SOUNDTRANSIT
CENTRAL PUGET SOUND REGIONAL TRANSIT AUTHORITY

CIVIL / TRACK / STRUCTURAL STANDARD DRAWINGS

MARCH 2024

STANDARD DRAWINGS ENSURE THE APPLICATION OF UNIFORM STANDARDS FOR THE DESIGN, FABRICATION, INSTALLATION, AND CONSTRUCTION OF SPECIFIC ITEMS OF WORK FOR THE SOUND TRANSIT LINK LIGHT RAIL, SOUNDER COMMUTER RAIL, REGIONAL EXPRESS BUS, AND STRIDE BUS RAPID TRANSIT SYSTEMS. STANDARD DRAWINGS ARE PRESCRIPTIVE DOCUMENTS FOR ALL PROJECTS.

STANDARD DRAWINGS SHALL BE USED IN THE DESIGN OF INTERFACE POINTS, PROJECT SPECIFIC ITEMS OF WORK OR AS A BASIS FOR PRESENTATION OF DESIGN INFORMATION. THE DESIGNER OF RECORD SHALL REVIEW THE STANDARD DRAWINGS IN CONJUNCTION WITH OTHER CONTRACT DOCUMENTS, AND VALIDATE, FINALIZE, STAMP, AND SIGN THESE DRAWINGS FOR INCLUSION INTO THE PROJECT CONTRACT DOCUMENTS.

IF THE DESIGNER RECOMMENDS THAT AN ASPECT OR ASPECTS OF THESE STANDARD DRAWINGS BE MODIFIED, THE DESIGNER SHALL INFORM THE DESIGN MANAGER ON THE PROJECT AND SECURE CONCURRENCE FROM ENGINEERING FOLLOWING MODIFICATION PROCESS IDENTIFIED IN ENGINEERING PROCEDURES.

THE STANDARD DRAWINGS DO NOT SUBSTITUTE FOR THE DESIGNER'S USE OF INDEPENDENT ENGINEERING JUDGEMENT AND SOUND ENGINEERING PRACTICE, NOR DO THEY RELIEVE THE DESIGN CONSULTANT FROM THE PROFESSIONAL RESPONSIBILITY OF DEVELOPING AN APPROPRIATE DESIGN AND COMPLYING WITH THE STANDARD OF CARE.

CIVIL / TRACK / STRUCTURAL STANDARD DRAWINGS
APPLICABILITY OF CURRENT VERSION
SUPERSEDES AUGUST 2019 VERSION
FOR PROJECTS THAT ARE BASELINED AFTER MARCH 29, 2024

DRAWING No.:
STD-GZT001
REV:
1

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Design and Engineering Design Standards Documents

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APPLICABILITY FOR
Design and Engineering Design Standards Documents

Project teams shall refer to their executed project contracts for applicable document versions/revisions.

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DWG. No.	REV	TITLE
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CIVIL		
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DRAWING NUMBER	**REV**	**TITLE**
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STD-SWD101	1	AERIAL GUIDEWAY EMERGENCY RAILING/ACOUSTIC BARRIER SYSTEM
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No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	REVISED STANDARD DRAWINGS
0	8/2019	----	----	----	CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -
DATE: 2/2024

LINE IS 1" AT FULL SCALE

SCALE: NTS
FILENAME: STD-GZI001
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
INDEX OF DRAWINGS

DRAWING No.: **STD-GZI001**
FACILITY ID:
SHEET No.: 1
REV:

03/29/24 | 10:22 AM | HARRISBK
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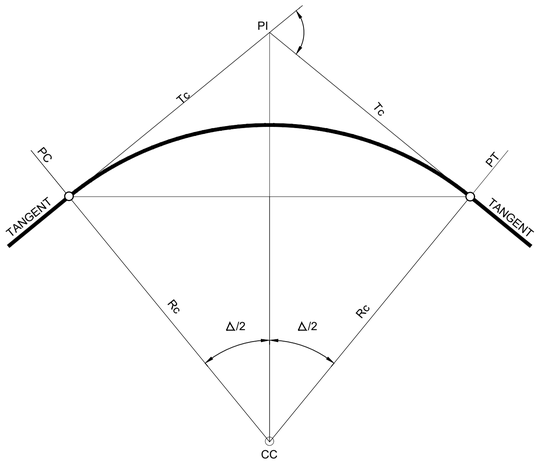
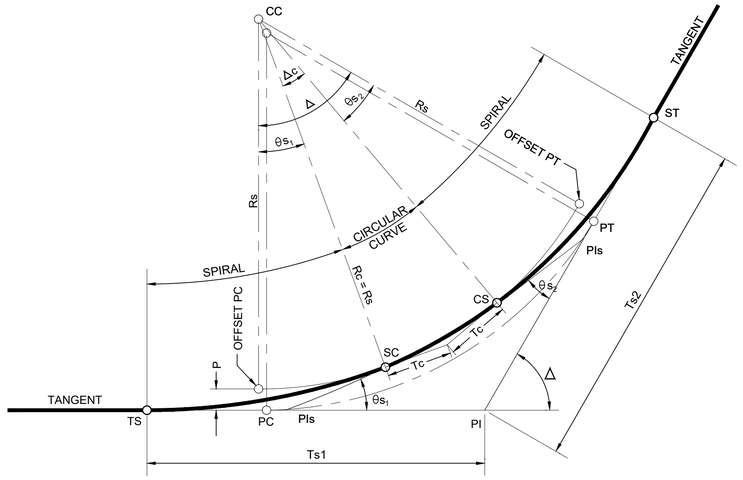


SIMPLE CIRCULAR CURVE
NTS



CIRCULAR CURVE WITH SPIRAL
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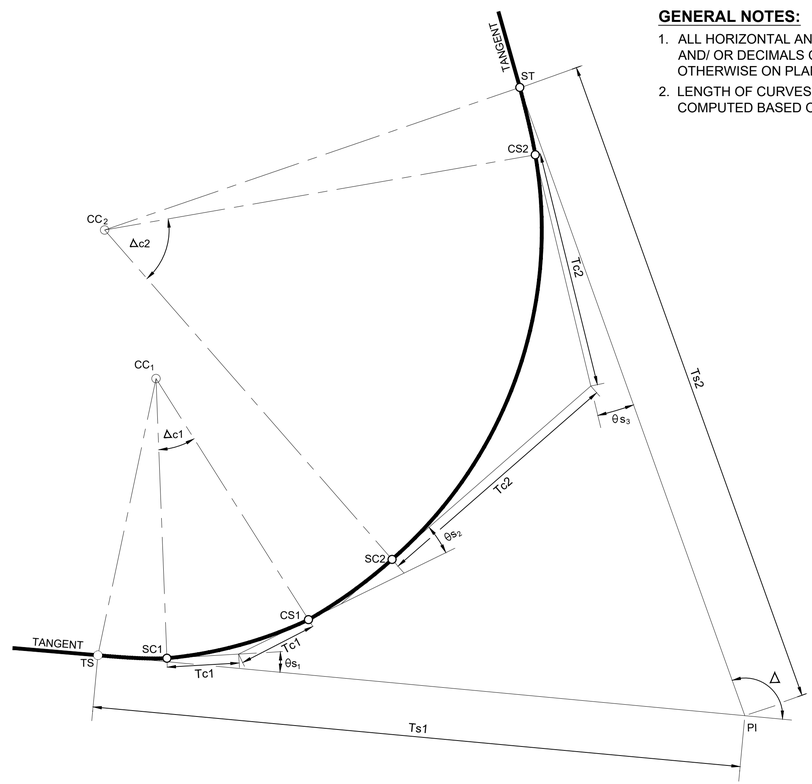
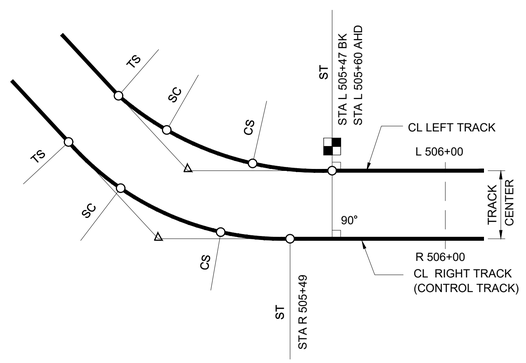
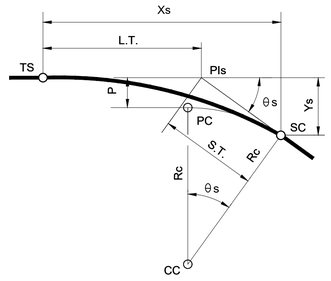


COMPOUND CURVE WITH JOINING SPIRALS
NTS

GENERAL NOTES:

1. ALL HORIZONTAL AND VERTICAL DISTANCES ARE IN FEET AND/ OR DECIMALS OF A FOOT EXCEPT AS NOTED OTHERWISE ON PLANS.
2. LENGTH OF CURVES AND STATIONING SHOULD BE COMPUTED BASED ON THE ARCH DEFINITION.





SIMPLE SPIRAL
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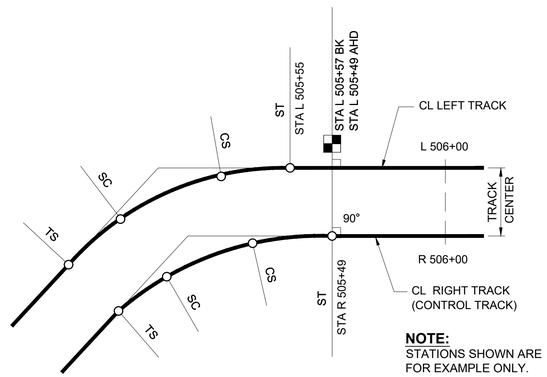
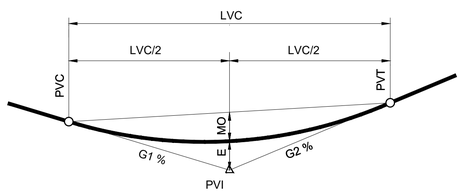


NOTE:
STATIONS SHOWN ARE FOR EXAMPLE ONLY.

STATION EQUATION DEVELOPMENT
NTS



SAG VERTICAL CURVE
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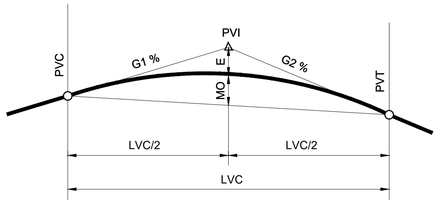

CREST VERTICAL CURVE
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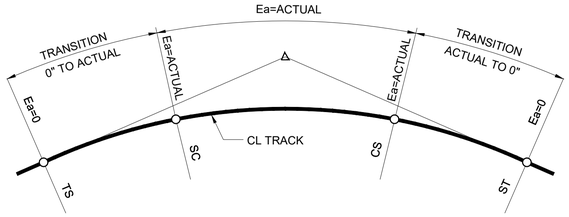

SUPERELEVATION DEVELOPMENT
NTS

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL ARCH SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD002
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
CURVE SYMBOLS AND SUPERELEVATION TRANSITION

DRAWING No.: **STD-KAD002**
FACILITY ID:
SHEET No.: 2
REV:

03/21/24 | 8:47 AM | HARRISBK
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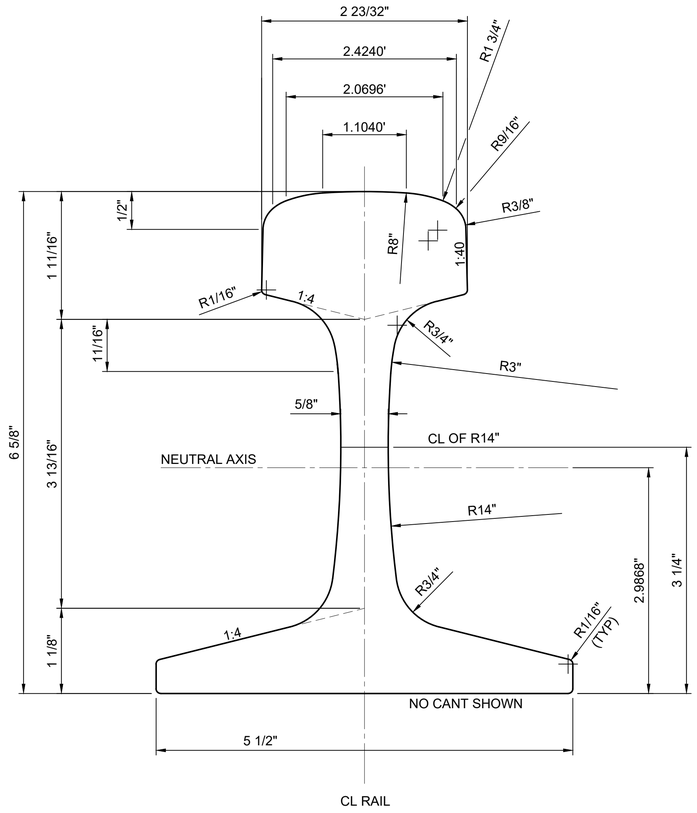
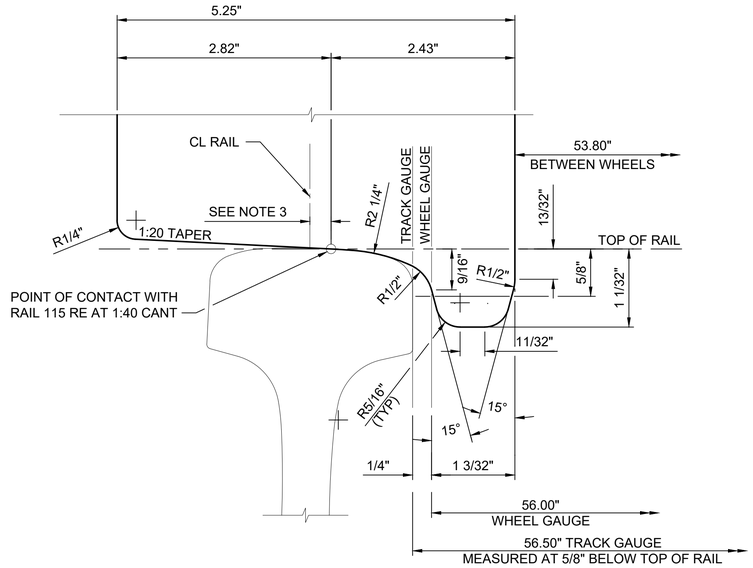


