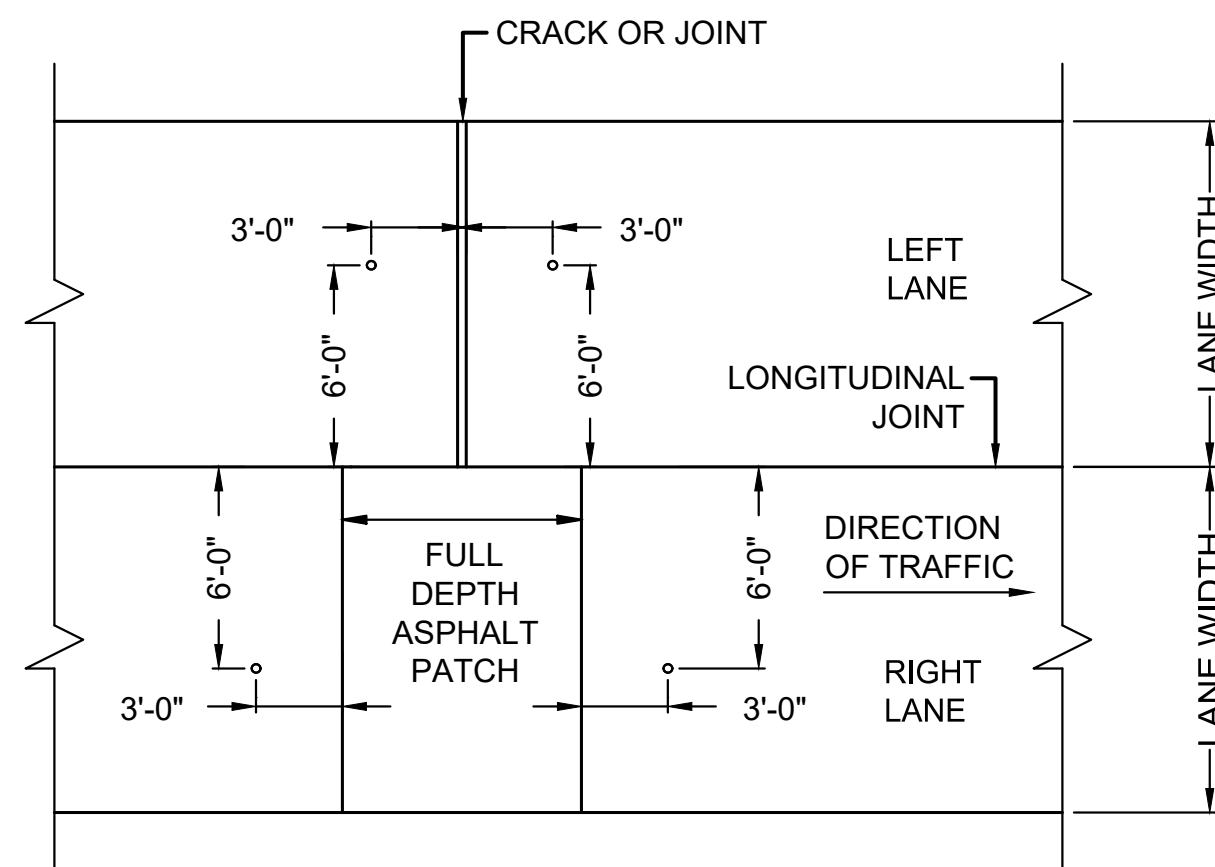


SECTION A-A ⑥

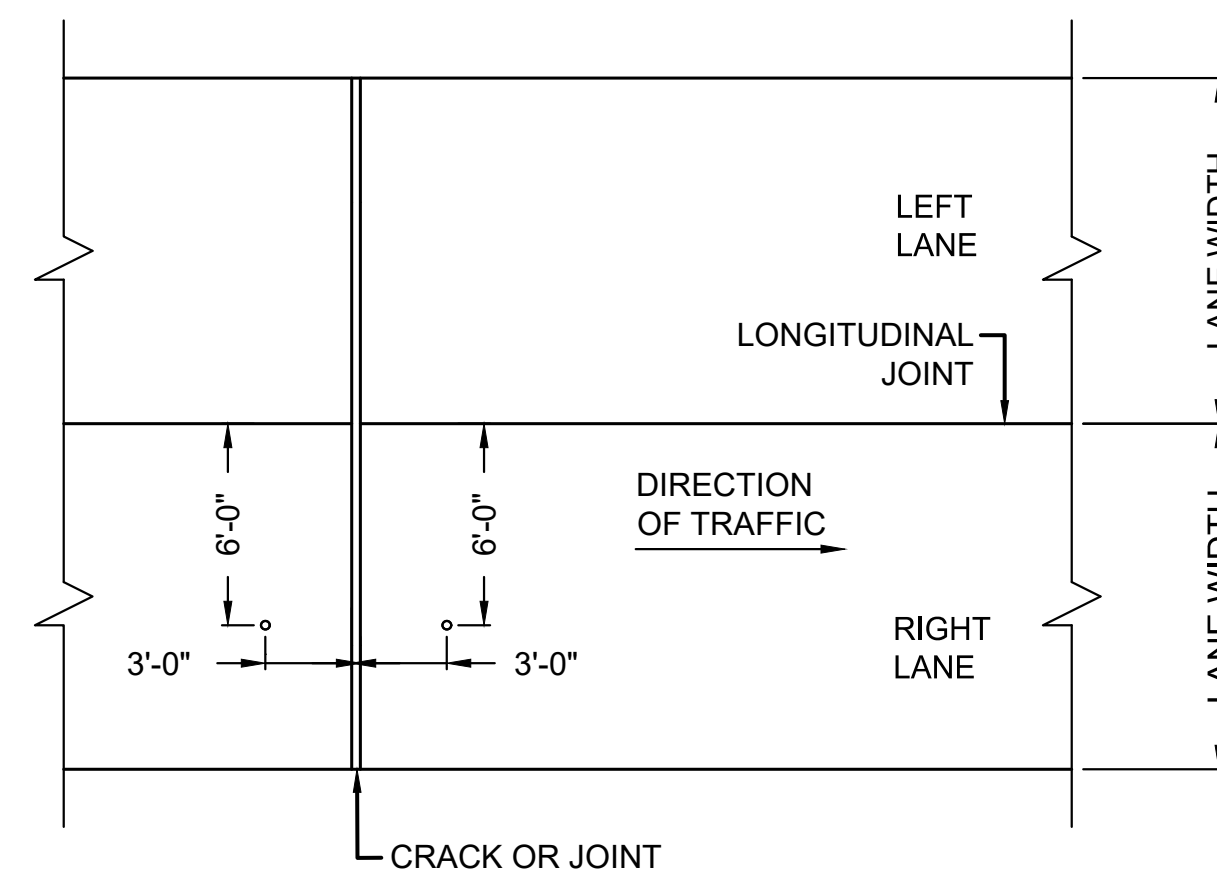
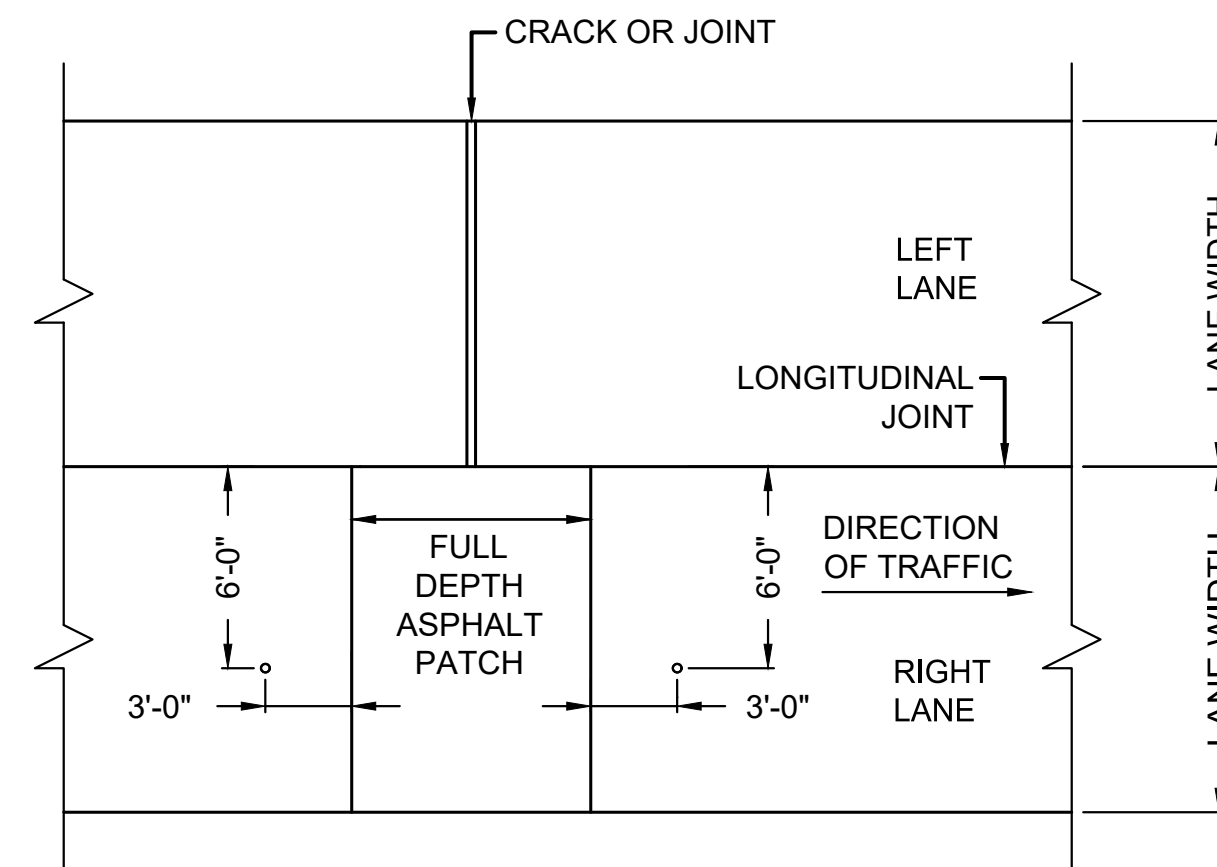


ALTERNATE DRAINAGE GALLERY DETAIL ⑥

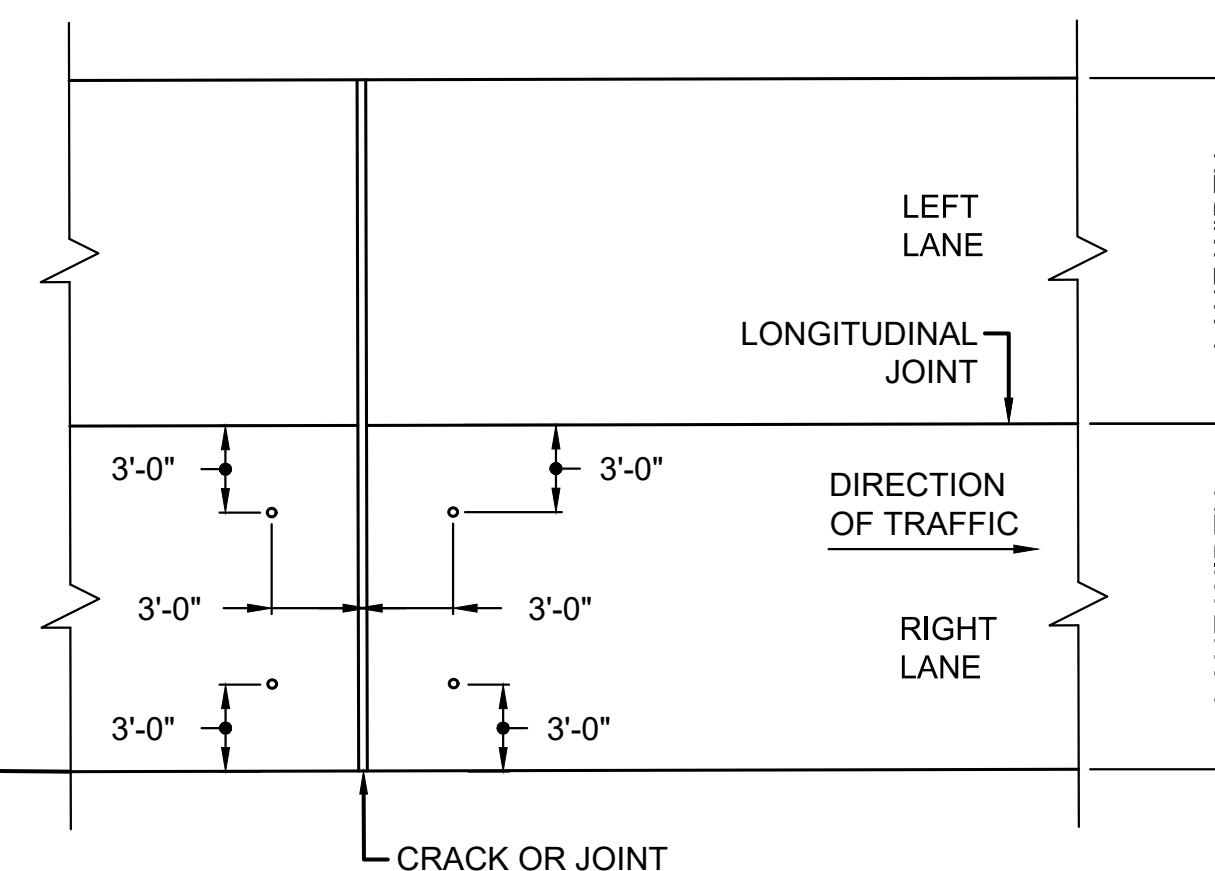
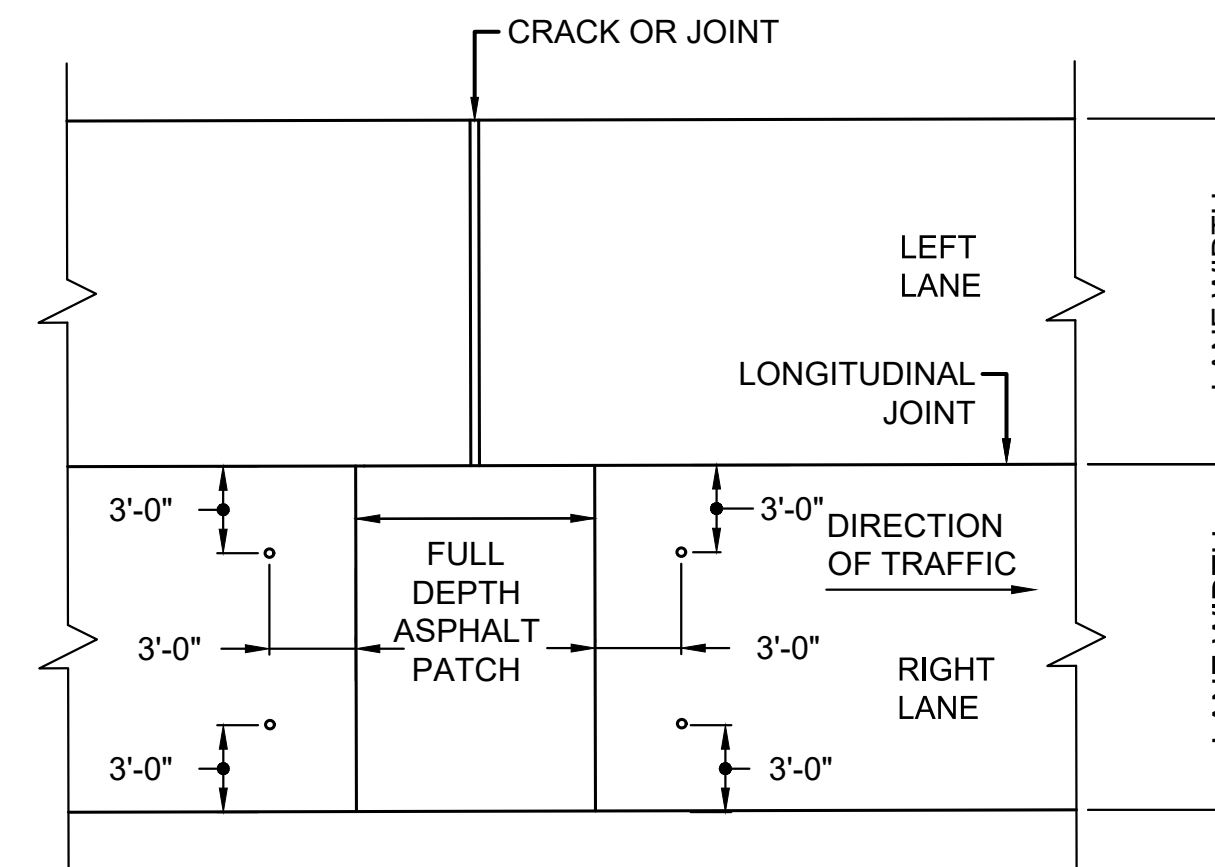
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	CHIEF ENGINEER		DATE: APRIL 2022	PTS-100



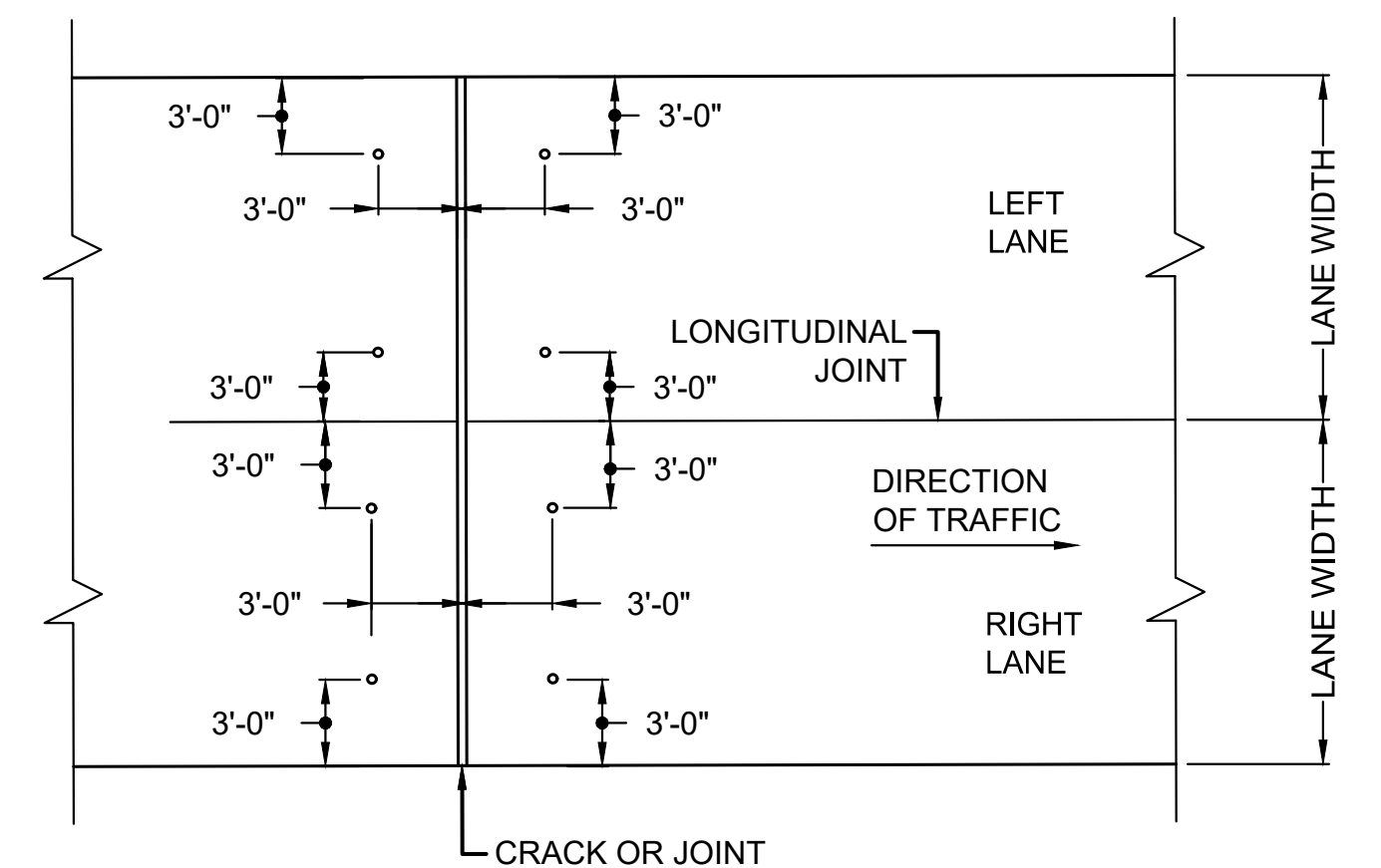
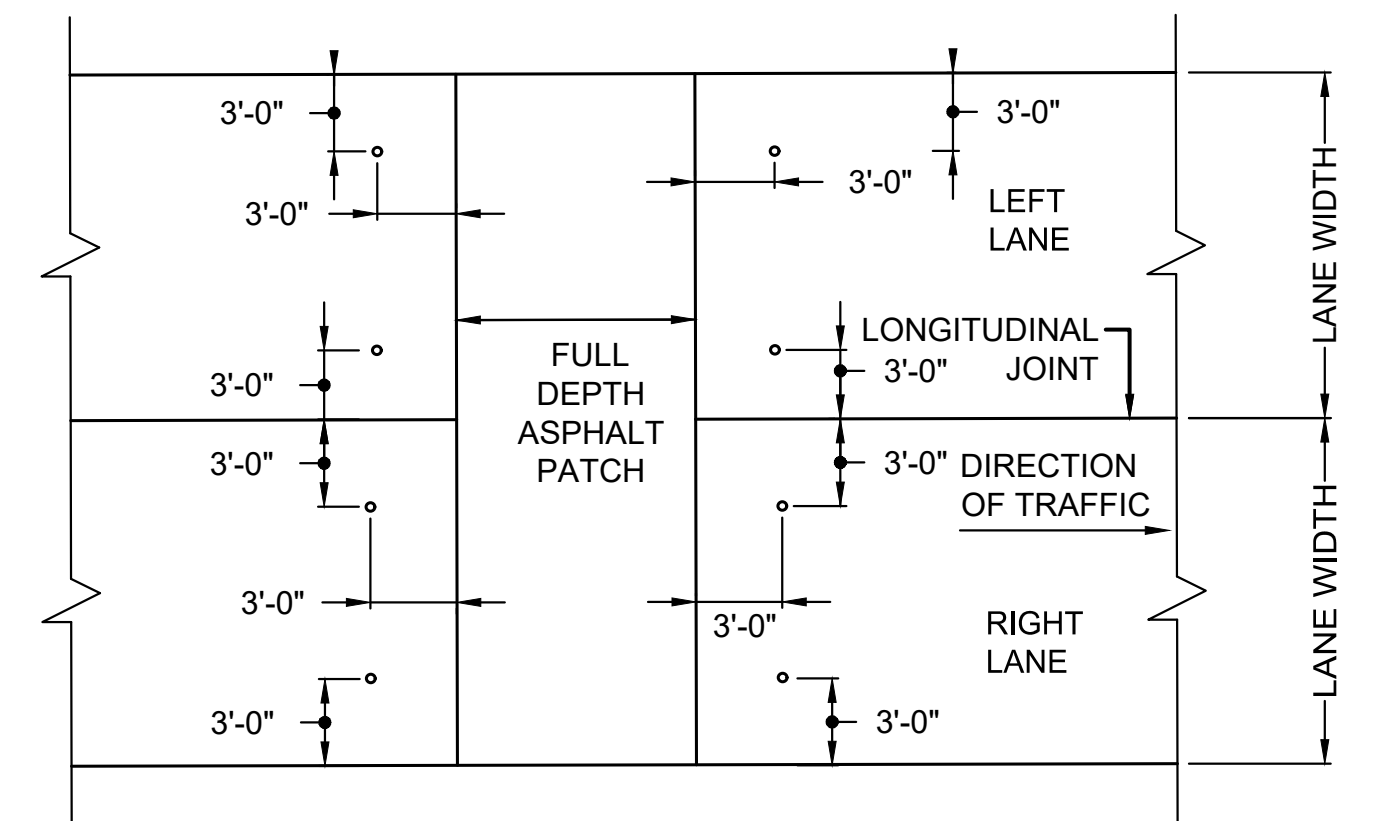
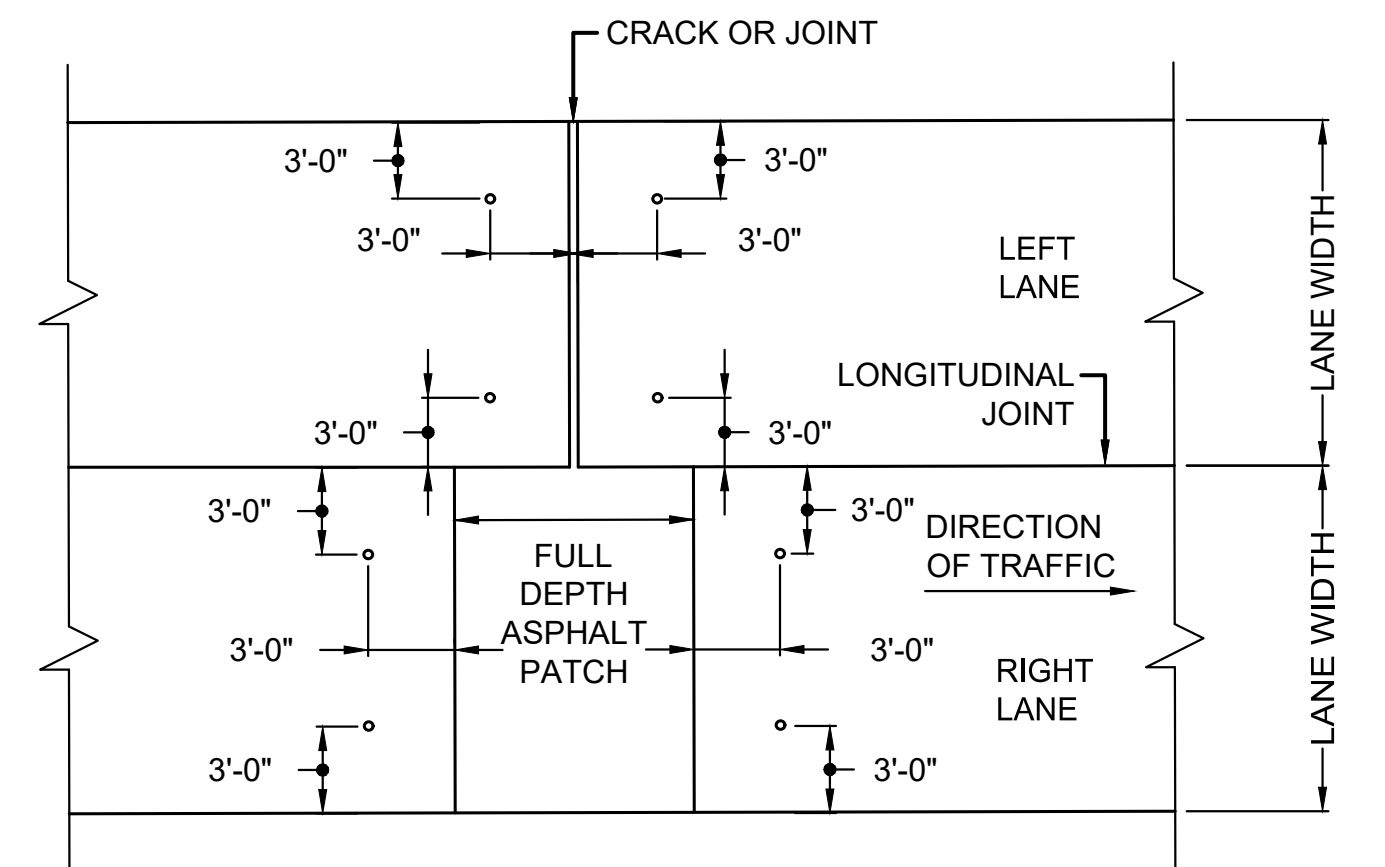
ADJACENT LANES BEING UNDERSEALED



ONE LANE BEING UNDERSEALED



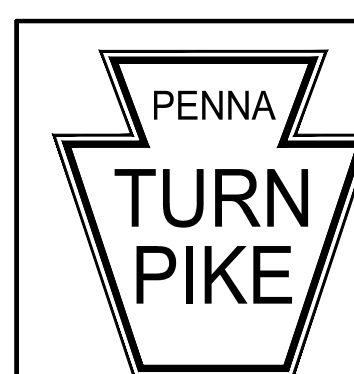
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ADJACENT LANES BEING UNDERSEALED

**HOLE PATTERN FOR PAVEMENT SLAB
STABILIZATION USING ASPHALT
N.T.S.**

**HOLE PATTERN FOR PAVEMENT SLAB
STABILIZATION USING HIGH DENSITY
POLYURETHANE
N.T.S.**



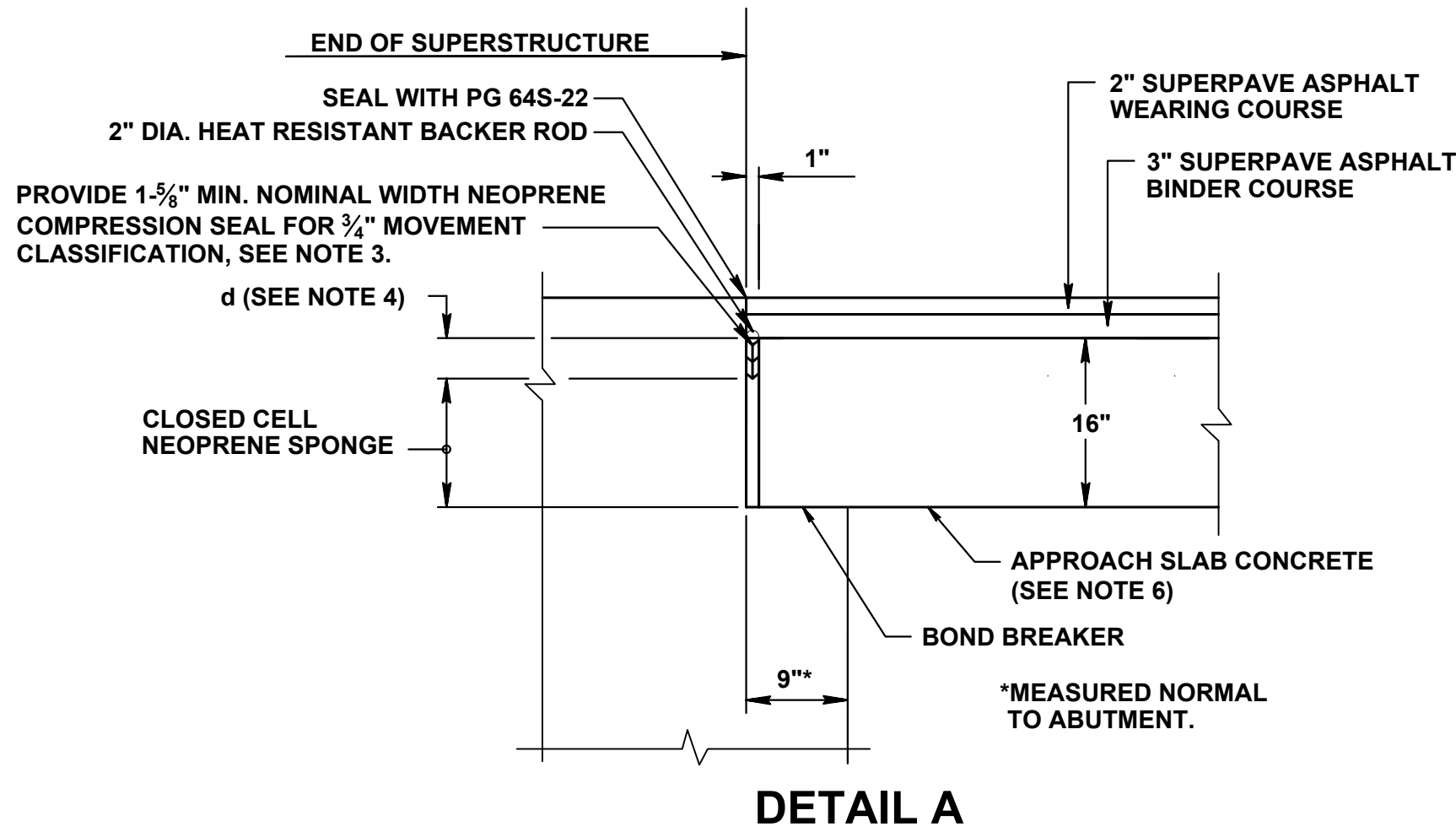
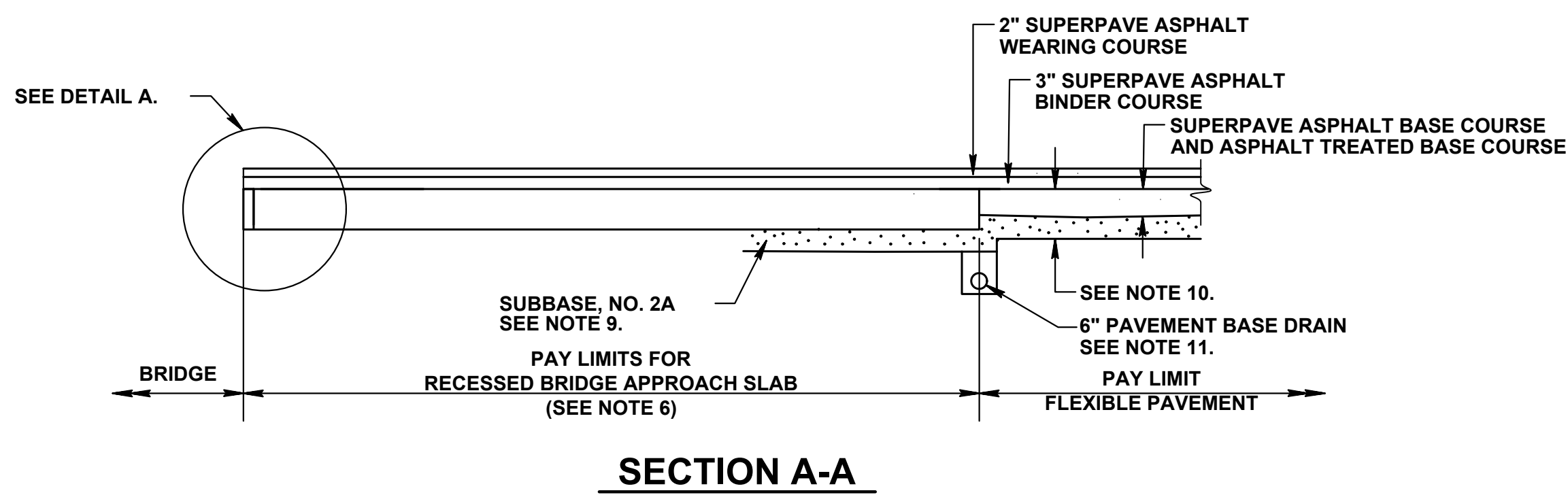
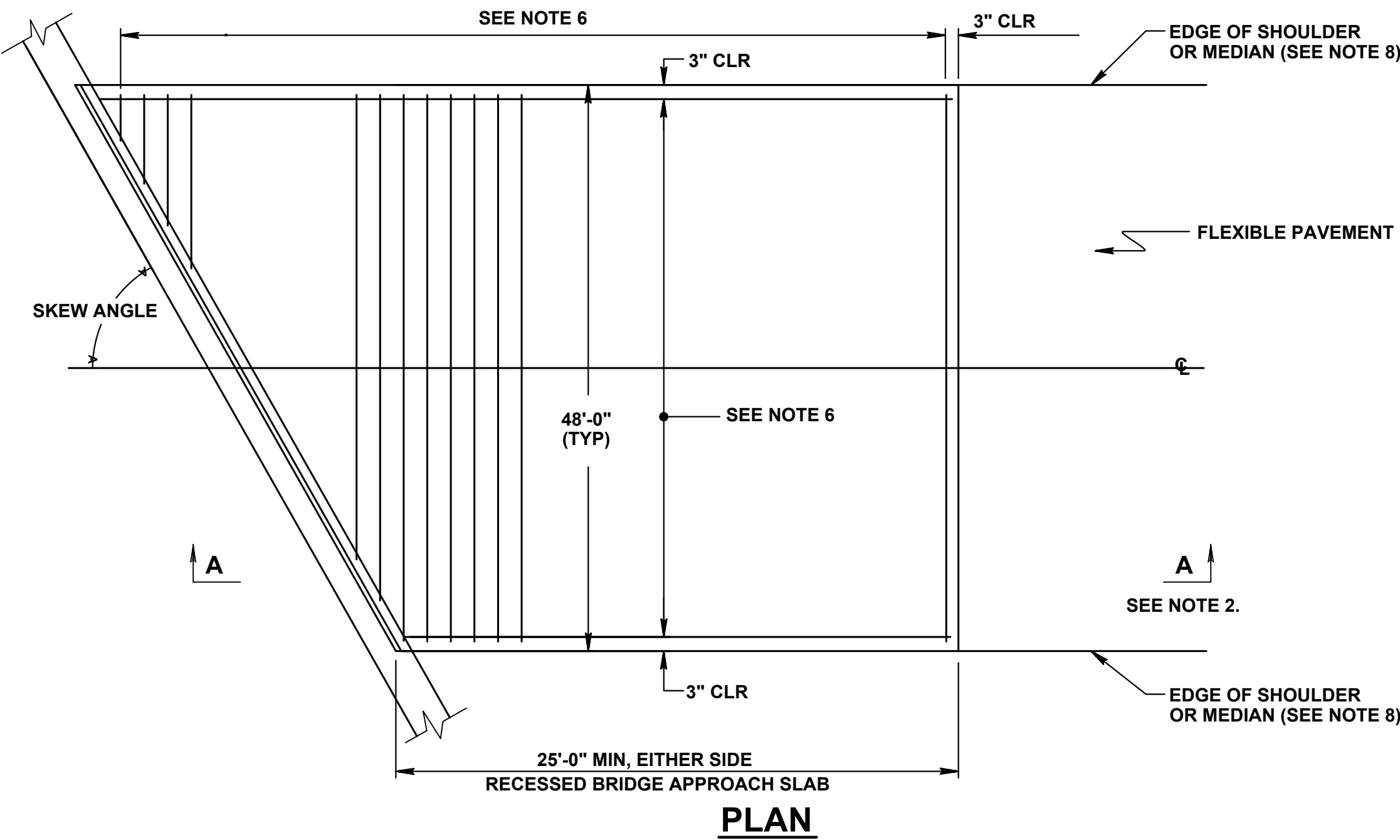
RECOMMENDED: APRIL 30, 2022
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SLAB STABILIZATION

PENNSYLVANIA TURNPIKE COMMISSION
 STANDARD DRAWING

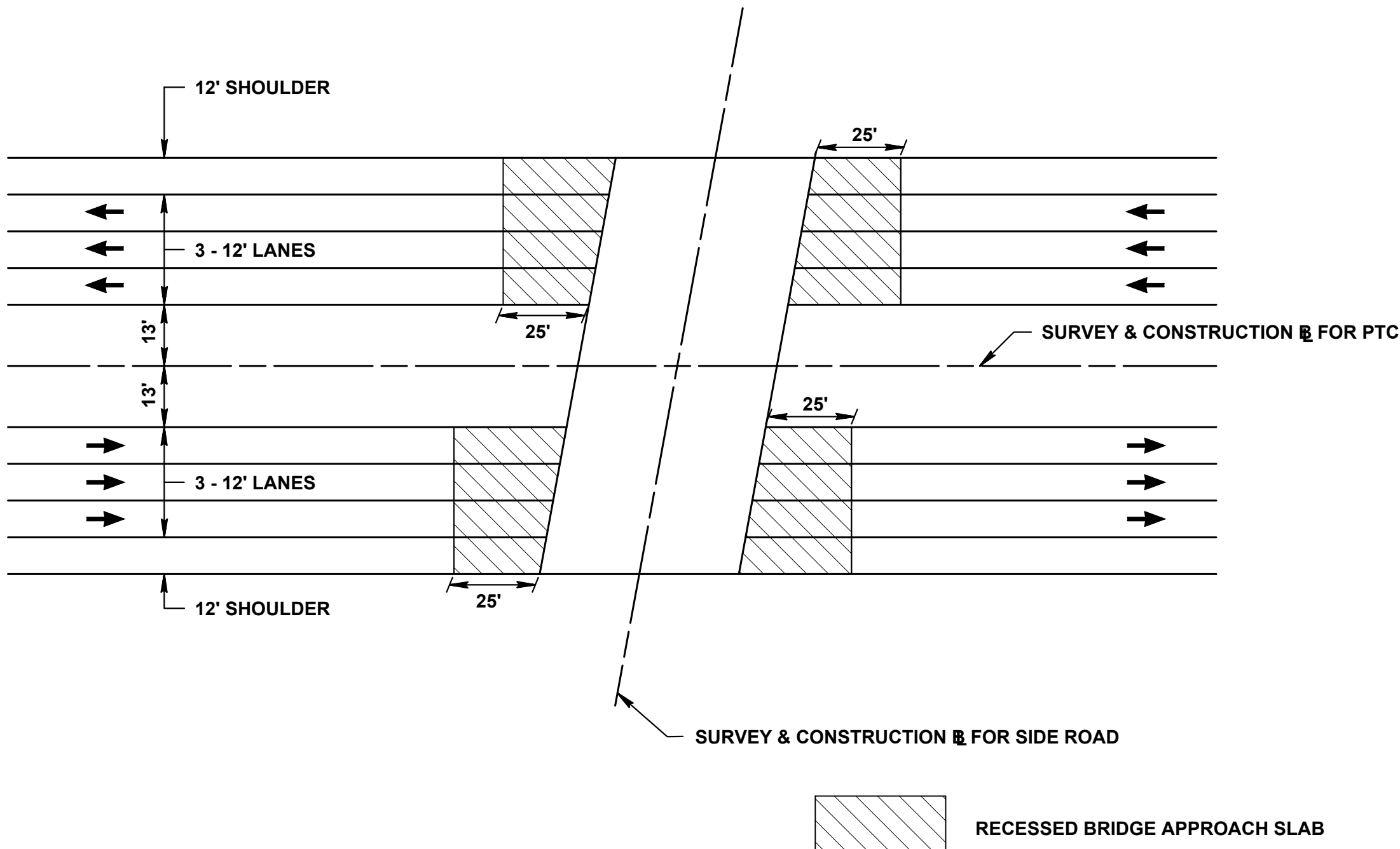
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 DRAWING TYPE: SHEET 1 OF 1

DATE: APRIL 2022
 PTS-110



NOTES

1. CONSTRUCT IN ACCORDANCE WITH THIS STANDARD DRAWING, AS PER RC-23M OR AS INDICATED ON THE STRUCTURE DRAWINGS.
2. WHEN CONSTRUCTION INVOLVES MORE THAN 2 LANES, CONNECT ADDITIONAL LANES REQUIRED TO STANDARD 2 LANE BRIDGE APPROACH SLAB USING TYPE L CONSTRUCTION JOINTS, AS SHOWN ON RC-20M, SHEET 2.
3. INSTALL NEOPRENE COMPRESSION SEALS TO A UNIFORM DEPTH WITH TOP OF THE SEAL FROM 1/4" TO 3/8" BELOW THE LEVEL OF THE PAVEMENT SURFACE. MAKE THE TOP EDGES OF THE CONTACT SURFACES ON BOTH SIDES OF THE SEAL AT THE SAME ELEVATION.
4. DETERMINE "d" BY ADDING 3/4" TO THE MAXIMUM COMPRESSED HEIGHT OF THE NEOPRENE COMPRESSION SEAL. (SEE MANUFACTURER'S INFORMATION.)
5. CONSTRUCT THE BRIDGE APPROACH SLAB AFTER THE BRIDGE DECK IS CONSTRUCTED.
6. PROVIDE REINFORCEMENT BARS, EPOXY COATED IN ACCORDANCE WITH SECTION 709.1 (c) AND AS PER RC-23M.
7. CONSTRUCT ALL CURBING WITHIN THE LIMITS OF THE RECESSED BRIDGE APPROACH SLAB AS BITUMINOUS CURB.
8. RECESSED BRIDGE APPROACH SLAB SHALL EXTEND ACROSS THE RIGHT SHOULDER AND TO THE EDGE OF THE MEDIAN.
9. AT AREAS OUTSIDE THE LIMITS OF THE STRUCTURE BACKFILL, SUBBASE THICKNESS BENEATH APPROACH SLAB TO MATCH SUBBASE THICKNESS OF ROADWAY.
10. DEPTH IS EQUAL TO THE TOTAL DEPTHS OF THE ASPHALT CONCRETE BASE COURSE, ASPHALT TREATED BASE COURSE AND SUBBASE, NO. 2A (20" MINIMUM).
11. INSTALL 6" PAVEMENT BASE DRAIN TRANSVERSELY ACROSS THE LANES AND SHOULDER. INSTALL PAVEMENT BASE DRAIN AS PER RC-30M, PTS-700, PTS-701 AND IN ACCORDANCE WITH SECTION 610. IF REQUIRED, PLACE ON STRUCTURE BACKFILL AS PER PTS-700 AND PTS-701. THIS WORK IS CONSIDERED INCIDENTAL TO THE RECESSED BRIDGE APPROACH SLAB.

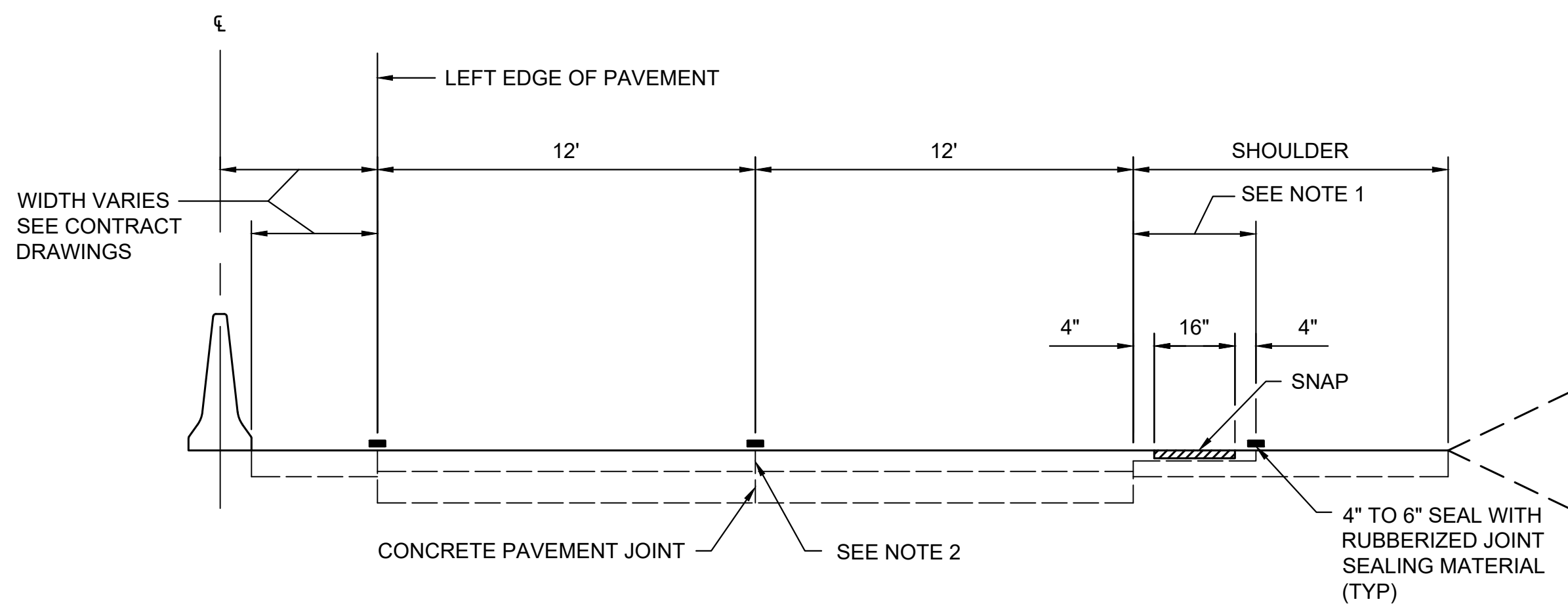


RECOMMENDED: APRIL 30, 2022
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APPROVED: APRIL 30, 2022
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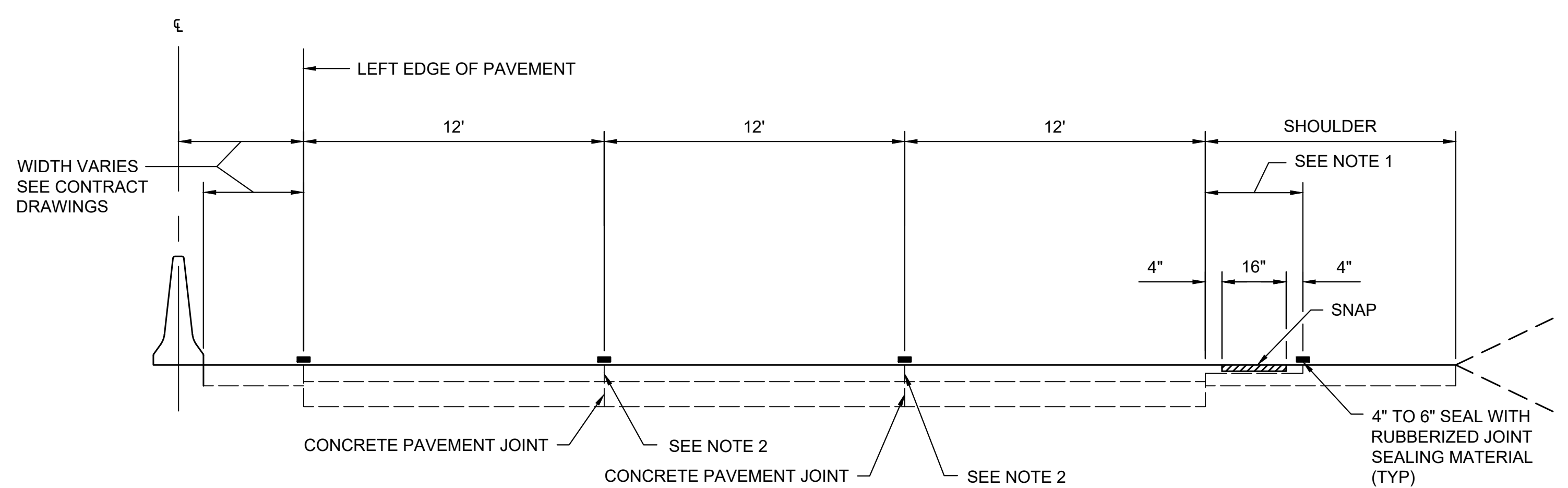
RECESSED BRIDGE APPROACH SLAB

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

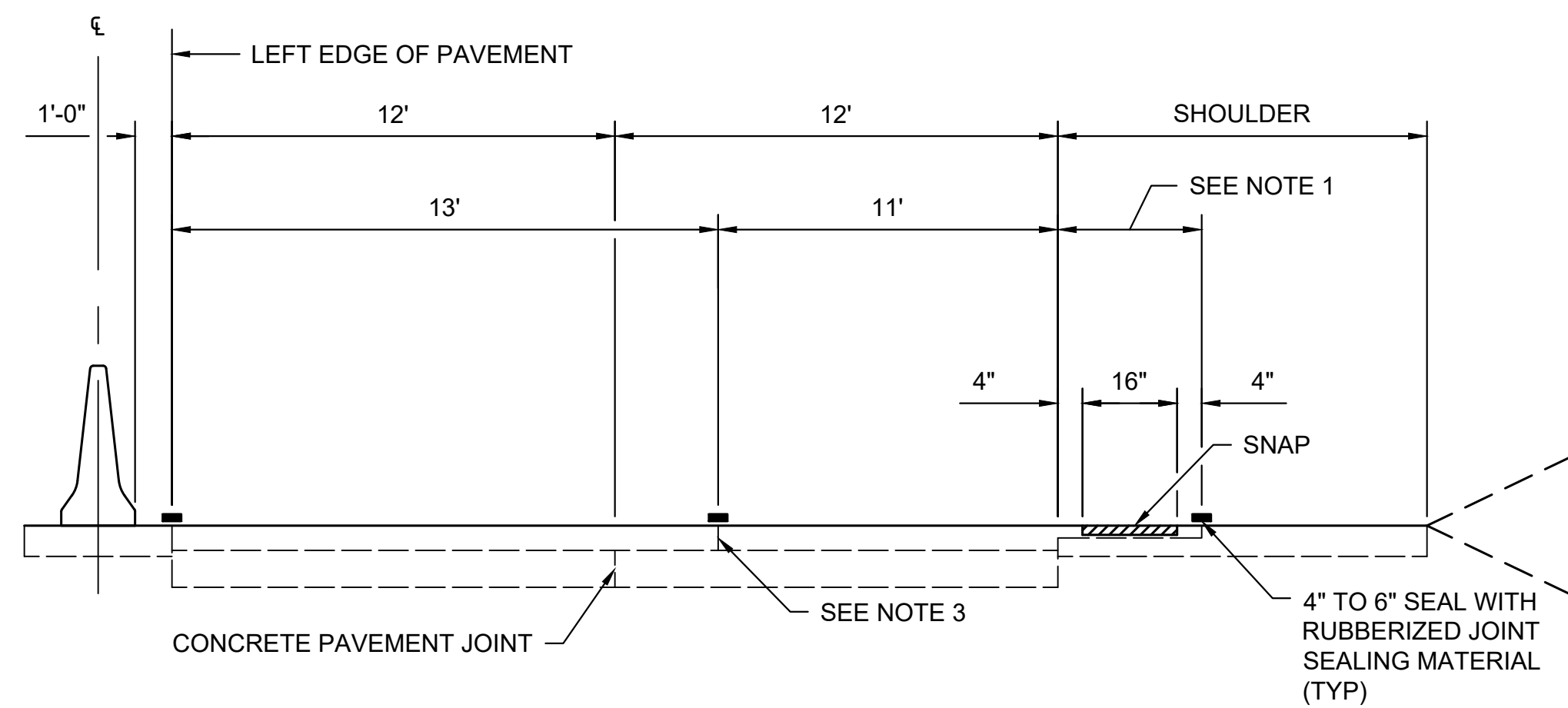
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DATE: APRIL 2022
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PTS-111



**TWO LANE ONE DIRECTION
TYPICAL SECTION**



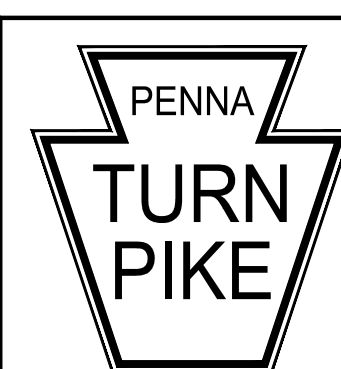
**THREE LANE ONE DIRECTION
TYPICAL SECTION**



**TWO LANE ONE DIRECTION - NORTHEAST EXTENSION
TYPICAL SECTION**

NOTES:

- SEE CONTRACT DOCUMENTS FOR LIMITS OF SHOULDER RESURFACING. FOR ALL RESURFACING CONTRACTS, PLACE CONSTRUCTION JOINT IN ASPHALT OVERLAY 2'-0" MINIMUM OFFSET INTO THE SHOULDER FROM RIGHT LANE.
- FOR RESURFACING CONTRACTS OVER CONCRETE PAVEMENT, PLACE CONSTRUCTION JOINT IN ASPHALT OVERLAY DIRECTLY ABOVE THE JOINT IN THE CONCRETE PAVEMENT.
- FOR TWO LANE - ONE DIRECTION NORTHEAST RESURFACING CONTRACTS, PLACE CONSTRUCTION JOINT IN ASPHALT OVERLAY 1'-0" OFFSET INTO THE RIGHT LANE FROM THE JOINT IN THE CONCRETE PAVEMENT.
- SEE PTS-192 FOR SNAP.
- SEE PTS-980 FOR PLACEMENT OF TRAFFIC LINE MARKINGS.



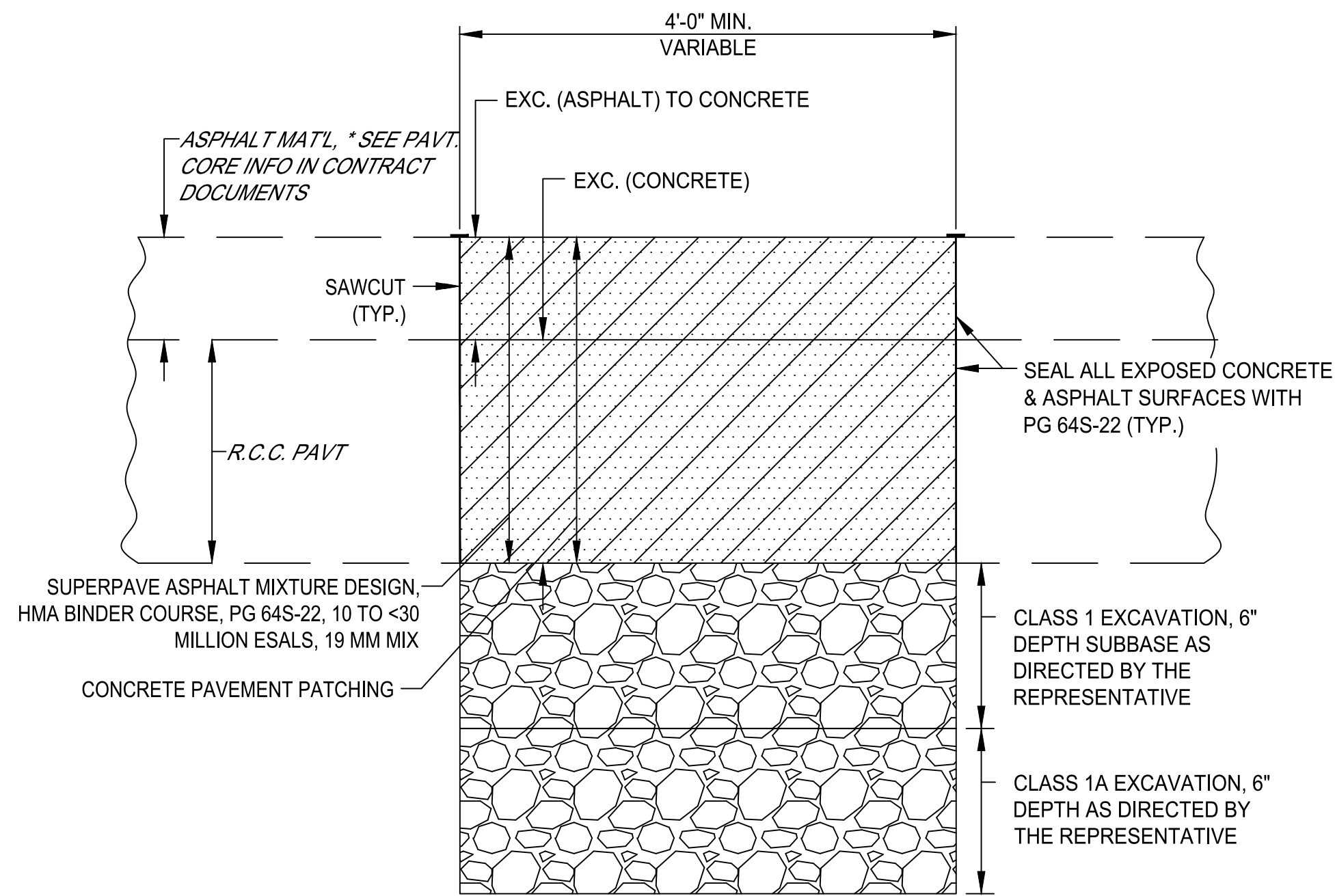
RECOMMENDED: APRIL 30, 2022
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PAVING JOINT AND SNAP PLACEMENT

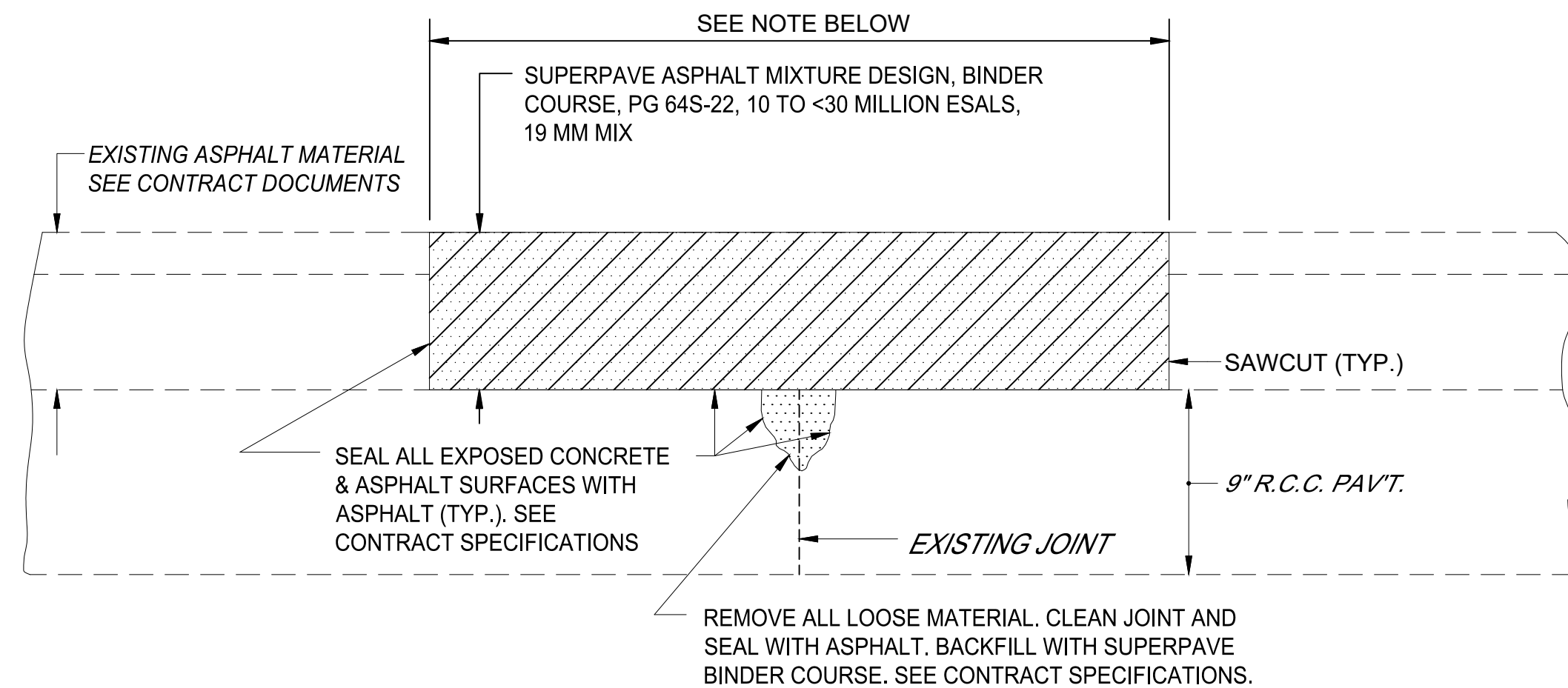
**PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING**

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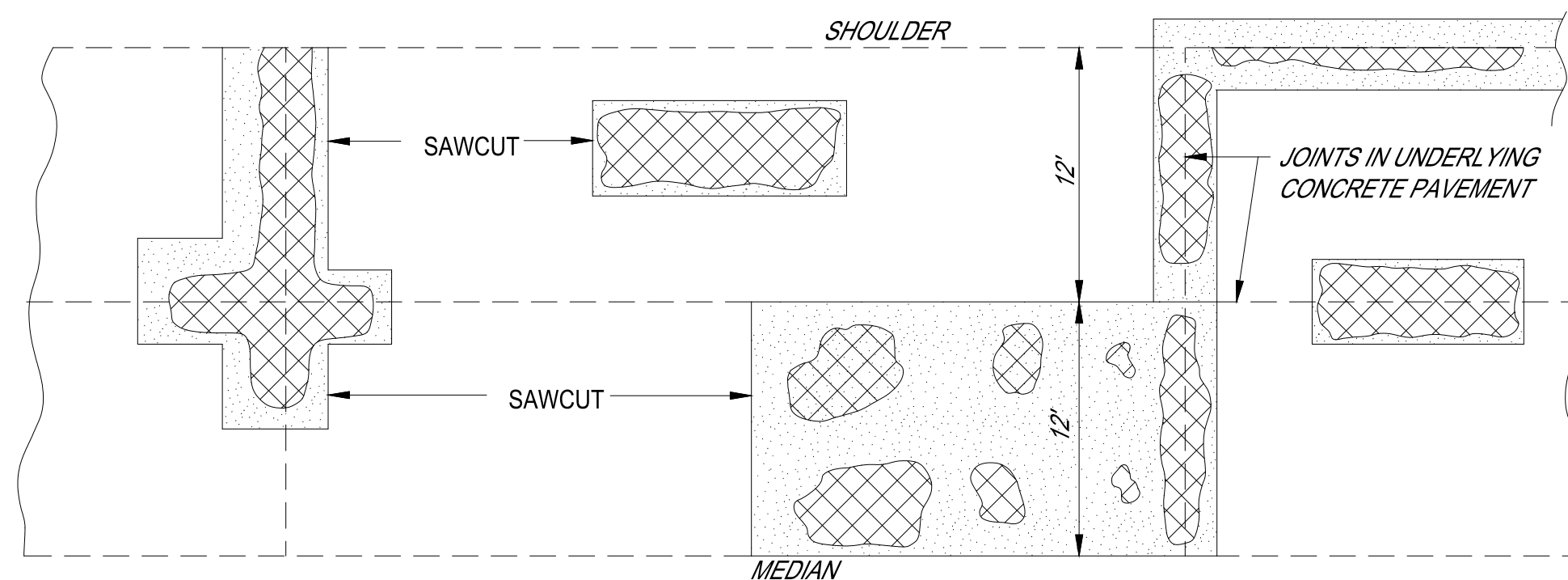
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 PTS-112



CONCRETE PAVEMENT PATCHING
(TRANSVERSE VIEW)



**ASPHALT PAVEMENT PATCHING,
AT PAVEMENT JOINTS**
(TRANSVERSE AND LONGITUDINAL)



TYPICAL LOCATION OF ASPHALT PATCHING REPAIRS - MAINLINE

NOTE:
USE 4'-0" MIN FOR TYPE A
USE 10'-0" MIN FOR TYPE B



RECOMMENDED: NOVEMBER 28, 2023

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

CHIEF ENGINEER

PAVEMENT PATCHING

**PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING**

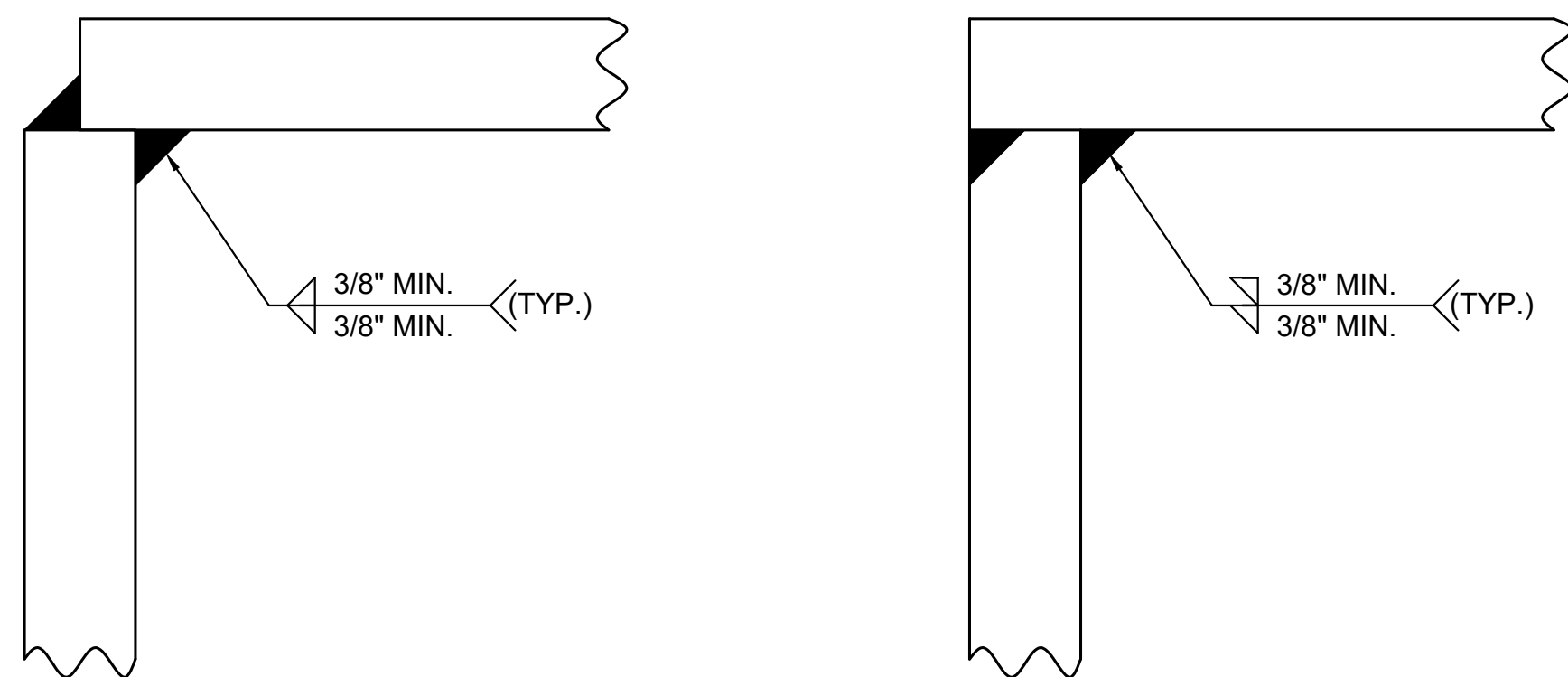
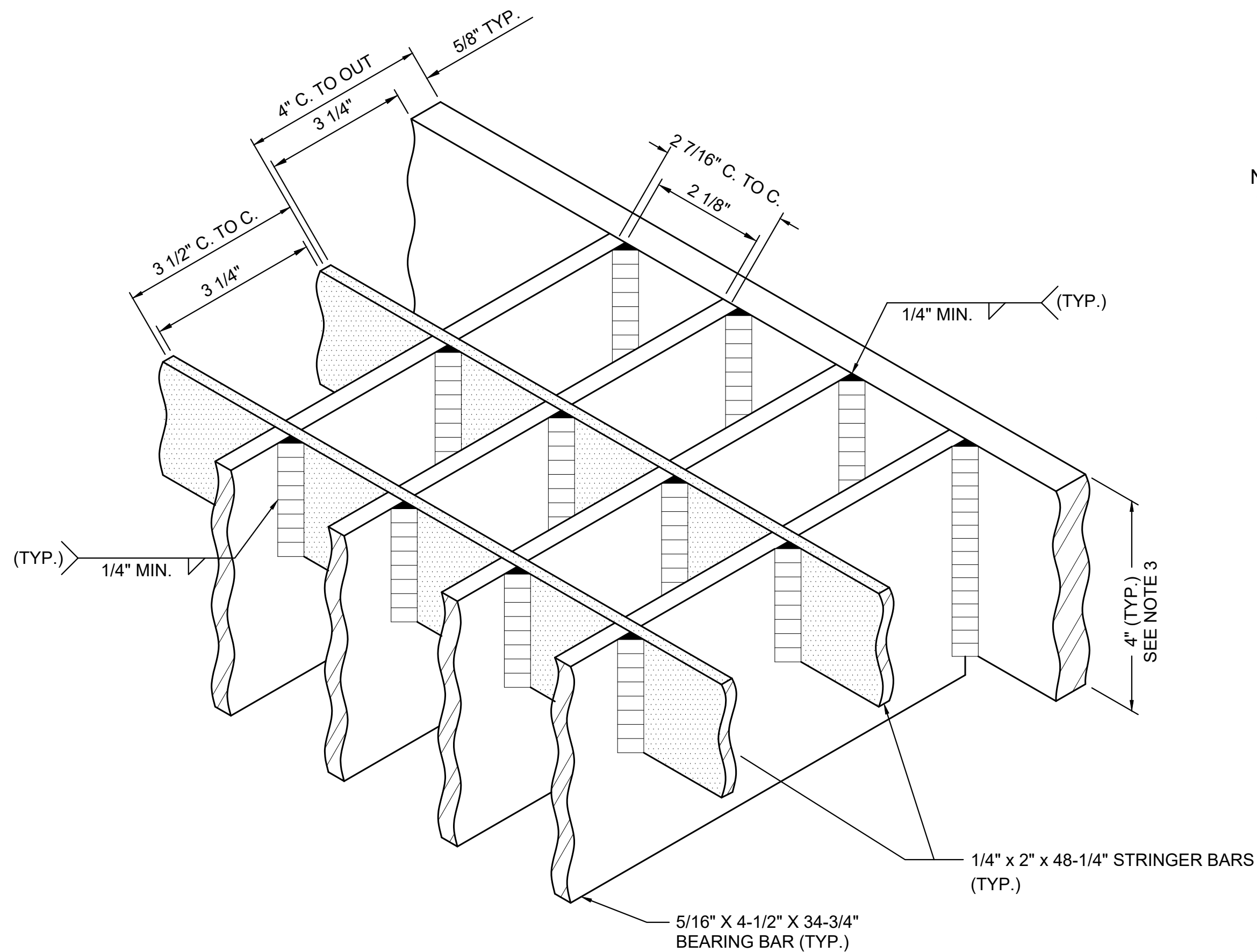
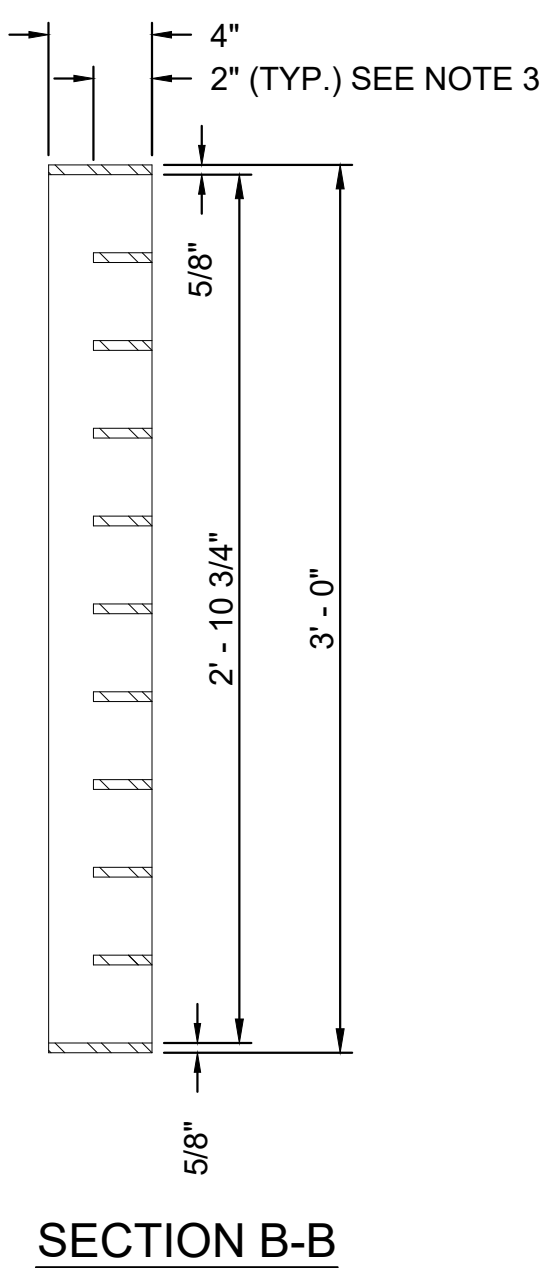
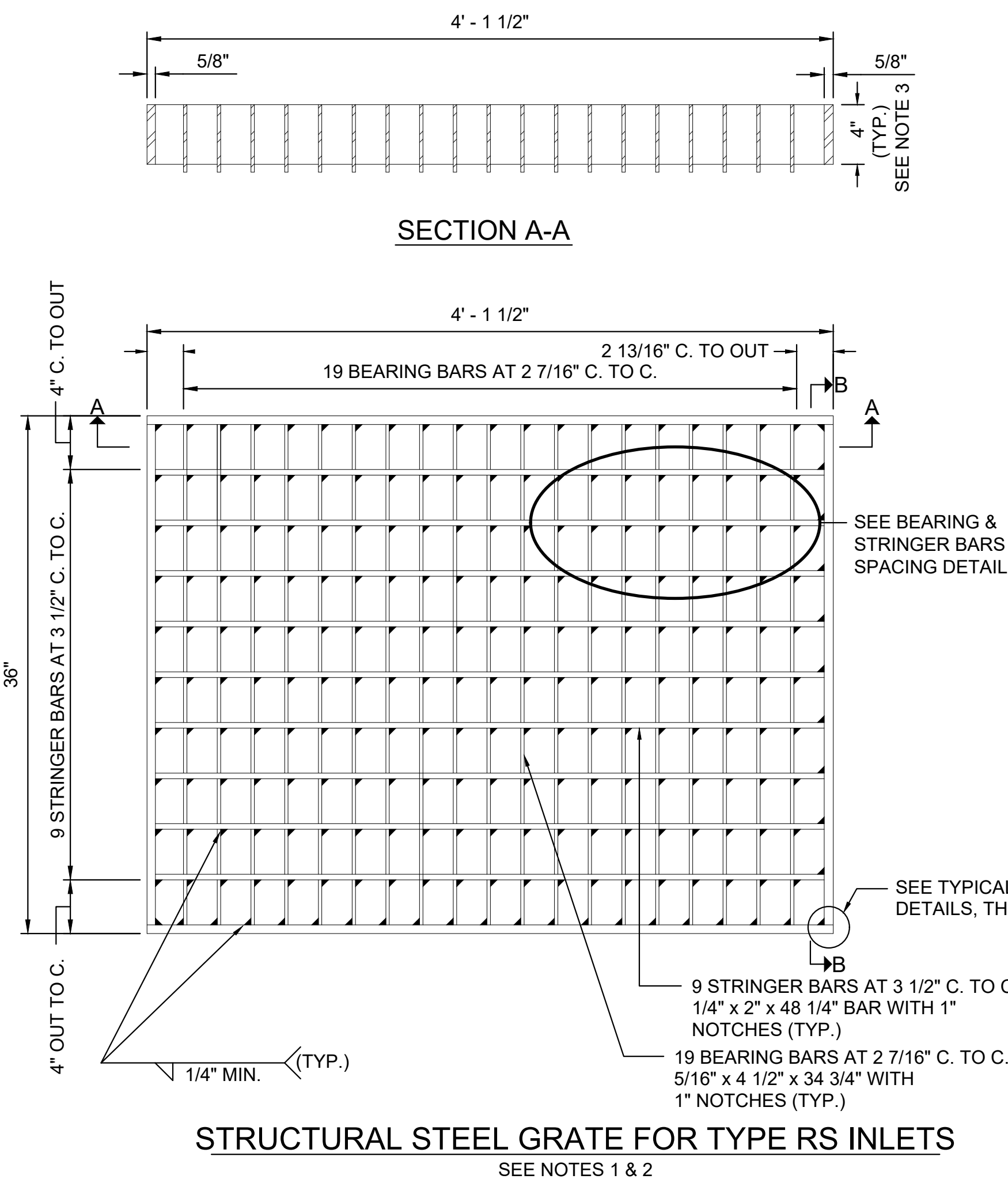
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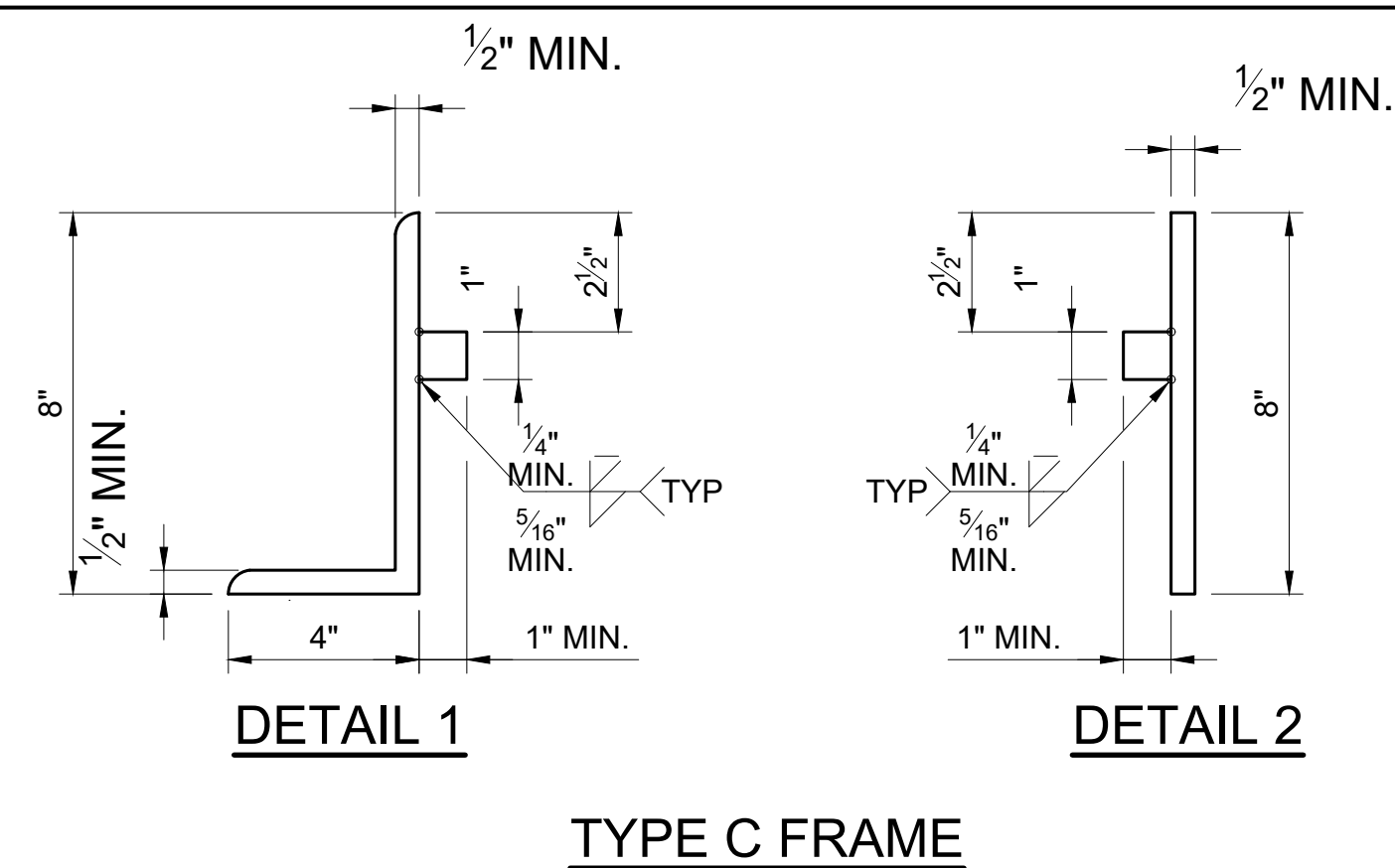
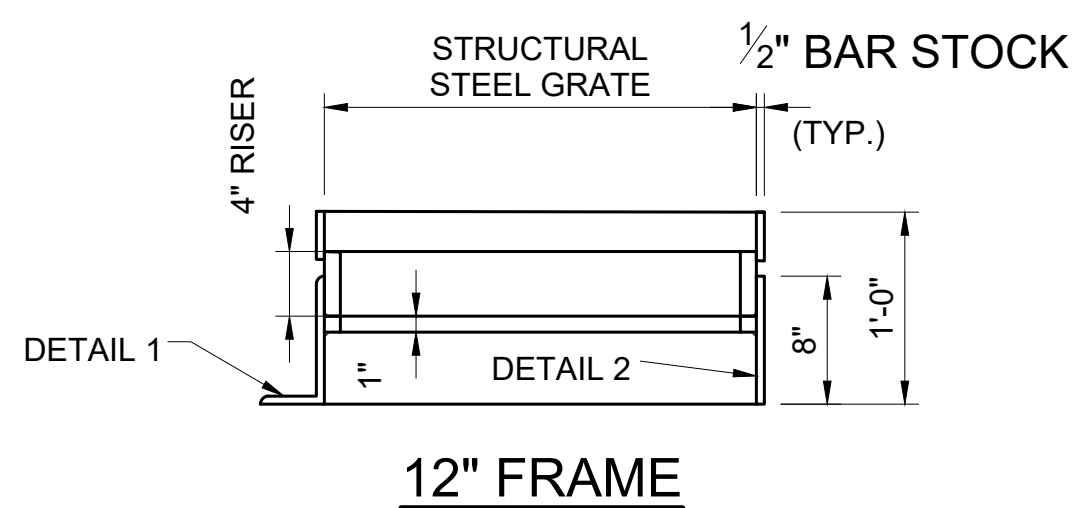
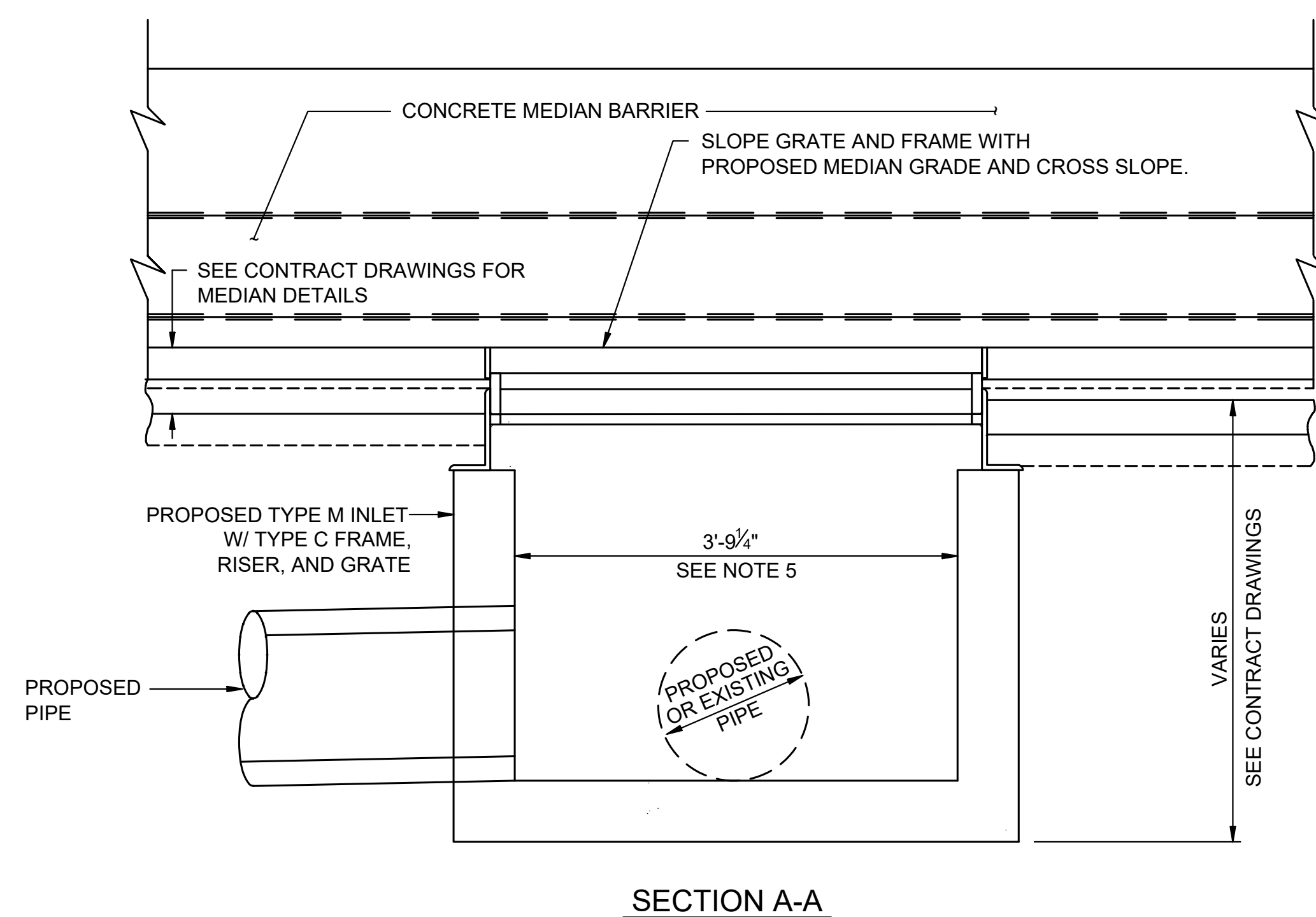
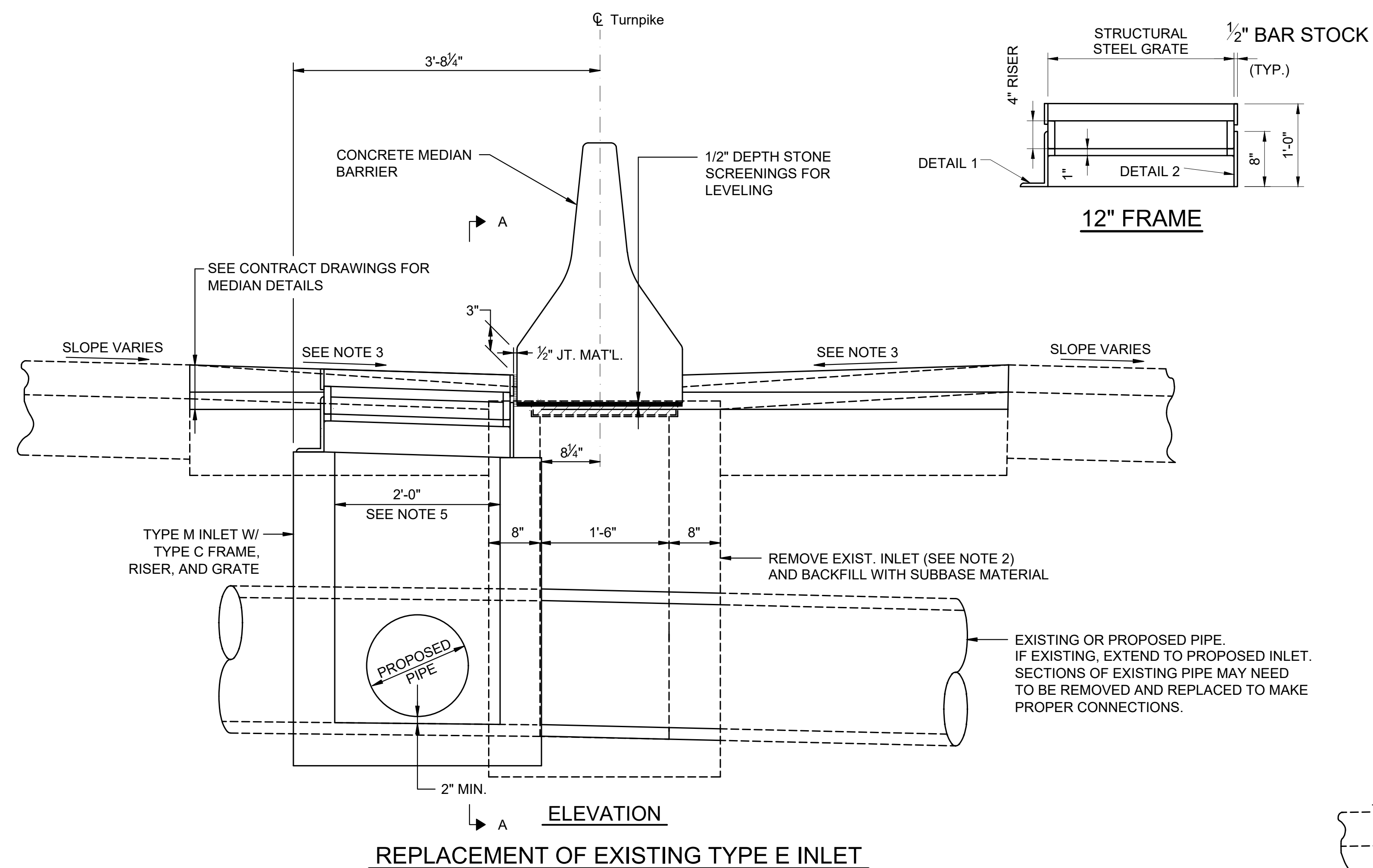
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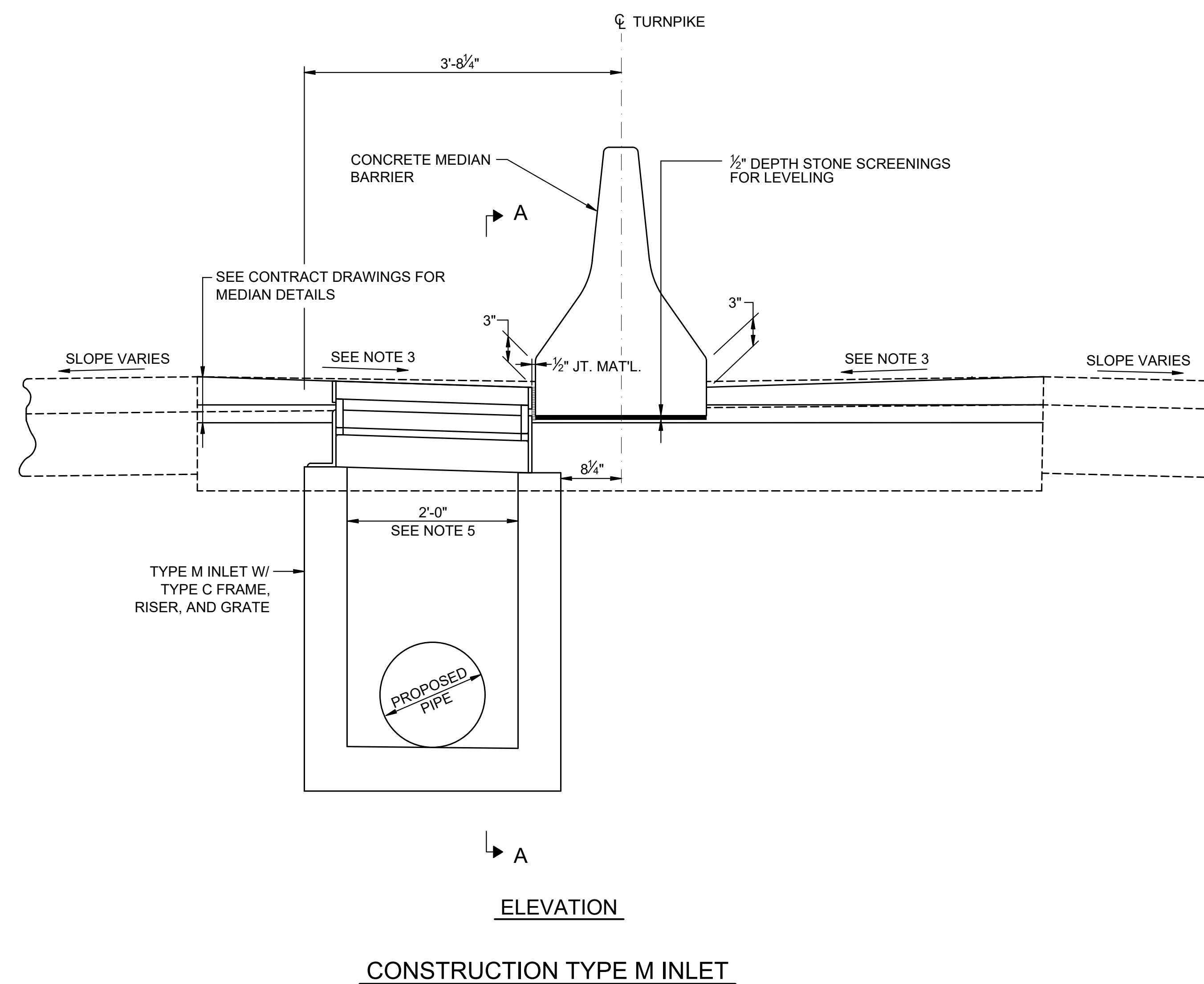


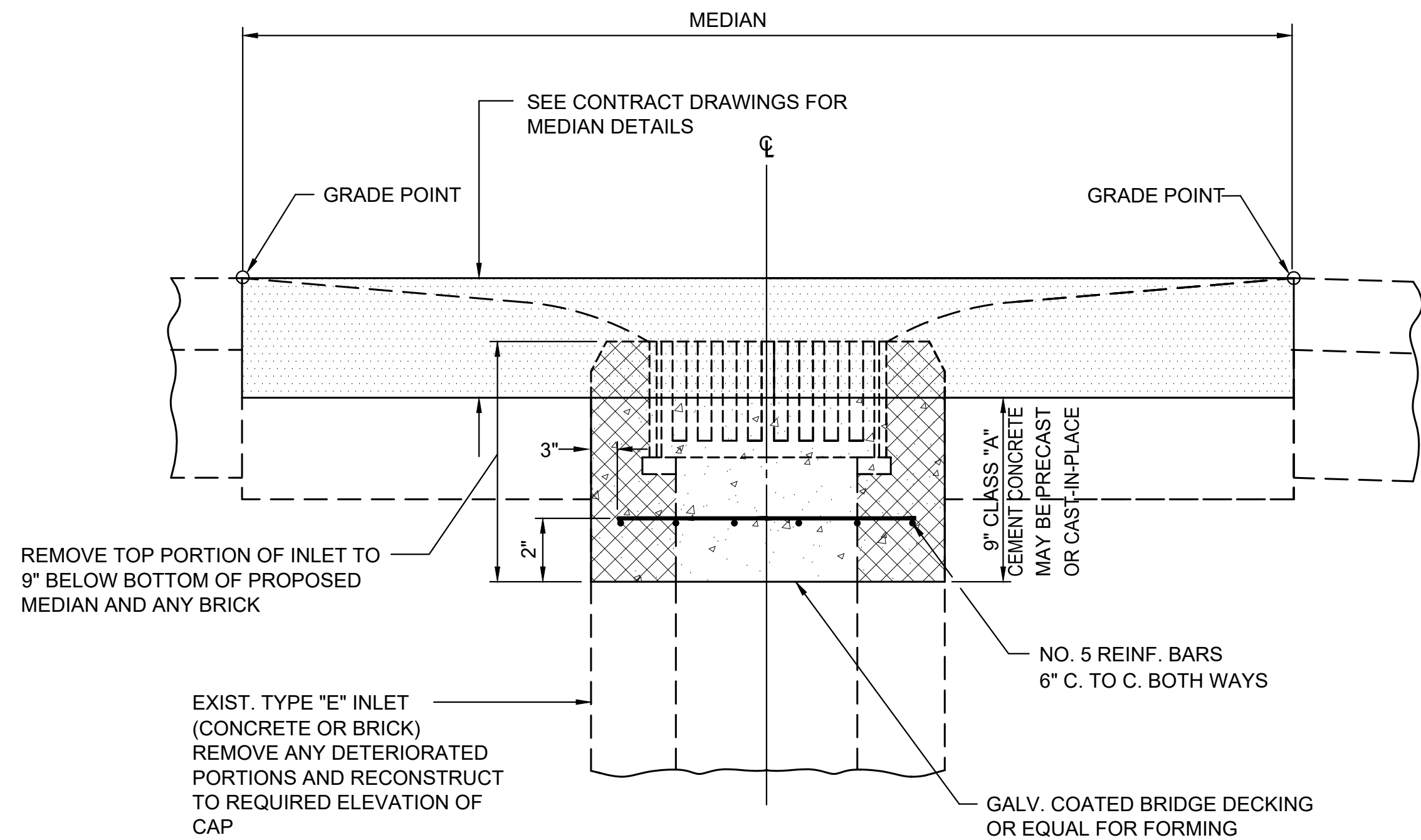
- NOTES:
1. USE ONLY A-36 STEEL FOR ALL RS INLET GRATES AND FRAMES. GALVANIZE AND WELD IN ACCORDANCE WITH SECTIONS 1105.02 (s) & (t).
 2. THE END BEARING BARS FOR RS INLETS ARE TO BE FLUSH MOUNTED WITH TOP OF 5/16-INCH x 4 1/2-INCH BEARING AND 1/4-INCH x 2-INCH STRINGER BARS.
 3. CONTRACTOR TO VERIFY DIMENSION IN FIELD PRIOR TO MANUFACTURING, TO ENSURE NEW GRATE WILL BE RECESSED 1/2" BELOW TOP OF INLET

	RECOMMENDED: APRIL 30, 2022	TYPE RS INLETS AND GRATE	PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
	ASSISTANT CHIEF ENGINEER - DESIGN		FILE NAME: PTS-120.dwg	SHEET 1 OF 1
	APPROVED: APRIL 30, 2022		DRAWING TYPE: 5A	
	CHIEF ENGINEER		DATE: APRIL 2022	PTS-120



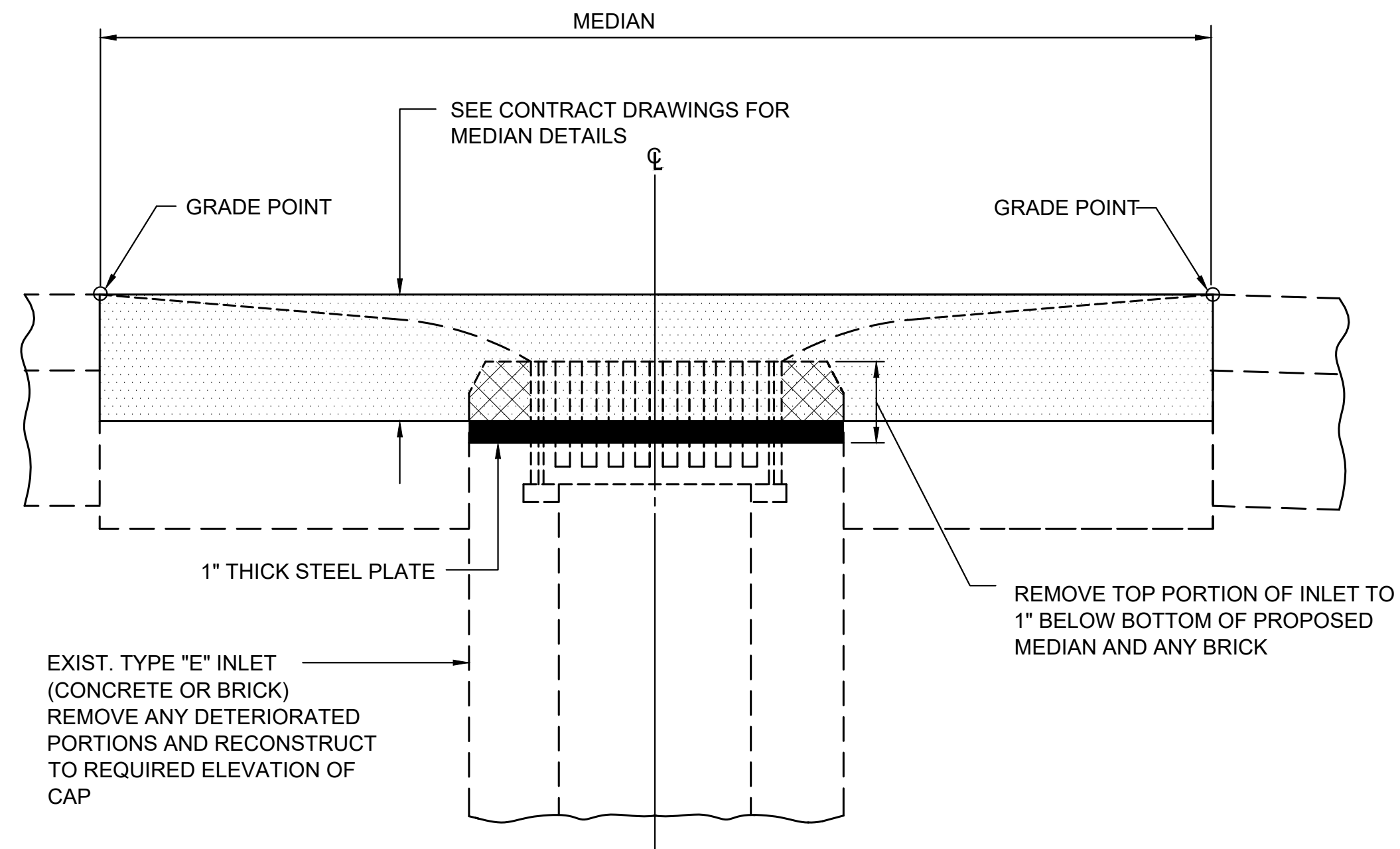
- NOTES:**
1. CONSTRUCT INLETS IN ACCORDANCE WITH RC-46M, SECTION 605 AND AS SHOWN.
 2. SIZE AND CONFIGURATION OF EXISTING INLETS MAY VARY.
 3. SEE CONTRACT DRAWINGS AND/OR CROSS SECTIONS FOR PROPOSED SLOPE.
 4. FABRICATE INLET FRAME AND GRATE IN ACCORDANCE WITH RC-45M, SECTION 605 AND AS SHOWN.
 5. VERIFY THAT EXISTING OR PROPOSED PIPE OUTSIDE DIAMETER FITS WITHIN THE CLEAR WALL OPENING AS INDICATED. SIZE INLET BOX FOR LARGER PIPE OUTSIDE DIAMETERS IN ACCORDANCE WITH RC-46M.
 6. PROVIDE INLET BOX WALL AND BOTTOM SLAB THICKNESS BASED UPON TYPE OF CONSTRUCTION (I.E. PRECAST OR CAST-IN-PLACE) AND DEPTH OF INLET IN ACCORDANCE WITH RC-46M.