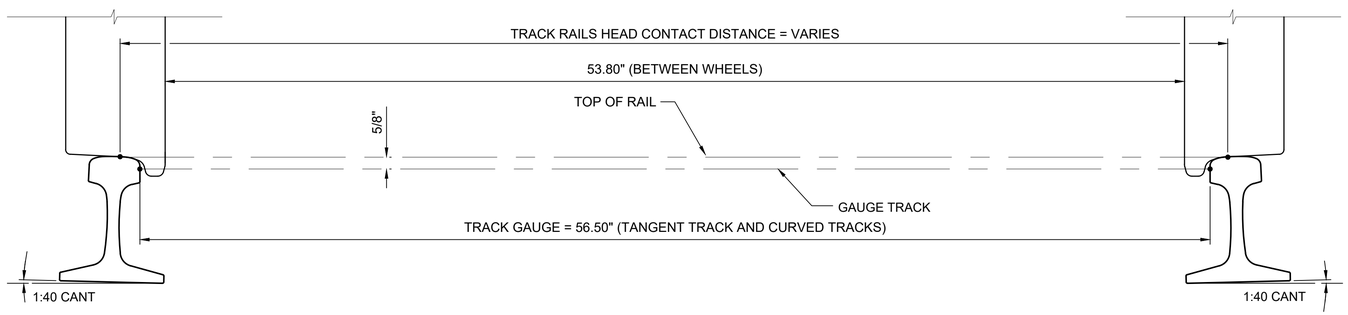
TRACK RAILS - 115 RE

SCALE: 12" = 1'-0"



LRV WHEEL AND FLANGE PROFILE

SCALE: 12" = 1'-0"



TRACK GAUGE, RAIL AND WHEELS POSITION

SCALE: 3" = 1'-0"

GENERAL NOTES:

1. TRACK RAILS AND CONTRACT DOCUMENTS ARE PREPARED WITH 115 RE RAIL SECTION.
2. DETAILS SHOW NEW WHEEL AND STANDARD 115 RE TRACK RAILS.
3. 1/4" NOMINAL DIMENSION, BUT DIMENSION VARIES WITH ALTERNATIVE RAIL PROFILES.

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
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APPROVED BY:

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DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SCALE: AS NOTED
FILENAME: STD-KAD010
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
115RE RAIL AND WHEEL POSITION DETAILS

DRAWING No.: STD-KAD010
FACILITY ID:
SHEET No.: 2
REV:

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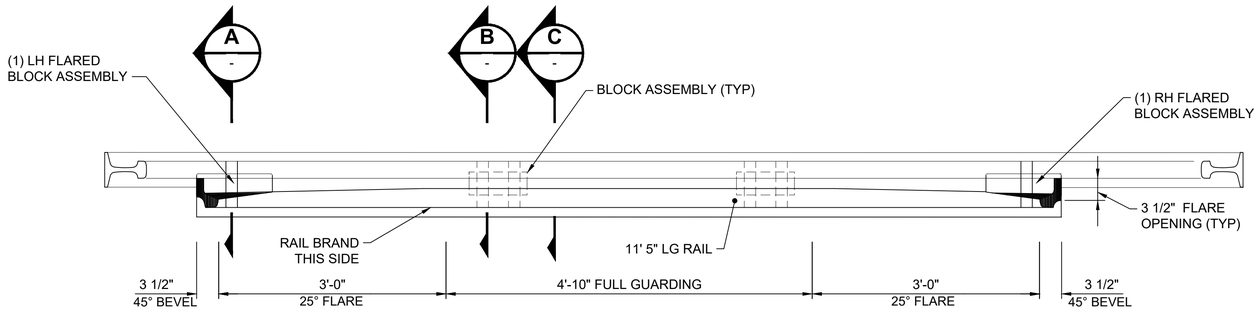
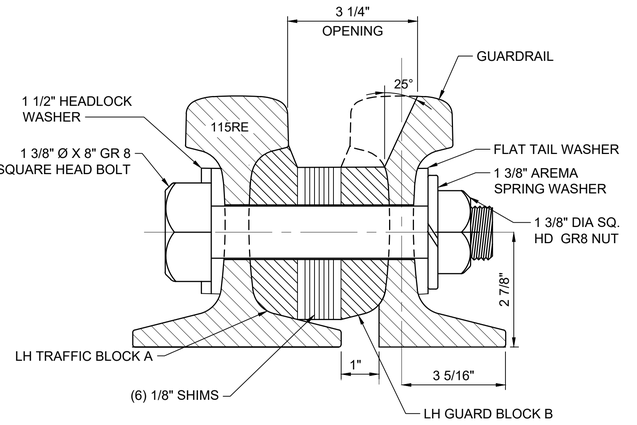
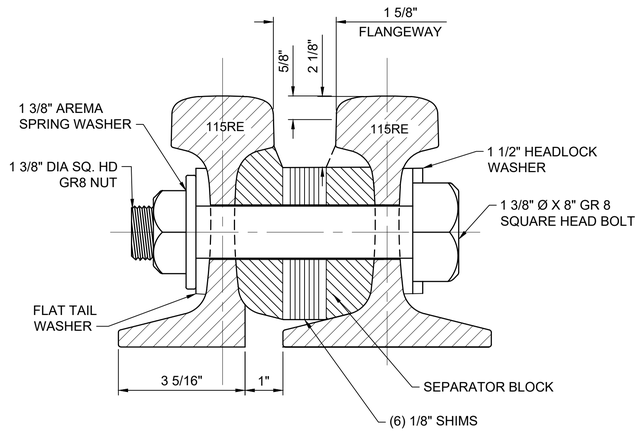


11' 5" GURARD RAIL ASSEMBLY DETAIL

NTS



SECTION A
NTS



SECTION B
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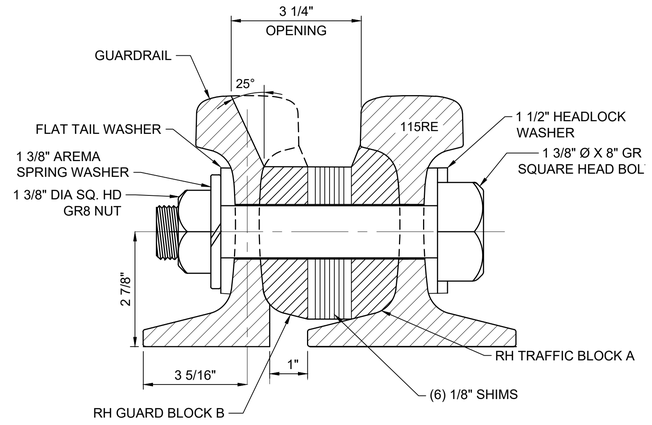

SECTION C
NTS

No.	DATE	DSN	CHK	APP	REVISION
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0	2/2024	----	----	----	2024 NEW STANDARD DRAWINGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD011
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
11'-5" 115RE GUARD RAIL ASSEMBLY

DRAWING No.: **STD-KAD011**
FACILITY ID:
SHEET No.: REV: 0

03/26/24 | 7:15 AM | HARRISBK
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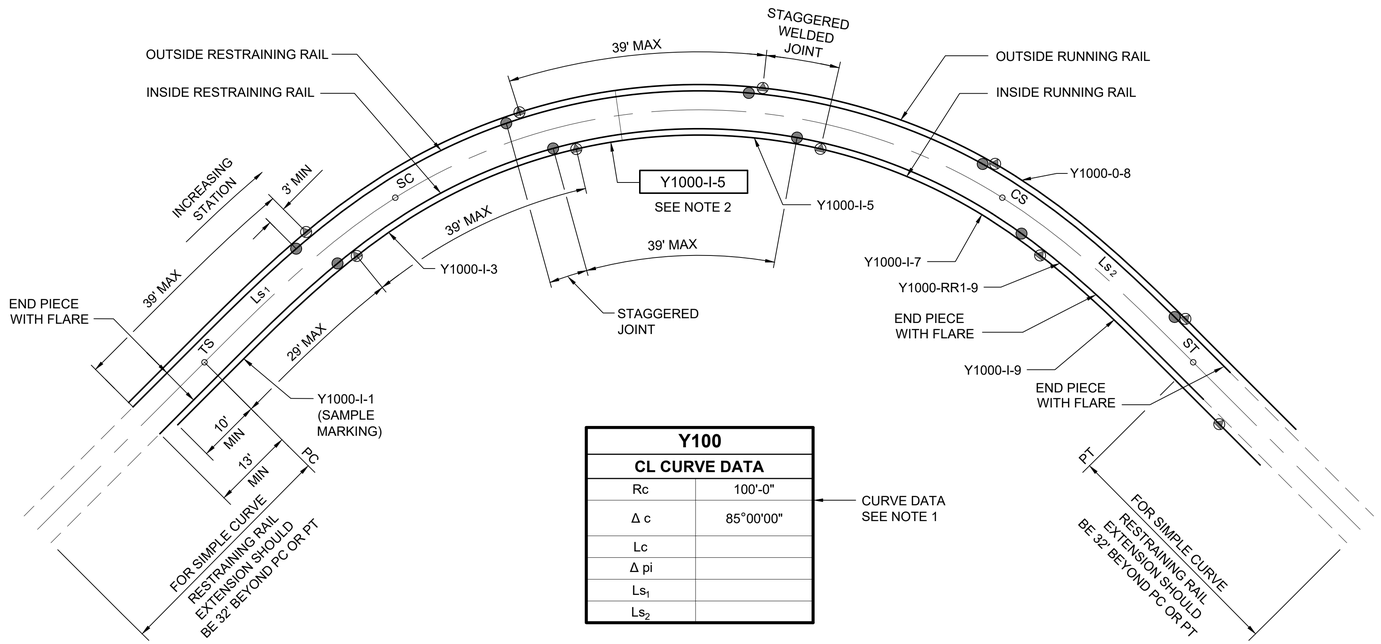


Y100	
CL CURVE DATA	
Rc	100'-0"
Δ c	85°00'00"
Lc	
Δ pi	
Ls_1	
Ls_2	

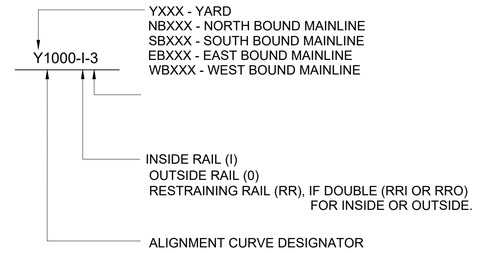
CURVE DATA SEE NOTE 1

115RE RUNNING RAIL AND RESTRAINING RAIL TYPICAL PRECURVING DETAIL

NTS

GENERAL NOTES:

1. REFER TO HORIZONTAL ALIGNMENT DRAWINGS AND TRACK CHART FOR CURVED TRACKS THAT NEEDS PRECURVED RAILS.
2. TYPICAL MARKINGS OF PRECURVED RAILS.



3. FOR 115RE RESTRAINING RAIL DETAILS SEE DWG STD-KAD430.

LEGEND:

- BOLTED JOINT
- WELDED JOINT

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

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DATE: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-KAD015
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
PRECURVED RAILS
TYPICAL DETAILS

DRAWING No.: **STD-KAD015**
FACILITY ID:
SHEET No.: 2
REV:

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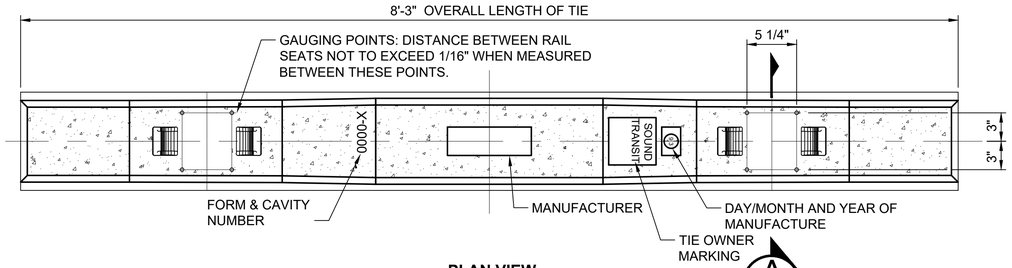
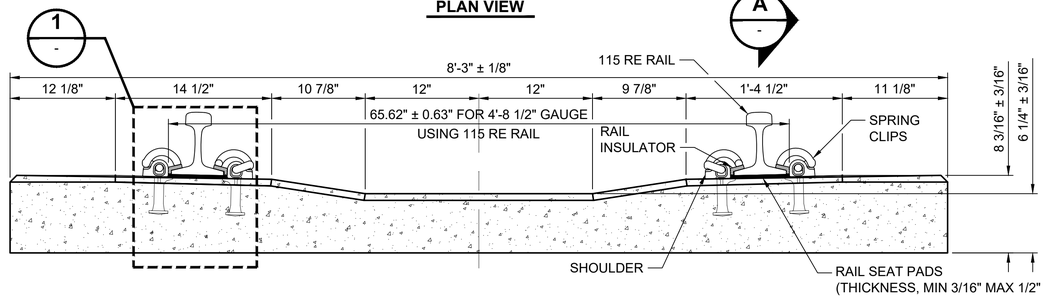
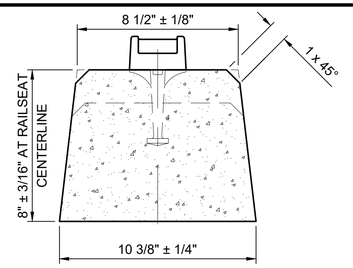


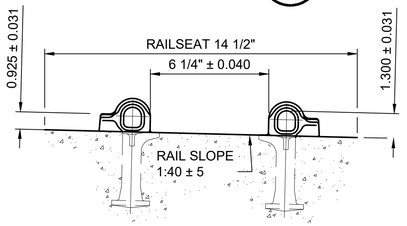
PLAN VIEW



ELEVATION VIEW



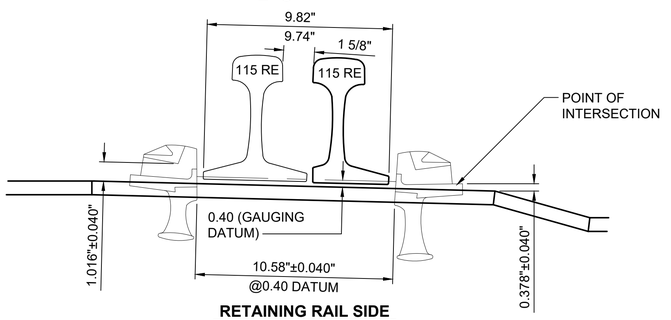
ELEVATION A / -
NTS



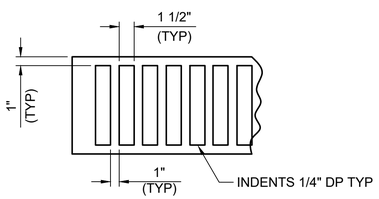
SHOULDER LOCATION DETAIL 1 / -
NTS

8'-3" CONCRETE TIE
NTS

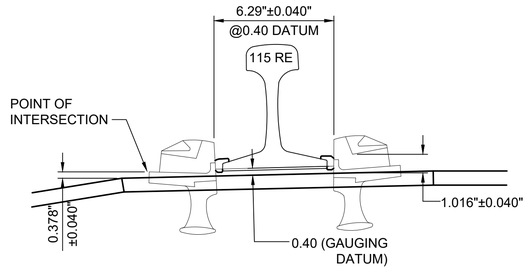
ELEVATION VIEW



RETAINING RAIL SIDE



BOTTOM INDENT DETAIL



SHOULDER LOCATION DETAILS

8'-3" CONCRETE TIE WITH RESTRAINING RAILS
NTS

GENERAL NOTES:

1. TIE TO BE SYMMETRICAL ABOUT THE CENTERLINE OF TRACK.
2. SHOULDERS SHOULD BE POSITIONED ON LONGITUDINAL CENTERLINE OF TIE.
3. REINFORCEMENT ARE NOT SHOWN LOCATION SIZE NUMBER AND STRENGTH OF PRESTRESSED REINFORCEMENT STRANDS REQUIRED TO MEET SPECIFICATIONS SHALL BE BY THE CONTRACTOR.
4. LOCATIONS AND SPACING OF TIE INSTALLATIONS ARE GIVEN IN THE TRACK CHART DRAWINGS.
5. TIE SPACING ON CURVES SHALL BE MEASURED AT THE CENTERLINE OF THE OUTSIDE RAIL.

No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	8/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

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CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-KAD050
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
CONCRETE TIE DETAILS
1 OF 2

DRAWING No.: **STD-KAD050**
FACILITY ID:
SHEET No.: REV: 1

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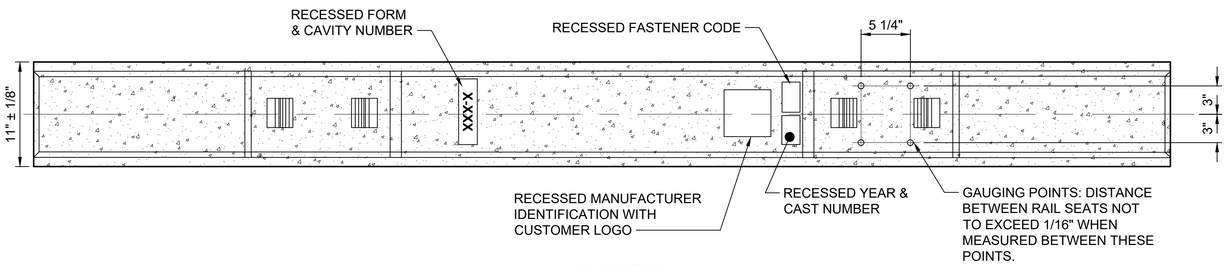
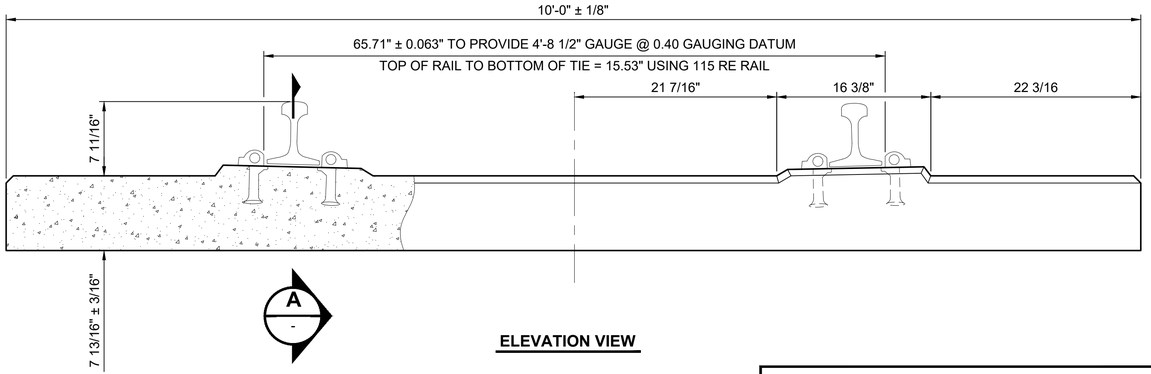
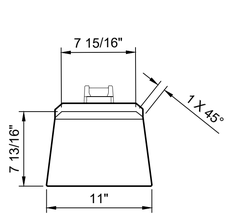


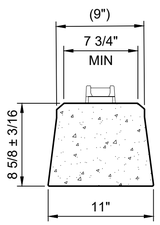
PLAN VIEW



ELEVATION VIEW



END VIEW
NTS



SECTION A
NTS
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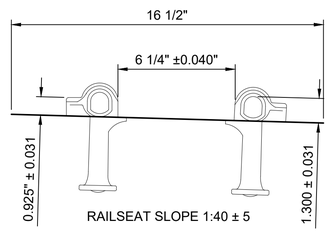
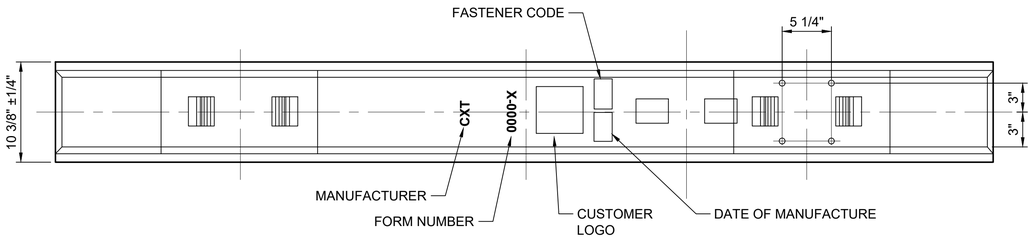
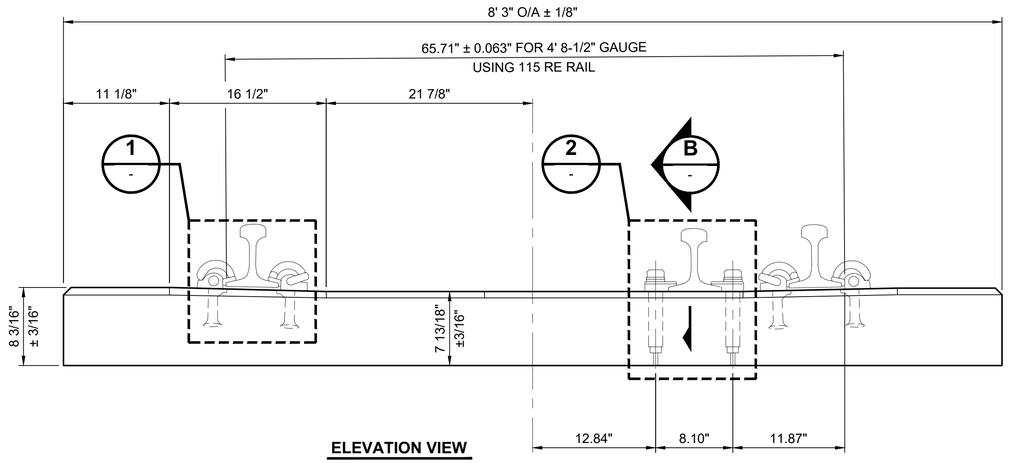
10' CONCRETE GRADE CROSSING TIE
NTS



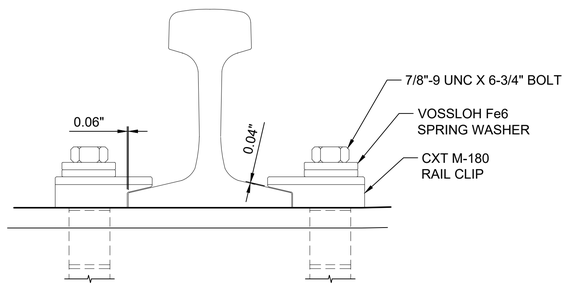
SHOULDER LOCATION DETAIL 1
NTS
-



PLAN VIEW



ELEVATION VIEW



GUARDRAIL FASTENING DETAIL 2
NTS
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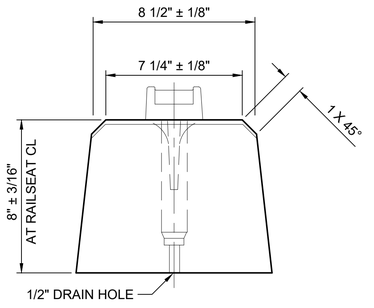

SECTION THROUGH
RESTRAINING RAIL SEAT CENTERLINE B
NTS
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8'-3" CONCRETE TIE WITH EMERGENCY GUARD RAIL
NTS

No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	4/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-KAD051
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
CONCRETE TIE
DETAILS
2 OF 2

DRAWING No.: **STD-KAD051**
FACILITY ID:
SHEET No.: 1
REV:

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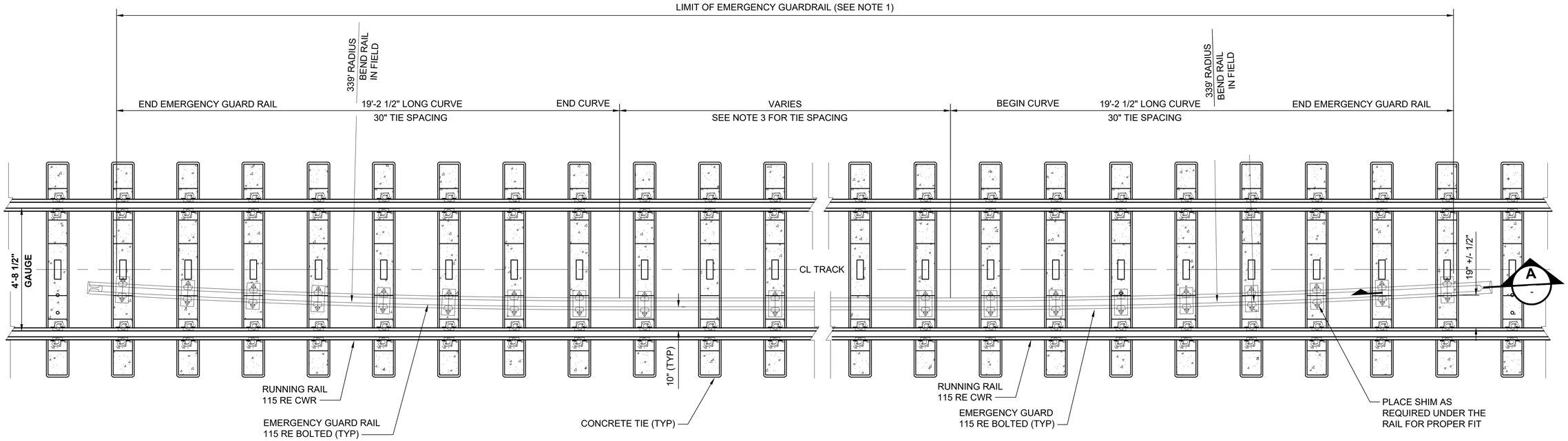
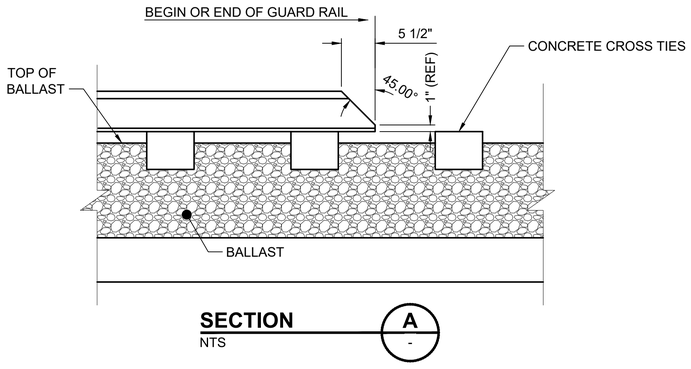
GENERAL NOTES:

1. FOR LIMITS OF EMERGENCY GUARD RAILS. SEE TRACK CHART DRAWINGS.
2. FOR CONCRETE TIE DETAILS SEE DWGS. STD-KAD050 AND STD-KAD051
3. WITH IN THE FLARED END, THE EMERGENCY GUARD RAIL SHALL BE FASTENED IN SPACING OF 30" OR LESS. OTHER THAN THE FLARED END, THE EMERGENCY GUARD RAIL SHALL BE FASTENED IN FIVE FEET OR LESS.