ALTERNATE A

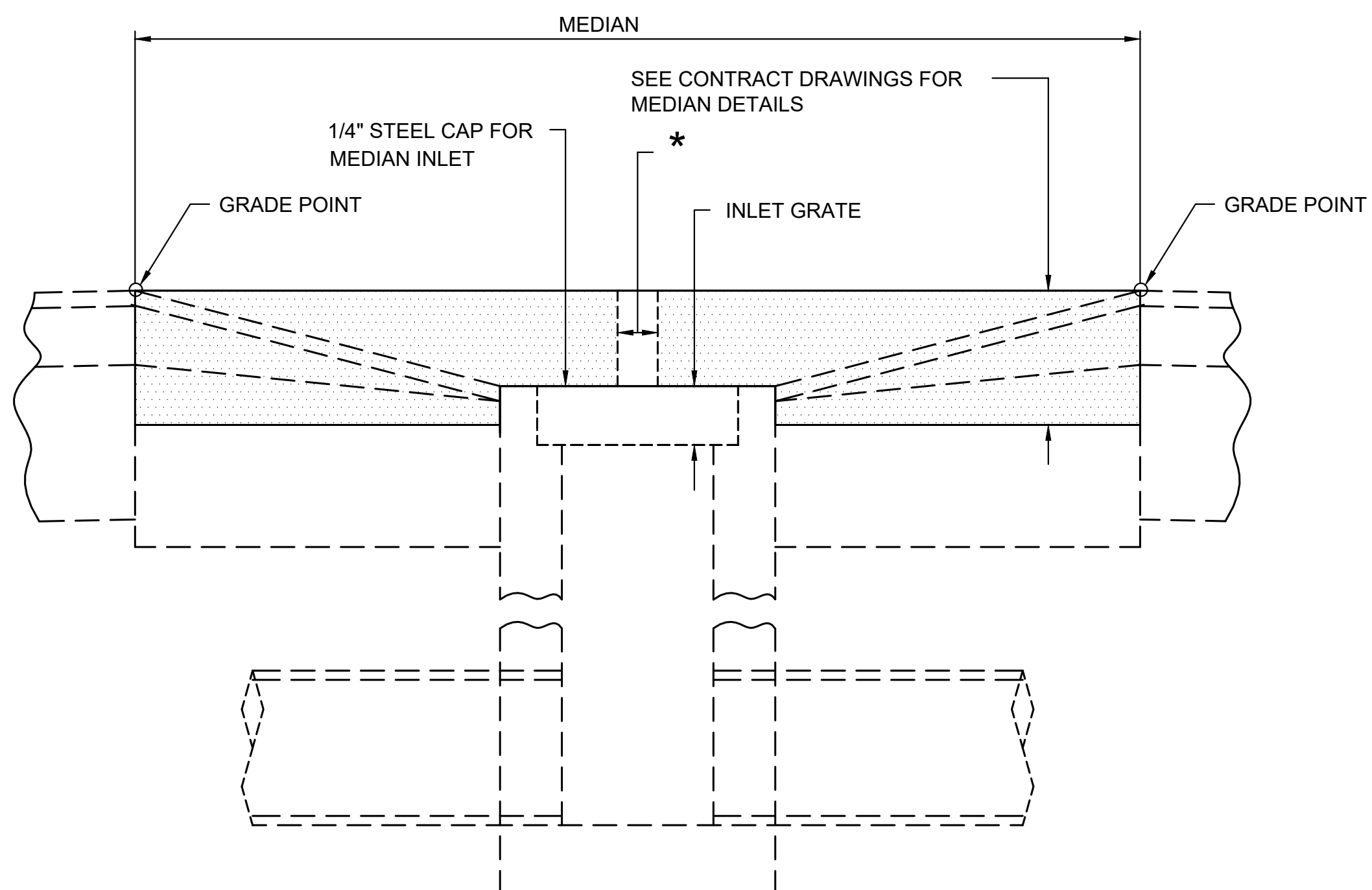
NOTE: ALL REINFORCEMENT BARS TO BE EPOXY COATED



ALTERNATE B

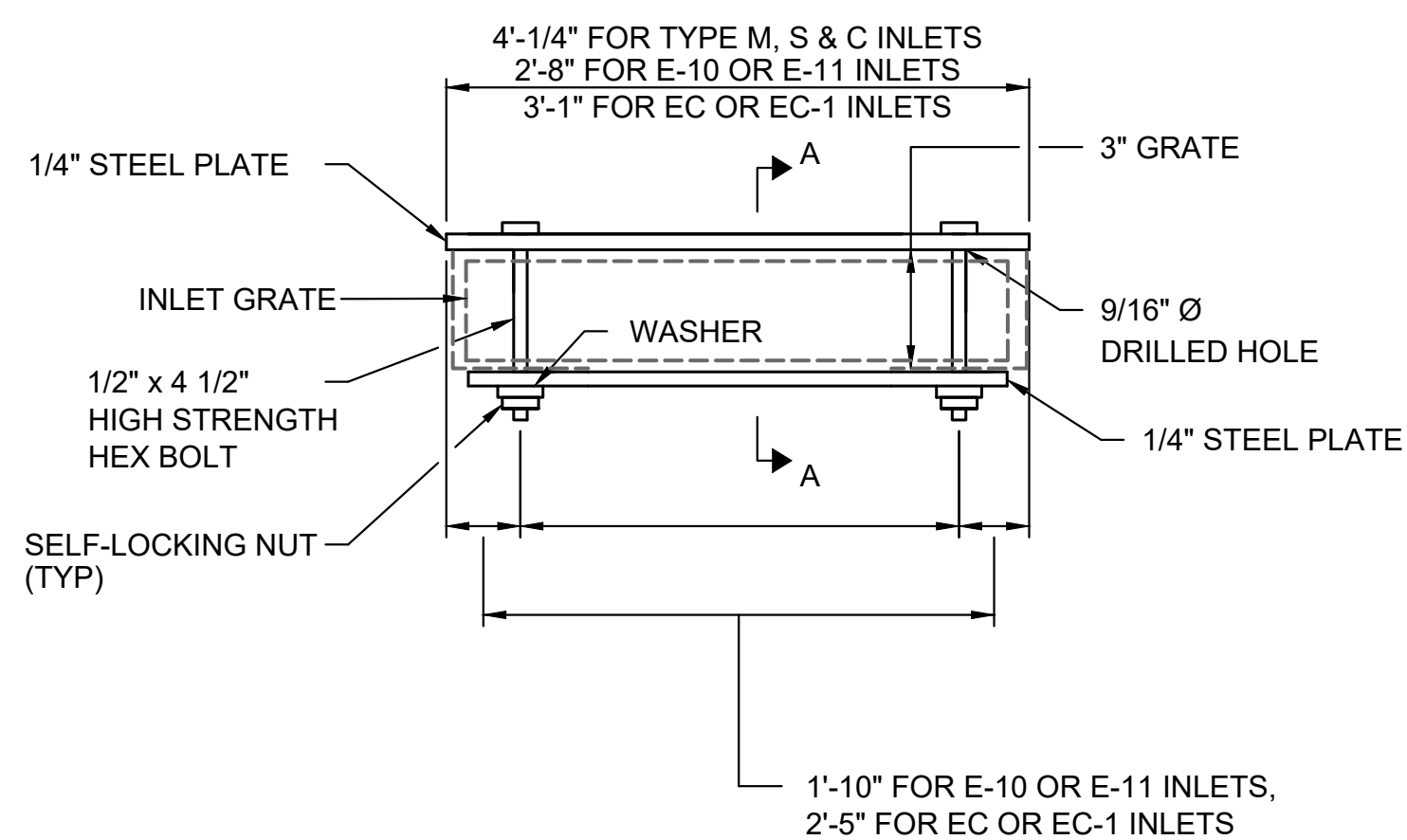
PERMANENT CAPPING OF MEDIAN INLETS

(TYPES E-10, E-11, EC OR EC-1)



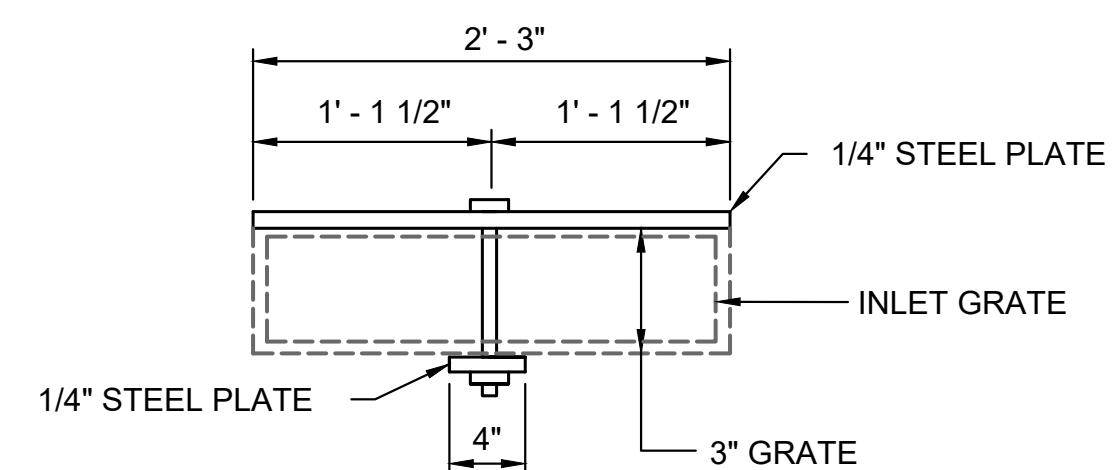
TEMPORARY CAP - EXISTING OR NEW INLET

- * INSTALL A MINIMUM OF 3-4"Ø SCHEDULE 40 PVC PIPES (4'± LONG), EQUALLY SPACED, INSTALLED OVER OPENINGS IN 1/4" STEEL CAP, AT LOCATIONS DESIGNATED AND AS DIRECTED BY THE REPRESENTATIVE TO DRAIN SURFACE WATER.



1/4" STEEL CAP FOR MEDIAN INLET DETAIL

NOTE: DIMENSIONS TO BE VERIFIED IN THE FIELD TO FIT THRU INLET GRATE.



SECTION A-A



RECOMMENDED: NOVEMBER 28, 2023
 ASSISTANT CHIEF ENGINEER - DESIGN
 APPROVED: NOVEMBER 29, 2023
 CHIEF ENGINEER

CAPPING OF MEDIAN INLETS

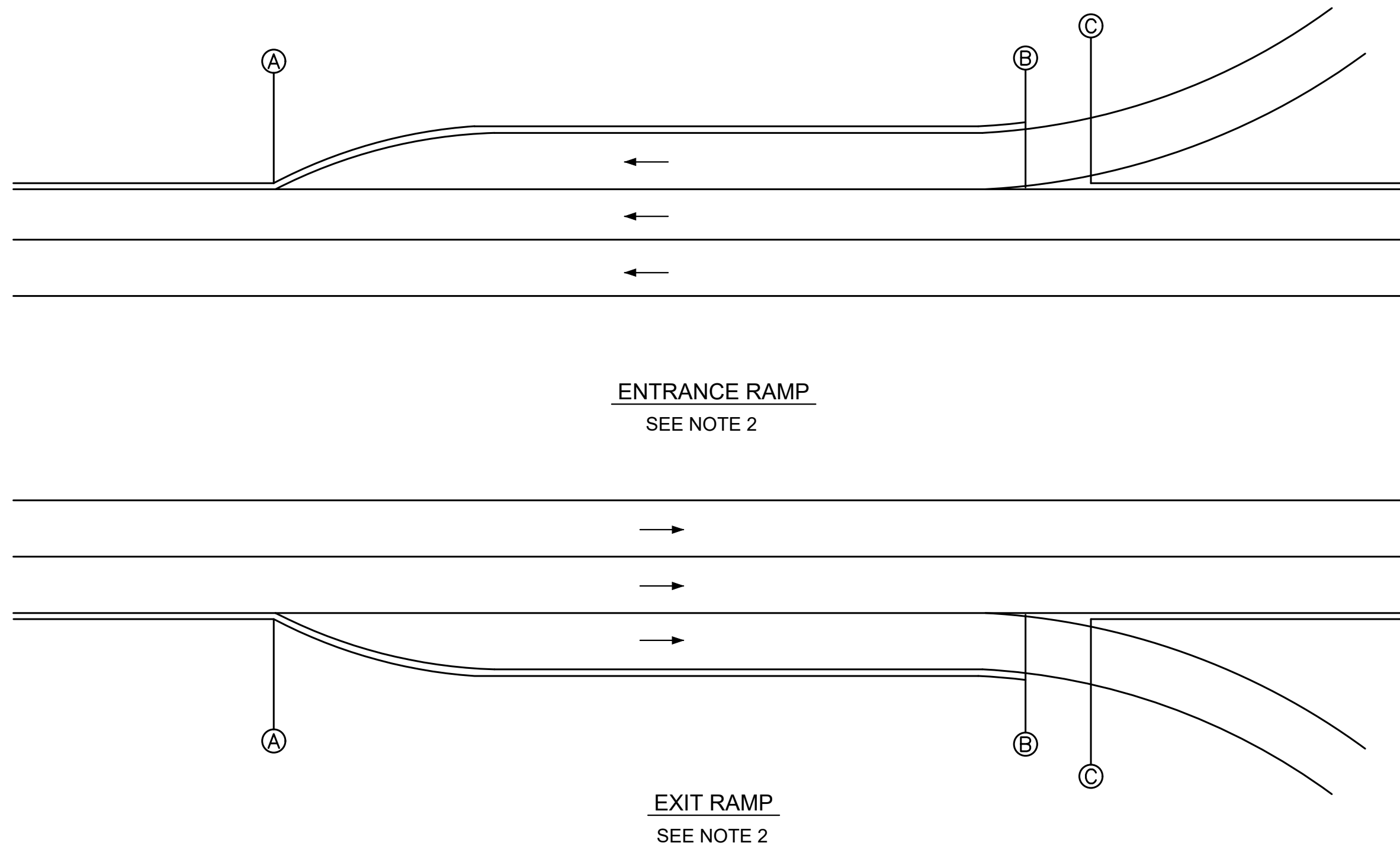
PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING

FILE NAME: PTS-122.dwg
 DRAWING TYPE: 5A

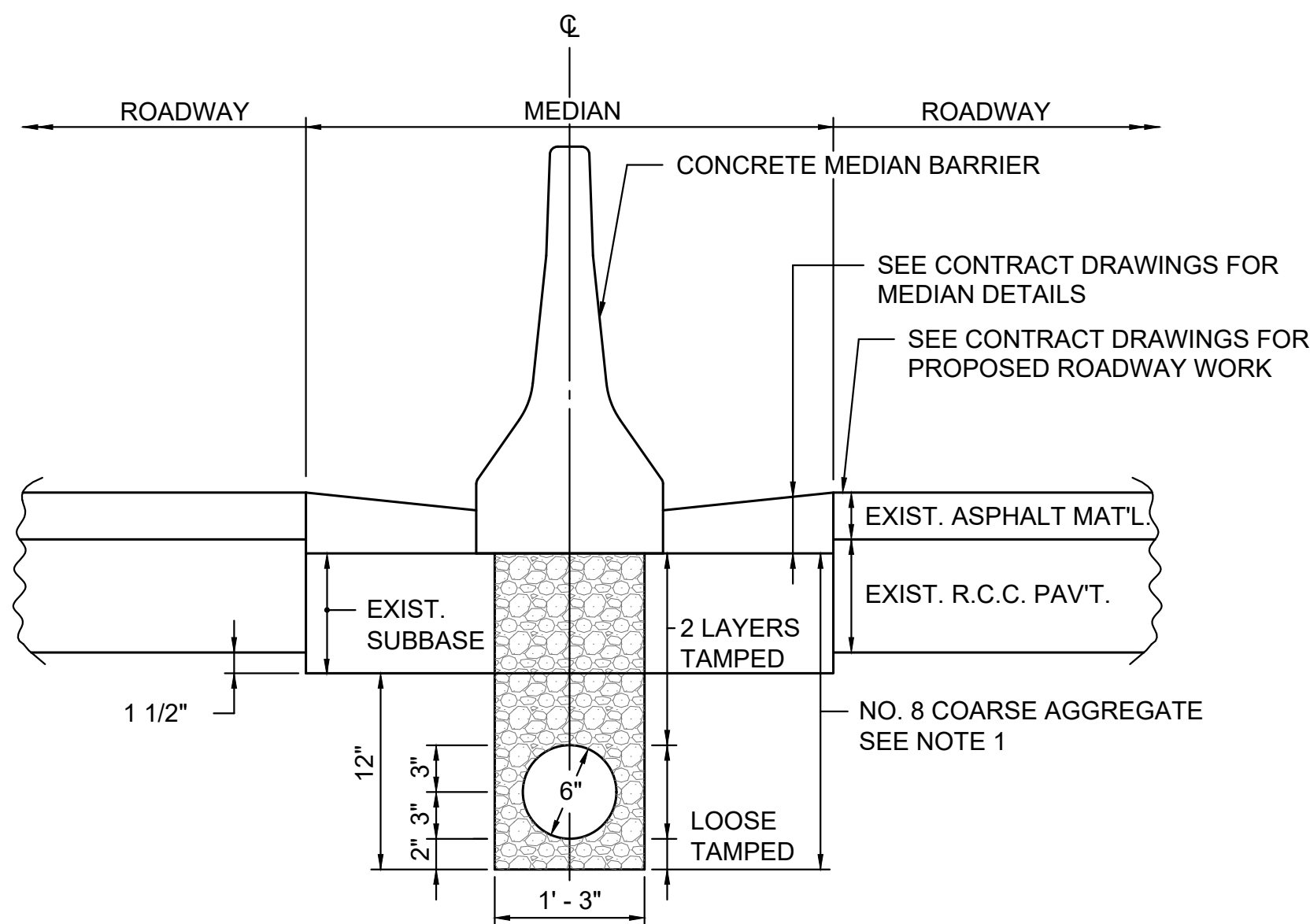
SHEET 1 OF 1

DATE: NOVEMBER 2023

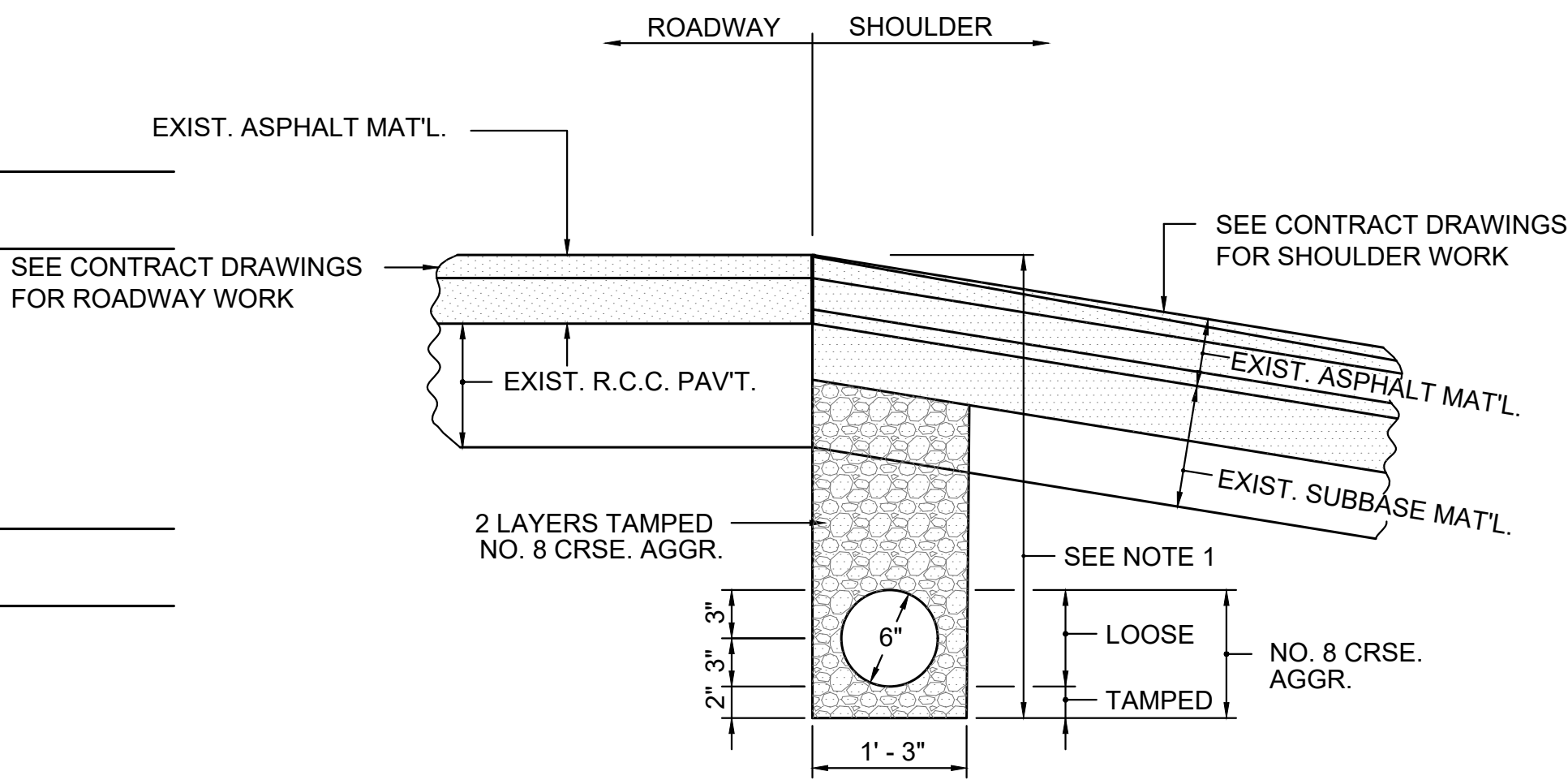
PTS-122



**LIMITS OF MAINLINE PAVEMENT BASE DRAIN
AT SERVICE PLAZA AND INTERCHANGE RAMPs**

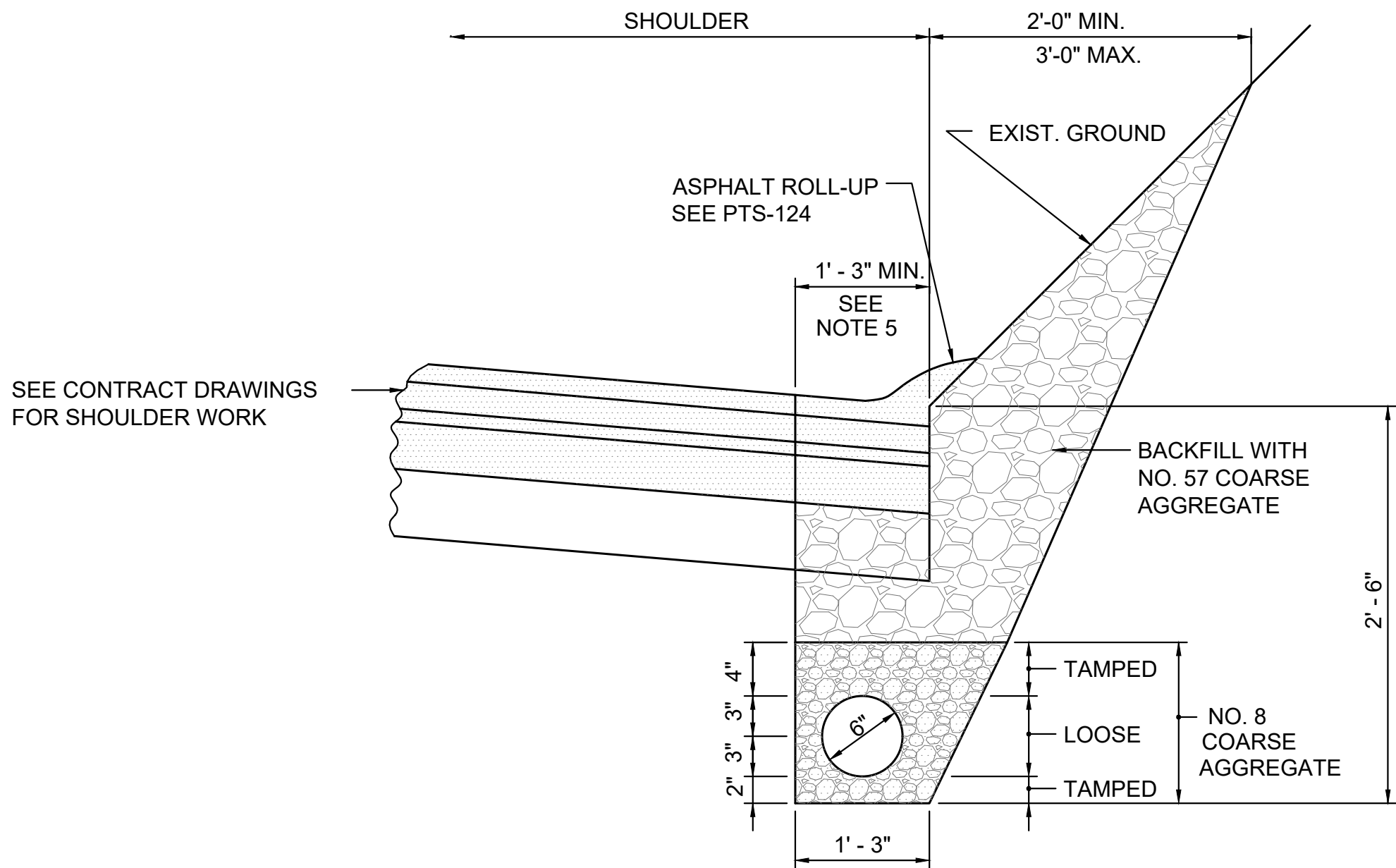


**MEDIAN BASE DRAIN
(REHABILITATION ONLY)**

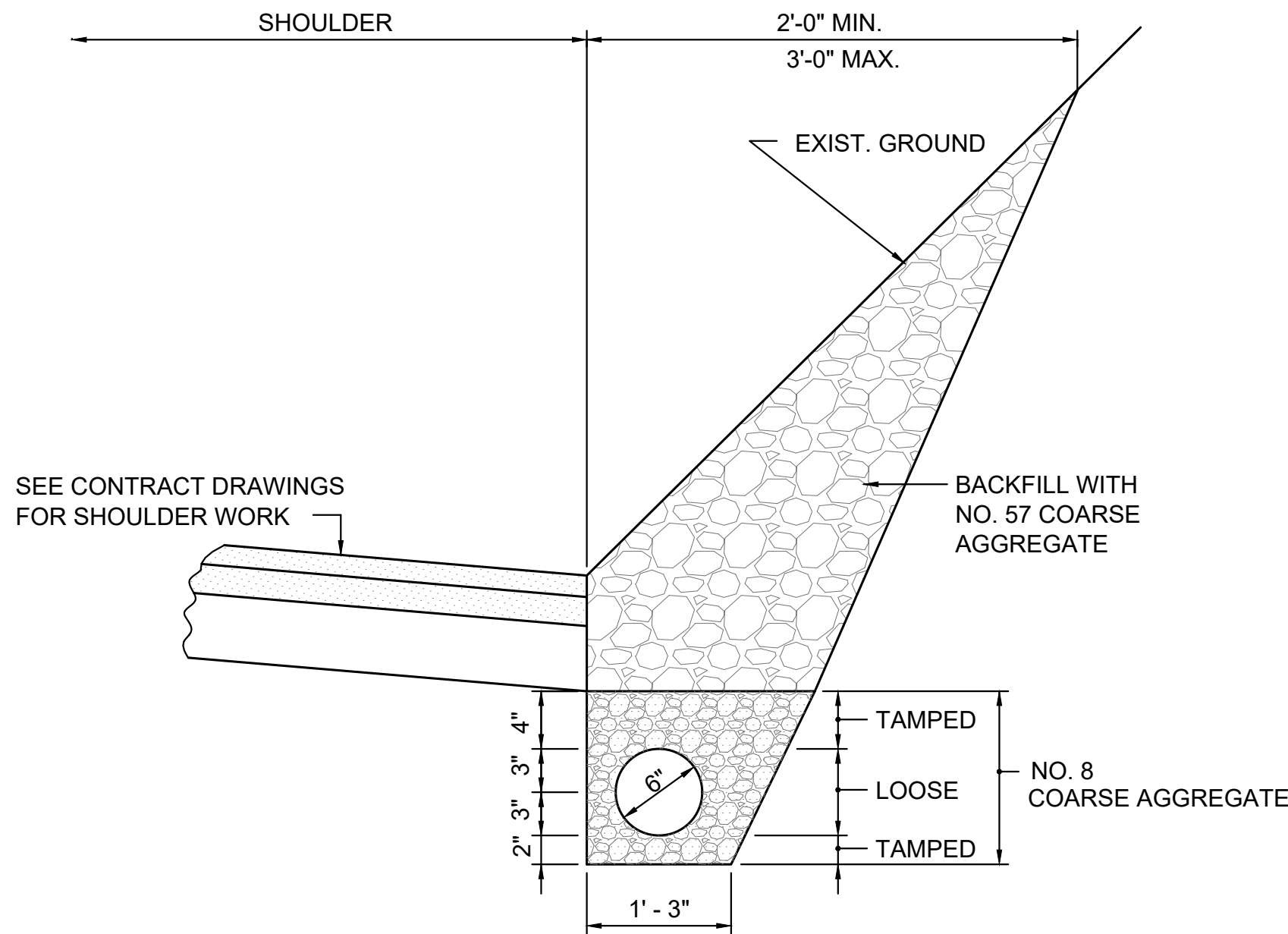


**PAVEMENT BASE DRAIN
(REHABILITATION ONLY)**

- NOTES:
- SEE CONTRACT DRAWINGS FOR PROPOSED DEPTH WHICH WILL REMOVE ANY EXISTING UNDERDRAIN.
 - IF THE ROADWAY GRADE AND/OR SLOPES DO NOT PERMIT THE PAVEMENT BASE DRAIN TO BE OUTLETTED AT THE FOLLOWING LIMITS, THEN STOP/START THE PAVEMENT BASE DRAIN AT THE NEAREST INLET OR AT A POINT WHERE IT MAY BE OUTLETTED ON THE SLOPE.
 - STOP PAVEMENT BASE DRAIN AT POINT (A) (LIMIT OF RAMP) IF THERE IS NO RAMP WORK INVOLVED IN THE PROJECT.
 - STOP PAVEMENT BASE DRAIN AT POINT (B) (BEGINNING OF PHYSICAL GORE) IF THERE IS RAMP WORK WHICH EXTENDS TO THIS POINT OR BEYOND. IF RAMP WORK STOPS PRIOR TO THIS POINT, STOP PAVEMENT BASE DRAIN AT THE SAME LIMIT AS THE RAMP WORK.
 - START PAVEMENT BASE DRAIN AT POINT (C) WHICH IS THE POINT AT WHICH THE GORE AREA IS WIDER THAN THE TRENCH WIDTH.
 - OUTLET PAVEMENT BASE DRAIN WITH SUBSURFACE DRAIN OUTLETS AS INDICATED ON RC-30M AND IN ACCORDANCE WITH SECTION 615.
 - INSTALL PAVEMENT BASE DRAIN ON RAMPS AS PER THE CONTRACT DRAWINGS.
 - FOR PAVEMENT BASE DRAIN WITH SLOPE DRAINAGE, TYPE I
 - IF THE FULL WIDTH OF THE SHOULDER IS TO BE MILLED AND PAVED, THEN INSTALL THE PAVEMENT BASE DRAIN WITH SLOPE DRAINAGE AND REPLACE THE SHOULDER PAVEMENT WITH ASPHALT BINDER COURSE PRIOR TO THE MILLING AND PAVING OPERATIONS.
 - IF THE FULL WIDTH OF THE SHOULDER IS TO BE RECONSTRUCTED, THEN INSTALL THE PAVEMENT BASE DRAIN WITH SLOPE DRAINAGE AT THE SAME TIME AS THE SHOULDER WORK.

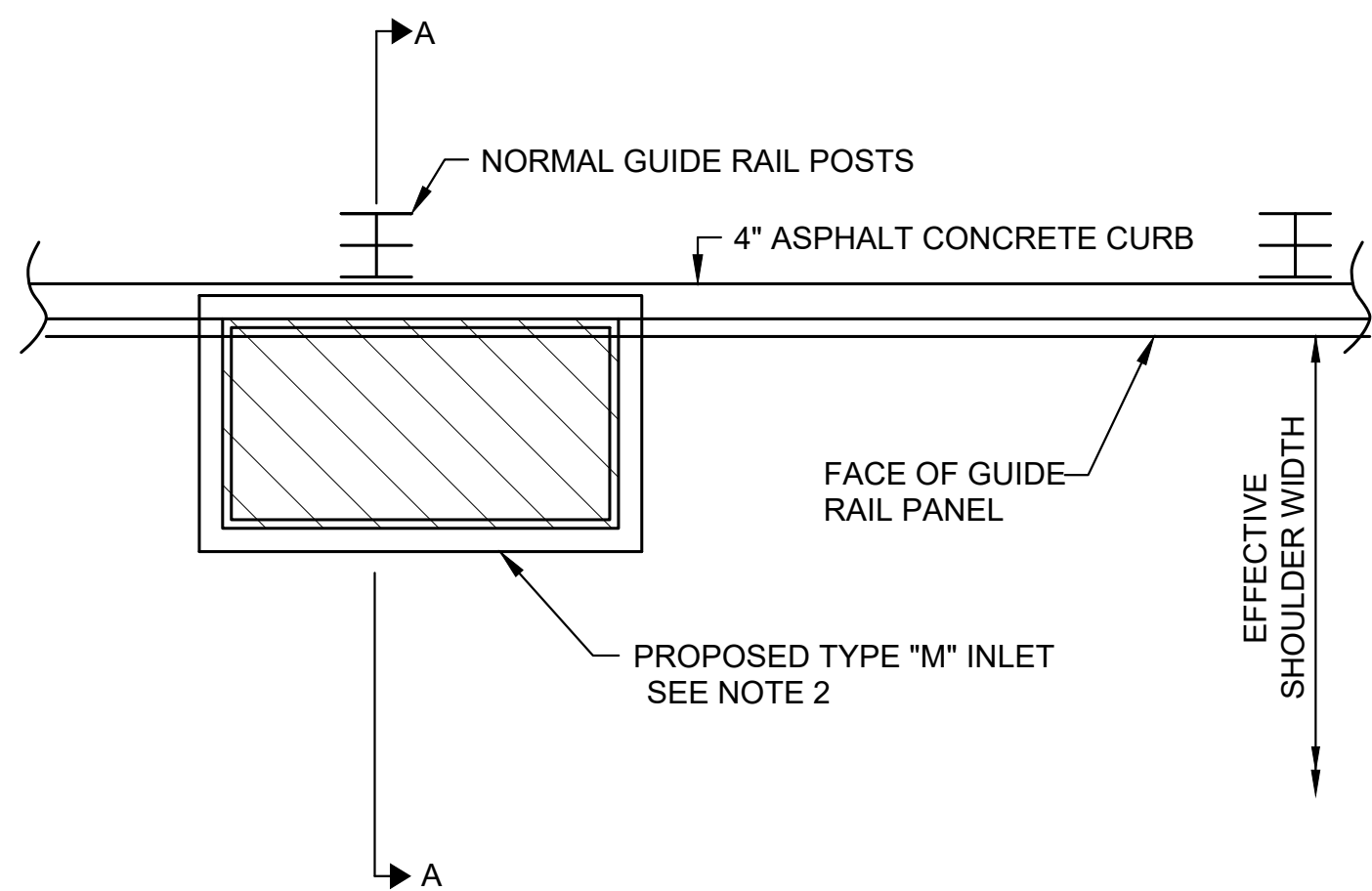


**PAVEMENT BASE DRAIN WITH SLOPE DRAINAGE
TYPE I**

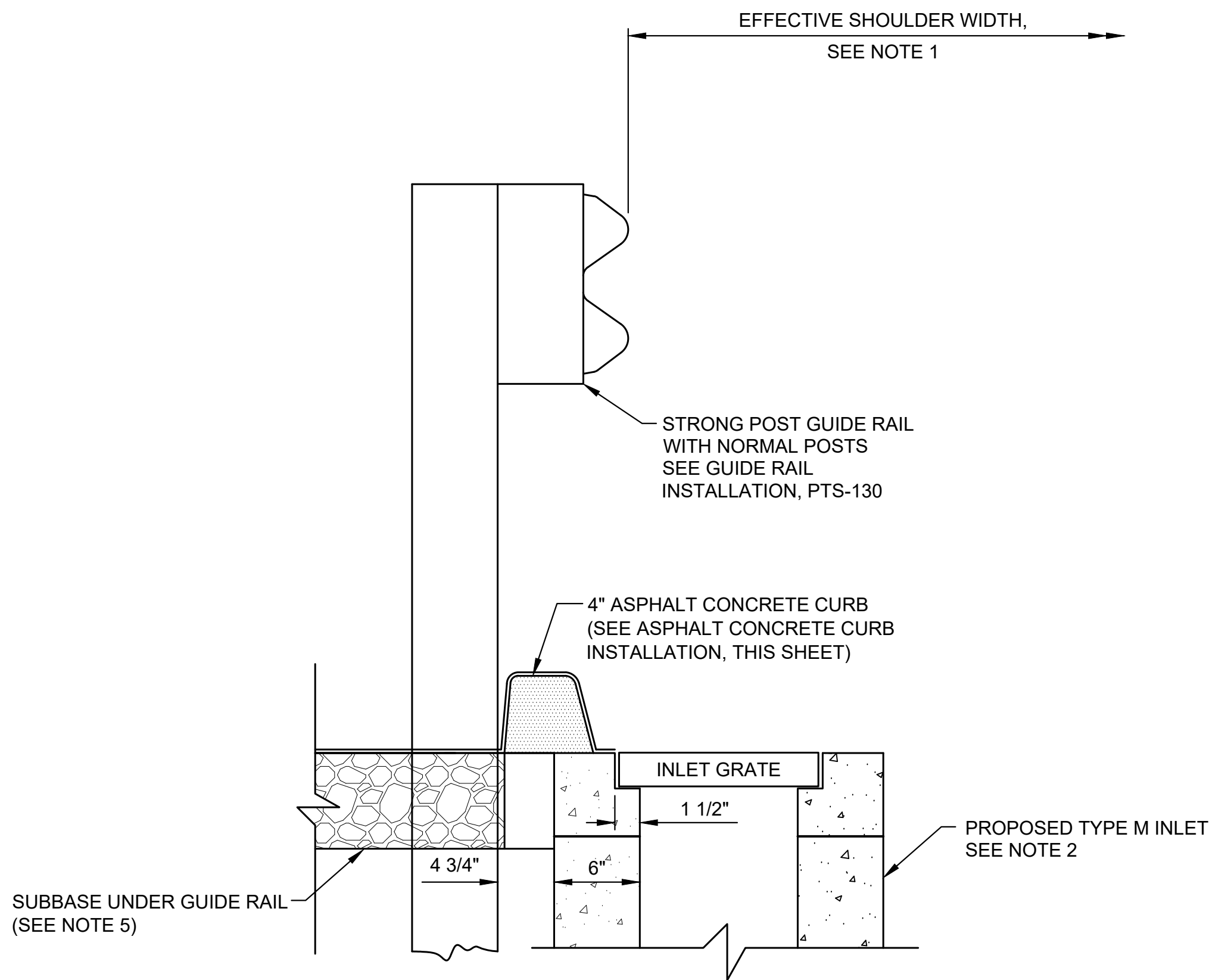


**PAVEMENT BASE DRAIN WITH SLOPE DRAINAGE
TYPE II**

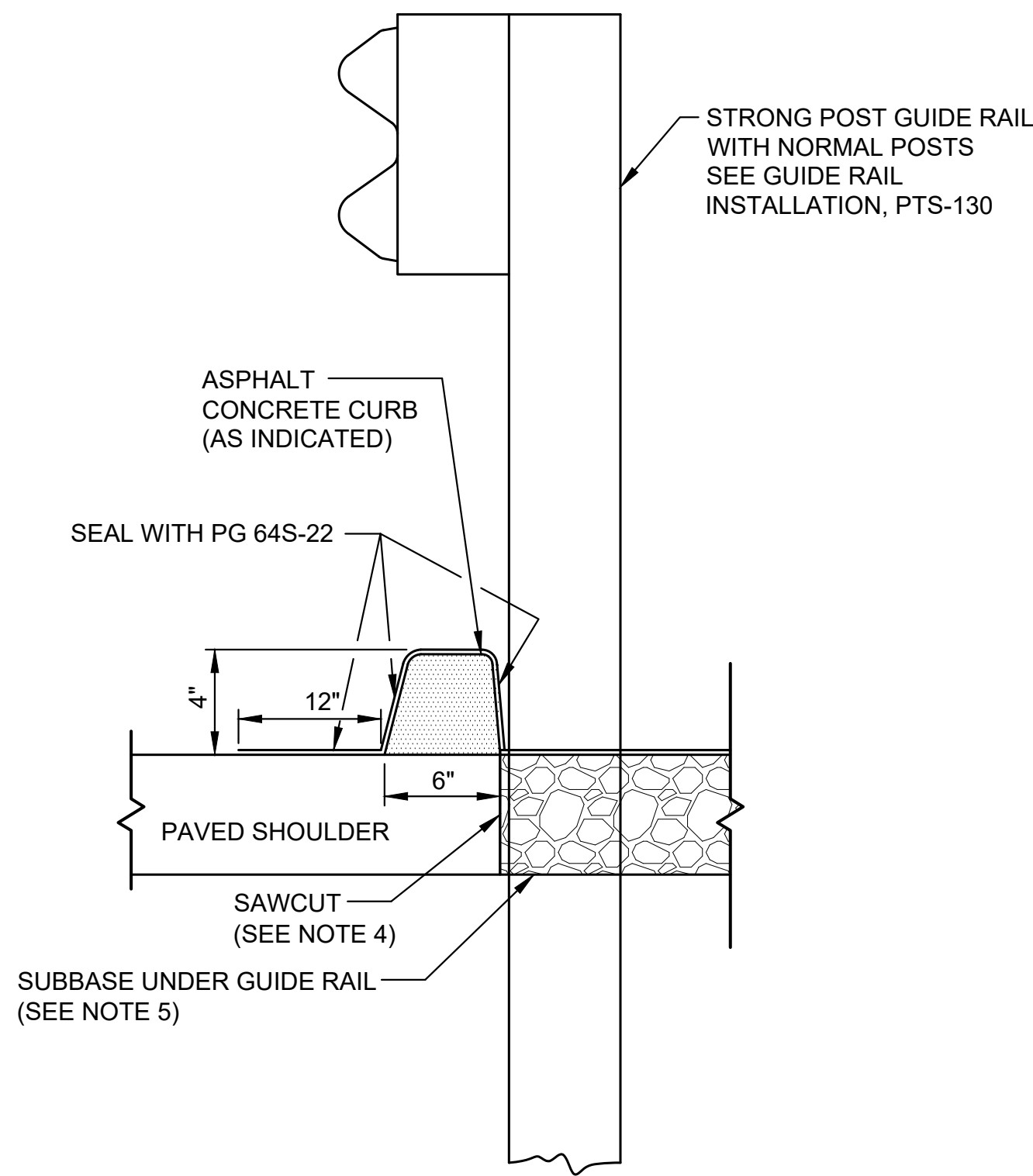
	RECOMMENDED: APRIL 30, 2022	6" PAVEMENT BASE DRAIN & MEDIAN BASE DRAIN	PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
	ASSISTANT CHIEF ENGINEER - DESIGN		FILE NAME: PTS-123.dwg	SHEET 1 OF 1
	APPROVED: APRIL 30, 2022		DRAWING TYPE: 5A	
	CHIEF ENGINEER		DATE: APRIL 2022	PTS-123



PLACEMENT OF TYPE "M" INLETS WITH ASPHALT CONCRETE CURB
SEE NOTE 3



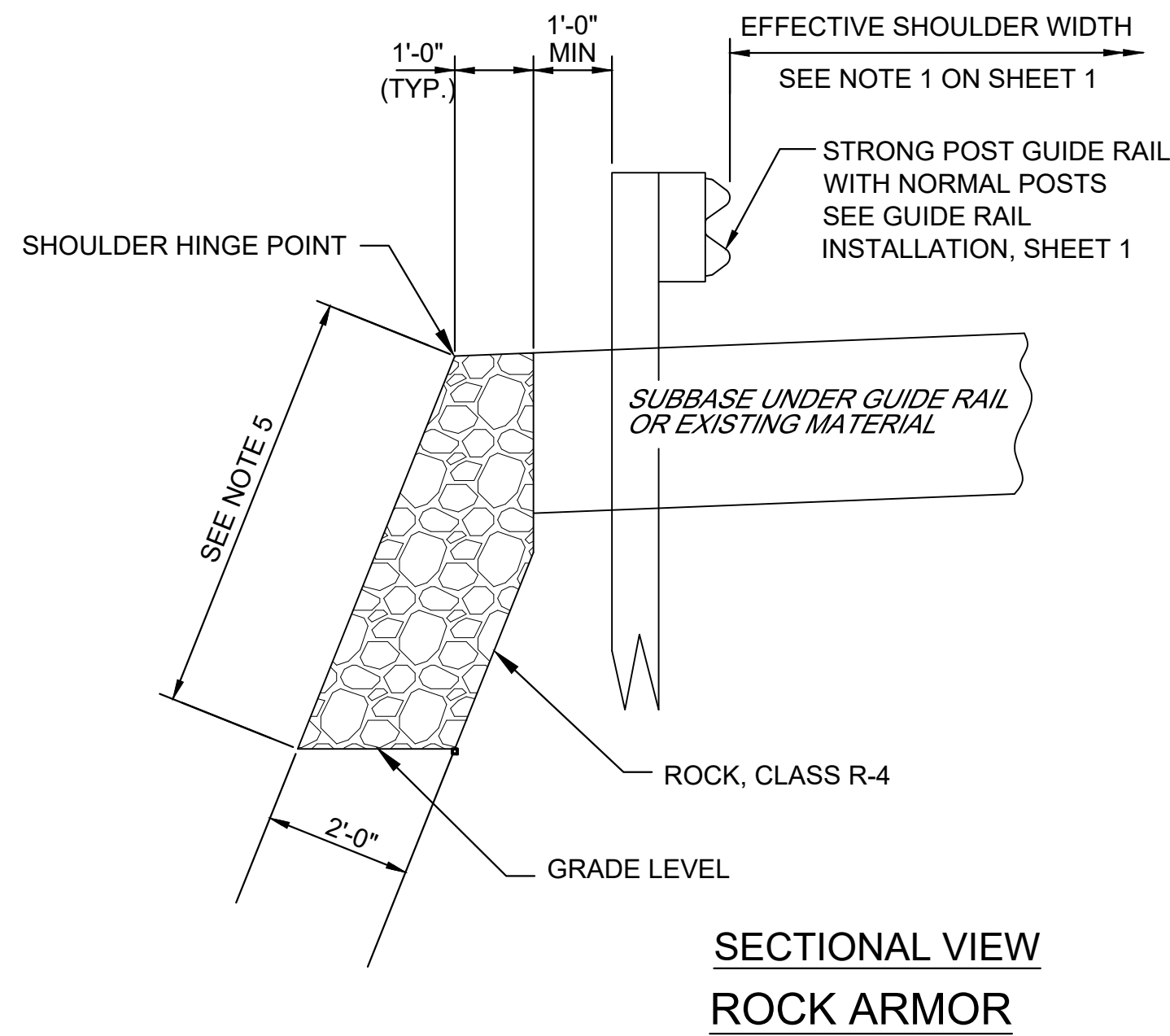
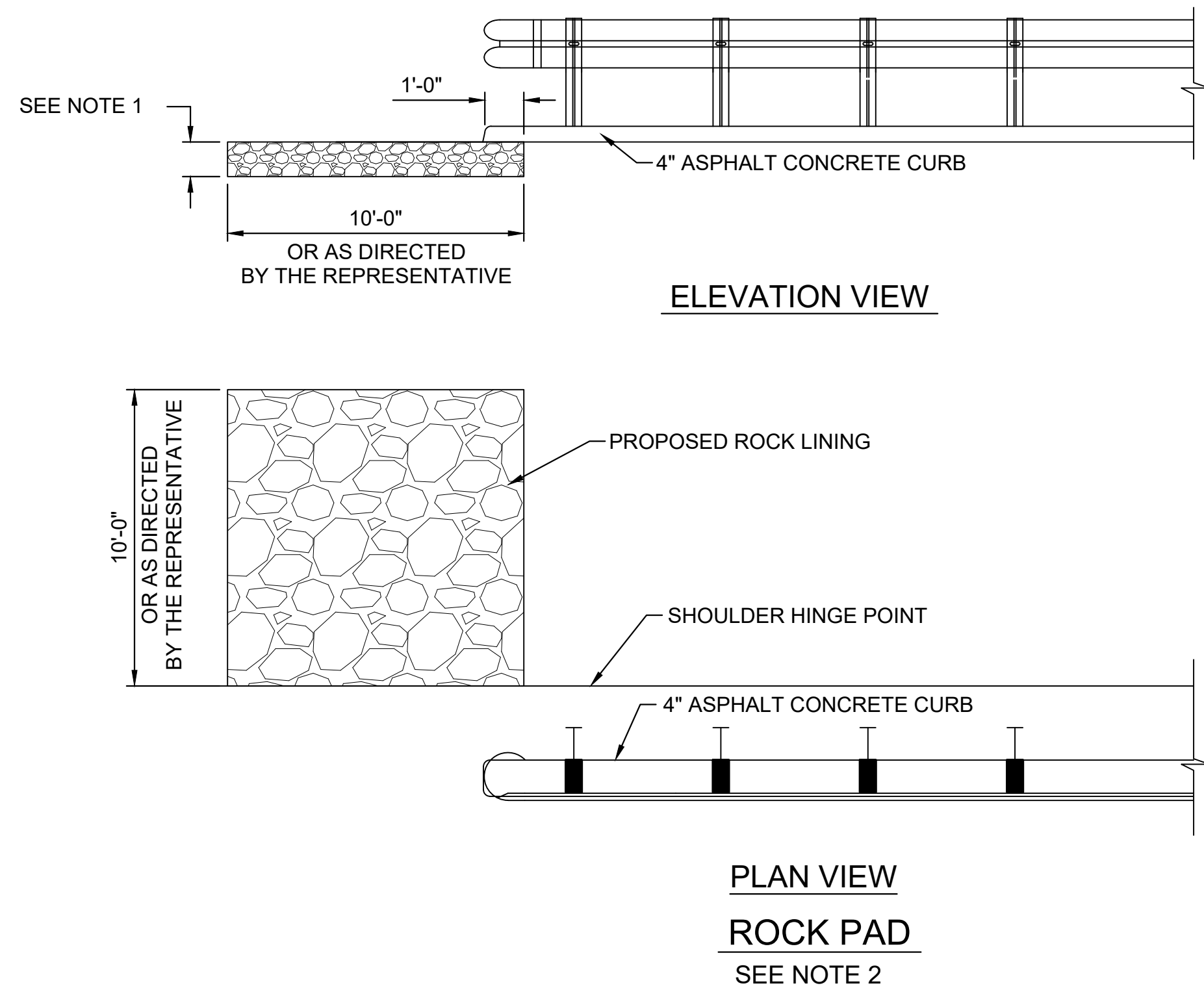
SECTION A-A



SECTIONAL VIEW
ASPHALT CONCRETE CURB INSTALLATION

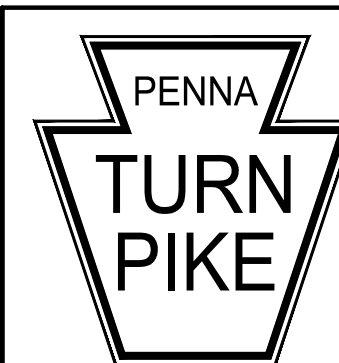
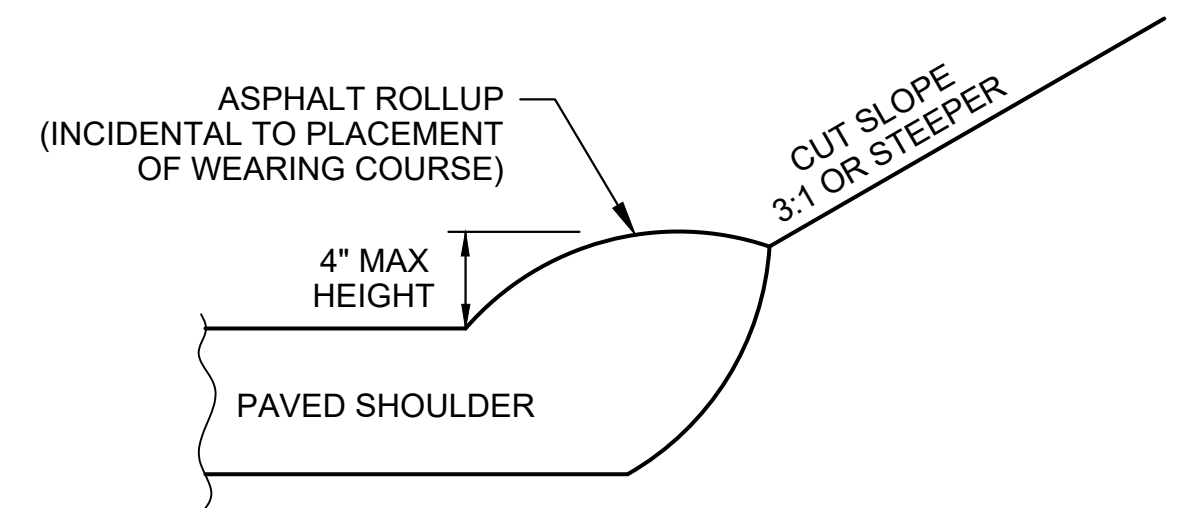
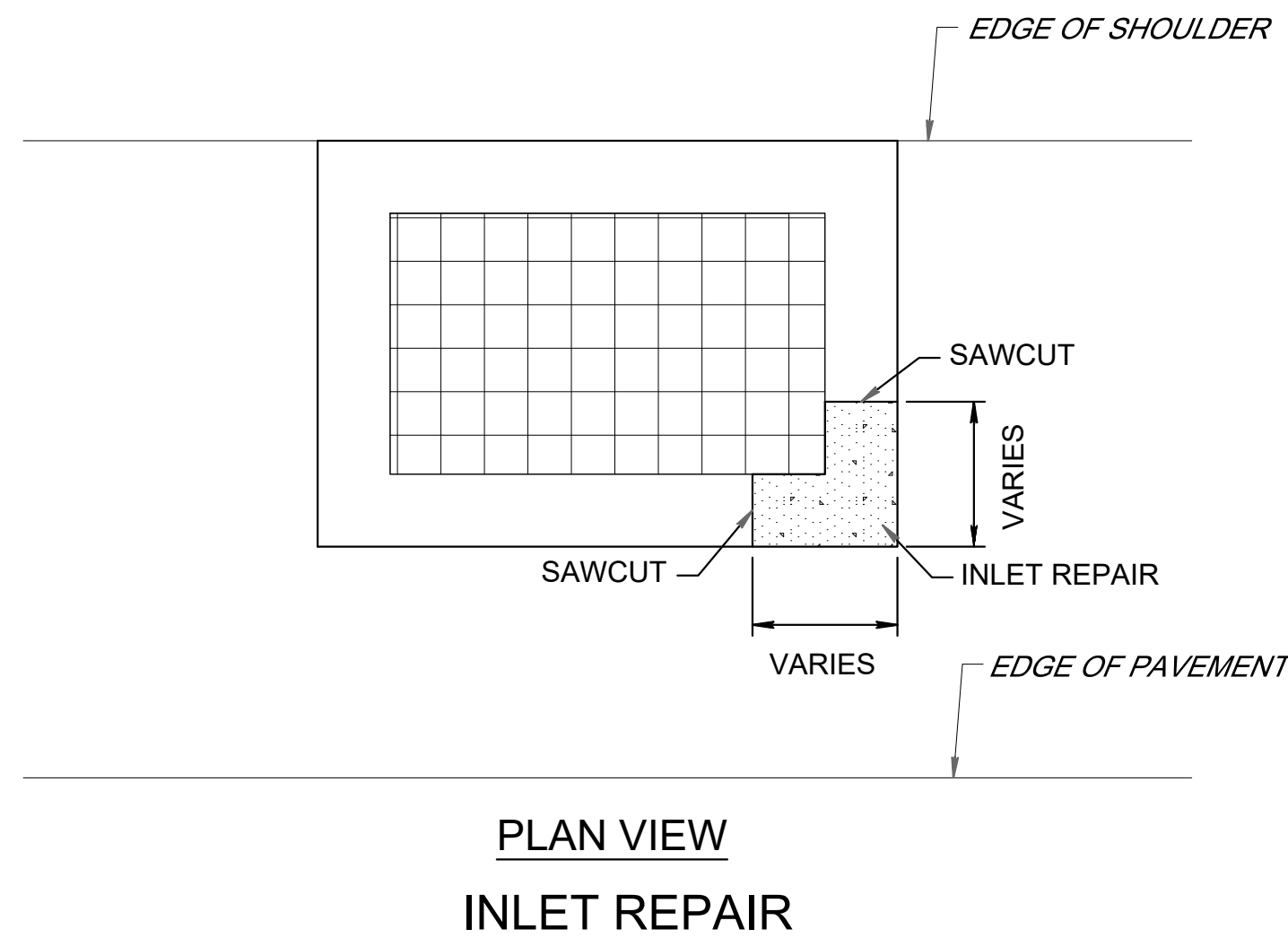
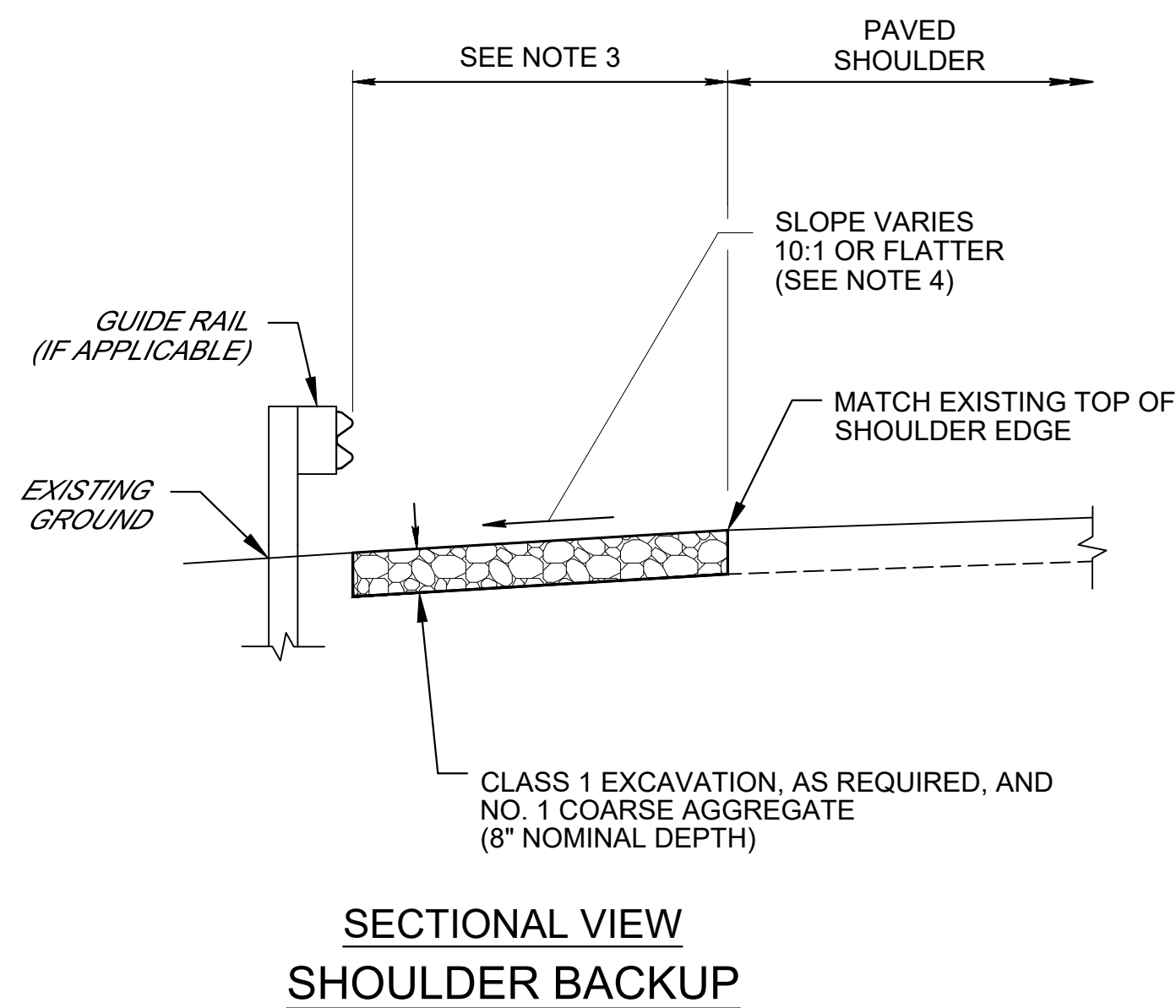
- NOTES:
1. SEE CONTRACT DRAWINGS FOR PROPOSED EFFECTIVE SHOULDER WIDTHS (TYPICALLY 12'-0" DESIRABLE, 10'-0" MINIMUM).
 2. SUMP INLET 1-INCH BELOW THE PROPOSED SHOULDER GRADE IF THE TRAFFIC CONTROL FOR THE PROJECT DOES NOT REQUIRE TRAFFIC TO RUN ON THE SHOULDER.
 3. EXTEND THE ASPHALT CONCRETE CURB A MINIMUM OF 5-FEET BEYOND THE INLET OR AS DIRECTED BY THE REPRESENTATIVE WHEN THE CURB ENDS AT AN INLET.
 4. SAWCUT, IF NECESSARY, TO PROVIDE A VERTICAL FACE FOR SUBBASE UNDER GUIDE RAIL TO ACCOMMODATE INSTALLATION OF GUIDE RAIL POSTS.
 5. REFER TO PTS-130 GUIDE RAIL INSTALLATION - FILL CONDITION

	RECOMMENDED: NOVEMBER 28, 2023	STANDARD DRAINAGE DETAILS	PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
			FILE NAME: PTS-124-1.dwg	SHEET 1 OF 6
	ASSISTANT CHIEF ENGINEER - DESIGN		DRAWING TYPE: 5A	
	APPROVED: NOVEMBER 29, 2023		DATE:NOVEMBER 2023	PTS-124
	 CHIEF ENGINEER			



NOTES:

1. PLACE ROCK OF THE SIZE INDICATED ON THE PLANS AND TO THE REQUIRED THICKNESS AS SPECIFIED IN SECTION 850.2.
2. INSTALL ROCK PADS AT LOCATIONS INDICATED ON THE PLANS AND AT THE DOWNGRADE END OF CUT SLOPES (CUT TO FILL POINT) AS DIRECTED BY THE REPRESENTATIVE.
3. 4' MINIMUM WIDTH WITHOUT GUIDE RAIL. WIDTH VARIES WITH GUIDE RAIL FROM BACK EDGE OF PAVED SHOULDER TO FACE OF GUIDE RAIL.
4. REGRADE CROSS SLOPE PER PLAN OR MATCH EXISTING SLOPES TO ENSURE POSITIVE DRAINAGE FLOW.
5. INSTALL ROCK ARMOR AT A HEIGHT OF 5'-0" MINIMUM, MEASURED ALONG EXISTING SLOPE, BETWEEN HINGE POINT AND GRADE LEVEL.
6. INSTALL ROCK ARMOR, MODIFIED AT A HEIGHT OF 10'-0" MINIMUM OR AS INDICATED ON CONTRACT DRAWINGS. FILL SLOPE SHALL BE 2H: 1V OR AS SHOWN FOR THE NEW CONSTRUCTION / RECONSTRUCTION CONTRACTS; MATCH EXISTING SLOPE OR AS SHOWN ON PLANS FOR RESURFACING / REHABILITATION CONTRACTS.



RECOMMENDED: NOVEMBER 28, 2023

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

CHIEF ENGINEER

STANDARD DRAINAGE DETAILS

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-124-2.dwg
DRAWING TYPE: 5A

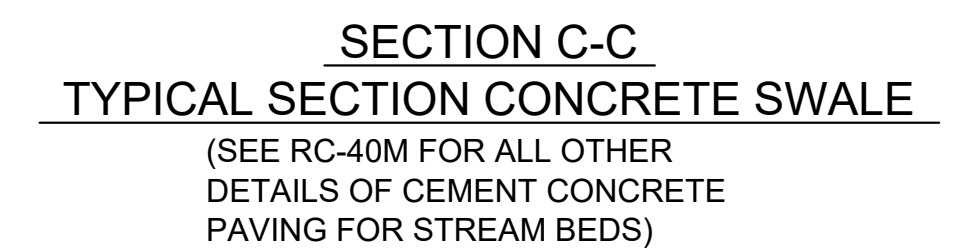
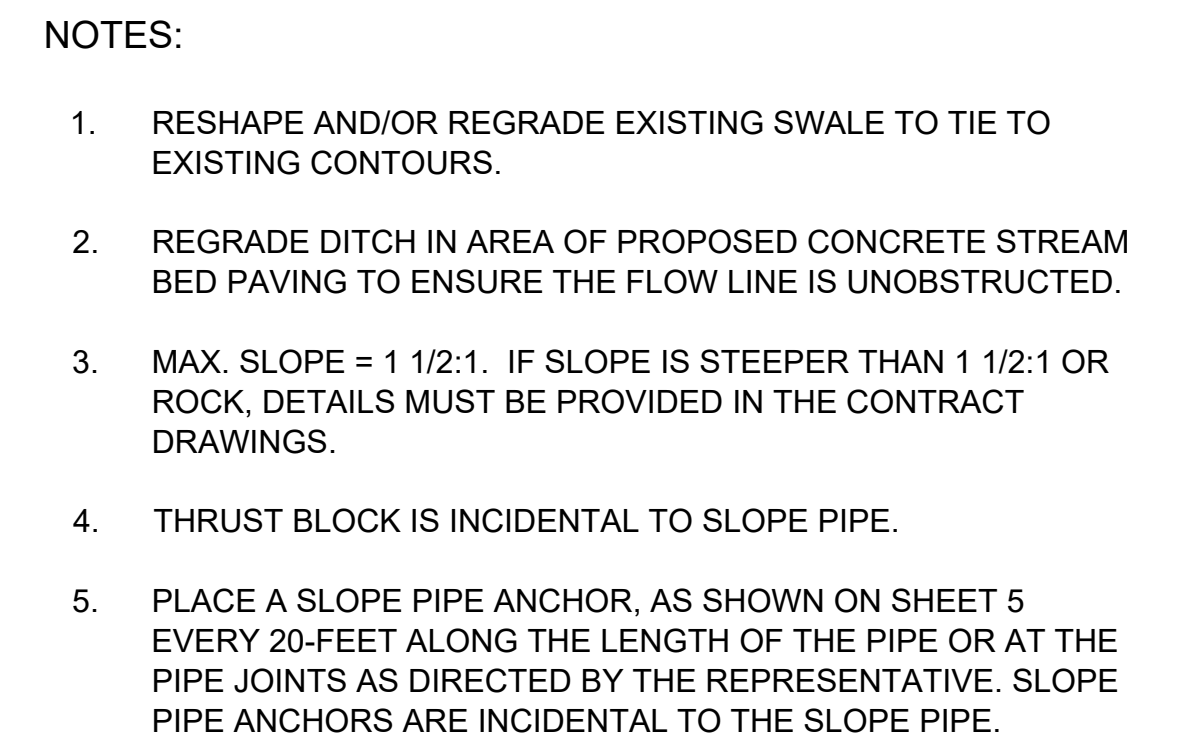
SHEET 2 OF 6

DATE: NOVEMBER 2023

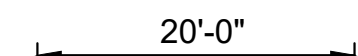
PTS-124



SECTION D-D
TYPE D-E OR E-S END WALLS



* MATCH EXIST. FIELD CONDITIONS
** IF AN EXIST. DITCH IS LOCATED PERPENDICULAR TO
THE HEADWALL THEN TRANSITION CONCRETE STREAM
BED PAVING TO ALLOW FOR PROPER FLOW.



PLAN VIEW
TYPE D-E & E-S END WALLS



PLAN VIEW
TYPE D-E & E-S END WALLS

STANDARD DRAINAGE DETAILS



RECOMMENDED: NOVEMBER 28, 2023

Kevin V. Sklar

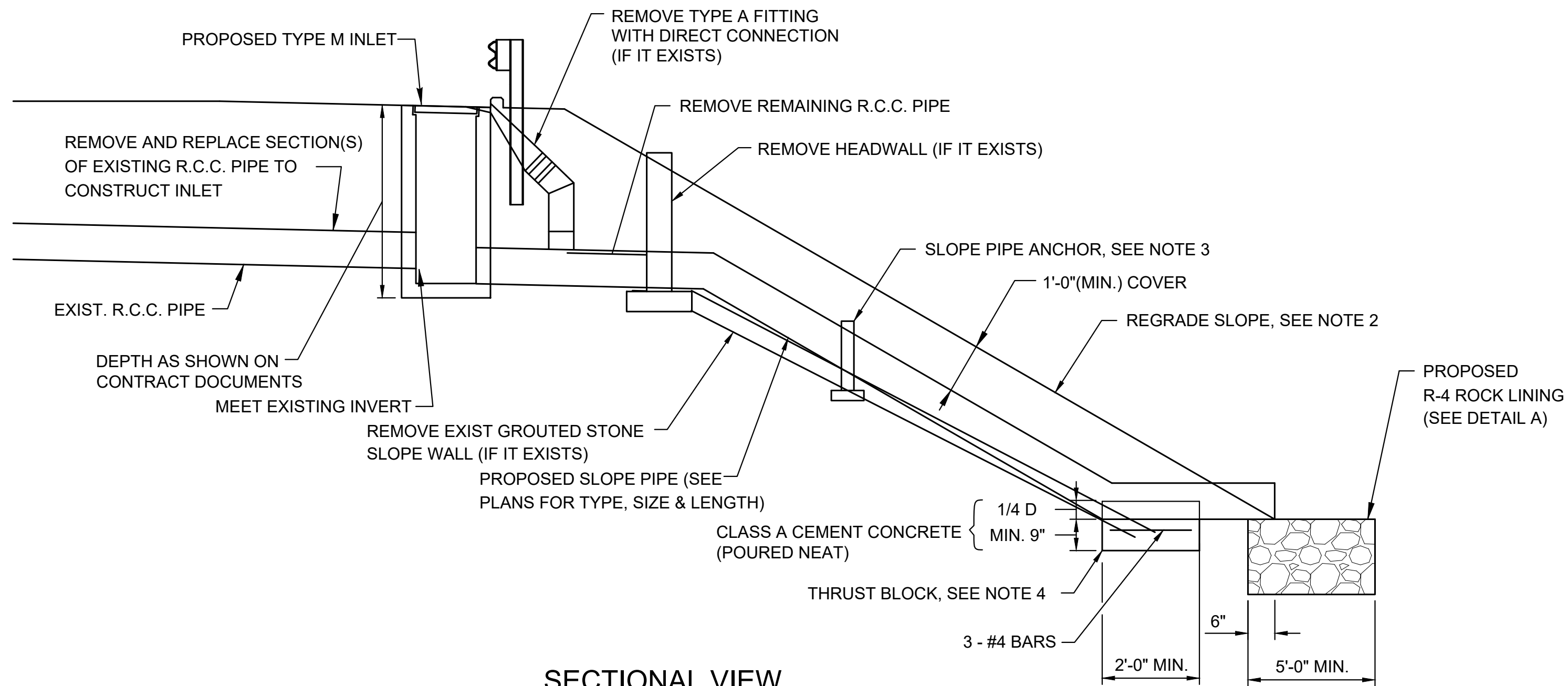
ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

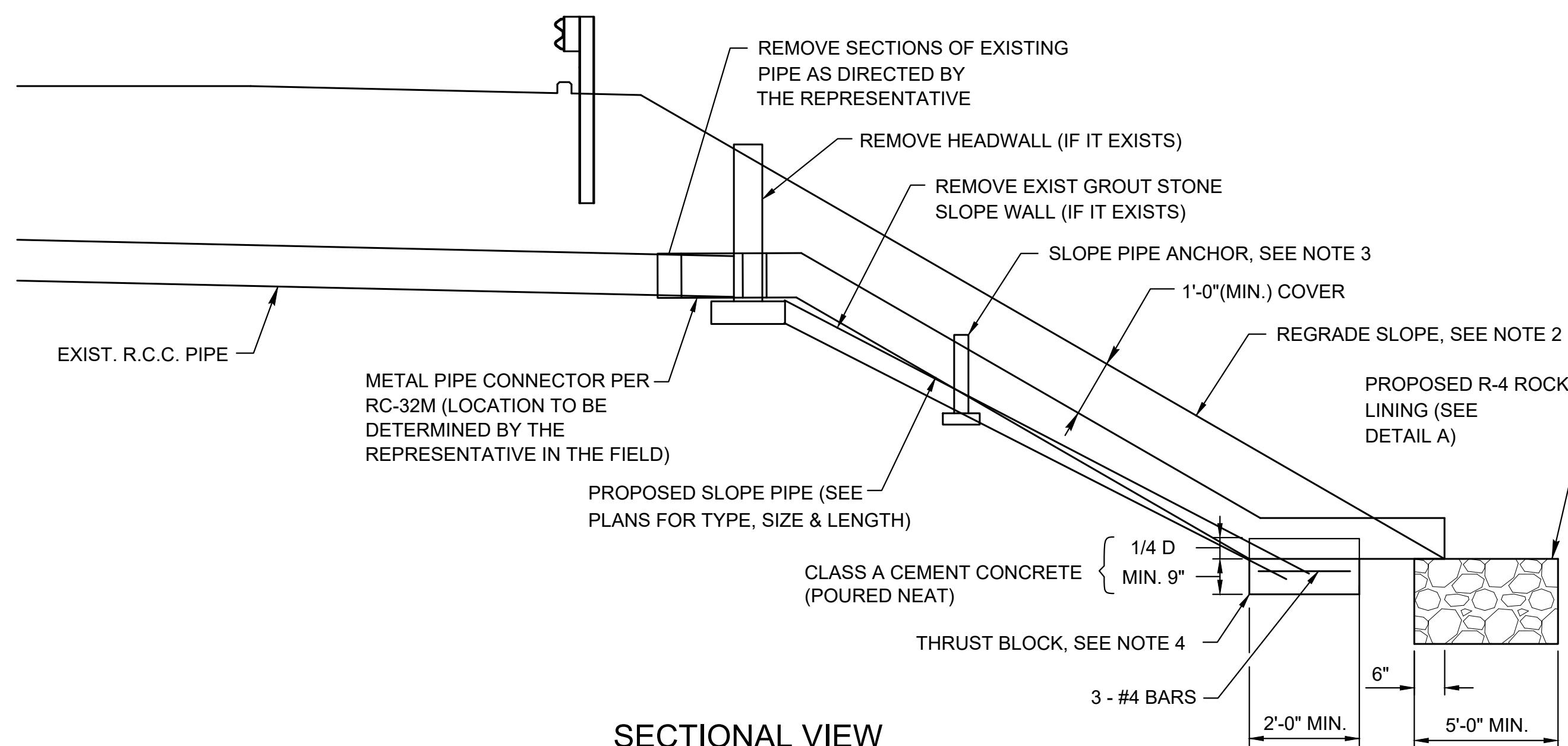
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CHIEF ENGINEER

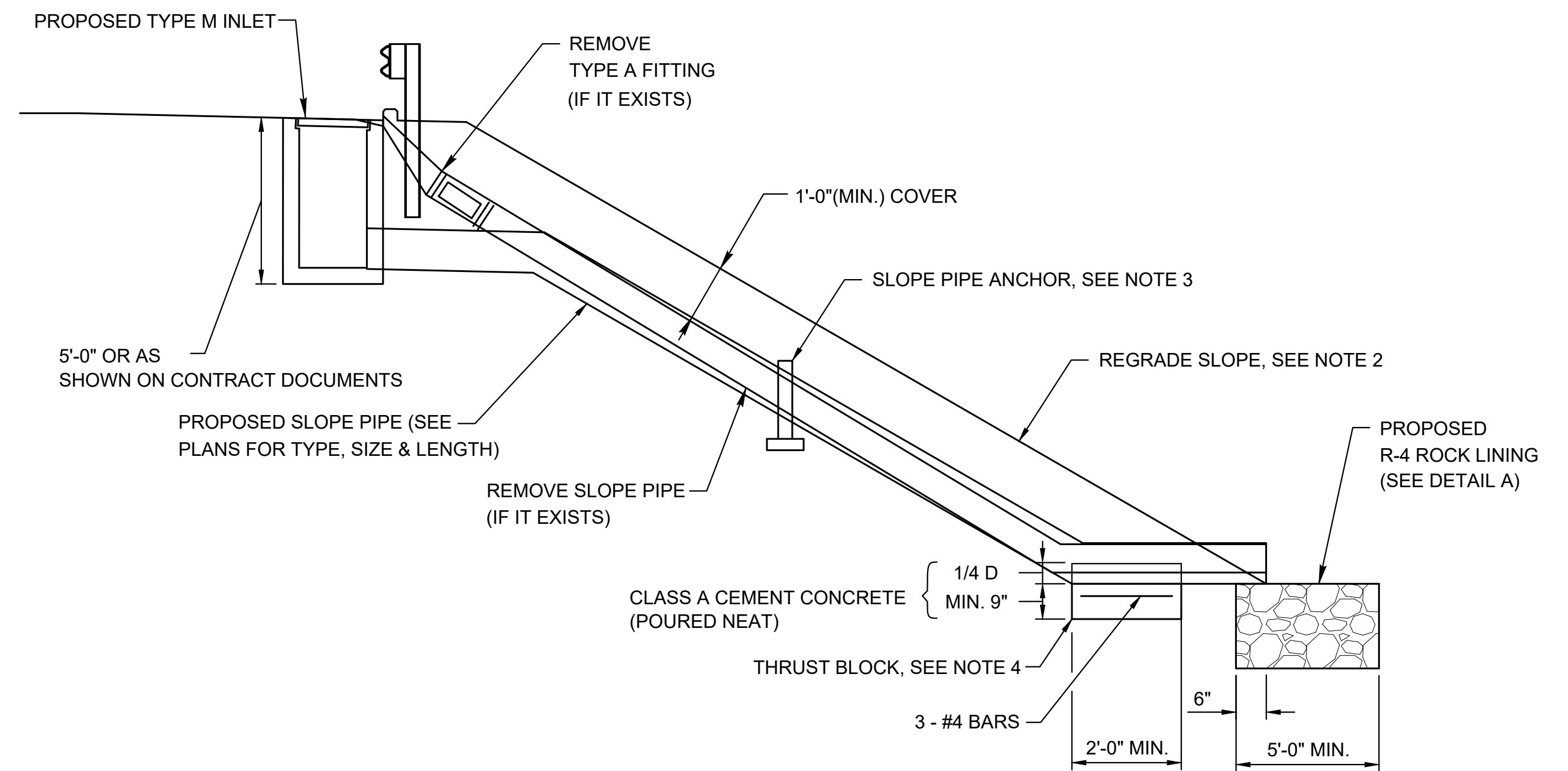
PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
FILE NAME: PTS-124-3.dwg DRAWING TYPE: 5A	SHEET 3 OF 6
DATE: NOVEMBER 2023	PTS-124



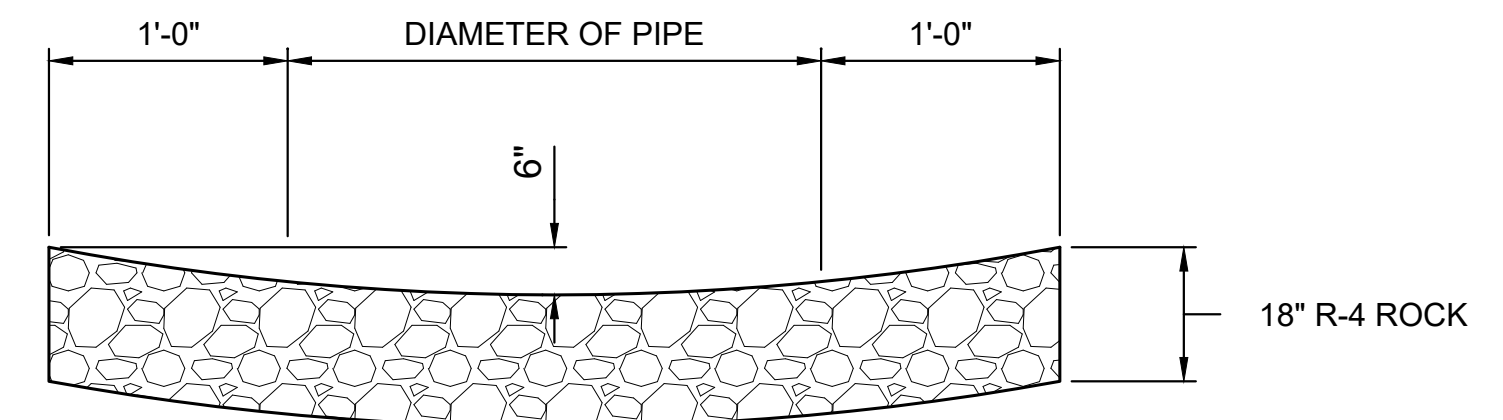
SECTIONAL VIEW
INSTALLATION OF TYPE M INLET AND SLOPE PIPES
BELOW GROUND FILL CONDITION
(EXISTING CROSS PIPE LOCATION)



SECTIONAL VIEW
INSTALLATION OF SLOPE PIPES
BELOW GROUND FILL CONDITION
(EXTENSION OF EXISTING CROSS PIPE)



SECTIONAL VIEW
INSTALLATION OF TYPE M INLET AND SLOPE PIPES
BELOW GROUND FILL CONDITION
(NEW LOCATION OR AT EXISTING TYPE A FITTING)



DETAIL A
TYPICAL SECTION OF ROCK LINING AT SLOPE PIPE OUTLETS
(PIPES 15" OR GREATER)

- NOTES:**
1. REMOVAL OF EXISTING PIPES, TYPE A FITTINGS, HEADWALLS AND STONE SLOPE WALLS ARE INCIDENTAL TO THE PROPOSED WORK.
 2. REGRADE AREA OF SLOPE PIPE INSTALLATION TO MEET ADJACENT CONTOURS.
 3. PLACE A SLOPE PIPE ANCHOR, AS SHOWN ON SHEET 5 EVERY 20-FEET ALONG THE PIPE OR AT THE PIPE JOINTS AS DIRECTED BY THE REPRESENTATIVE. SLOPE PIPE ANCHORS ARE INCIDENTAL TO THE SLOPE PIPE.
 4. THRUST BLOCK IS INCIDENTAL TO SLOPE PIPE.



RECOMMENDED: NOVEMBER 28, 2023
[Signature]
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: NOVEMBER 29, 2023
[Signature]
CHIEF ENGINEER

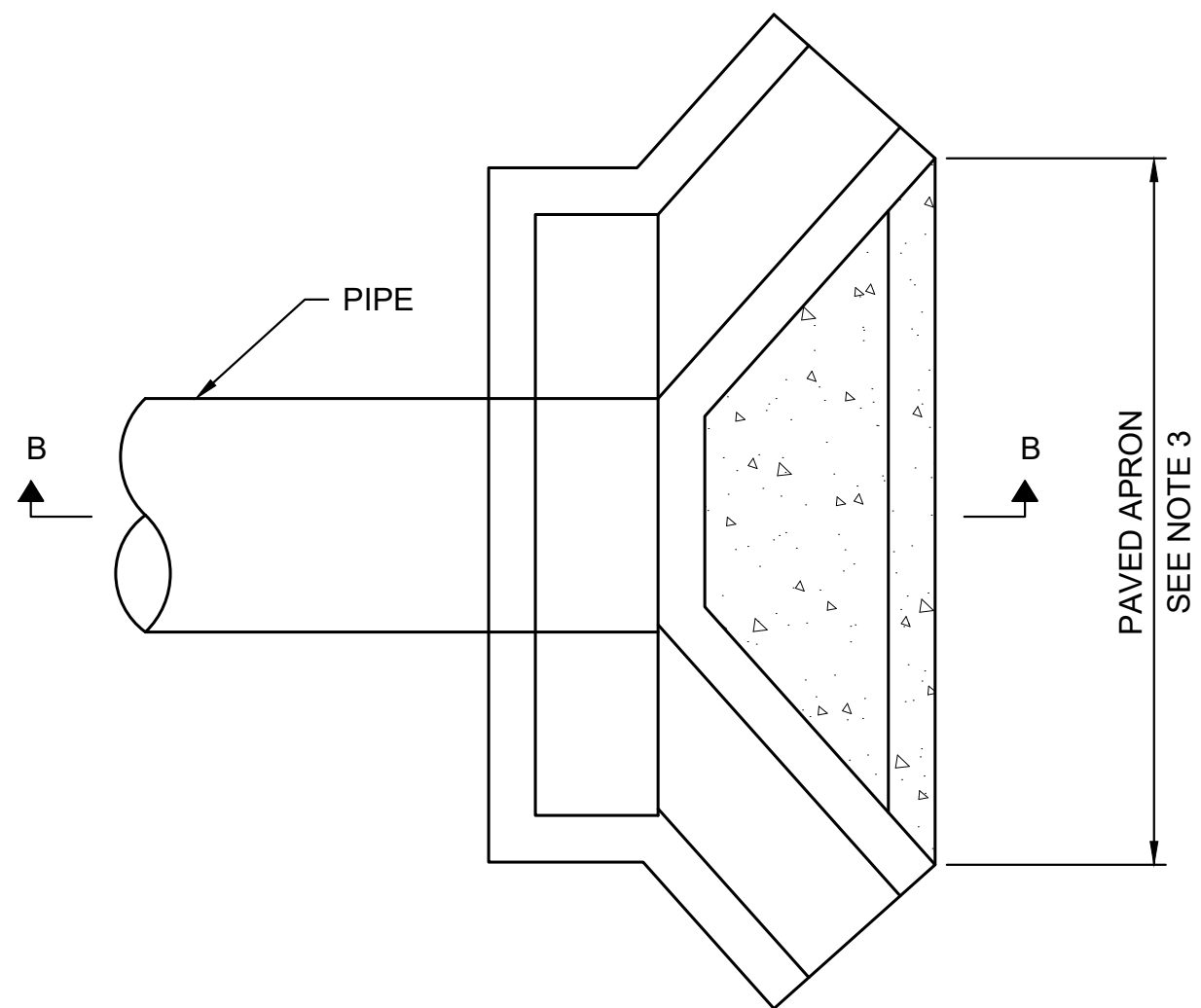
STANDARD DRAINAGE DETAILS

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

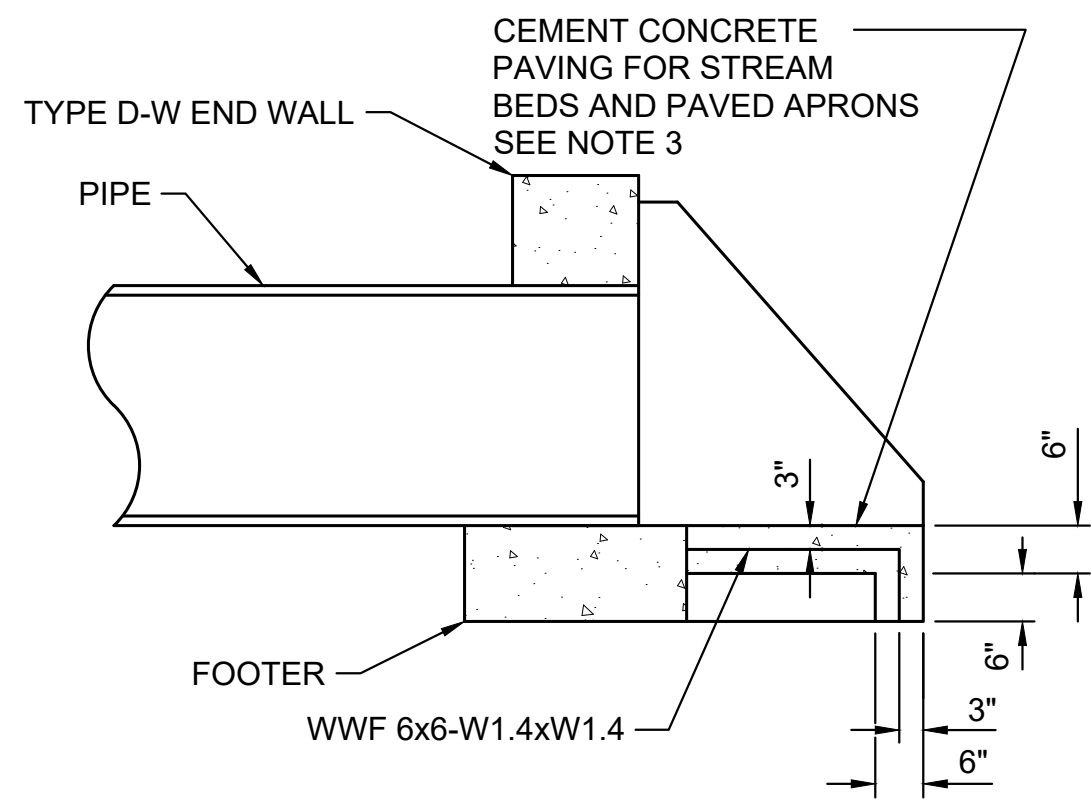
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DRAWING TYPE: 5A
SHEET 4 OF 6

DATE: NOVEMBER 2023
PTS-124

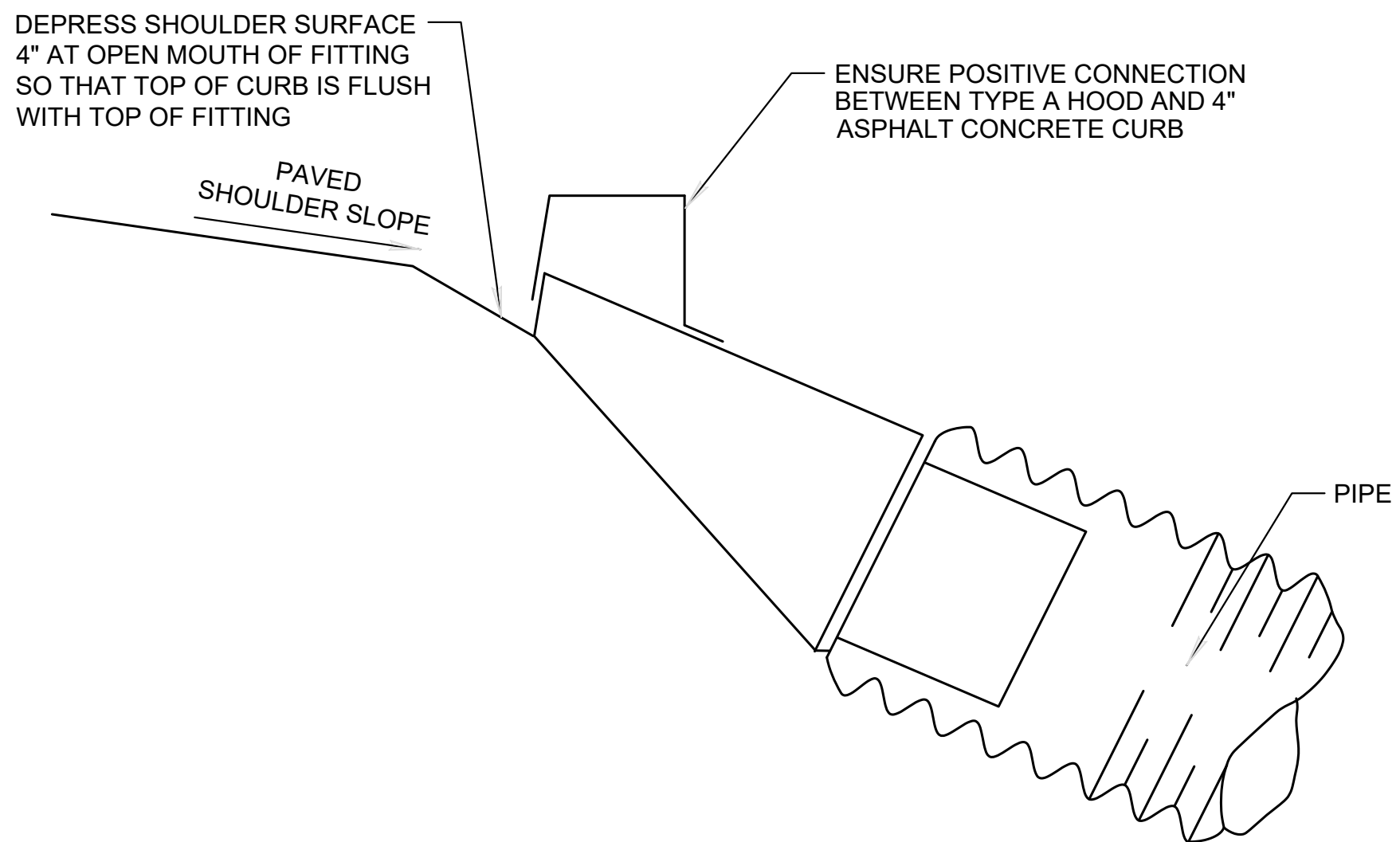
- NOTES:
1. SLOPE PIPE ANCHORS ARE INCIDENTAL TO THE SLOPE PIPE.
 2. CONSTRUCT PEDESTAL USING CLASS A CEMENT CONCRETE IN ACCORDANCE WITH SECTION 704.
 3. CONSTRUCT A CONCRETE PAVED APRON WITH A TYPE D-W END WALL SIZED FOR A PIPE WITH A DIAMETER OF 36 INCHES OR LARGER.
 4. INSTALL SLOPE PIPE FITTING IN ACCORDANCE WITH SECTION 616 AND AS SHOWN ON RC-32M.



PLAN VIEW
TYPE D-W END WALL

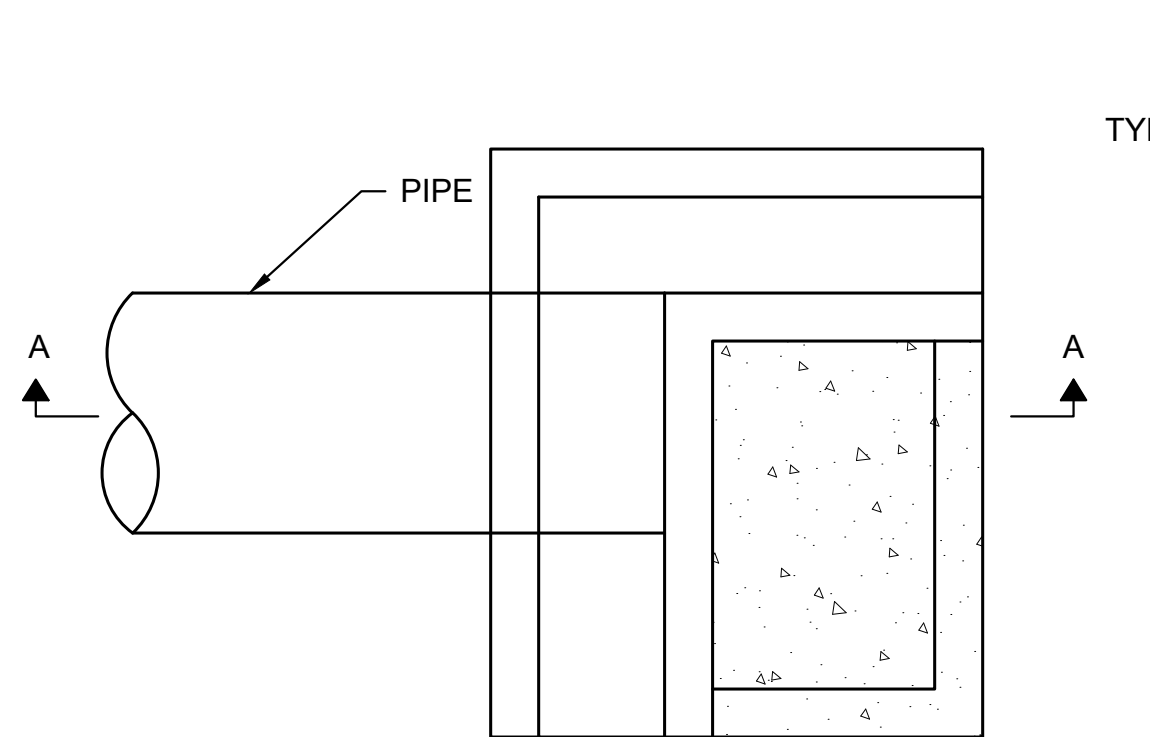


SECTION B-B
TYPE D-W END WALL

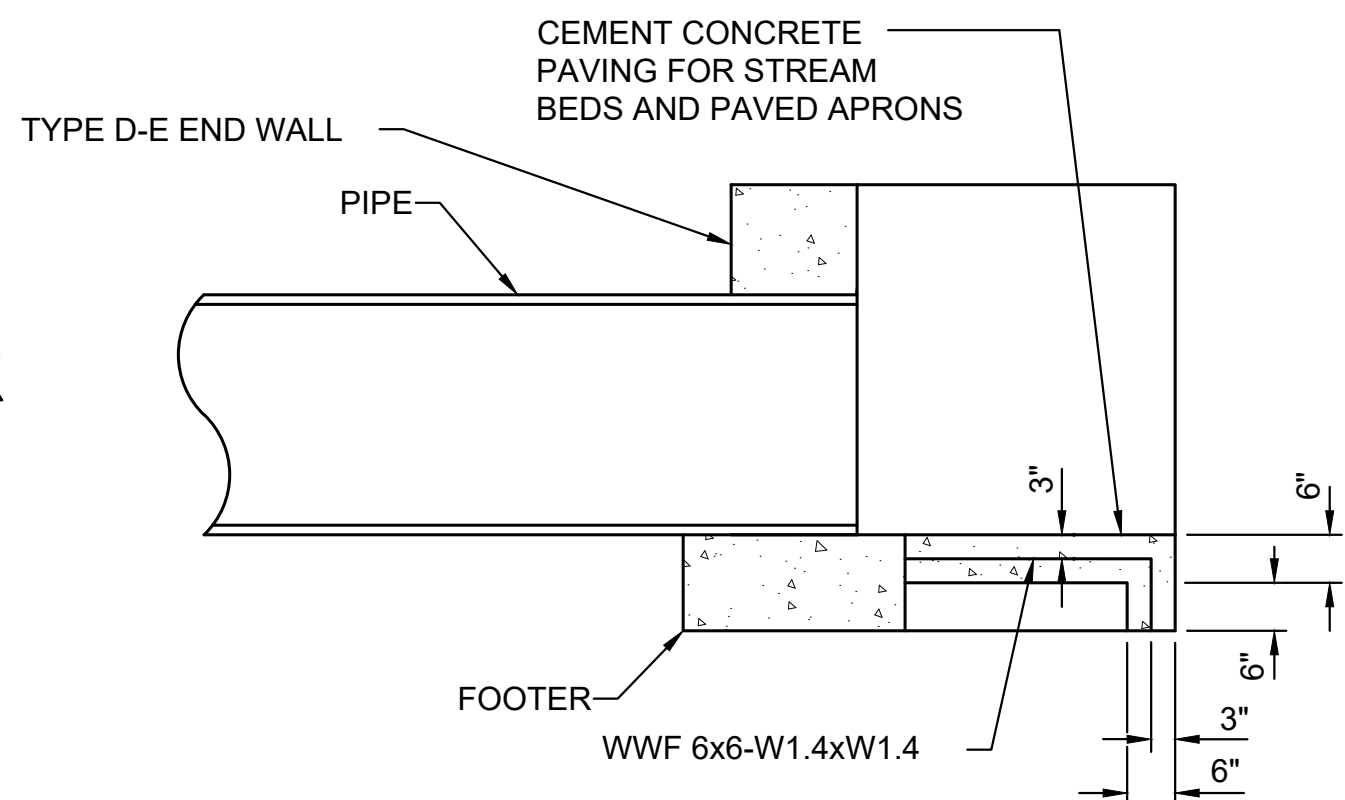


SECTION C-C
SEE NOTE 4

PAVED APRON FOR TYPE D-W END WALLS
(SEE RC-31M FOR END WALL DETAILS)

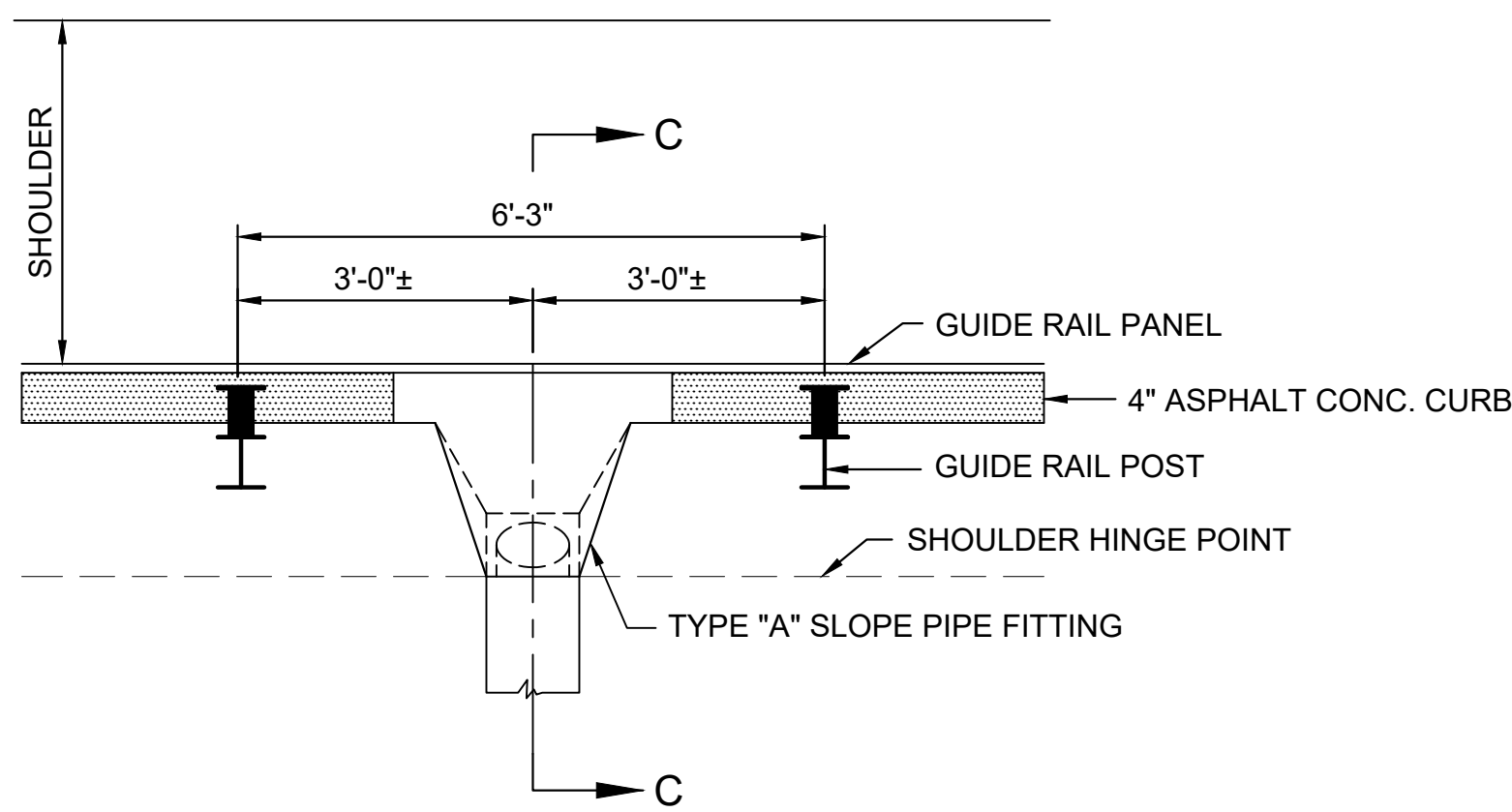


PLAN VIEW
TYPE D-E END WALL

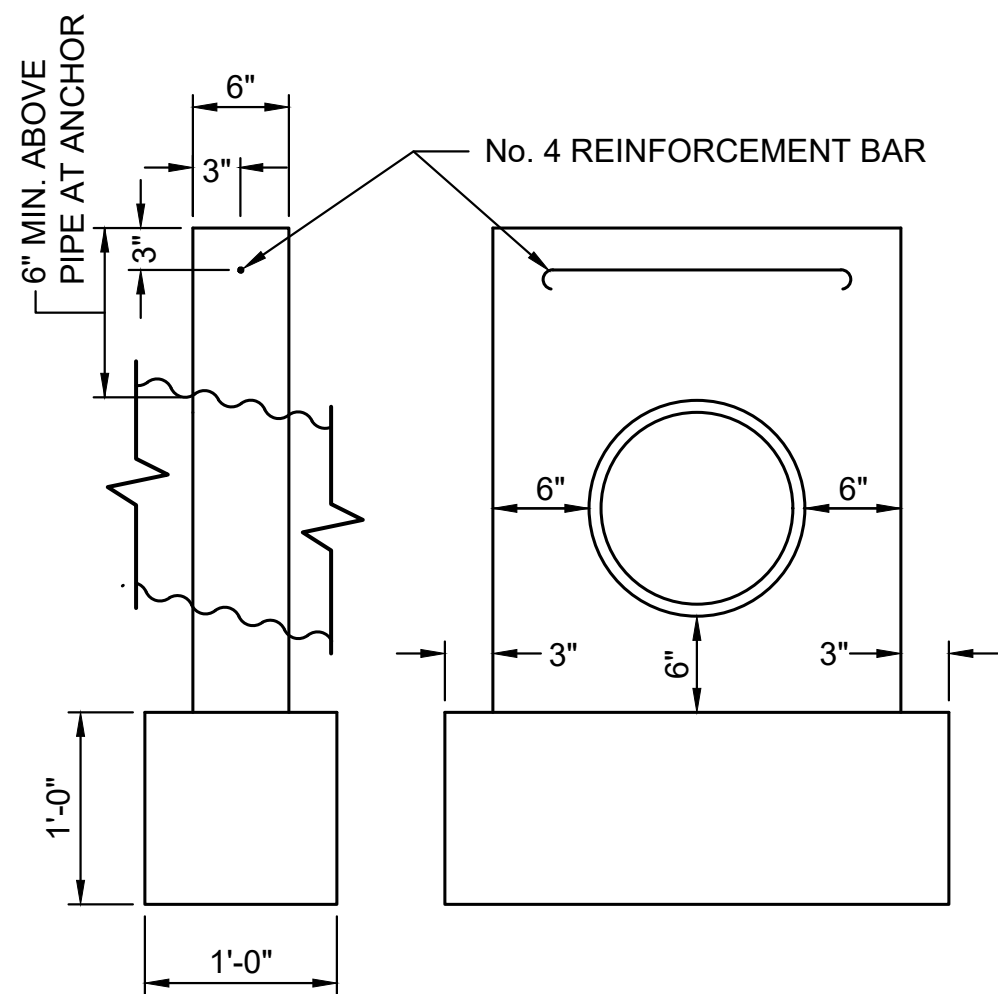


SECTION A-A
TYPE D-E END WALL

PAVED APRON FOR TYPE D-E & E-S END WALLS
(SEE RC-31M FOR END WALL DETAILS)



PLAN VIEW
INSTALLATION OF SLOPE PIPE FITTING
SEE NOTE 4



**SLOPE PIPE ANCHOR FOR BELOW GROUND
INSTALLATION OF SLOPE PIPES**



RECOMMENDED: NOVEMBER 28, 2023

[Signature]
ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

[Signature]
CHIEF ENGINEER

STANDARD DRAINAGE DETAILS

**PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING**

FILE NAME: PTS-124-5.dwg

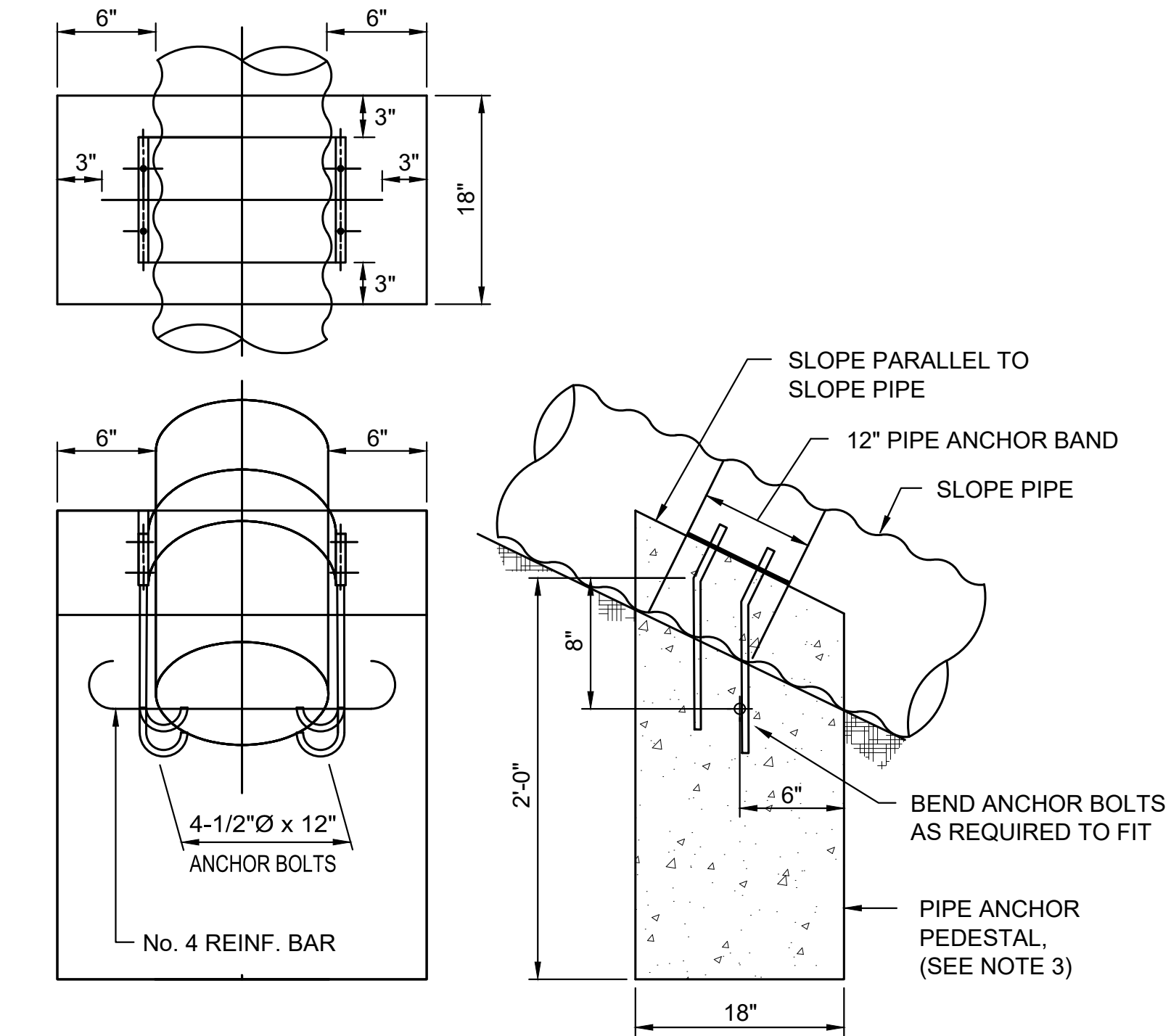
DRAWING TYPE: 5A

SHEET 5 OF 6

DATE: NOVEMBER 2023

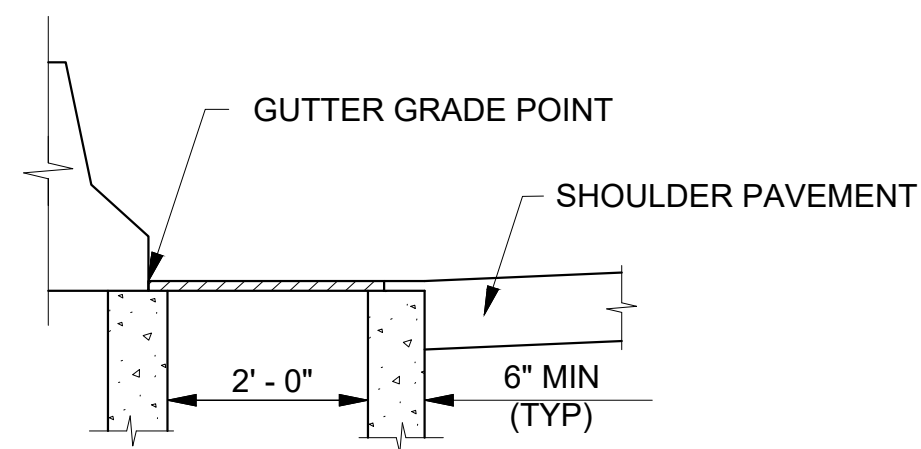
PTS-124

- NOTES:
1. PLACE ONE PIPE ANCHOR FOR ABOVE GROUND INSTALLATION AT EACH PIPE JOINT OR AS DIRECTED BY THE REPRESENTATIVE WHEN INSTALLING PIPES ON THE SURFACE OF SLOPES.
 2. SLOPE PIPE ANCHORS ARE INCIDENTAL TO THE SLOPE PIPE.
 3. CONSTRUCT PEDESTAL USING CLASS A CEMENT CONCRETE IN ACCORDANCE WITH SECTION 704.

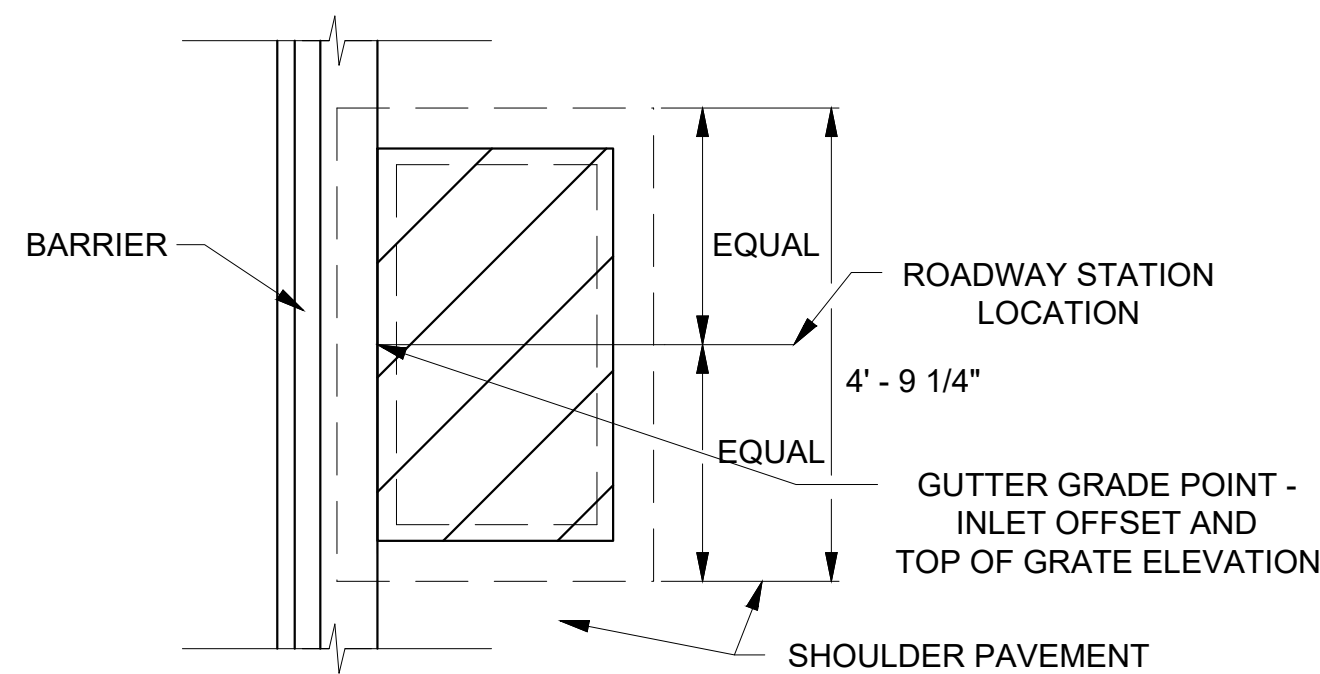


PIPE ANCHOR FOR ABOVE GROUND INSTALLATION OF SLOPE PIPES
FILL CONDITION
SEE NOTE 1

	RECOMMENDED: NOVEMBER 28, 2023	STANDARD DRAINAGE DETAILS	PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
	 ASSISTANT CHIEF ENGINEER - DESIGN		FILE NAME: PTS-124-6.dwg	SHEET 6 OF 6
	APPROVED:  NOVEMBER 29, 2023		DRAWING TYPE: 5A	
	CHIEF ENGINEER		DATE: NOVEMBER 2023	PTS-124

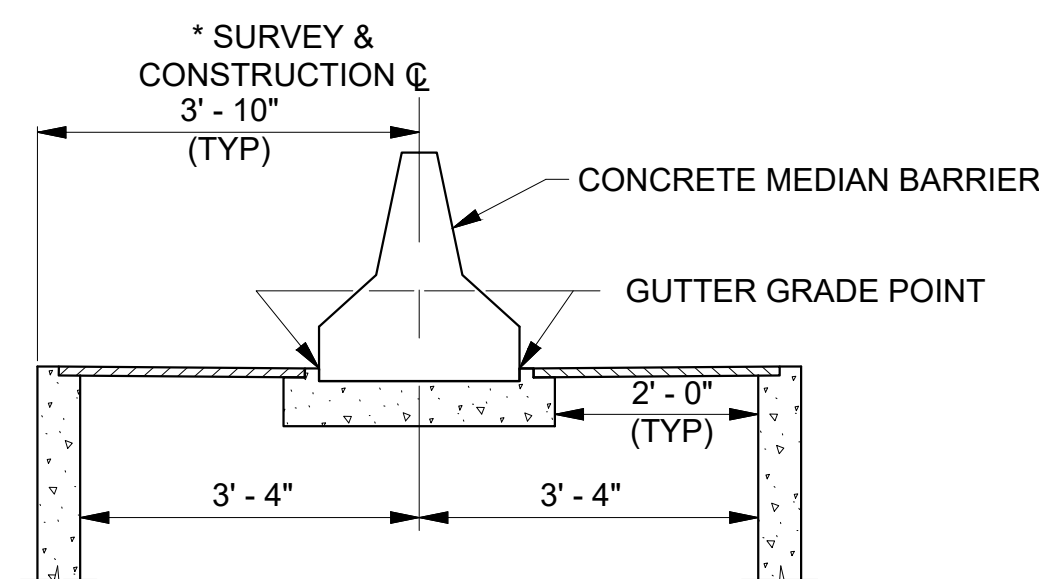


TYPE M INLET LOCATION DETAIL
ELEVATION VIEW
NOT TO SCALE

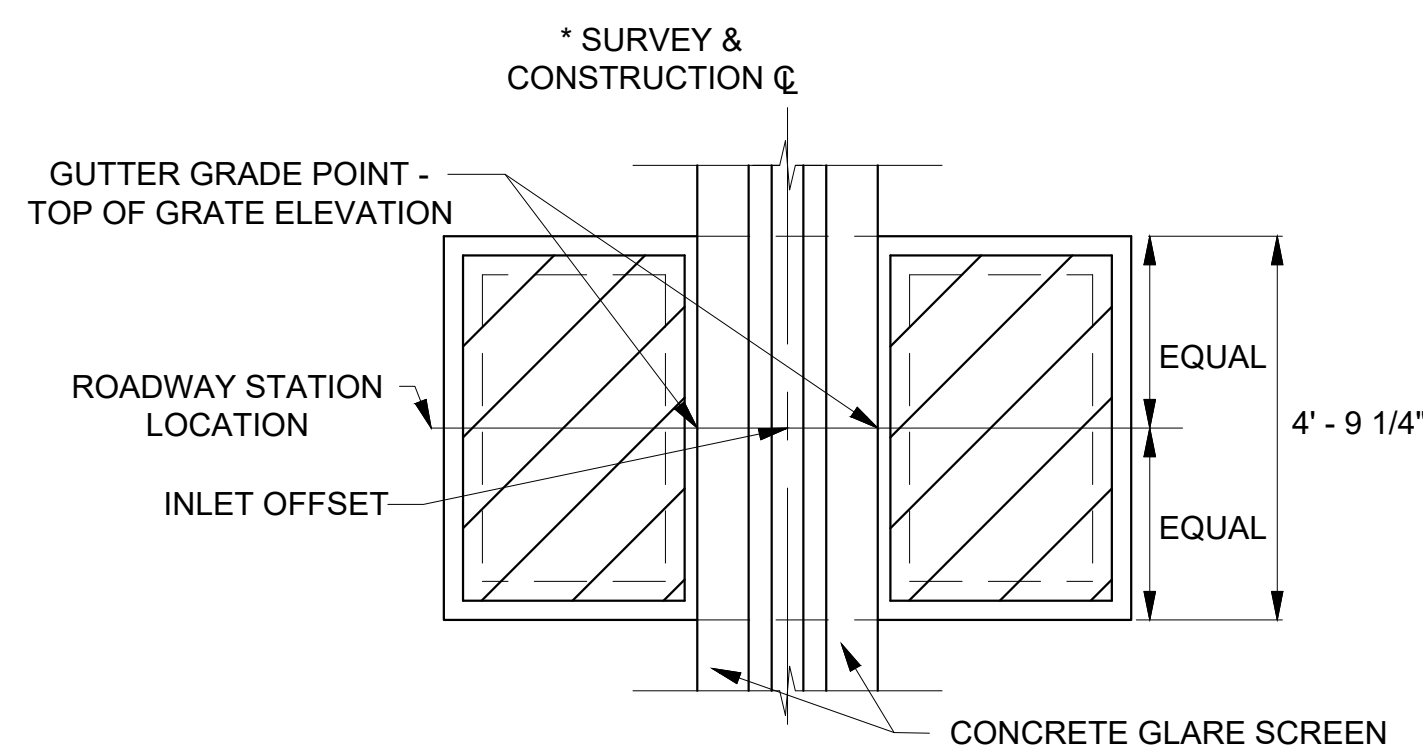


TYPE M INLET LOCATION DETAIL
PLAN VIEW
NOT TO SCALE

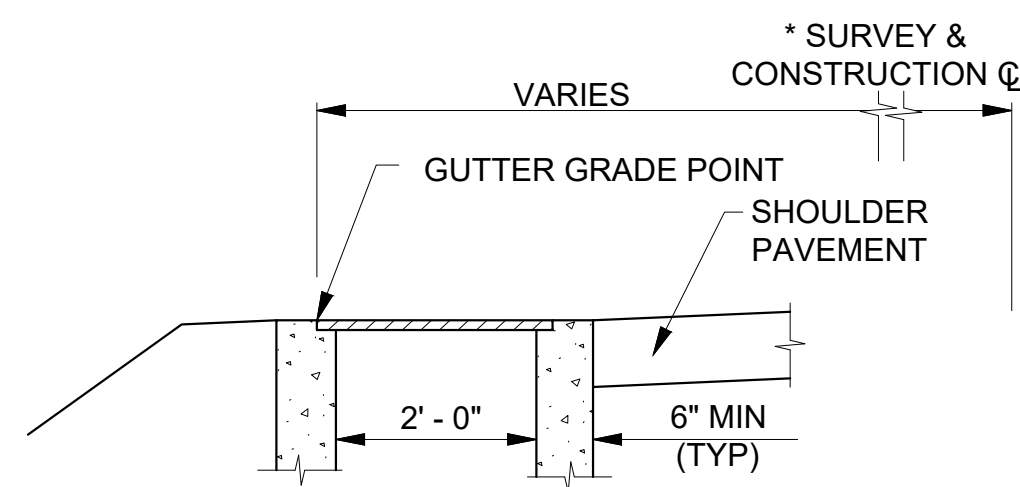
TYPE M INLET LOCATION DETAIL -
AT BARRIER



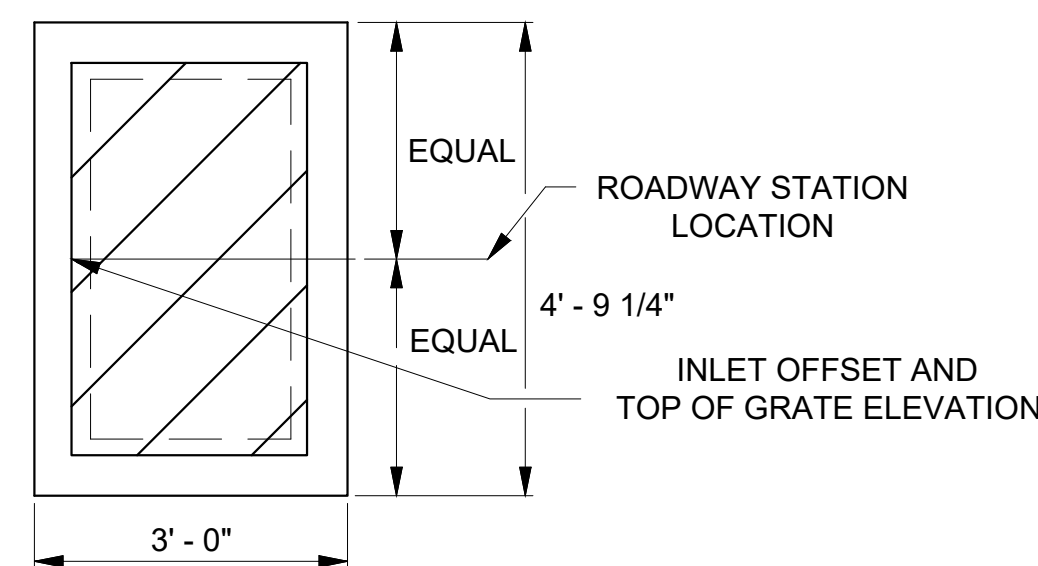
TYPE M DOUBLE INLET LOCATION DETAIL
ELEVATION
NOT TO SCALE



TYPE M DOUBLE INLET LOCATION DETAIL
PLAN
NOT TO SCALE
TYPE M DOUBLE INLET LOCATION DETAIL

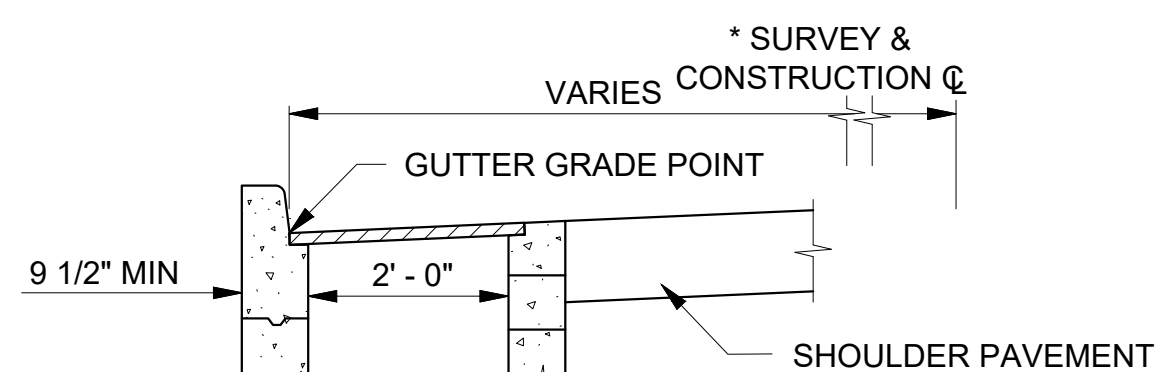


TYPE M INLET LOCATION DETAIL
ELEVATION VIEW
NOT TO SCALE

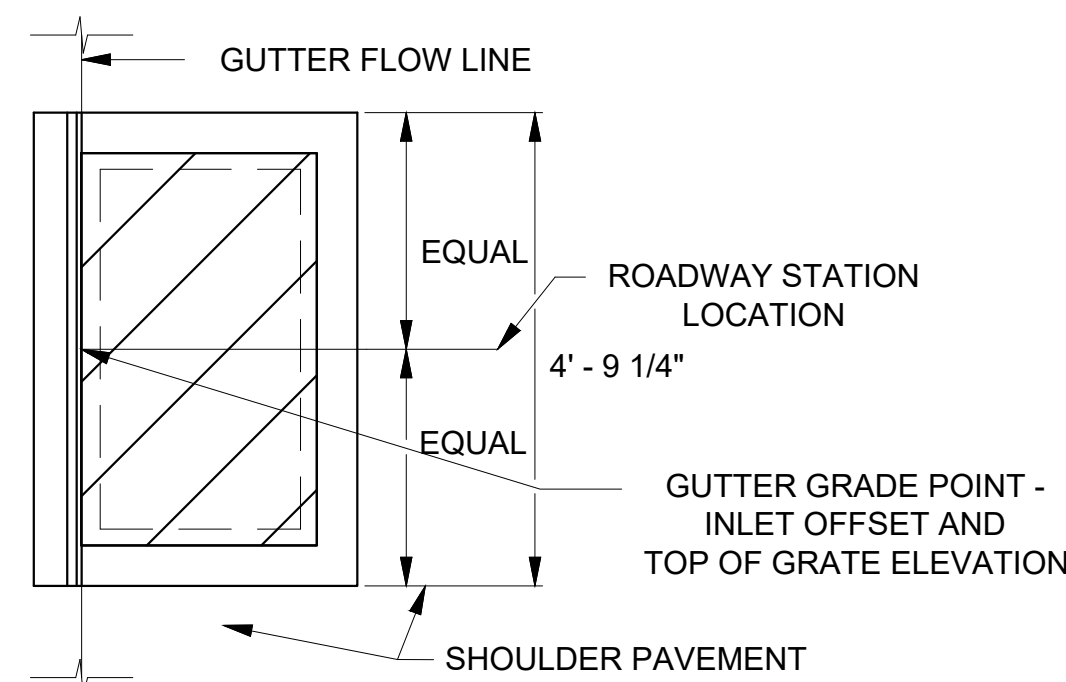


TYPE M INLET LOCATION DETAIL
PLAN VIEW
NOT TO SCALE

TYPE M INLET LOCATION DETAIL -
IN FILL SHOULDERS

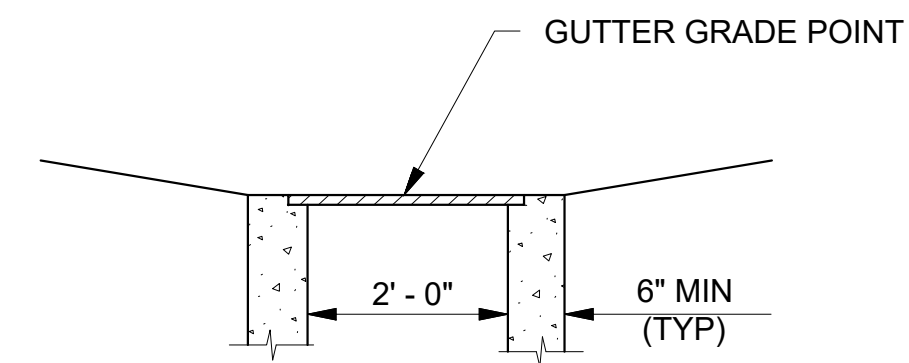


TYPE C INLET LOCATION DETAIL
ELEVATION VIEW
NOT TO SCALE

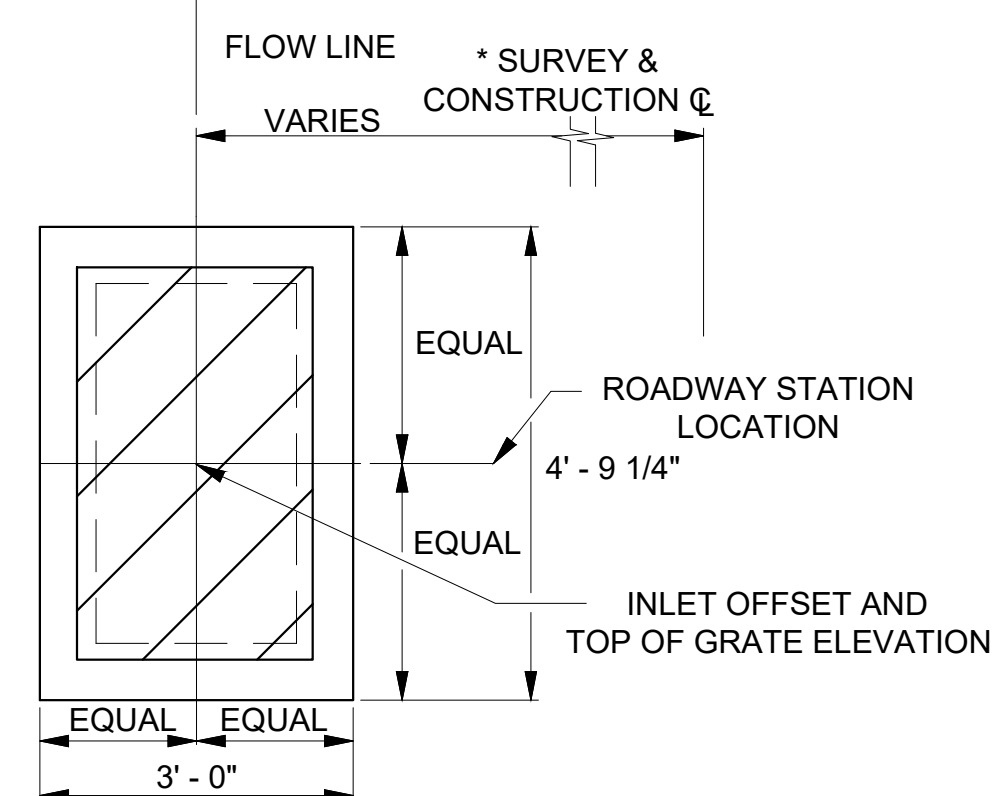


TYPE C INLET LOCATION DETAIL
PLAN VIEW
NOT TO SCALE

TYPE C INLET LOCATION DETAIL

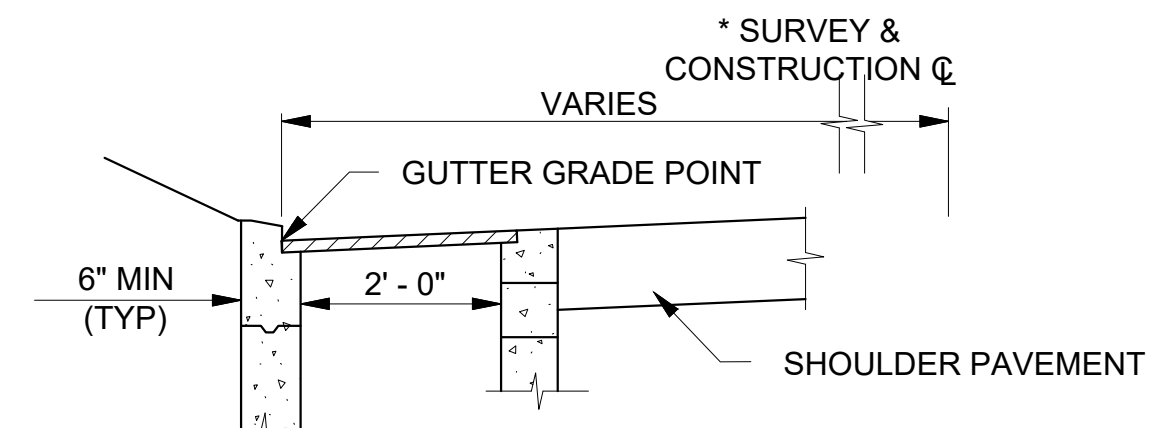


TYPE M INLET LOCATION DETAIL
ELEVATION VIEW
NOT TO SCALE

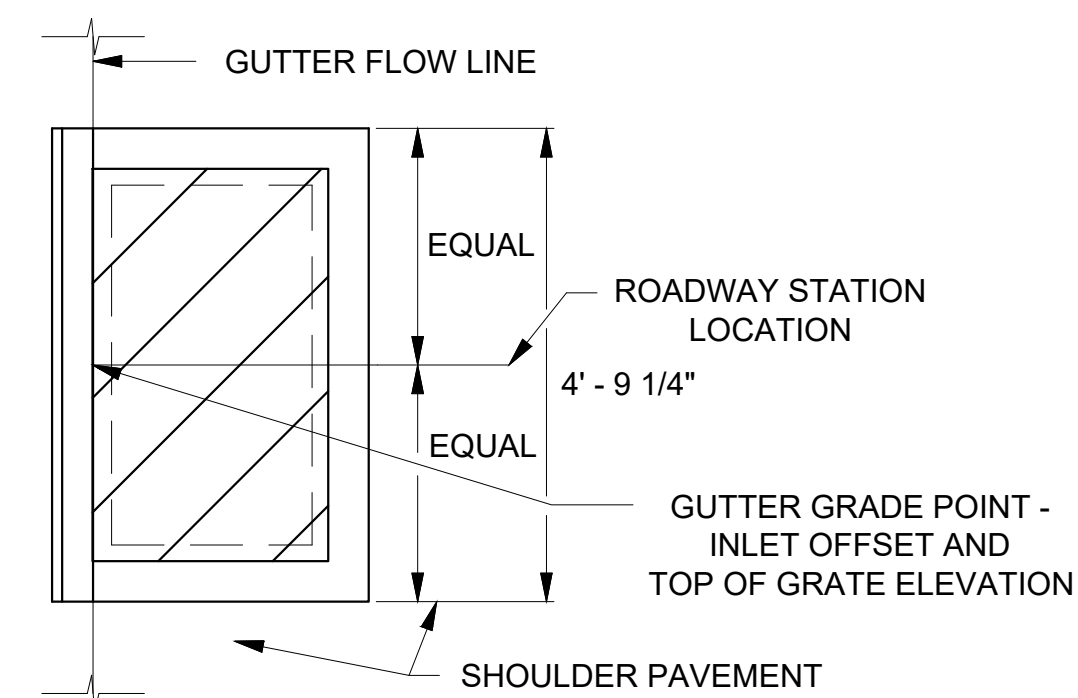


TYPE M INLET LOCATION DETAIL
PLAN VIEW
NOT TO SCALE

TYPE M INLET LOCATION DETAIL -
AT CONCENTRATED FLOWS



TYPE S INLET LOCATION DETAIL
ELEVATION VIEW
NOT TO SCALE



TYPE S INLET LOCATION DETAIL
PLAN VIEW
NOT TO SCALE

TYPE S INLET LOCATION DETAIL-
IN CUT SHOULDERS

NOTES:
THE GUTTER GRADE POINT IS WHERE THE TOP OF GRATE ELEVATION IS APPLIED.

FOR TYPE M INLETS ADJACENT TO BARRIER, THE STATION, OFFSET AND GUTTER GRADE POINT ARE REFERENCED TO THE CENTER OF INLET AT THE FACE OF BARRIER. SEE PTS-121, CONSTRUCTION TYPE M INLET.

FOR TYPE M INLETS IN FILL SHOULDERS, THE STATION, OFFSET AND GUTTER GRADE POINT ARE REFERENCED TO THE CENTER OF THE INLET AT THE BACK OF GRATE.

FOR TYPE M INLETS AT CONCENTRATED FLOWS, THE STATION, OFFSET AND GUTTER GRADE POINT ARE REFERENCED TO THE CENTER OF THE INLET.

FOR TYPE S AND TYPE C INLETS, THE STATION, OFFSET AND GUTTER GRADE POINT ARE REFERENCED TO THE CENTER OF THE INLET AT THE BACK OF GRATE (FACE OF CURB).

FOR TYPE M DOUBLE INLETS, THE STATION AND OFFSET ARE REFERENCED TO THE CENTER OF THE INLET BOX (CENTER OF BARRIER). THE GUTTER GRADE POINT IS REFERENCED TO THE CENTER OF EACH INLET GRATE AT THE FACE OF BARRIER.



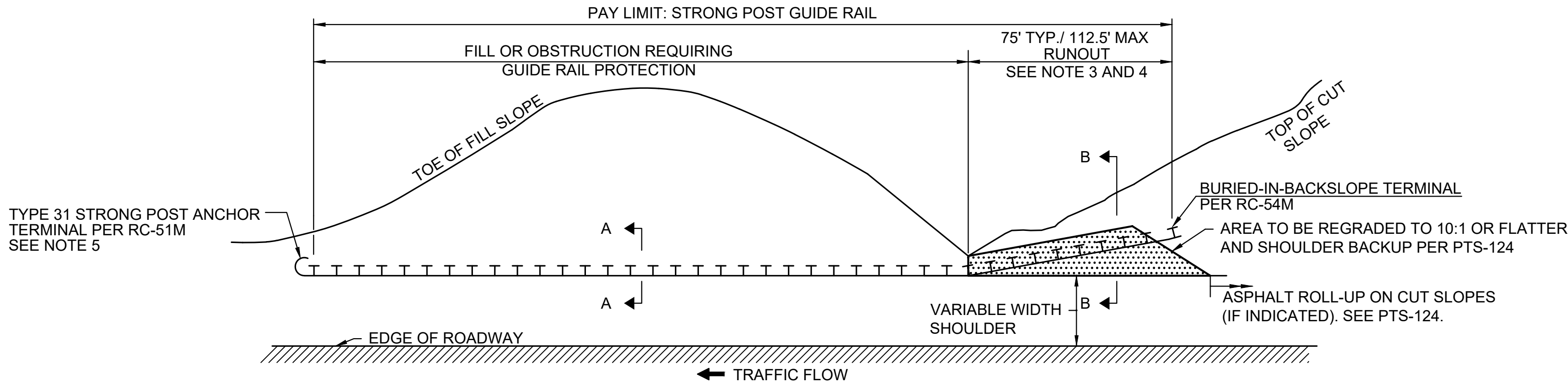
RECOMMENDED: APRIL 30, 2022
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: APRIL 30, 2022
CHIEF ENGINEER

INLET PLACEMENT

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-125.dwg
DRAWING TYPE: 5A
SHEET 1 OF 1

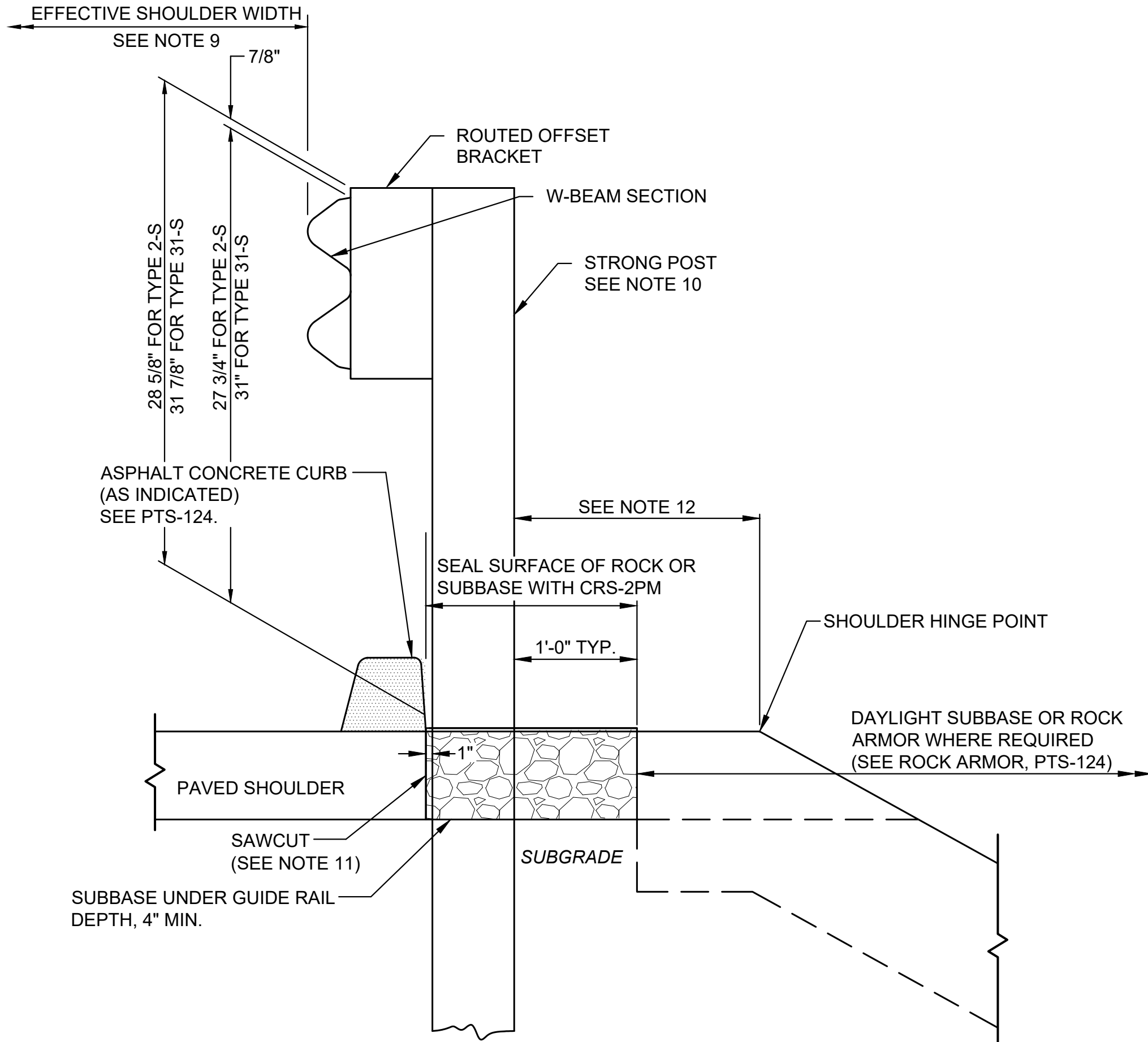
DATE: APRIL 2022
PTS-125



PLAN VIEW

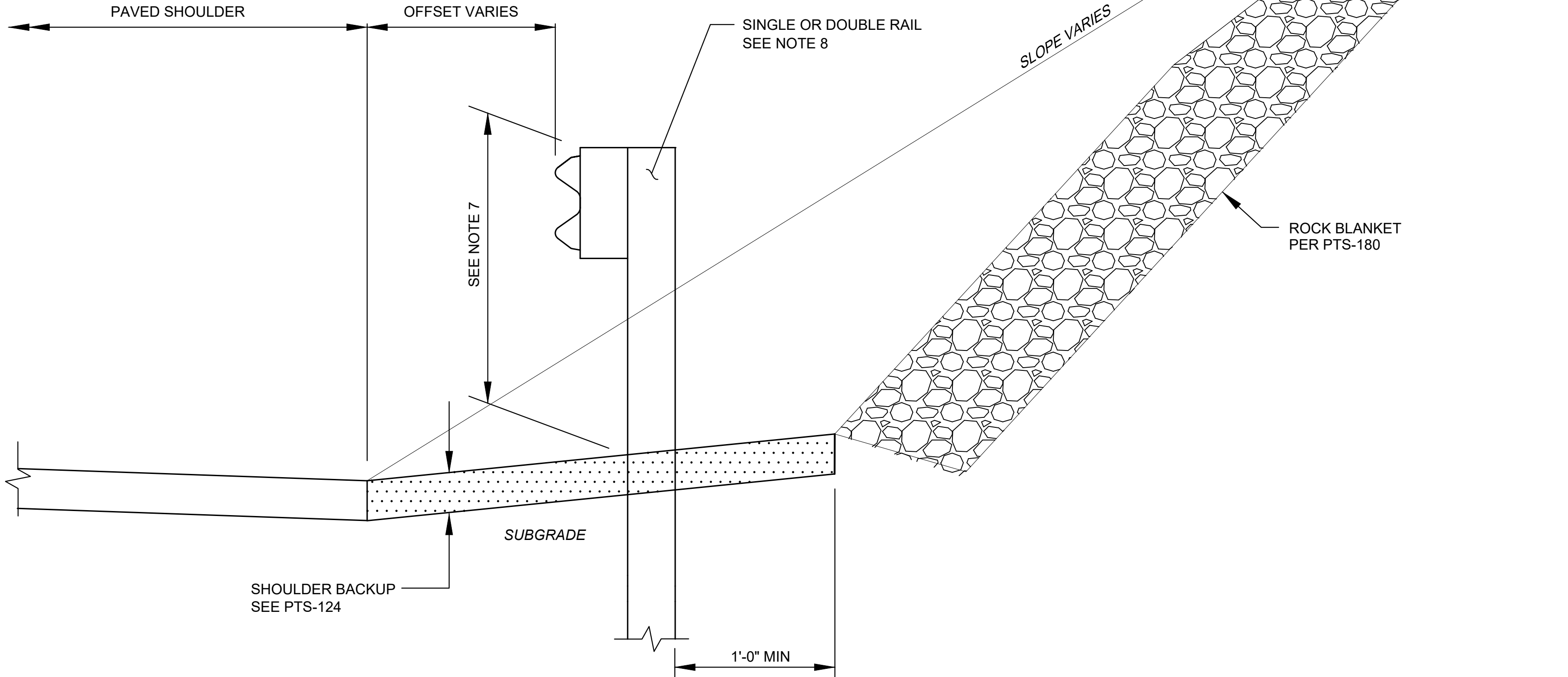
STRONG POST GUIDE RAIL TAPER BURY IN CUT SLOPE

- NOTES:
1. PROVIDE MATERIALS AS SHOWN ON SHEET 3, RC-51M, SHEET 3 AND IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 620. USE W6 x 8.5 OR 9 POSTS.
 2. GALVANIZE ALL HARDWARE, GUIDE RAIL MATERIAL AND POSTS IN ACCORDANCE WITH SECTION 1109.
 3. IF THE GUIDE RAIL CANNOT BE BURIED INTO THE CUT SLOPE, THEN TERMINATE THE APPROACH END OF GUIDE RAIL WITH AN APPROVED VEHICLE ATTENUATING TERMINAL END TREATMENT AS INDICATED ON THE PLANS, AS SHOWN ON SHEET 3 AND AS SPECIFIED IN SECTION 620.
 4. RUNOUT MAY BE PARALLEL, AT A 15:1 TAPER RATE OR A COMBINATION OF THE TWO.
 5. WHERE A TYPE 31 STRONG POST ANCHOR TERMINAL CANNOT BE INSTALLED, EXTEND THE GUIDE RAIL A MINIMUM OF 50 FEET BEYOND THE OBSTRUCTION AND INSTALL A TERMINAL SECTION, SINGLE AT THE DIRECTION OF THE REPRESENTATIVE.
 6. FOR LOCATIONS WITH A ROADSIDE SWALE, SEE RC-54M.
 7. THE HEIGHT OF THE TOP OF THE W-BEAM RAIL SHALL BE HELD CONSTANT RELATIVE TO THE ROADWAY PROFILE.
 8. USE 8'-0" LONG POSTS FOR LOCATIONS WITH A DOUBLE RAIL. POSTS FOR THE BURIED-IN-BACKSLOPE TERMINAL SHALL BE 6'-0" LONG.
 9. SEE CONTRACT DRAWINGS FOR PROPOSED EFFECTIVE SHOULDER WIDTHS (TYPICALLY 12'-0" DESIRABLE, 10'-0" MINIMUM)
 10. IN AREAS WHERE THE PROPOSED EFFECTIVE SHOULDER WIDTH CANNOT BE ACHIEVED USING NORMAL GUIDE RAIL POSTS WITH 1-FOOT MINIMUM WIDTH TO THE HINGE POINT, USE 8'-0" LONG POSTS AS SHOWN ON PTS-130, TO MAXIMIZE THE SHOULDER WIDTH.
 11. SAWCUT, IF NECESSARY, TO PROVIDE A VERTICAL FACE FOR SUBBASE UNDER GUIDE RAIL TO ACCOMMODATE INSTALLATION OF GUIDE RAIL POSTS.
 12. 2'-0" MIN. FOR NEW CONSTRUCTION / RECONSTRUCTION CONTRACTS; 1'-0" MIN. OR 2'-0" DESIRABLE FOR RESURFACING / REHABILITATION CONTRACTS.



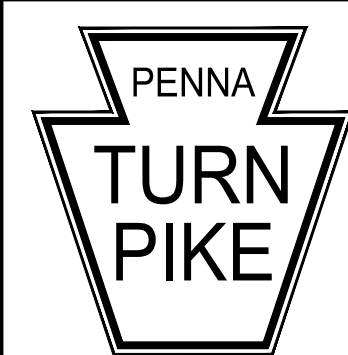
SECTION A-A

GUIDE RAIL INSTALLATION - FILL CONDITION



SECTION B-B

CUT CONDITION IN TAPER
TO BURY IN CUT SLOPE



RECOMMENDED: NOVEMBER 28, 2023
[Signature]
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: NOVEMBER 29, 2023
[Signature]
CHIEF ENGINEER

STRONG POST GUIDE RAIL
INSTALLATION

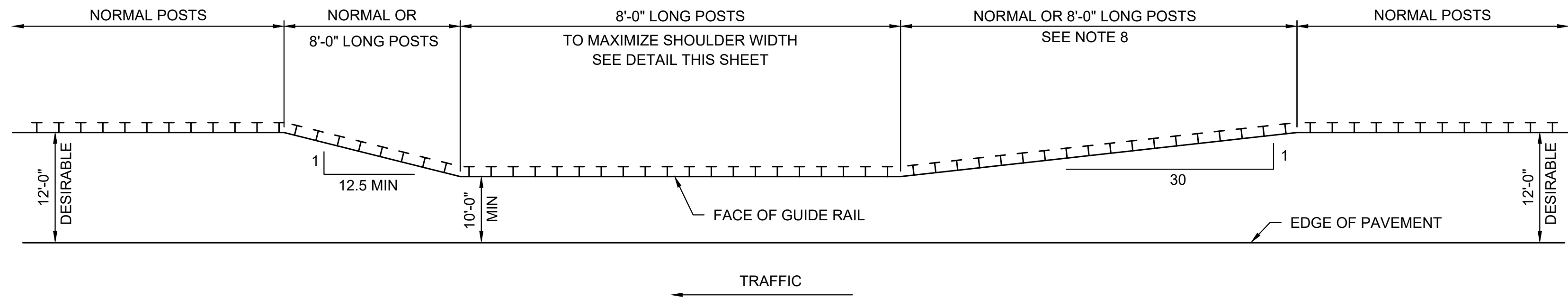
PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-130-1.dwg
DRAWING TYPE: 5A

SHEET 1 OF 3

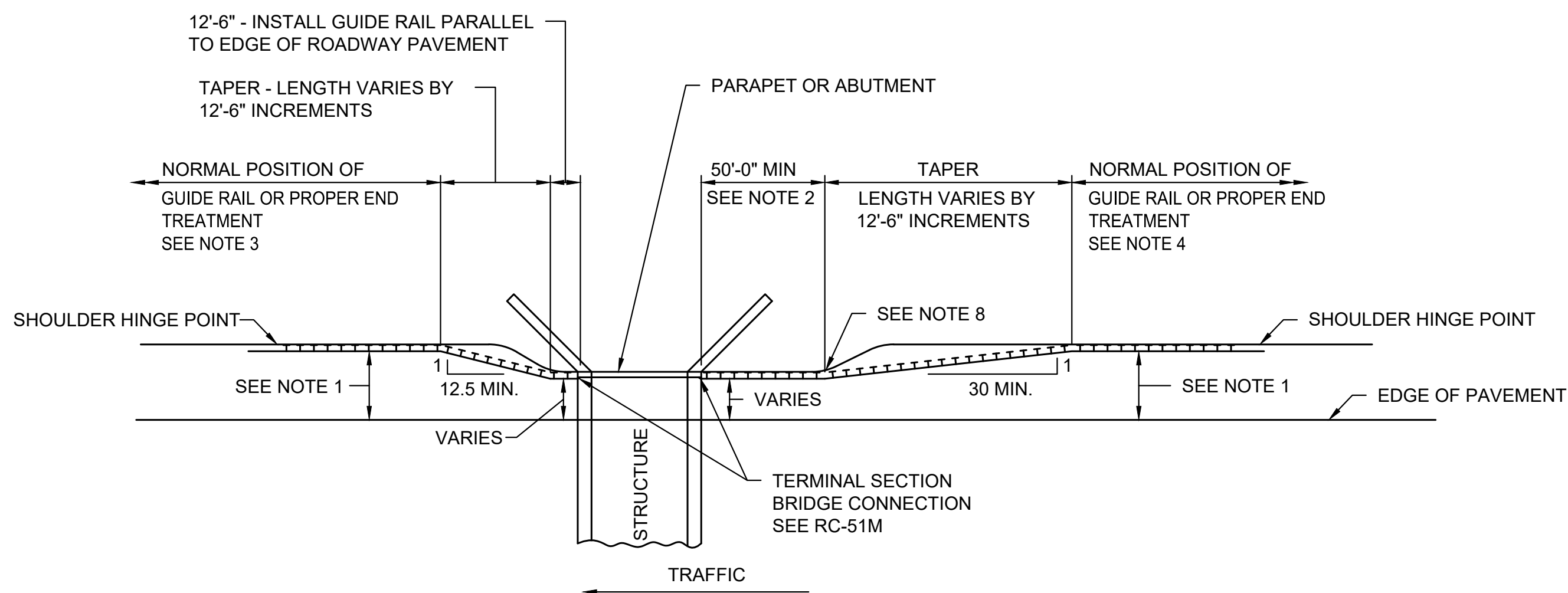
DATE: NOVEMBER 2023

PTS-130



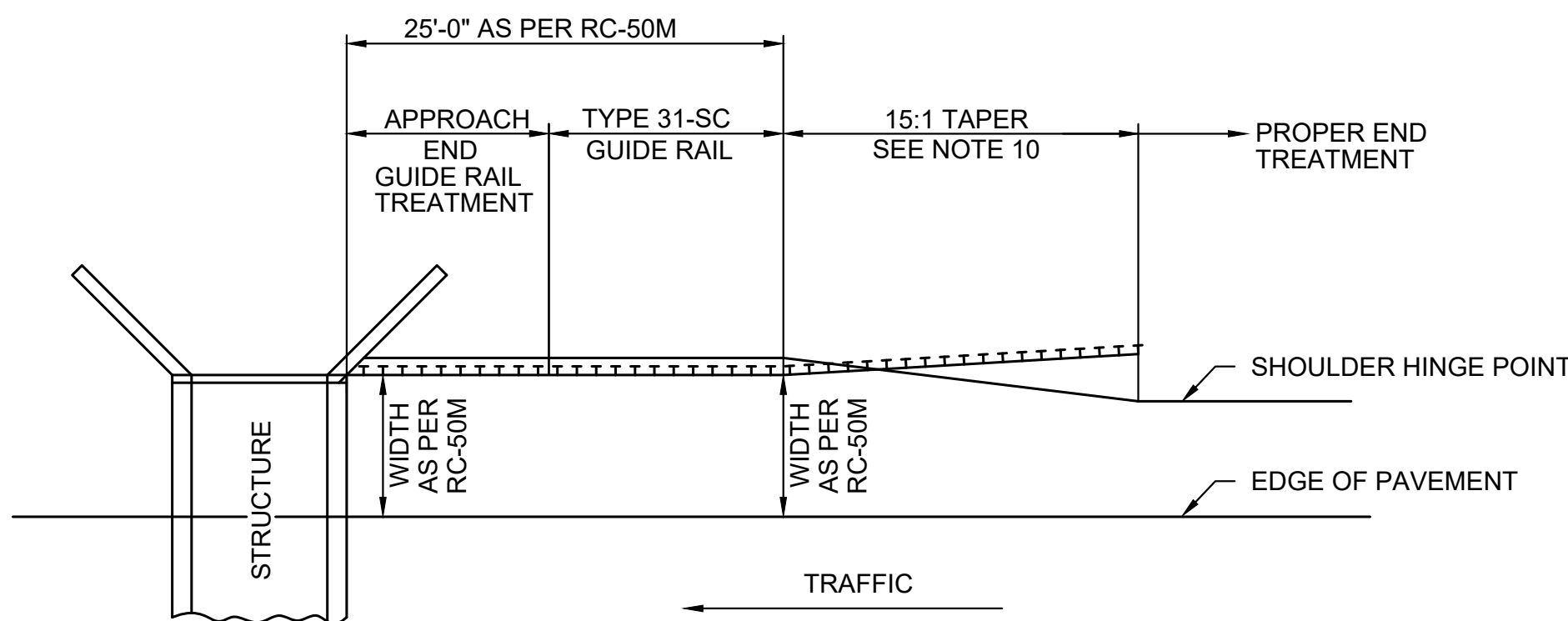
PLAN VIEW

ALLOWABLE TAPER IN CONTINUOUS RUN OF GUIDE RAIL

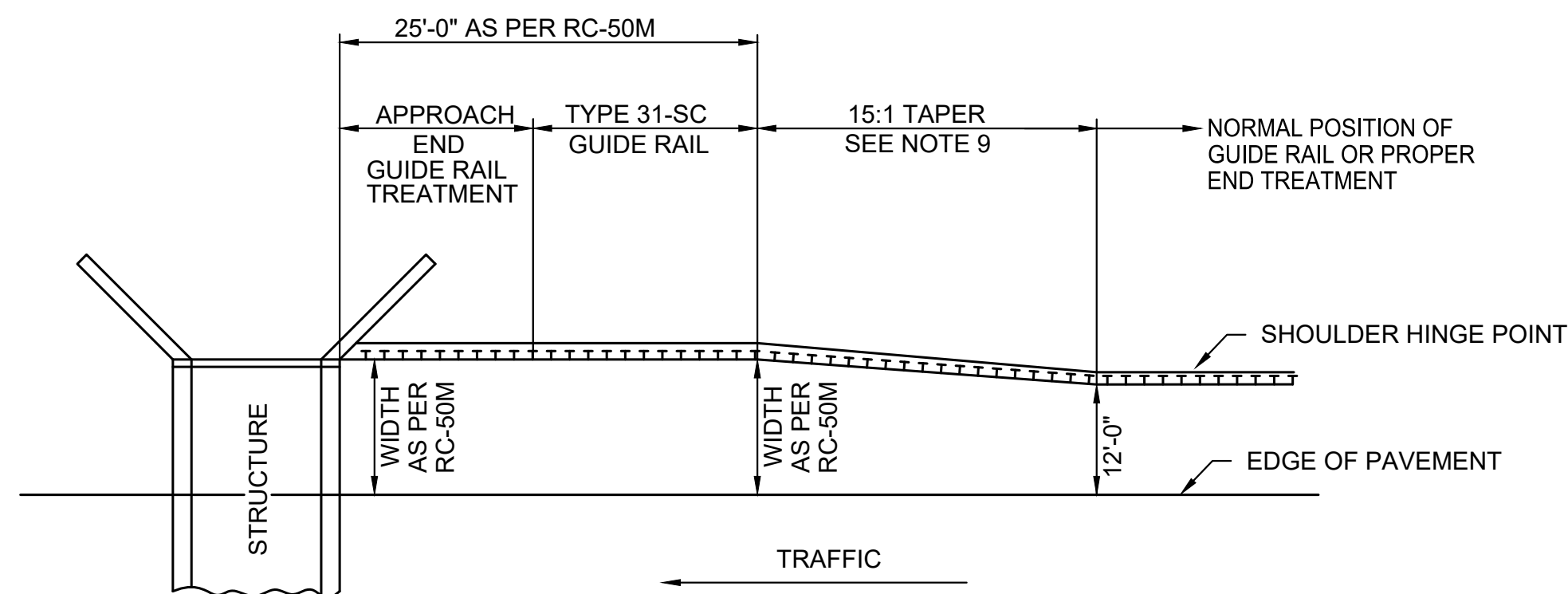


PLAN VIEW

PLACEMENT OF GUIDE RAIL AT STRUCTURES WITH LESS THAN STANDARD HORIZONTAL CLEARANCE

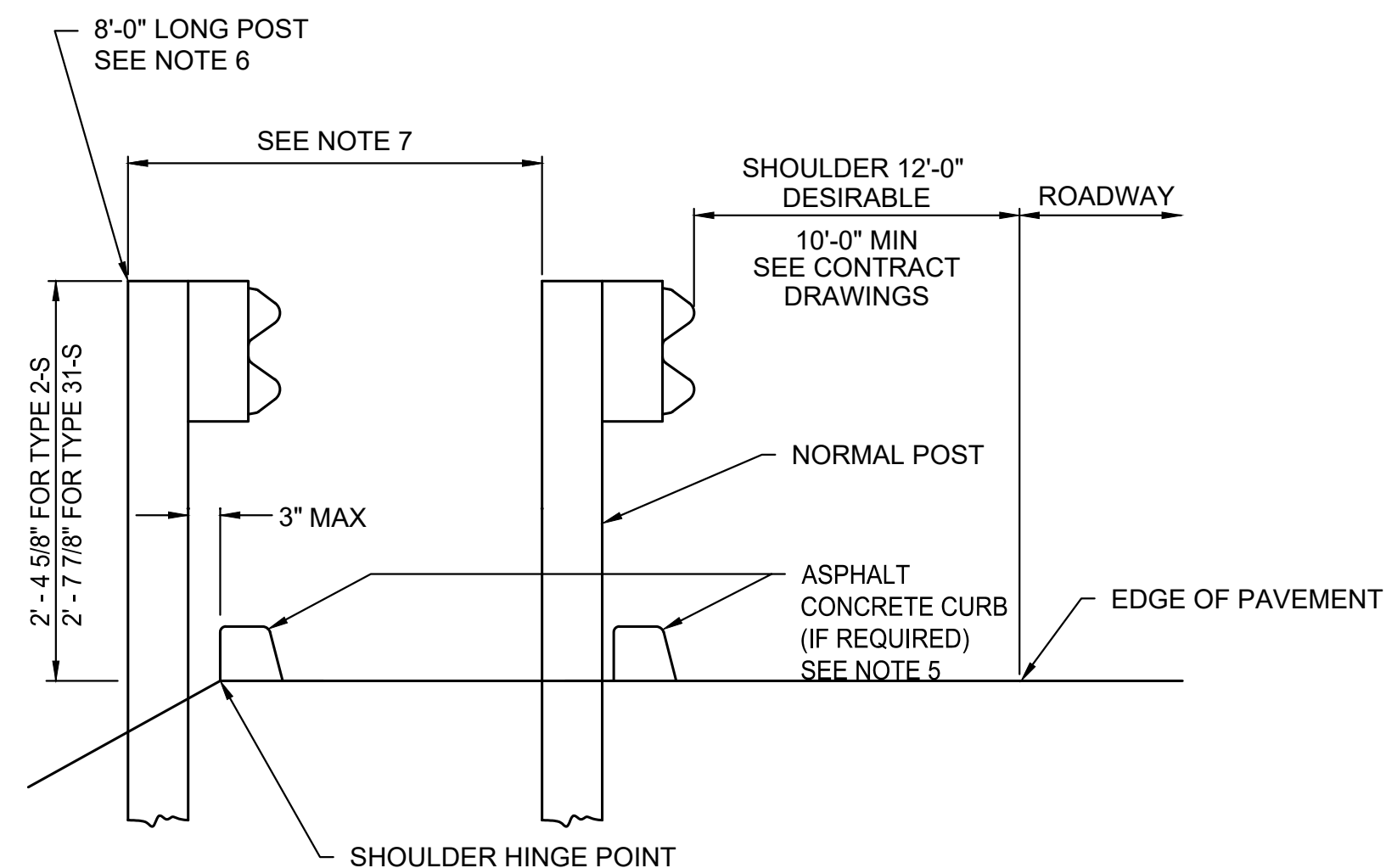


PLAN VIEW



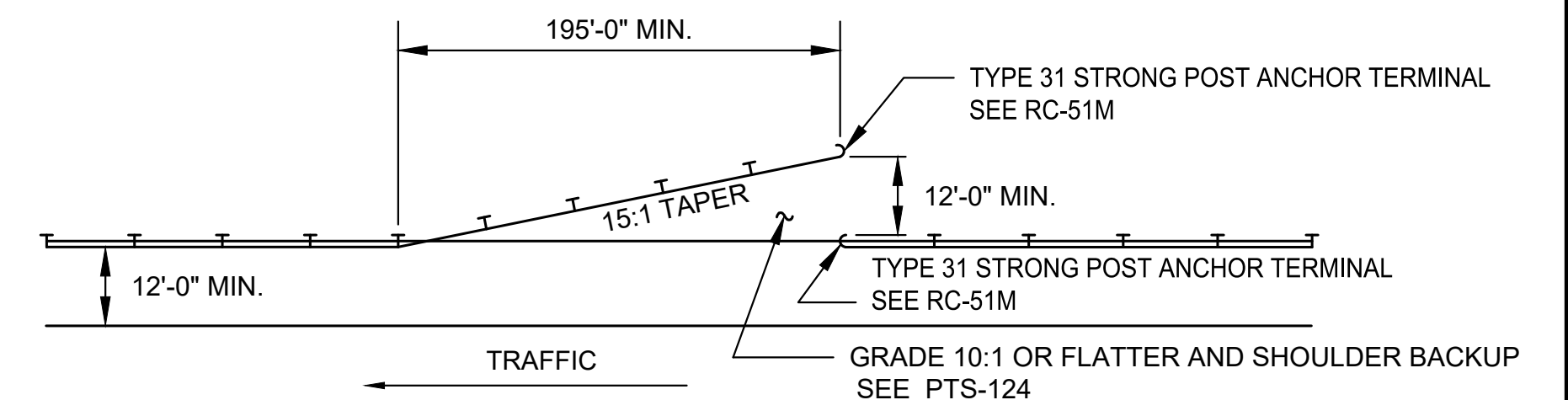
PLAN VIEW

PLACEMENT OF GUIDE RAIL AT STRUCTURES WITH STANDARD HORIZONTAL CLEARANCE



8'-0" LONG POST LOCATION DETAIL

- NOTES:
- 12'-0" DESIRABLE, 10'-0" MIN, SEE CONTRACT DRAWINGS FOR PROPOSED SHOULDER WIDTH.
 - INSTALL GUIDE RAIL PARALLEL TO EDGE OF ROADWAY PAVEMENT. SEE CONTRACT DRAWINGS FOR ATTACHMENT TO STRUCTURE.
 - GUIDE RAIL IS NOT REQUIRED ON TRAILING ENDS OF STRUCTURES UNLESS WARRANTED BY OTHER OBSTRUCTIONS.
 - INSTALL MINIMUM OF 25 FEET OF STRONG POST GUIDE RAIL PARALLEL TO EDGE OF ROADWAY IF A VEHICLE ATTENUATING TERMINAL (V.A.T.E.T.) END TREATMENT IS TO BE USED ALONG EDGE OF SHOULDER.
 - IF REQUIRED, CONSTRUCT ASPHALT CONCRETE CURB PARALLEL TO THE GUIDE RAIL ALIGNMENT, AS SHOWN ON PTS-124.
 - USE W6 x 8.5 OR 9 POSTS IN ACCORDANCE WITH RC-51M, 8'-0" LENGTH.
 - IF 1'-0" MINIMUM CLEAR WIDTH CANNOT BE MAINTAINED BEHIND THE NORMAL GUIDE RAIL POST FOR THE PROPER SHOULDER WIDTH, THEN USE 8'-0" LONG POSTS IN THIS AREA.
 - INSTALL A OM-3R "RIGHT CLEARANCE MARKER" AT THE POINT WHERE THE GUIDE RAIL TAPER BEGINS. HEIGHT = 18 INCHES FROM TOP OF GUIDE RAIL TO BOTTOM OF SIGN.
 - TRANSITION HORIZONTAL OFFSET FROM RC-50M TO THE 12'-0" CLEARANCE CONSISTENTLY OVER 100'.
 - MAINTAIN 2'-7" HEIGHT OF RAIL. PROVIDE PROPER END TREATMENT. DO NOT INSTALL A V.A.T.E.T. ON LESS THAN 100' TAPER.



PLAN VIEW

MAINTENANCE OPENING



RECOMMENDED: NOVEMBER 28, 2023
 ASSISTANT CHIEF ENGINEER - DESIGN
 APPROVED: NOVEMBER 29, 2023
 CHIEF ENGINEER

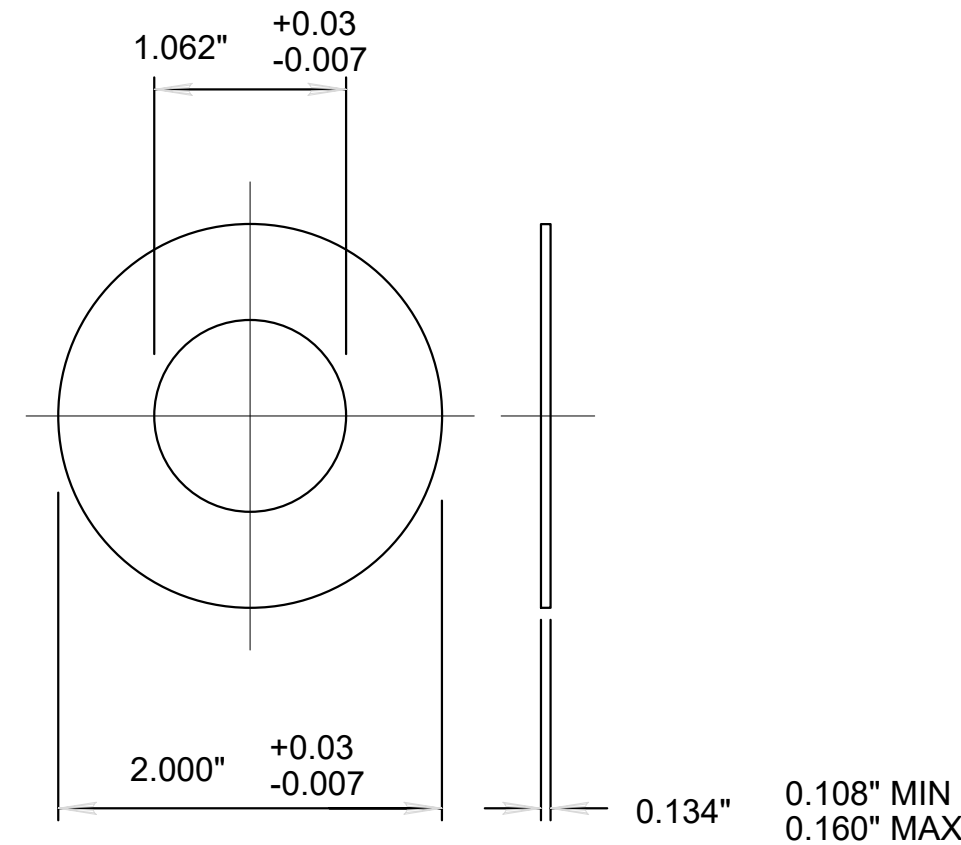
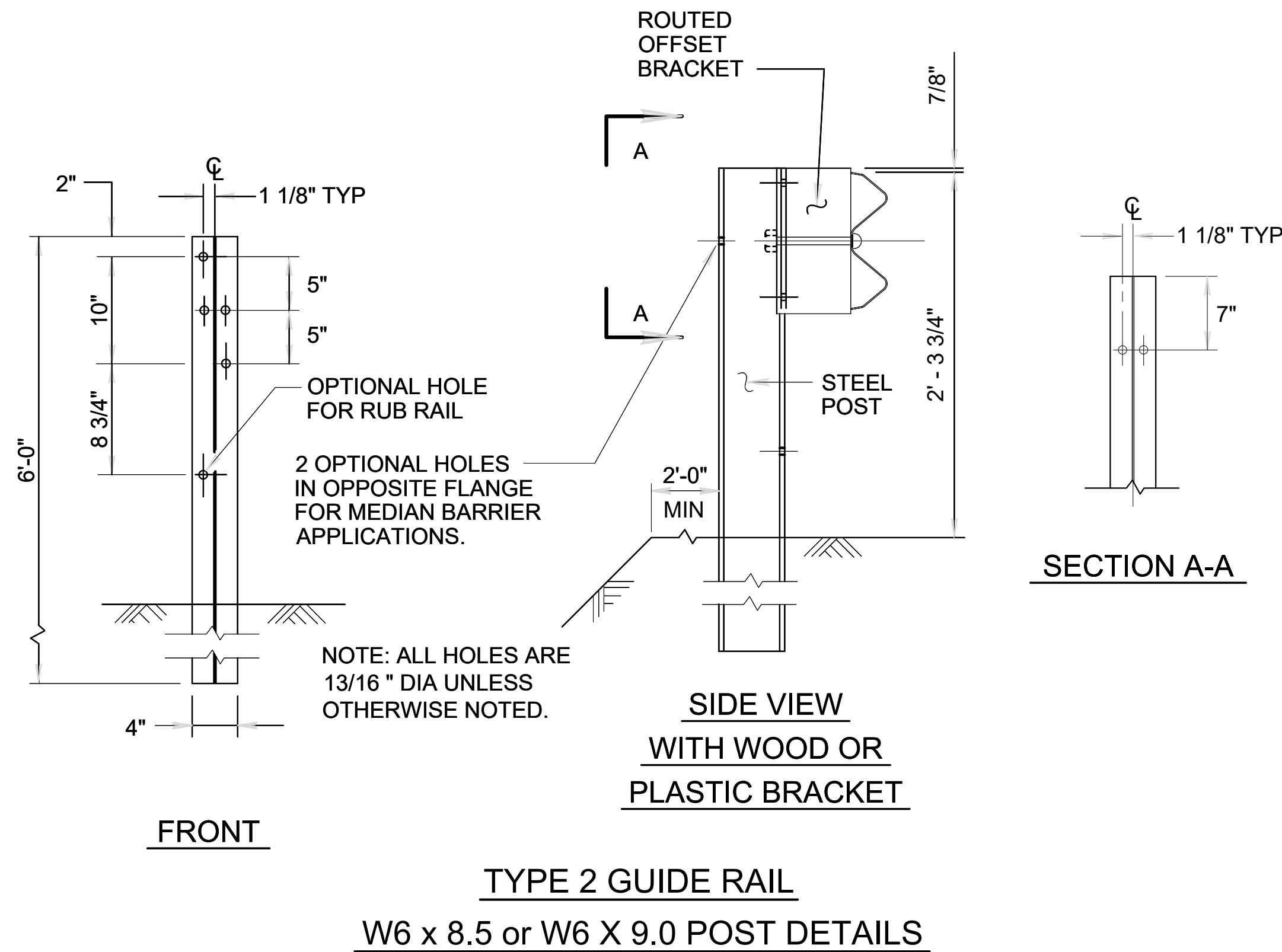
STRONG POST GUIDE RAIL INSTALLATION (GUIDE RAIL TAPERS & LONG POSTS)

PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING

FILE NAME: PTS-130-2.dwg
 DRAWING TYPE: 5A

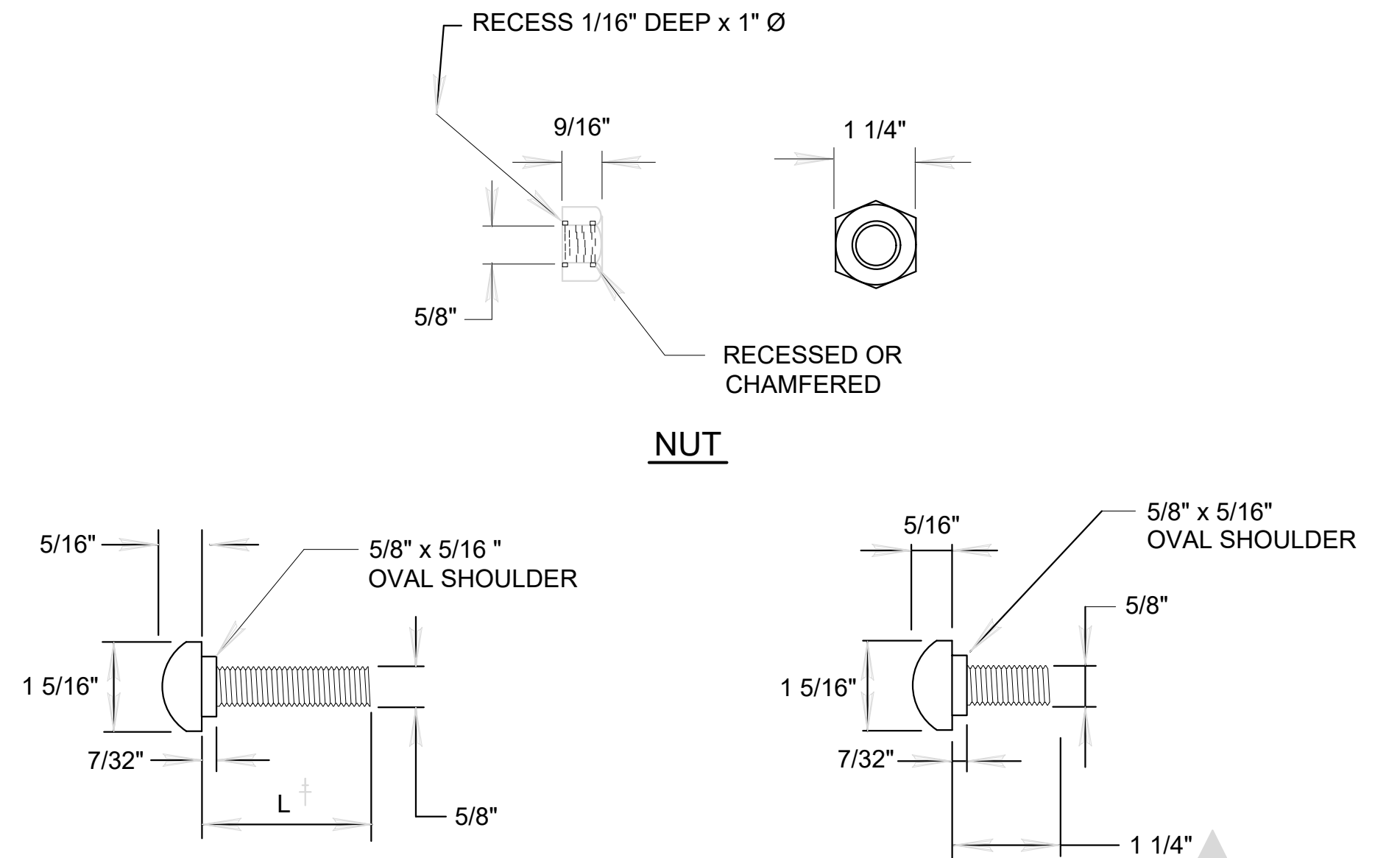
SHEET 2 OF 3

DATE: NOVEMBER 2023
 PTS-130



TYPE A PLAIN WASHER

NOTE:
FOR ALL SPLICE BOLT CONNECTIONS,
PROVIDE A TYPE A PLAIN WASHER
BETWEEN BOLT HEAD AND TERMINAL
SECTION.