EMERGENCY GUARD RAIL INSTALLATION PLAN

NTS



SECTION A

NTS

No.	DATE	DSN	CHK	APP	REVISION
1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	4/2016	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARDS DWGS

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DATE: -

LINE IS 1" AT FULL SCALE

SCALE: AS NOTED
FILENAME: STD-KAD055
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

BALLASTED GUARD RAIL FLARE LAYOUT AND DETAILS

DRAWING No.: **STD-KAD055**
FACILITY ID:
SHEET No.: REV: 1

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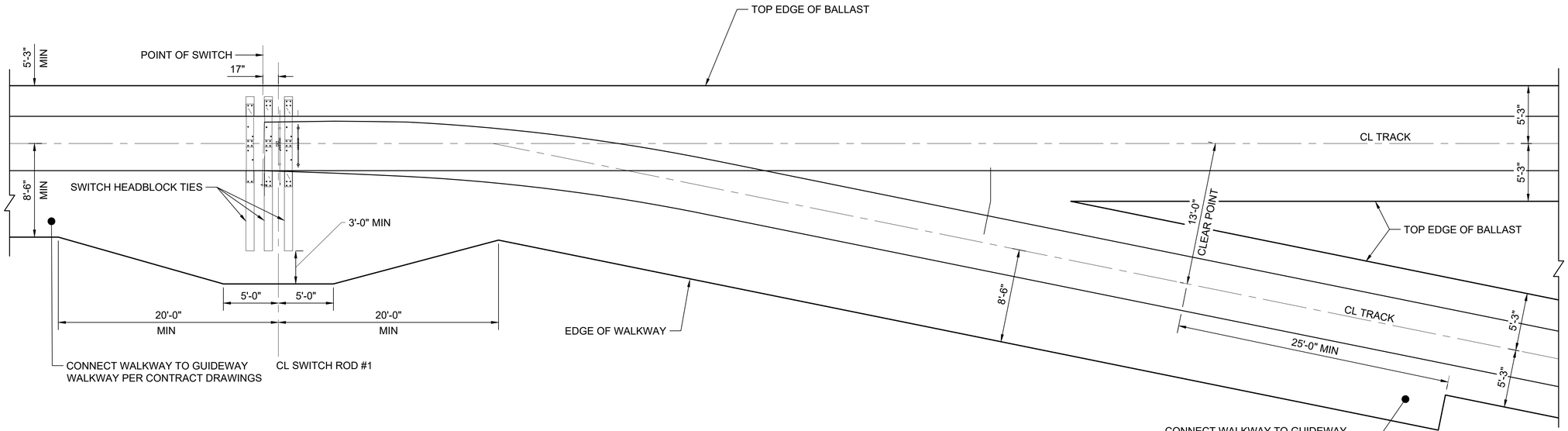

BALLAST LIMITS AT TURNOUT AREA

NTS

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No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

AHJ:

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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

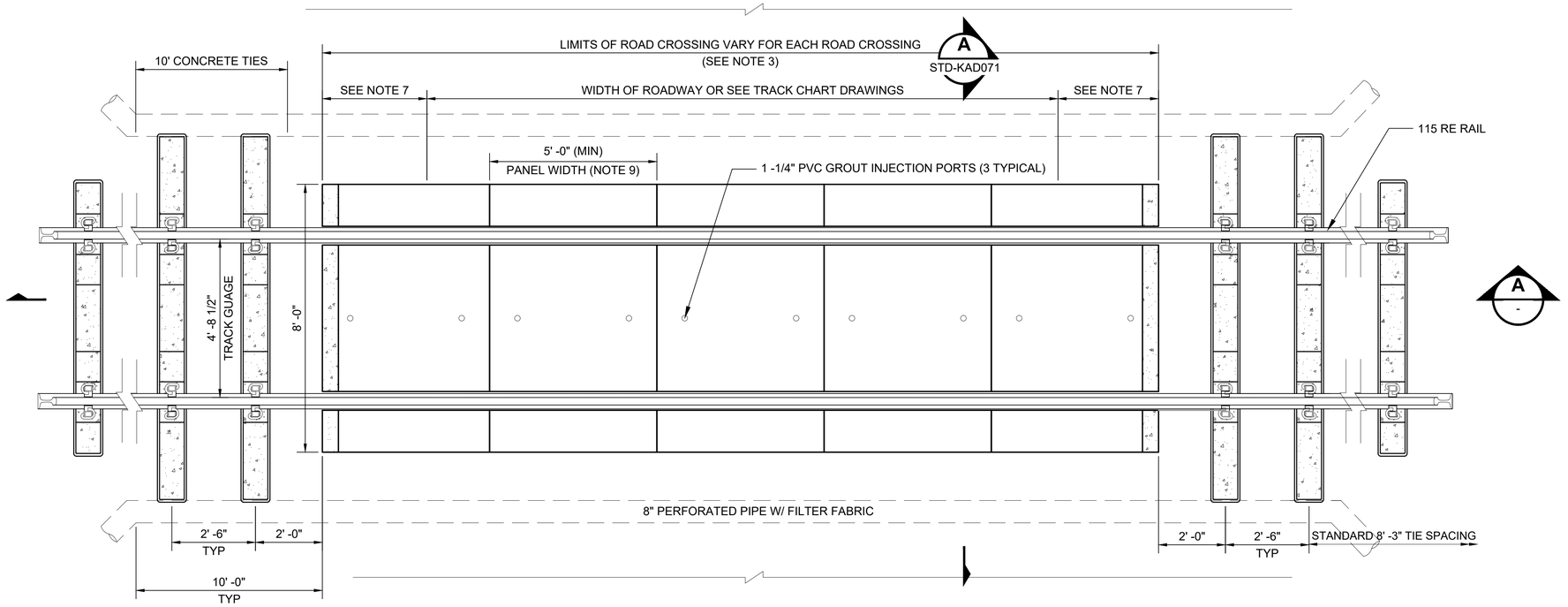
PACKAGE #

SCALE: NTS
FILENAME: STD-KAD066
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

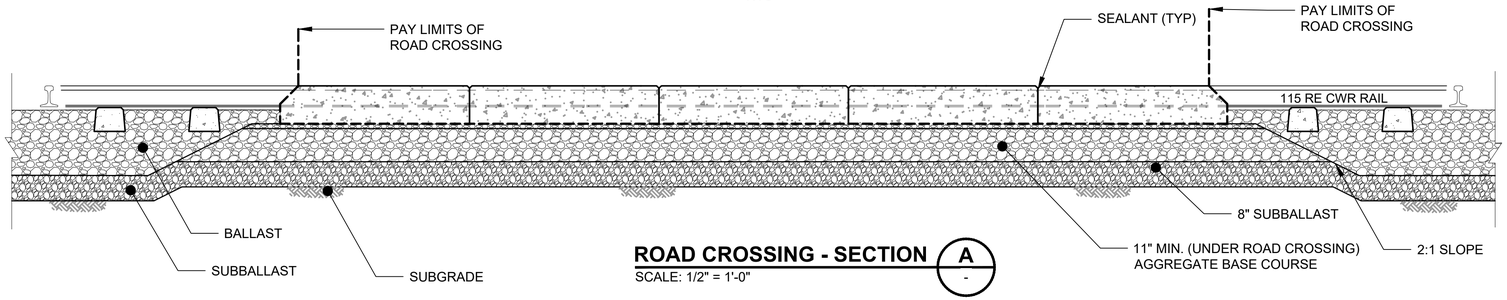
BALLASTED TRACK CONSTRUCTION
WALKWAY DETAIL AND BALLAST LIMITS
AT TURNOUT AREA

DRAWING No.: **STD-KAD066**
FACILITY ID:
SHEET No.: REV: 2



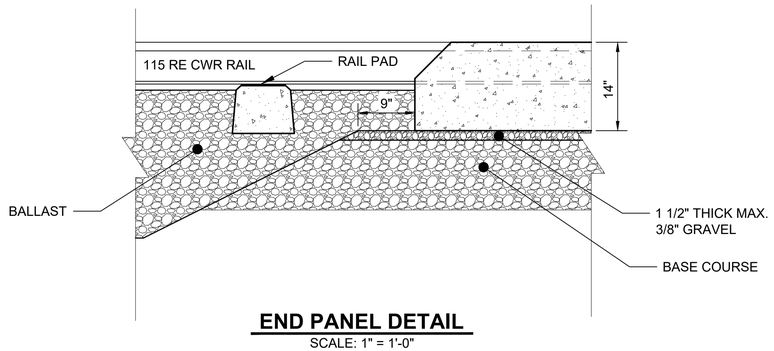
ROAD CROSSING - PLAN VIEW

NTS



ROAD CROSSING - SECTION (A / -)

SCALE: 1/2" = 1'-0"



END PANEL DETAIL

SCALE: 1" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING DEPICTS TYPICAL AND MINIMUM SPECIFICATIONS. MODULAR CROSSING PANELS TO BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATION.
2. DESIGN LOADING: COOPER E-80, 60% IMPACT FACTOR. H-20 WHEEL LOAD.
3. CROSSING MODULES MUST PASS LONGITUDINAL RESTRAINT TEST PER AREMA CHAPTER 30.
4. CONCRETE GRADE CROSSING PANELS TO BE 6000 PSI MINIMUM AT 28 DAYS.
5. MODULES TO HAVE 4 LIFTING ANCORS EMBEDDED IN CONCRETE.
6. APPROXIMATE WEIGHT IS 1,275 LBS PER TRACK FOOT.
7. ON STREETS WITH CURBS OR PAVED SHOULDERS, THE CROSSING SHALL BE EXTENDED TO BE 3 FEET BEYOND THE BACK OF CURB. THE CROSSING SURFACE SHALL EXTEND 2 FEET BEYOND THE SIDEWALK LINE FOR STREET CROSSING WITH SIDEWALK.
8. CROSSING MODULES TO BE CAST TO MATCH CURVATURE FOR CURVED TRACK.
9. SIZE OF PANELS SHOWN ON THIS DRAWING ARE 5' -0" x 8' -0", ACTUAL PANEL WIDTH MAY VARY.
10. MODULE WIDTHS MAY BE UP TO 17' -6" IN AREAS OF TANGENT TRACK
11. MODULES TO HAVE 3 EACH 1 -1/4" PVC GROUT INJECTION PORTS.