POST BOLT

† USE L = 4 1/2" FOR ALL RUBBING RAIL TO GUIDE RAIL POST CONNECTIONS AND USE L = 10" FOR ALL W-BEAM RAIL ELEMENT TO GUIDE RAIL POST AND ROUTED OFFSET BRACKET CONNECTIONS.

▲ FOR FOUR (4) PANEL NESTED RAIL ELEMENT USE 2 1/8" SPLICE BOLT.

SPLICE BOLT

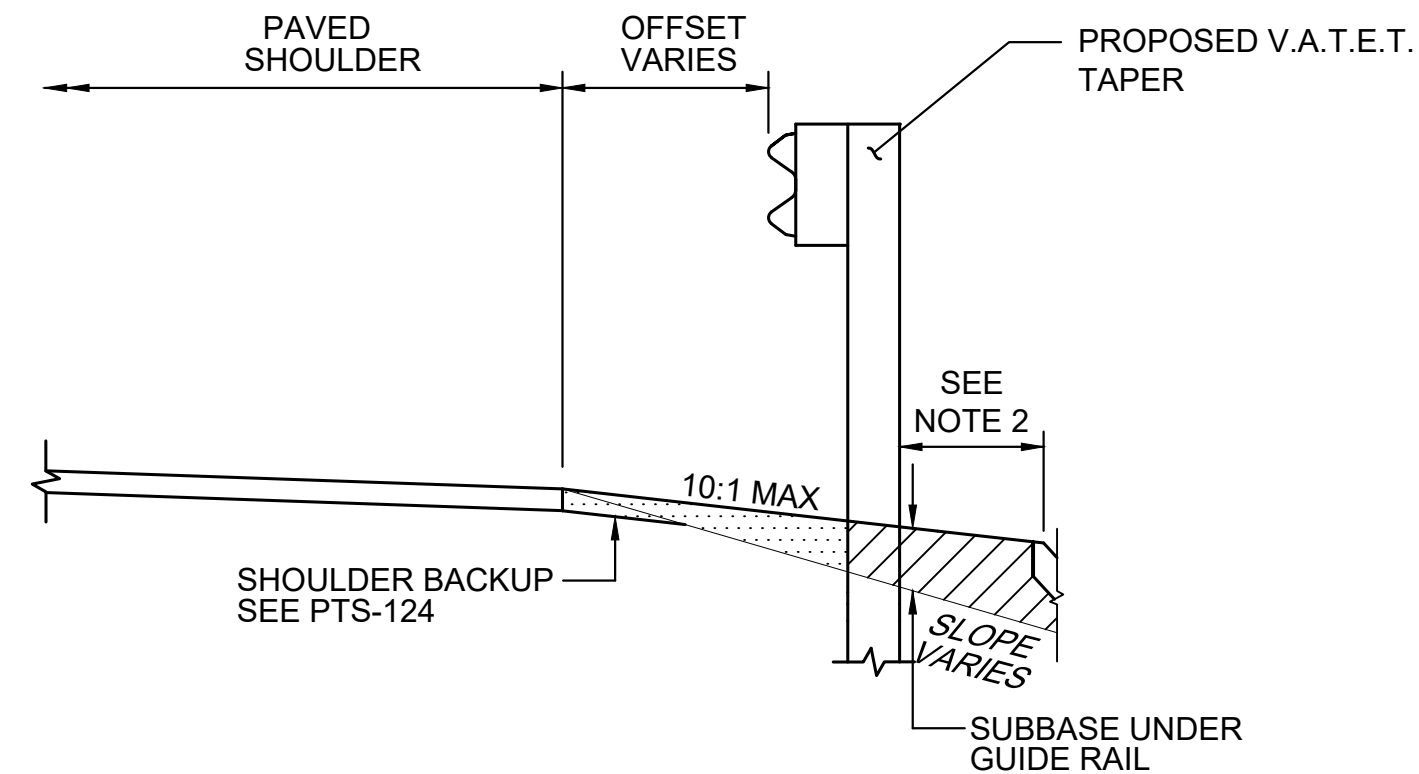
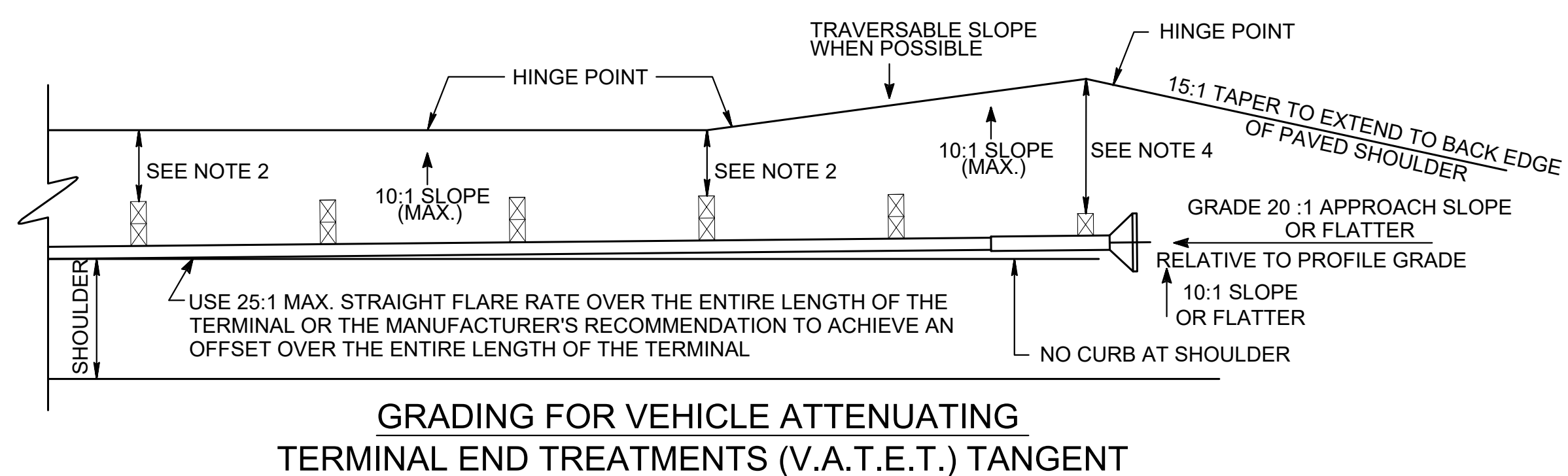
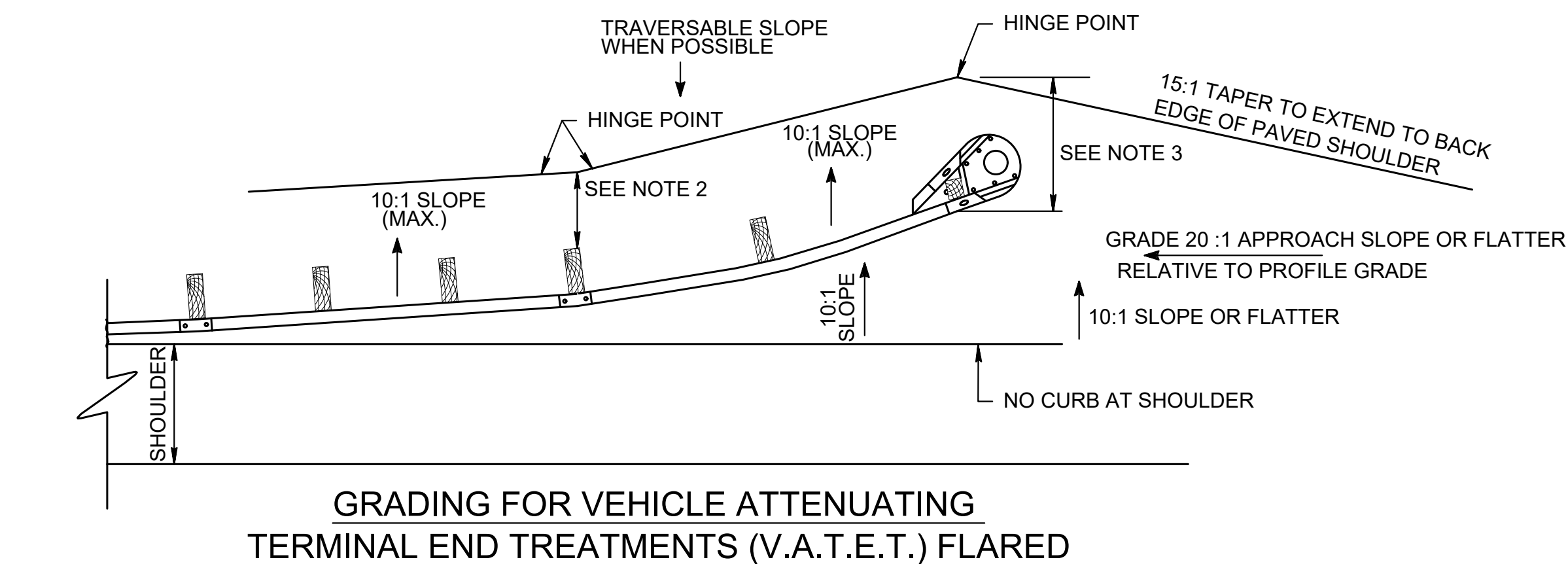
**TYPE 2 GUIDE RAIL
BOLTS, NUTS, AND WASHERS**

TYPE 2 GUIDE RAIL NOTES:

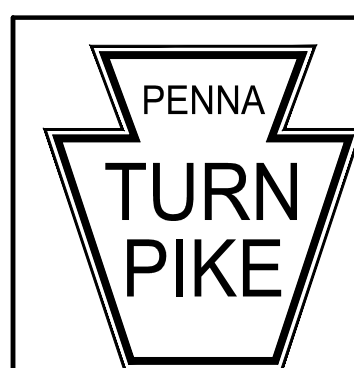
1. ATTACH W-BEAM RAIL ELEMENTS TO EACH POST. SPLICE RAIL ELEMENTS ONLY AT POSTS AND LAP IN THE DIRECTION OF TRAFFIC.
2. USE SPLICE BOLTS TO DEVELOP THE DESIGN STRENGTH OF THE RAIL ELEMENT.
3. USE SLOTTED ROUND-HEADED BOLTS TO PROVIDE FOR WRENCH OR SCREWDRIVER.
4. TRANSITION THE HEIGHT OF GUIDE RAIL WHEN CONNECTING TYPE 2 TO TYPE 31 GUIDE RAIL USING A 25'-0" LENGTH OF VERTICAL TRANSITION AS PER RC-51M. PAYMENT FOR THE 25'-0" HEIGHT TRANSITION IN GUIDE RAIL IS PAID AS TYPE 31 GUIDE RAIL.

V.A.T.E.T. GRADING DETAIL NOTES:

1. THE HEIGHT OF THE TOP OF THE W-BEAM RAIL SHALL BE HELD CONSTANT RELATIVE TO THE ROADWAY PROFILE.
2. 2'-0" MIN. FOR NEW CONSTRUCTION / RECONSTRUCTION CONTRACTS; 1'-0" MIN OR 2'-0" DESIRABLE FOR RESURFACING / REHABILITATION CONTRACTS.
3. 5'-0" MIN. TO HINGE POINT FOR FLARED INSTALLATIONS.
4. 5'-0" MIN. TO HINGE POINT FOR TANGENT INSTALLATION IN NEW CONSTRUCTION / RECONSTRUCTION CONTRACTS; 3'-0" MIN. OR 5'-0" DESIRABLE FOR RESURFACING / REHABILITATION CONTRACTS.



**SECTIONAL VIEW
V.A.T.E.T. INSTALLATION - FILL CONDITION**



RECOMMENDED: NOVEMBER 28, 2023

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

CHIEF ENGINEER

**STRONG POST GUIDE RAIL INSTALLATION
(VARIOUS DETAILS)**

**PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING**

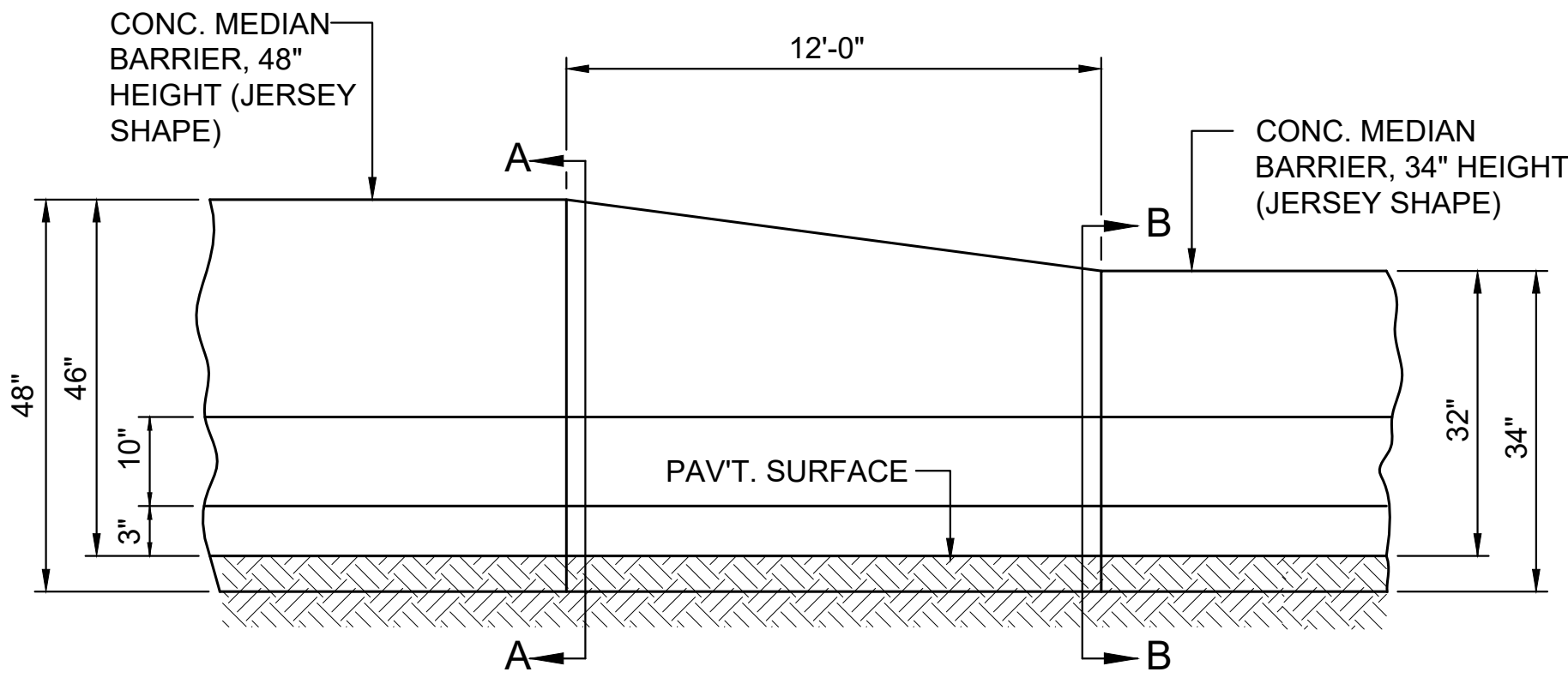
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DRAWING TYPE: 5A

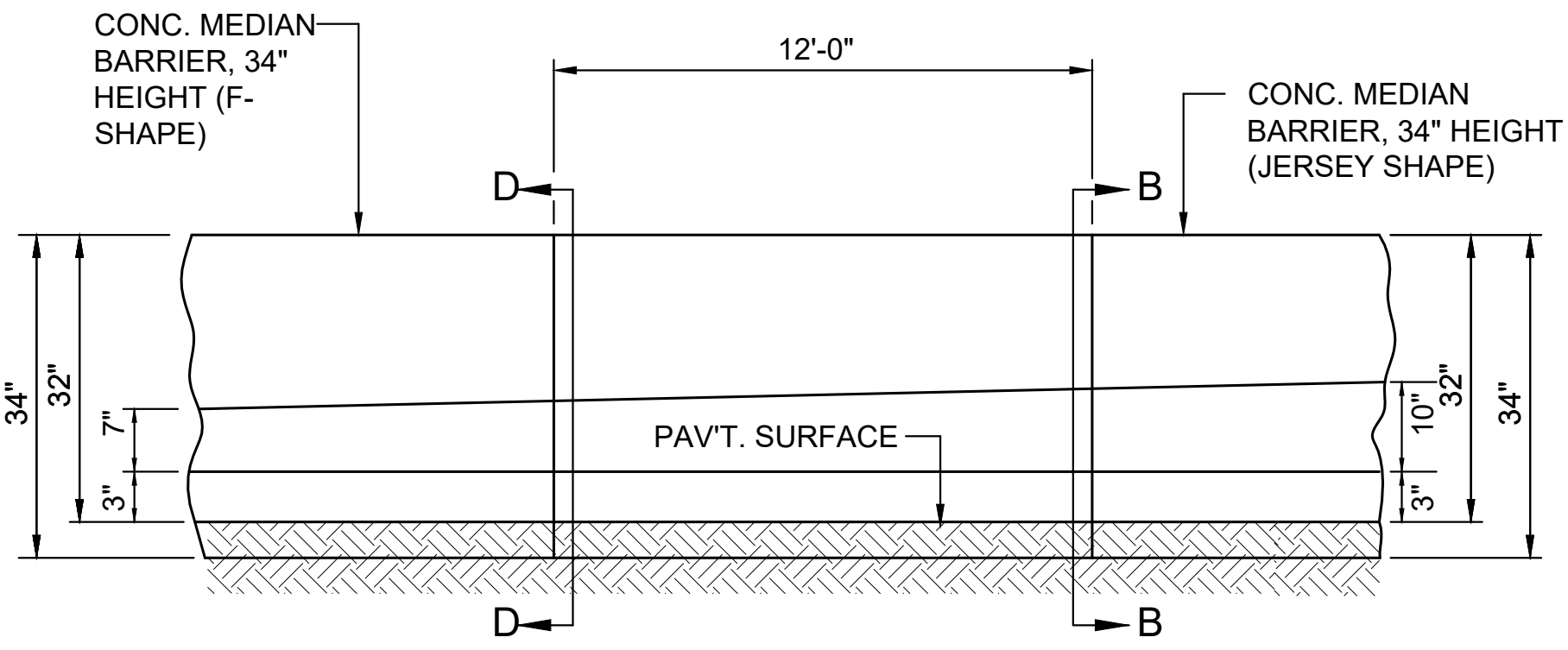
SHEET 3 OF 3

DATE: NOVEMBER 2023

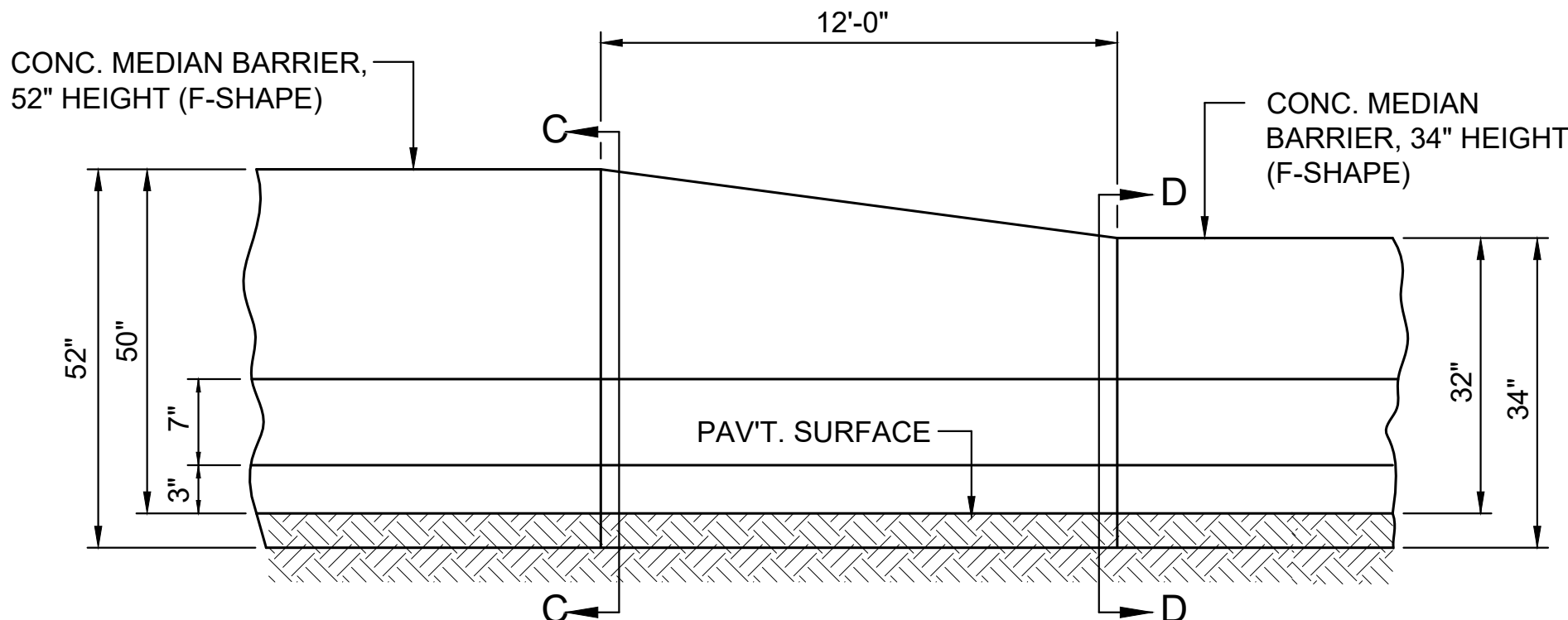
PTS-130



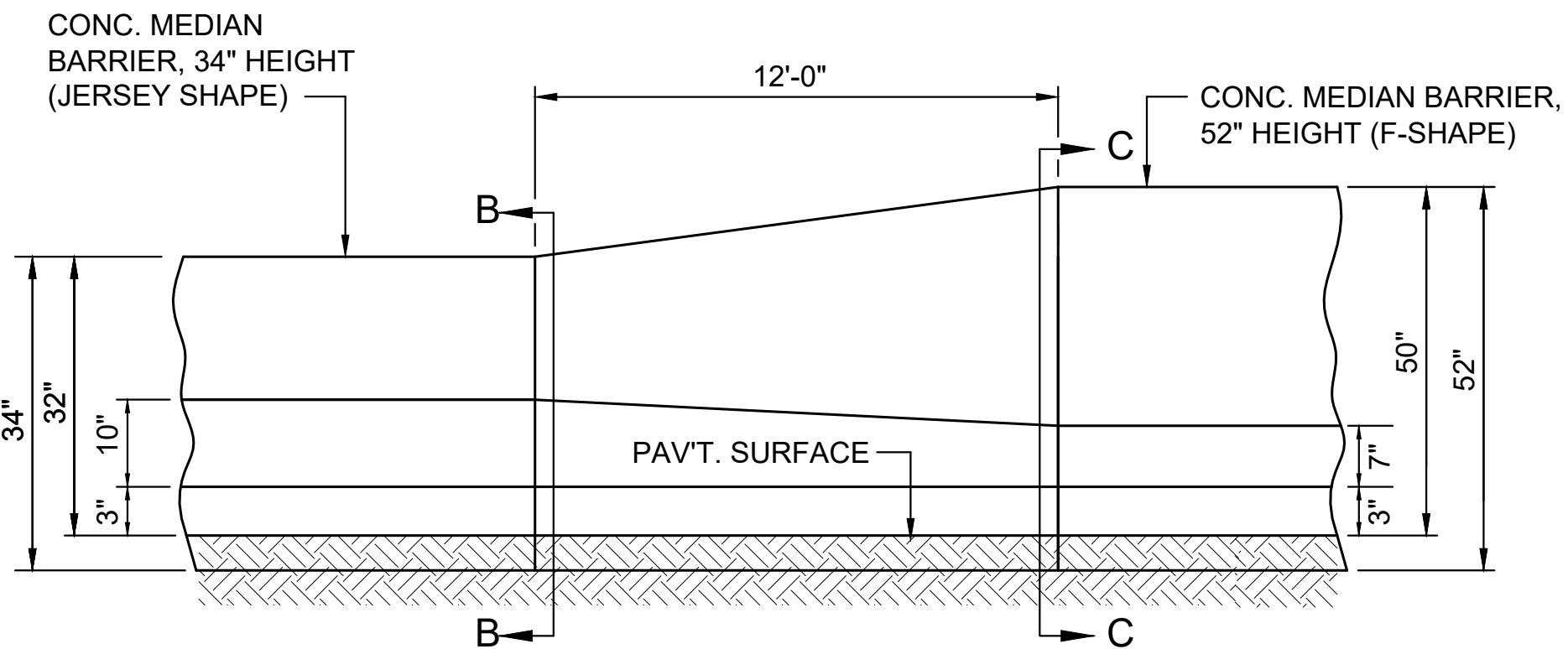
TRANSITION SECTION, JERSEY SHAPE, 48" TO 34"
(RESURFACING / REHABILITATION CONTRACTS)



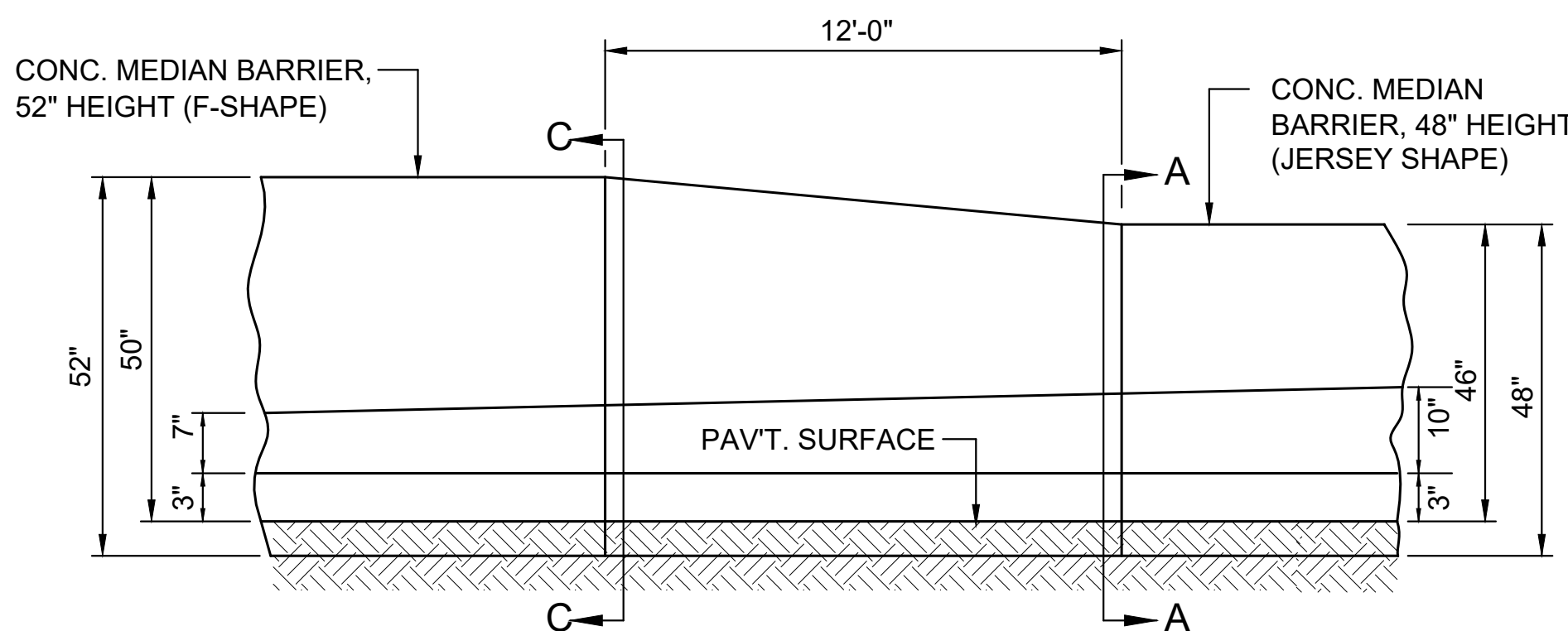
TRANSITION SECTION, F-SHAPE TO JERSEY SHAPE, 34" TO 34"
(RESURFACING / REHABILITATION CONTRACTS)



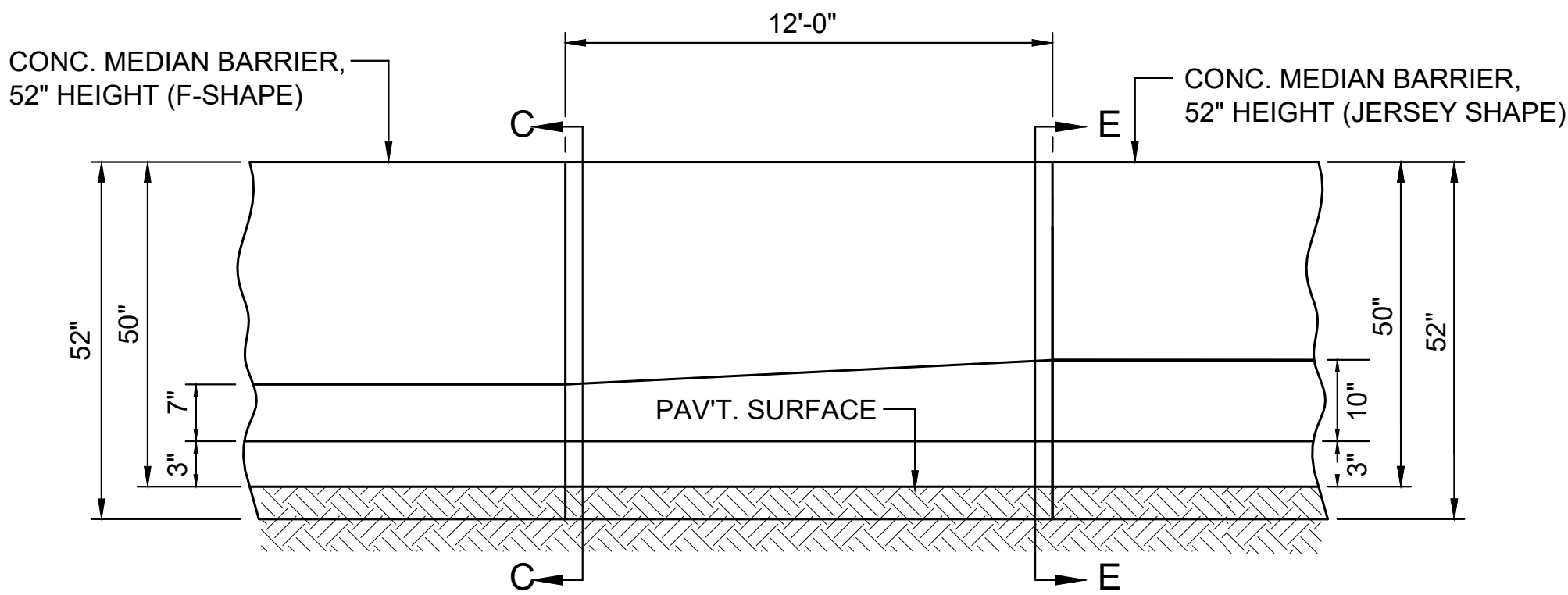
TRANSITION SECTION, F-SHAPE, 52" TO 34"
(RESURFACING / REHABILITATION CONTRACTS)



TRANSITION SECTION, JERSEY SHAPE TO F-SHAPE, 34" TO 52"
(RESURFACING / REHABILITATION CONTRACTS)



TRANSITION SECTION, F-SHAPE TO JERSEY SHAPE, 52" TO 48"
(RESURFACING / REHABILITATION CONTRACTS)



TRANSITION SECTION, F-SHAPE TO JERSEY SHAPE, 52" TO 52"
(RESURFACING / REHABILITATION CONTRACTS)



RECOMMENDED: NOVEMBER 28, 2023
[Signature]
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: NOVEMBER 29, 2023
[Signature]
CHIEF ENGINEER

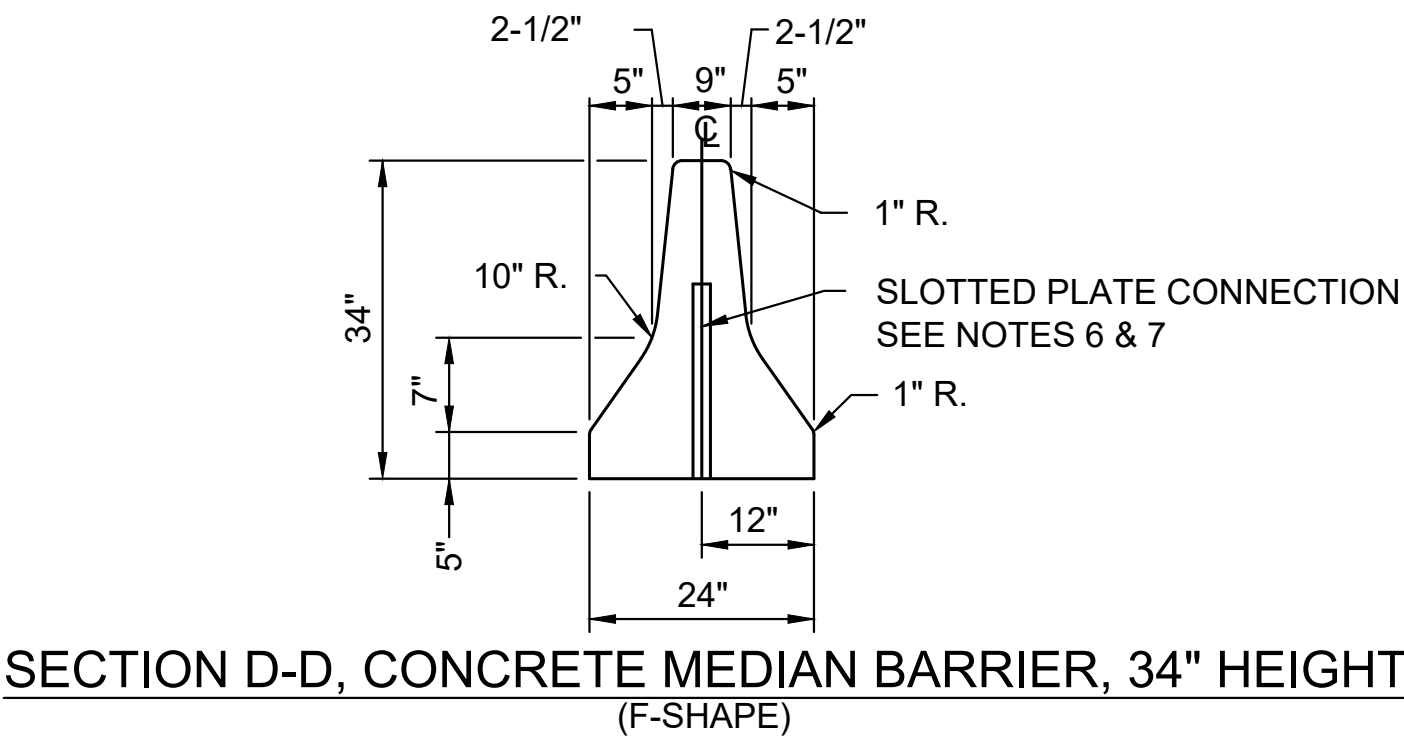
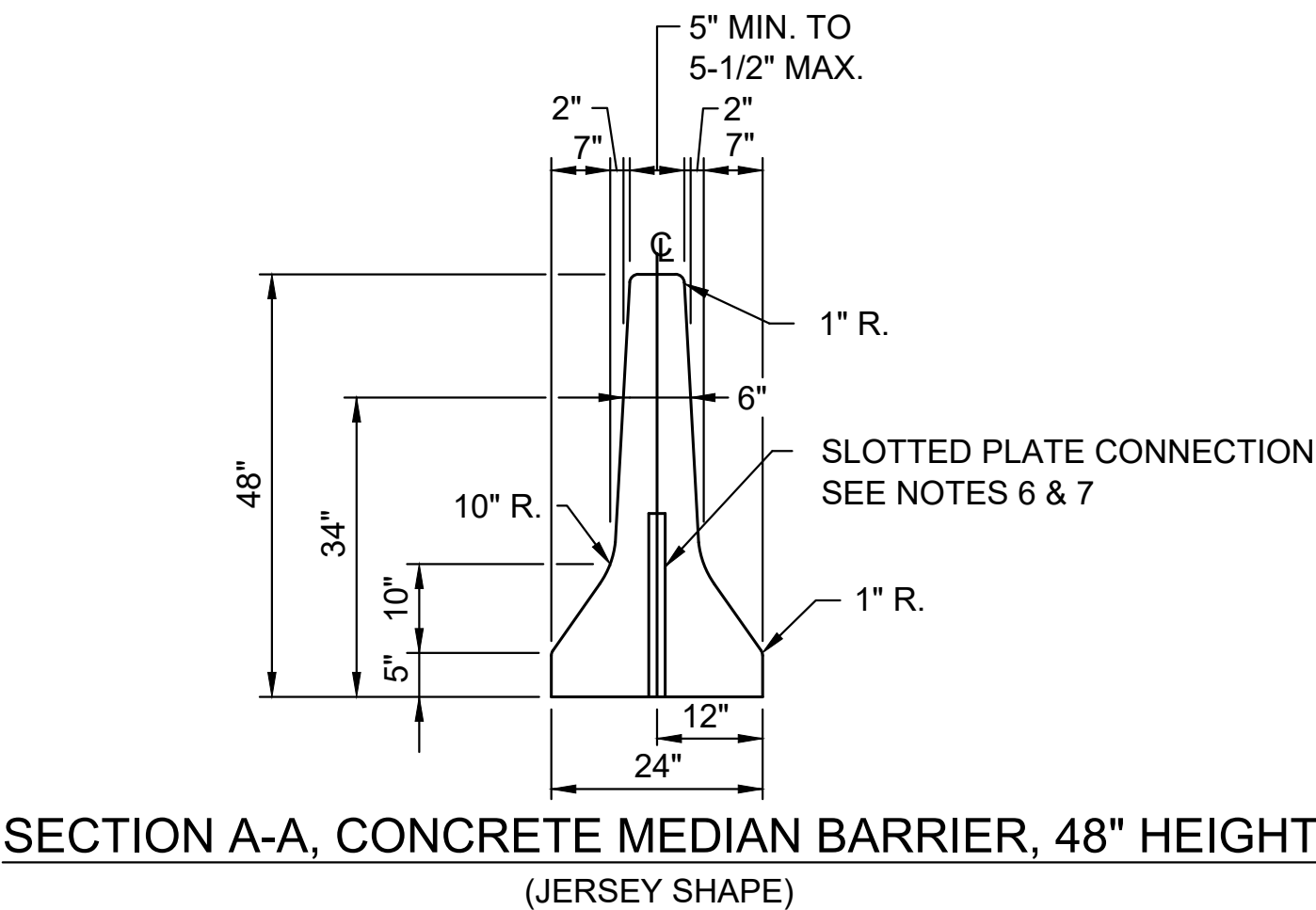
CONCRETE MEDIAN BARRIER
TRANSITION SECTIONS

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

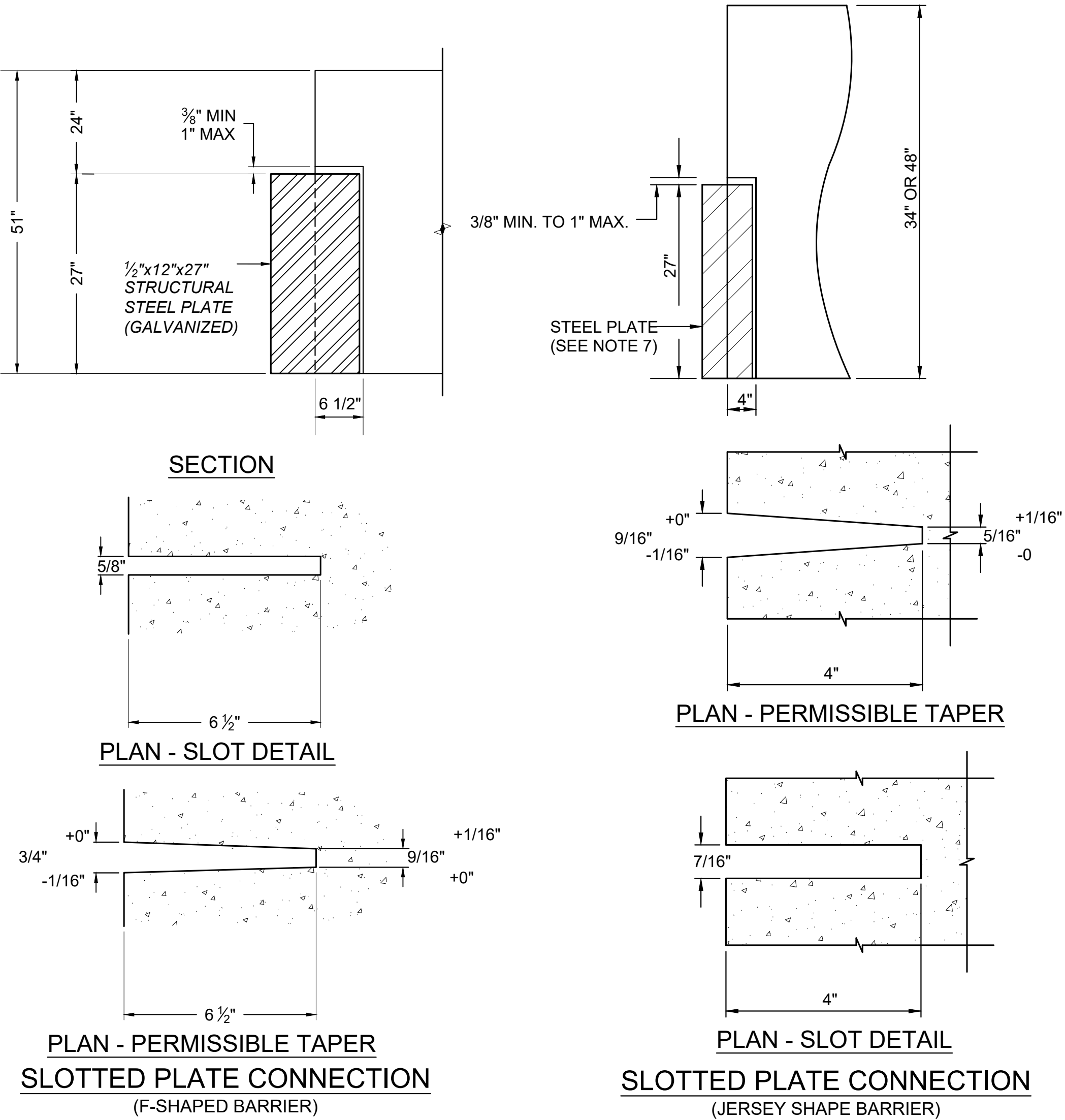
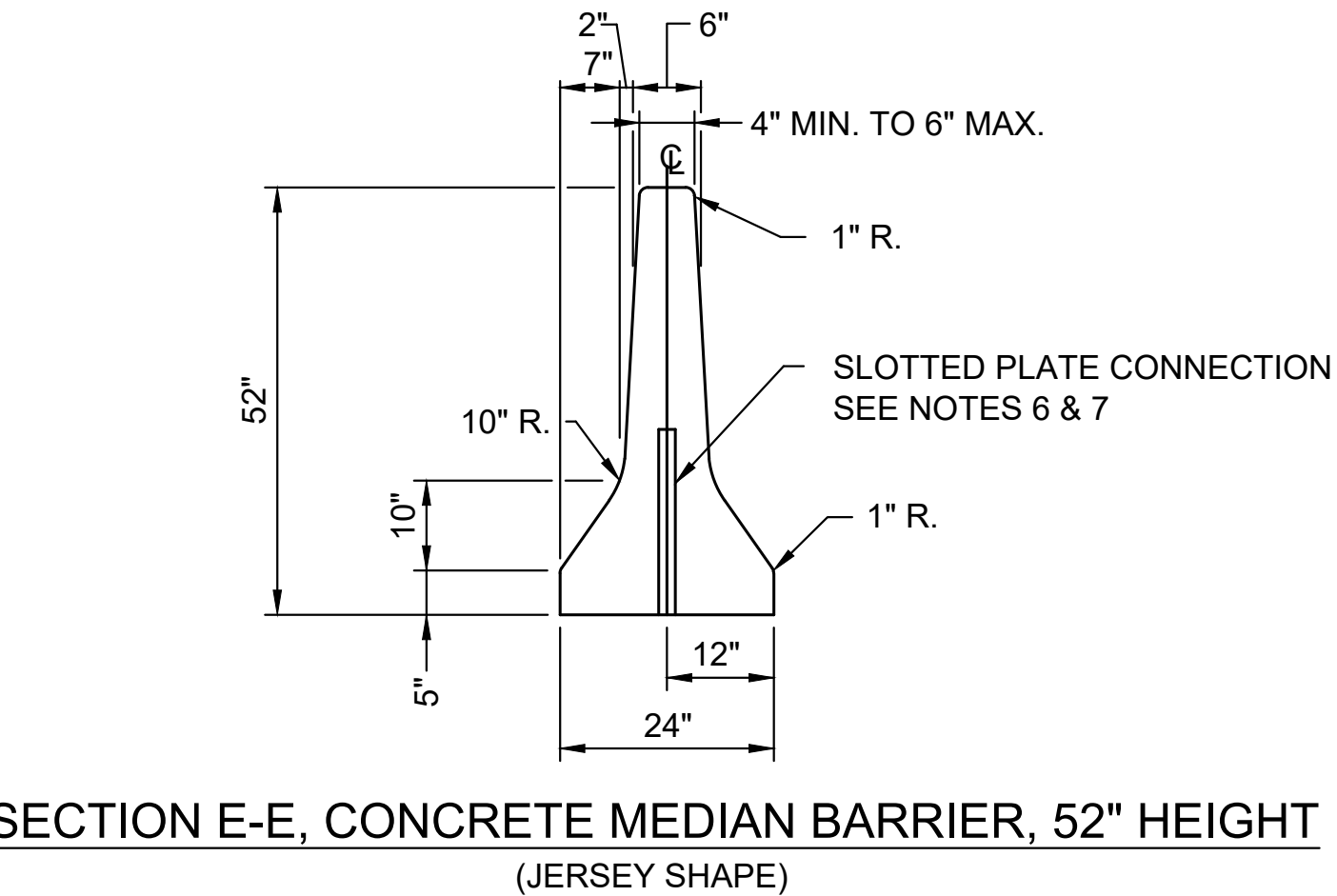
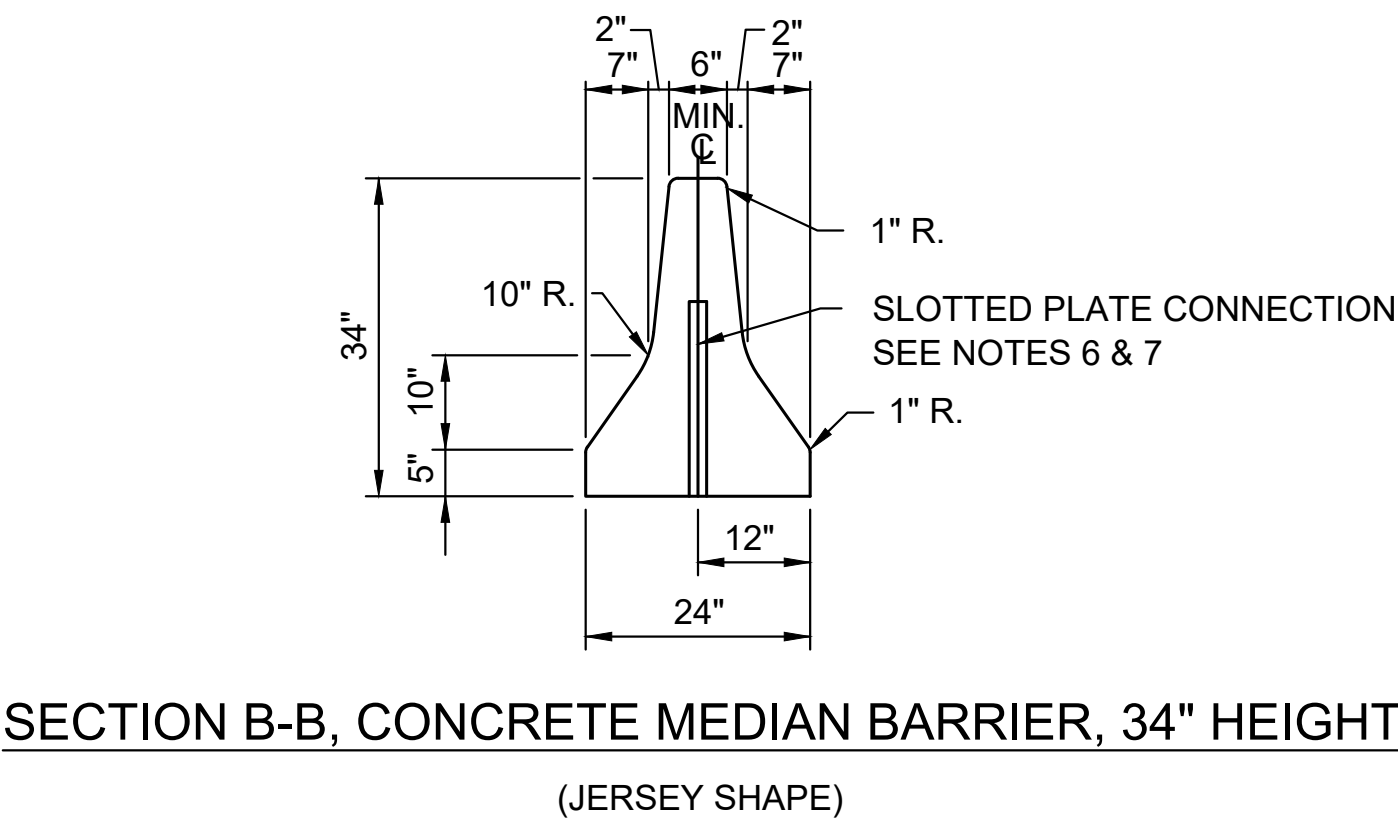
FILE NAME: PTS-140-1.dwg
DRAWING TYPE: 5A

SHEET 1 OF 3

DATE: NOVEMBER 2023
PTS-140



- NOTES:
1. PROVIDE PRECAST TRANSITION SECTIONS MEETING THE REQUIREMENTS OF SECTION 623 AND SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
 2. PROVIDE REINFORCEMENT FOR TRANSITION SECTIONS AS SHOWN ON RC-57M AND RC-59M, DATED JUNE 1, 2010.
 3. PROVIDE TRANSITION SECTIONS WITH TWO UTILITY LIFT ANCHORS HAVING A 4:1 SAFE WORKING LOAD FOR THE TOP OF THE BARRIER SECTION.
 4. WHEN CONNECTING CONCRETE MEDIAN BARRIER, 52" HEIGHT TO CONCRETE MEDIAN BARRIER, 34 HEIGHT (JERSEY SHAPE) INSTALL A TRANSITION SECTION, F-SHAPE TO JERSEY SHAPE AND A TRANSITION SECTION, JERSEY SHAPE AS SHOWN ON THIS SHEET AND SHEET 1.
 5. IF REINFORCEMENT STEEL IS USED, PROVIDE A MINIMUM OF 4 REINFORCEMENT CHAIRS PER BARRIER SECTION.
 6. PROVIDE SLOTTED PLATE CONNECTIONS BETWEEN BARRIER SECTIONS AS DETAILED FOR JERSEY SHAPE ON THIS SHEET FOR SECTION A-A, SECTION B-B AND SECTION E-E . SECTION C-C AND SECTION D-D, PROVIDE CONNECTION AS DETAILED FOR F-SHAPE.
 7. PROVIDE PLATES (5/16" X 7" X 27") FOR SECTION A-A, SECTION B-B AND SECTION E-E (1/2" X 12" X 27") FOR SECTION C-C AND SECTION D-D MEETING THE REQUIREMENTS OF SECTION 1105. GALVANIZE PLATES IN ACCORDANCE WITH SECTION 1105.



RECOMMENDED: NOVEMBER 28, 2023

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

CHIEF ENGINEER

CONCRETE MEDIAN BARRIER
TRANSITION SECTIONS

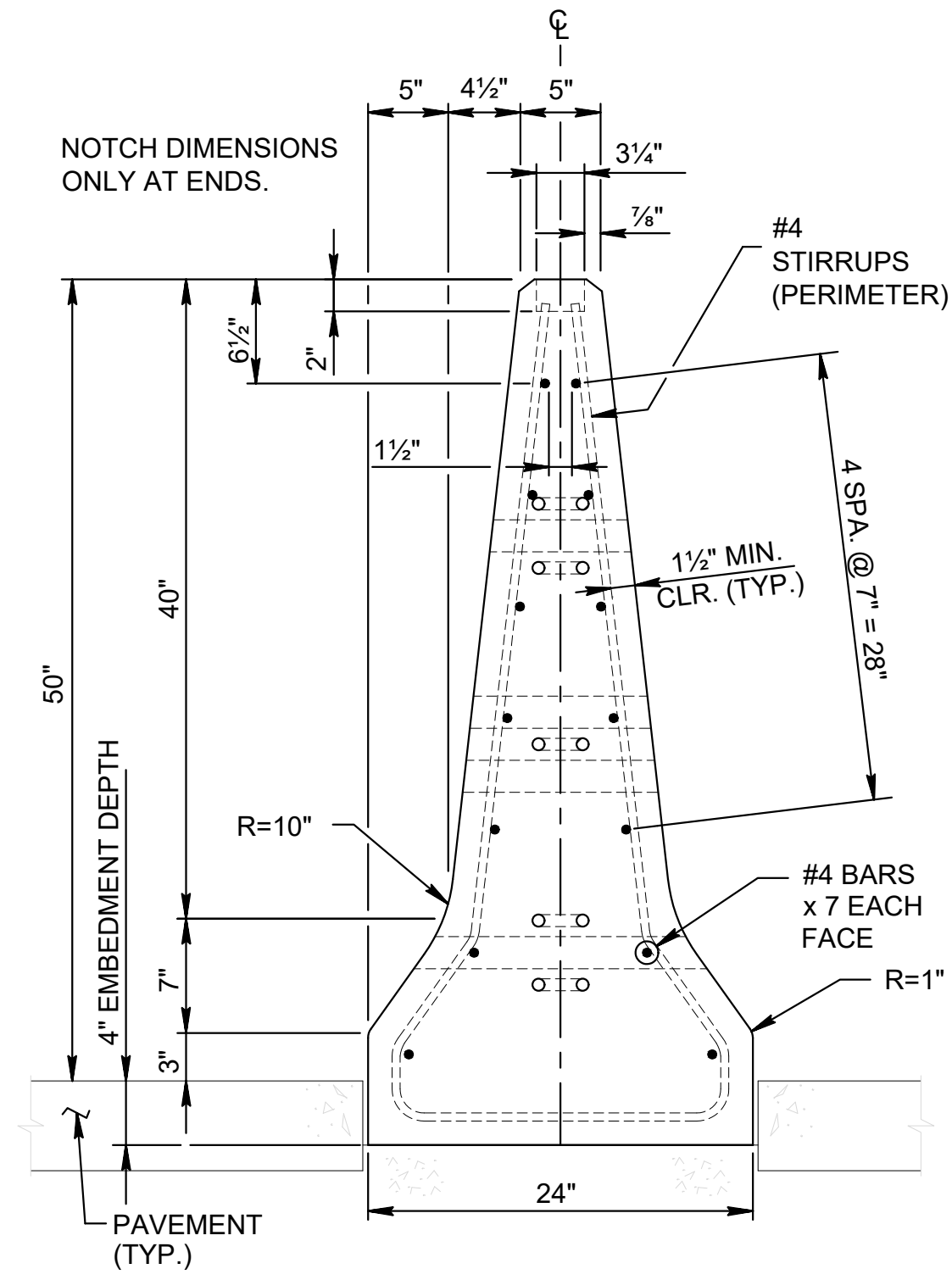
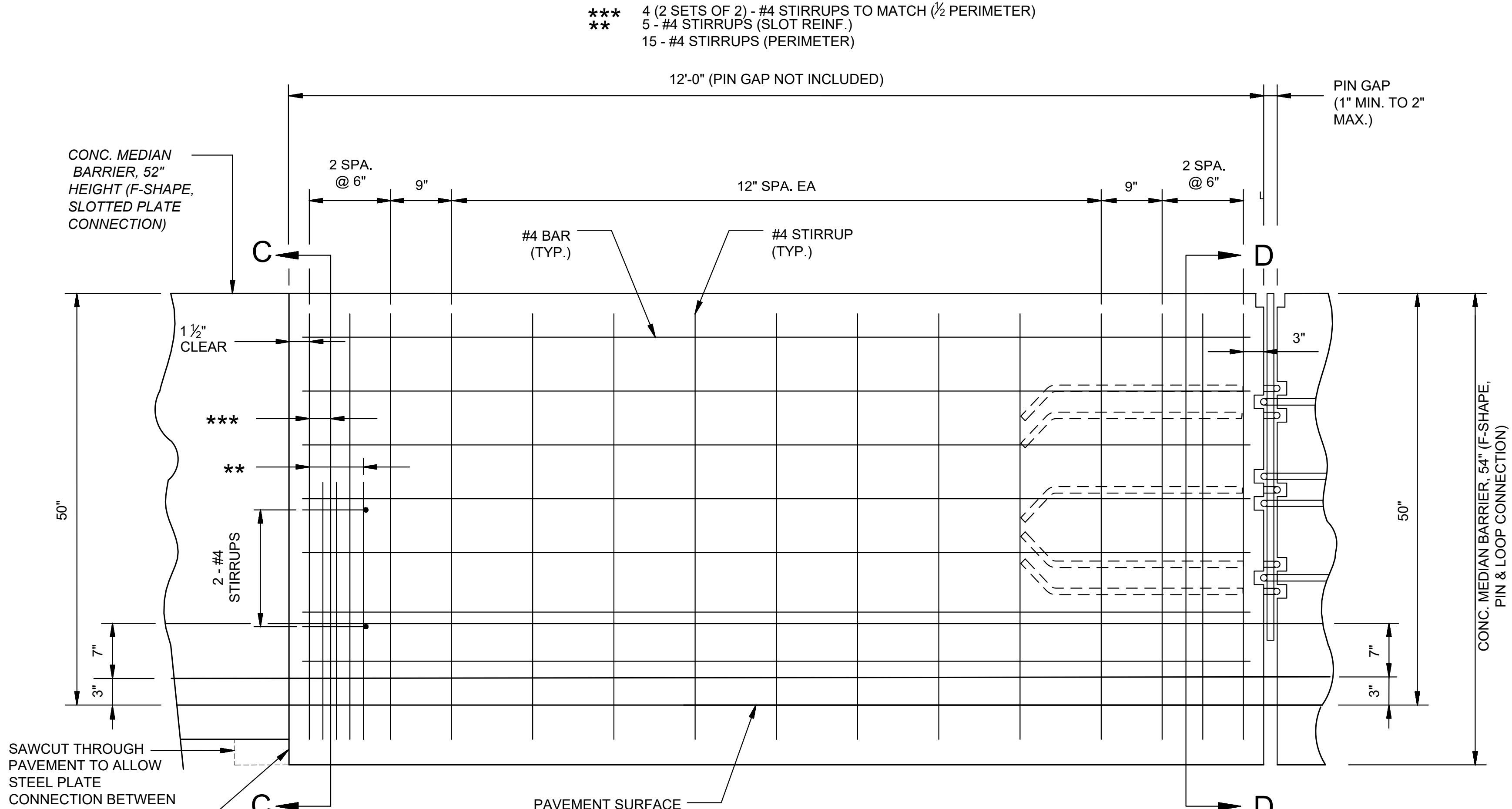
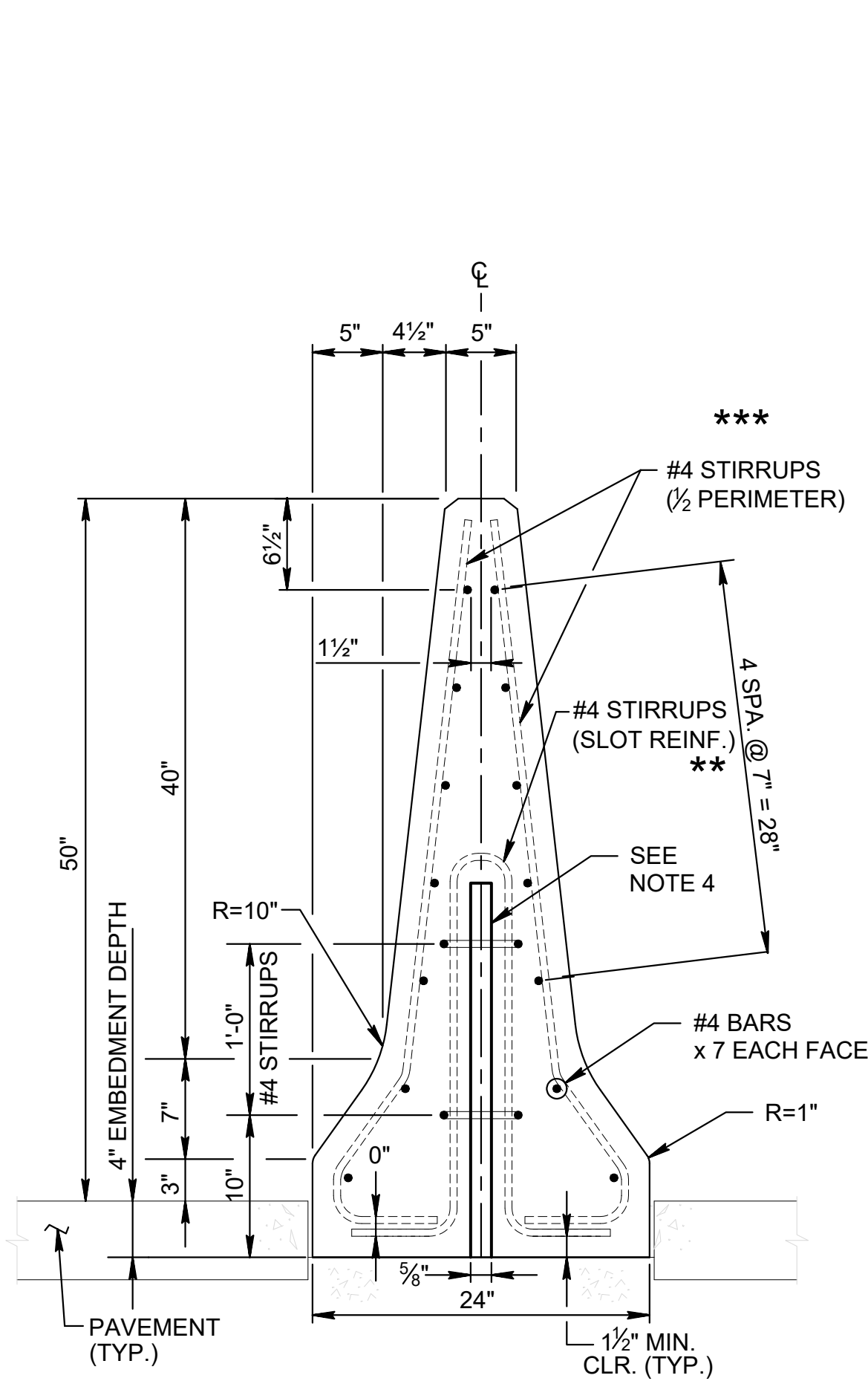
PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-140-2.dwg
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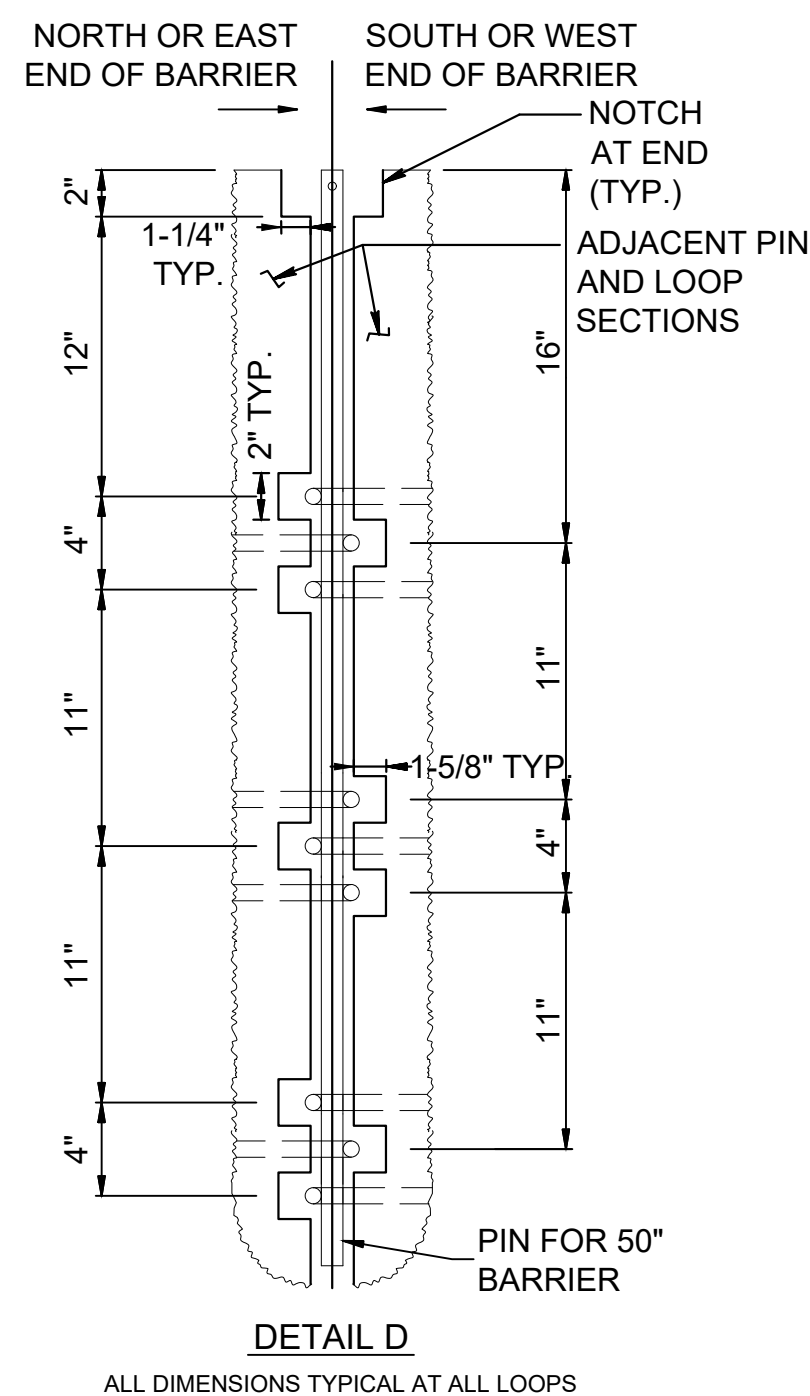
SHEET 2 OF 3

DATE: NOVEMBER 2023

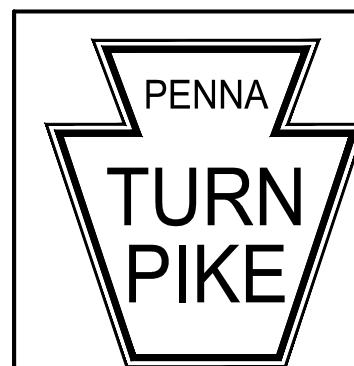
PTS-140



LOOP CONFIGURATION
(SEE NOTE 8)



- NOTES:
1. PROVIDE PRECAST TRANSITION SECTIONS MEETING THE REQUIREMENTS OF SECTION 623 AND AS SUPPLIED FROM A MANUFACTURER LISTED IN BULLETIN 15.
 2. PROVIDE REINFORCEMENT FOR TRANSITION SECTIONS AS SHOWN ON THIS SHEET AND ON RC-57M.
 3. PROVIDE TRANSITION SECTIONS WITH TWO UTILITY LIFT ANCHORS HAVING A 4:1 SAFE WORKING LOAD FOR THE TOP OF THE BARRIER SECTION.
 4. PROVIDE SLOTTED PLATE CONNECTIONS BETWEEN BARRIER SECTIONS FOR SECTION C-C AS SHOWN SYMMETRIC FOR MEDIAN BARRIER.
 5. PROVIDE GALVANIZED PLATES MEETING THE REQUIREMENTS OF SECTION 1105.
 6. EPOXY COAT ALL REINFORCEMENT.
 7. CONTRACTOR TO FIELD VERIFY LOOP CONFIGURATION REQUIRED AS PER THE DIRECTION OF INSTALLATION PRIOR TO MANUFACTURE OF TRANSITION SECTION.
 8. DIRECTION BASED ON ALIGNMENT DESIGNATION.
 9. FABRICATE REINFORCEMENT PER BC-736M.
 10. INSTALL FABRICATED TRANSITION AT 2" LOWER ELEVATION FOR A 4" TOTAL EMBEDMENT. INSERT CONNECTING PLATE INTO ADJACENT BARRIER SLOT. SAWCUT VERTICALLY INTO THE ADJACENT ASPHALT TO FACILITATE THE PLATE INSTALLATION WHICH MUST BE AT THE LOWER ELEVATION.
 11. USE REGULAR BARRIER PIN AND LOOP LENGTH > 12' TO MAKE STATION ADJUSTMENT AND CLOSE A STATION GAP. DO NOT USE THIS TRANSITION PIECE.



RECOMMENDED: NOVEMBER 28, 2023

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

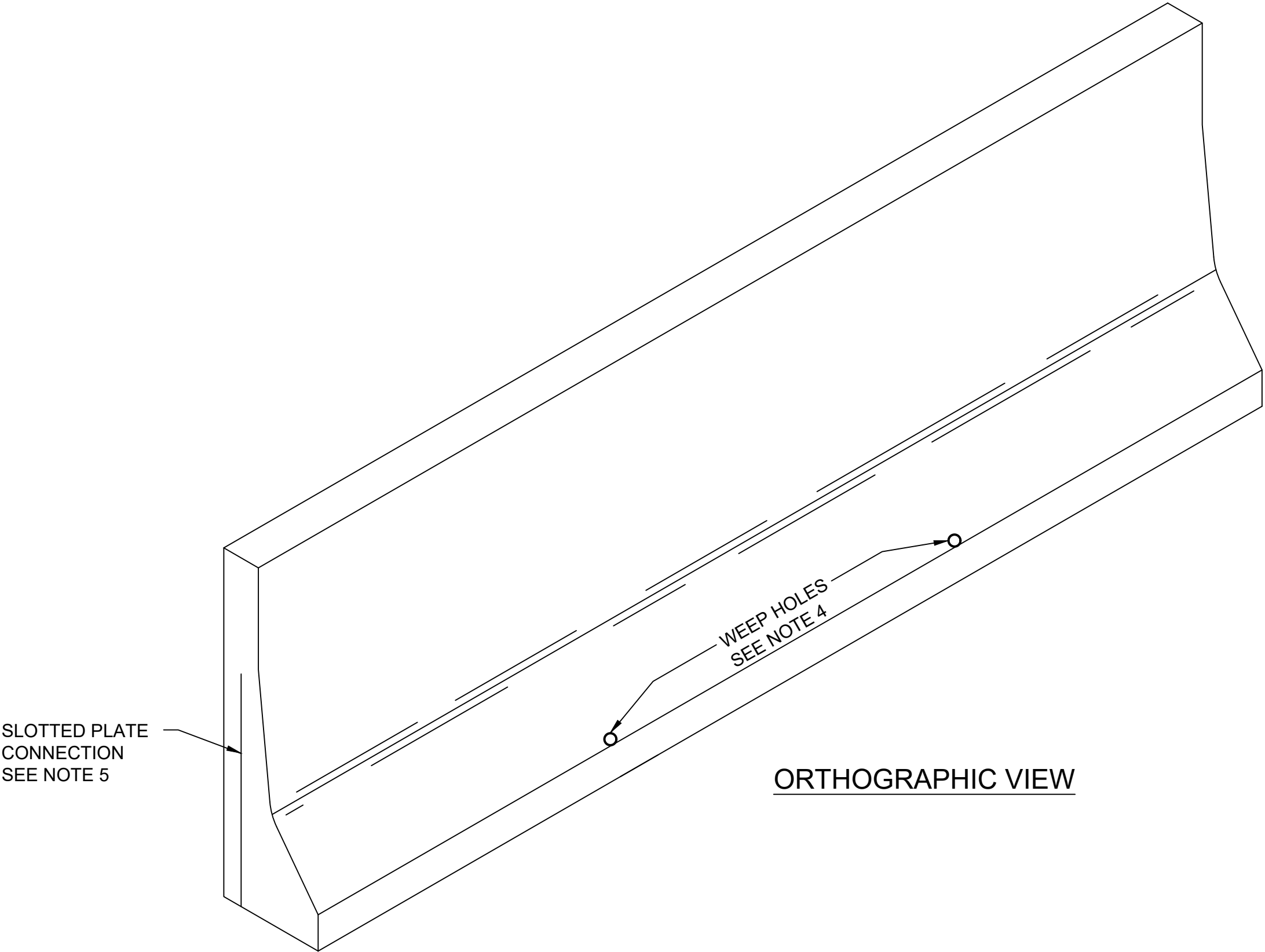
CHIEF ENGINEER

CONCRETE MEDIAN BARRIER
TRANSITION SECTIONS

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-140-3.dwg
DRAWING TYPE: 5A
SHEET 3 OF 3

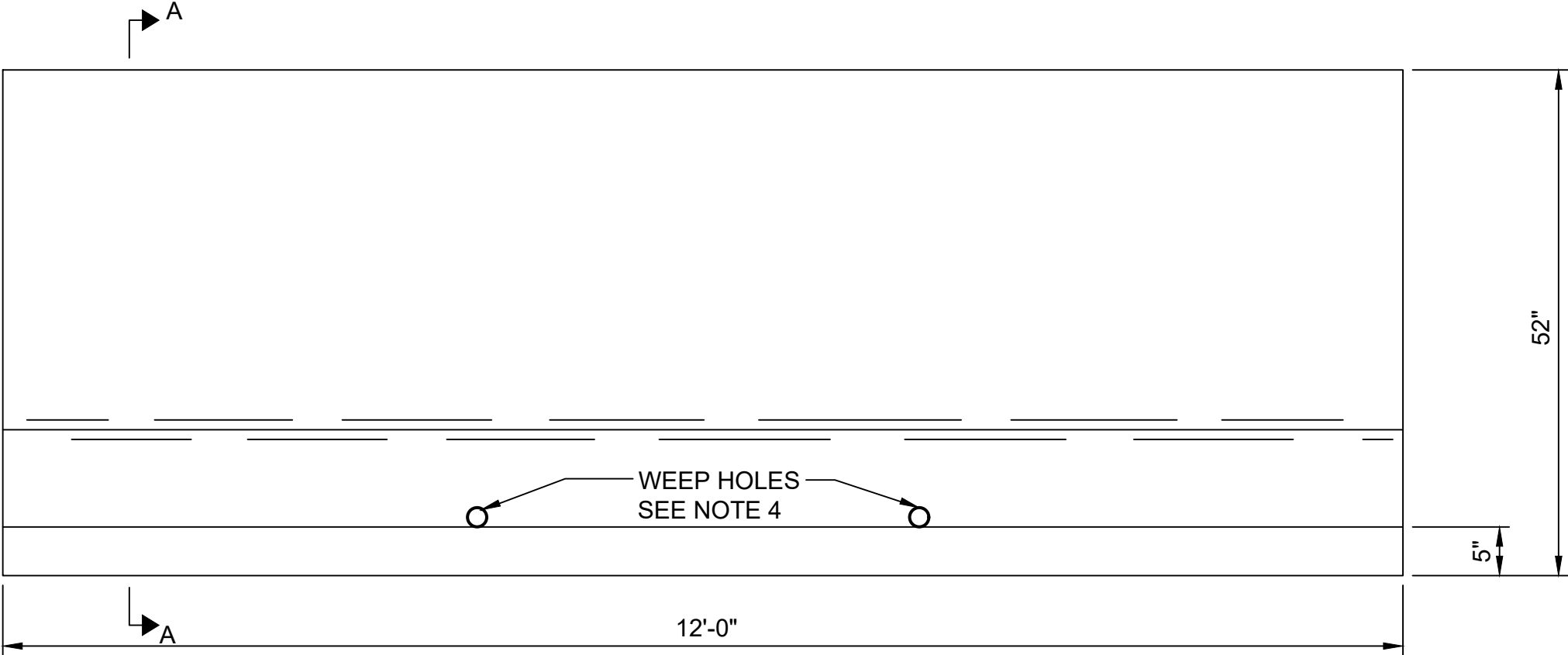
DATE: NOVEMBER 2023
PTS-140



ORTHOGRAPHIC VIEW



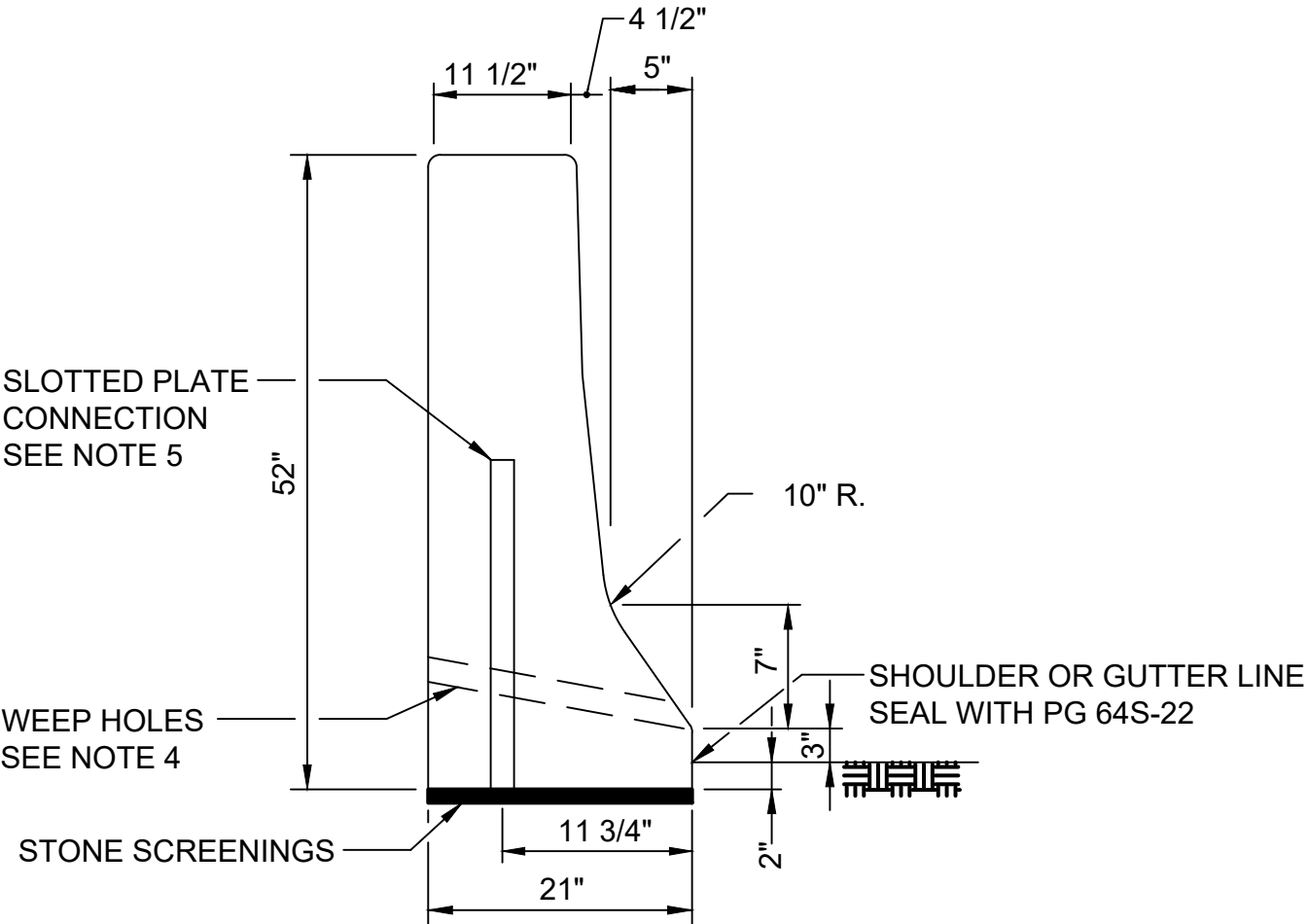
PLAN VIEW



ELEVATION VIEW
TYPICAL BARRIER SECTION

NOTES:

1. PROVIDE SINGLE FACE CONCRETE BARRIER MEETING THE REQUIREMENTS OF SECTION 623 AND SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
2. PROVIDE REINFORCEMENT FOR 52" SINGLE FACE CONCRETE BARRIER AS SHOWN ON SHEET 2 OF 5.
3. PROVIDE SINGLE FACE CONCRETE BARRIER SECTIONS WITH TWO UTILITY LIFT ANCHORS HAVING A 4:1 SAFE WORKING LOAD FOR THE TOP OF THE BARRIER SECTION.
4. PROVIDE SINGLE FACE CONCRETE BARRIER SECTIONS WITH TWO EQUALLY SPACED 2 INCH DIAMETER WEEP HOLES WHICH OUTLET 5 INCHES FROM THE BASE OF THE BARRIER (12 INCHES FROM THE BASE FOR SECTIONS OF DEEP BASE SINGLE FACE CONCRETE BARRIER AS SHOWN ON SHEET 4 OF 5). GROUT WEEP HOLES IN SINGLE FACE CONCRETE BARRIER INSTALLED ADJACENT TO BRIDGE ABUTMENTS OR OVER PAVEMENT BASE DRAIN.
5. PROVIDE SLOTTED PLATE CONNECTIONS BETWEEN BARRIER SECTIONS AS SHOWN ON RC-58M. REINFORCE SLOT AS SHOWN ON RC-58M.
6. PROVIDE PLATES (1/2" X 12" X 27") MEETING THE REQUIREMENTS OF SECTION 1105. GALVANIZE PLATES AS SPECIFIED IN SECTION 1105.
7. ROUND OR CHAMFER HORIZONTAL EDGES WITH A RADIUS OF 1" EXCEPT AS SHOWN.



SECTION A-A, 52" BARRIER
(F SHAPE)



RECOMMENDED: SEPTEMBER 27, 2022
[Signature]
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: SEPTEMBER 27, 2022
[Signature]
CHIEF ENGINEER

SINGLE FACE CONCRETE BARRIER
(52" BARRIER DETAILS)

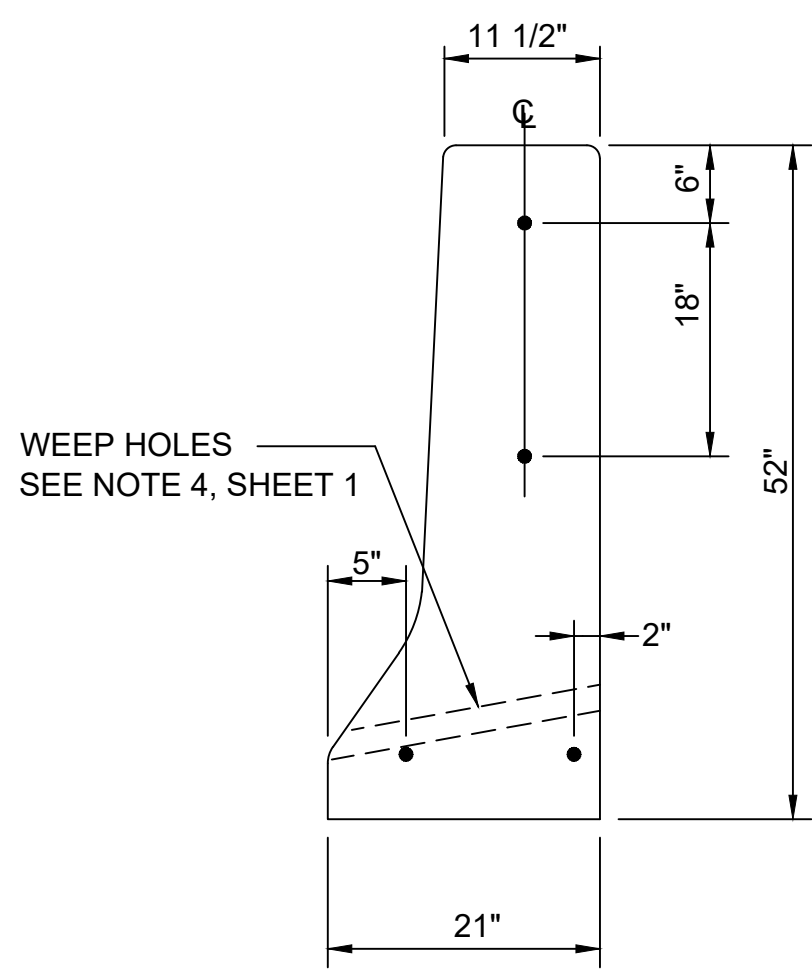
PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

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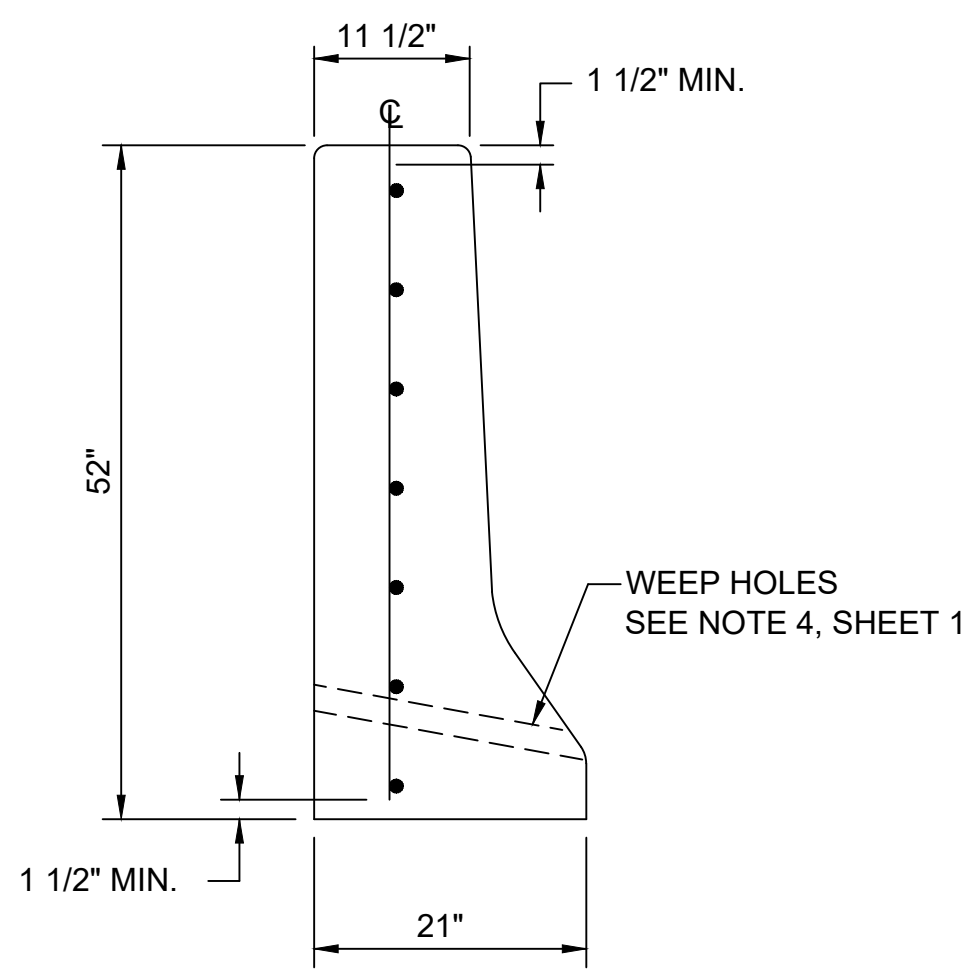
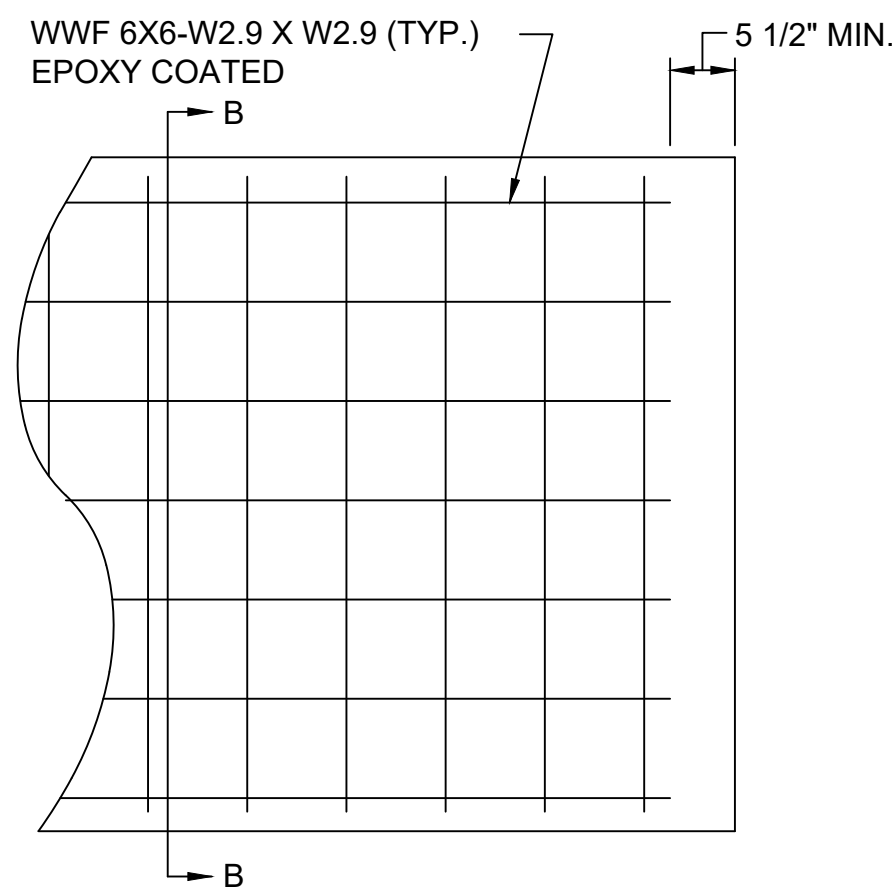
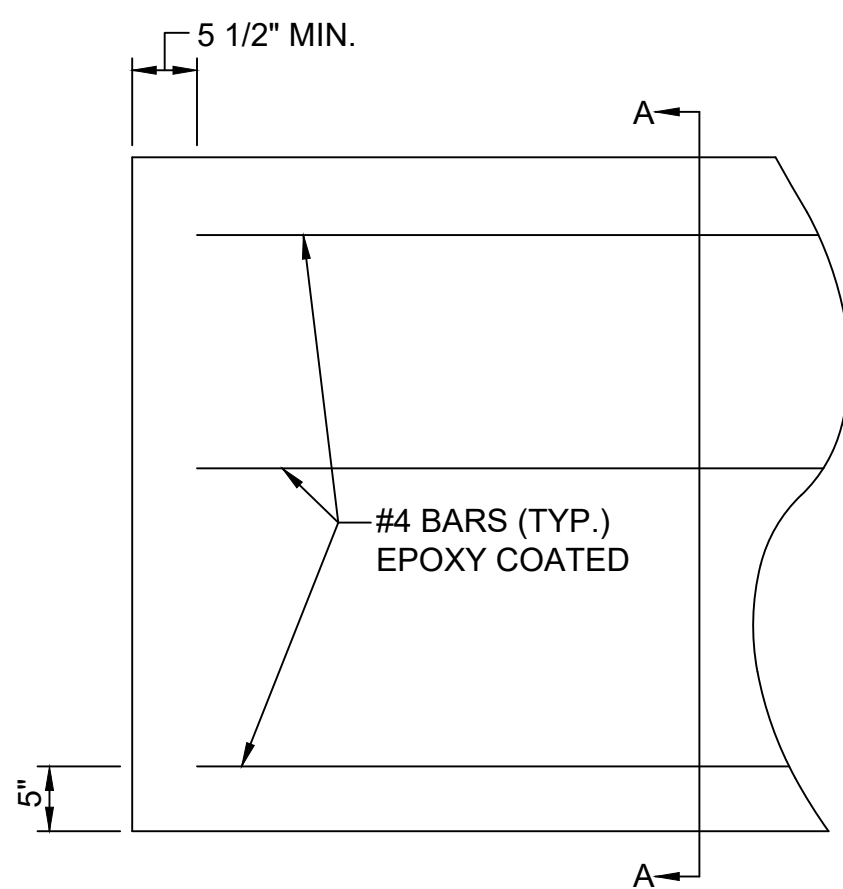
SHEET 1 OF 5

DATE: SEPTEMBER 2022
PTS-142

- NOTES:
1. PROVIDE REINFORCEMENT MEETING THE REQUIREMENTS OF SECTION 709, WITH A MINIMUM CONCRETE COVER OF 1 1/2-INCHES OR AS SHOWN HERE.
 2. IF REINFORCEMENT STEEL IS USED, PROVIDE A MINIMUM OF 4 REINFORCEMENT CHAIRS PER BARRIER SECTION.



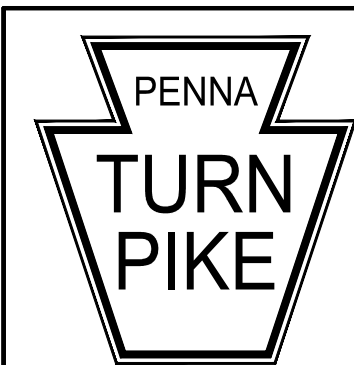
SECTION A-A
REINFORCEMENT STEEL



SECTION B-B
WELDED WIRE FABRIC

TYPICAL REINFORCEMENT DETAILS FOR 52" BARRIER

SEE RC-58M FOR LOCATION OF SLOTTED PLATE
CONNECTIONS & STIRRUPS



RECOMMENDED: SEPTEMBER 27, 2022
[Signature]
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: SEPTEMBER 27, 2022
[Signature]
CHIEF ENGINEER

SINGLE FACE CONCRETE BARRIER
(52" BARRIER DETAILS)

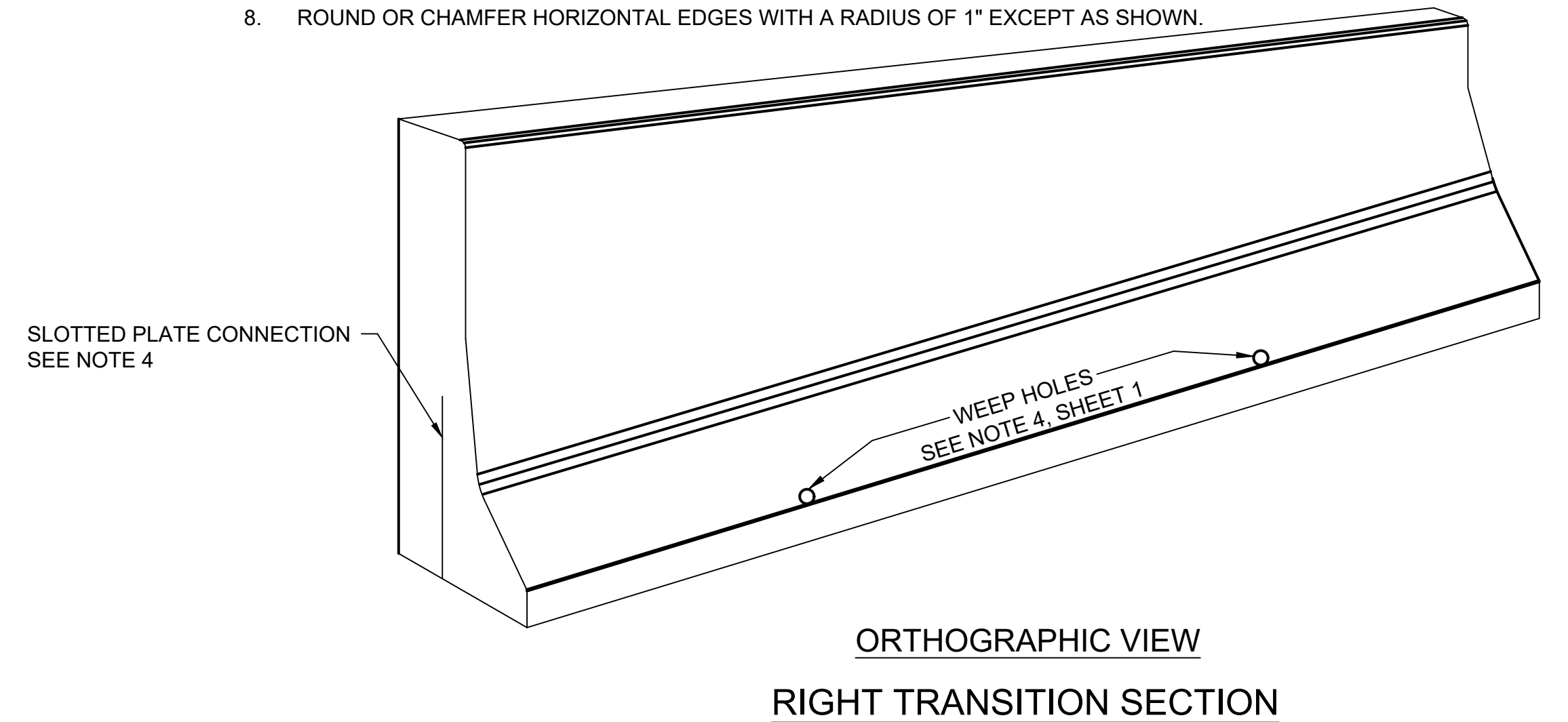
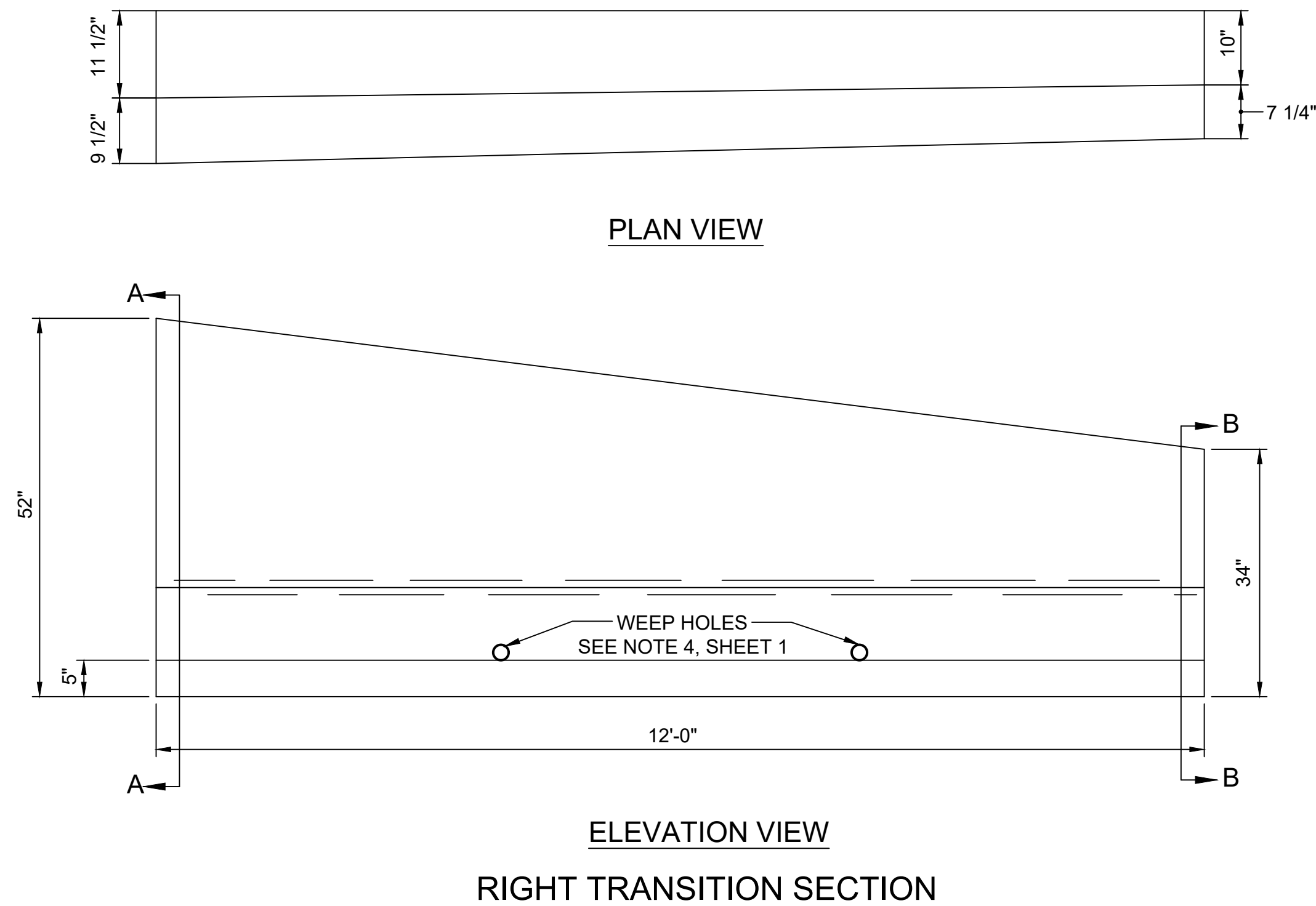
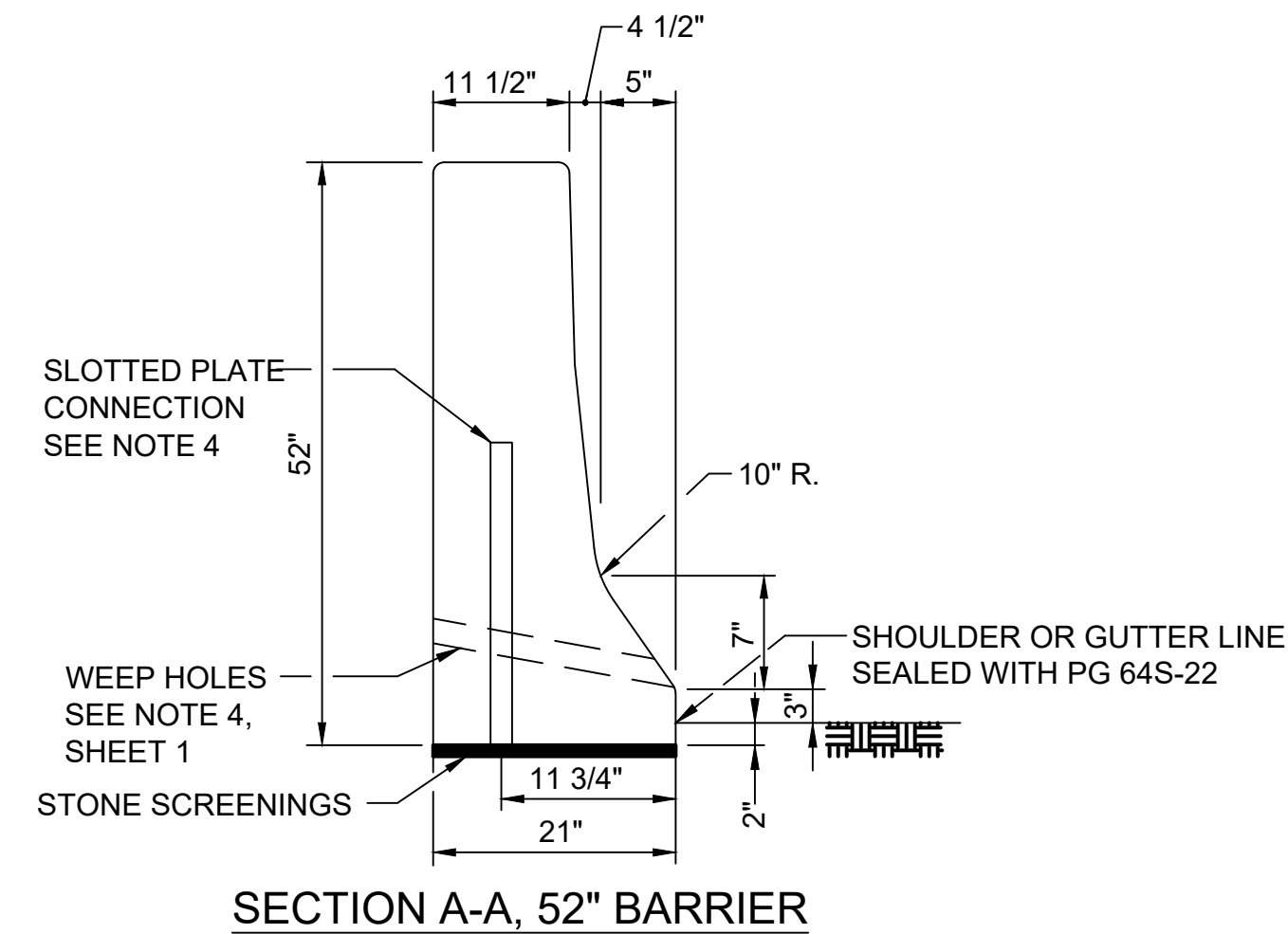
PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-142-2.dwg
DRAWING TYPE: 5A

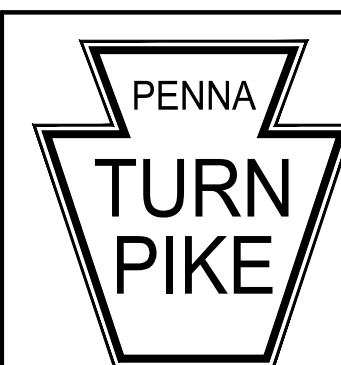
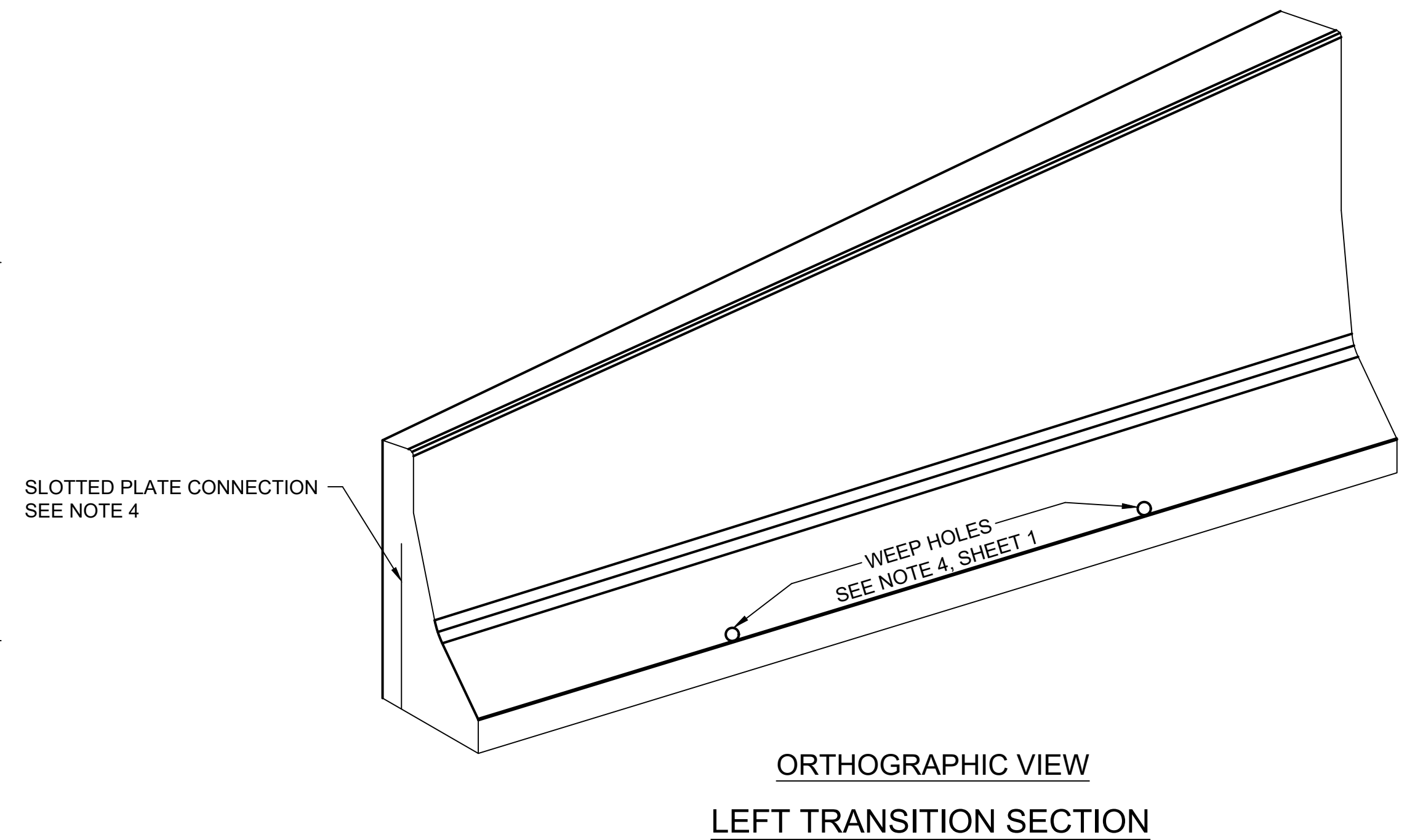
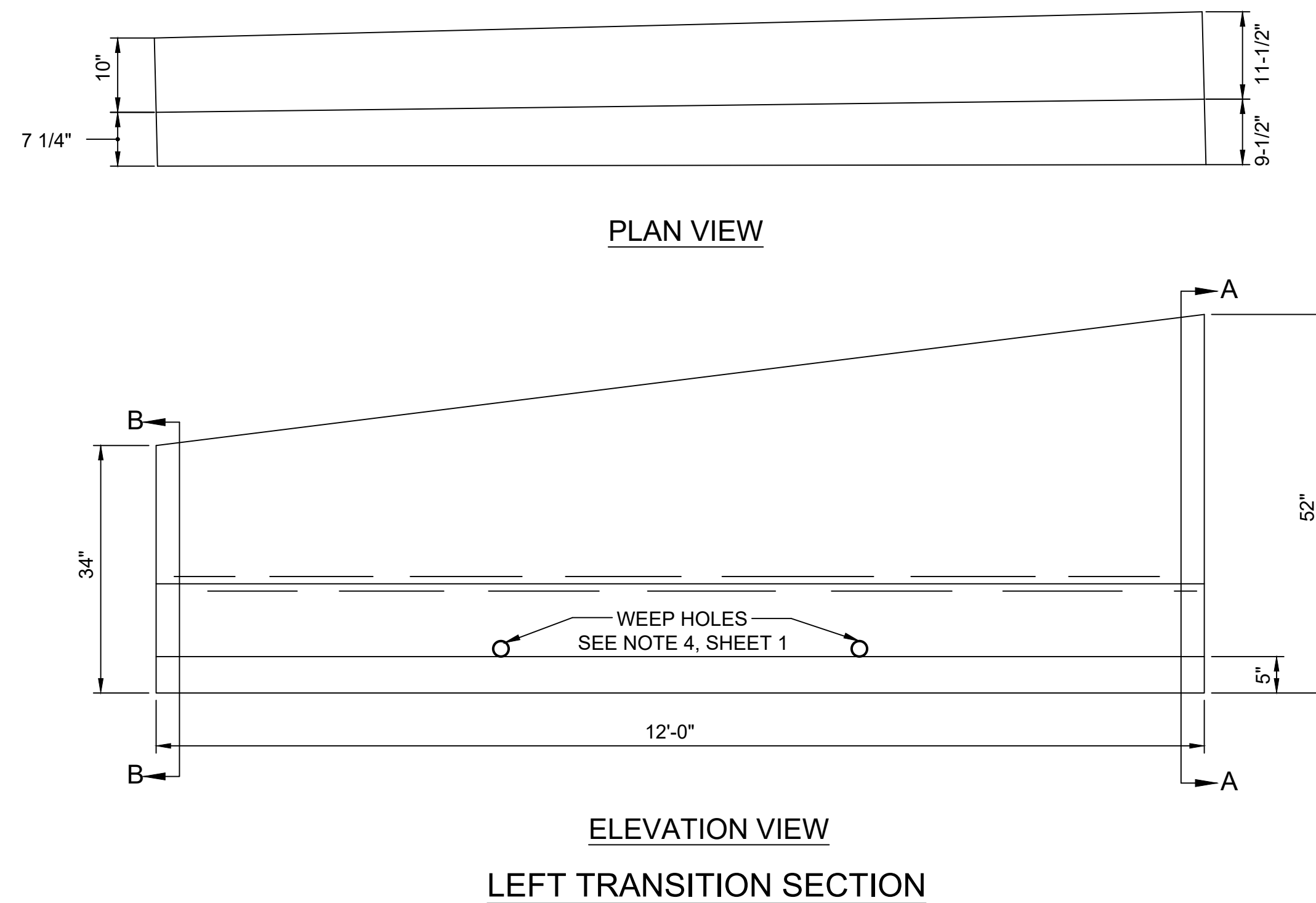
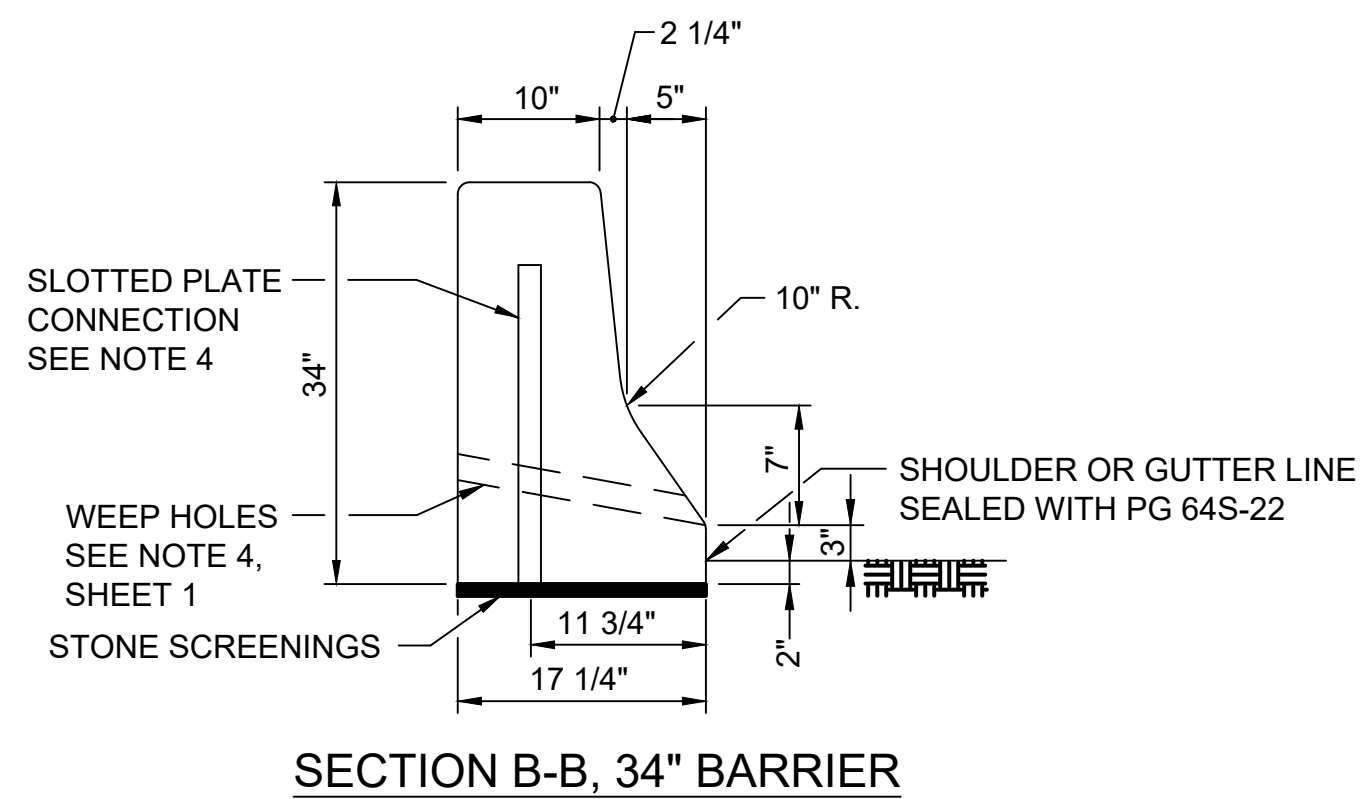
SHEET 2 OF 5

DATE: SEPTEMBER 2022

PTS-142



- NOTES:
1. PROVIDE SINGLE FACE CONCRETE BARRIER MEETING THE REQUIREMENTS OF SECTION 623 AND SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
 2. PROVIDE REINFORCEMENT FOR 52" SINGLE FACE CONCRETE BARRIER AS SHOWN ON SHEET 2 OF 5.
 3. PROVIDE TRANSITION SECTIONS WITH TWO UTILITY LIFT ANCHORS HAVING A 4:1 SAFE WORKING LOAD FOR THE TOP OF THE BARRIER SECTION.
 4. PROVIDE SLOTTED PLATE CONNECTIONS BETWEEN TRANSITION SECTIONS AS SHOWN ON RC-58M. REINFORCE SLOT AS SHOWN ON RC-58M.
 5. PROVIDE SLOTTED PLATE CONNECTIONS BETWEEN TRANSITION SECTIONS AND 34" OR 41" SINGLE FACE BARRIER (F-SHAPE) OR END TRANSITIONS AS SHOWN ON RC-58M WITH A MAXIMUM TOLERANCE OF 1/8 INCH FROM THE PROPOSED LOCATION. REINFORCE SLOT AS SHOWN ON RC-58M.
 6. PROVIDE PLATES (1/2" X 12" X 27") MEETING THE REQUIREMENTS OF SECTION 1105. GALVANIZE AS SPECIFIED IN SECTION 1105.
 7. PROVIDE END TRANSITIONS AS SHOWN ON RC-58M.
 8. ROUND OR CHAMFER HORIZONTAL EDGES WITH A RADIUS OF 1" EXCEPT AS SHOWN.



RECOMMENDED: SEPTEMBER 27, 2022

[Signature]

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: SEPTEMBER 27, 2022

[Signature]

CHIEF ENGINEER

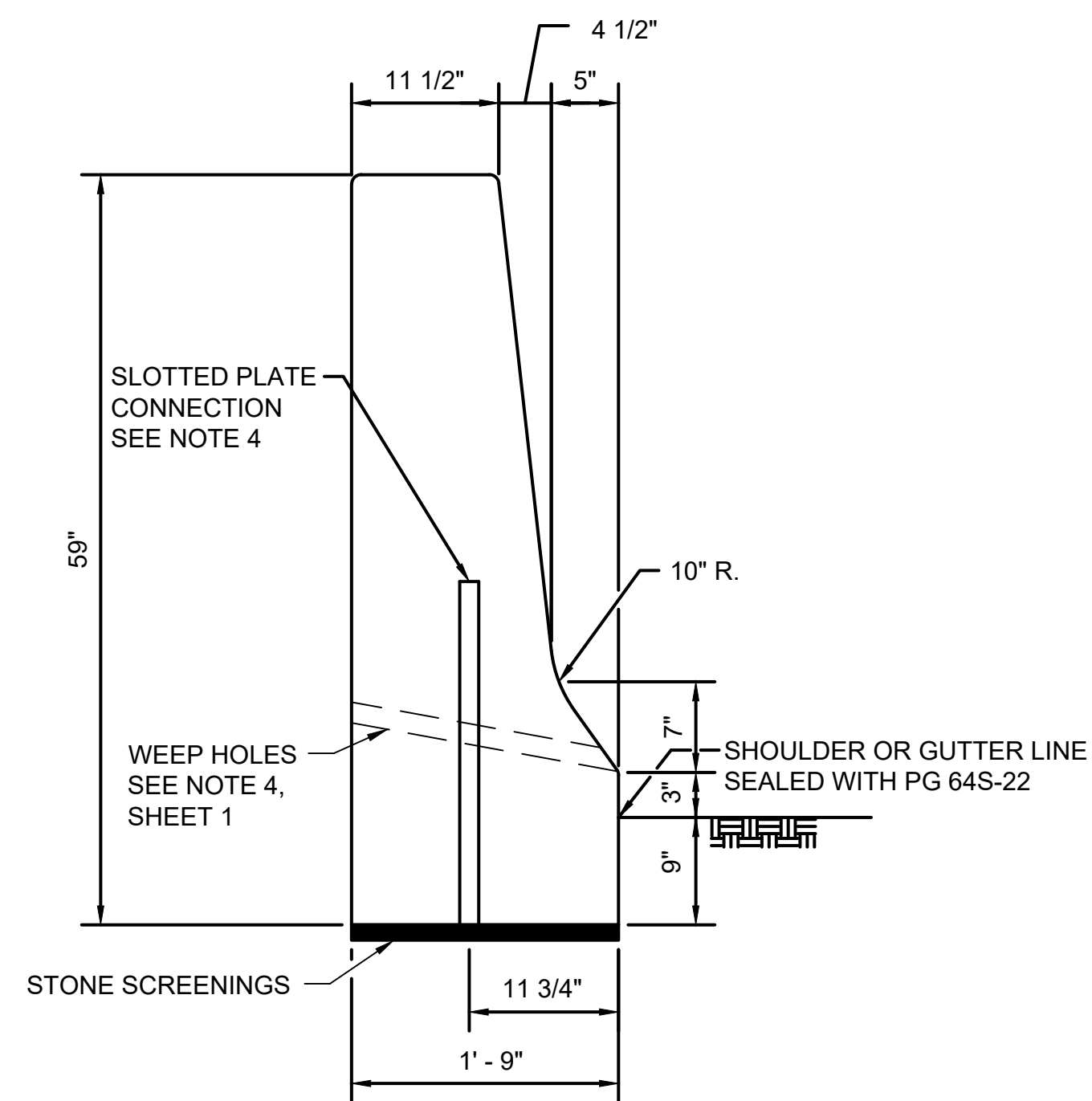
SINGLE FACE CONCRETE BARRIER
(TRANSITION SECTIONS 52" TO 34")

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

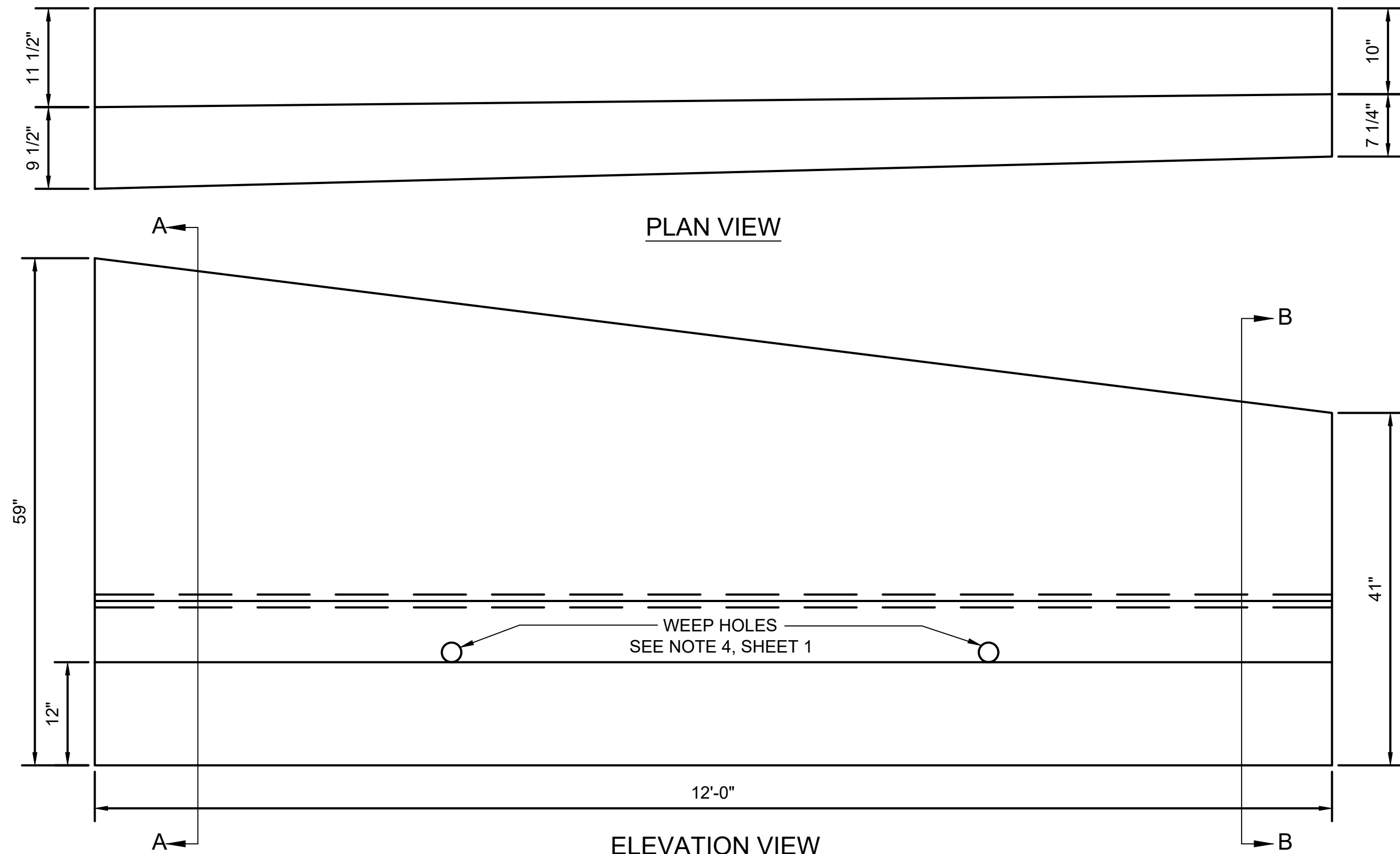
FILE NAME: PTS-142-3.dwg	SHEET 3 OF 5
DRAWING TYPE: 5A	

DATE: SEPTEMBER 2022	PTS-142
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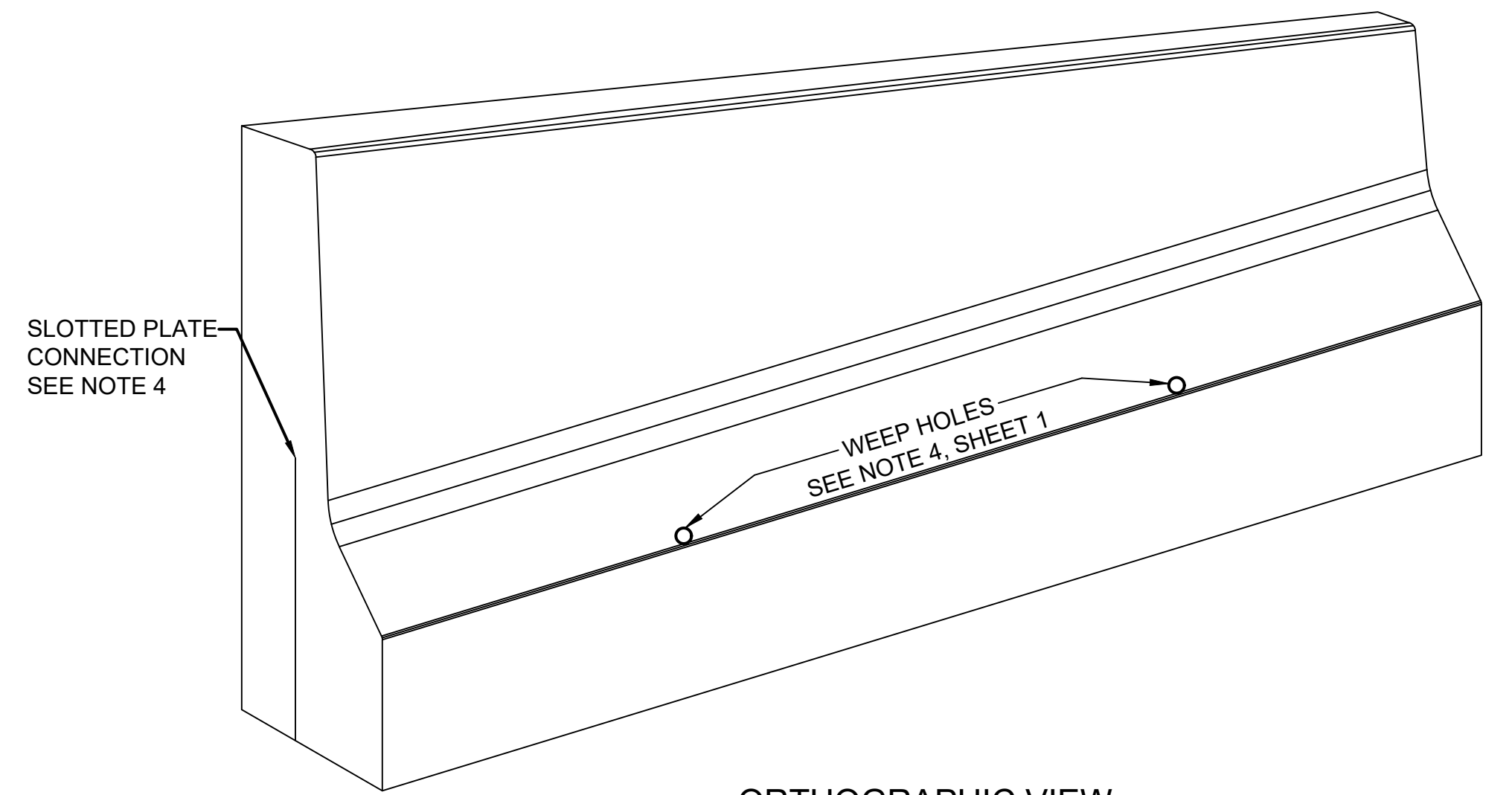
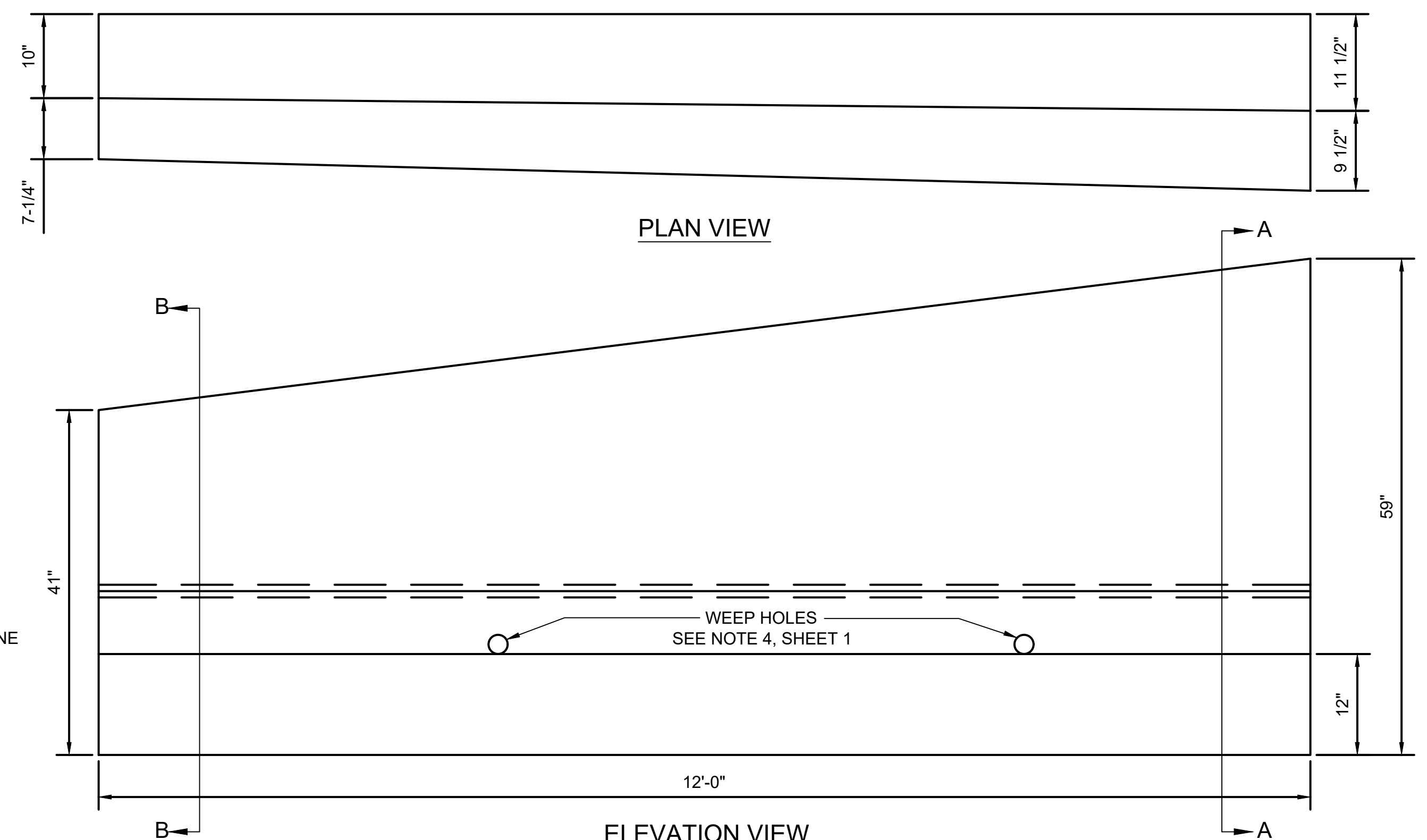
FOR NOTES SEE SHEET 3 OF 5.



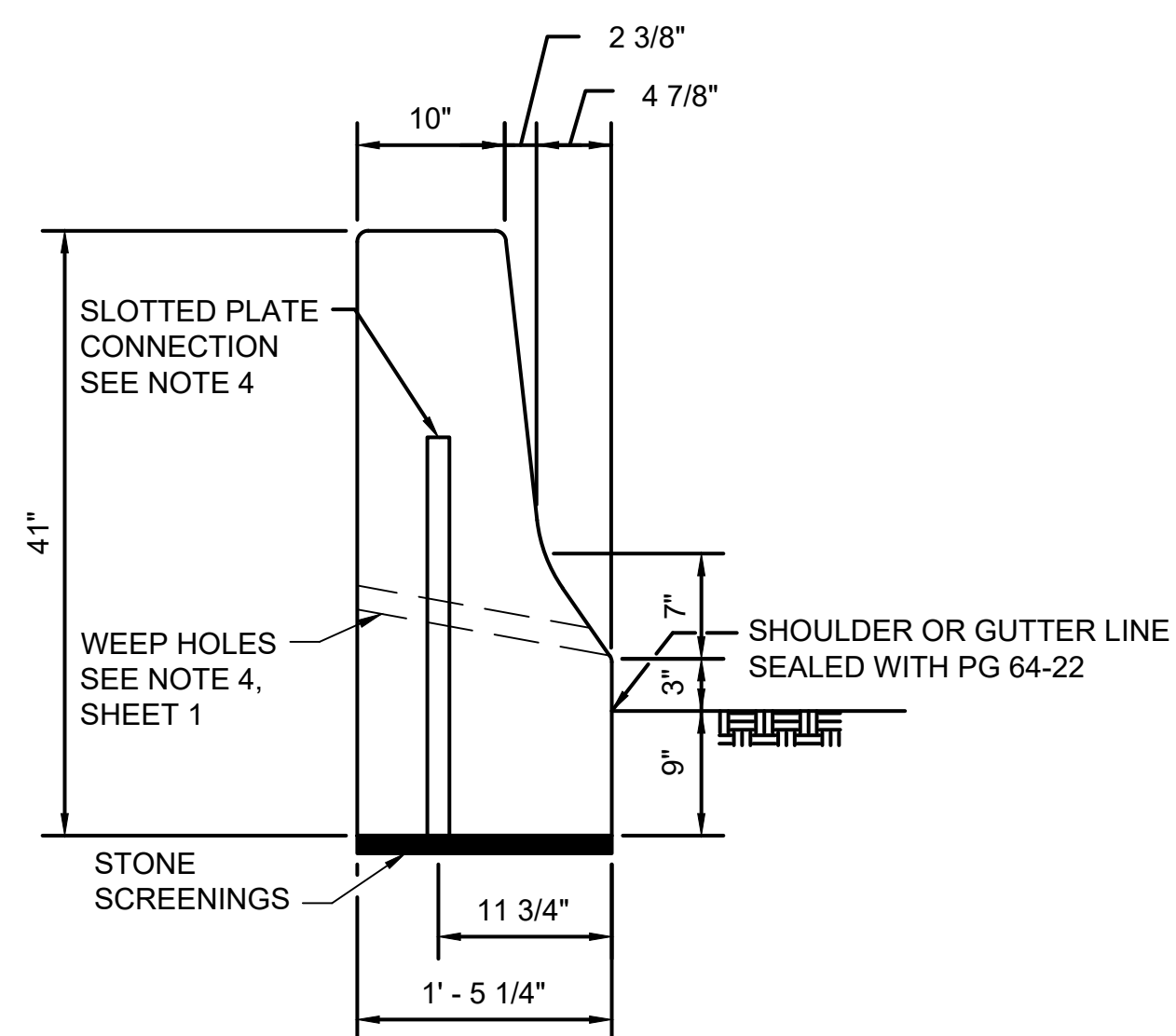
SECTION A-A, 59" BARRIER



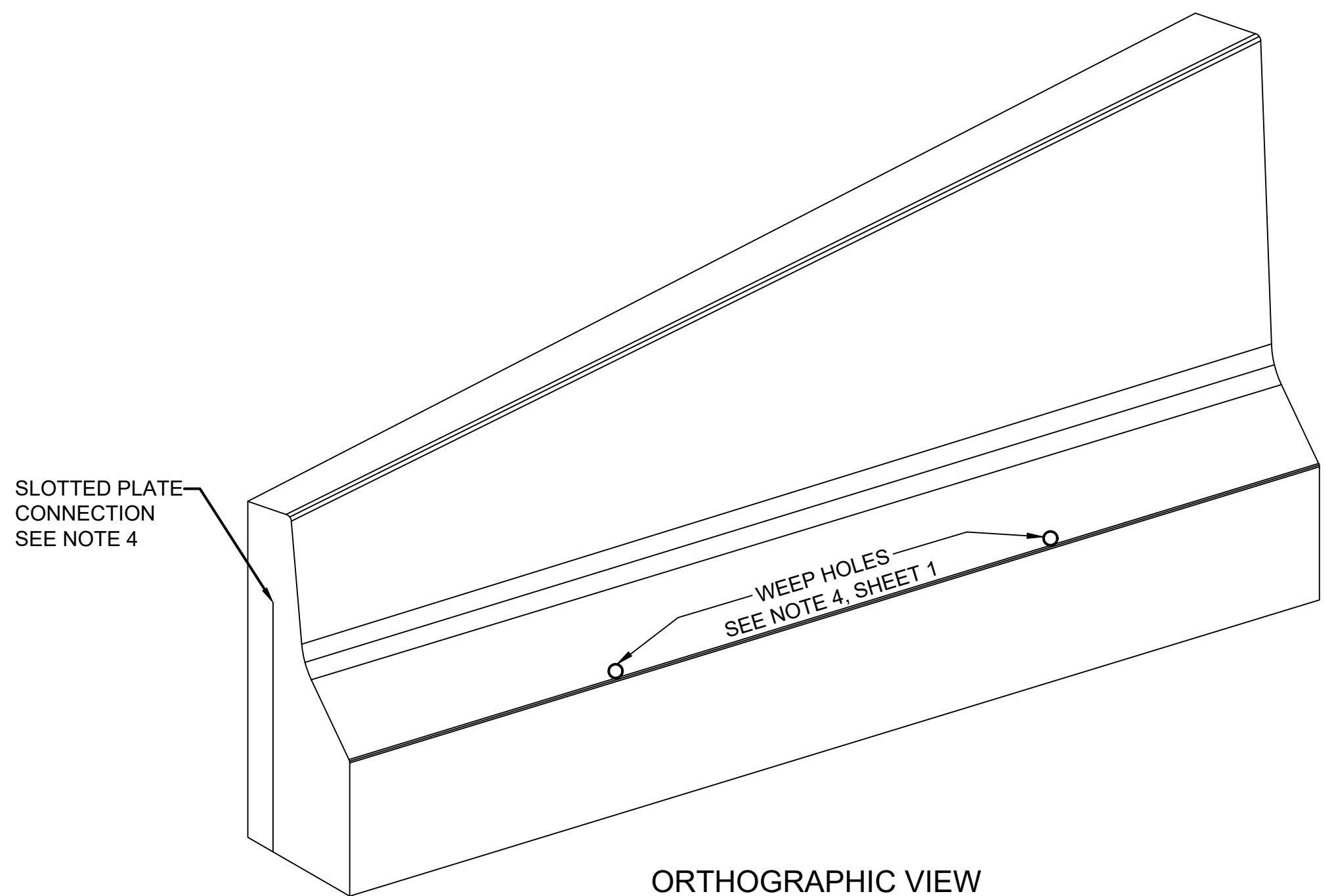
ELEVATION VIEW
RIGHT TRANSITION SECTION

ORTHOGRAPHIC VIEW

ELEVATION VIEW
LEFT TRANSITION SECTION



SECTION B-B, 41" BARRIER



ORTHOGRAPHIC VIEW

RECOMMENDED: SEPTEMBER 27, 2022

K. V. Schmidt

APPROVED: 1 SEPTEMBER 07 2000

APPROVED: _____ SEPTEMBER 27, 2022

1/10/1

**SINGLE FACE CONCRETE BARRIER
(TRANSITION SECTIONS 59" TO 41")**

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

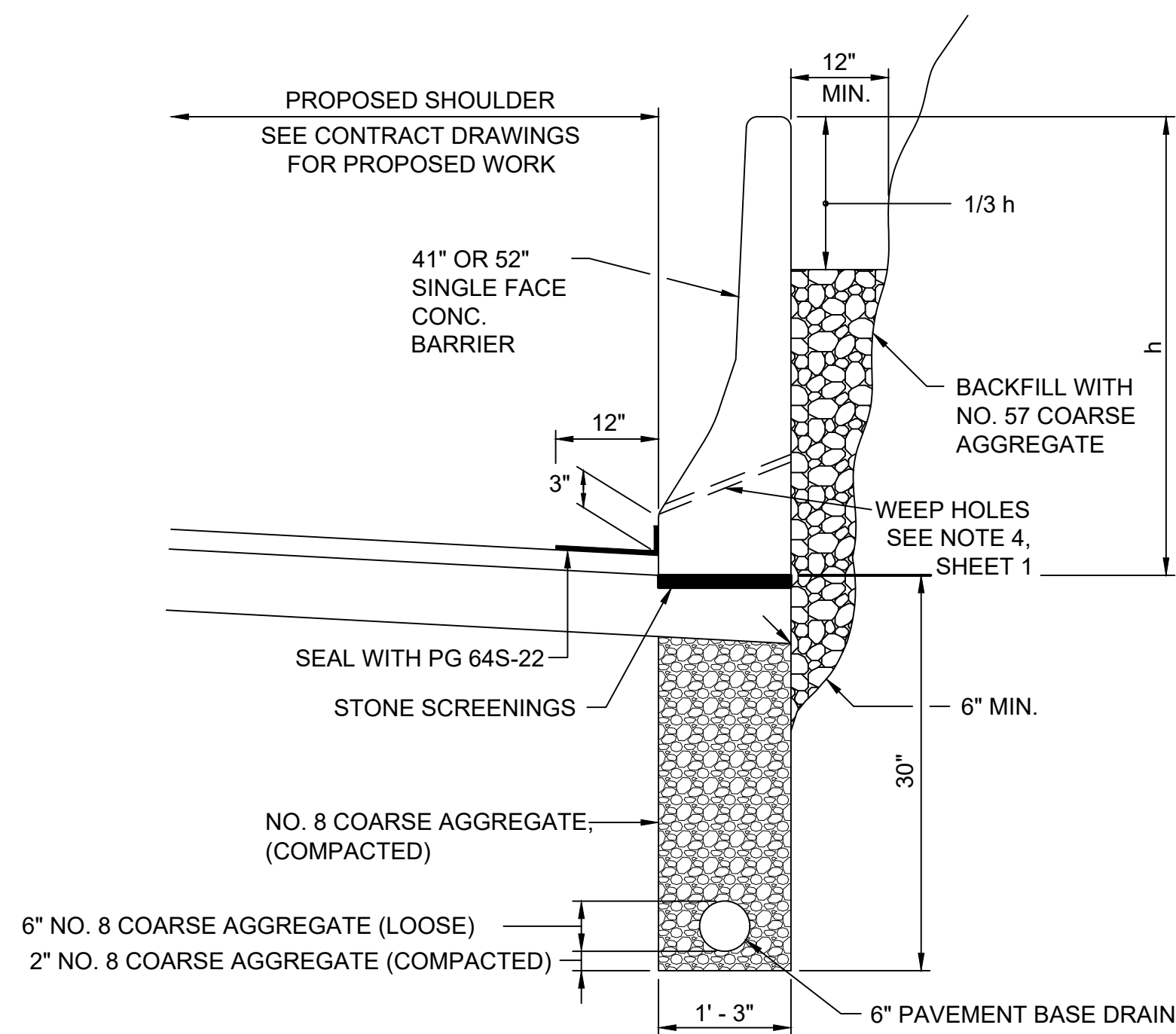
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DRAWING TYPE: 5A

SHEET 4 OF 5

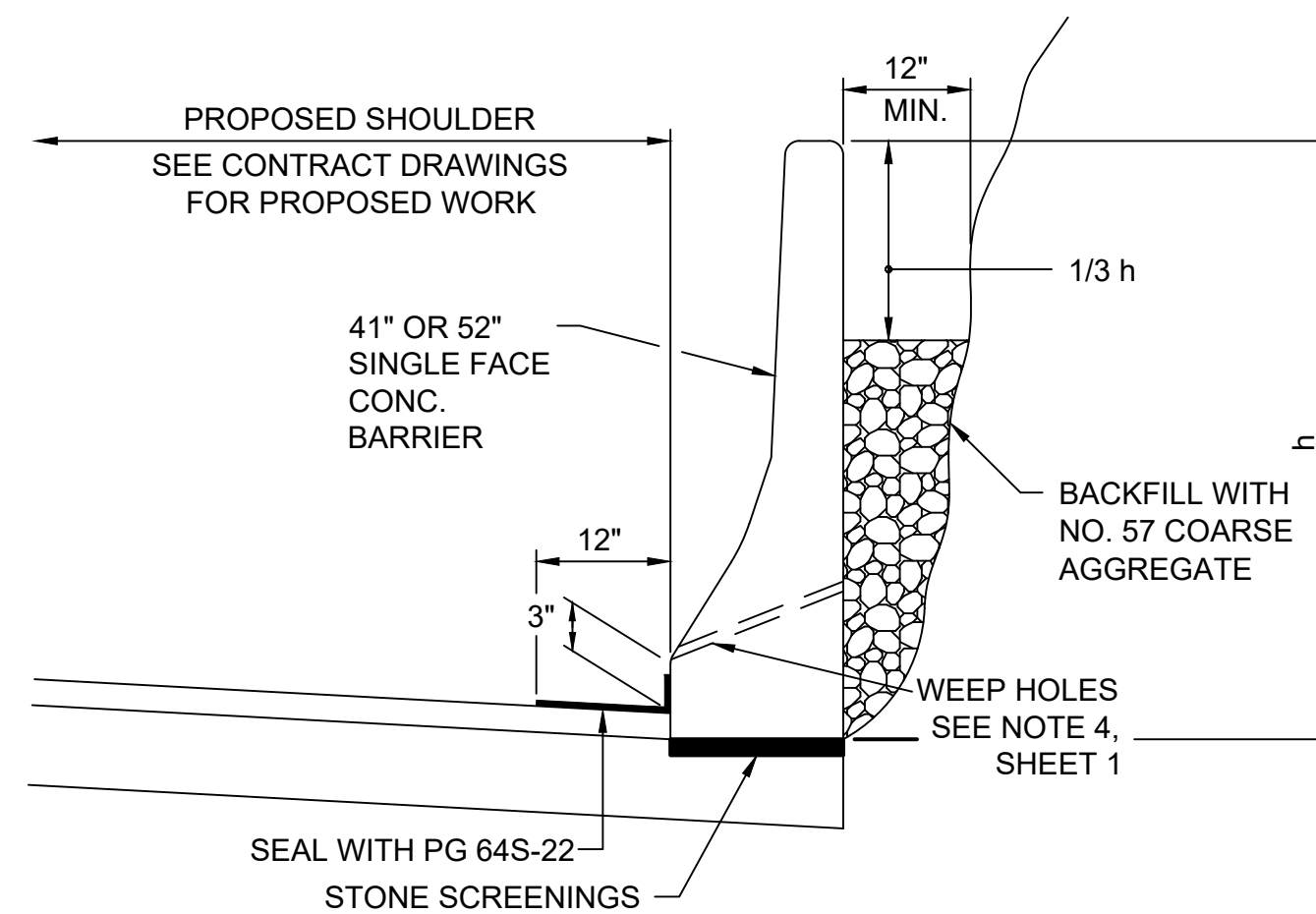
DATE:SEPTEMBER 2022

PTS-142



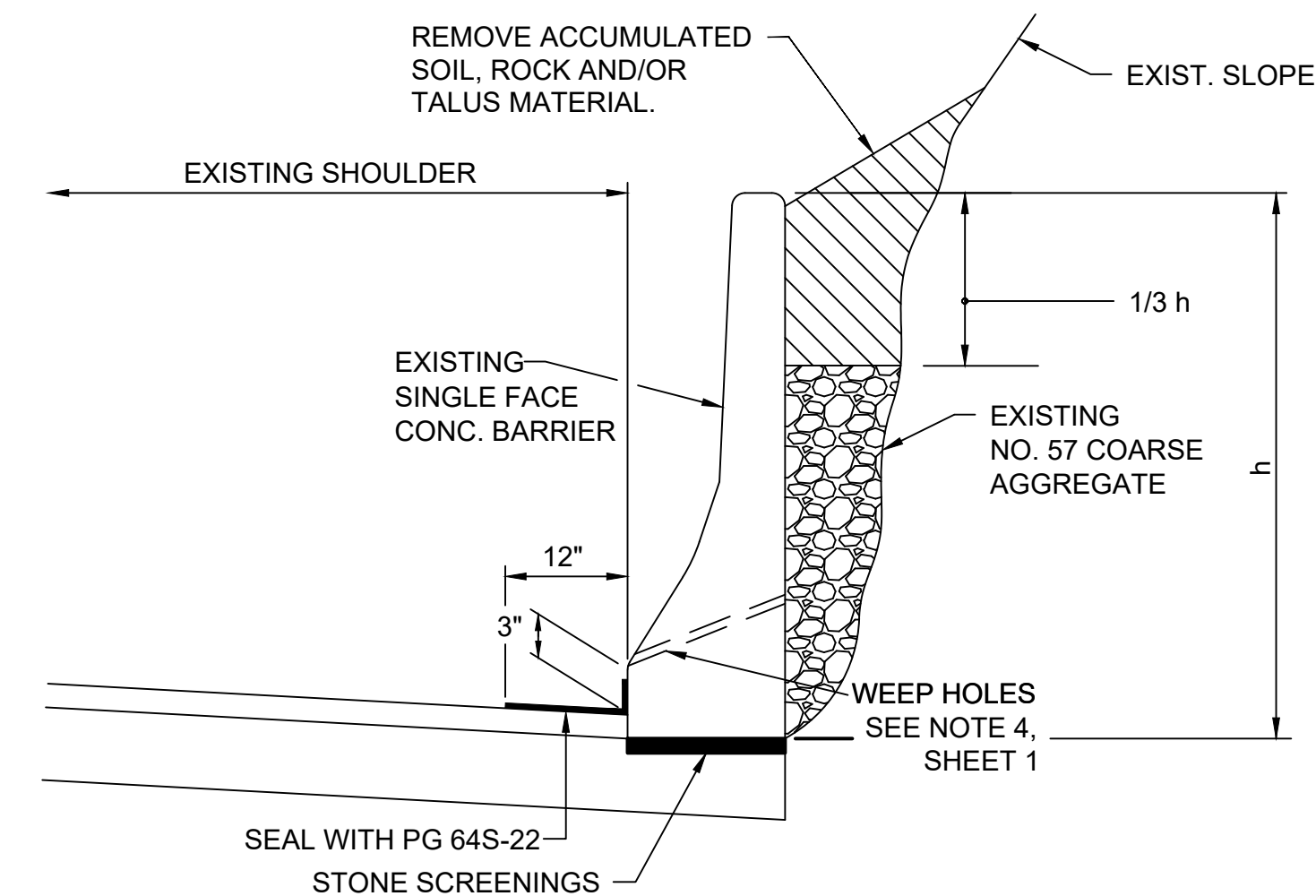
**SINGLE FACE CONCRETE BARRIER
WITH 6" PAVEMENT BASE DRAIN**

(SEE NOTE 1)



**SINGLE FACE CONCRETE BARRIER
ON CUT SLOPE**

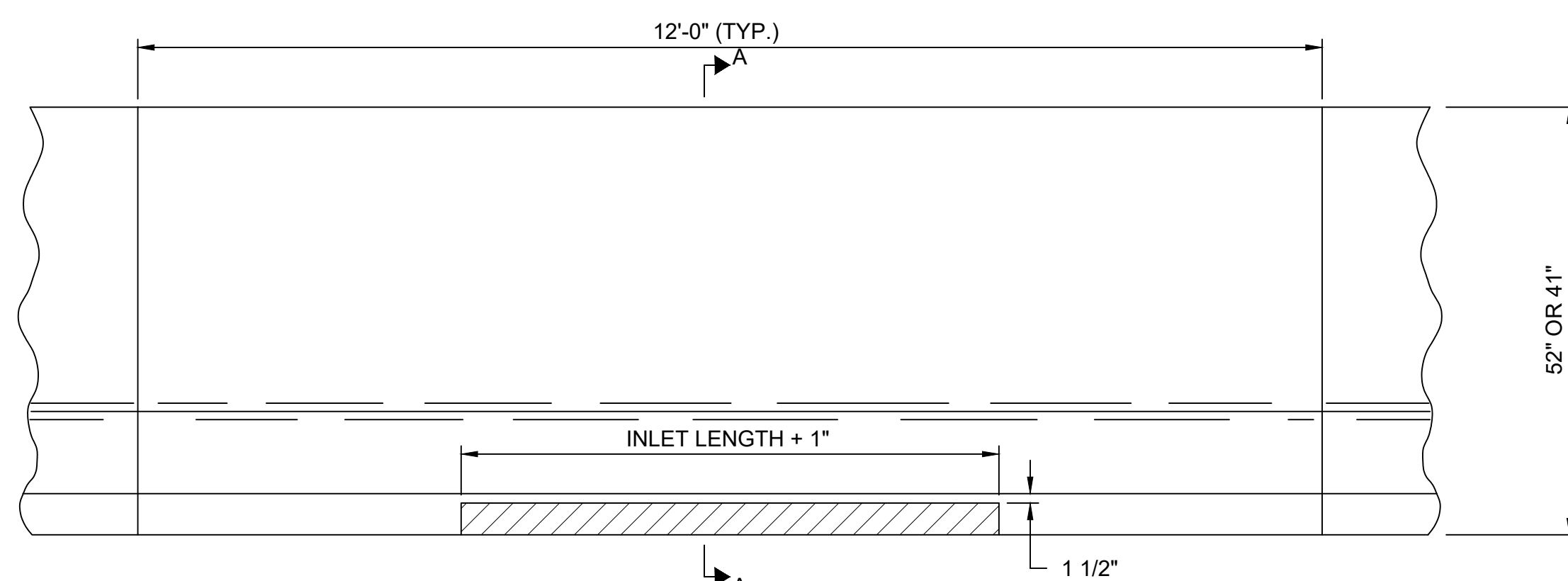
(SEE NOTE 1)



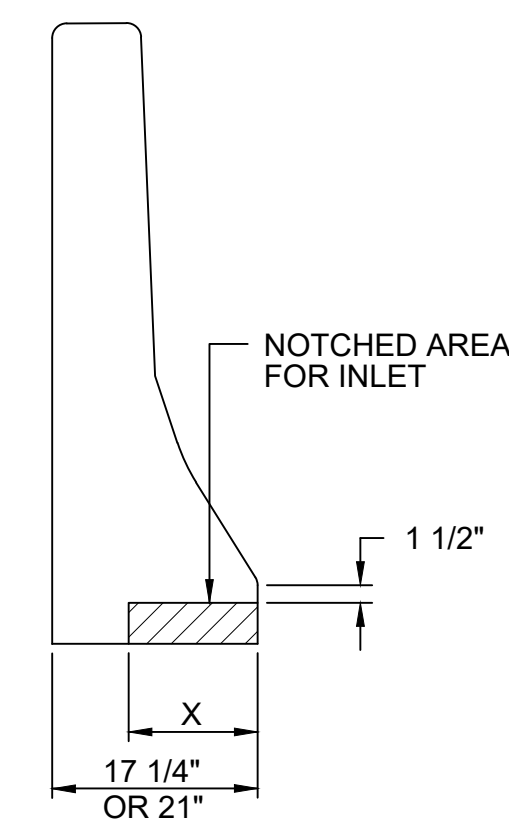
**CLEANING BEHIND EXISTING
SINGLE FACE CONCRETE BARRIER
ON CUT SLOPE**

NOTES:

- IF INDICATED IN THE CONTRACT DRAWINGS EXCAVATE THE EXISTING SLOPE (2:1 OR FLATTER IN SOILS, 1 1/4:1 OR FLATTER IN ROCK) TO ACCOMMODATE THE INSTALLATION OF THE BARRIER.

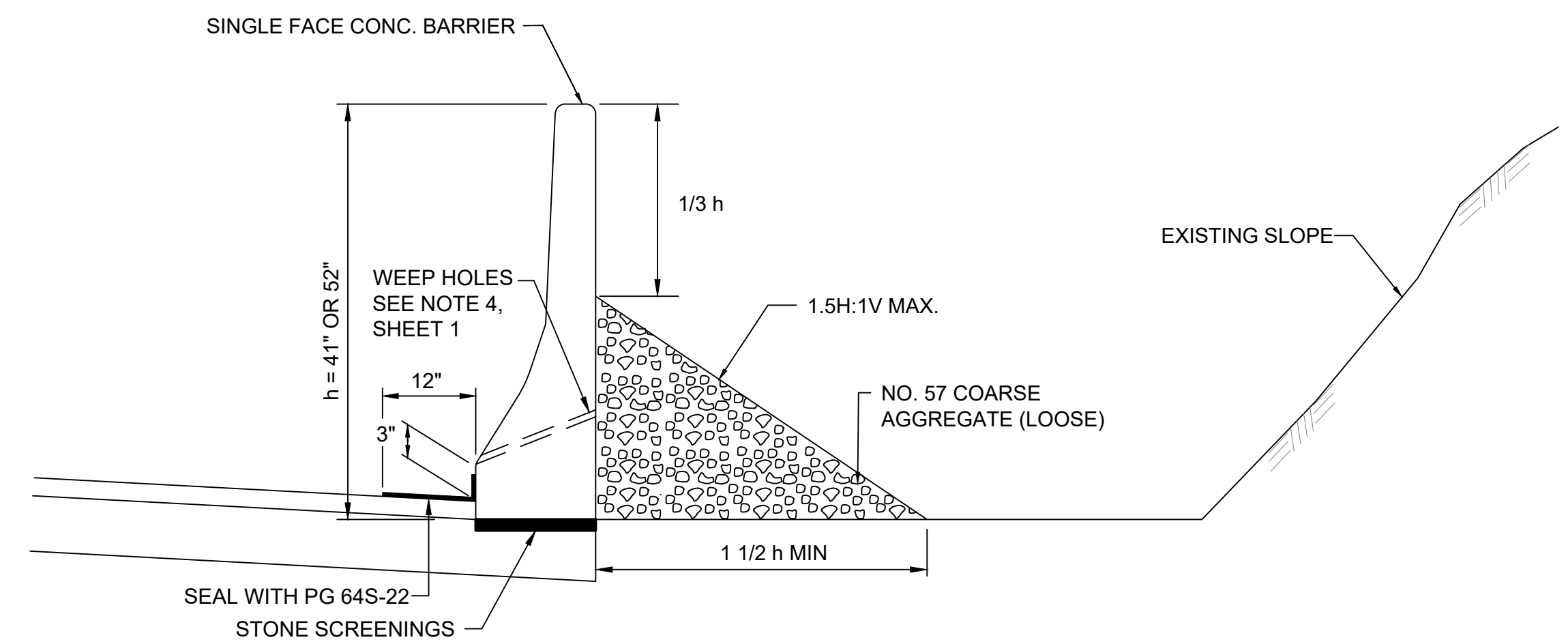


**ELEVATION VIEW
SINGLE FACE CONCRETE BARRIER
OVER EXISTING INLET**



SECTION A-A

X = WIDTH OF INLET WALL



**PLACEMENT OF SINGLE FACE CONCRETE BARRIER
IN FRONT OF EXISTING SLOPE**



RECOMMENDED: SEPTEMBER 27, 2022

Chris V. [Signature]

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: SEPTEMBER 27, 2022

[Signature]

CHIEF ENGINEER

**SINGLE FACE CONCRETE BARRIER
(INSTALLATION DETAILS)**

**PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING**

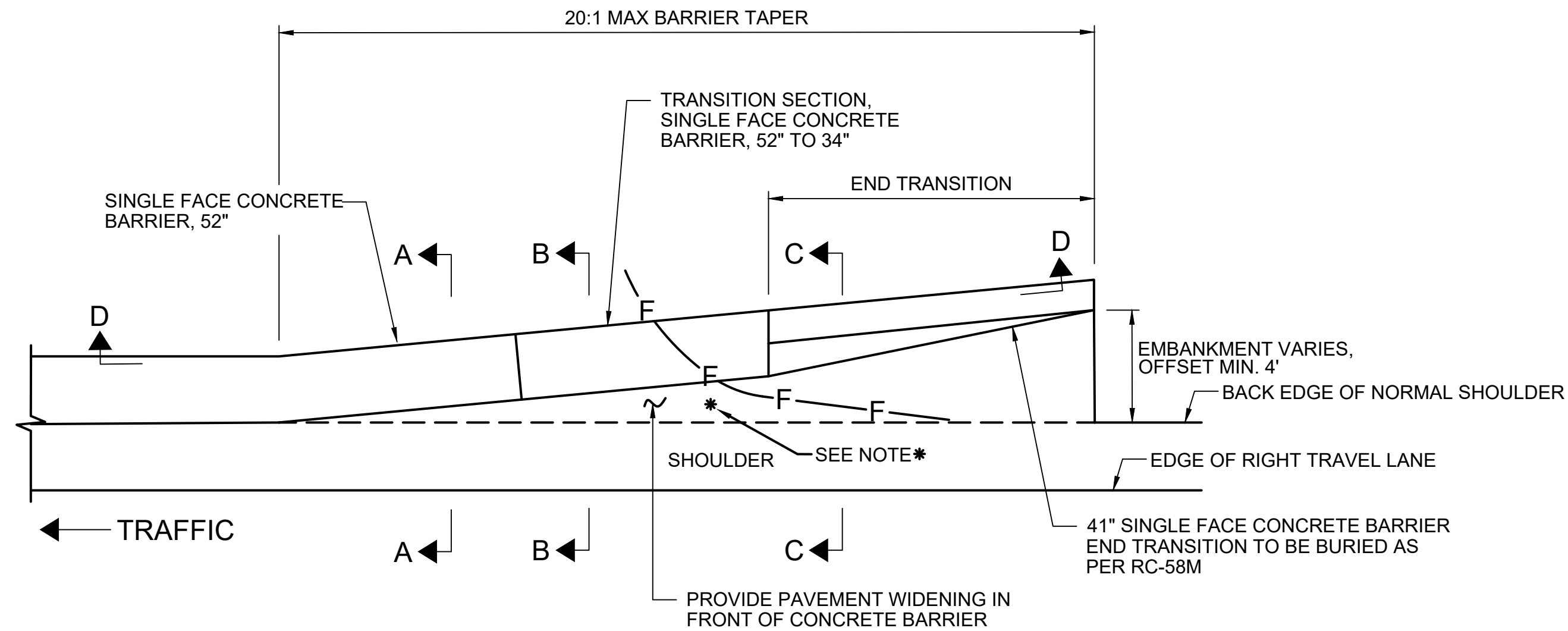
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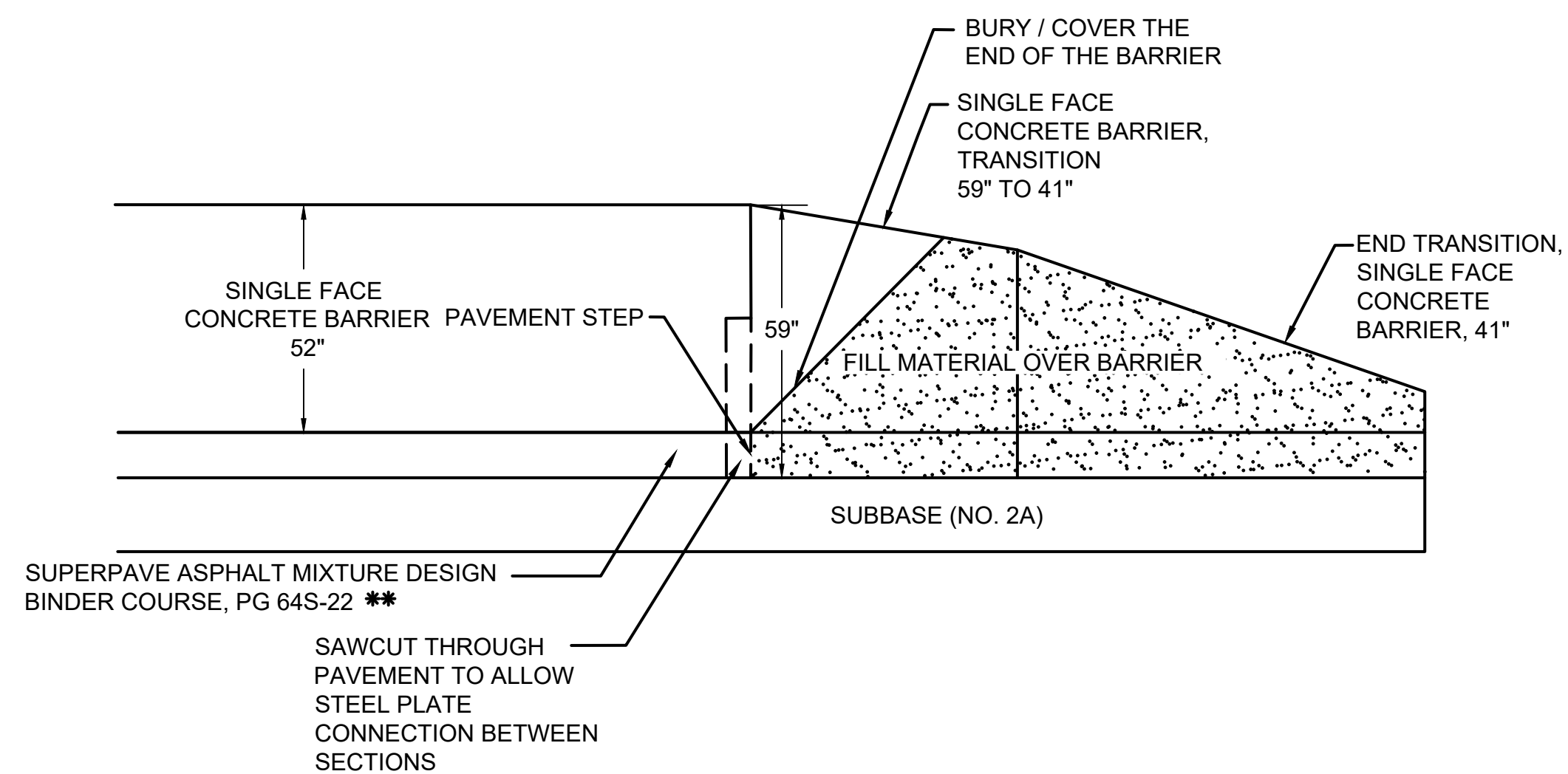
SHEET 5 OF 5

DATE: SEPTEMBER 2022

PTS-142



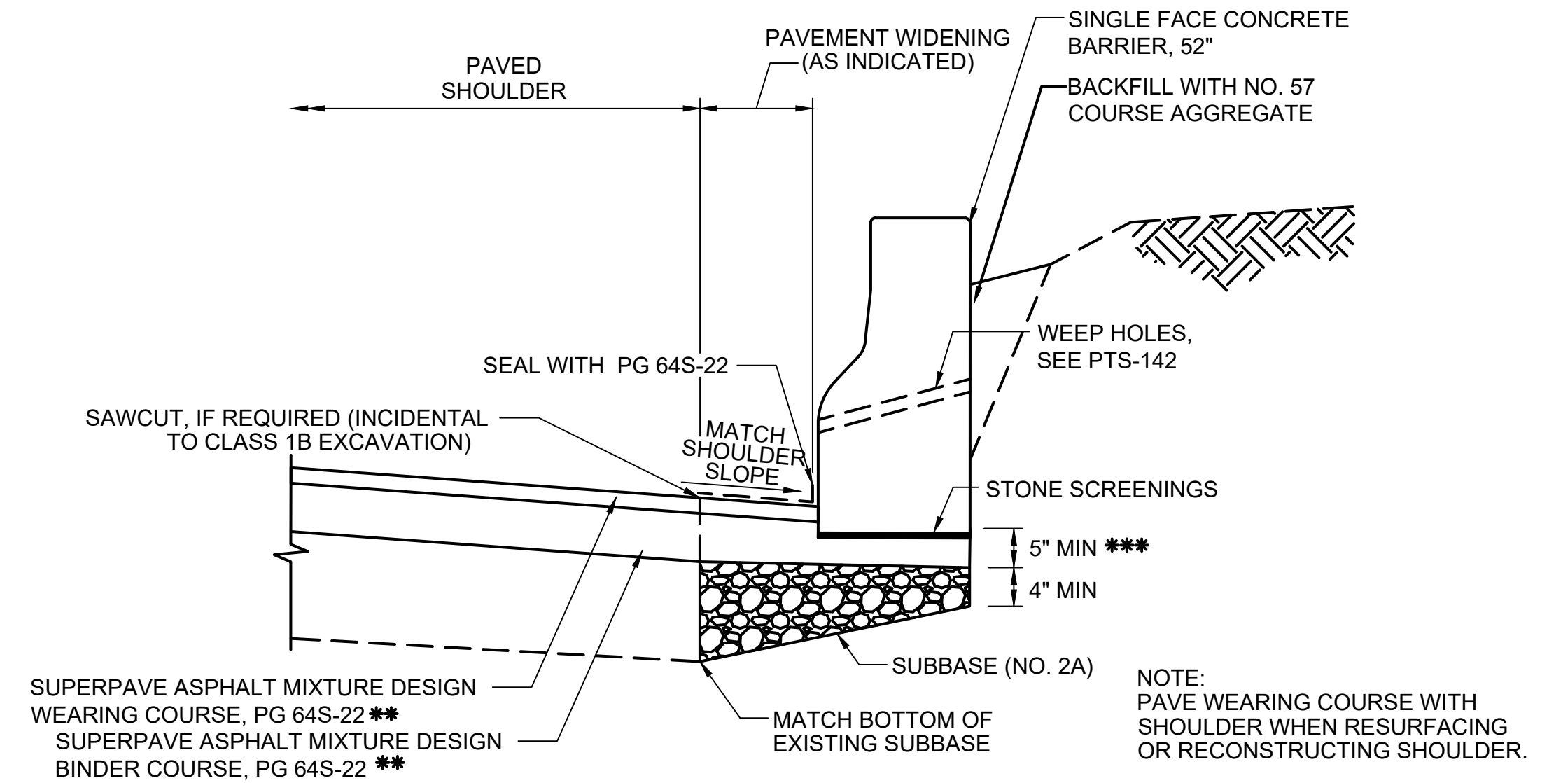
PLAN VIEW



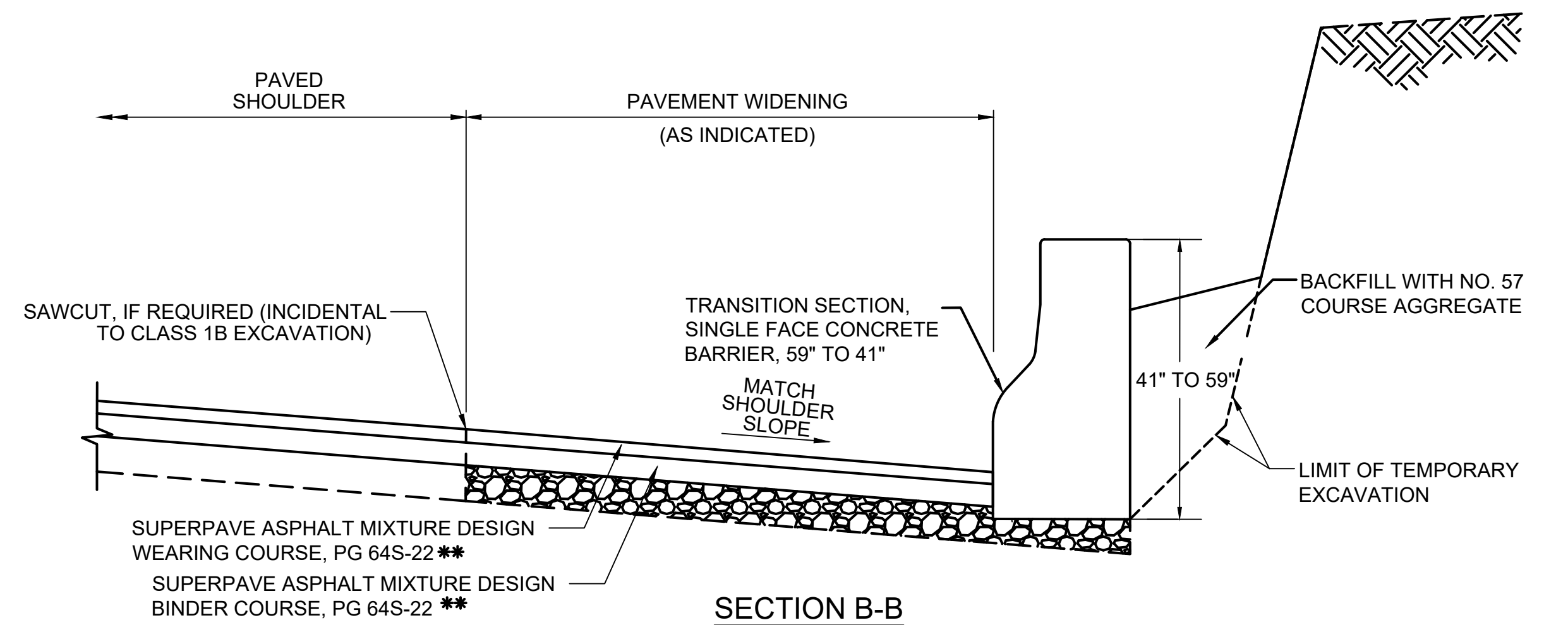
PROFILE VIEW D-D
NTS

NOTES:

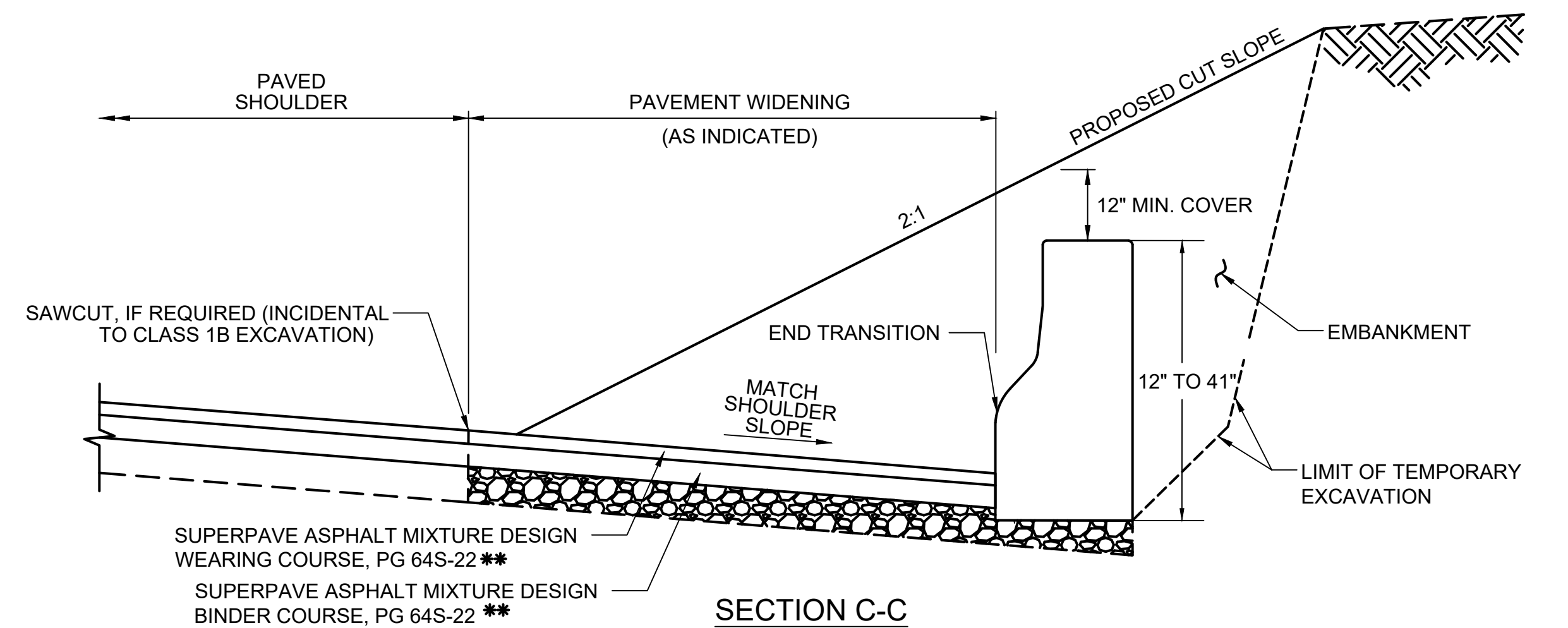
- * PROVIDE POSITIVE DRAINAGE IF ON DOWN SLOPE END TO ELIMINATE PONDING WATER
- ** PAVEMENT LAYERS TO MATCH PROPOSED SHOULDER PAVEMENT STRUCTURE
- *** 4" ASPHALT BINDER COURSE PLUS STONE SCREENINGS



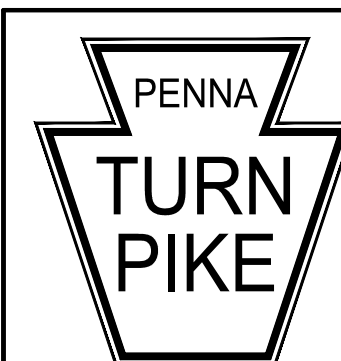
SECTION A-A



SECTION B-B



SECTION C-C

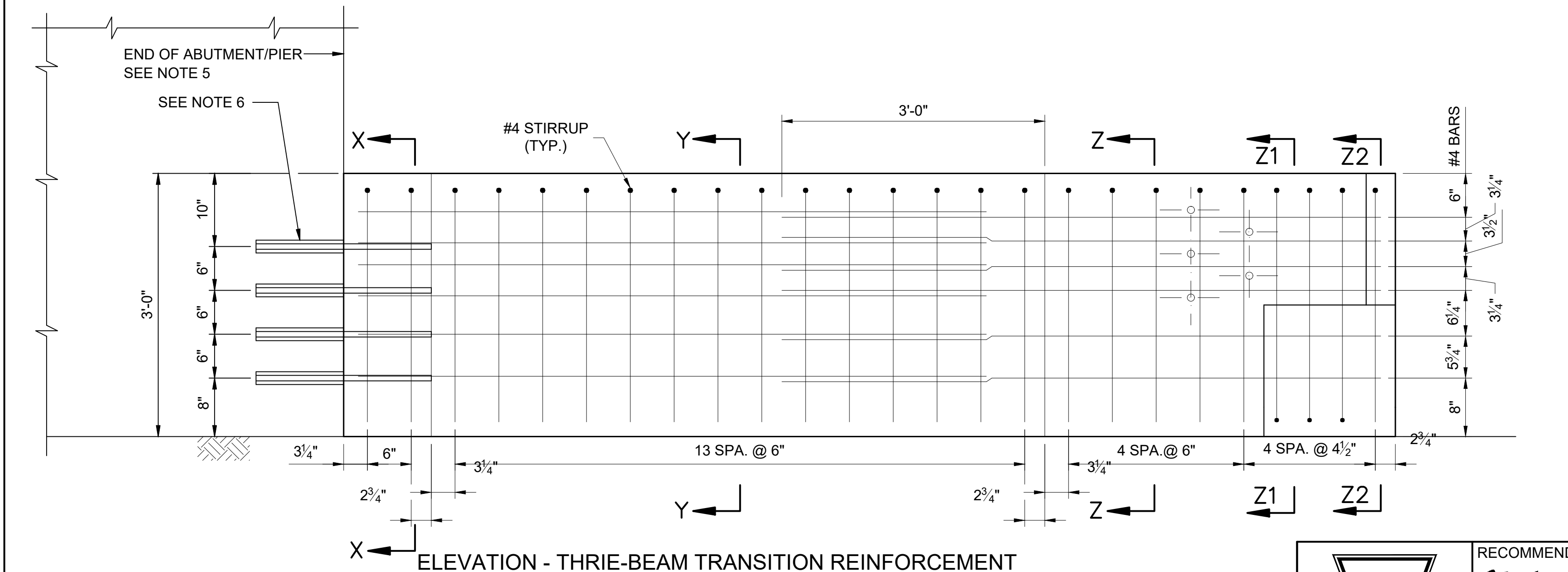
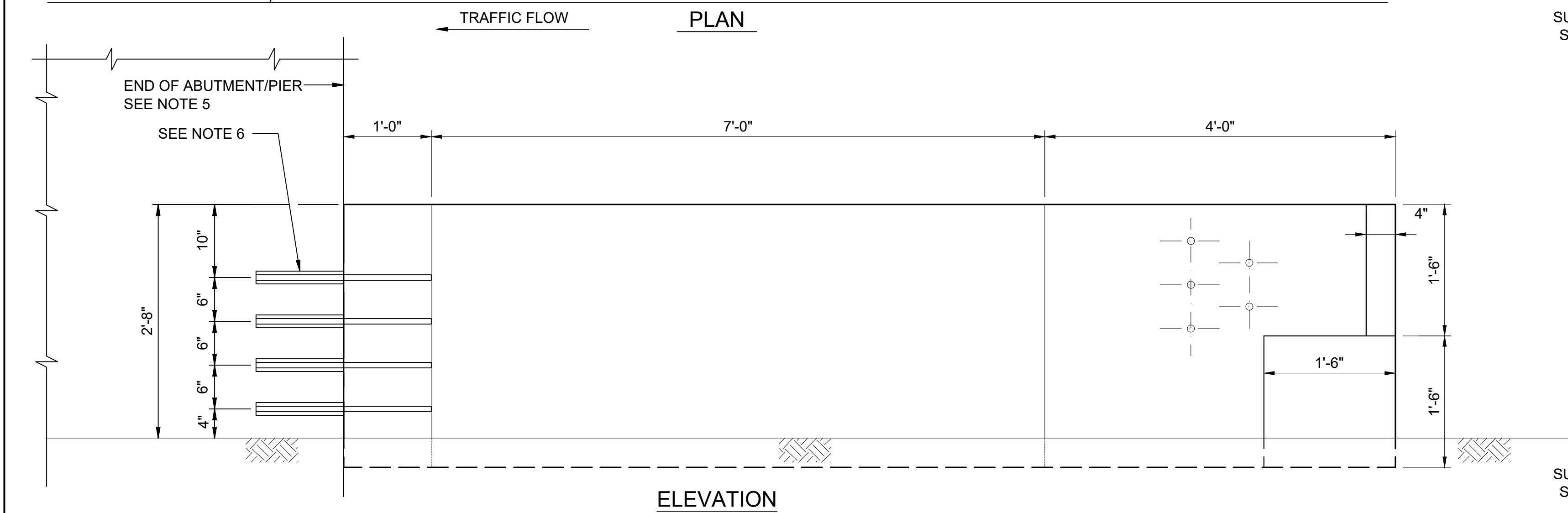
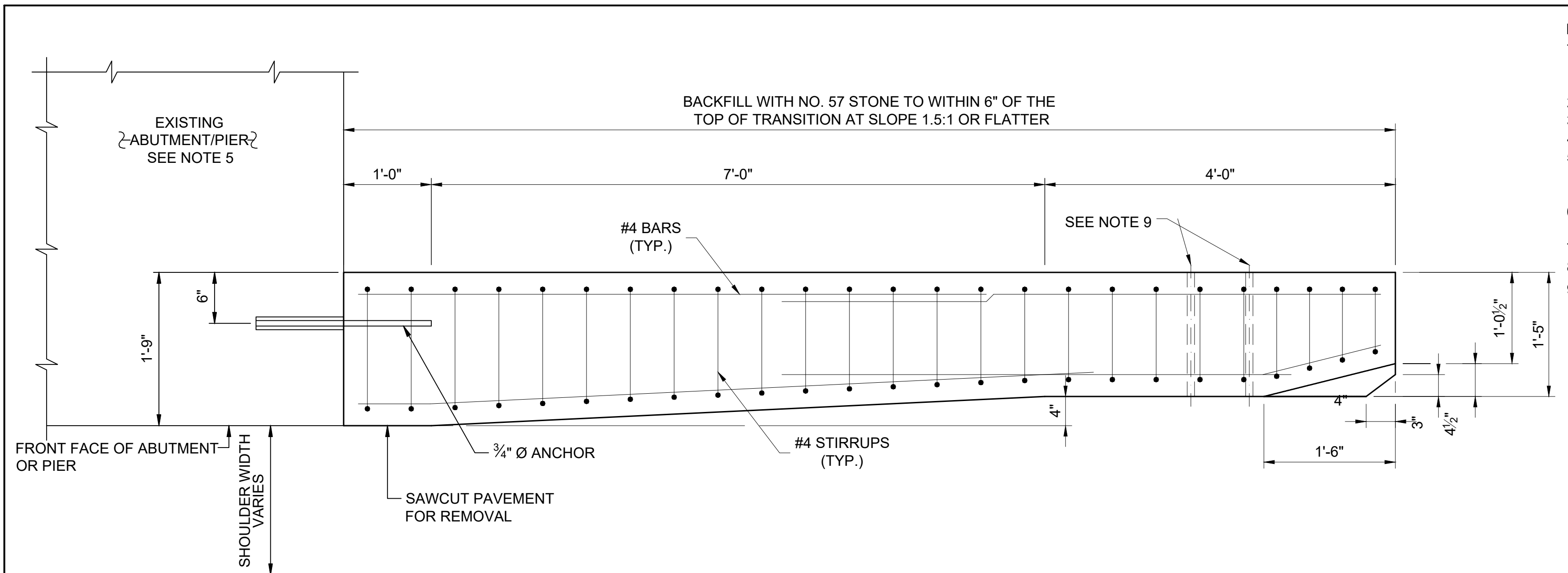


RECOMMENDED: NOVEMBER 28, 2023
[Signature]
 ASSISTANT CHIEF ENGINEER - DESIGN
 APPROVED: NOVEMBER 29, 2023
[Signature]
 CHIEF ENGINEER