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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DRAWN BY:
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APPROVED BY:

SUBMITTED BY: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD070
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

BALLASTED TRACK CONSTRUCTION
AT-GRADE ROAD CROSSING PRECAST
MODULAR CONCRETE PANEL

DRAWING No.: **STD-KAD070**
FACILITY ID:
SHEET No.: 2
REV:

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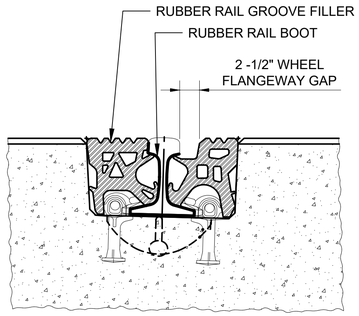
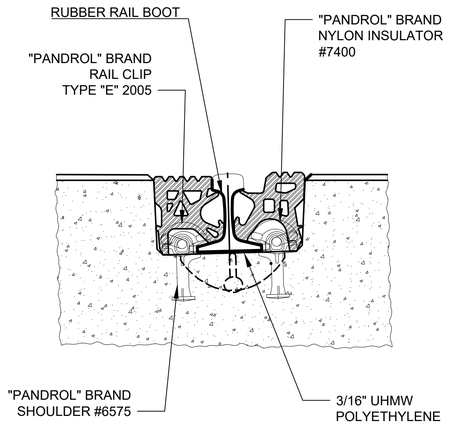
GENERAL NOTES:

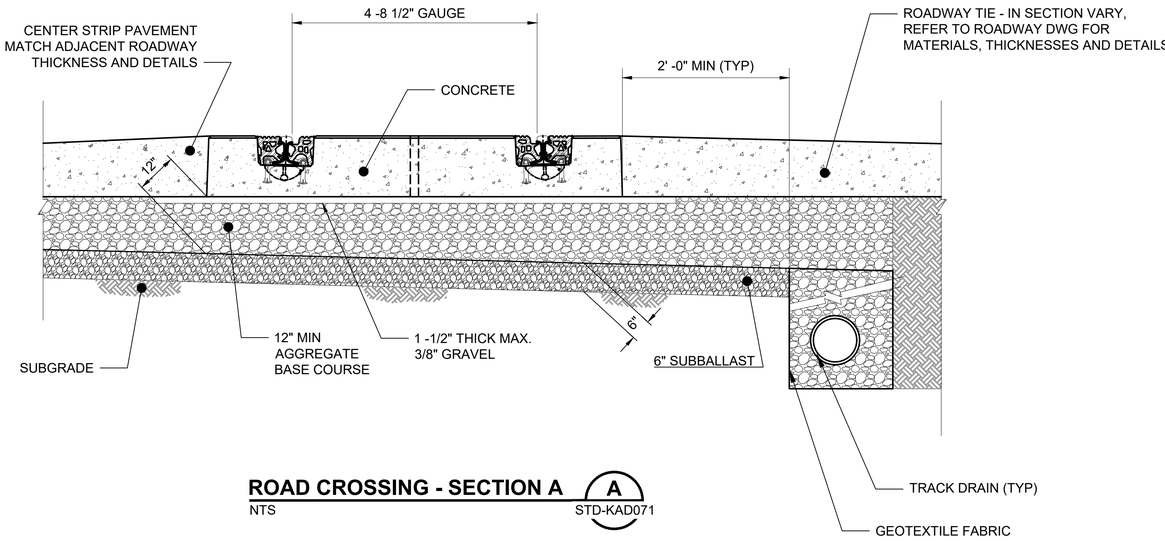
1. STANDARD RUBBER GAUGE INSERTS SHALL BE INSTALLED AT ROADWAY WIDTH OF CROSSING. MODIFIED RUBBER GAUGE INSERTS SHALL BE INSTALLED AT PEDESTRIAN /SIDEWALK WIDTH WITHIN THE ROAD CROSSING.
2. FLANGEWAY WIDTH SHALL BE 2 1/2" AT ROAD CROSSING AND SHALL BE 2 1/4" MAXIMUM AT PEDESTRIAN/ SIDEWALK CROSSING.
3. DESIGN ALL CROSSINGS TO PROVIDE 1:40 RAIL CANT THROUGOUT.
4. RUBBER FLANGEWAY INSERTS AND RAIL FASTENERS MUST BE REMOVABLE AND REUSABLE TO FACILITATE RAIL ACCESS OR REPLACEMENT.
5. CROSSING TO INCLUDE GALVANIZED "E" CLIPS.
6. GRIND BASE OF RAIL SMOOTH AT WELDS
7. END MODULES TO HAVE 45 DEGREE SLOPE FROM BOTTOM OF RAIL TO TOP OF MODULE AND 1" TAPPER UNDER RAIL.



STANDARD RUBBER GUAGE 2 1/2" FLANGEWAY

NTS

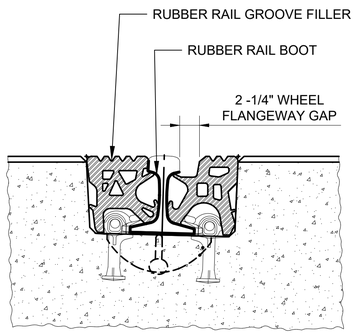




ROAD CROSSING - SECTION A

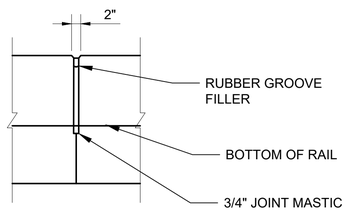
NTS

A
STD-KAD071



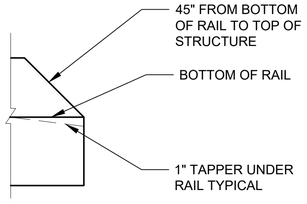
STANDARD RUBBER GUAGE 2 1/2" FLANGEWAY

NTS



CONNECTION DETAIL

NTS



END PANEL DETAIL

NTS

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
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APPROVED BY:

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DATE: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-KAD071
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

BALLASTED TRACK CONSTRUCTION
AT-GRADE ROAD CROSSING PRECAST
MODULAR CONCRETE PANEL

DRAWING No.: **STD-KAD071**
FACILITY ID:
SHEET No.: REV: 2

03/21/24 | 8:47 AM | HARRISBK
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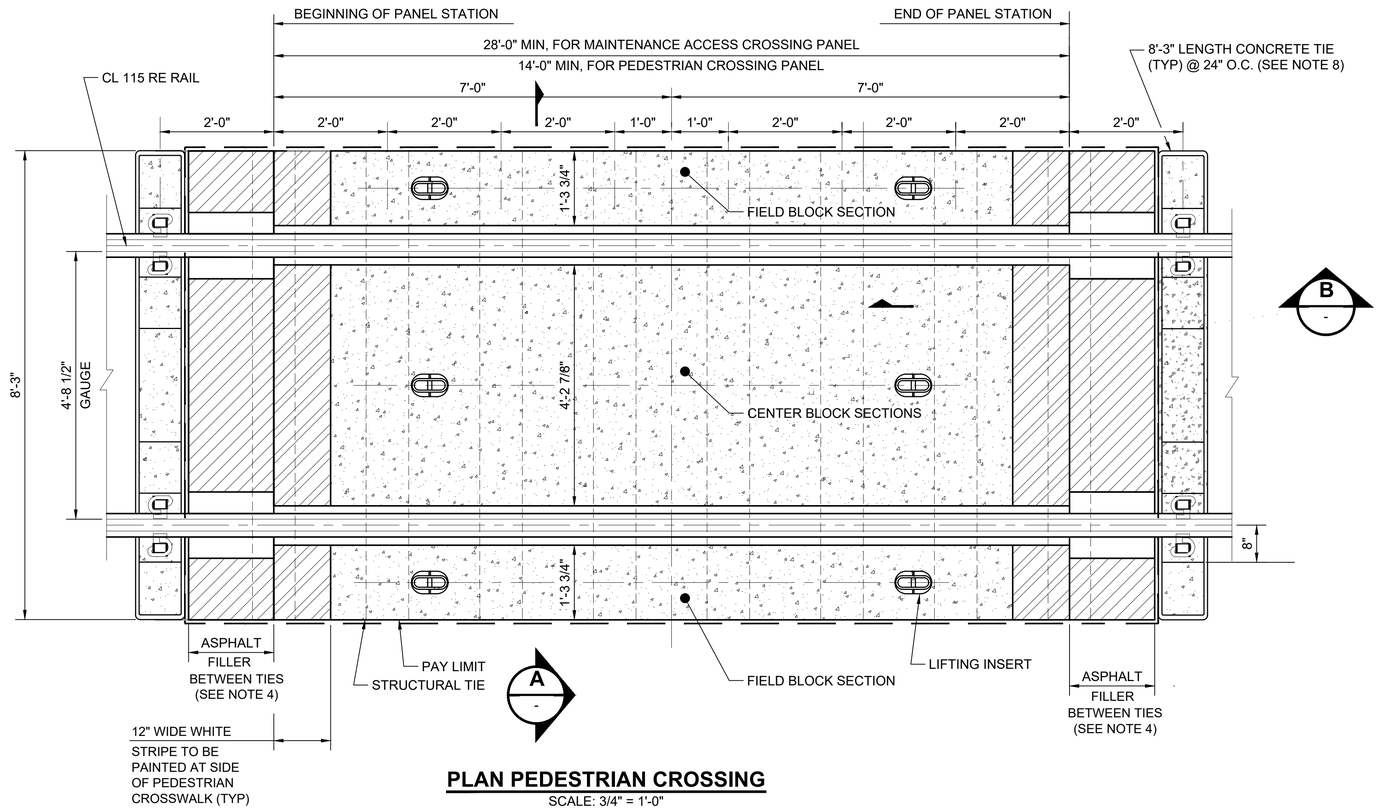
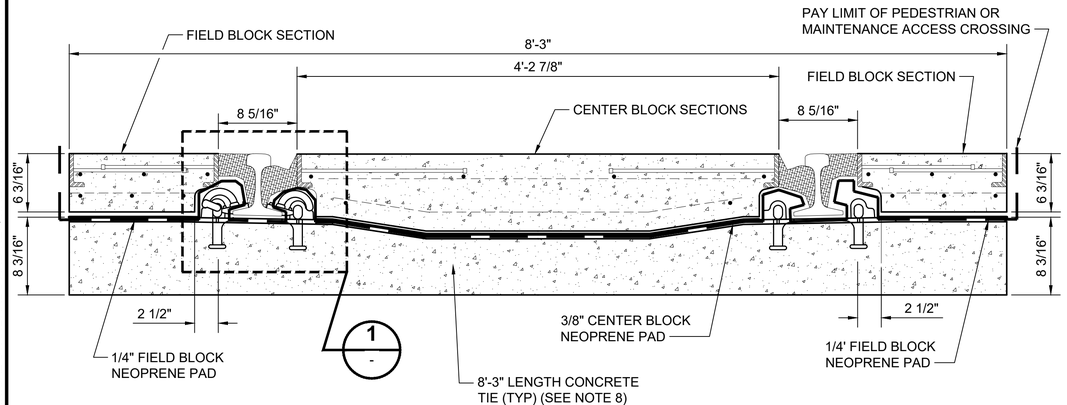


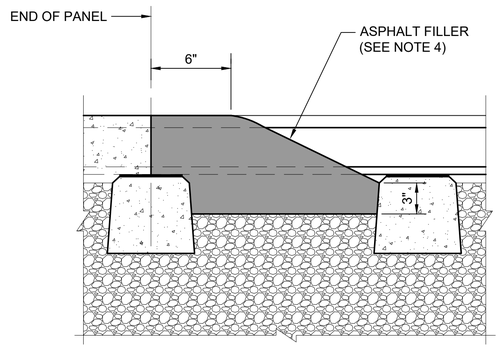
PLAN PEDESTRIAN CROSSING

SCALE: 3/4" = 1'-0"



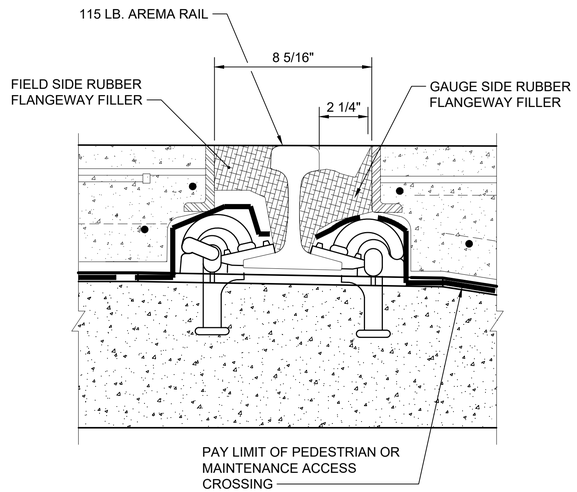
SECTION A

SCALE: 1 1/2" = 1'-0"



SECTION B

SCALE: 1 1/2" = 1'-0"



DETAIL 1

SCALE: 3" = 1'-0"

GENERAL NOTES:

1. PEDESTRIAN AND MAINTENANCE ACCESS CROSSING PANELS TO BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
2. SIZE OF PANELS SHOWN ON THIS DRAWING ARE FOR ILLUSTRATION ONLY. ACTUAL SIZE VARY DEPENDING ON MANUFACTURER.
3. FLANGEWAY FILLERS SHALL BE FURNISHED ON ALL PEDESTRIAN AND MAINTENANCE ACCESS CROSSINGS.
4. A FILLER RAMP SHALL BE SHAPED OUT OF ASPHALT TO REDUCE POSSIBLE DAMAGE FROM DRAGGING EQUIPMENT AND TO PREVENT SHIFTING. ASPHALT FILLER SHALL BE INSTALLED PRIOR TO RAIL TRAFFIC IMPROVEMENT AND SHOULD NOT BE PLACED IN CLOSE CONTACT WITH RAILS AND FASTENERS.
5. PRECAST CONCRETE PANELS SURFACE SHALL BE MATCHING FINISHED AND COLOR OF STATION WALKWAY AREA. SEE CONTRACT DRAWINGS FOR ADDITIONAL SURFACE FINISHING REQUIREMENTS.
6. NEOPRENE PADS SHALL BE ADHERED TO CONCRETE TIES WITH AREMA SC-200 CEMENT WITH HARDENER ADDITIVE, OR APPROVED EQUIVALENT.
7. FOR LIMITS OF CROSSING SEE TRACK CHART DRAWING.
8. 10'-0" LENGTH CONCRETE TIES CAN BE USED AS AN ALTERNATIVE.