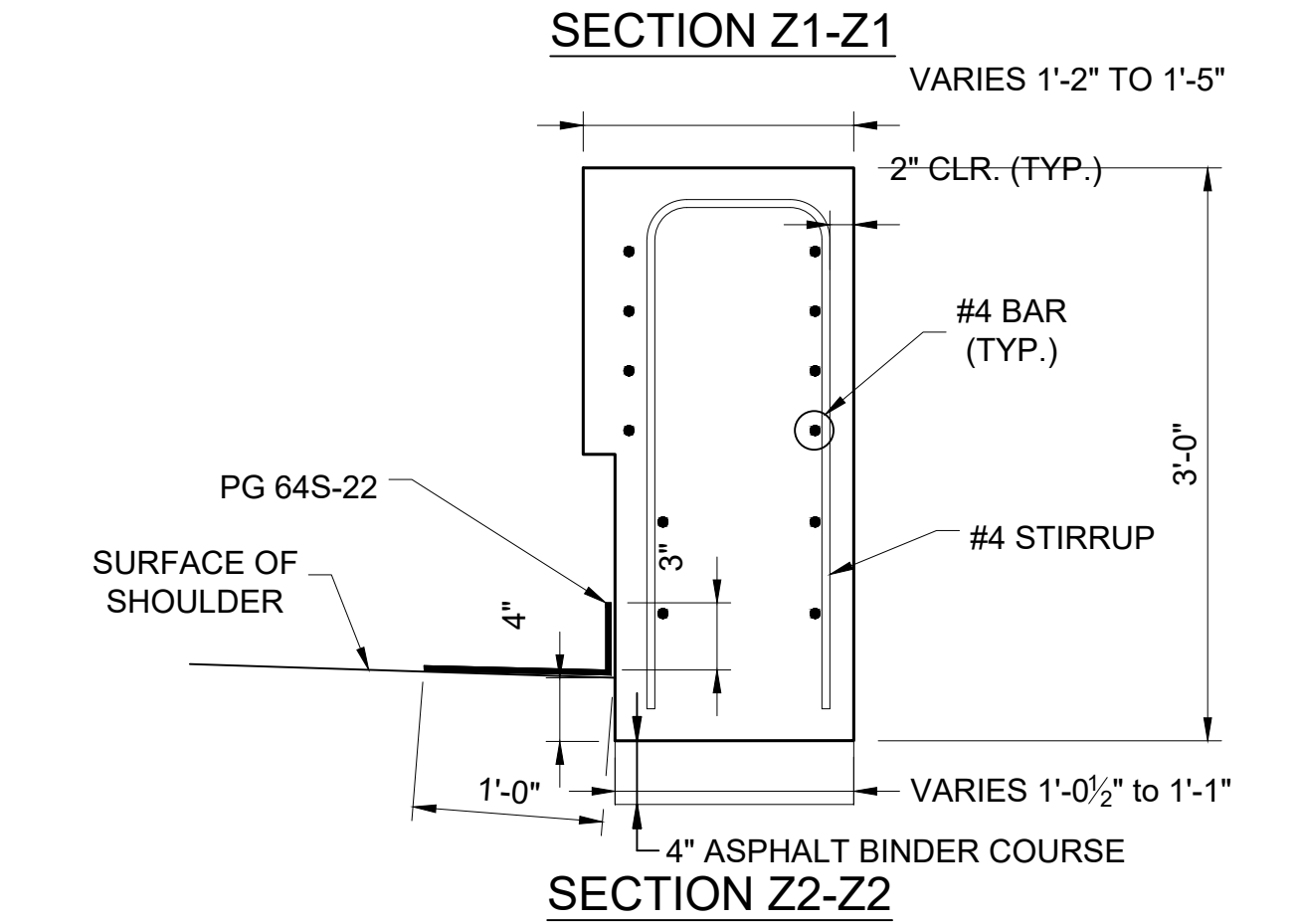
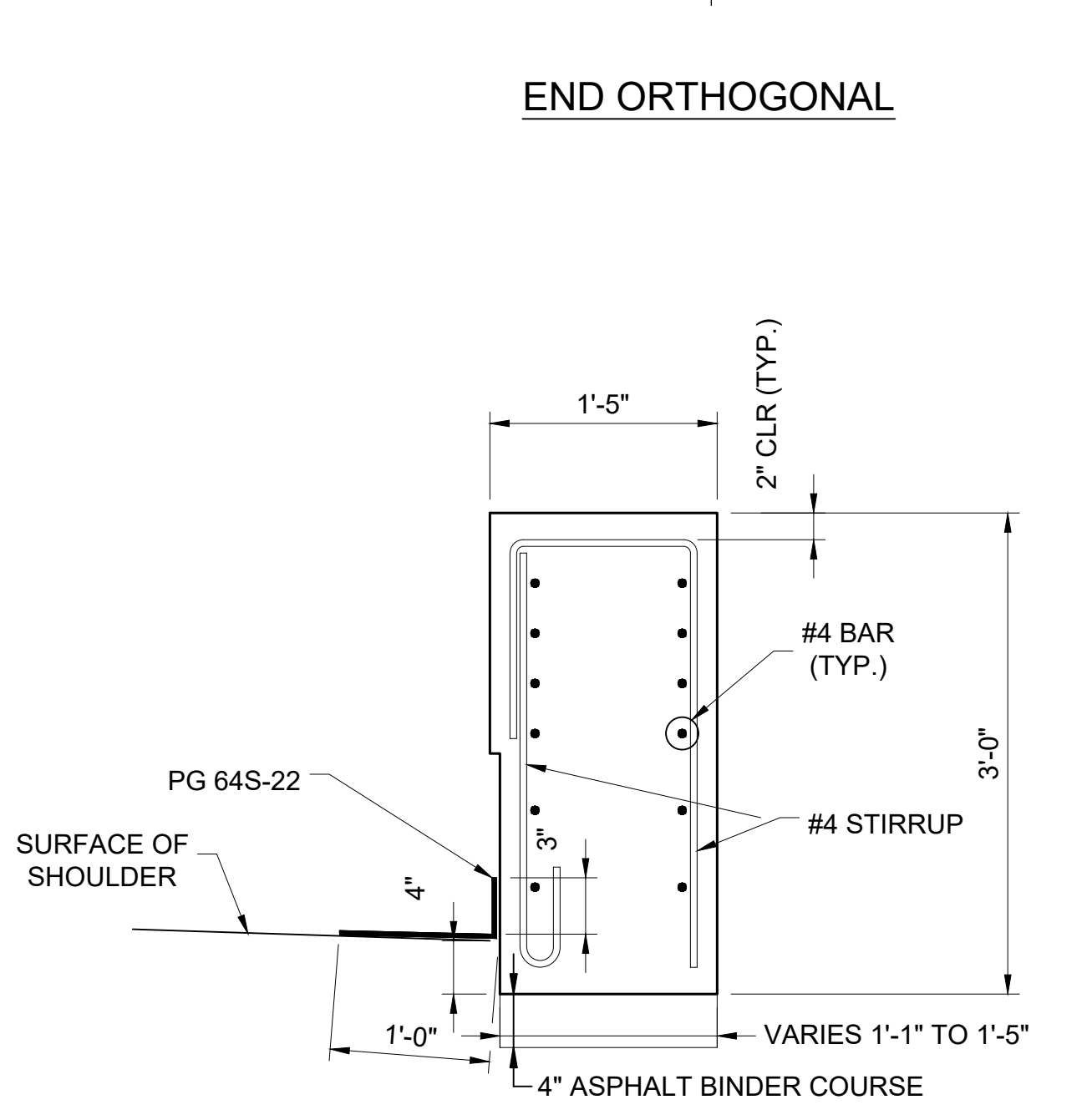
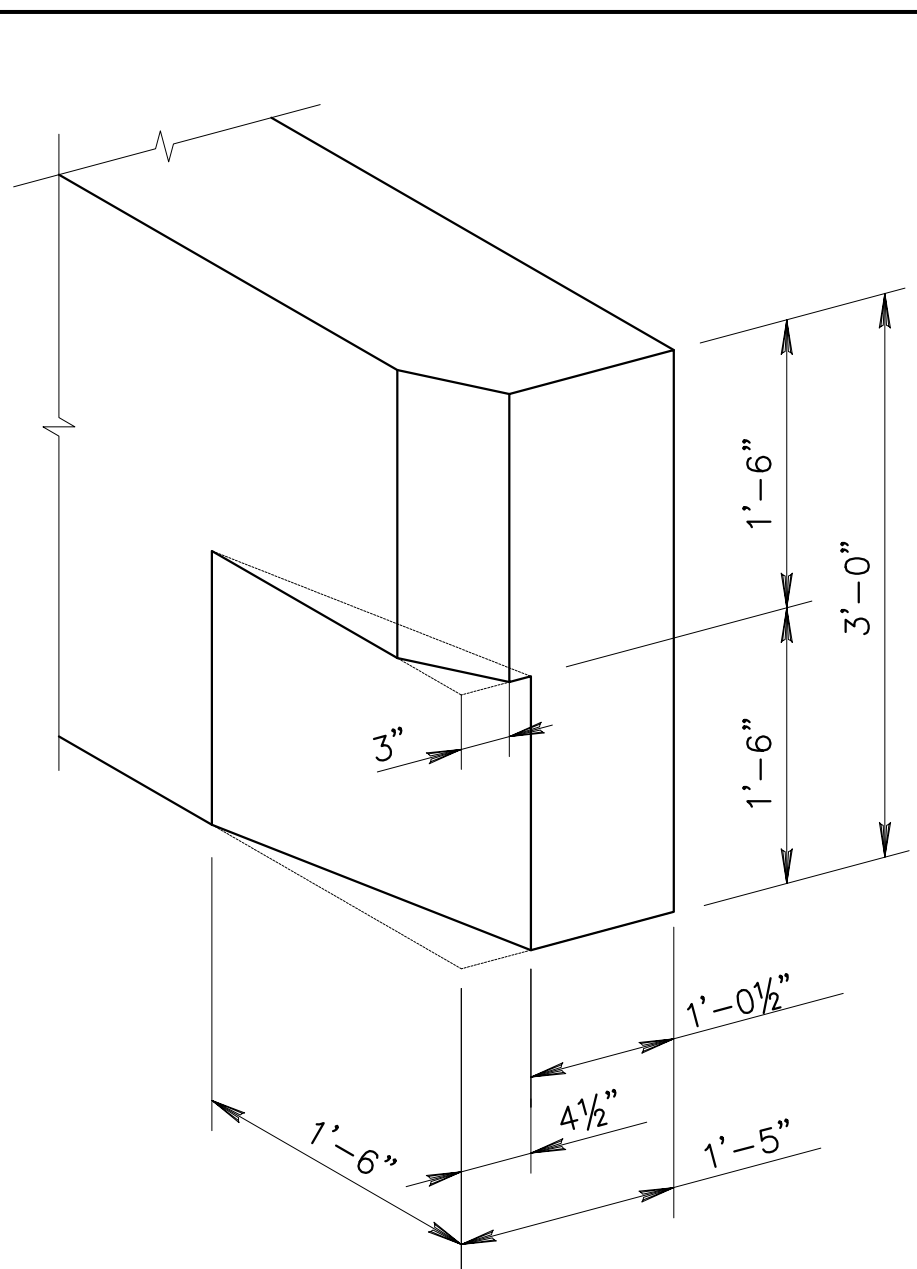
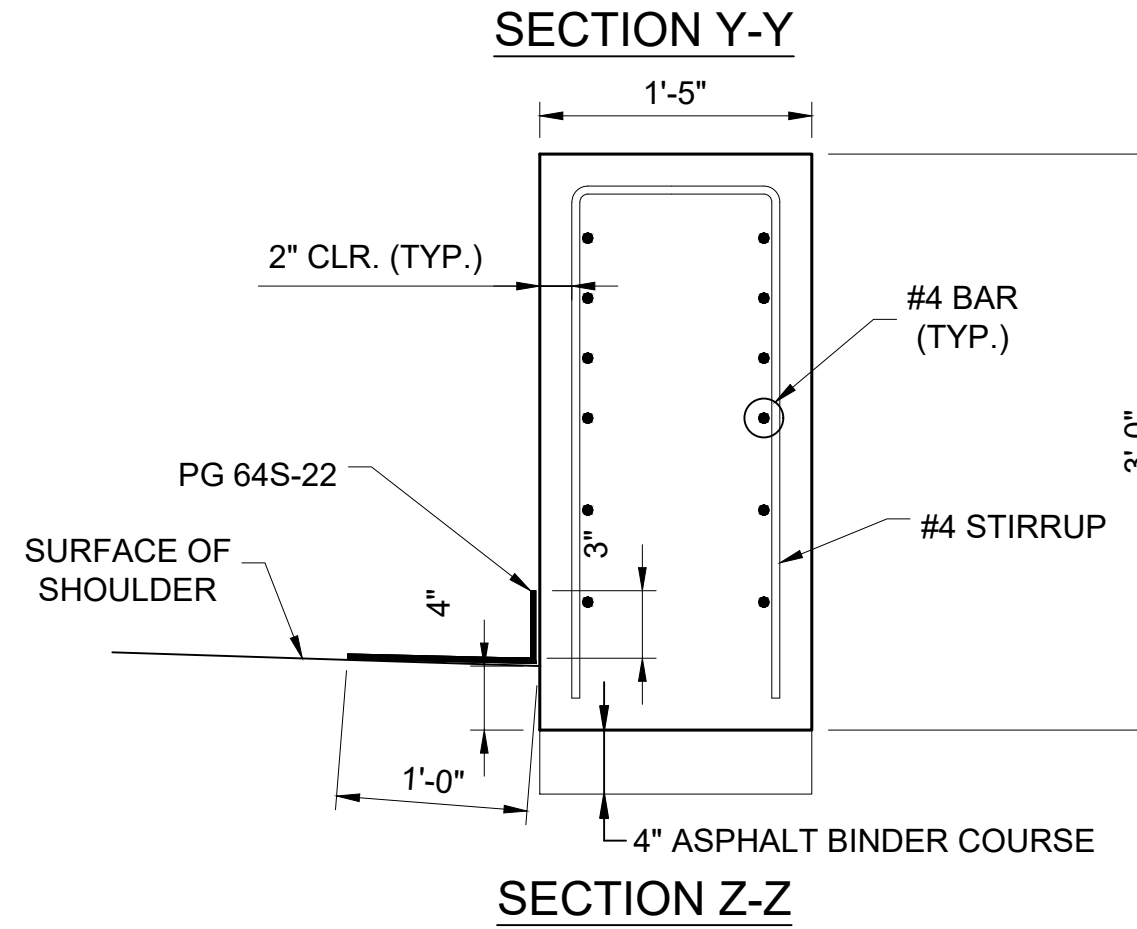
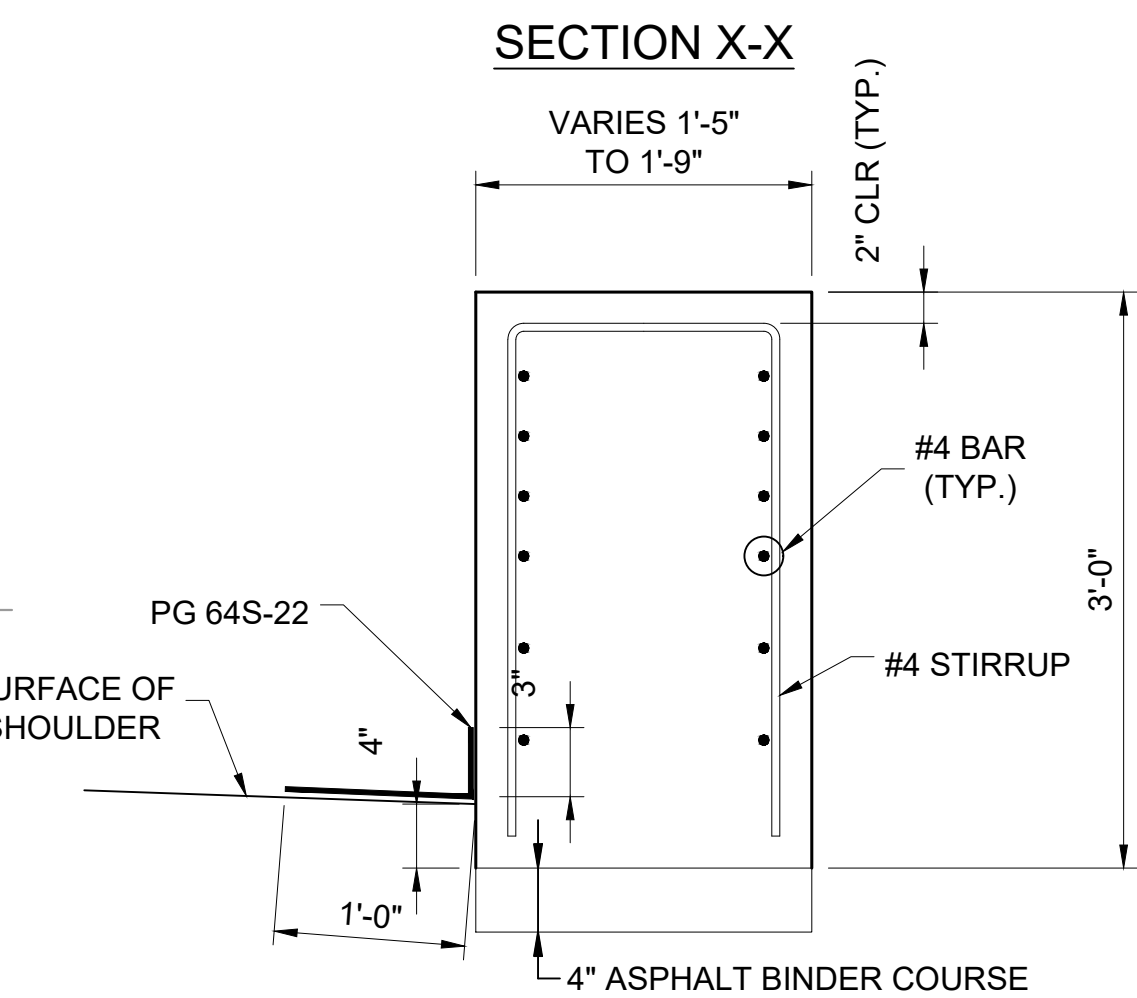
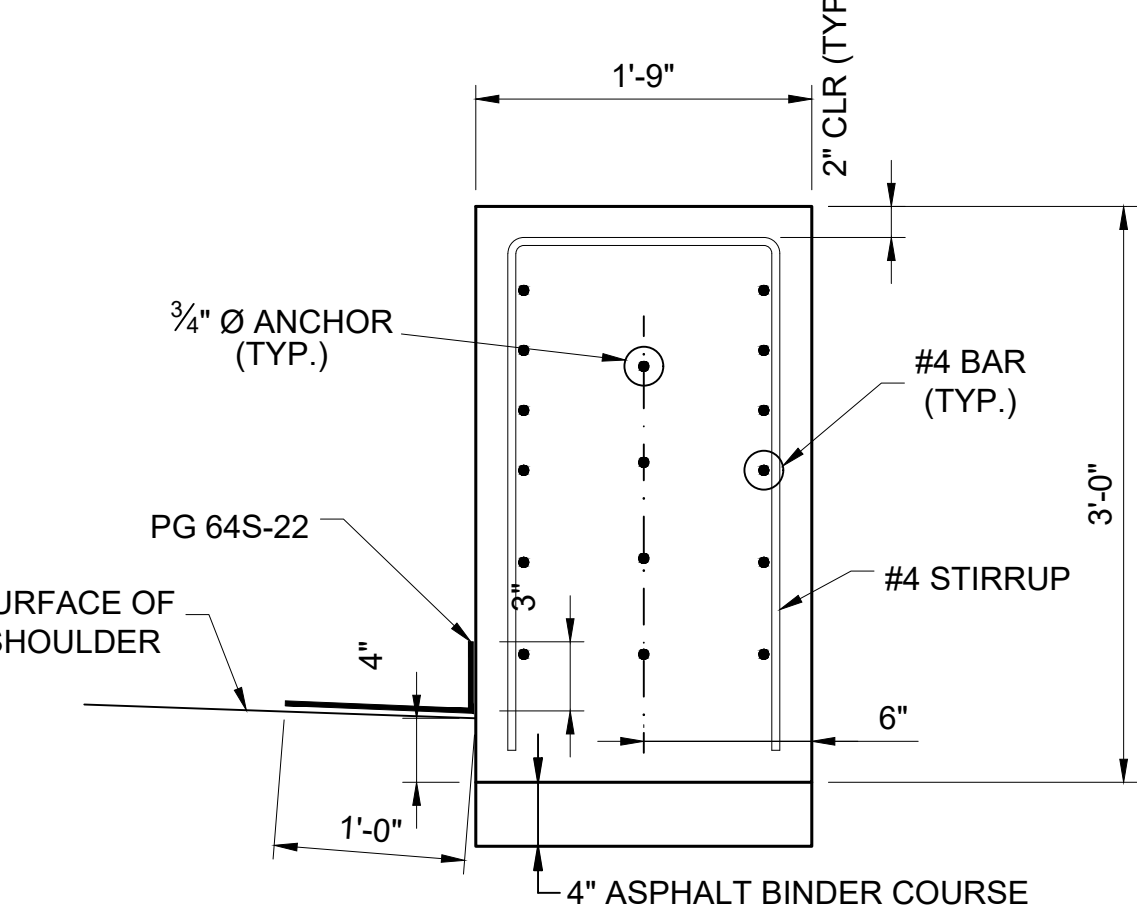
SINGLE FACE CONCRETE BARRIER
BURIED IN CUT SLOPE

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-144-1.dwg	SHEET 1 OF 1
DRAWING TYPE: 5A	
DATE: NOVEMBER 2023	PTS-144



- NOTES:
1. USE ADHESIVE ANCHORS IN THE EXISTING ABUTMENT OR PIER COLUMNS TO CONNECT THE ABUTMENT TRANSITION PIECE TO THE PIER. ANCHORS ARE TO BE STEEL REINFORCEMENT $f_y = 60$ KSI, EPOXY COATED OR GALVANIZED.
 2. PROVIDE REINFORCEMENT IN THE TRANSITION PIECE AS SHOWN.
 3. CONSTRUCT USING CLASS AAA CEMENT CONCRETE IN ACCORDANCE WITH SECTION 704.
 4. PROVIDE REINFORCEMENT MEETING THE REQUIREMENTS OF SECTION 709.
 5. END OF ABUTMENT WALL MAY NOT BE PERPENDICULAR TO ROADWAY. IF PRECAST UNITS ARE USED, THE CONTRACTOR MUST FIELD VERIFY THE ABUTMENT ANGLE PRIOR TO PRECASTING TO ENSURE A PROPER INSTALLATION.
 6. USE A PACHOMETER TO LOCATE EXISTING REINFORCEMENT WHEN DRILLING DOWEL HOLES TO AVOID DRILLING THROUGH EXISTING BARS.
 7. PROVIDE 2 INCH CONCRETE COVER ON REINFORCEMENT BARS UNLESS NOTED OTHERWISE.
 8. ALL REINFORCEMENT BARS TO BE EPOXY COATED.
 9. SEE RC-50M FOR THRIE-BEAM DETAILS. CONSTRUCT 1" DIA. HOLES FOR THROUGH BOLTS 3/8" DIA. WITH BACKING PLATE.



RECOMMENDED: NOVEMBER 28, 2023

Kim V. Morris

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

[Signature]

CHIEF ENGINEER

ABUTMENT TRANSITION PIECES
TYPE I

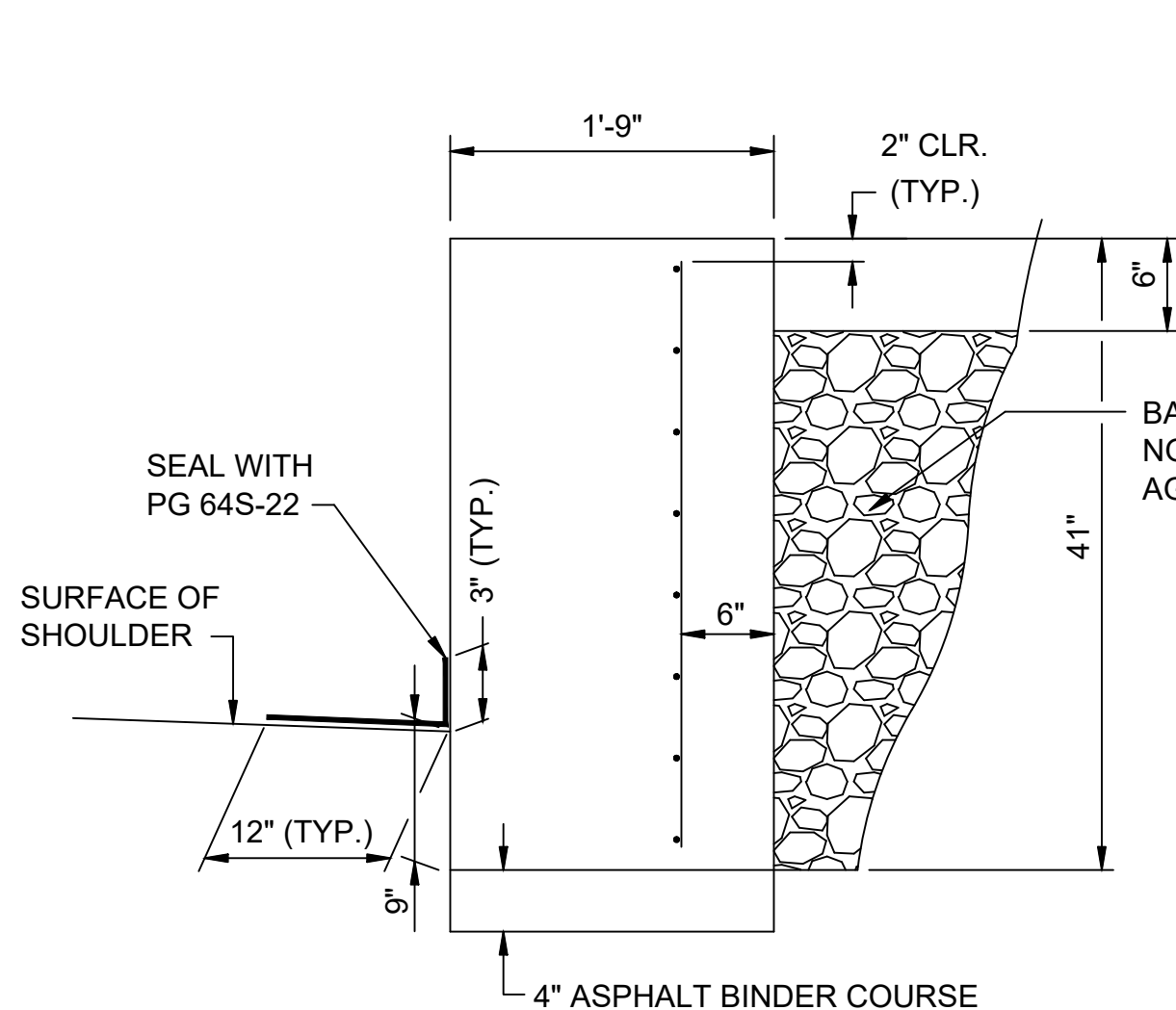
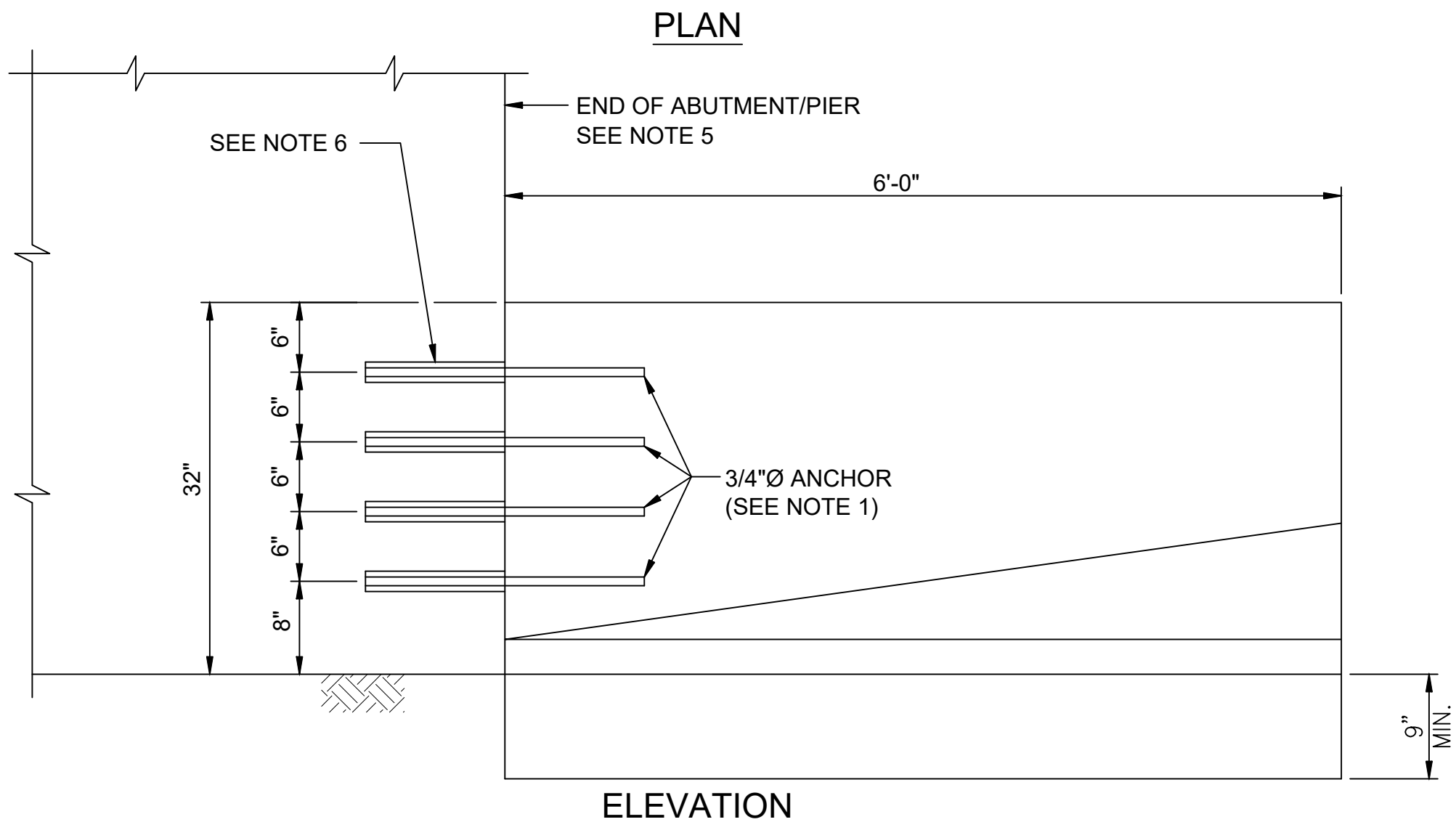
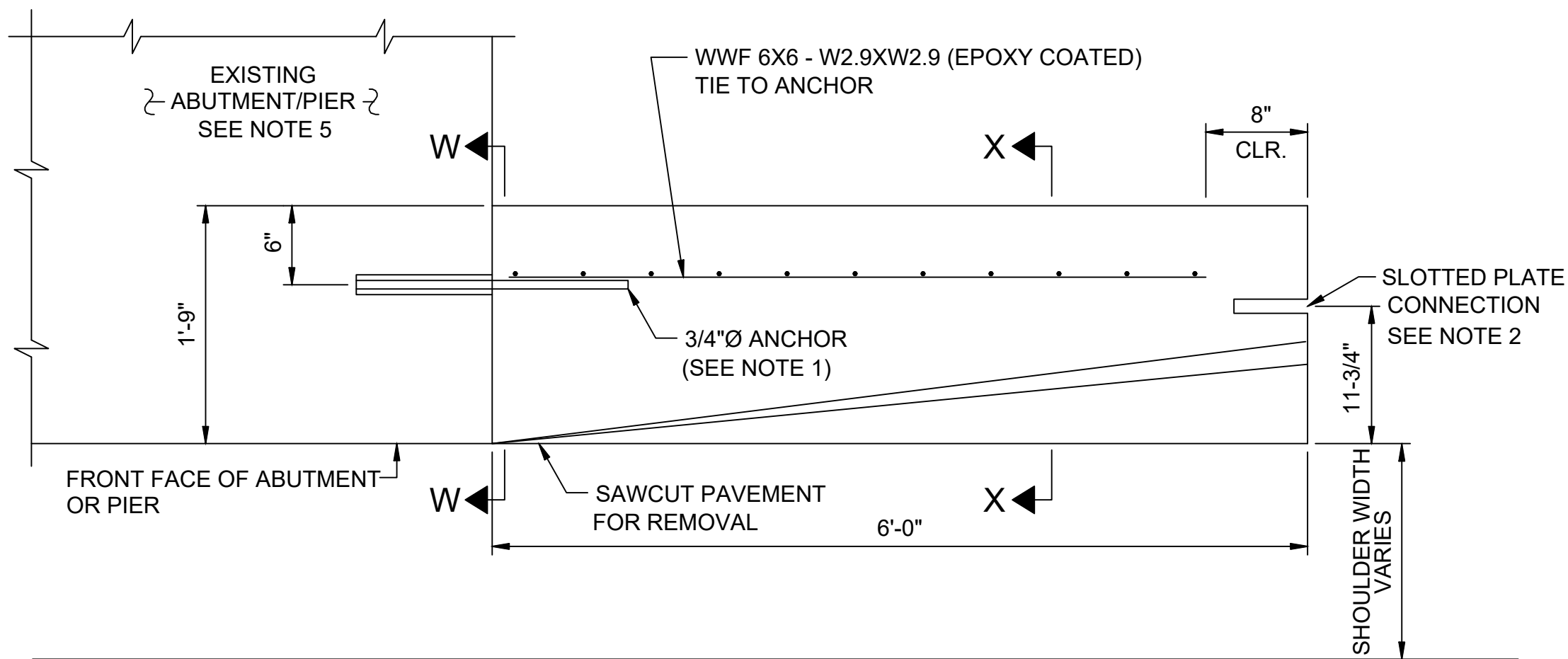
PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-145-1.dwg
DRAWING TYPE: 5A

SHEET 1 OF 2

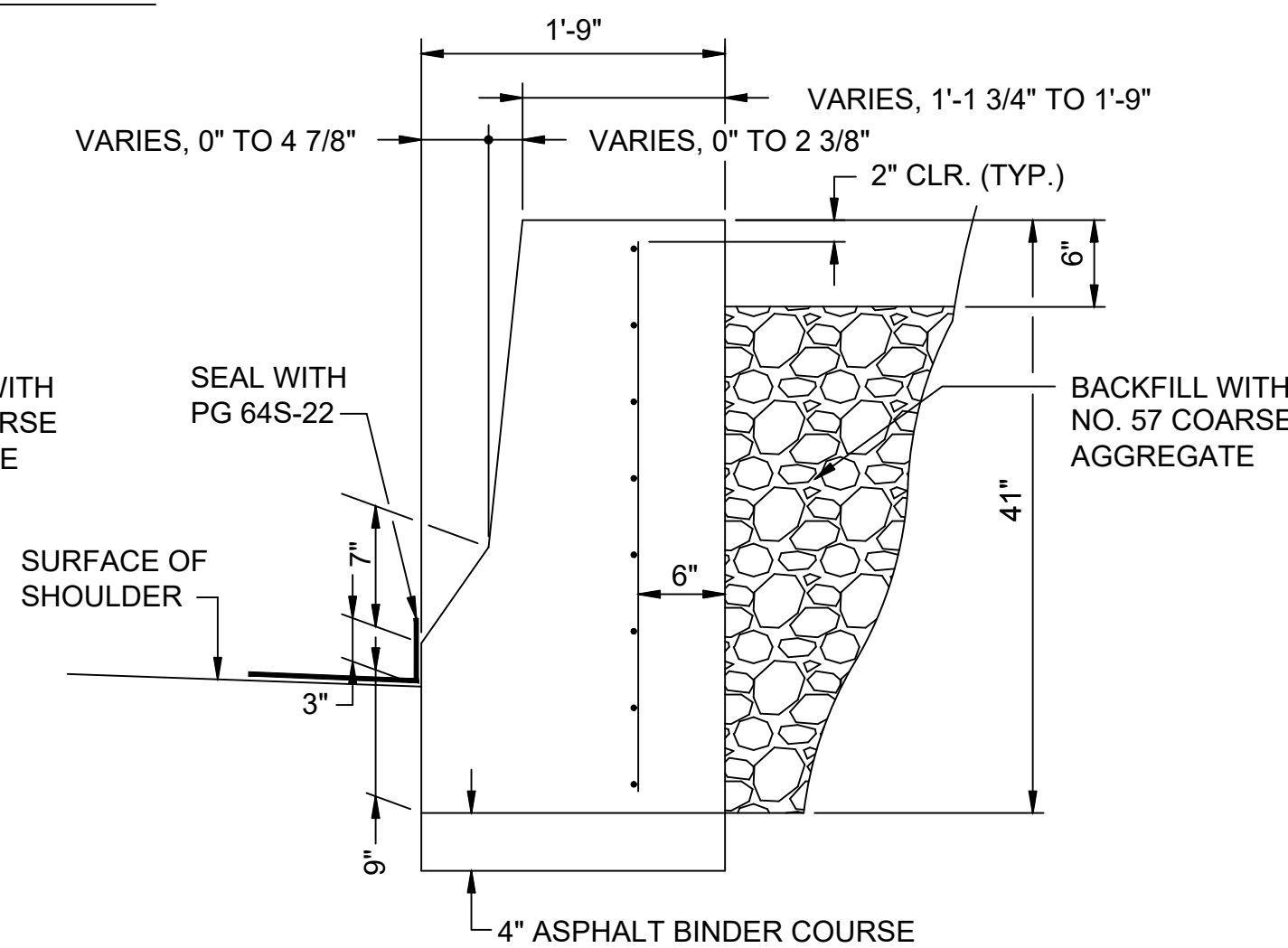
DATE: NOVEMBER 2023

PTS-145

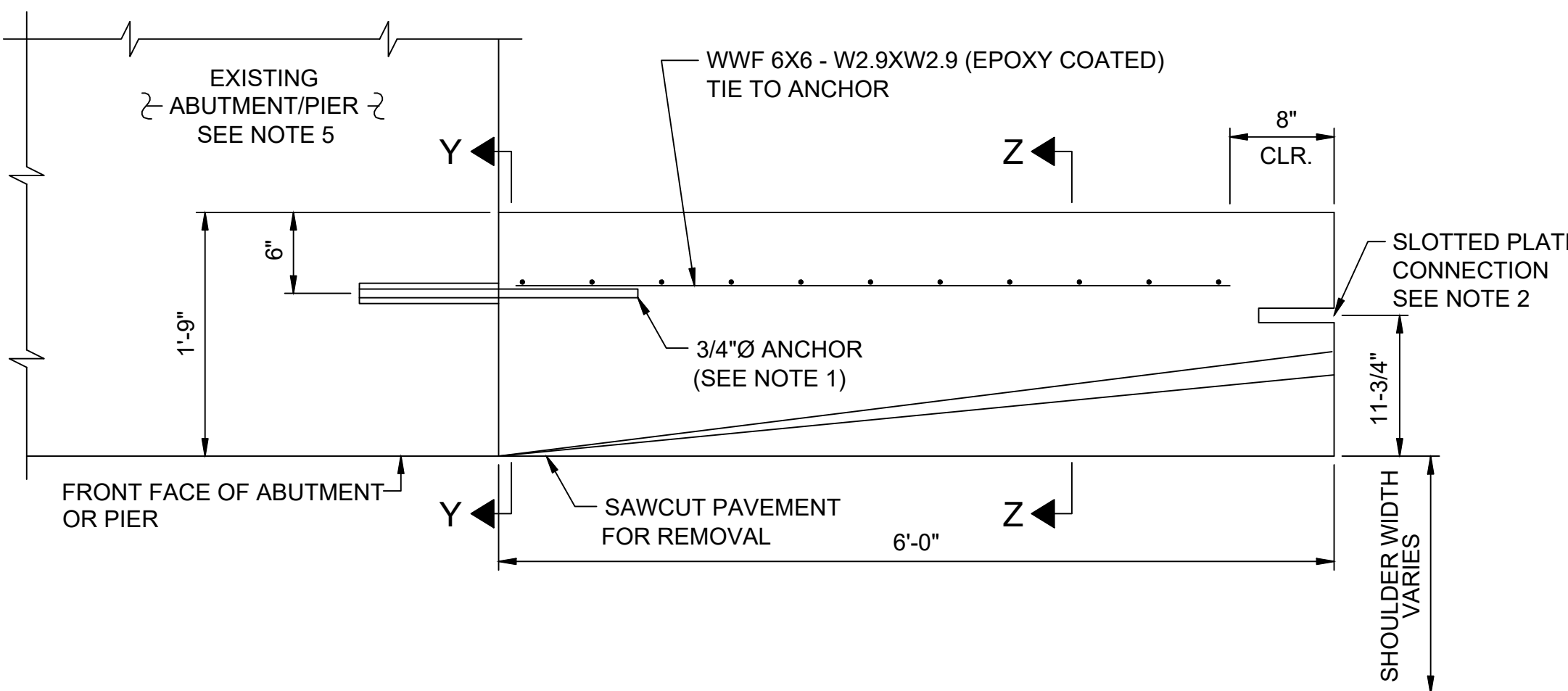


SECTION W-W
(VERTICAL FACE)

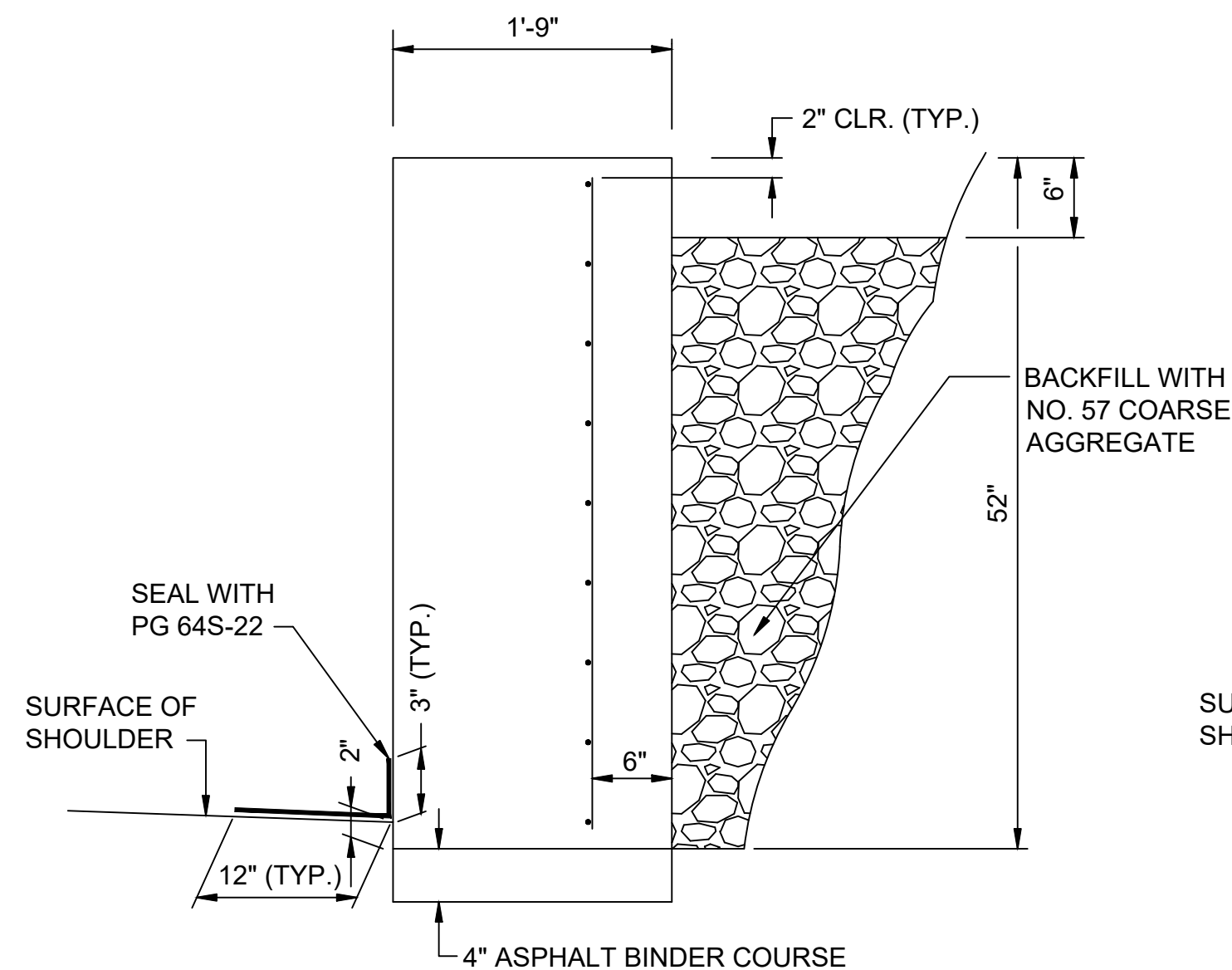
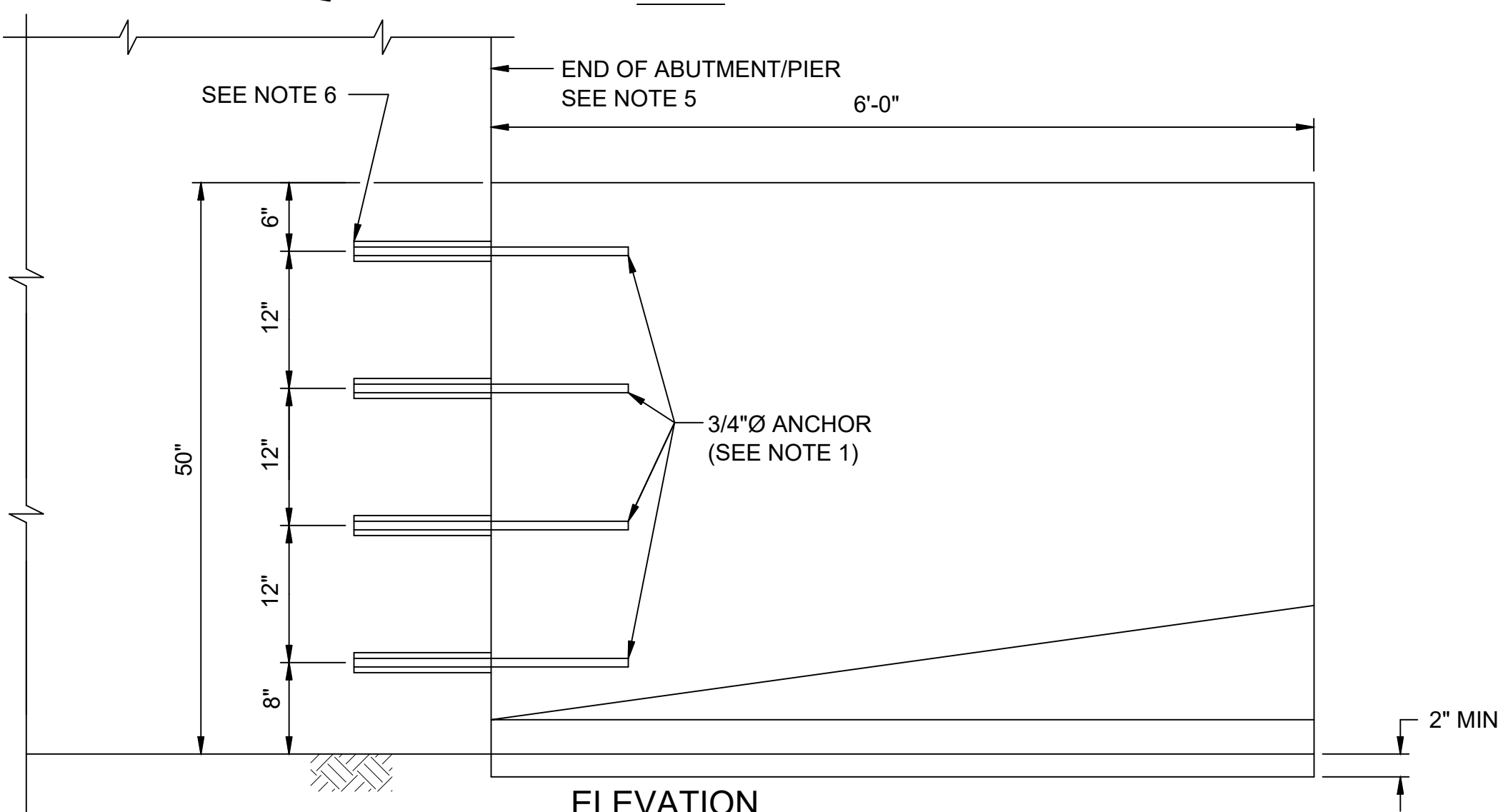
ABUTMENT TRANSITION PIECE TYPE II
(TRANSITION TO 41" HEIGHT SINGLE FACE CONCRETE BARRIER)



SECTION X-X
(F-SHAPE)

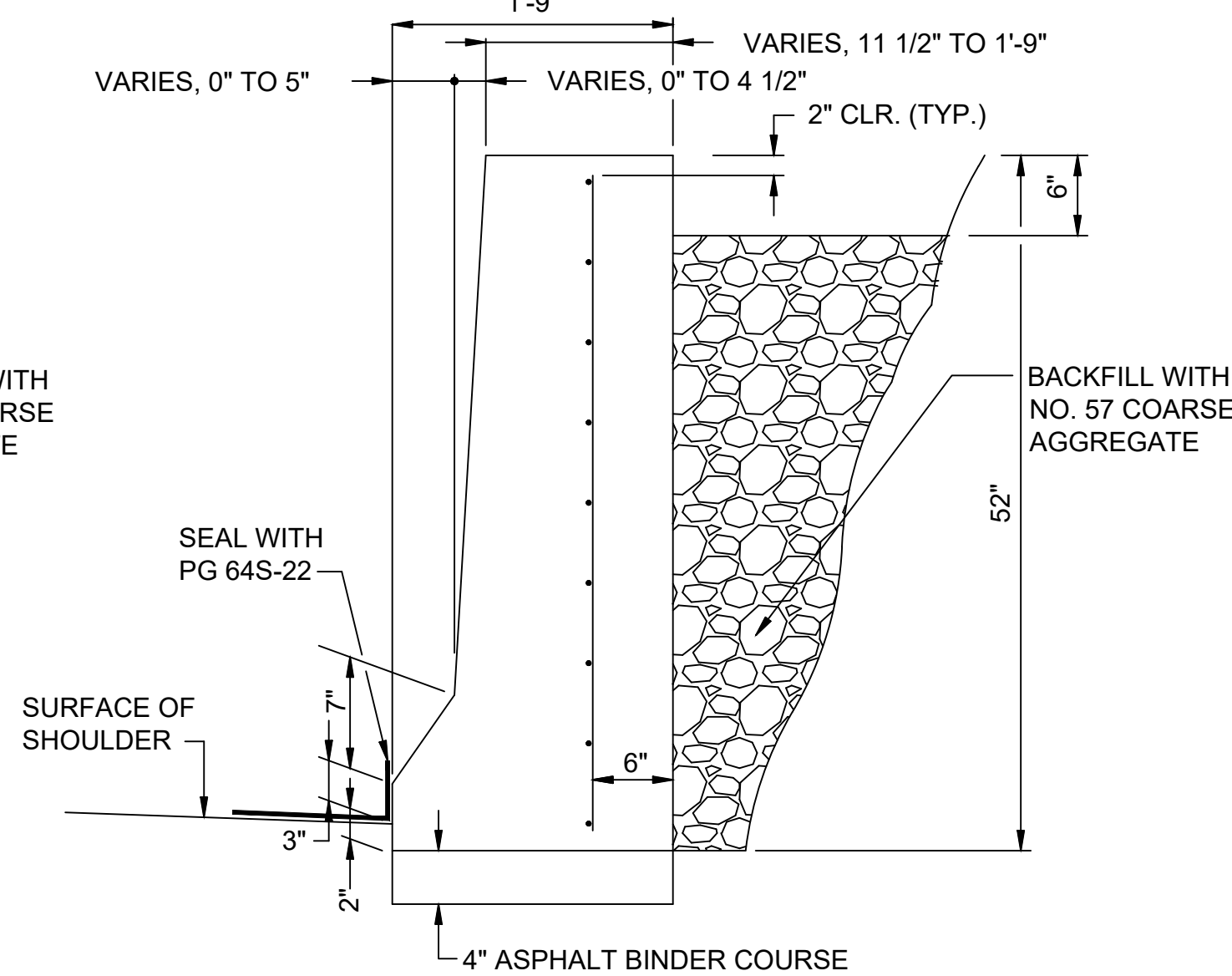


PLAN



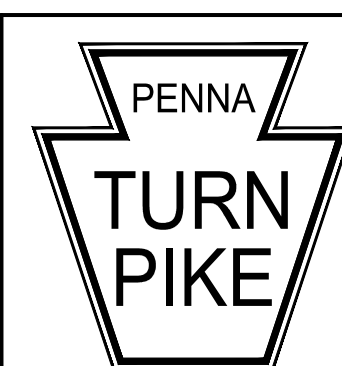
SECTION Y-Y
(VERTICAL FACE)

ABUTMENT TRANSITION PIECE TYPE III
(TRANSITION TO 52" HEIGHT SINGLE FACE CONCRETE BARRIER)



SECTION Z-Z
(F-SHAPE)

- NOTES:**
1. USE ADHESIVE ANCHORS IN THE EXISTING ABUTMENT OR PIER COLUMNS TO CONNECT THE ABUTMENT TRANSITION PIECE TO THE PIER. ANCHORS ARE TO BE STEEL REINFORCEMENT $f_y = 60$ KSI, EPOXY COATED OR GALVANIZED.
 2. PROVIDE A SLOT AND REINFORCEMENT STIRRUPS IN THE TRANSITION PIECE AS SHOWN ON RC-58M. CONTRACTOR TO VERIFY LOCATION OF SLOT TO ENSURE IT MATCHES UP WITH SLOT ON SINGLE FACE CONCRETE BARRIER.
 3. CONSTRUCT USING CLASS AAA CEMENT CONCRETE IN ACCORDANCE WITH SECTION 704.
 4. PROVIDE REINFORCEMENT MEETING THE REQUIREMENTS OF SECTION 709.
 5. END OF ABUTMENT WALL MAY NOT BE PERPENDICULAR TO ROADWAY. IF PRECAST UNITS ARE USED, THE CONTRACTOR MUST FIELD VERIFY THE ABUTMENT ANGLE PRIOR TO PRECASTING TO ENSURE A PROPER INSTALLATION.
 6. DRILL HOLE IN ABUTMENT OR PIER COLUMN TO THE DEPTH AND DIAMETER AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR A 3/4"Ø ANCHOR.
 7. PROVIDE 2 INCH CONCRETE COVER ON REINFORCEMENT BARS UNLESS NOTED OTHERWISE.
 8. ALL REINFORCEMENT BARS TO BE EPOXY COATED.



RECOMMENDED: NOVEMBER 28, 2023

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

CHIEF ENGINEER

ABUTMENT TRANSITION PIECES
TYPE II AND TYPE III

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-145-2.dwg

DRAWING TYPE: 5A

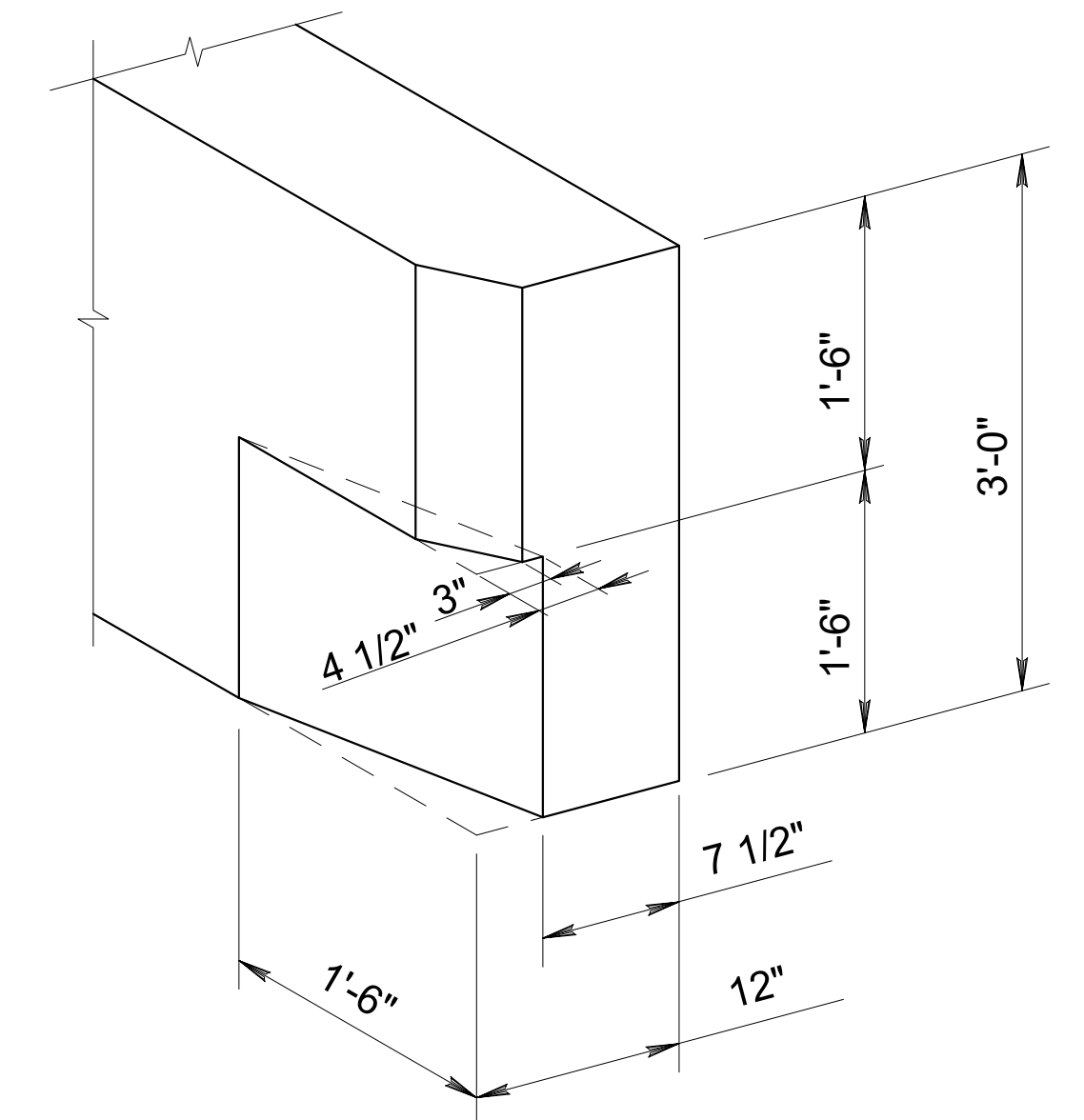
SHEET 2 OF 2

DATE: NOVEMBER 2023

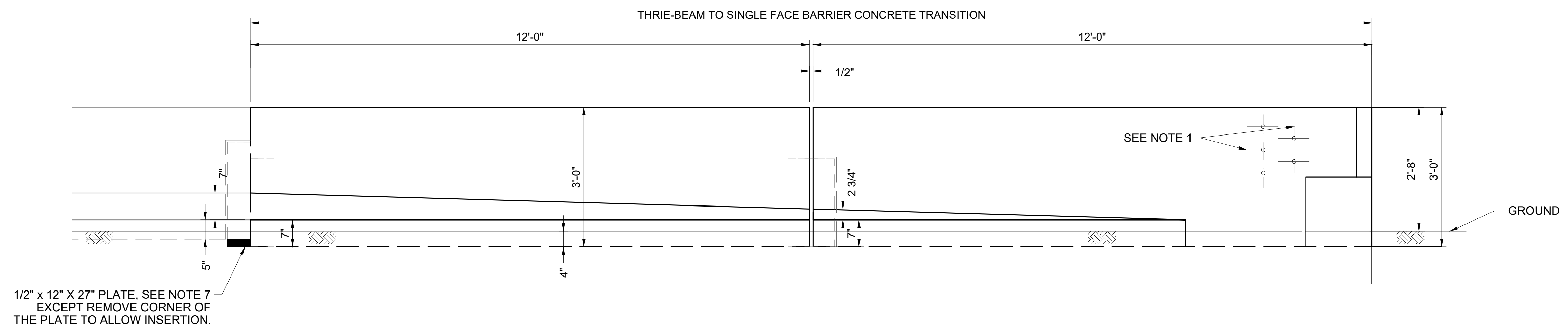
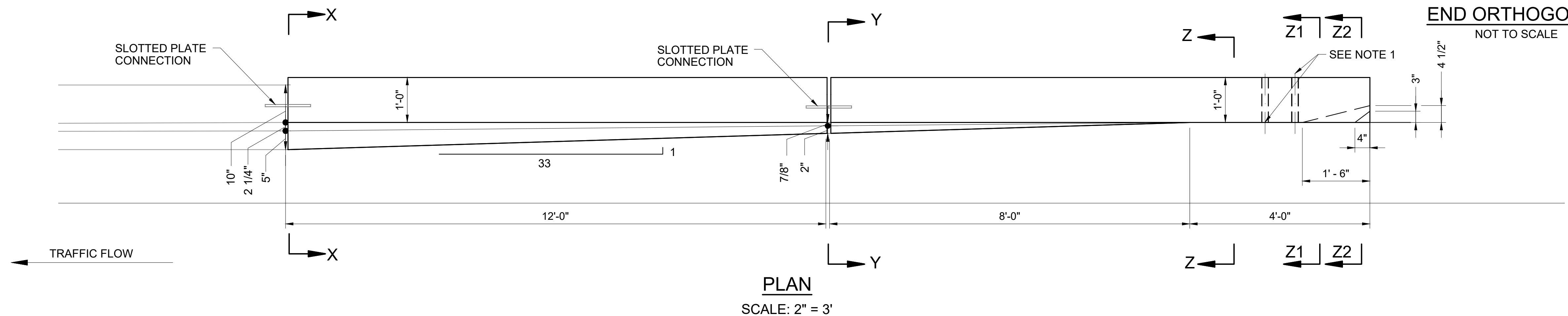
PTS-145

NOTES

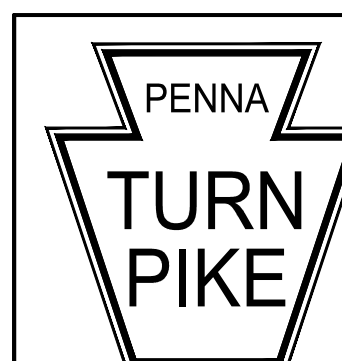
1. SEE RC-50M FOR THRIE-BEAM TO F-SHAPE CONCRETE BARRIER DETAILS. CONSTRUCT 1" DIA HOLES FOR THROUGH BOLTS 7/8" DIA WITH BACKING PLATE.
 2. SEE RC-58M FOR SLOTTED PLATE CONNECTION DETAILS.
 3. CONSTRUCT BARRIER SECTIONS USING CLASS AAA CEMENT CONCRETE IN ACCORDANCE WITH PUB 408, SECTION 704, 711 AND 714.
 4. PROVIDE REINFORCEMENT MEETING THE REQUIREMENTS OF PUB 408, SECTION 709 AND FABRICATED IN ACCORDANCE WITH BC-736M.
 5. PROVIDE TWO (2) 1/2" X 12" X 27" STEEL PLATES MEETING REQUIREMENTS OF PUB 408, SECTION 1105. GALVANIZE PLATES IN ACCORDANCE WITH PUB 408, SECTION 1105.
 6. ALL REINFORCEMENTS IS NO. 4 UNLESS OTHERWISE INDICATED.
 7. REINFORCEMENT BARS SHALL MEET THE REQUIREMENTS OF ASTM A615 GRADE 60 AND SHALL BE EPOXY COATED OR GALVANIZED.
 8. ROUND OR CHAMFER THE HORIZONTAL EDGES WITH A RADIUS OF 1".
 9. PROVIDE TWO LIFTING CONNECTIONS PER SECTION WITH A CAPACITY OF 2,000 LBS. PER CONNECTOR. GALVANIZE CONNECTORS AS PER SECTION 1105 OR AS APPROVED BY THE REPRESENTATIVE.
- * FOR CONNECTION DETAILS, SEE NEXT SHEET.
* FOR SECTION REINFORCEMENT DETAILS, SEE NEXT SHEET.
* FOR SECTION VIEWS X-X THROUGH Z-Z, SEE NEXT SHEET.





END ORTHOGONAL
NOT TO SCALE



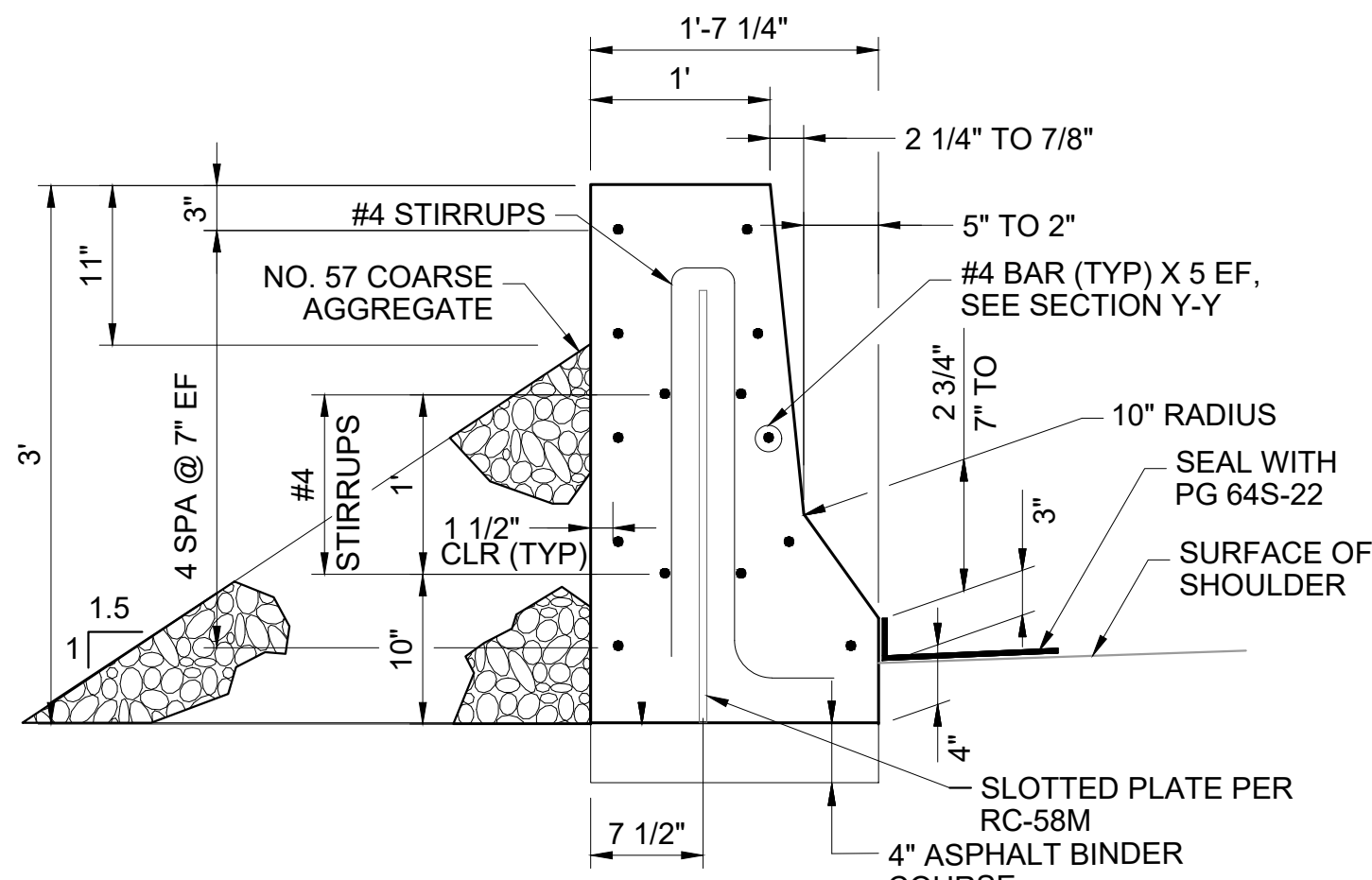
ELEVATION
SCALE: 2" = 3'



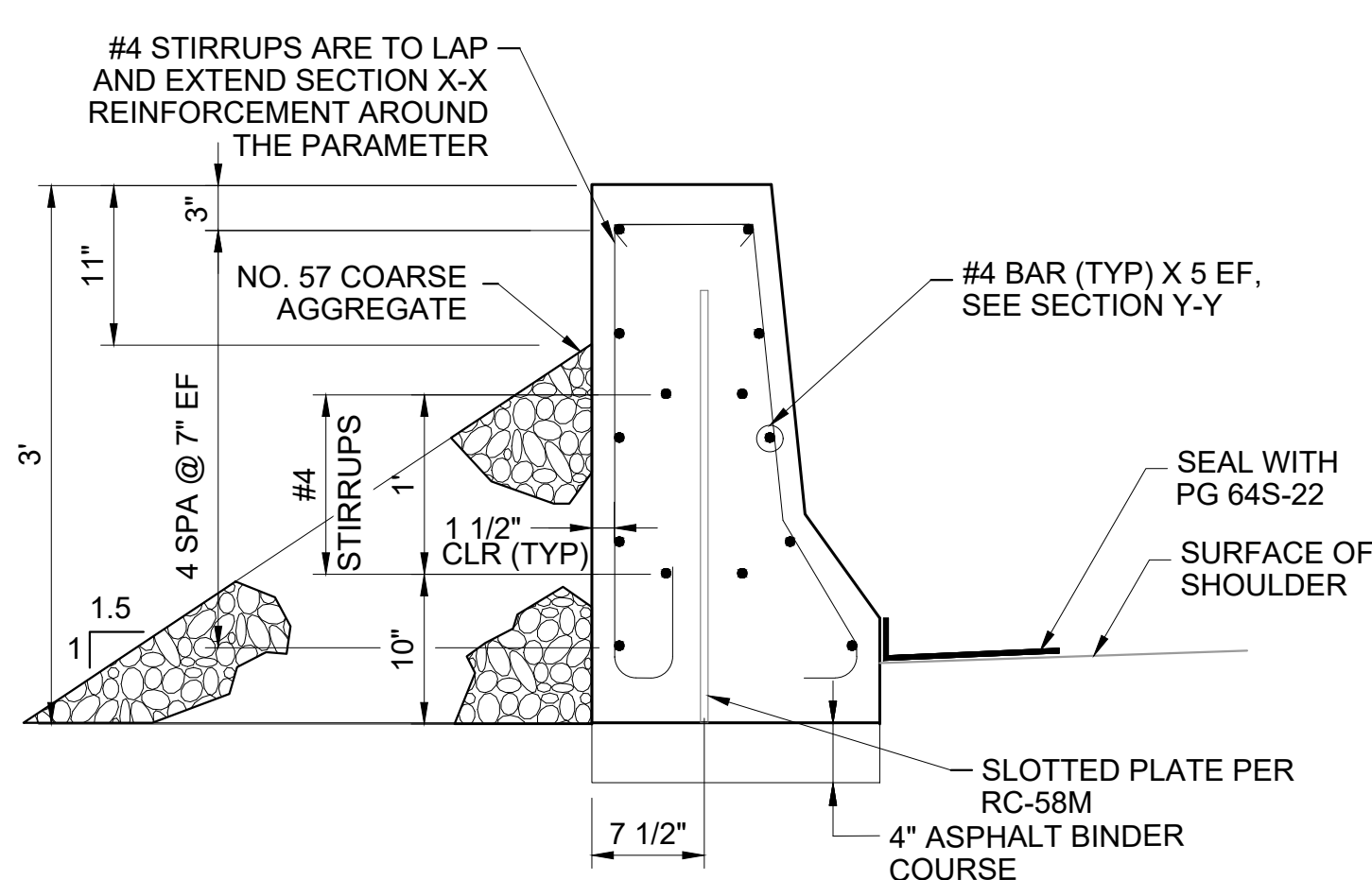
RECOMMENDED:	SEPTEMBER 8, 2022
	
ASSISTANT CHIEF ENGINEER - DESIGN	
APPROVED:	SEPTEMBER 12, 2022
	
CHIEF ENGINEER	

**TRANSITION, SINGLE FACE CONCRETE
BARRIER, F-SHAPE, PRECAST SLOTTED
PLATE TO THRIE-BEAM GUIDE RAIL**

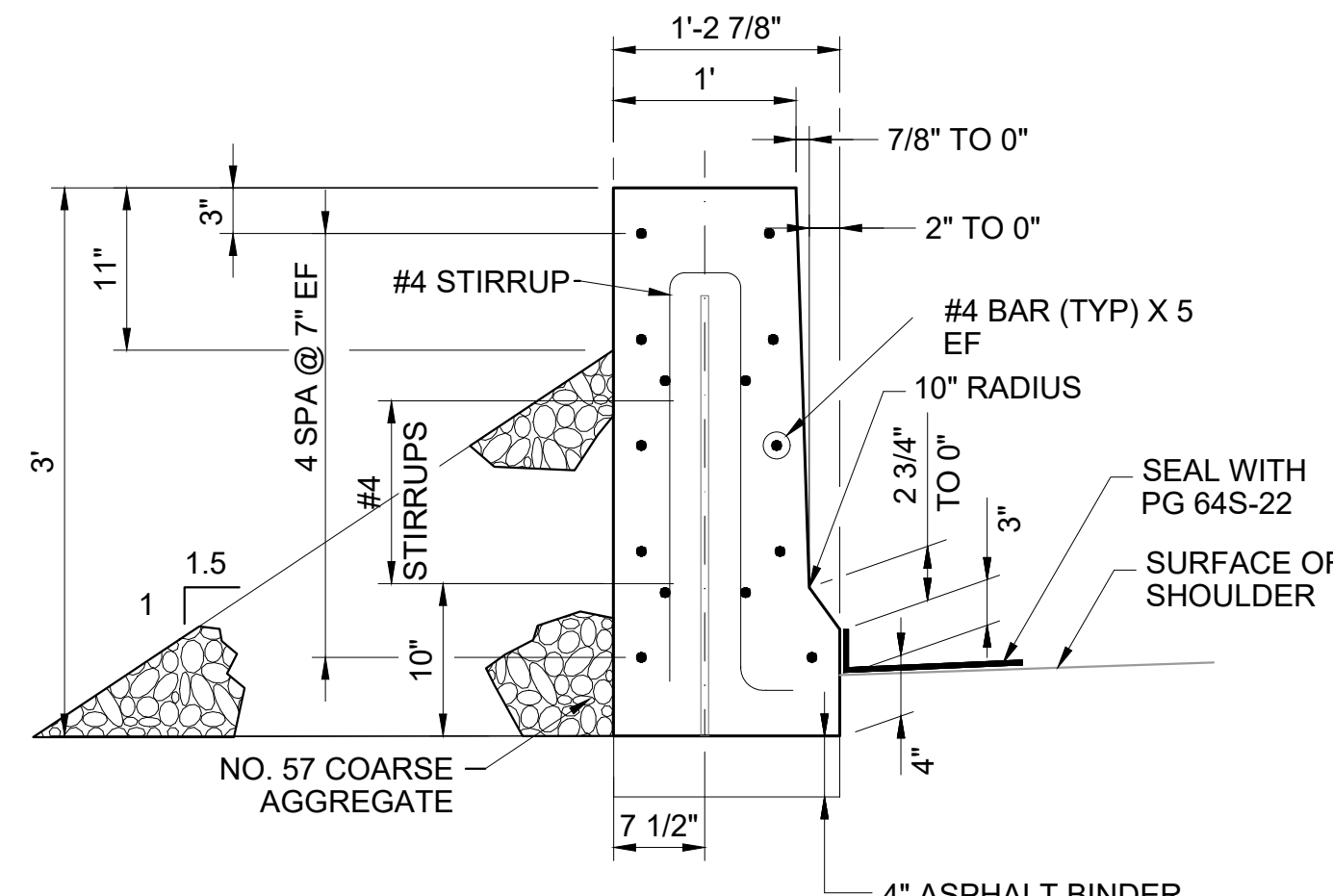
PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
FILE NAME: PTS-146-2.dwg DRAWING TYPE: 5A	SHEET 1 OF 2
DATE:SEPTEMBER 2022	PTS-146



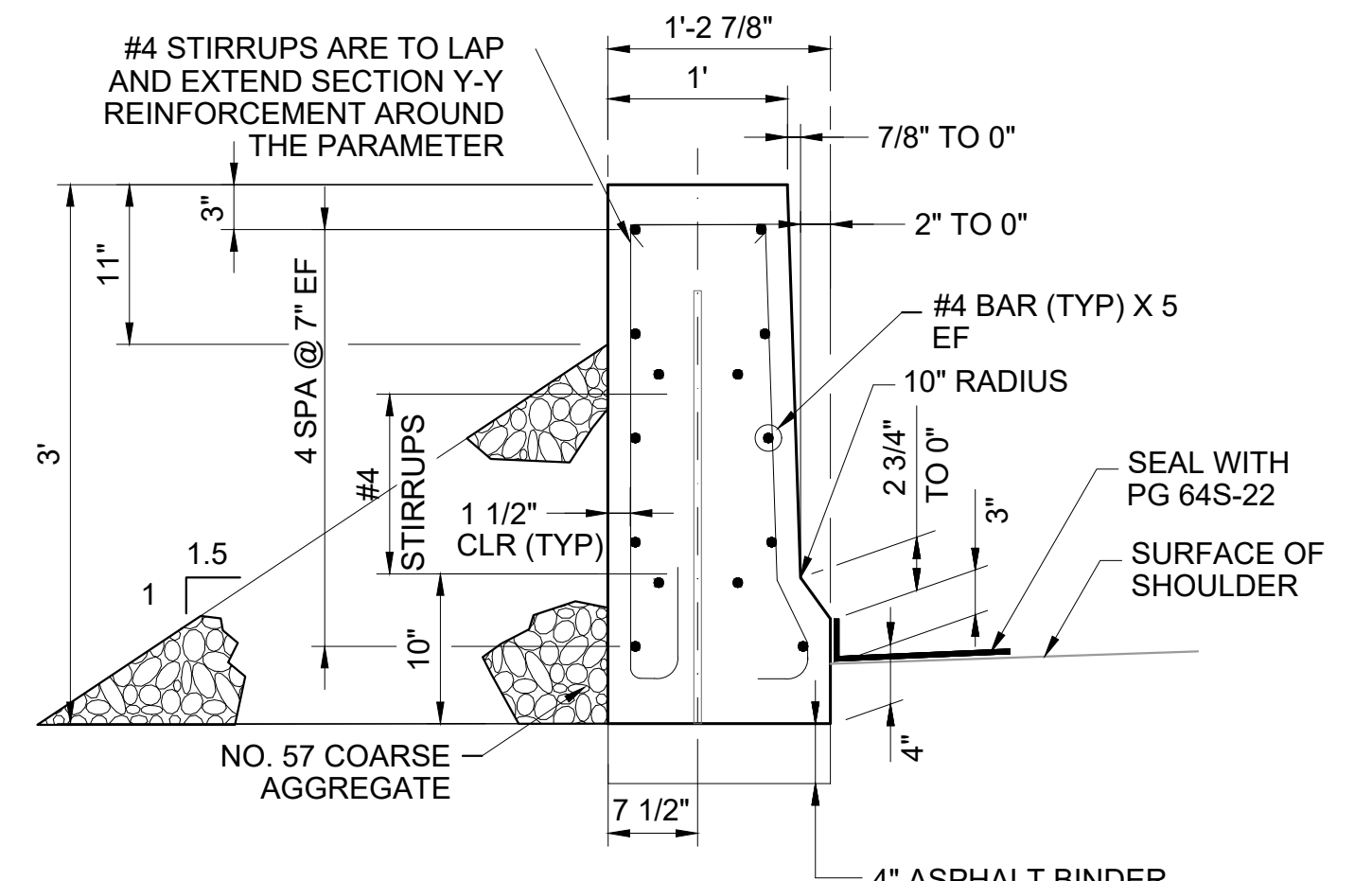
SECTION X-X
5 - #4 STIRRUPS
@ 2" SPA



SECTION X1-X1
2 - #4 STIRRUPS
@ 6" SPA

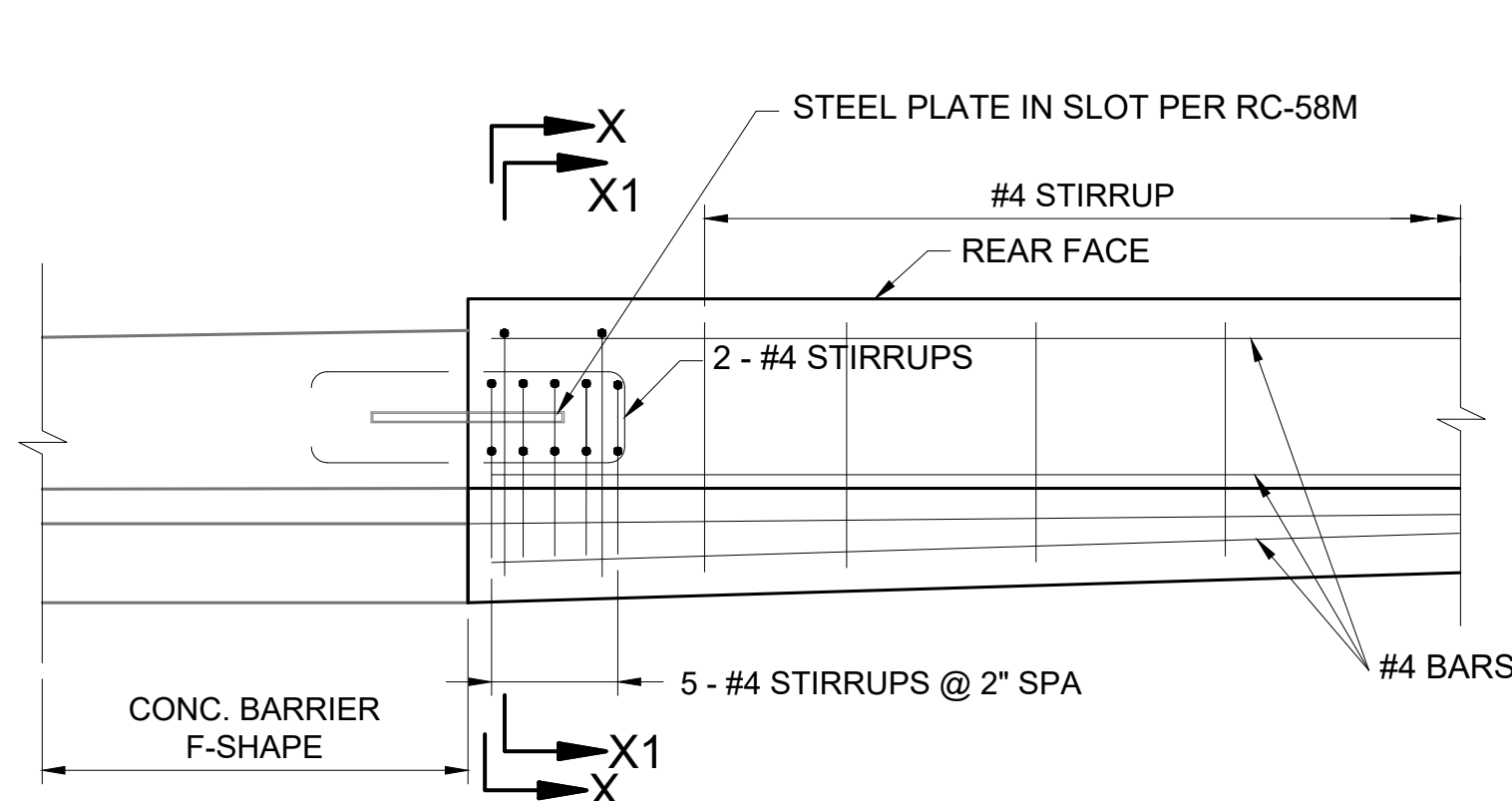


SECTION Y-Y
5 - #4 STIRRUPS
@ 2" SPA

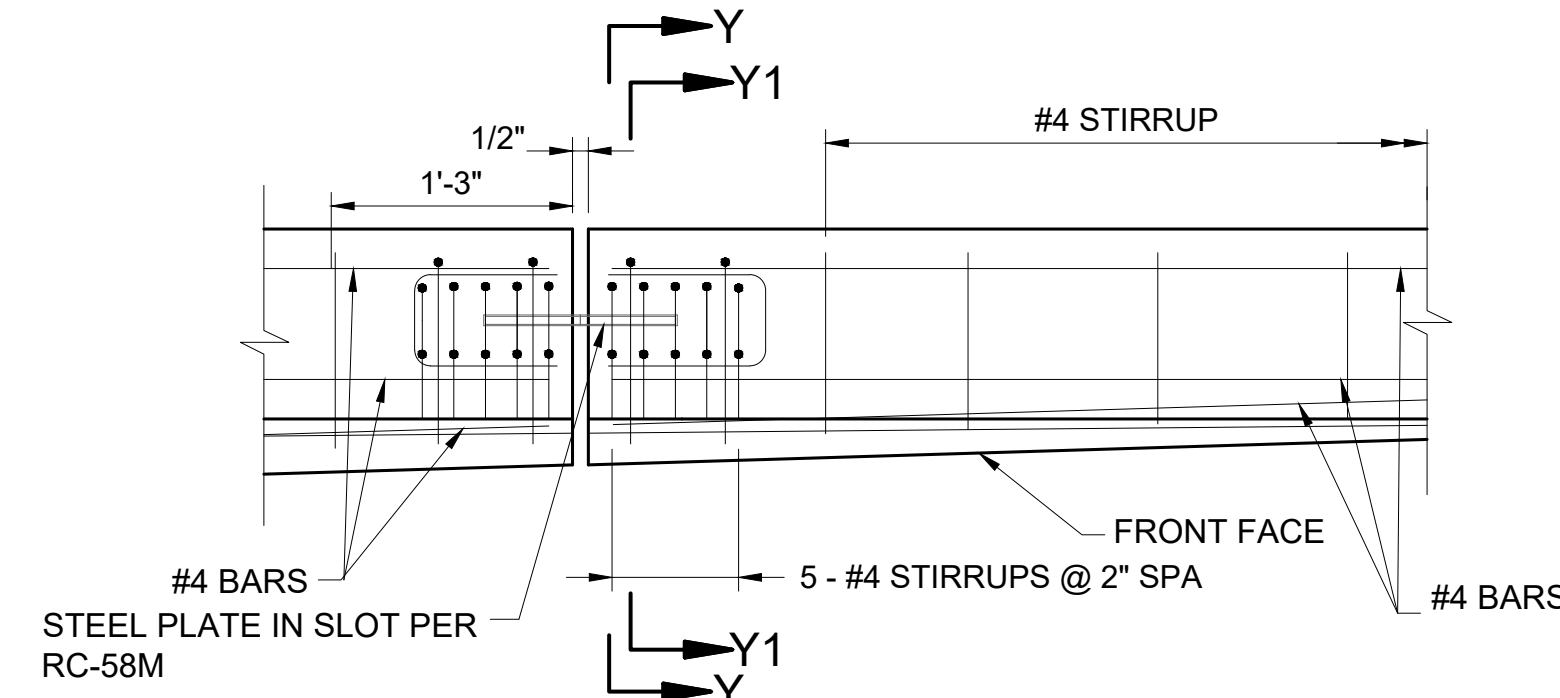


SECTION Y1-Y1
2 - #4 STIRRUPS
@ 6" SPA

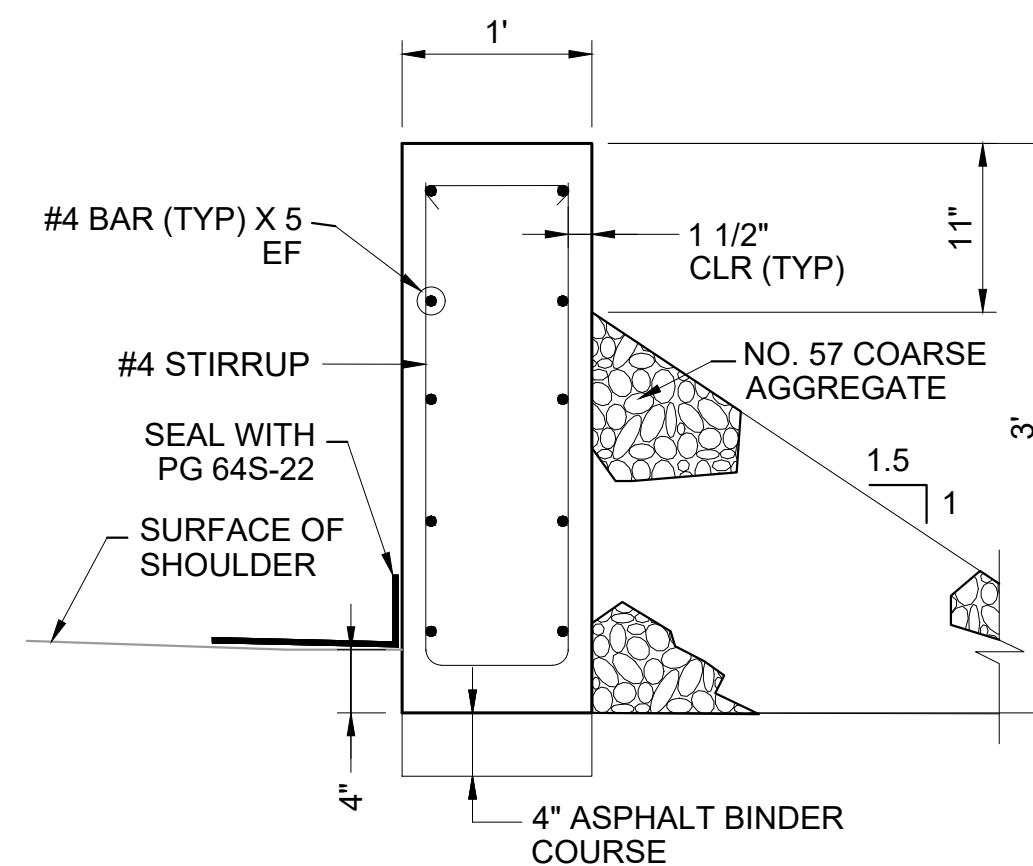
* LOWER HEIGHT OF AGGREGATE
BACKING NEAR SINGLE FACE
BARRIER END



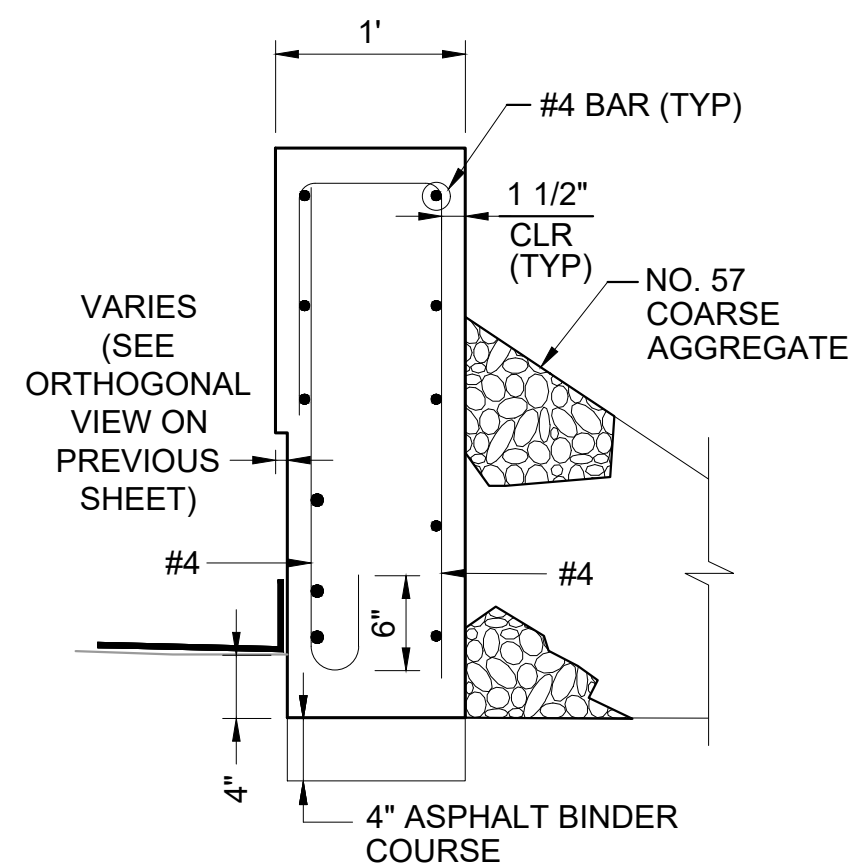
PLAN: PLATE END REINFORCEMENT DETAIL



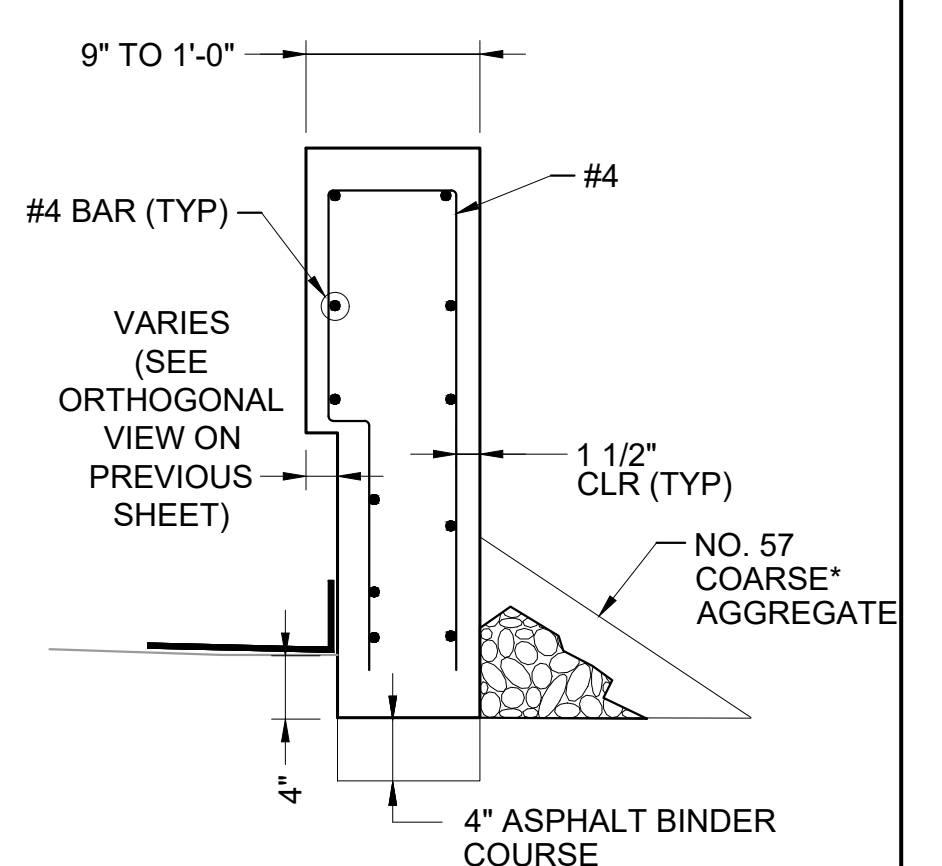
PLAN: PLATE END REINFORCEMENT DETAIL



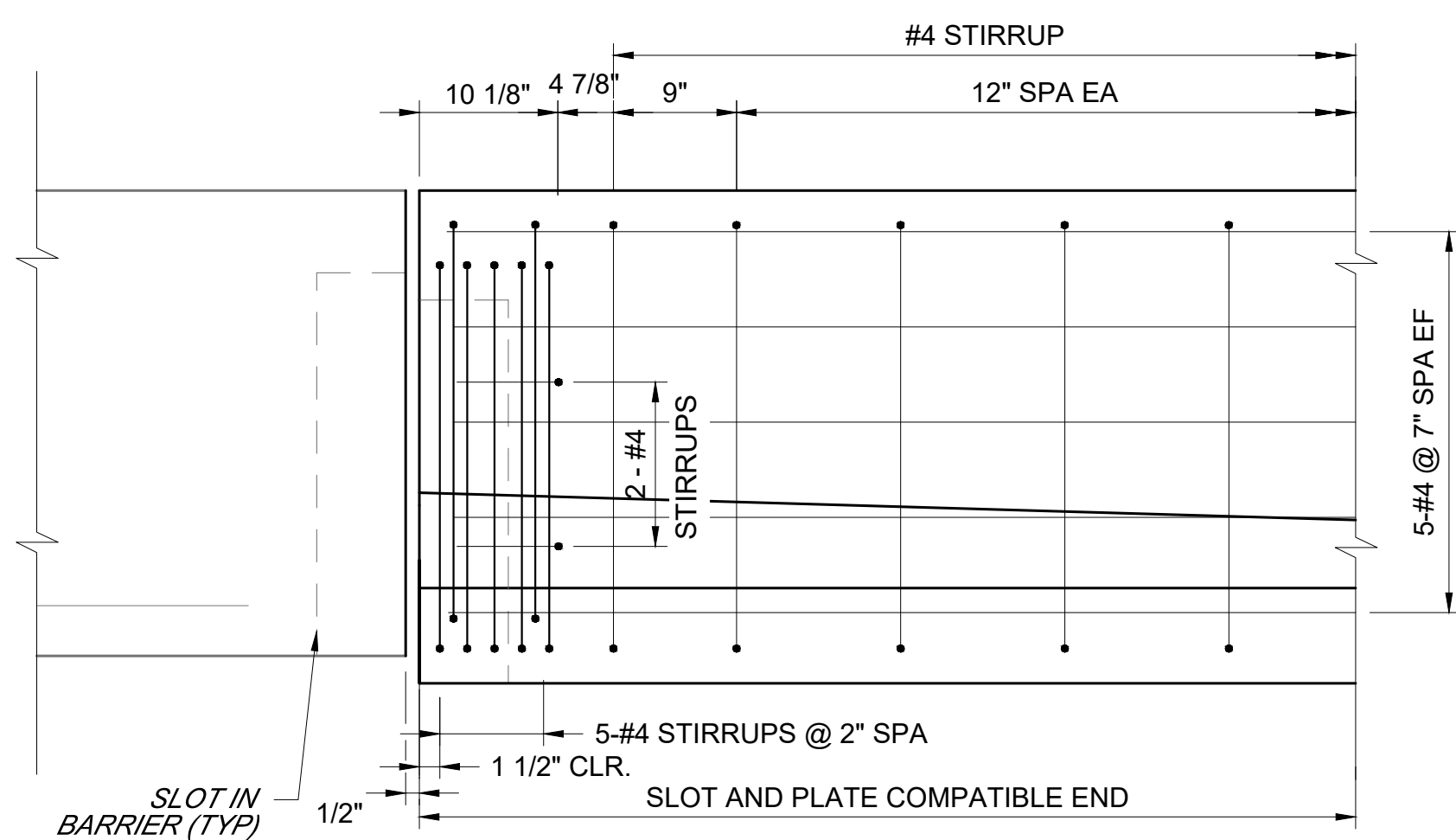
SECTION Z-Z



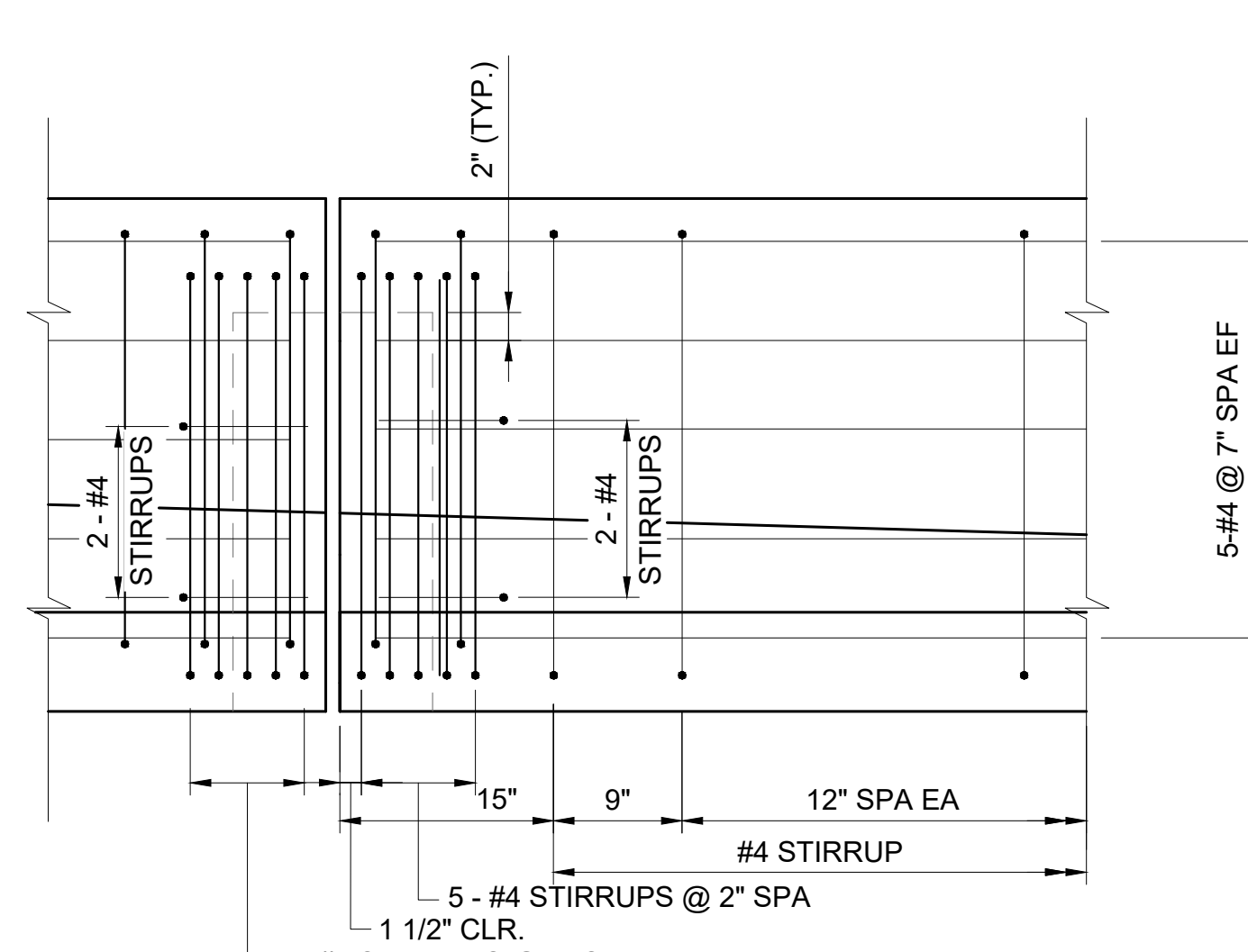
SECTION Z1-Z1



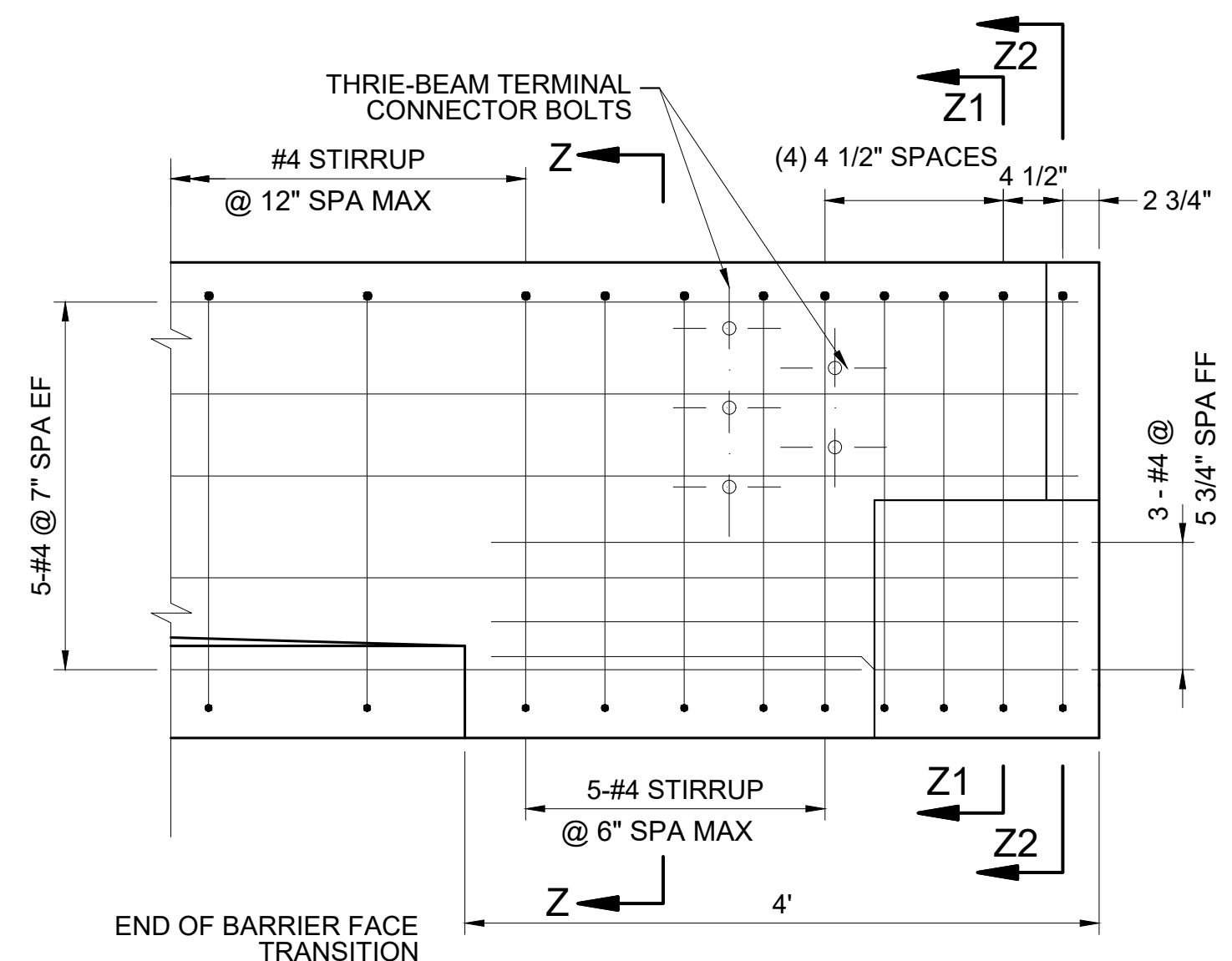
SECTION Z2-Z2



ELEVATION: PLATE END REINFORCEMENT
F-SHAPE TO F-SHAPE

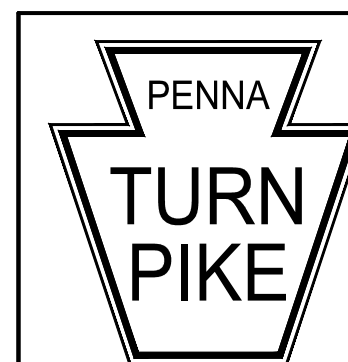


ELEVATION: PLATE END REINFORCEMENT



ELEVATION: THRIE-BEAM END REINFORCEMENT

TRANSITION PIECE, THRIE-BEAM TO F-SHAPE



RECOMMENDED: SEPTEMBER 8, 2022
 ASSISTANT CHIEF ENGINEER - DESIGN
 APPROVED: SEPTEMBER 12, 2022
 CHIEF ENGINEER

TRANSITION, SINGLE FACE CONCRETE
 BARRIER, F-SHAPE, PRECAST SLOTTED
 PLATE TO THRIE-BEAM GUIDE RAIL

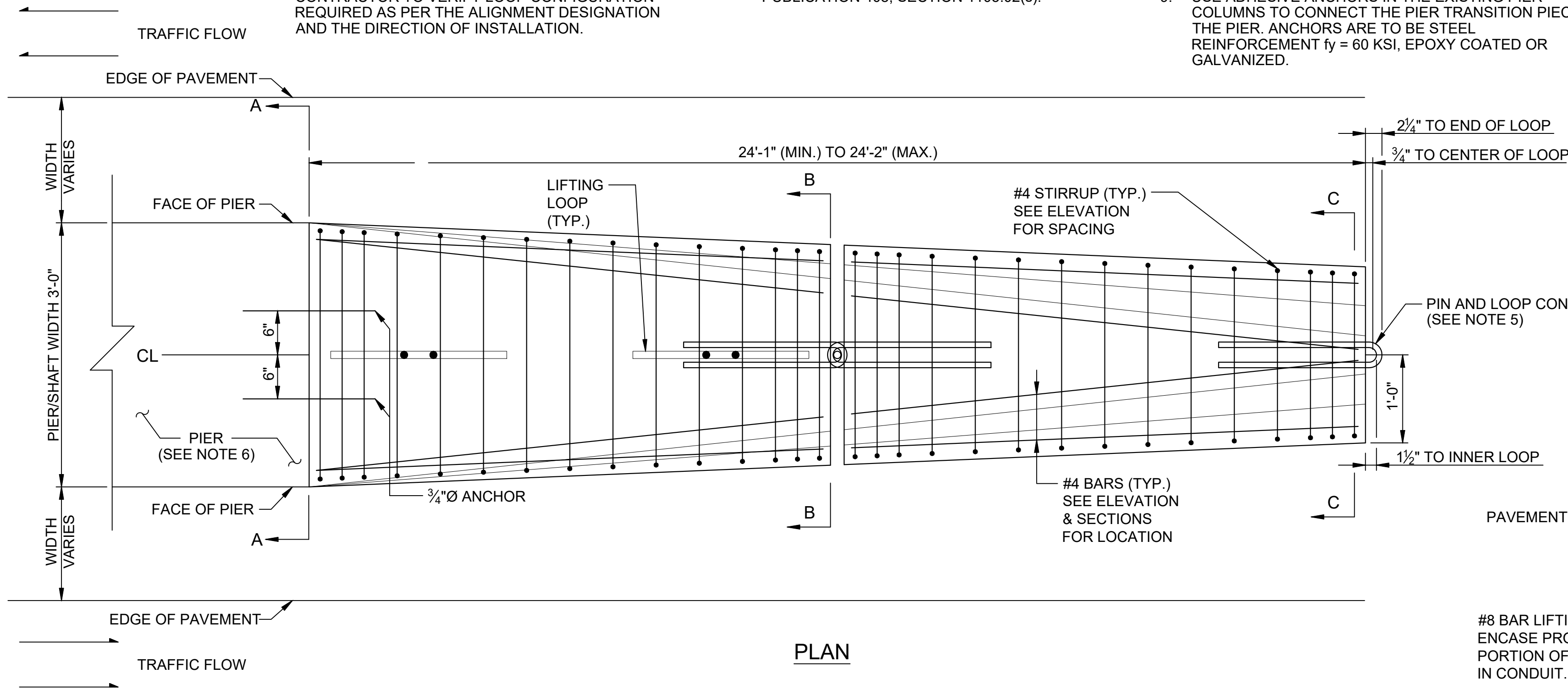
PENNSYLVANIA TURNPIKE COMMISSION
 STANDARD DRAWING

FILE NAME: PTS-146-2.dwg
 DRAWING TYPE: 5A

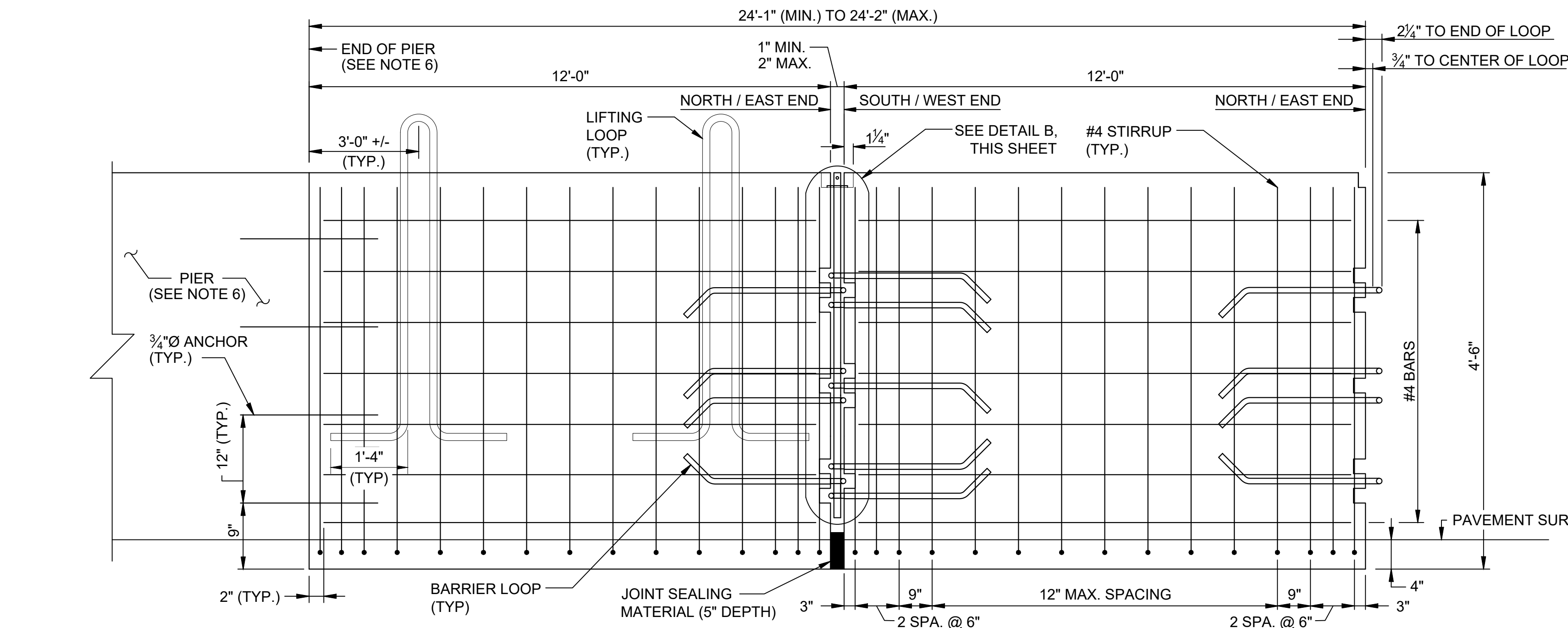
DATE: SEPTEMBER 2022
 SHEET 2 OF 2
 PTS-146

NOTES:

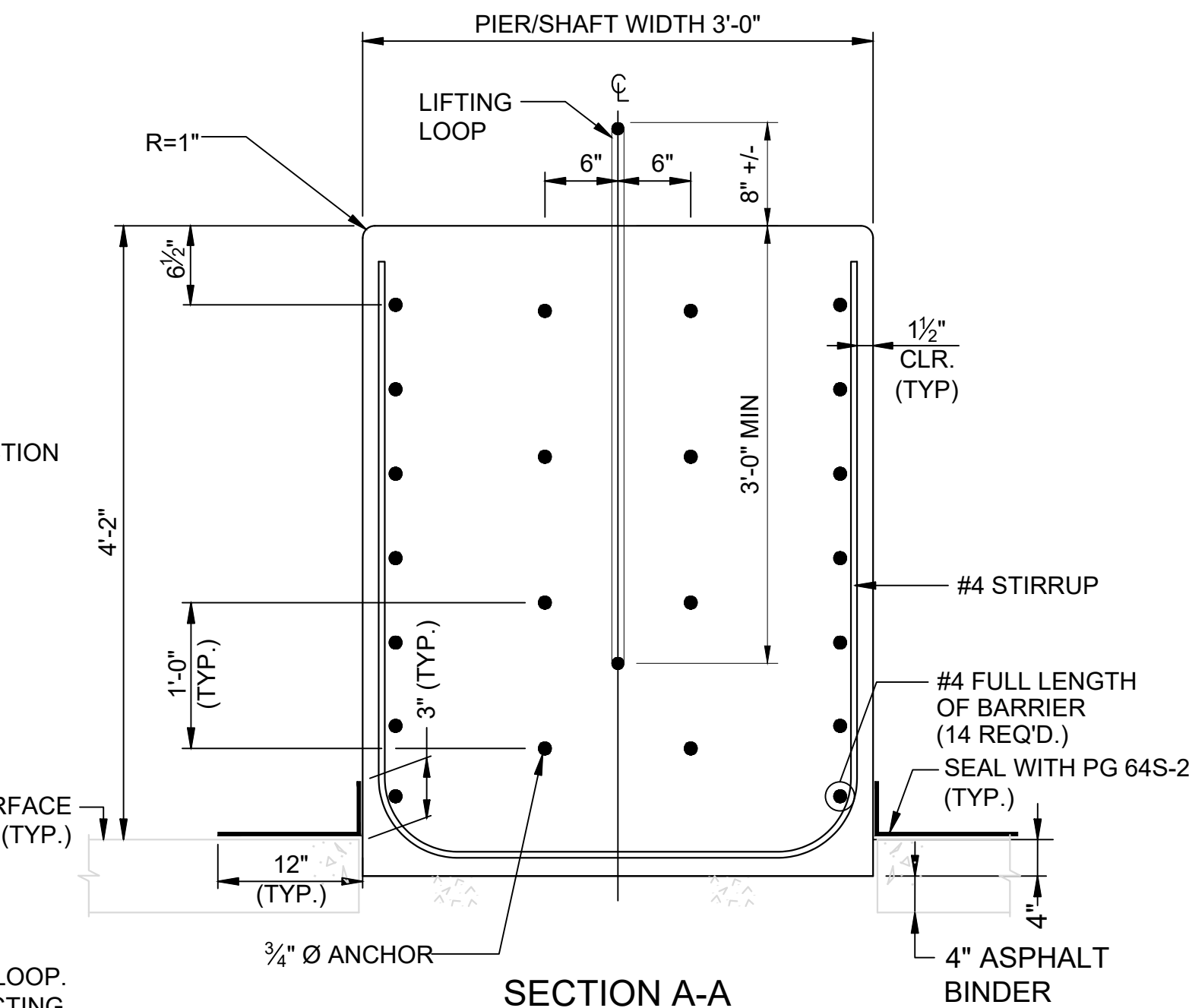
1. PROVIDE PRECAST TRANSITION SECTIONS MEETING THE REQUIREMENTS OF SECTION 623 AND AS SUPPLIED FROM A MANUFACTURER LISTED IN BULLETIN 15.
2. PROVIDE REINFORCEMENT FOR TRANSITION SECTIONS AS SHOWN ON THIS SHEET AND ON RC-55M.
3. PROVIDE A PIN AND LOOP REINFORCEMENT IN THE TRANSITION PIECE AS SHOWN ON RC-55M. CONTRACTOR TO VERIFY LOOP CONFIGURATION REQUIRED AS PER THE ALIGNMENT DESIGNATION AND THE DIRECTION OF INSTALLATION.
4. END OF BRIDGE PIER MAY NOT BE PERPENDICULAR TO ROADWAY. IF PRECAST UNITS ARE USED, THE CONTRACTOR MUST FIELD VERIFY THE PIER ANGLE PRIOR TO PRECASTING TO ENSURE A PROPER INSTALLATION.
5. ALL REBAR TO BE EPOXY COATED. EXCEPT, GALVANIZE BARRIER LOOP AFTER BENDING AS SPECIFIED IN PUBLICATION 408, SECTION 1105.02 (s). GALVANIZE PIN AND WASHER AFTER ALL FABRICATION IS COMPLETE AS SPECIFIED IN PUBLICATION 408, SECTION 1105.02(s).
6. CONSTRUCT THE PIER TRANSITION IN A MINIMUM OF TWO SECTIONS WITH A PIN AND LOOP CONNECTION TO ACCOMMODATE THE CONNECTION OF THE SECTIONS. NO SECTIONS SHALL BE LESS THAN 12 FEET IN LENGTH.
7. PRECAST THE LIGHTEST PIER TRANSITION SECTION WITH A MINIMUM OF TWO 1 3/4" INCH DIAMETER LIFTING HOLES LOCATED 16 INCHES FROM THE TOP.
8. APPROX. WEIGHT / PIECE = 20,500 LBS & 12,500 LBS
9. USE ADHESIVE ANCHORS IN THE EXISTING PIER COLUMNS TO CONNECT THE PIER TRANSITION PIECE TO THE PIER. ANCHORS ARE TO BE STEEL REINFORCEMENT fy = 60 KSI, EPOXY COATED OR GALVANIZED.
10. CONSTRUCT USING CLASS AAA CEMENT CONCRETE IN ACCORDANCE WITH SECTION 704.
11. PROVIDE REINFORCEMENT MEETING THE REQUIREMENTS OF SECTION 709.
12. USE A PACHOMETER TO LOCATE EXISTING REINFORCEMENT WHEN DRILLING DOWEL HOLES TO AVOID DRILLING THROUGH EXISTING BARS. DRILL HOLE IN PIER COLUMN TO THE LENGTH AND DIAMETER AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR A 3/4" Ø ANCHOR.



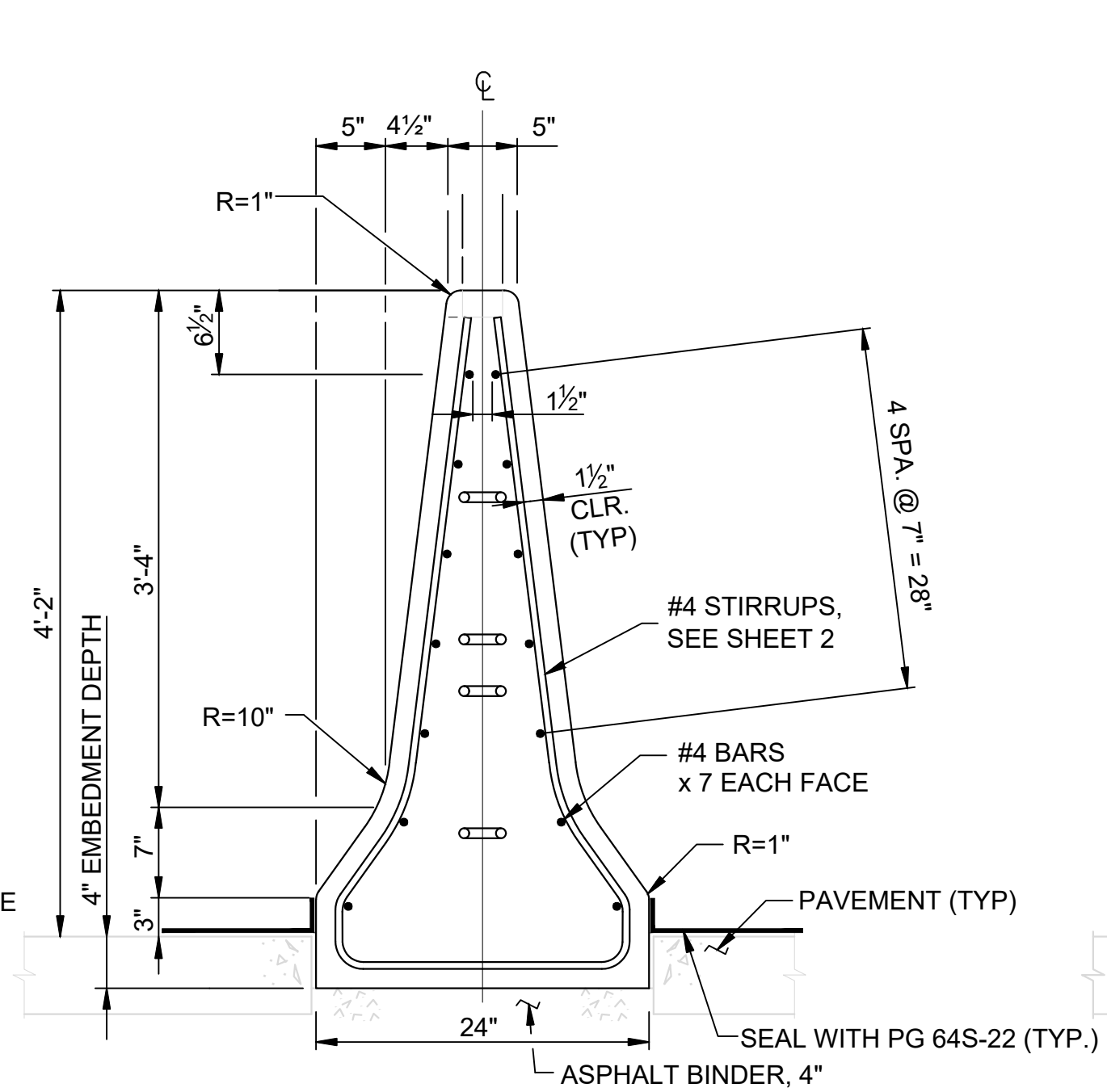
PLAN



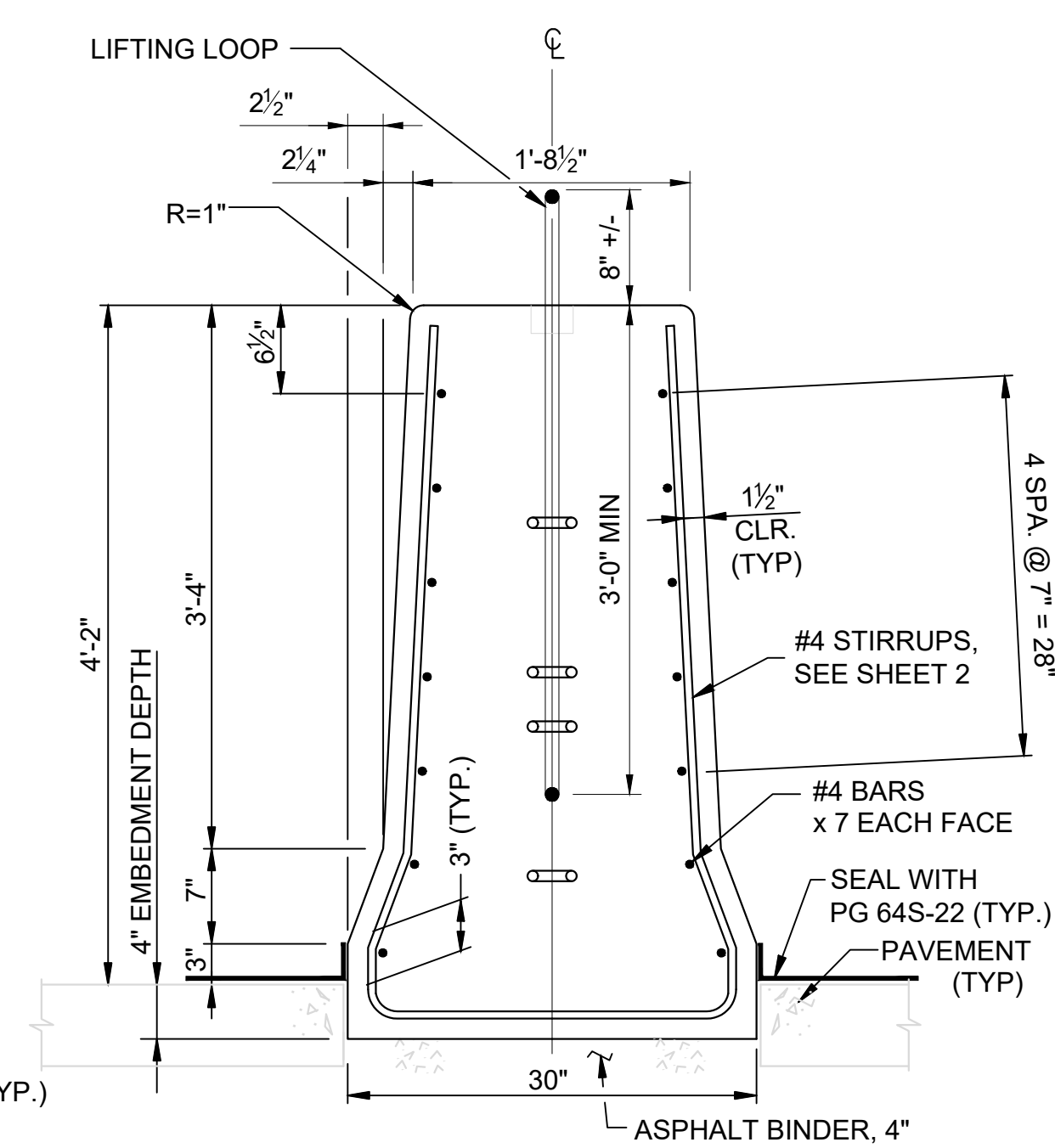
ELEVATION



SECTION A-A

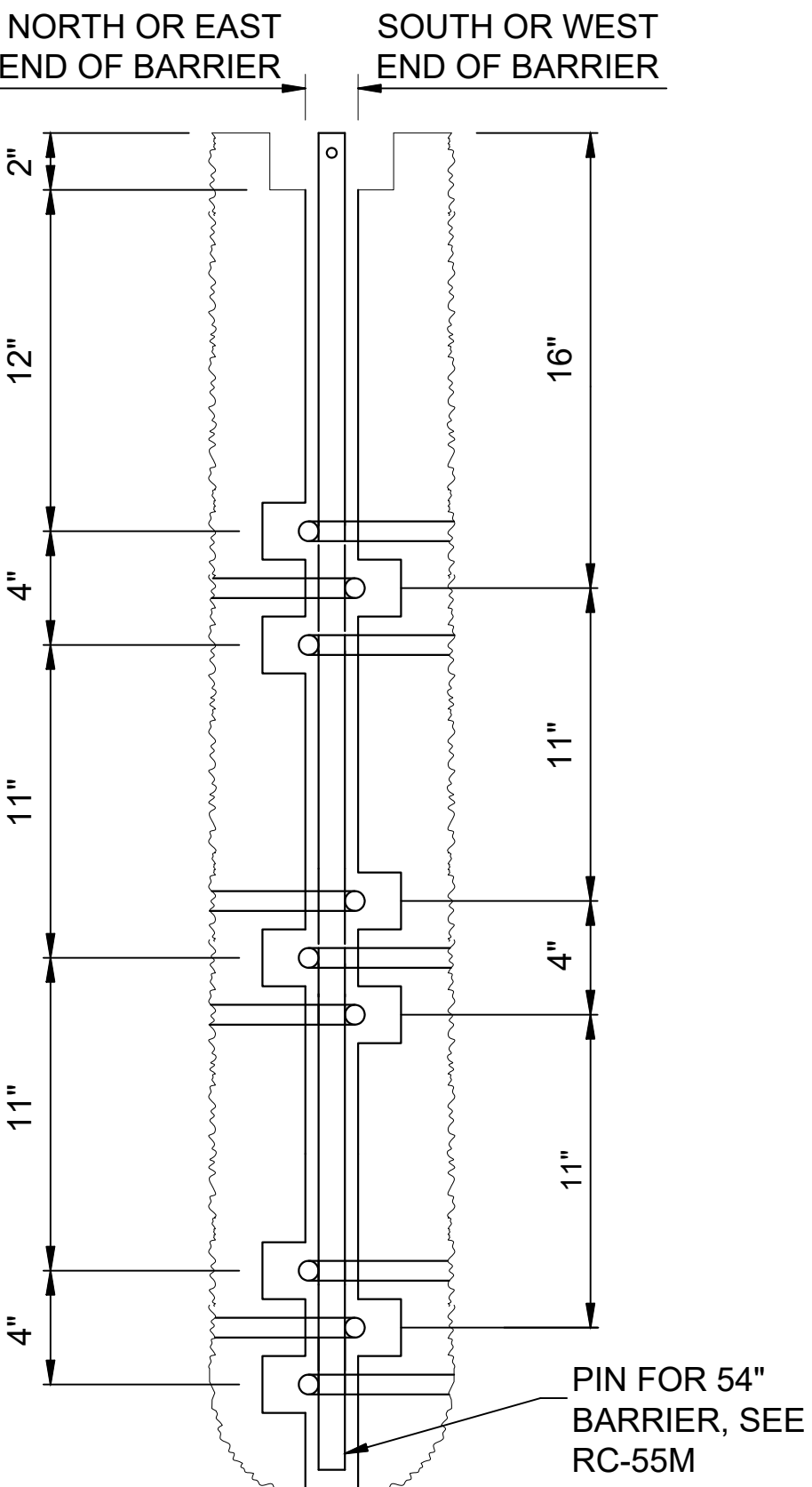


SECTION C-C
(NORTH OR EAST END SHOWN)



SECTION B-B
(NORTH OR EAST END SHOWN)

LOOP CONFIGURATION
(SEE NOTE 3)



DETAIL B
ALL DIMENSIONS TYPICAL AT ALL LOOPS

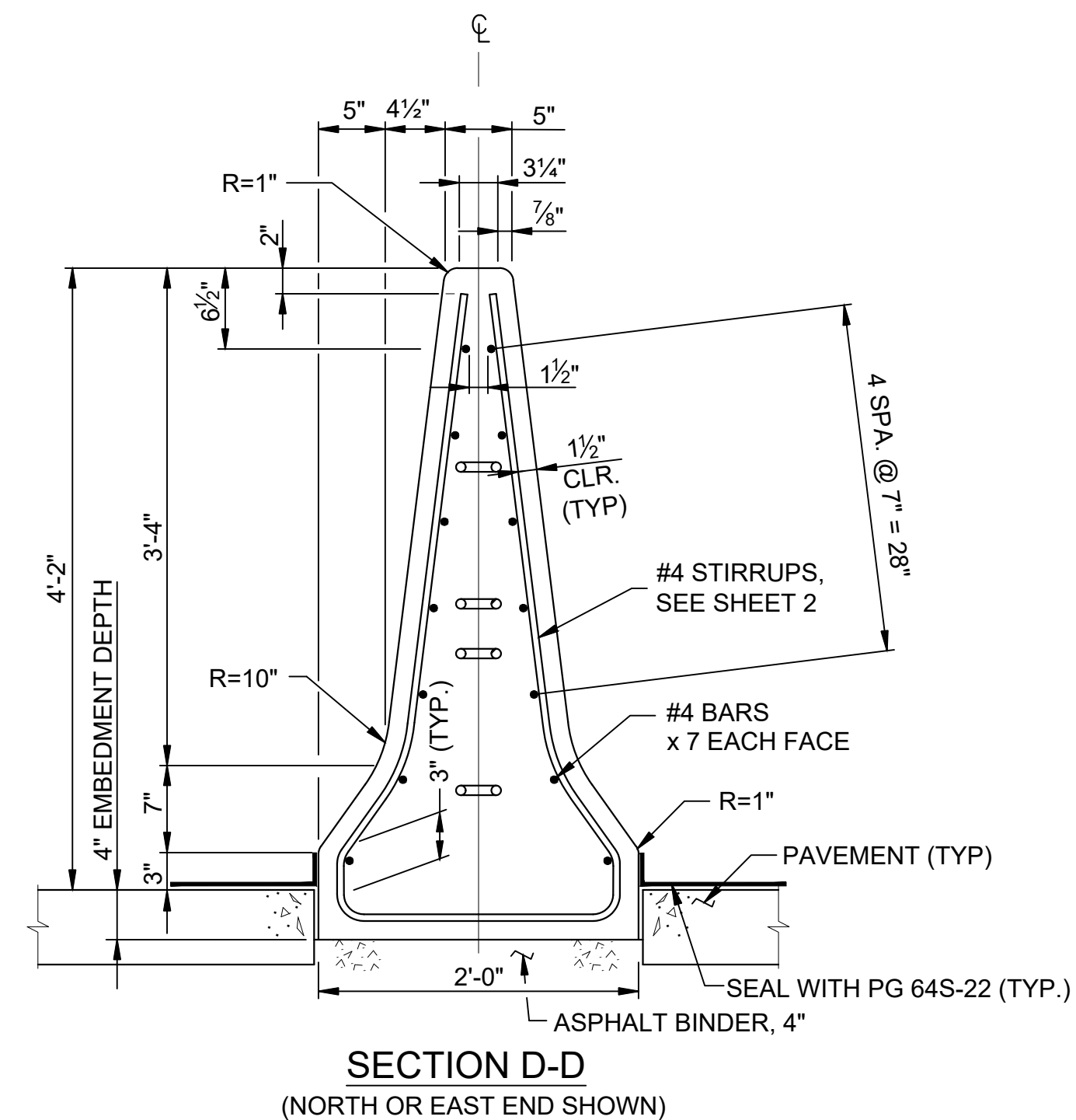
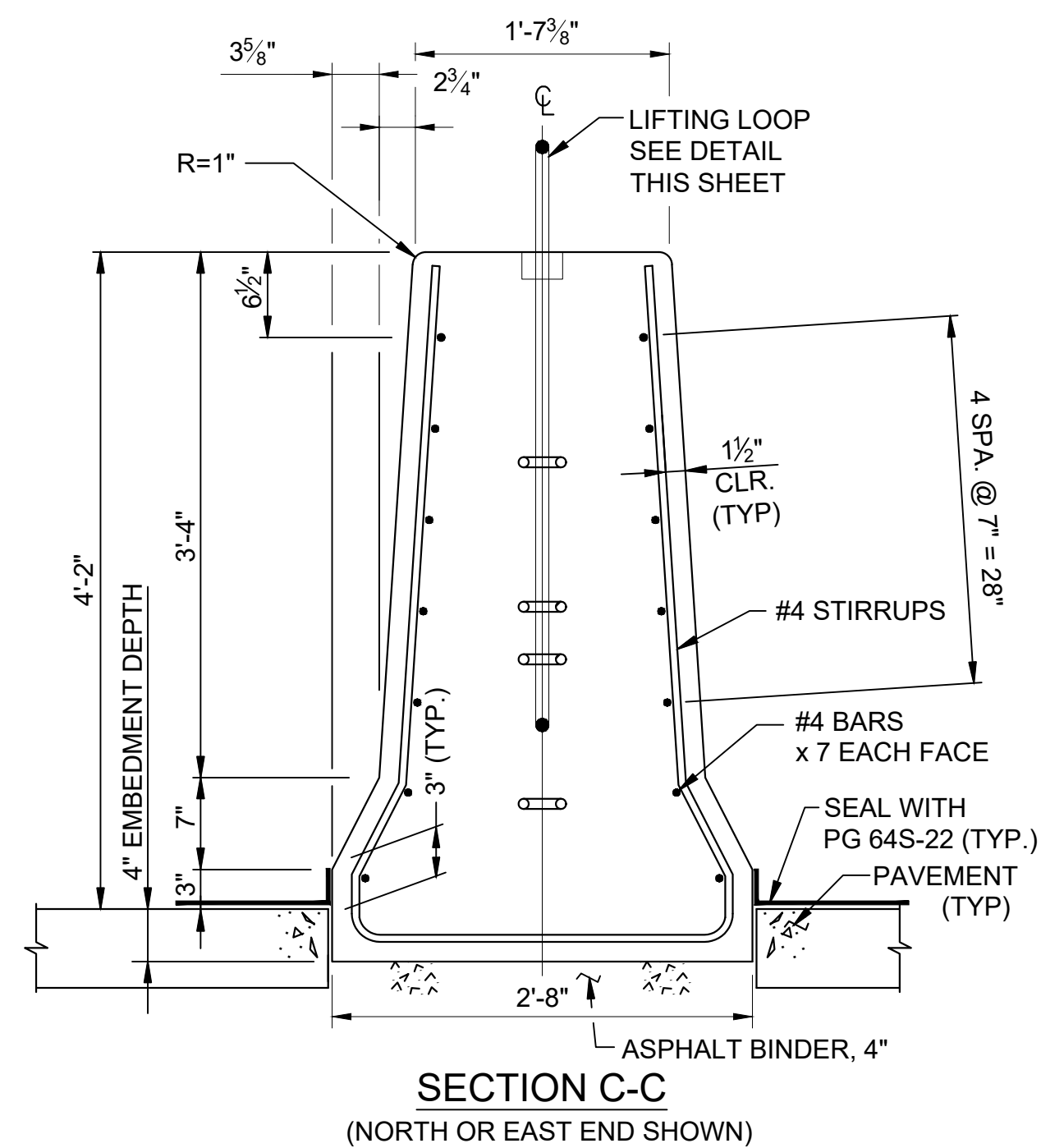
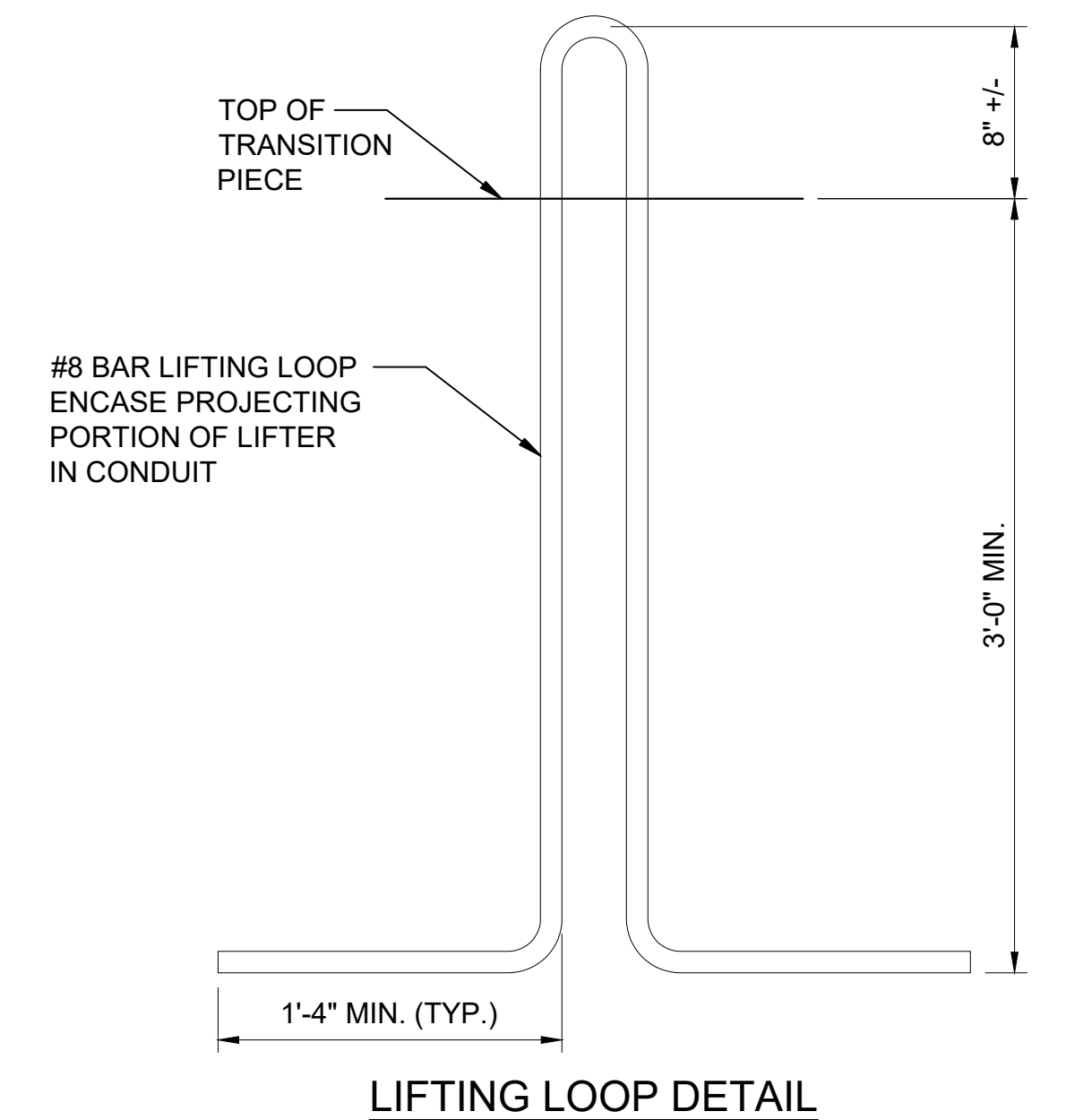
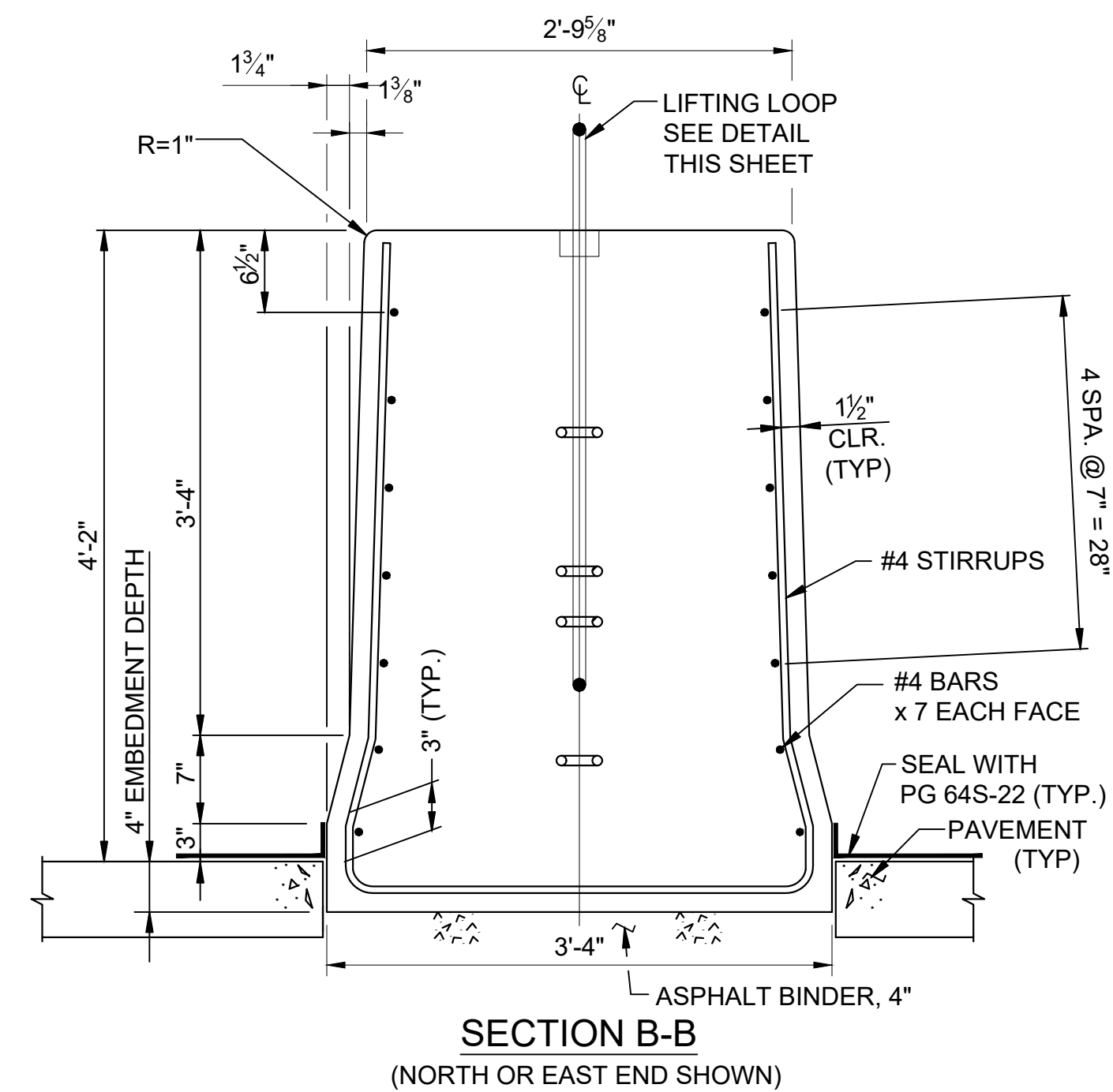
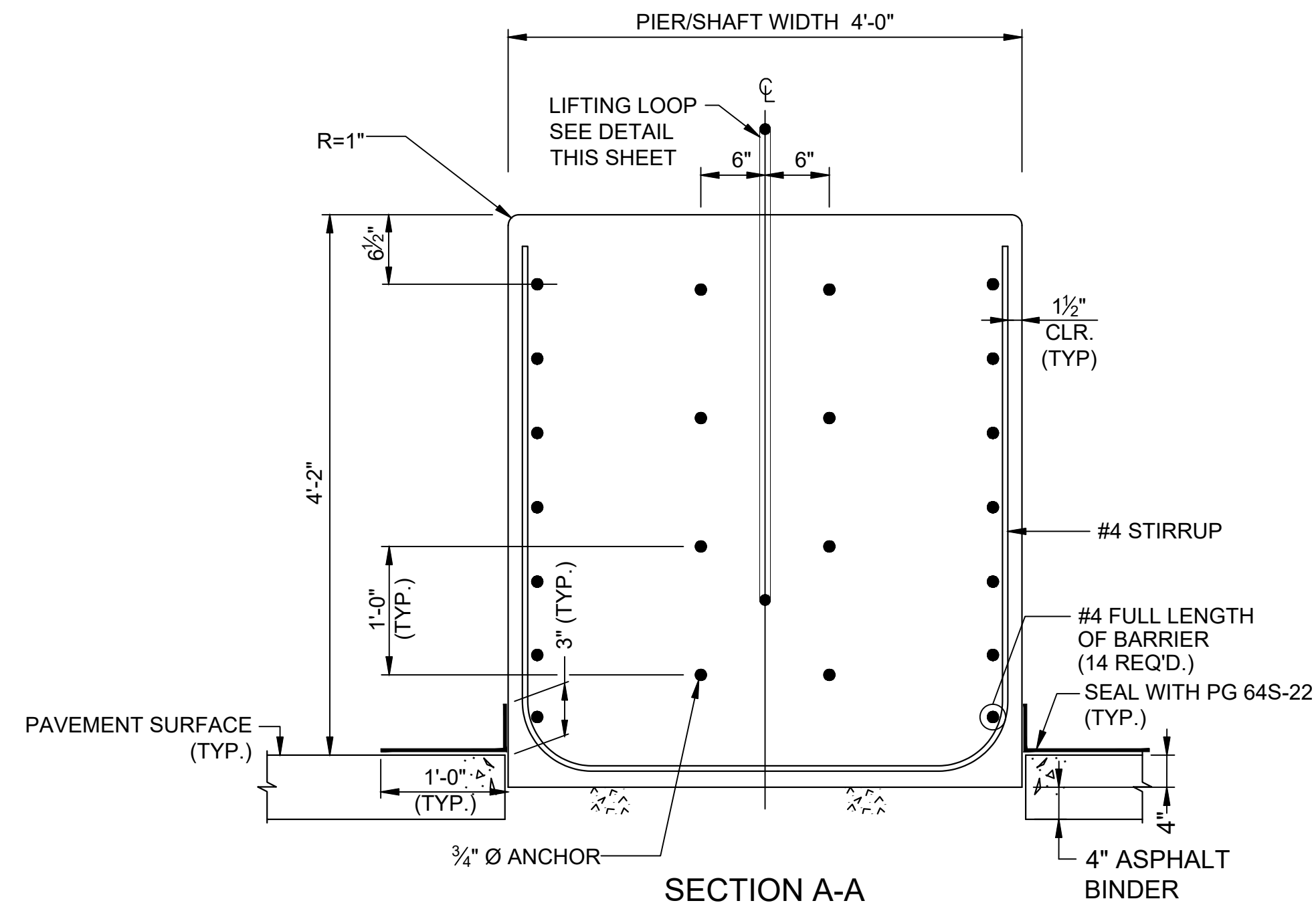


RECOMMENDED: NOVEMBER 28, 2023
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: NOVEMBER 29, 2023
CHIEF ENGINEER

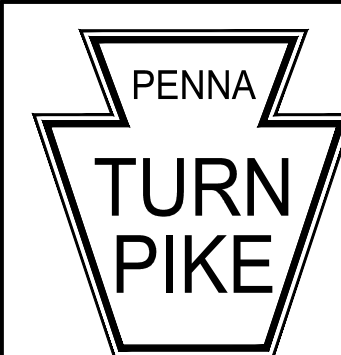
PIER TRANSITION PIECE

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-147.dwg
DRAWING TYPE: 5A
DATE: NOVEMBER 2023
SHEET 1 OF 1
PTS-147



- NOTES:
1. FOR LOCATION OF SECTIONS A-A, B-B, C-C & D-D, SEE SHEET 1 OF 2.
 2. SEE NOTES ON SHEET 1 OF 2.



RECOMMENDED: NOVEMBER 28, 2023

[Signature]

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: NOVEMBER 29, 2023

[Signature]

CHIEF ENGINEER

MONOPIPE CAISSON
TRANSITION PIECE

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

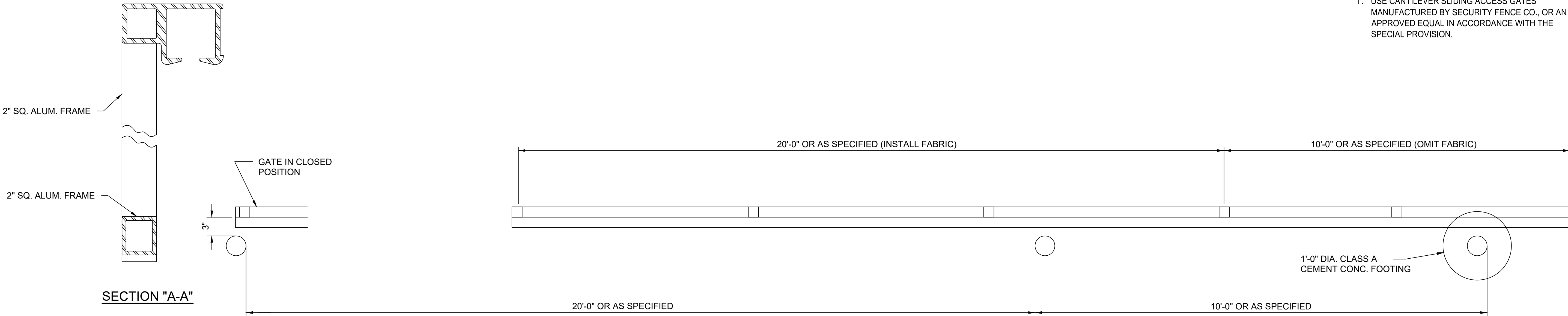
FILE NAME: PTS-148-2.dwg
DRAWING TYPE: 5A

SHEET 2 OF 2

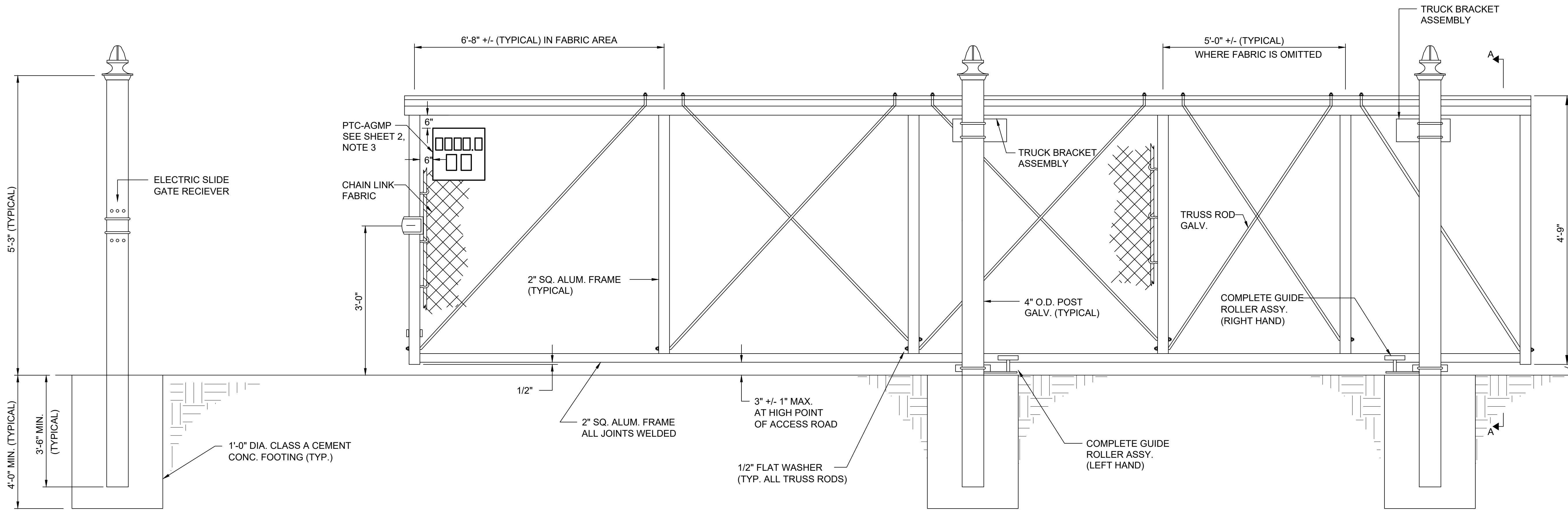
DATE: NOVEMBER 2023

PTS-148

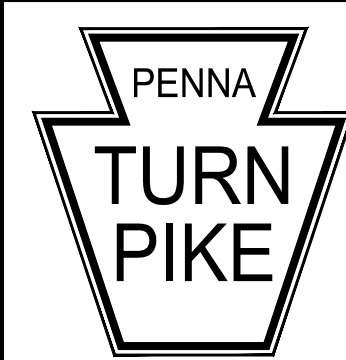
NOTES:
1. USE CANTILEVER SLIDING ACCESS GATES
MANUFACTURED BY SECURITY FENCE CO., OR AN
APPROVED EQUAL IN ACCORDANCE WITH THE
SPECIAL PROVISION.



PLAN VIEW



ELEVATION VIEW



RECOMMENDED: APRIL 30, 2022

ASSISTANT CHIEF ENGINEER - DESIGN

APPROVED: APRIL 30, 2022

CHIEF ENGINEER

CANTILEVER SLIDING ACCESS GATE

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

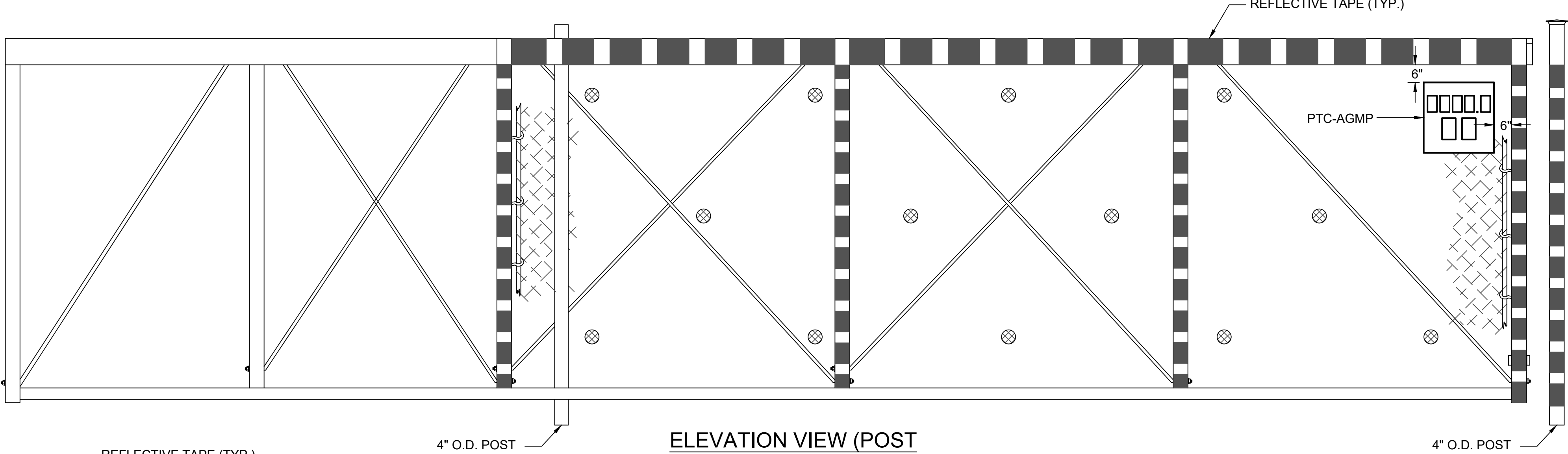
FILE NAME: PTS-150-1.dwg
DRAWING TYPE: 5A

SHEET 1 OF 2

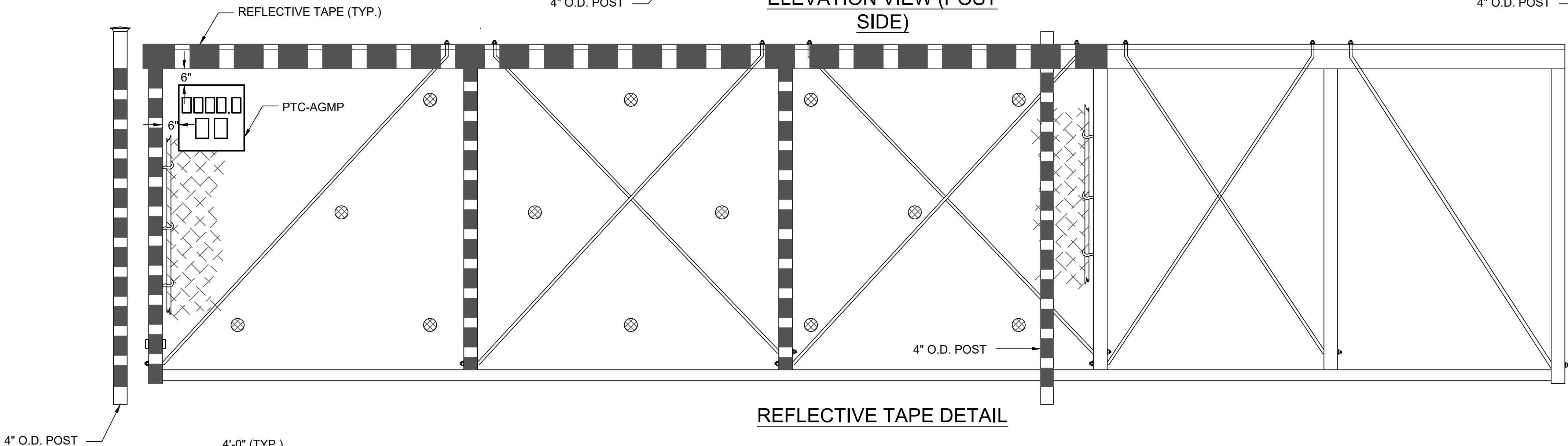
DATE: APRIL 2022

PTS-150

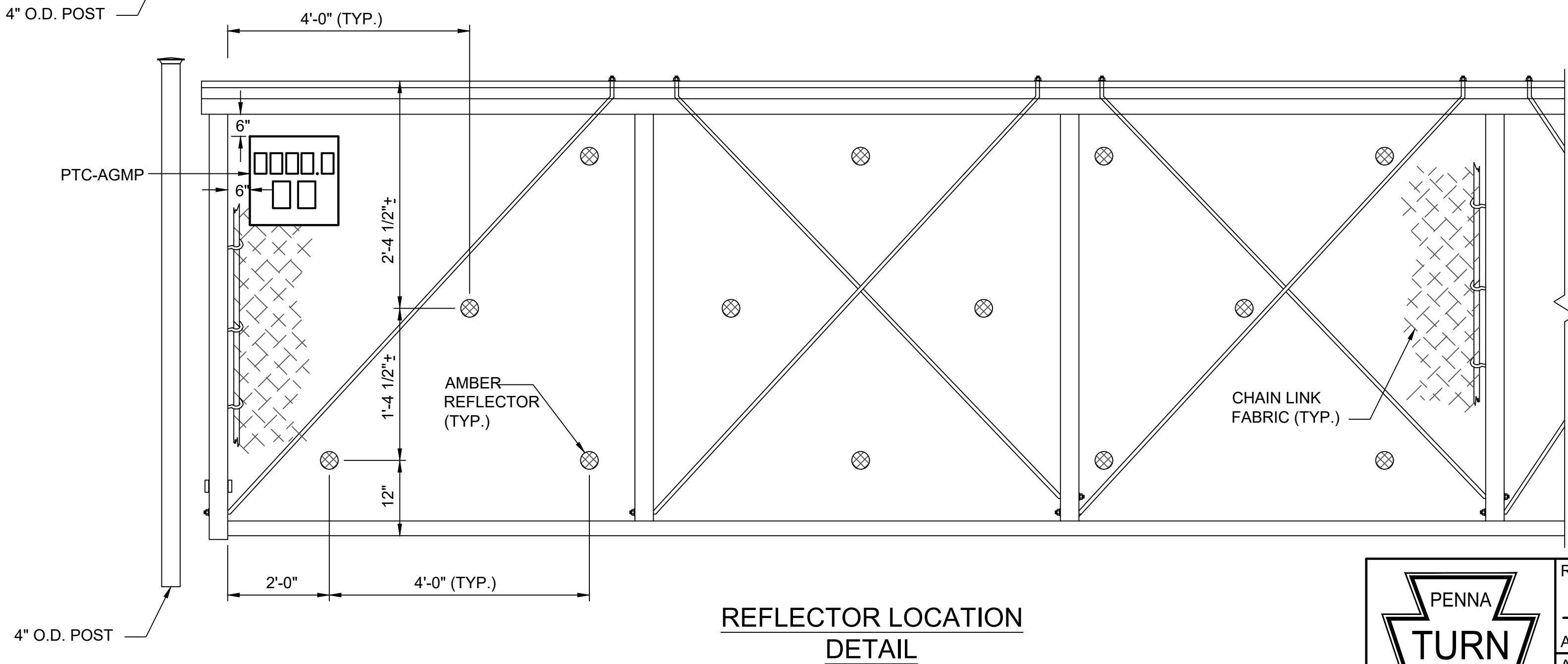
ELEVATION VIEW (NON-POST SIDE)



ELEVATION VIEW (POST SIDE)



REFLECTIVE TAPE DETAIL



REFLECTOR LOCATION
DETAIL

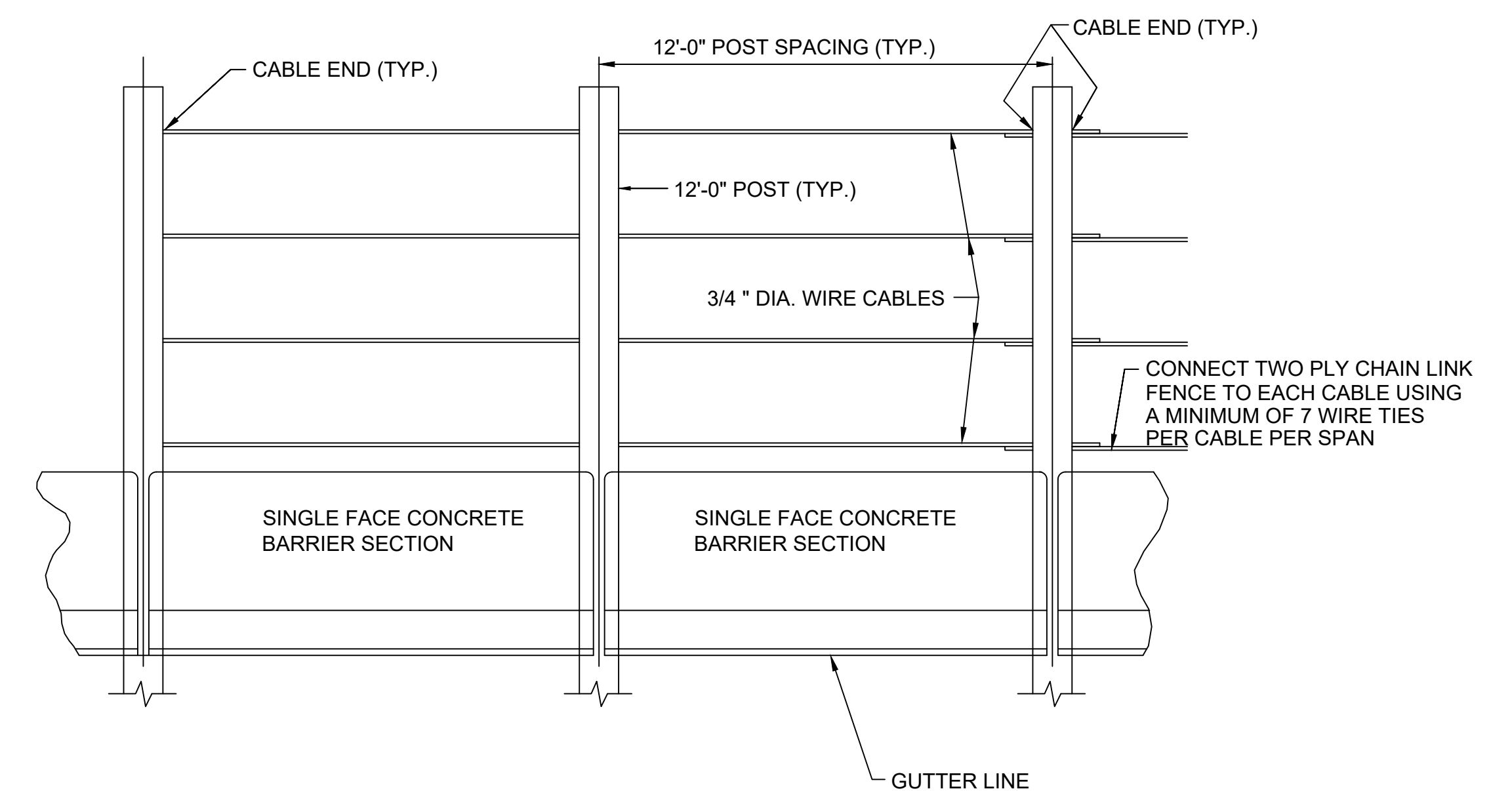
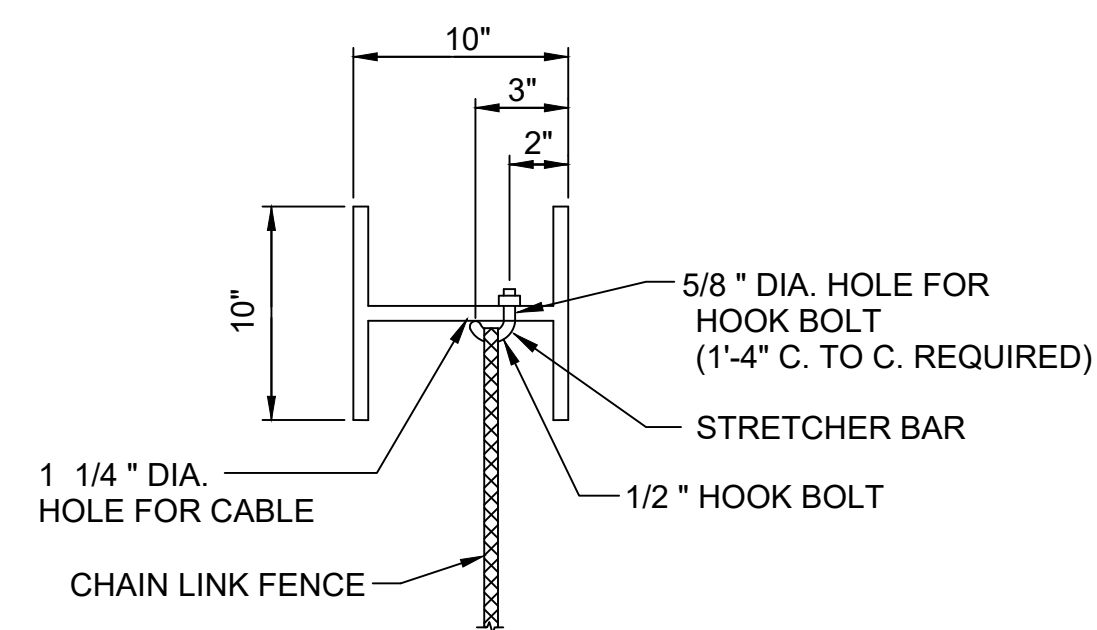
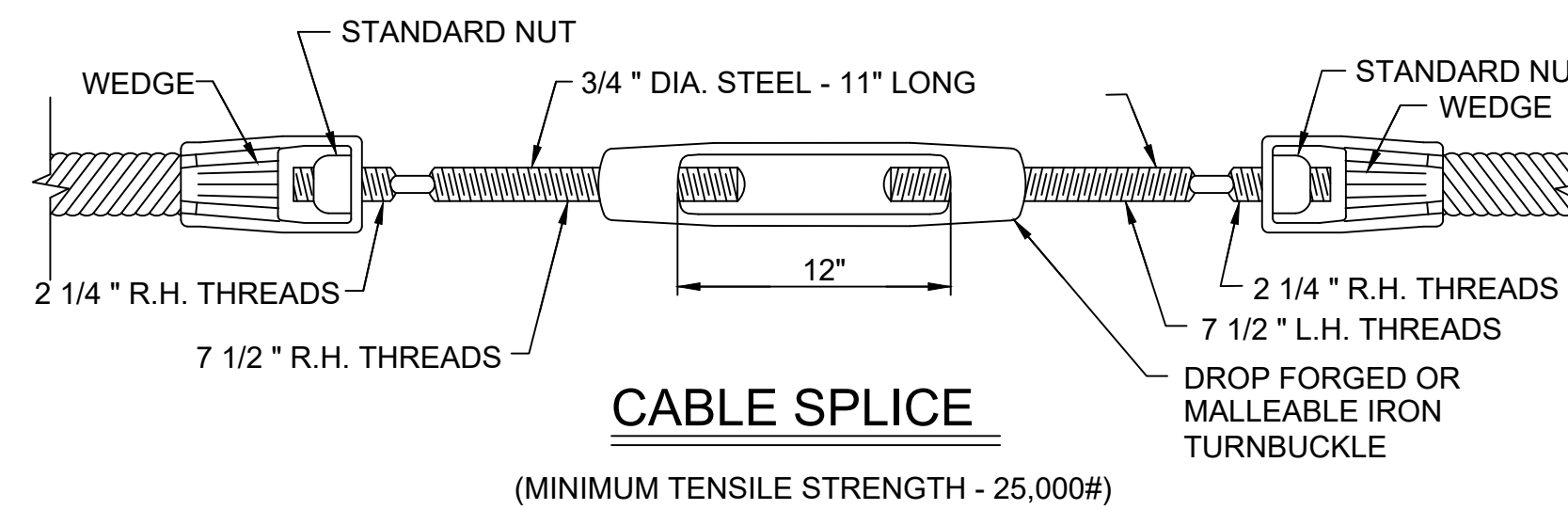
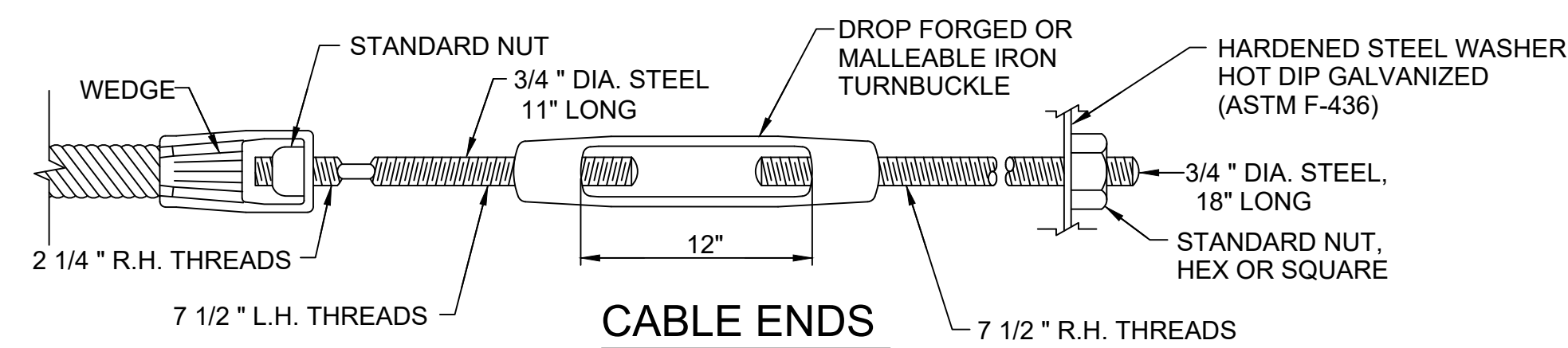
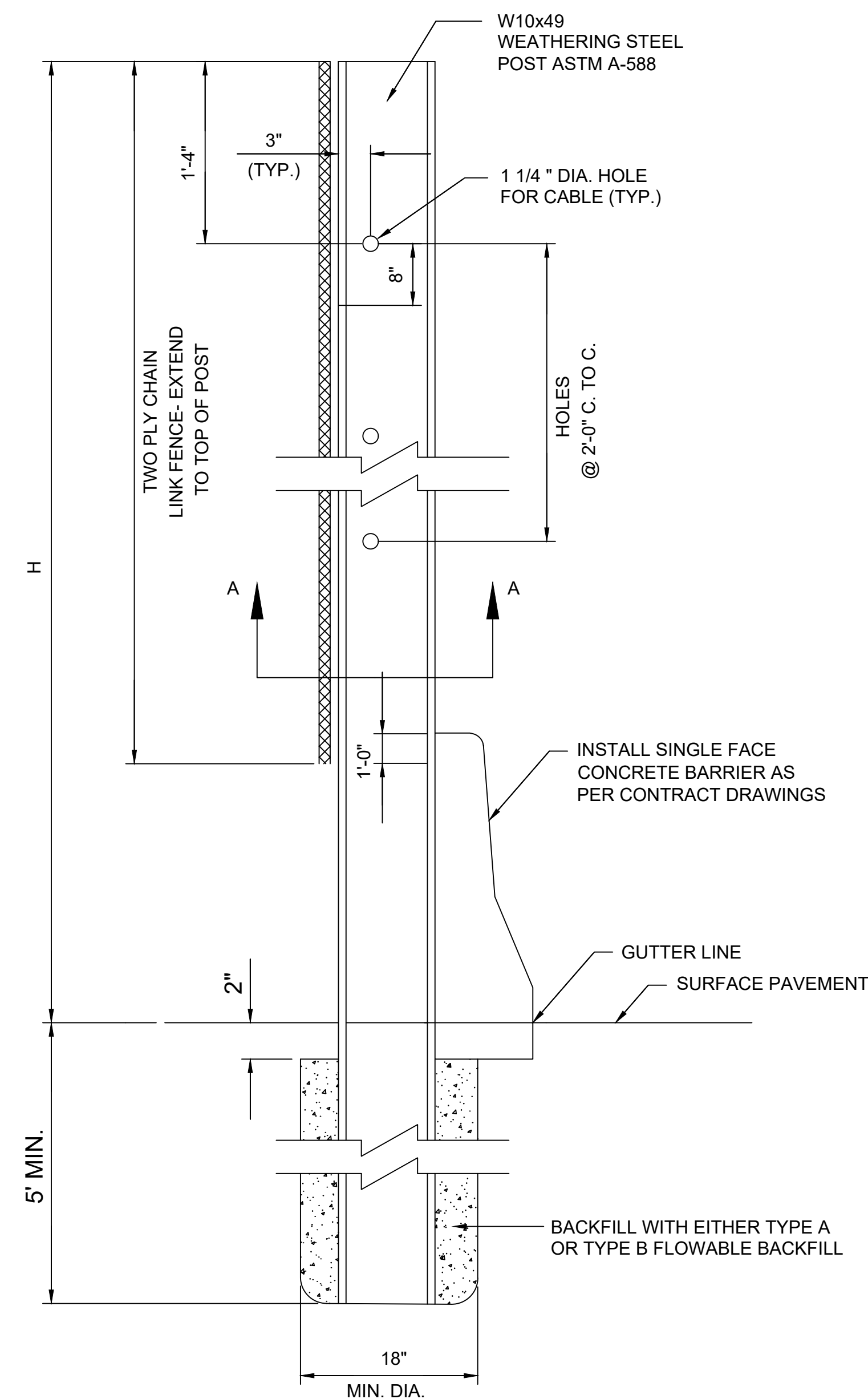
- NOTES:
1. ATTACH AMBER REFLECTORS TO THE GATE, BACK TO BACK THROUGH THE CHAIN LINK FABRIC, AT THE LOCATIONS SHOWN BY USE OF AN ANTI-THEFT BOLT AND NUT.
 2. REFLECTIVE TAPE SHALL BE 3M DIAMOND GRADE CONSPICUITY MARKING ROLL, NUMBER 983-326, COLOR RED/WHITE, WIDTH 50 mm (2 INCHES) OR APPROVED EQUAL.
 3. INSTALL PTC-AGMP SIGN TO THE GATE, BACK TO BACK THROUGH THE CHAIN LINK FABRIC, AT THE LOCATION SHOWN BY USE OF TWO (2) STAINLESS STEEL ANTI-THEFT BOLTS WITH NYLON OR STAINLESS STEEL WASHERS AND NUTS.



RECOMMENDED: APRIL 30, 2022
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: APRIL 30, 2022
CHIEF ENGINEER

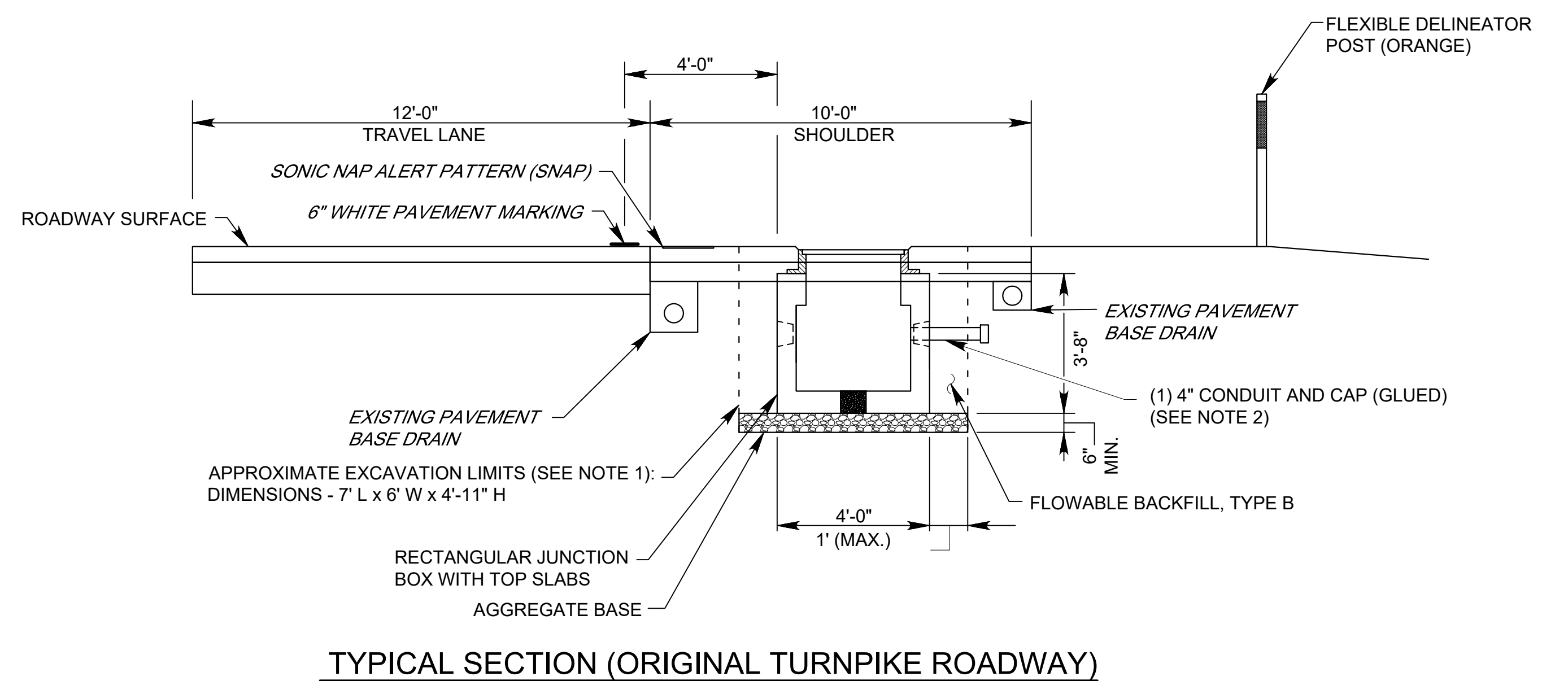
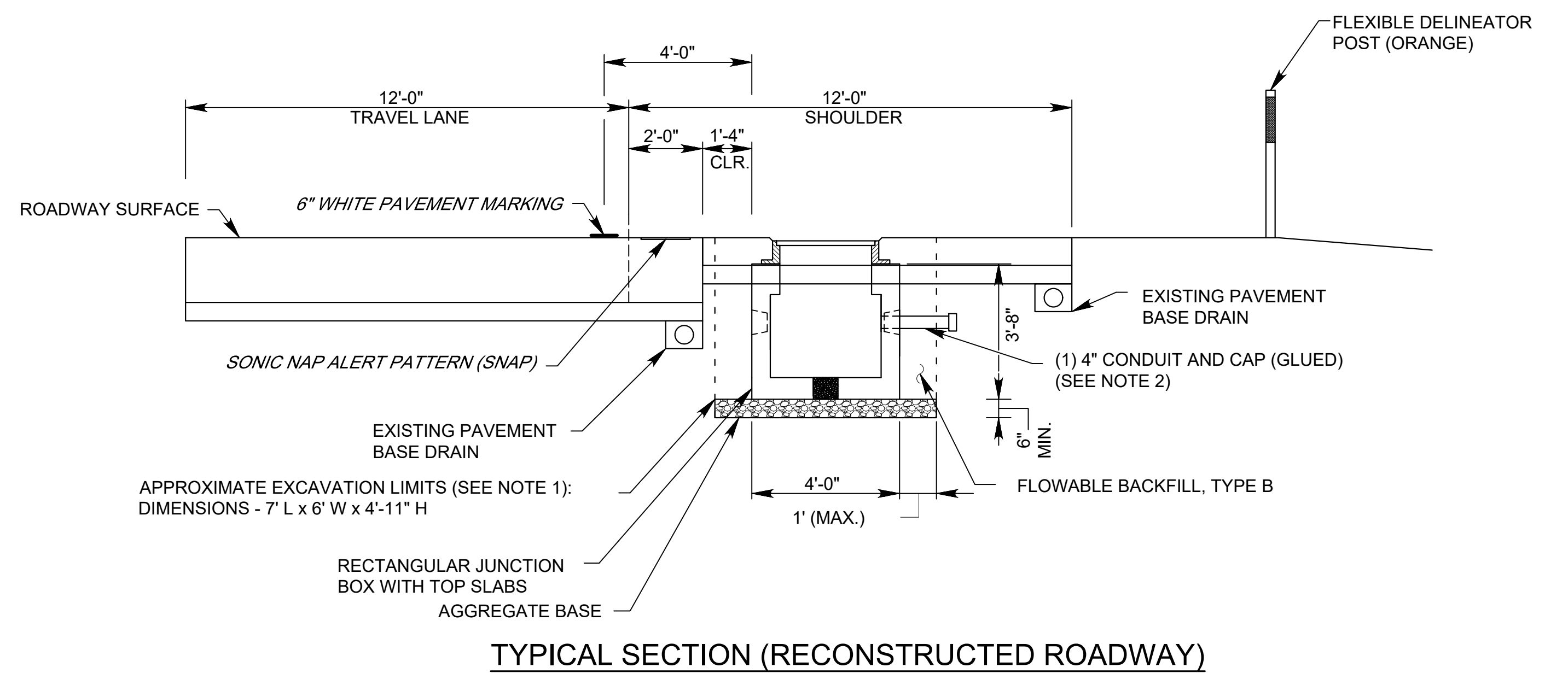
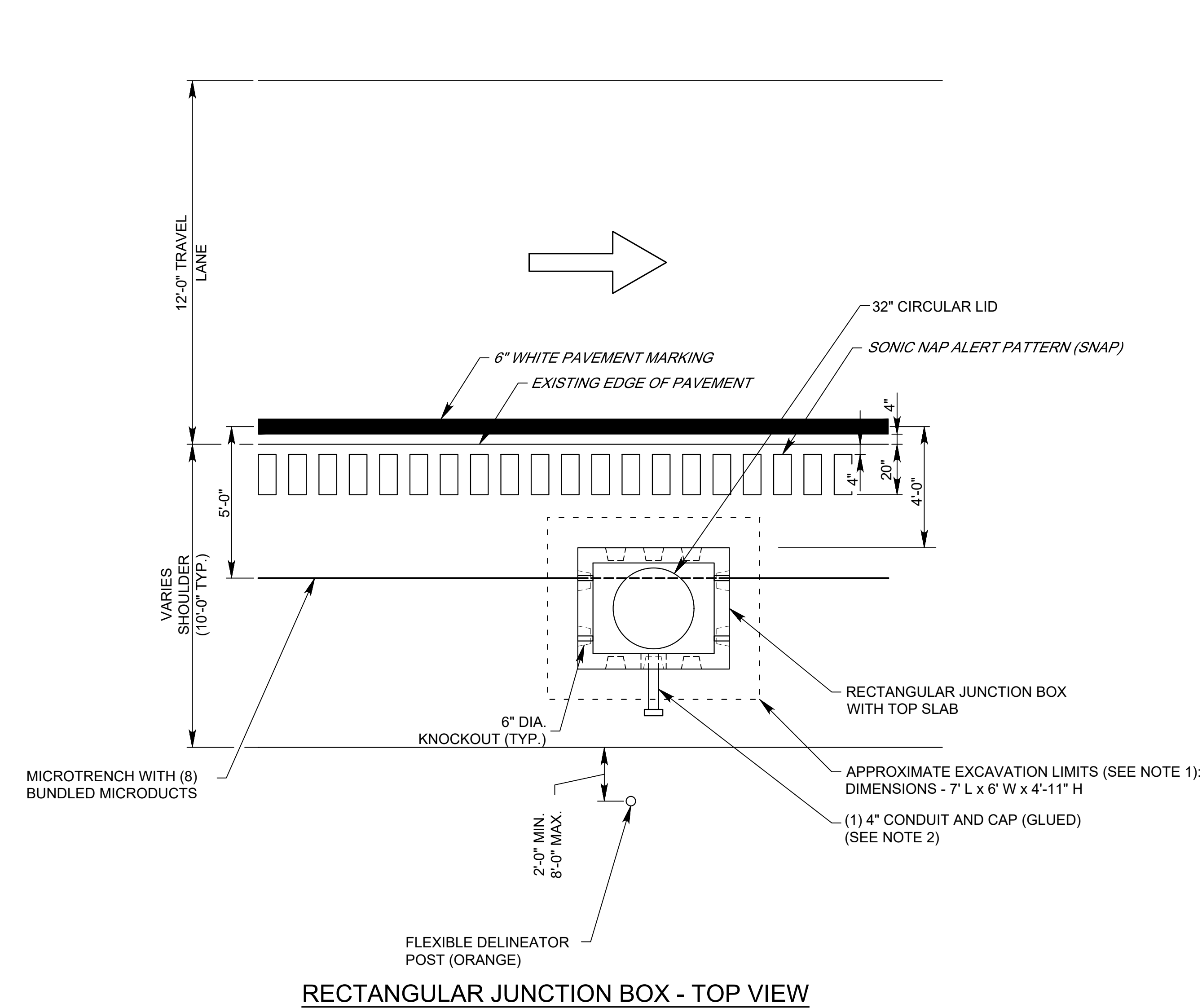
CANTILEVER SLIDING ACCESS GATE

PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
FILE NAME: PTS-150-2.dwg	SHEET 2 OF 2
DRAWING TYPE: 5A	
DATE: APRIL 2022	PTS-150



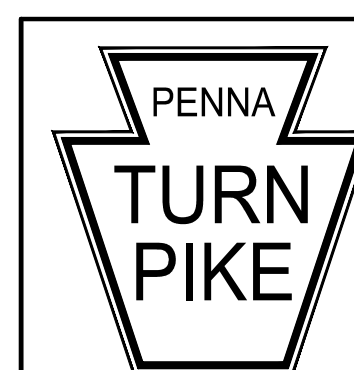
NOTES:

1. CABLE ENDS SHALL BE POSITIVE AND OF ANY TYPE AND DESIGN CONSISTENT WITH THE DESIGN INTENT AND STRENGTH OF THE STRUCTURE, AND APPROVED BY THE REPRESENTATIVE.



ROUND LID JUNCTION BOX DETAILS

- NOTES:**
- SAW CUT PAVEMENT PRIOR TO EXCAVATION.
 - CAP CONDUIT AT APPROXIMATELY 3" BEYOND FLOWABLE FILL. CONTRACTOR SHALL NOT ENCASE CAP WITH FLOWABLE FILL. CONDUIT IS A MINIMUM OF 24" DEPTH.

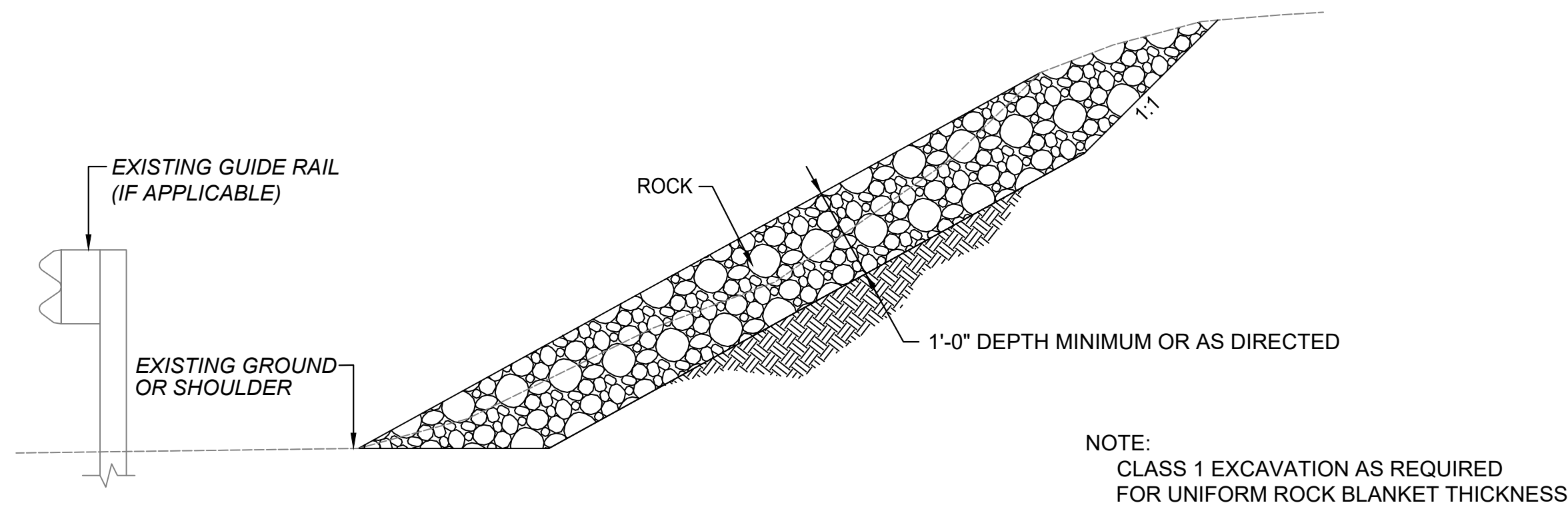


RECOMMENDED: NOVEMBER 28, 2023
 ASSISTANT CHIEF ENGINEER - DESIGN
 APPROVED: NOVEMBER 29, 2023
 CHIEF ENGINEER

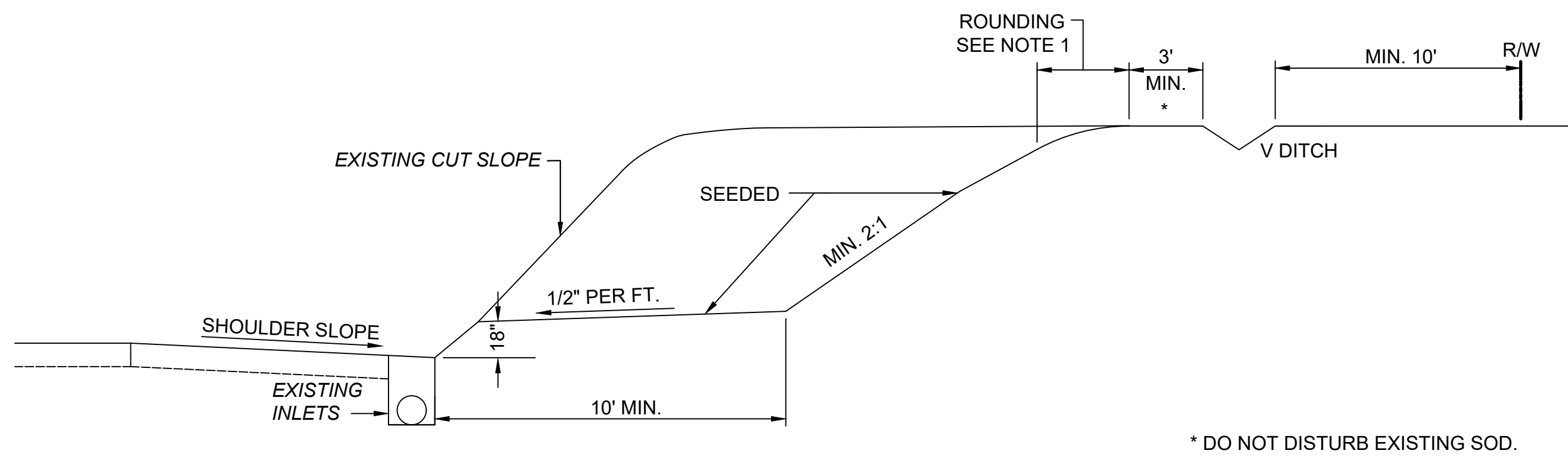
ROUND LID JUNCTION BOX DETAILS

**PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING**

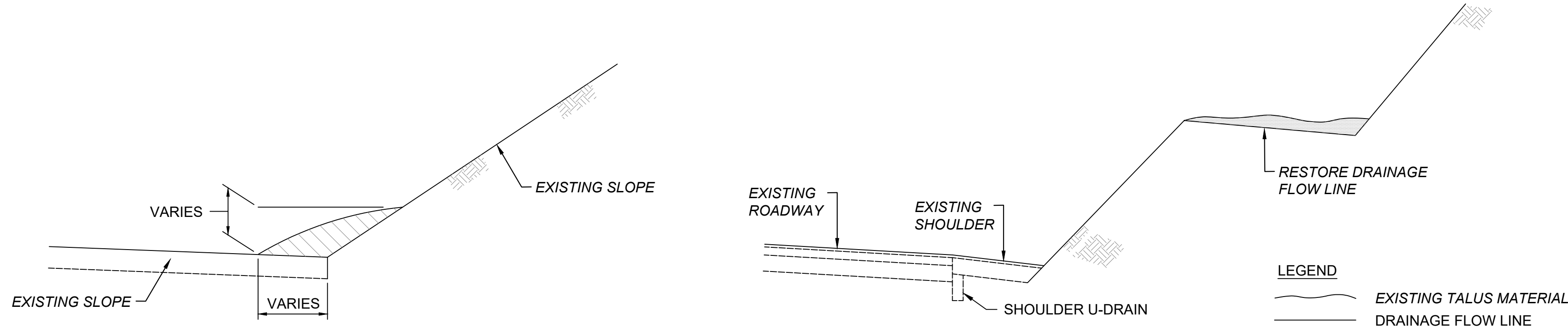
FILE NAME: PTS-170.dwg
 DRAWING TYPE:
 DATE: NOVEMBER 2023
 SHEET 2 OF 2
 PTS-170



TYPICAL SECTION OF ROCK BLANKET



TYPICAL SECTION OF BORROW PIT



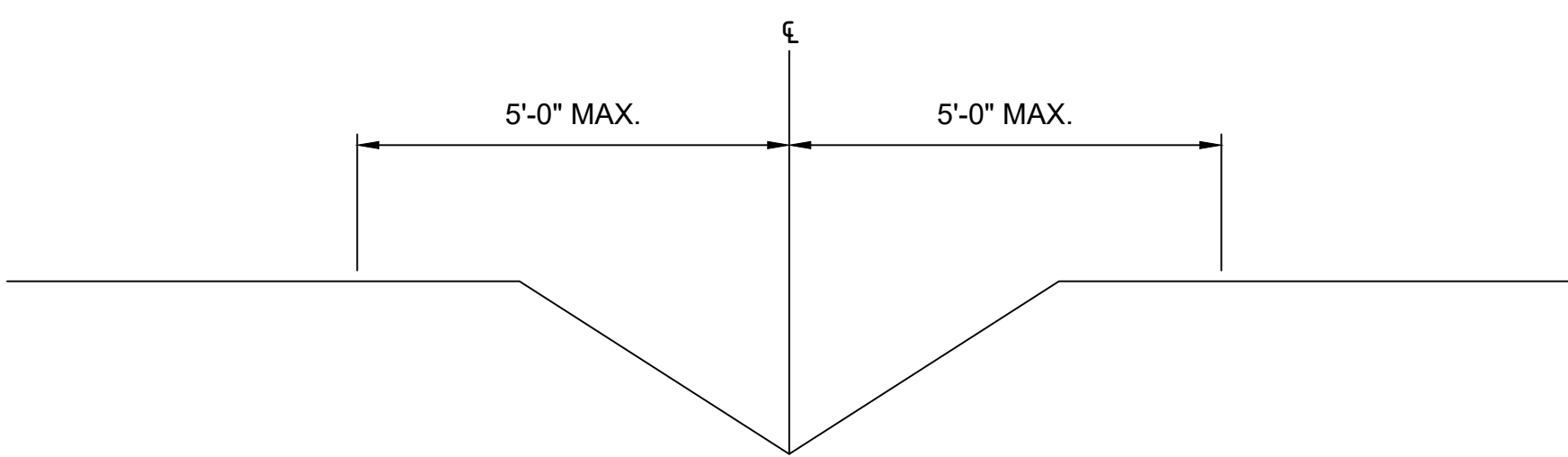
REMOVAL OF EARTH DEBRIS ON SHOULDER
THIS WORK IS INCIDENTAL TO
OTHER ITEMS OF WORK.

AREA TO BE CLEANED

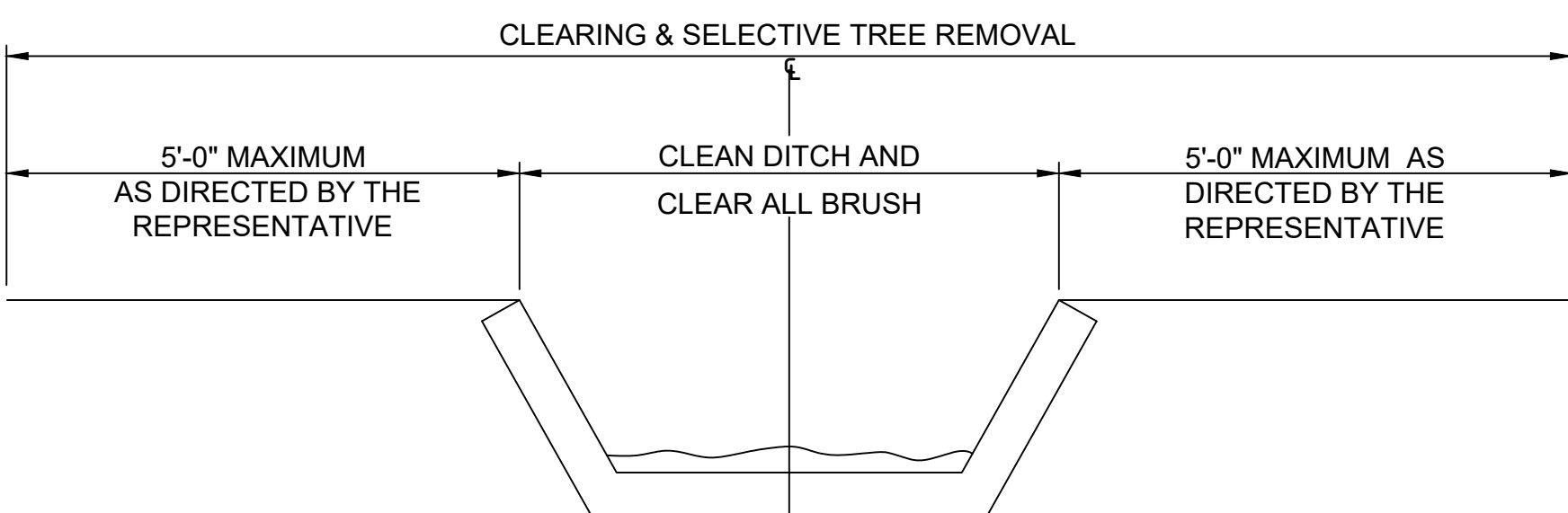
CLEANING OF CUT BENCHES

NOTES:

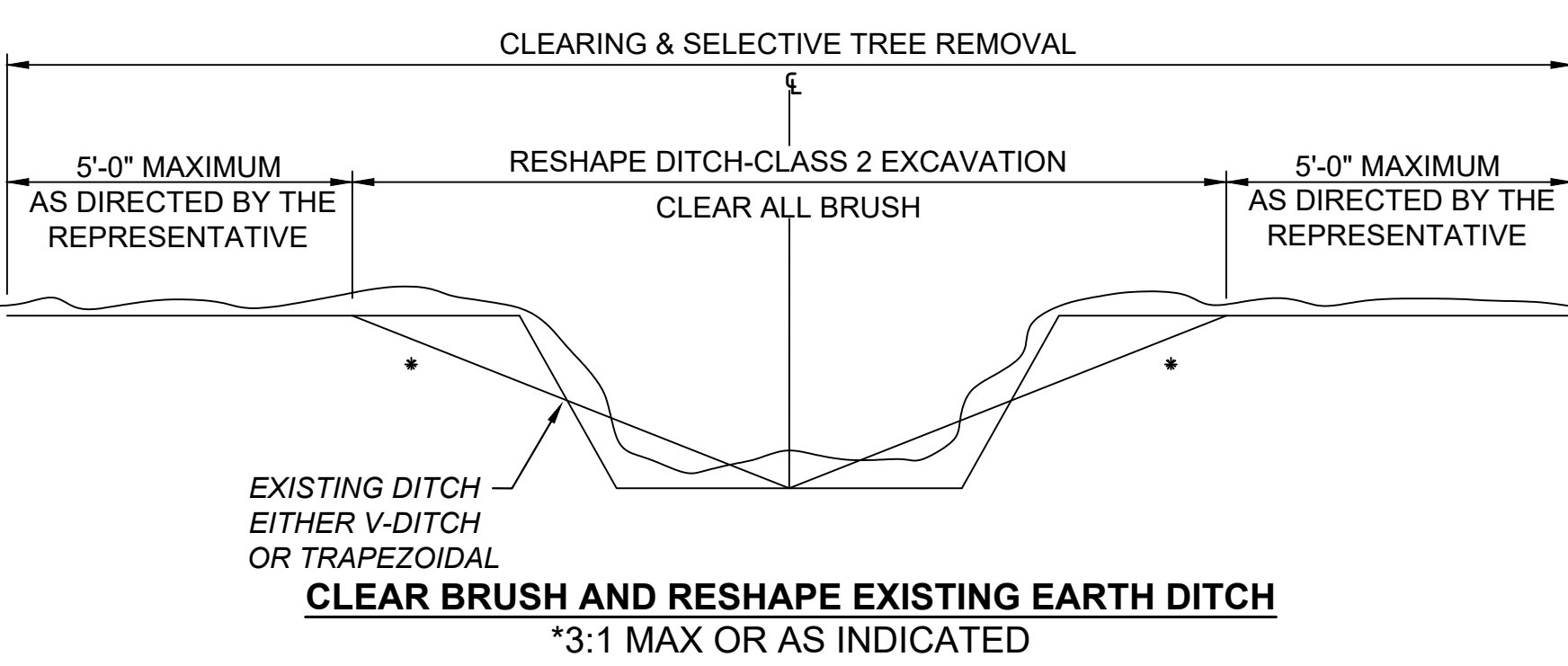
- 1. ROUNDING TO BE AS PER RC-10M OR AS INDICATED ON THE CROSS SECTIONS.
- 2. SEED AND MULCH ALL DISTURBED AREAS INCLUDING AREAS WHICH ARE CLEARED OF TREES AND SHRUBS IN ACCORDANCE WITH SECTION 804 AND 805.
- 3. FURNISH AND PLACE TOPSOIL IN ACCORDANCE WITH SECTION 802.
- 4. CLEAN ALL BENCHES AS TABULATED. PERFORM CLEARING AND SELECTIVE TREE REMOVAL IN ACCORDANCE WITH SECTION 810. SEED AND MULCH IN ACCORDANCE WITH SECTIONS 804 & 805 AND AS DIRECTED BY THE REPRESENTATIVE.



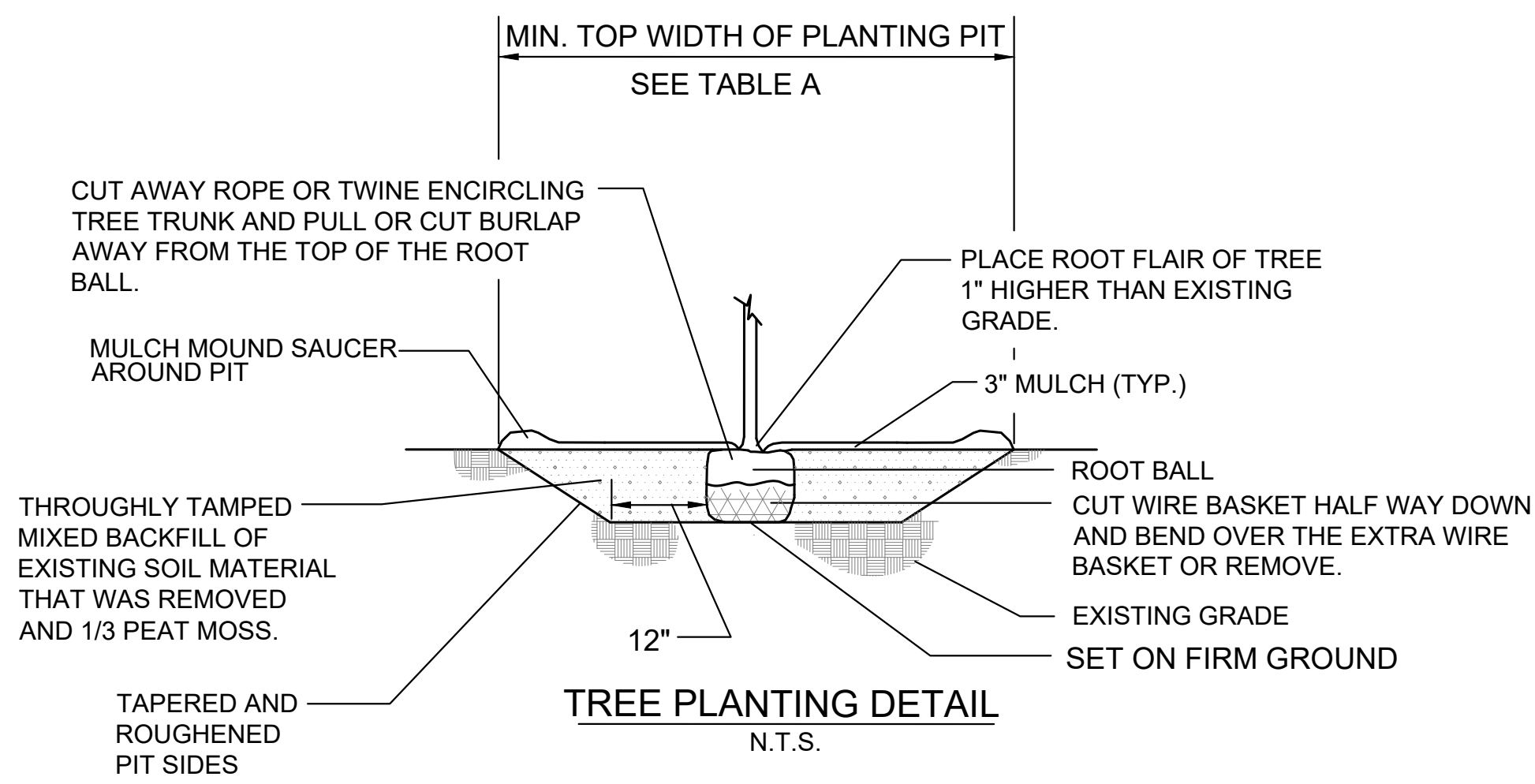
LIMITS OF SWALE CLEARING



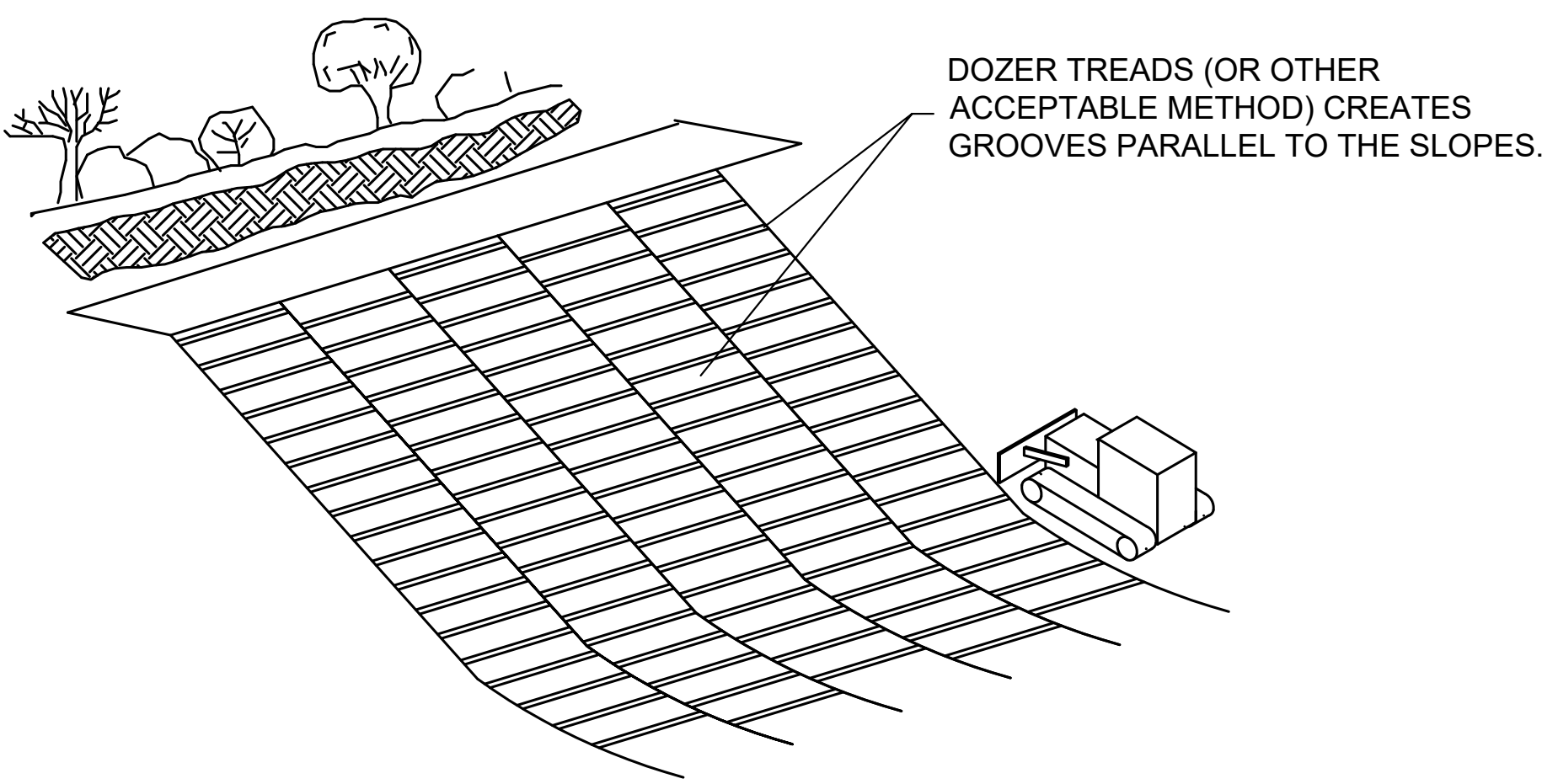
CLEAN DITCH AND CLEAR BRUSH-CONCRETE PAVED DITCH



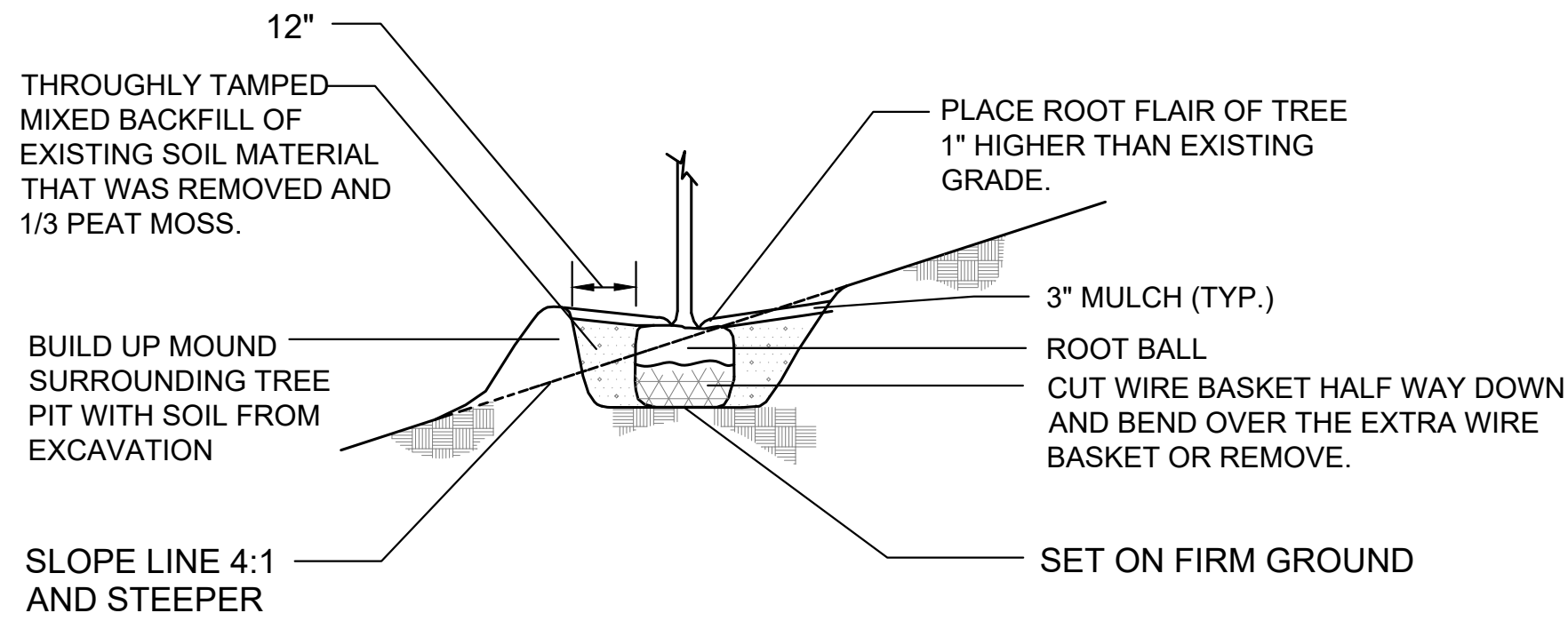
CLEAR BRUSH AND RESHAPE EXISTING EARTH DITCH



NOTE: BEFORE DIGGING THE HOLE FOR THE TREE, REMOVE PART OF THE BURLPAP TO DETERMINE THE ROOT FLAIR. THE ROOT FLAIR MUST BE PLANTED 1" ABOVE FINISHED GRADE.



SLOPE PREPARATION
N.T.S.



SLOPE PLANTING DETAIL FOR
DECIDUOUS AND EVERGREEN TREES
N.T.S.

TABLE A
DECIDUOUS TREES
(B&B, AND WIRE ROOT PROTECTION DEVICES)

(CALIPER) Inches	MIN. TOP DIAMETER OF PLANTING PIT
1"	5'
1"-1.5"	5'
2"	6'
2-2.5"	6'
3"	7'
3-3.5"	7'
4"	8'

HEIGHT
MIN. TOP DIAMETER OF
PLANTING PIT

4'-8'	5'
-------	----

(BARE ROOT)

HEIGHT
MIN. TOP DIAMETER OF
PLANTING PIT

4'-8'	5'
-------	----

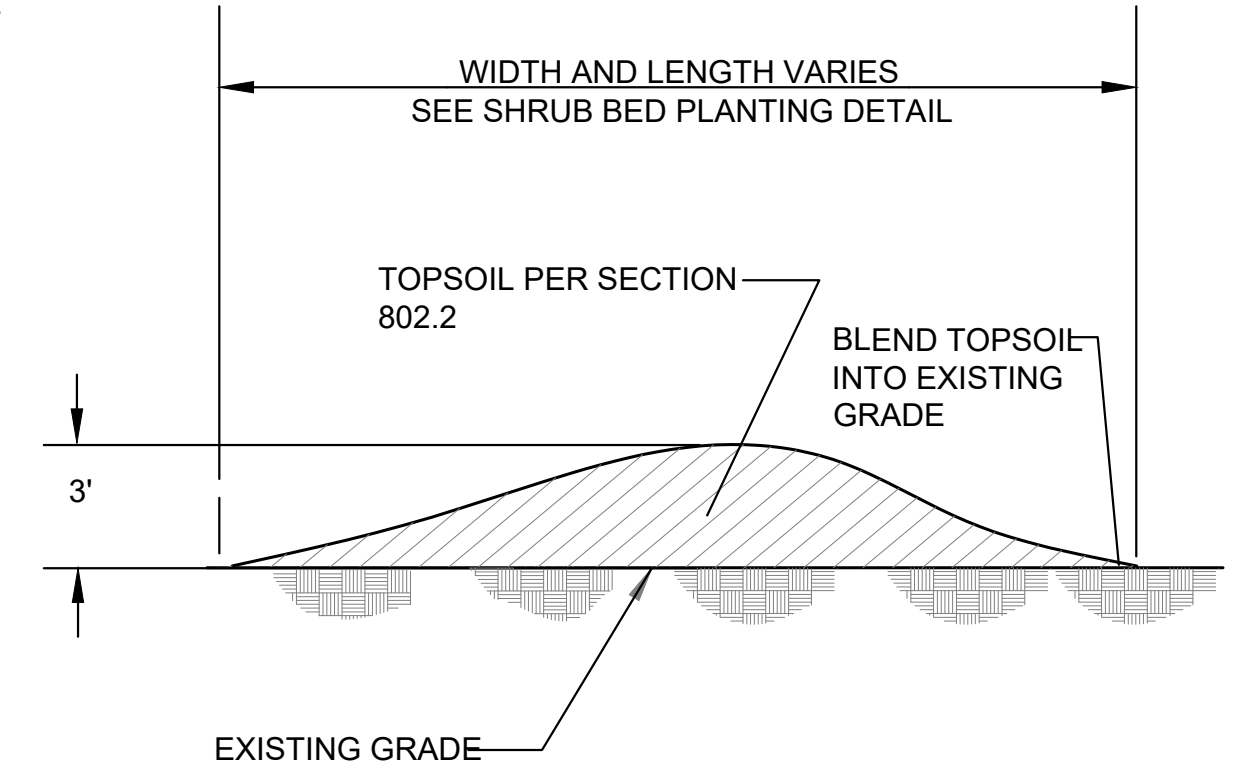
(CONTAINER GROWN)

4' - #2 CONTAINER	3'
5' - #5 CONTAINER	4'
6' - #5 CONTAINER	4'
1-1/4" - #10 CONTAINER	5'
1-1/2" - #15 CONTAINER	5'

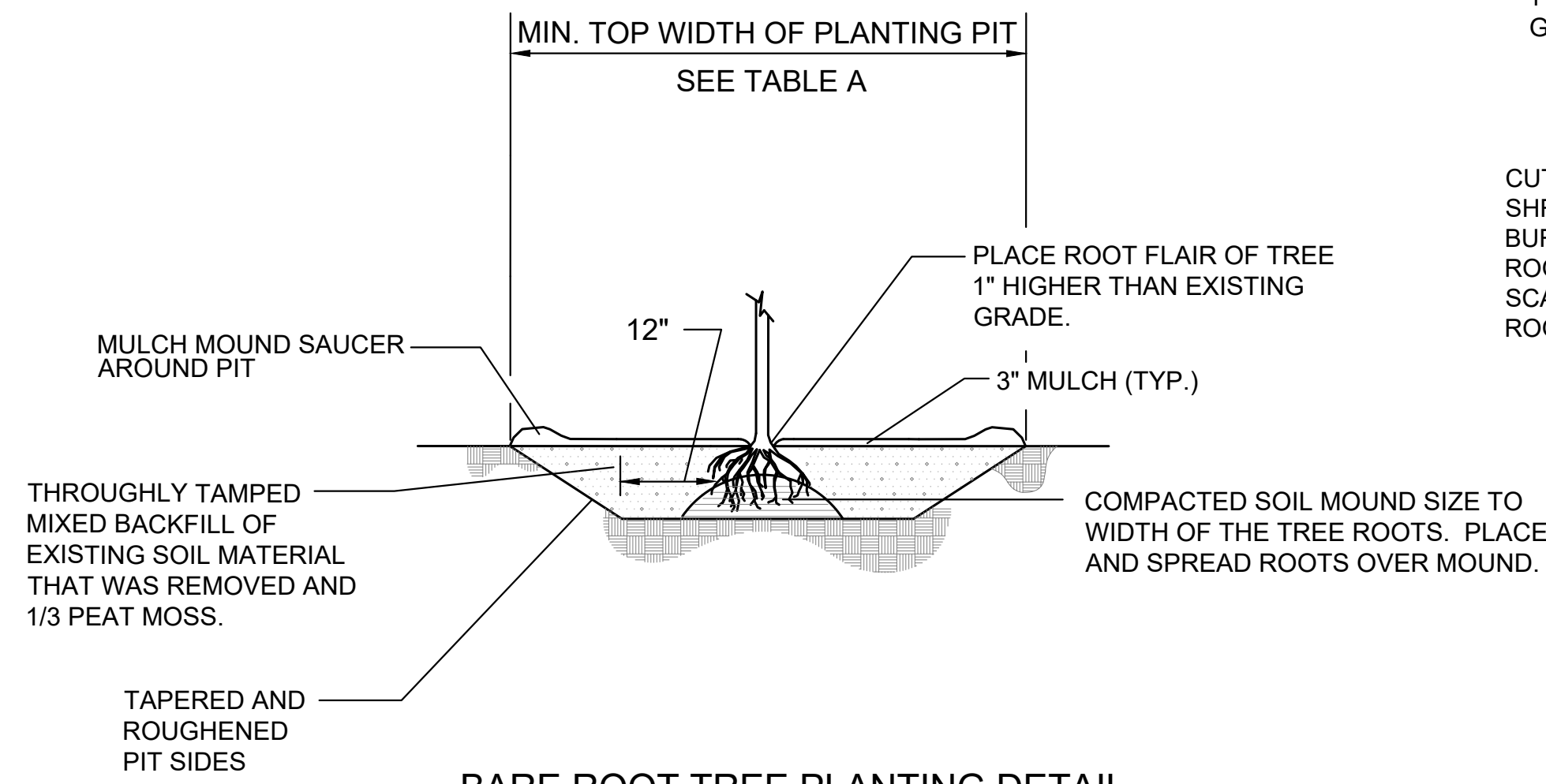
EVERGREEN TREES

TREE HEIGHT
MIN. TOP DIAMETER OF
PLANTING PIT

3'-5.5'	5'
5.5'-8'	6'

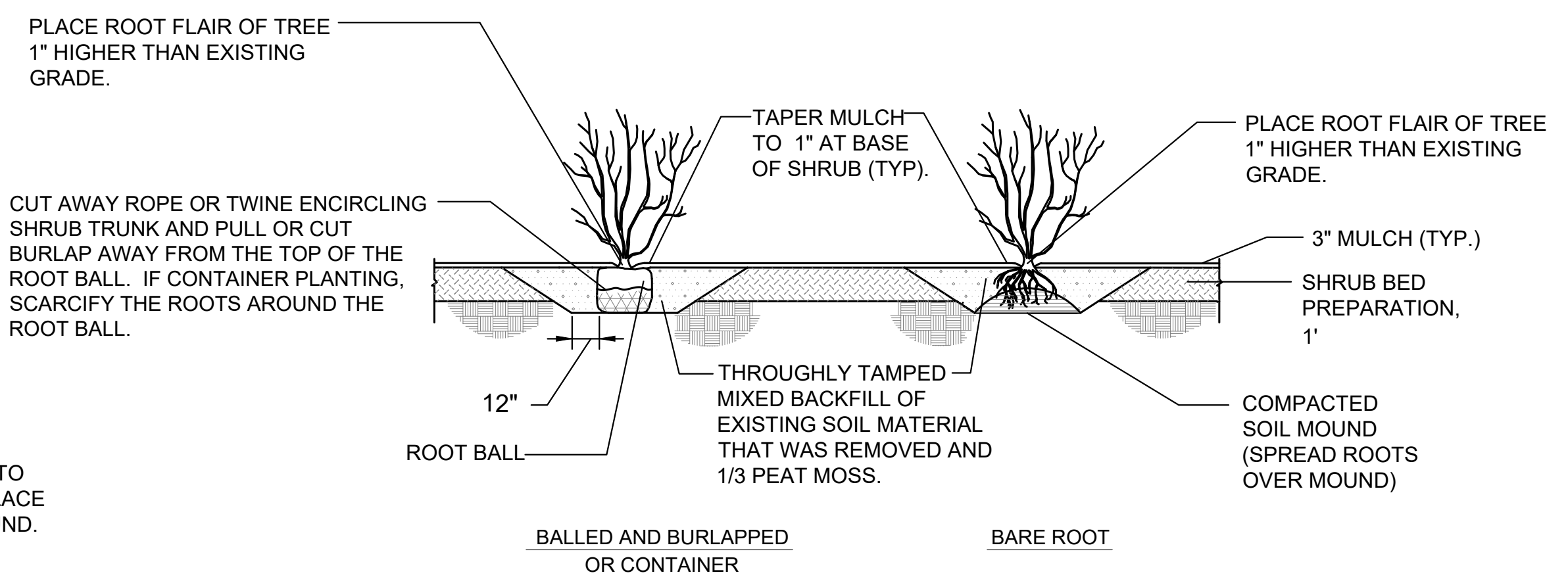


RAISED PLANTING BED DETAIL
N.T.S.



BARE ROOT TREE PLANTING DETAIL
N.T.S.

NOTE: THE ROOT FLAIR MUST BE PLANTED 1" TO 2" ABOVE FINISHED GRADE.



SHRUB PLANTING AND
SHRUB BED PREPARATION DETAILS
N.T.S.



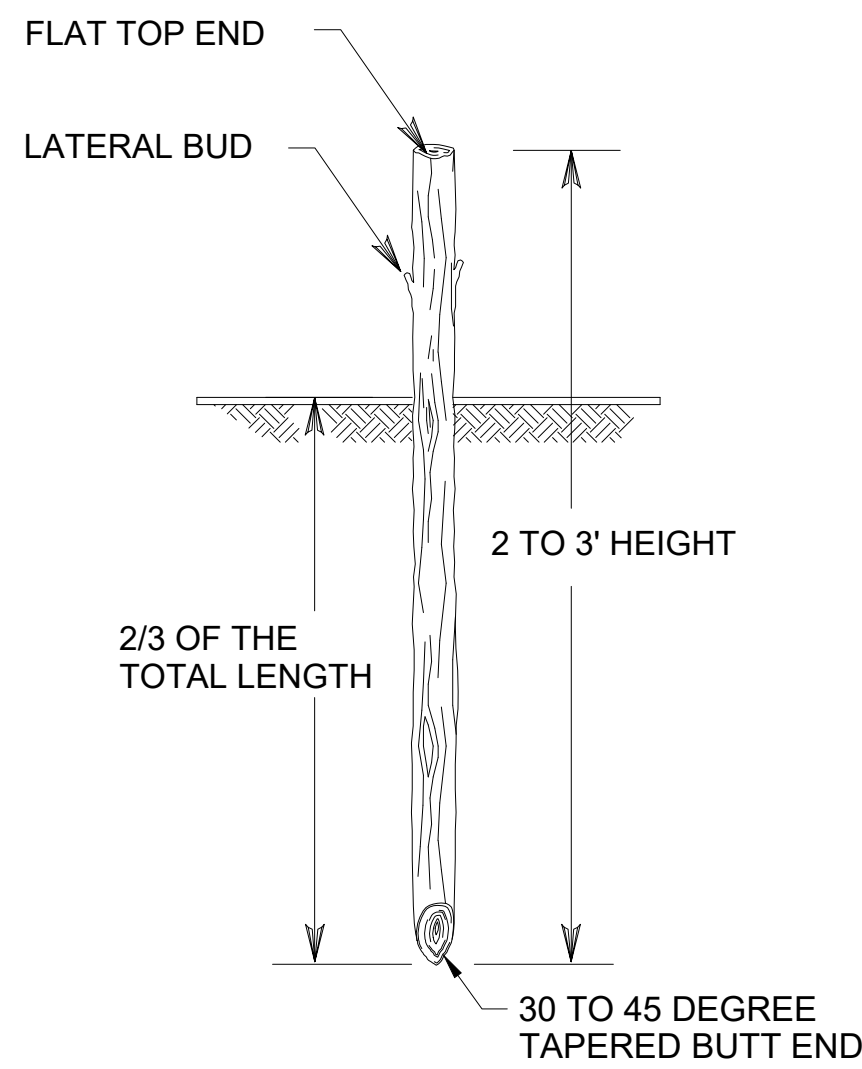
RECOMMENDED: APRIL 30, 2022
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: APRIL 30, 2022
CHIEF ENGINEER

ROADSIDE DEVELOPMENT

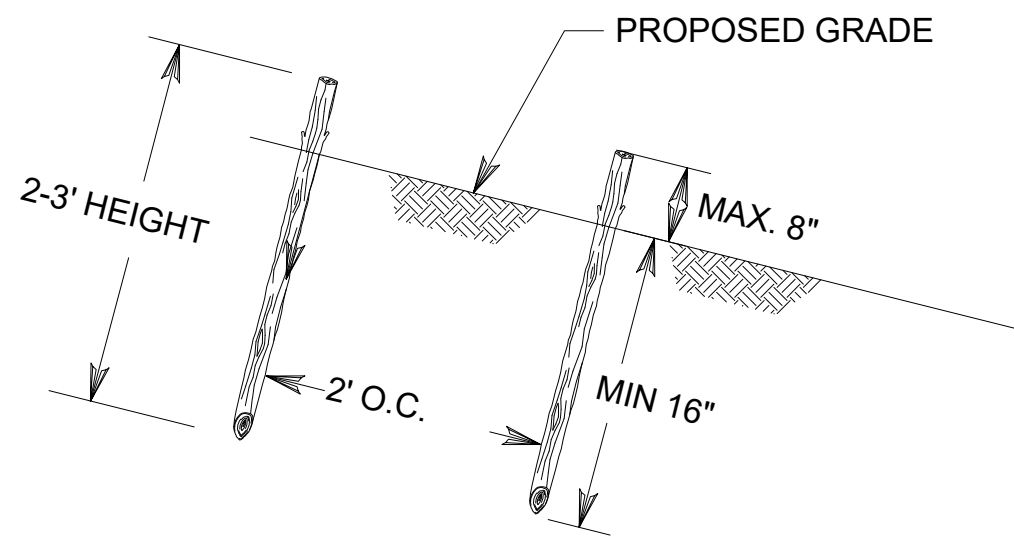
PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-180-2.dwg
DRAWING TYPE: 5A
SHEET 2 OF 3

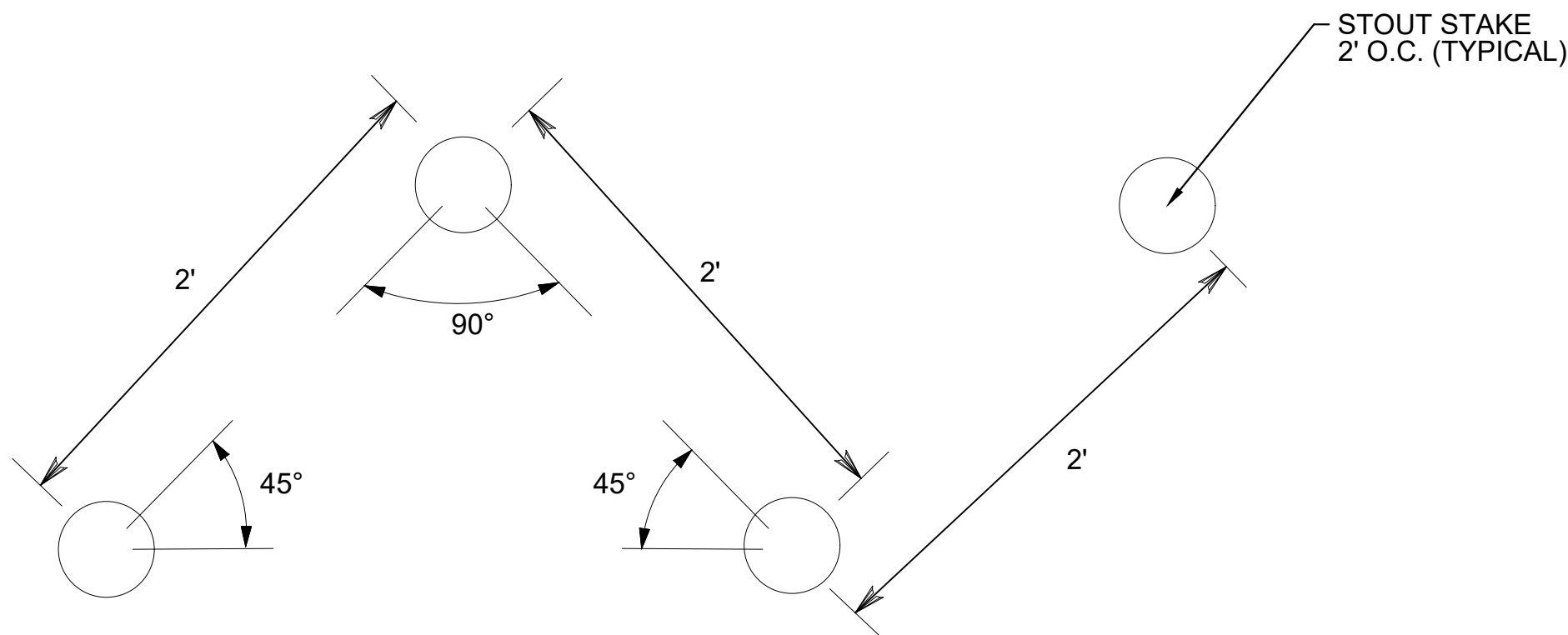
DATE: APRIL 2022
PTS-180



DETAIL
LIVE STAKES



SECTION VIEW
LIVE STAKES

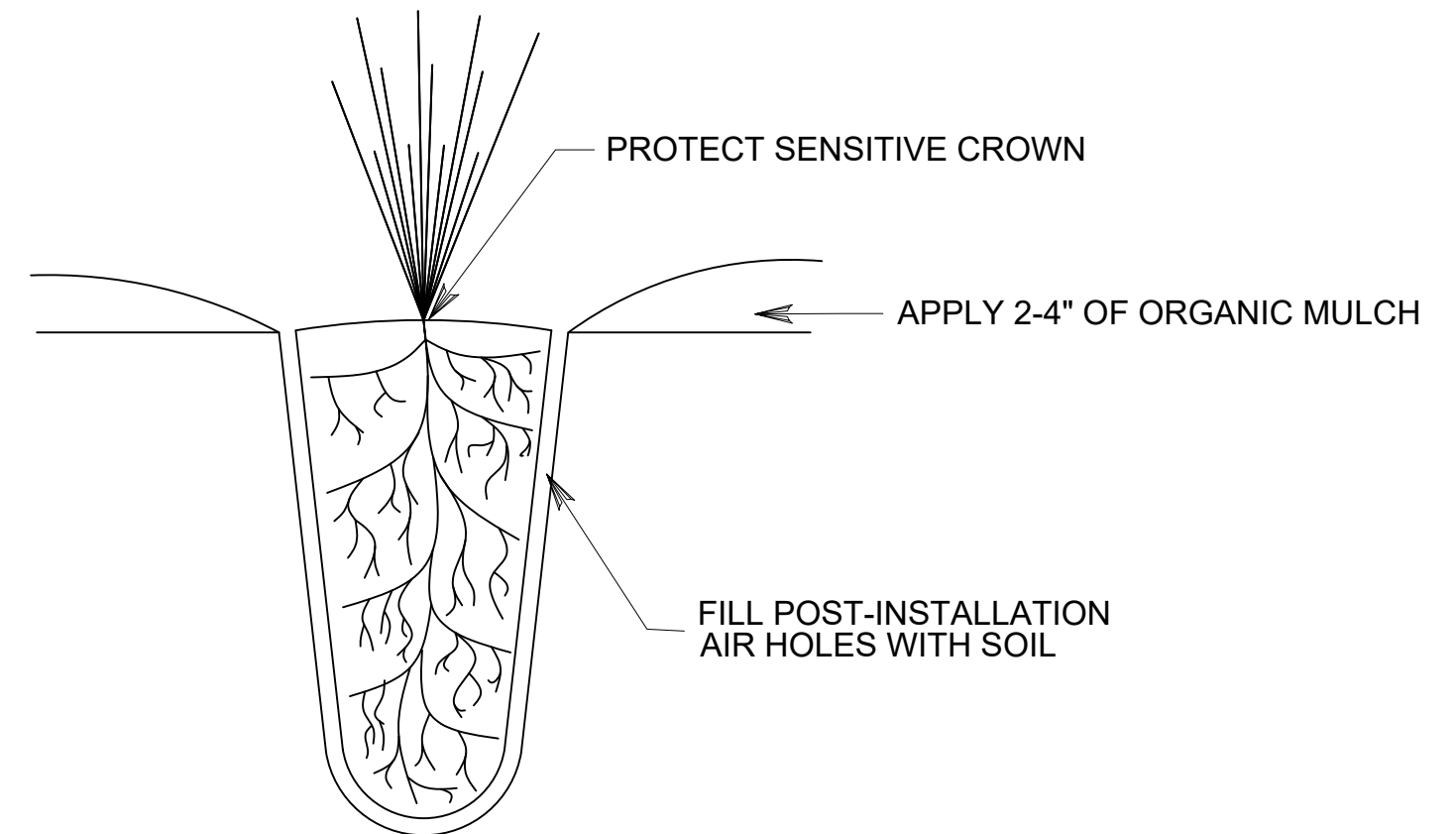


PLAN VIEW
LIVE STAKES

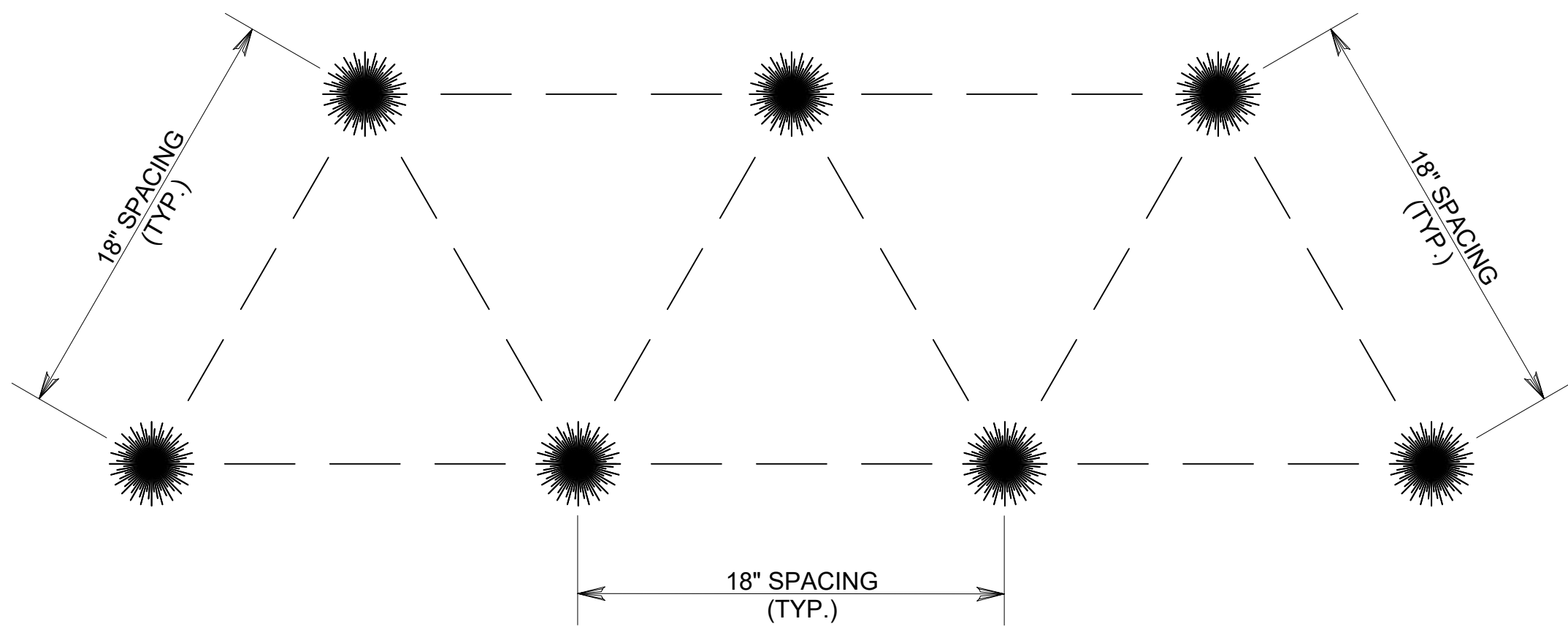
NTS

NOTES:

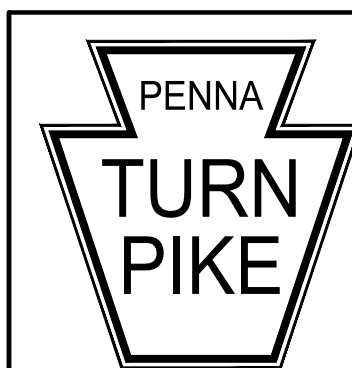
1. CREATE PILOT HOLES 1 TO 2 INCHES IN DIAMETER.
2. WITH THE FLAT SIDE UP, HAMMER LIVE STAKES INTO THE PILOT HOLES UNTIL A MINIMUM OF 2/3RDS IS INTO THE GROUND.
3. LIVE STAKES SHALL HAVE A DIAMETER OF 3/4 TO 1 1/2 INCHES.
4. FIRMLY PACK SOIL AROUND THE LIVE STAKE REMOVING ALL GAPS AND AIR POCKETS
5. SPACE LIVE STAKES 2 FEET APART.



SECTION VIEW
PLUGS



PLAN VIEW
PLUGS



RECOMMENDED: APRIL 30, 2022
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: APRIL 30, 2022
CHIEF ENGINEER

ROADSIDE DEVELOPMENT

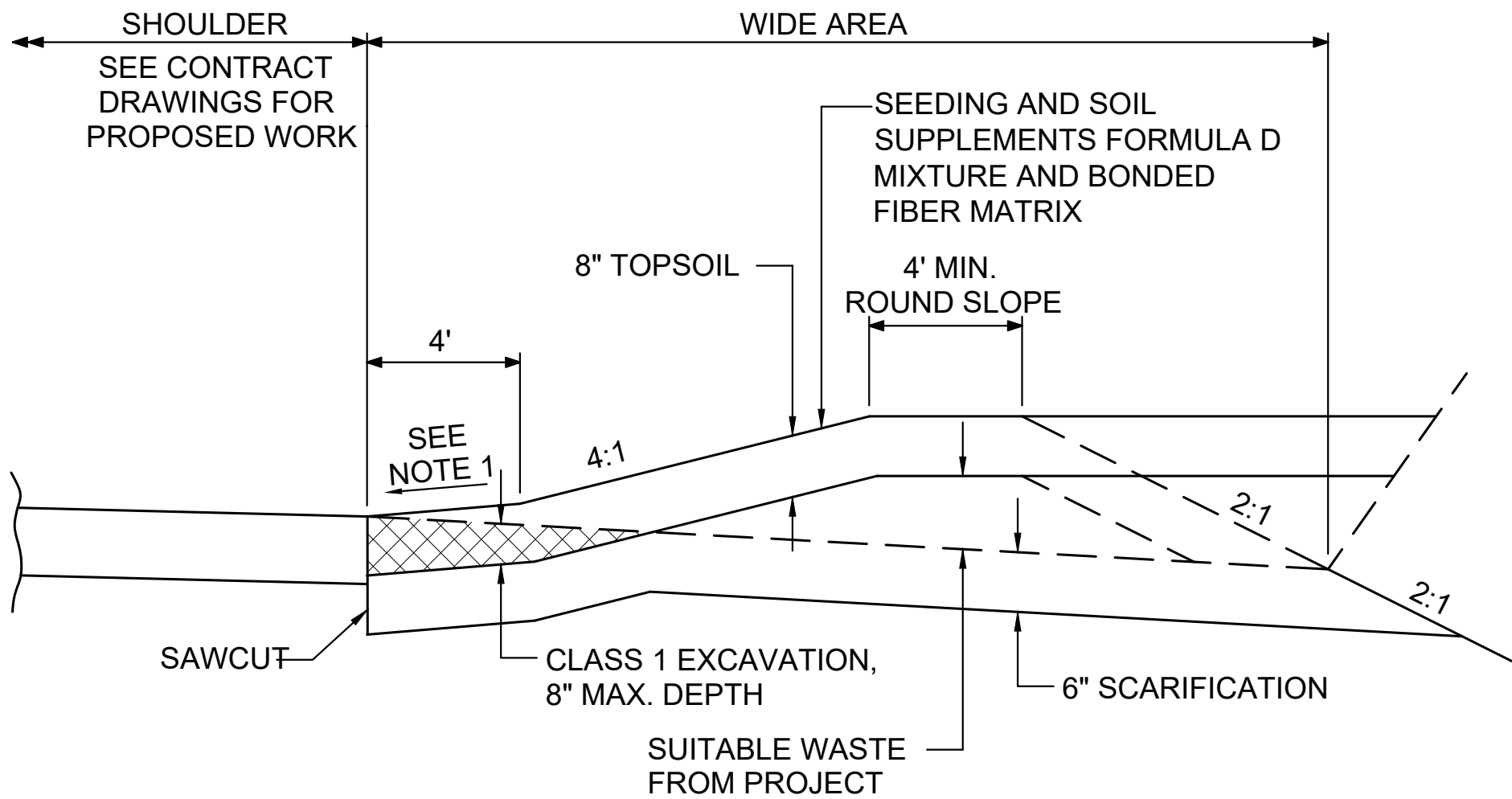
PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-180-1.dwg
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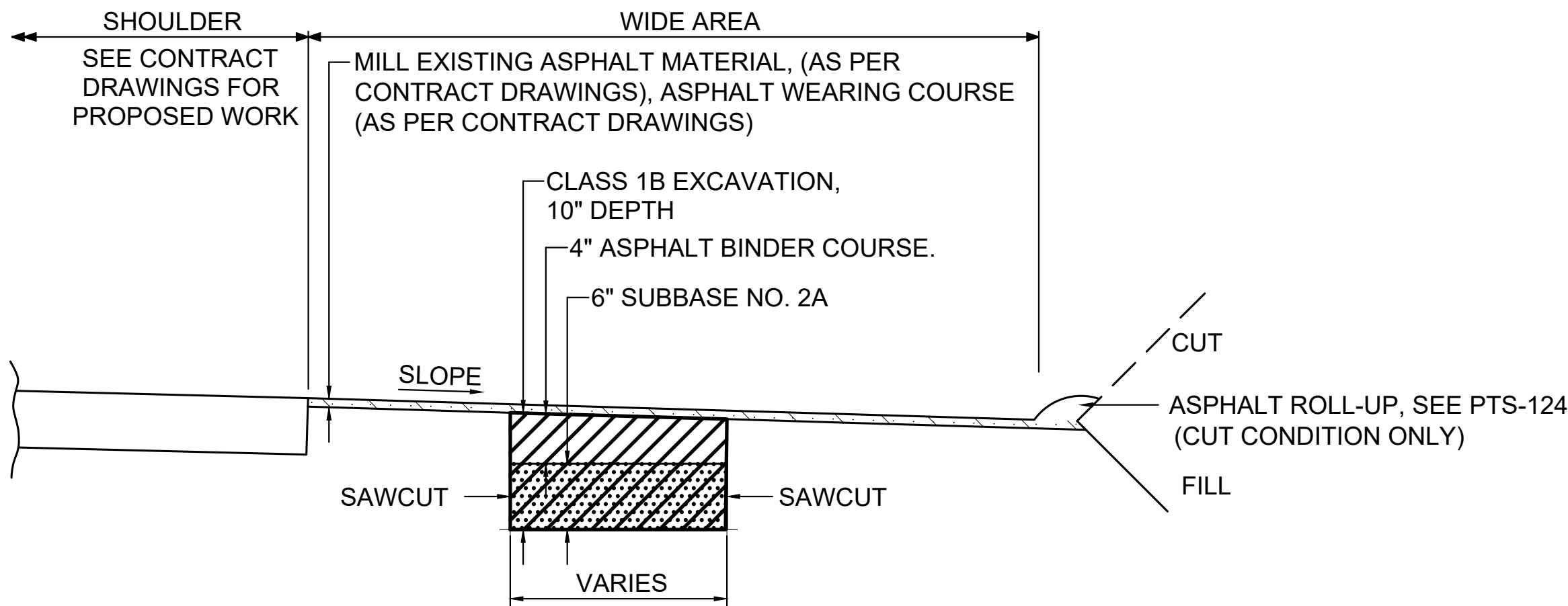
SHEET 3 OF 3

DATE: APRIL 2022
PTS-180

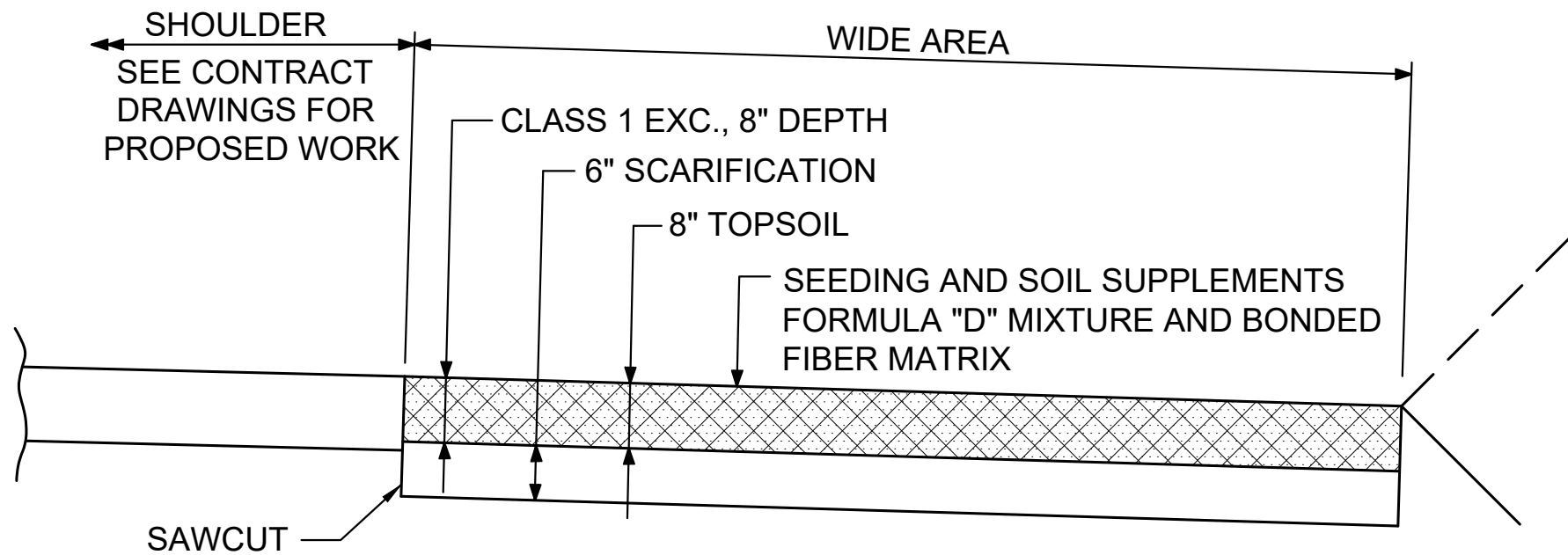
- NOTES:
1. SLOPE FIRST 4-FEET OF MOUND TOWARDS EDGE OF SHOULDER AT 1"/FT IF INLETS EXIST IN THE SHOULDER. IF THERE ARE NO INLETS IN THE SHOULDER, SLOPE AWAY FROM SHOULDER AND GRADE TO DRAIN.
 2. SAWCUT IS NOT REQUIRED IF A MILLING MACHINE IS USED TO PERFORM THE EXCAVATION.



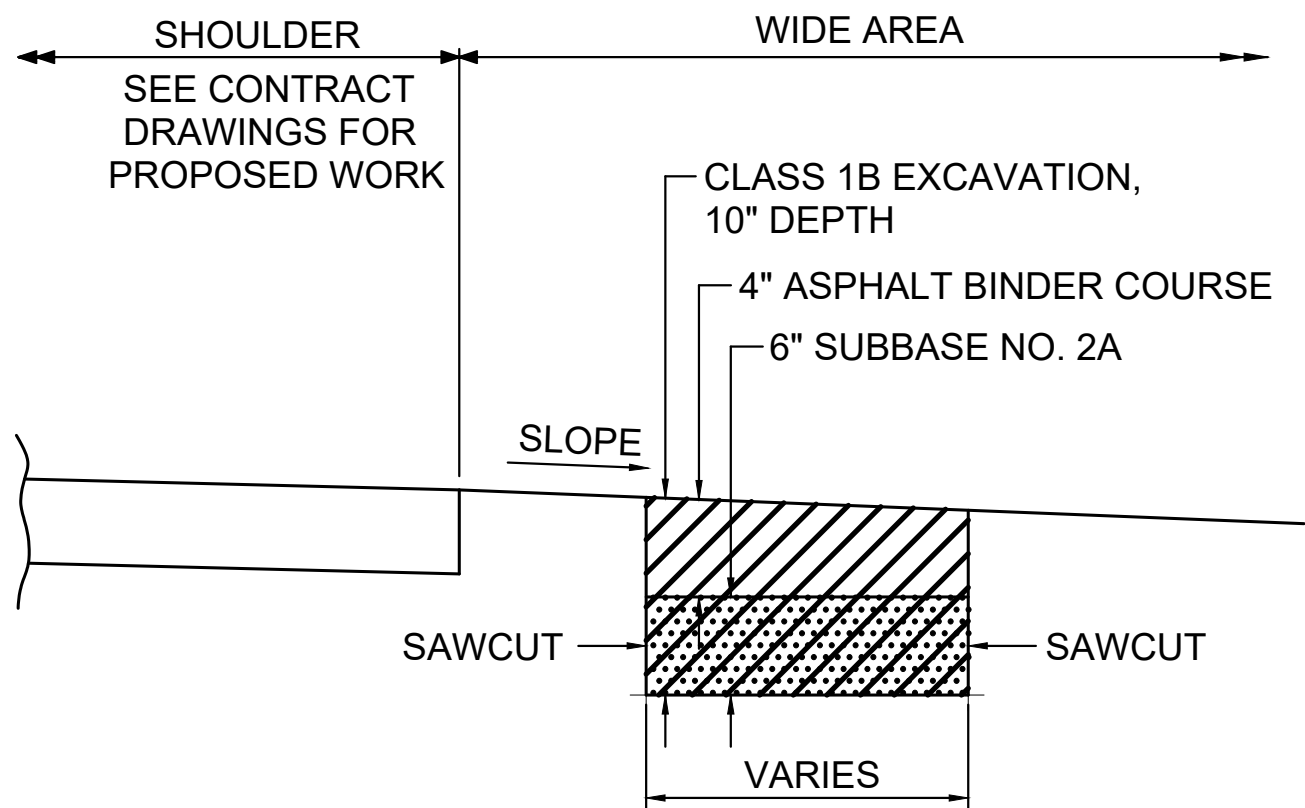
ELIMINATION OF WIDE AREAS, TYPE B




TYPICAL WIDE AREA REPAIR & MILL & OVERLAY



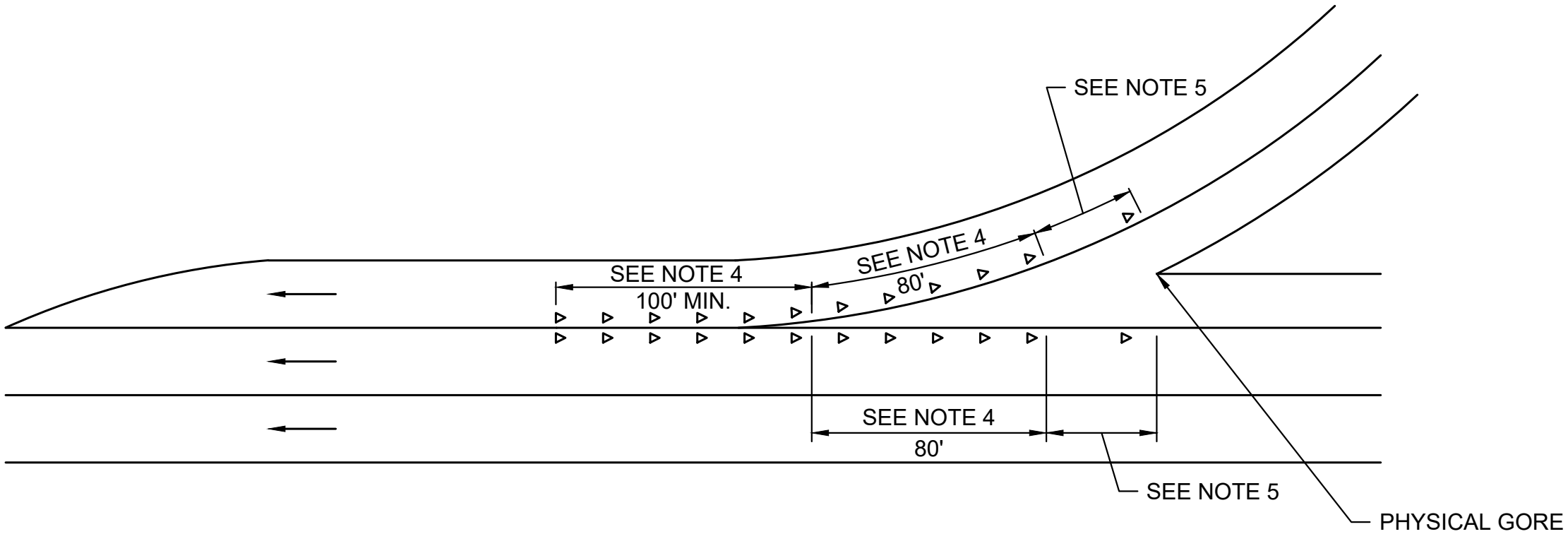
ELIMINATION OF WIDE AREAS, TYPE A



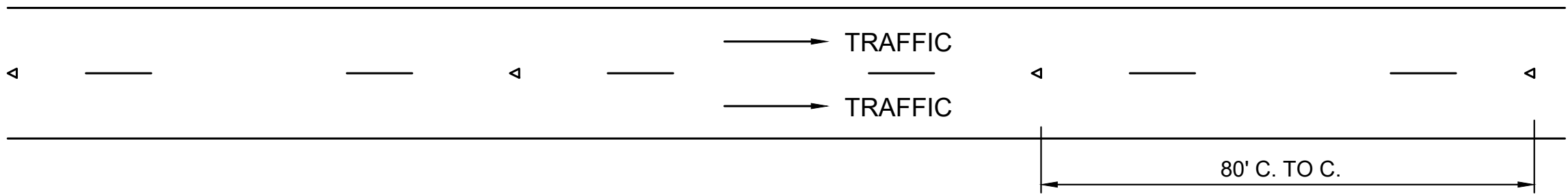
TYPICAL WIDE AREA REPAIR

	RECOMMENDED: APRIL 30, 2022	WIDE AREAS	PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
	ASSISTANT CHIEF ENGINEER - DESIGN		FILE NAME: PTS-181.dwg	SHEET 1 OF 1
	APPROVED: APRIL 30, 2022		DRAWING TYPE: 5A	
	CHIEF ENGINEER		DATE: APRIL 2022	PTS-181

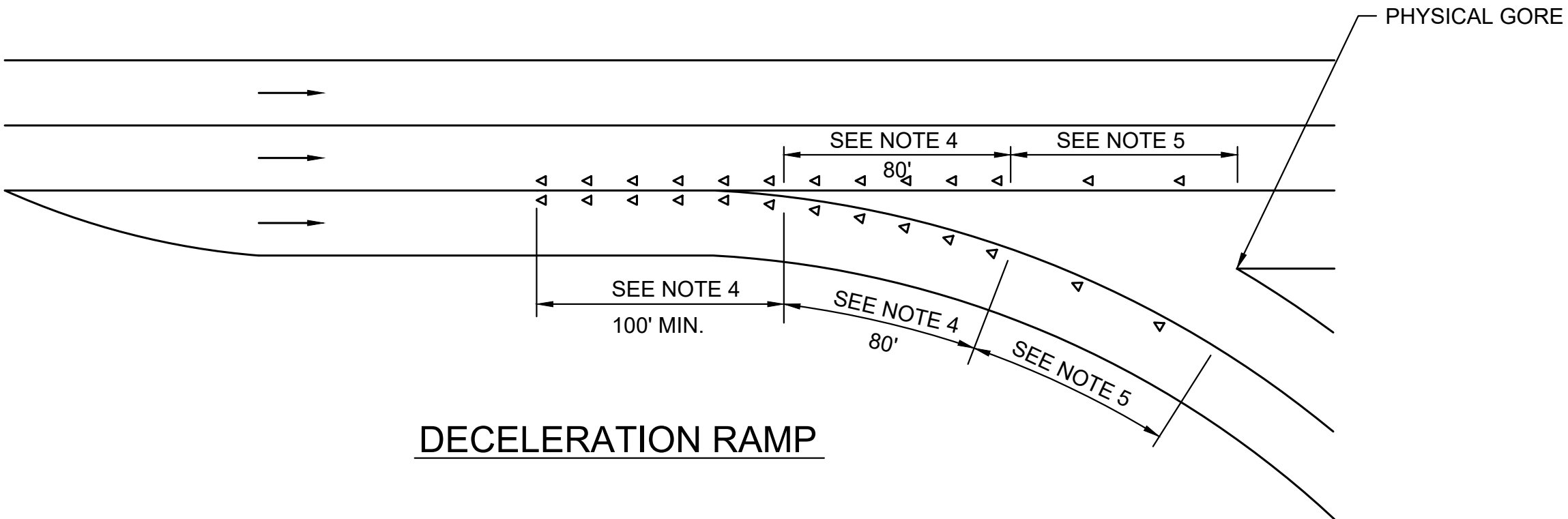
- NOTES:
1. THE REPRESENTATIVE WILL APPROVE THE EXACT LOCATIONS OF THE SNOWPLOWABLE RAISED PAVEMENT MARKERS PRIOR TO INSTALLATION.
 2. TYPICAL SPACING IS 80' C. TO C. EXCEPT ON CURVES GREATER THAN 1° WHERE THE SPACING IS 40' C. TO C. OR AS DIRECTED BY THE REPRESENTATIVE.
 3. LOCATE SNOWPLOWABLE RAISED PAVEMENT MARKERS TWO (2) INCHES FROM THE EDGE OF THE PAINTED GORE LINES AND AS DIRECTED BY THE REPRESENTATIVE.
 4. SPACE SNOWPLOWABLE RAISED PAVEMENT MARKERS AT 20' C. TO C. FOR A DISTANCE OF 100' MIN. BEFORE AND 80' BEYOND THE PAINTED GORE ON THE ACCELERATION AND DECELERATION RAMP.
 5. CONTINUE SNOWPLOWABLE RAISED PAVEMENT MARKERS TO THE PHYSICAL GORE AT 40' C. TO C. SPACING.
 6. INSTALL SNOWPLOWABLE RAISED PAVEMENT MARKERS AFTER FINAL PAVEMENT MARKING.
 7. SEE PTS-980 FOR PLACEMENT OF TRAFFIC LINE MARKINGS.
 8. SEE PTS-192 FOR PLACEMENT OF SONIC NAP ALERT PATTERN (SNAP).
 9. SEE PTS-112 FOR PLACEMENT OF JOINT SEALING AND SNAP.



ACCELERATION RAMP

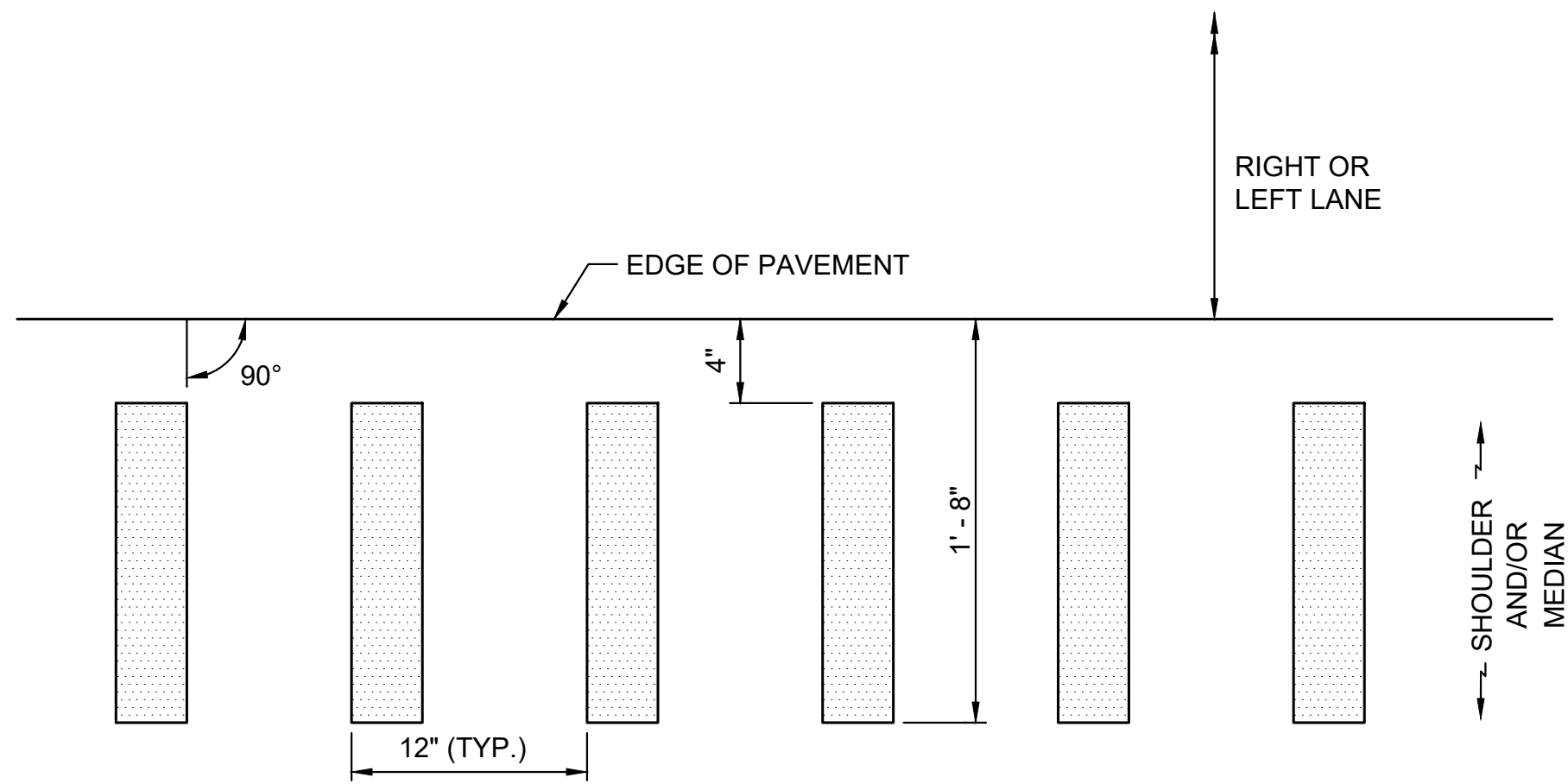


INSTALLATION OF SNOWPLOWABLE RAISED PAVEMENT MARKERS (SRPM)



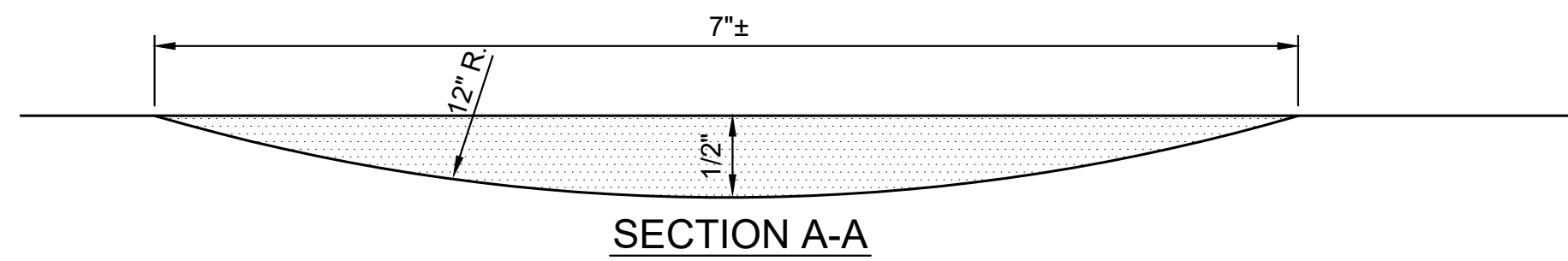
DECELERATION RAMP

	RECOMMENDED: APRIL 30, 2022	SNOWPLOWABLE RAISED PAVEMENT MARKERS (SRPM)	PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWING	
	ASSISTANT CHIEF ENGINEER - DESIGN		FILE NAME: PTS-191.dwg	SHEET 1 OF 1
	APPROVED: APRIL 30, 2022		DRAWING TYPE: 5A	
	CHIEF ENGINEER		DATE: APRIL 2022	PTS-191

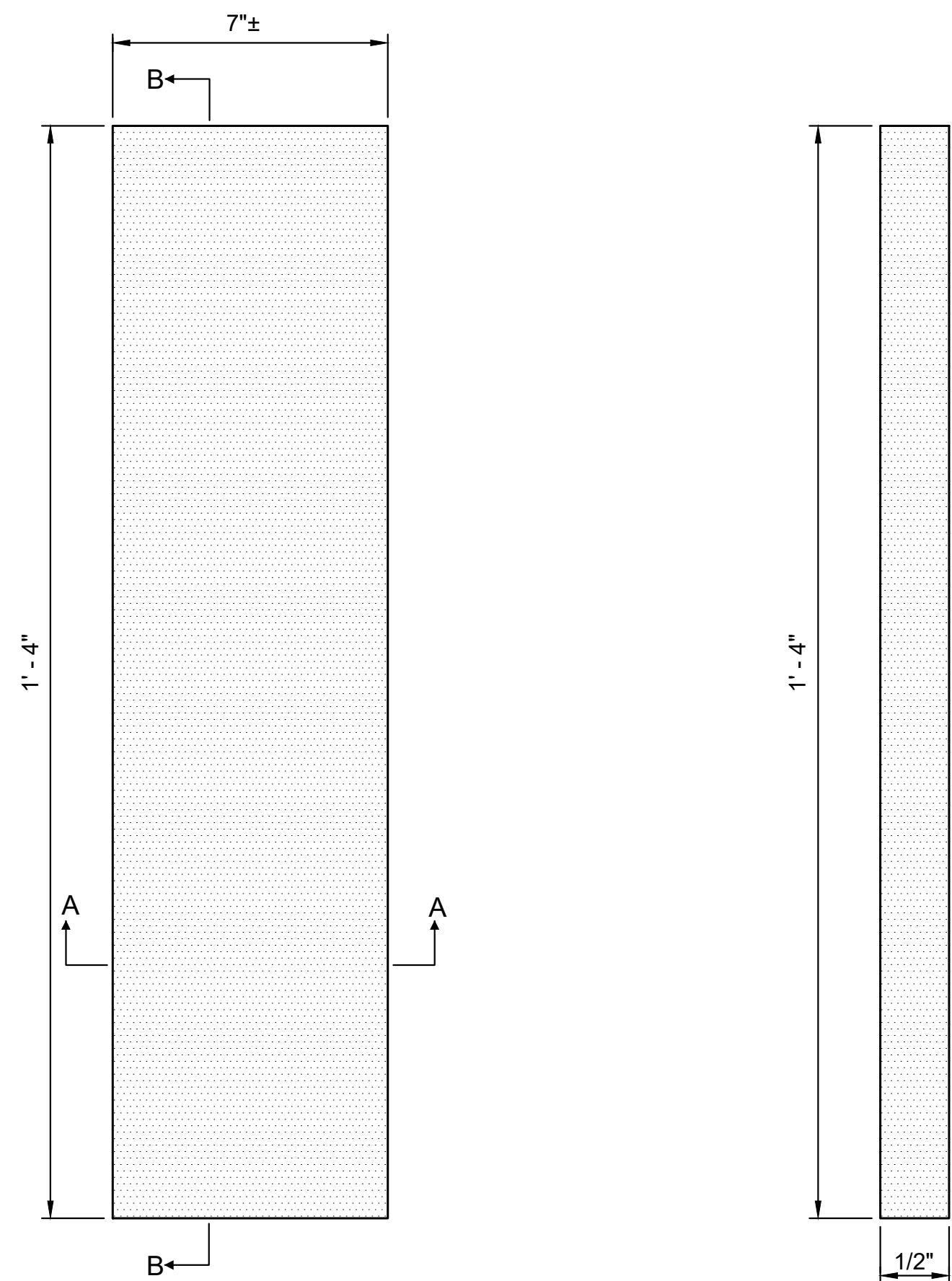


LOCATION DETAIL OF SONIC NAP ALERT PATTERN (SNAP)

SEE NOTE 4



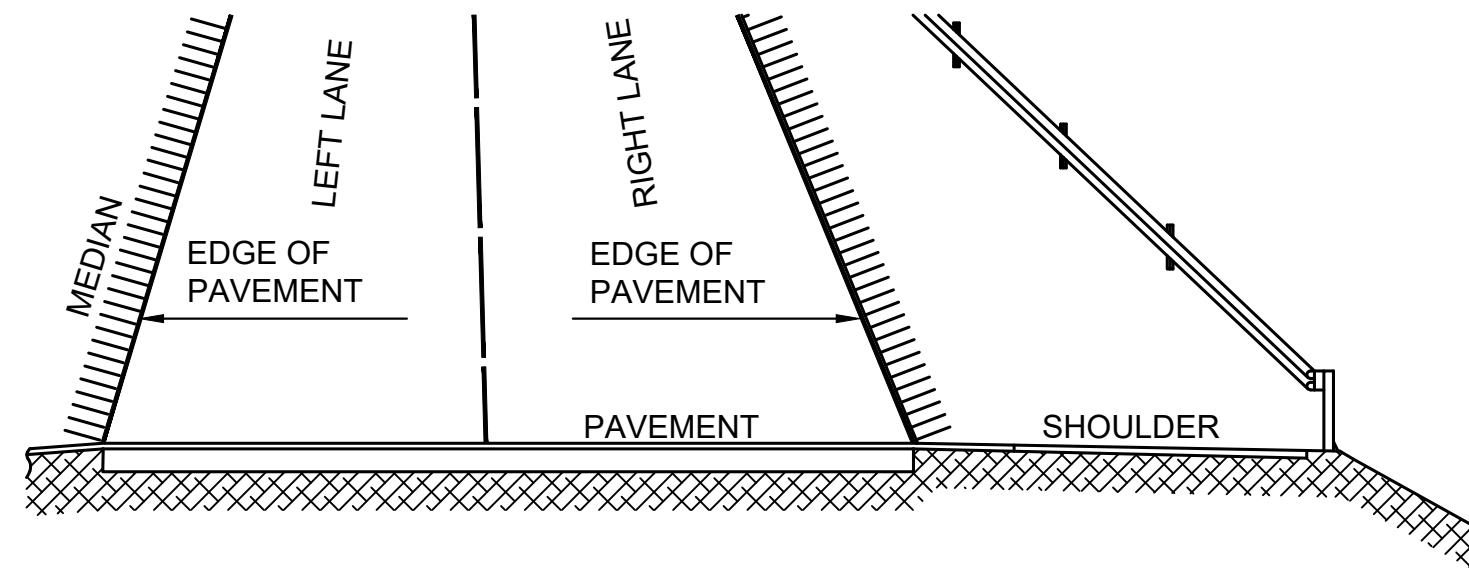
SECTION A-A



PLAN

SECTION B-B

DETAILS OF SONIC NAP ALERT PATTERN (SNAP)



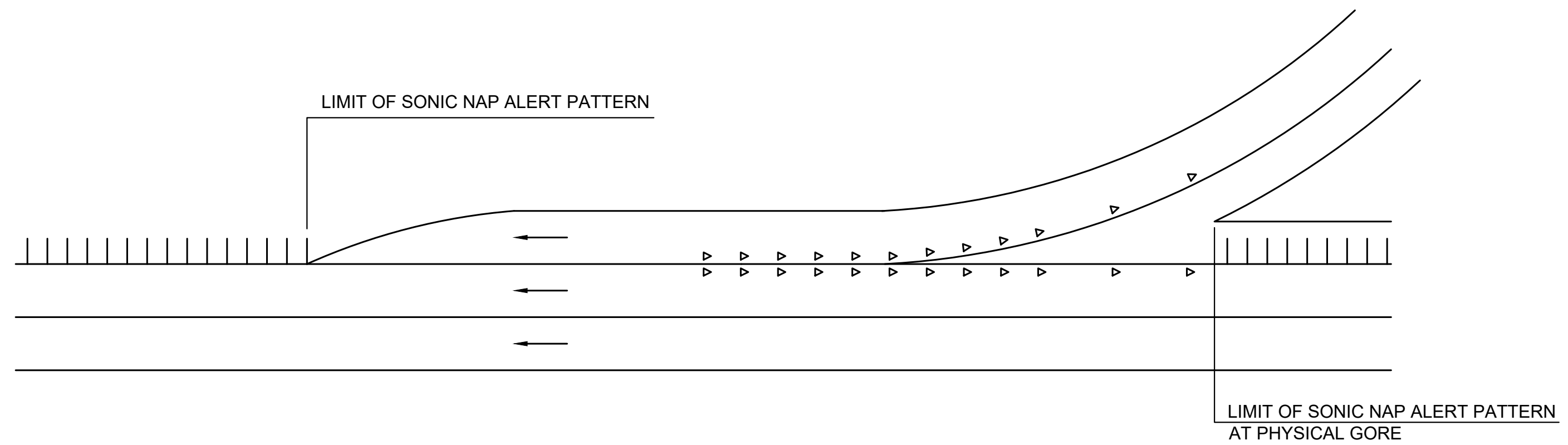
GENERAL VIEW

SONIC NAP ALERT PATTERN
(SNAP)

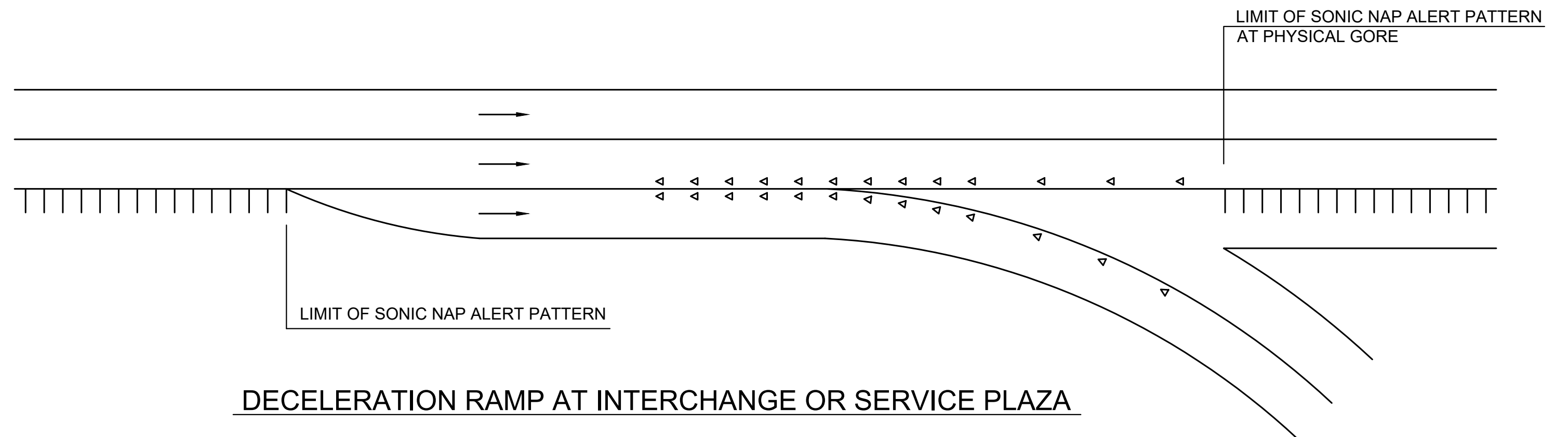
SEE NOTE 4

NOTES:

1. LIMIT OF SONIC NAP ALERT PATTERN ON ACCELERATION RAMP TO BEGIN AT PHYSICAL GORE.
2. LIMIT OF SONIC NAP ALERT PATTERN ON DECELERATION RAMP TO BEGIN AT PHYSICAL GORE.
3. INSTALL SONIC NAP ALERT PATTERN THROUGHOUT PROJECT LIMITS UNLESS OTHERWISE NOTED ON THE CONSTRUCTION PLANS.
4. INSTALL SONIC NAP ALERT PATTERN IN MEDIAN AREA WHEN OVERALL WIDTH OF MEDIAN IS GREATER THAN OR EQUAL TO 18 FEET.
5. INSTALL SONIC NAP ALERT PATTERN AFTER FINAL PAVEMENT MARKINGS.
6. SEE PTS-980 FOR PLACEMENT OF TRAFFIC LINE MARKINGS.
7. SEE PTS-191 FOR PLACEMENT OF SNOWPLOWABLE RAISED PAVEMENT MARKERS (SRPM).
8. SEE PTS-112 FOR PLACEMENT OF JOINT SEALING AND SONIC NAP ALERT PATTERN.



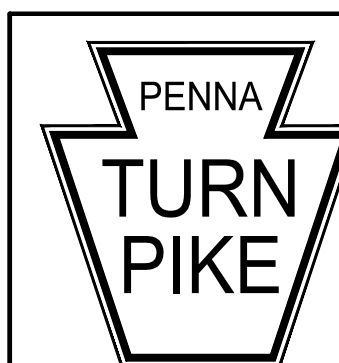
ACCELERATION RAMP AT INTERCHANGE OR SERVICE PLAZA



DECELERATION RAMP AT INTERCHANGE OR SERVICE PLAZA

LEGEND:

- ◁ ▷ SNOWPLOWABLE RAISED PAVEMENT MARKER (SRPM)
- ||| SONIC NAP ALERT PATTERN (SNAP)



RECOMMENDED: APRIL 30, 2022
ASSISTANT CHIEF ENGINEER - DESIGN
APPROVED: APRIL 30, 2022
CHIEF ENGINEER

SONIC NAP ALERT PATTERN
(SNAP)

PENNSYLVANIA TURNPIKE COMMISSION
STANDARD DRAWING

FILE NAME: PTS-192.dwg
DRAWING TYPE: 5A

SHEET 1 OF 1

DATE: APRIL 2022

PTS-192