BILL OF MATERIALS
14' CROSSING PANEL UNIT

QTY	DESCRIPTION
2	FIELD BLOCK SECTION WITH LIFTING INSERT
1	CENTER BLOCK SECTION WITH LIFTING INSERT
12	1/2" FIELD BLOCK NEOPRENE PAD
6	3/4" CENTER BLOCK NEOPRENE PAD
30 TF	FIELD SIDE RUBBER FLANGEWAY INSERT
30 TF	GAUGE SIDE RUBBER FLANGEWAY INSERT
A/R	ASPHALT FILLER

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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD075
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

BALLASTED TRACK CONSTRUCTION
PEDESTRIAN & MAINTENANCE ACCESS CROSSING
PRECAST CONC PANEL ON CONC TIES

DRAWING No.: **STD-KAD075**
FACILITY ID:
SHEET No.:
REV: 2

03/21/24 | 8:47 AM | HARRISBK
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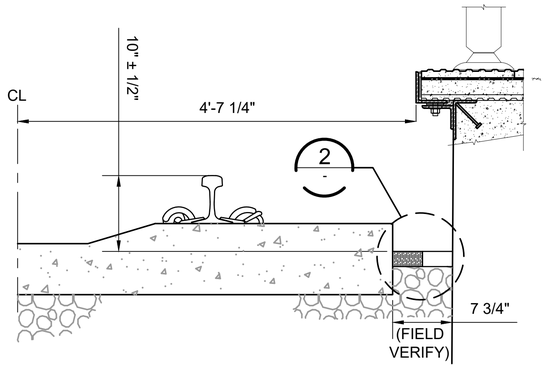
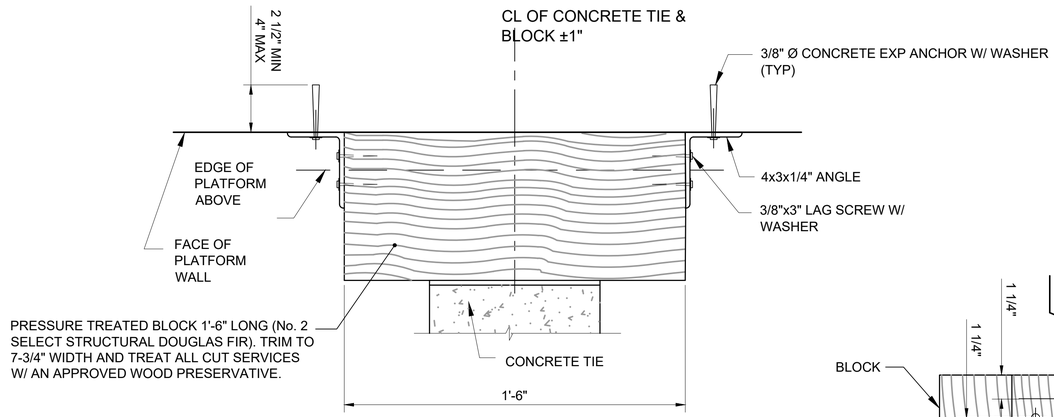
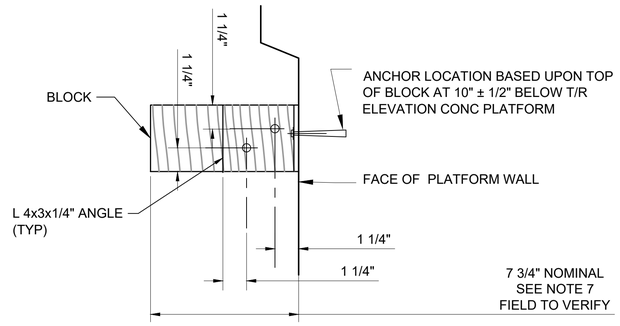


BLOCKING EXTENSION AT PLATFORM 1

NTS



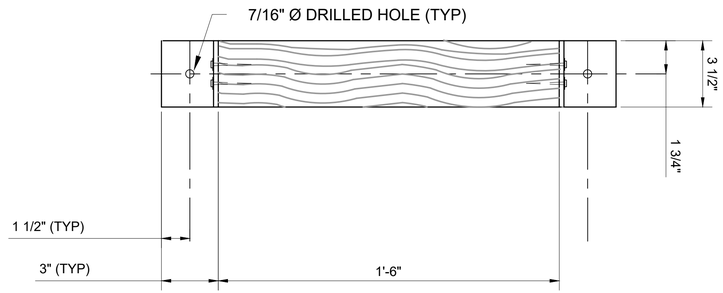
PLAN VIEW



SIDE VIEW

GENERAL NOTES:

1. CONCRETE TIE TIMBER BLOCKING SHALL BE INSTALLED AT EACH END OF THE STATION PLATFORMS AND AT EVERY TEN CONCRETE TIE LOCATION WITHIN THE LIMITS OF THE STATION PLATFORMS.
2. ALL STEEL ANGLES SHALL CONFORM TO ASTM A36 AND BE HOT DIP GALVANIZED PER ASTM A123.
3. EXPANSION ANCHORS SHALL BE STUD TYPE WITH A SINGLE PIECE THREE SECTION WEDGE AND ZINC PLATED IN ACCORDANCE WITH ASTM B633.THE ANCHORS MUST MEET THE DESCRIPTION IN FEDERAL SPECIFICATION FF-S-325, GROUP 11, TYPE 4, CLASS 1 FOR CONCRETE EXPANSION ANCHORS.
4. WASHERS SHALL BE HARDENED STEEL WASHERS CONFORMING TO ASTM F436-TYPE 1.
5. LAG SCREWS SHALL BE ASTM A307 GRADE A AND BE HOT DIP GALVANIZED PER ASTM A123.
6. CARE AND ATTENTION SHALL BE TAKEN TO ELIMINATE VOIDS BENEATH THE WOOD BLOCKING.
7. VERIFY PLATFORM WALL LOCATION AND CONCRETE TIE LENGTH PRIOR TO CUTTING WOOD BLOCKS. BLOCKS SHALL BE SIZED TO FIT BETWEEN THE PLATFORM WALL AND CONCRETE TIE WITH THE SPECIFIED TRACK CL/PLATFORM EDGE DISTANCE.



FRONT VIEW

PRESSURE TREATED BLOCK DETAIL 2

SCALE: 2"=1'-0"

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No.	DATE	DSN	CHK	APP	REVISION
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0	2/2024	----	----	----	2024 NEW STANDARD DRAWING

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

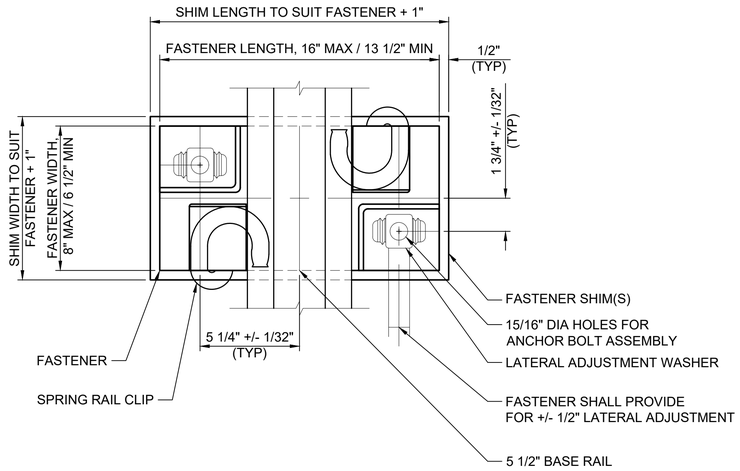
SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD090
CONTRACT No.: RTA/LR -
DATE: 2/2024

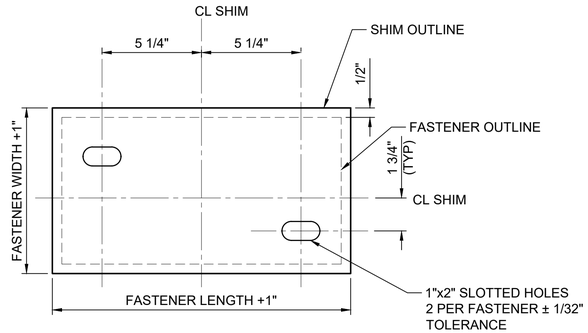
SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

BALLASTED TRACK CONSTRUCTION
115 RE CONCRETE TIE AND FASTENINGS DETAILS

DRAWING No.: **STD-KAD090**
FACILITY ID:
SHEET No.: REV: 0



PLAN



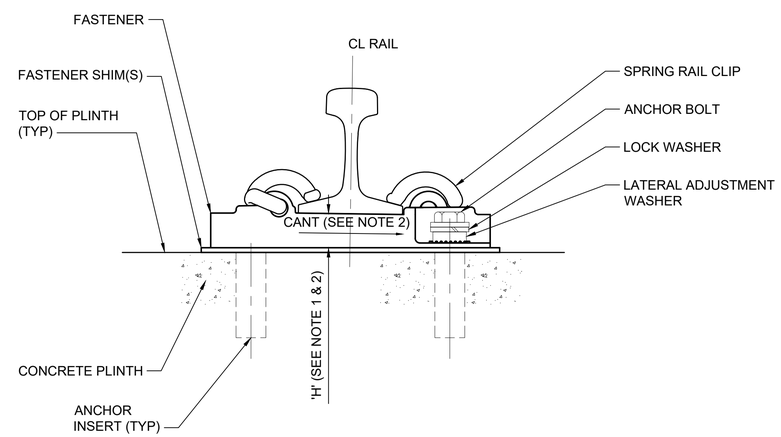
NOTE:

SHIM SHAPE AND HOLES SHALL BE COMPATIBLE WITH FASTENER SHAPE, SIZE & ANCHOR BOLT LOCATION.
MATERIAL: HIGH DENSITY POLYETHYLENE (HDPE)

SHIM CONFIGURATION
THICKNESSES: 1/16", 1/8", 3/16", 1/4"

GENERAL NOTES:

1. EACH FASTENER SHALL BE INSTALLED WITH AT LEAST ONE 1/8" THICK HDPE SHIM,
2. TOTAL NUMBER OF SHIMS PLACED UNDER RAIL FASTENER BODY FOR HEIGHT ADJUSTMENT SHALL BE LIMITED TO A MAXIMUM OF TWO SHIMS AND A MAXIMUM TOTAL THICKNESS OF 1/2"
3. STANDARD DIRECT FIXATION FASTENER SHOULD BE SUPPLIED WITH TWO TYPES OF CONFIGURATIONS:
   - 3.1. STANDARD FASTENERS WITH RAIL SEAT CANTED 1:40 FOR FASTENING RAIL ON MAINLINE PRIMARY TRACK. H=1 7/8"
   - 3.2. STANDARD SPECIAL TRACKWORK FASTENERS WITH RAIL SEAT NON CANTED FOR FASTENING SINGLE RAIL WITHIN THE LIMIT OF TURNOUT AND CROSSOVER. H=1 1/2"
4. AT LOCATIONS WHERE DF FASTENERS ARE UNDER RAIL JOINTS, INSTALL PANDROL TYPE C-2063 RAIL CLIPS OR APPROVED EQUALS.



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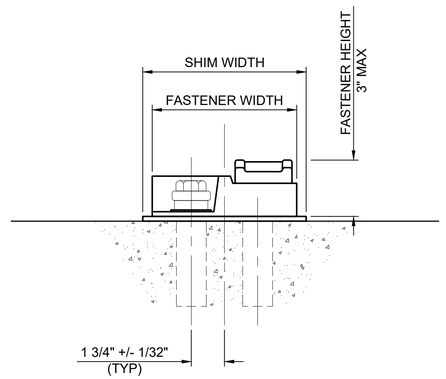
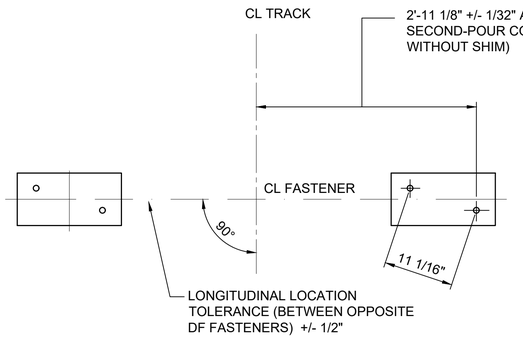
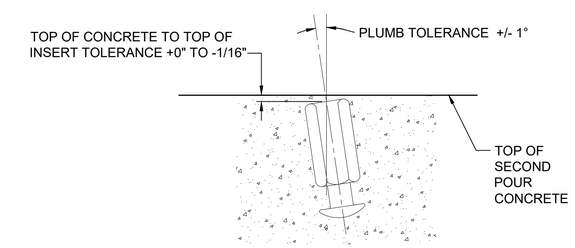


SIDE (NO RAIL OR CLIPS)



PLAN



ELEVATION

STANDARD DIRECT FIXATION RAIL FASTENER

SCALE: 3" = 1'-0"

INSERT VERTICAL TOLERANCE

NTS

No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	8/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
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SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD100
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION
STANDARD FASTENER DETAILS

DRAWING No.: **STD-KAD100**
FACILITY ID:
SHEET No.: 1
REV:

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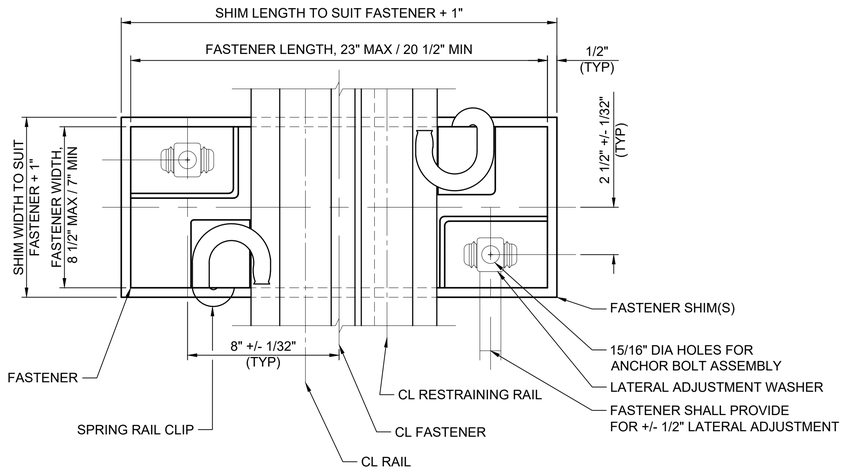
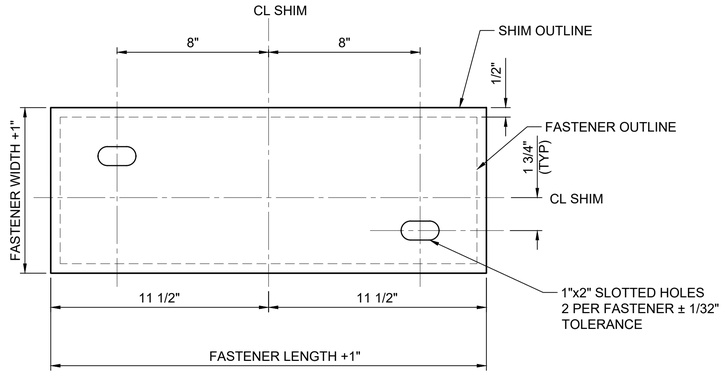


PLAN



NOTE:

SHIM SHAPE AND HOLES SHALL BE COMPATIBLE WITH FASTENER SHAPE, SIZE & ANCHOR BOLT LOCATION. MATERIAL: HIGH DENSITY POLYETHYLENE (HDPE)

SHIM CONFIGURATION
THICKNESSES: 1/16", 1/8", 3/16", 1/4"

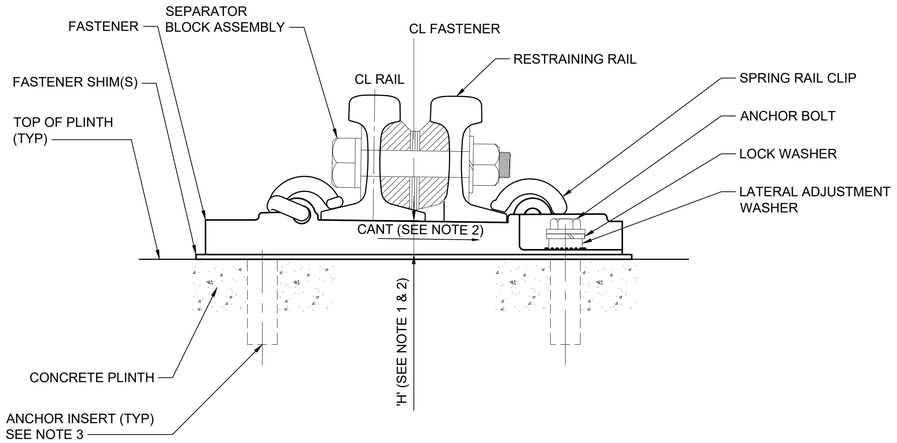
GENERAL NOTES:

1. EACH FASTENER SHALL BE INSTALLED WITH AT LEAST ONE 1/8" THICK HDPE SHIM,
2. TOTAL NUMBER OF SHIMS PLACED UNDER RAIL FASTENER BODY FOR HEIGHT ADJUSTMENT SHALL BE LIMITED TO A MAXIMUM OF TWO SHIMS AND A MAXIMUM TOTAL THICKNESS OF 1/2"
3. STANDARD DIRECT FIXATION FASTENER SHOULD BE SUPPLIED WITH TWO TYPES OF CONFIGURATIONS:

3.1. STANDARD FASTENERS WITH RAIL SEAT CANTED 1:40 FOR FASTENING RAIL ON MAINLINE PRIMARY TRACK. H=1 7/8"

3.1. STANDARD SPECIAL TRACKWORK FASTENERS WITH RAIL SEAT NON CANTED FOR FASTENING SINGLE RAIL WITHIN THE LIMIT OF TURNOUT AND CROSSOVER. H=1 1/2"

4. AT LOCATIONS WHERE DF FASTENERS ARE UNDER RAIL JOINTS, INSTALL PANDROL TYPE C-2063 RAIL CLIPS OR APPROVED EQUALS.



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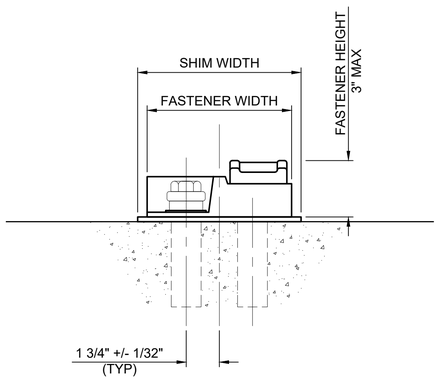
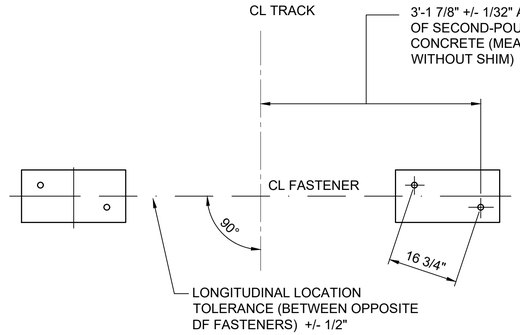


SIDE (NO RAIL OR CLIPS)



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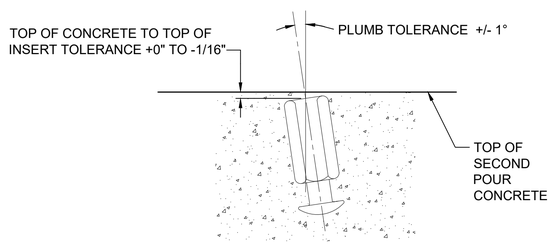

ELEVATION

STANDARD DIRECT FIXATION RAIL FASTENER
SCALE: 3" = 1'-0"

INSERT VERTICAL TOLERANCE
NTS

No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	2024 REVISED STANDARD DWGS
0	8/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -
DATE: 2/2024

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD101
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION
STANDARD RESTRAINING RAIL FASTENER
DETAILS

DRAWING No.: **STD-KAD101**
FACILITY ID:
SHEET No.: 1
REV:

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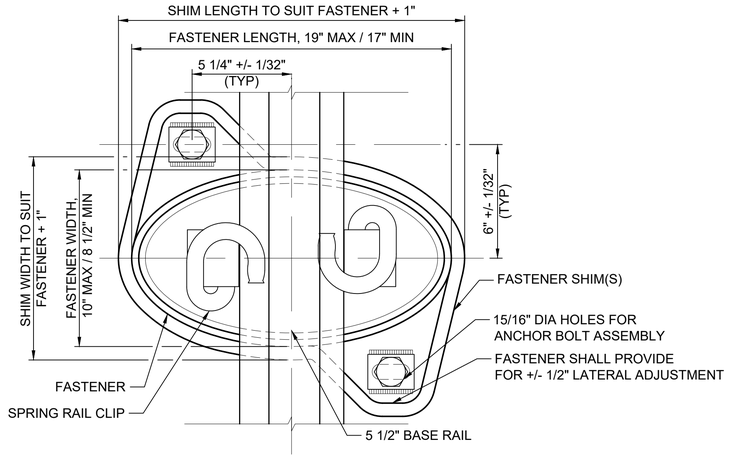

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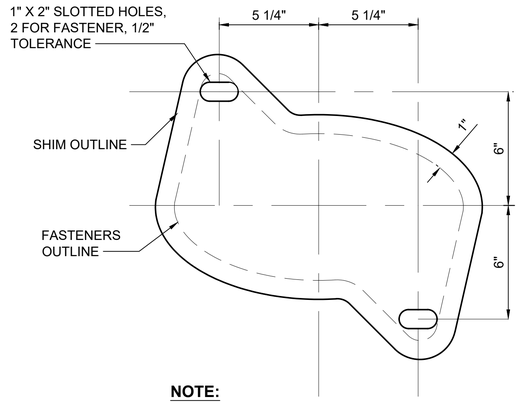


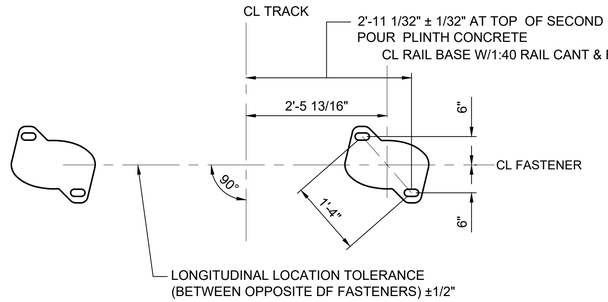
NOTE:

SHIM SHAPE AND HOLES SHALL BE COMPATIBLE WITH FASTENER SHAPE, SIZE & ANCHOR BOLT LOCATION. MATERIAL: HIGH DENSITY POLYETHYLENE (HDPE)

SHIM CONFIGURATION
THICKNESSES: 1/16", 1/8", 3/16", 1/4"

GENERAL NOTES:

1. EACH FASTENER SHALL BE INSTALLED WITH AT LEAST ONE 1/8" THICK HDPE SHIM.
2. TOTAL NUMBER OF SHIMS PLACED UNDER RAIL FASTENER BODY FOR HEIGHT ADJUSTMENT SHALL BE LIMITED TO A MAXIMUM OF TWO SHIMS AND A MAXIMUM TOTAL THICKNESS OF 1/2 ".
3. FASTENER HEIGHT WITH RAIL SEAT CANTED 1:40 FOR FASTENING RAIL ON MAINLINE PRIMARY TRACK. H=2 3/4"
4. AT LOCATIONS WHERE DF FASTENERS ARE UNDER RAIL JOINTS, INSTALL PANDROL TYPE "C-2063" RAIL CLIPS OR APPROVED EQUALS.



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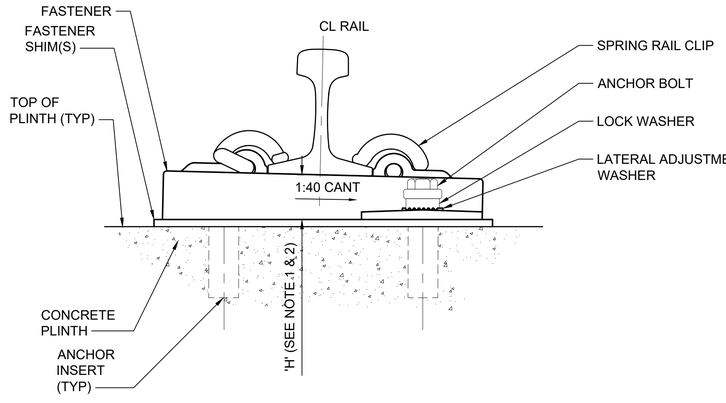
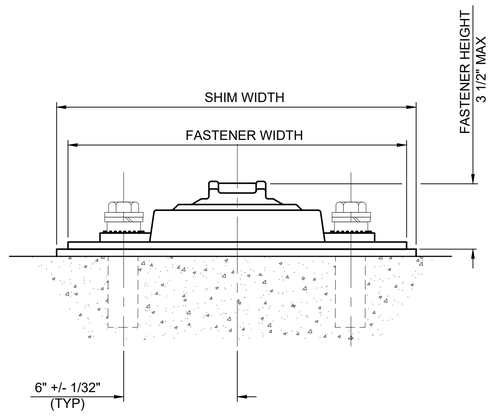


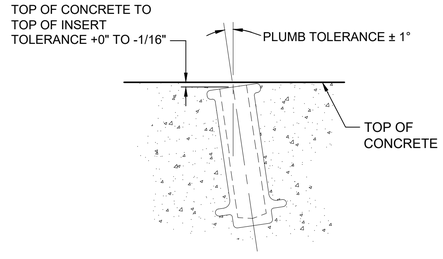
ELEVATION



SIDE (NO RAIL OR CLIPS)

HIGH RESILIENT FASTENER

SCALE: 3" = 1'-0"



ELEVATION

INSERT VERTICAL TOLERANCE

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0	8/19/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

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CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD102
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION
HIGH RESILIENT FASTENER
DETAILS

DRAWING No.: **STD-KAD102**
FACILITY ID:
SHEET No.: 1
REV:

03/21/24 | 8:48 AM | HARRISBK
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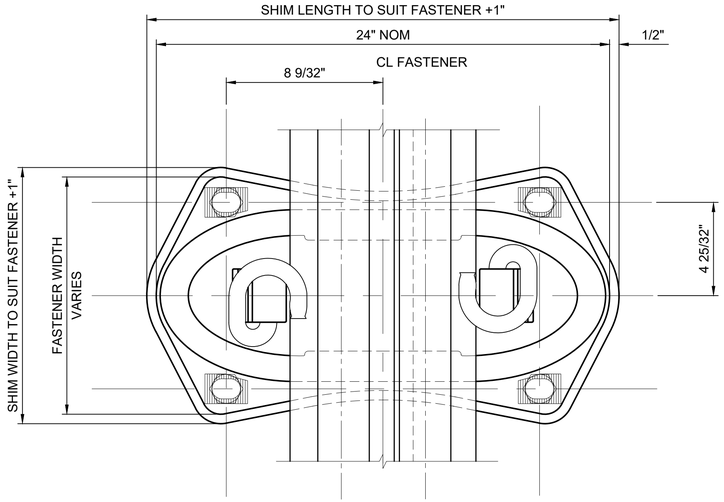
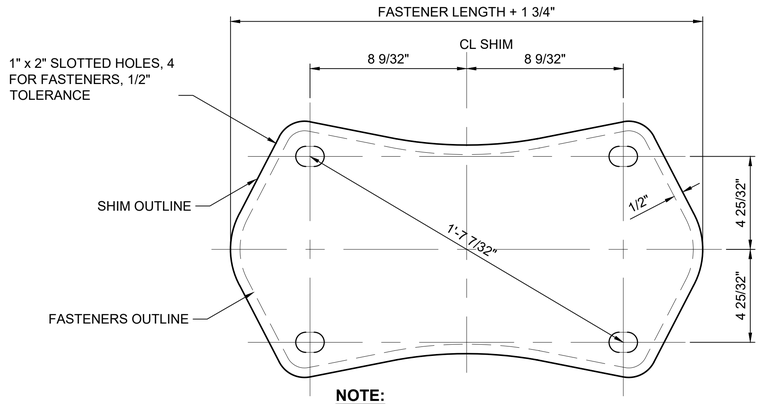


PLAN



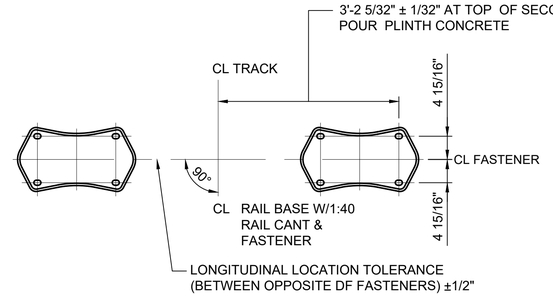
NOTE:

SHIM SHAPE AND HOLES SHALL BE COMPATIBLE WITH FASTENER SHAPE, SIZE & ANCHOR BOLT LOCATION. MATERIAL: HIGH DENSITY POLYETHYLENE (HDPE)

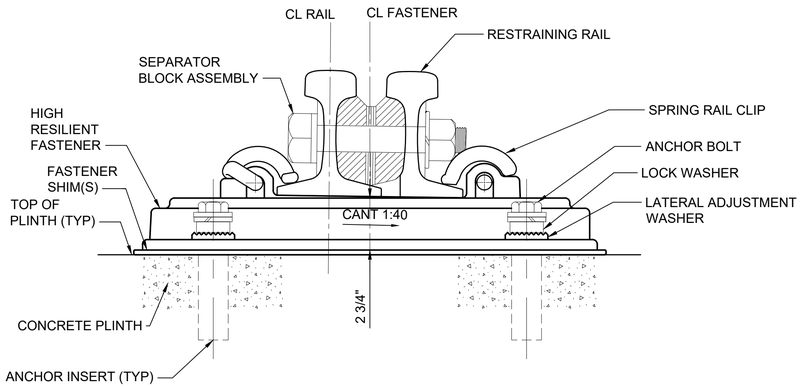
SHIM CONFIGURATION
THICKNESSES: 1/16", 1/8", 3/16", 1/4"

GENERAL NOTES:

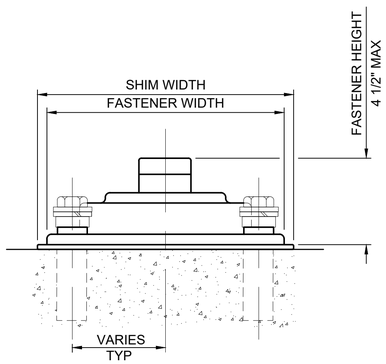
1. EACH FASTENER SHALL BE INSTALLED WITH AT LEAST ONE 1/8" THICK HDPE SHIM.
2. TOTAL NUMBER OF SHIMS PLACED UNDER RAIL FASTENER BODY FOR HEIGHT ADJUSTMENT SHALL BE LIMITED TO A MAXIMUM OF TWO SHIMS AND A MAXIMUM TOTAL THICKNESS OF 1/2 ".
3. FASTENER HEIGHT WITH RAIL SEAT CANTED 1:40 FOR FASTENING RAIL ON MAINLINE PRIMARY TRACK. H=2 3/4"
4. AT LOCATIONS WHERE DF FASTENERS ARE UNDER RAIL JOINTS, INSTALL PANDROL TYPE "C-2063" RAIL CLIPS OR APPROVED EQUALS.



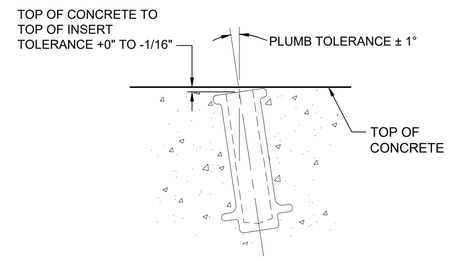
PLAN



FRONT



SIDE (NO RAIL OR CLIPS)



ELEVATION

RESTRAINING RAIL DF RAIL FASTENER
SCALE: 3" = 1'-0"

INSERT VERTICAL TOLERANCE
NTS

No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	8/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD103
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION
HIGH RESILIENT RESTRAINING RAIL FASTENER DETAILS

DRAWING No.: **STD-KAD103**
FACILITY ID:
SHEET No.: 1
REV:

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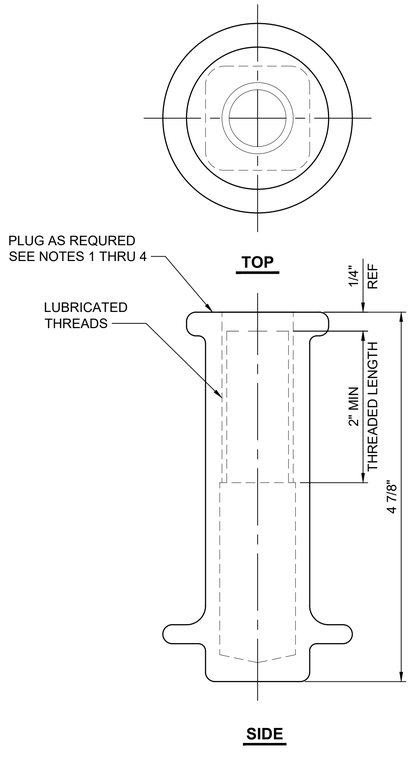
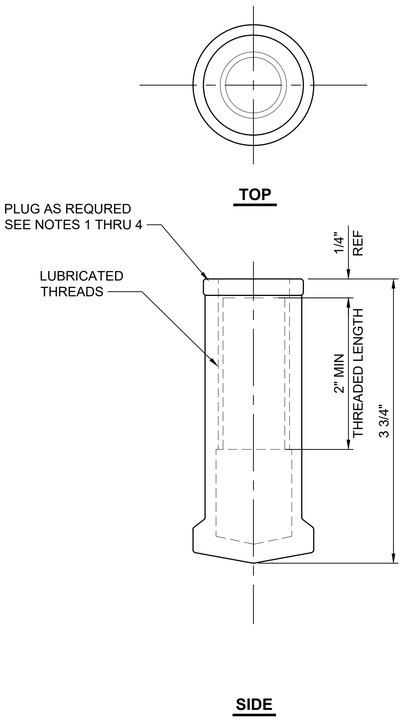
GENERAL NOTES:

1. INSTALL PLUG INSERTS DURING CONSTRUCTION TO KEEP THE INSERTS CLEAN AND FREE OF FOREIGN MATERIAL.
2. THIN PLASTIC PUSH-IN THIMBLE TYPE PLUGS MAY BE USED FOR TEMPORARY PROTECTION OF THE THREADS AT THE CONTRACTORS OPTION. HOWEVER, THIN PLASTIC PUSH-IN THIMBLE TYPE PLUGS MAY NOT BE USED AS PERMANENT PLUGS ON INSERTS THAT ARE LEFT OPEN.
3. INSERTS THAT ARE LEFT OPEN AT THE CONCLUSION OF THE PROJECT SHALL BE PLUGGED WITH A REMOVABLE THREADED PLUG THAT IS FLUSH TO THE ADJACENT CONCRETE SURFACE.
4. PLUGS TO HAVE EITHER HEX OR SQUARE RECESS FOR WRENCH.
5. ANCHOR BOLTS SHALL BE CENTERED ON THEIR LOCKING WASHER +/- 1/8"
6. TYPE I INSERTS TO BE USED FOR ALL FASTENERS EXCEPT WHERE NOTED IN THE CONTRACT DRAWINGS.



TYPE I INSERT
SCALE: 1'-0"=1'-0"



TYPE II INSERT
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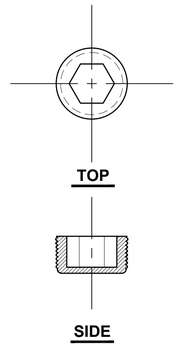

THREADED PLUG
SCALE: 1'-0"=1'-0"

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0	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1'-0" = 1'-0"
FILENAME: STD-KAD105
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION
PLINTH ANCHOR INSERT
DETAILS

DRAWING No.: **STD-KAD105**
FACILITY ID:
SHEET No.: 1
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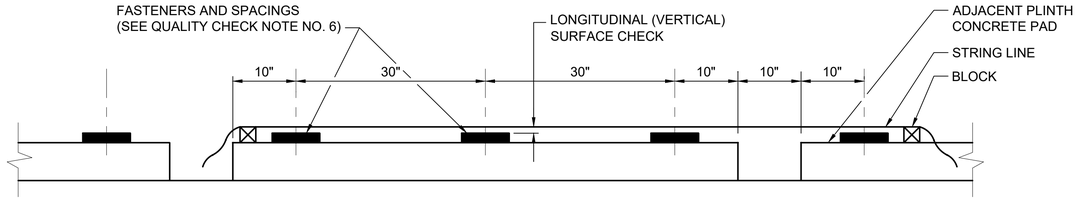
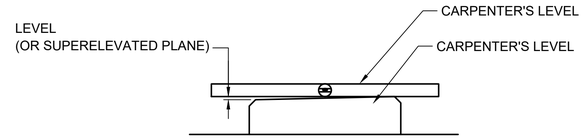


LONGITUDINAL CHECK



LATERAL CHECK

LIGHT RAIL QUALITY CHECK ON SURFACE INSTALLATION TYPICAL STRINGLINE DIRECT FIXATION FASTENER

SCALE: 1" = 1'-0"

DIRECT FIXATION TRACK INSTALLATION PROCEDURES:

THESE PROCEDURES ARE PROVIDED AS A REFERENCE GUIDE ONLY, AND BEGIN WITH ACCEPTANCE OF THE BASE (INVERT, AERIAL, OR SLAB) CONCRETE IN PLACE. ALTERNATE INSTALLATION PROCEDURES ACHIEVING EQUAL RESULTS MAY BE SUBMITTED BY CONTRACTOR FOR CONSTRUCTION RESIDENT ENGINEER'S APPROVAL.

DIRECT FIXATION TRACK CONSTRUCTION PERTAINS TO THE FOLLOWING TYPES OF TRACK INSTALLATIONS:

A. DIRECT FIXATION TRACK ON TUNNEL INVERT.

B. DIRECT FIXATION TRACK ON AERIAL STRUCTURES.

C. DIRECT FIXATION TRACK ON AT-GRADE SLAB TRACK.

THE FOLLOWING PROCEDURES OUTLINE THE SEQUENCE OF THE INSTALLATION FOR THE ABOVE TYPES OF TRACK CONSTRUCTION.

1. SURVEY CENTER LINE OF TRACK, ESTABLISHING SURVEY POINTS (HORIZ & VERT) EVERY 10 FEET ON TANGENTS AND 5 FEET ON CURES.
2. PREPARE CUT SHEETS BASED ON EXISTING BASE CONCRETE ELEVATIONS TO ESTABLISH TOP OF RAIL AND PLINTH CONCRETE ELEVATIONS.
3. ROUGHENED BASE CONCRETE SHALL BE CLEAN AND FREE OF LAITANCE TO PROVIDE A ROUGH SURFACE FOR INTERLOCKING OF PLINTH CONCRETE TO PARENT BASE CONCRETE.

4a. INSPECT AND CONFIRM POSITION OF EXISTING EPOXY-COATED REINFORCING BAR DOWELS TO SUIT PROPOSED PLINTH CONCRETE PAD LENGTHS, WIDTHS AND LAYOUTS.

4b. ALTER BY REMOVAL OR BENDING EXISTING DOWELS TO SUIT PLINTH PAD CONCRETE DIMENSIONS AND LAYOUT

4c. ADD ADDITIONAL DOWELS, WHERE REQUIRED, TO SUPPLEMENT REMOVED DOWELS.

4d. PLACE REINFORCING BARS, FORMING CAGES, WITHIN THE PLINTH CONCRETE ENVELOPE PROVIDING THE STATED SIDE CLEARANCE TO THE CONCRETE SURFACE

5a. POSITION FORMWORK TO GENERATE PLINTH CONCRETE SHAPE, LENGTH, AND OPENING IN ACCORDANCE WITH STANDARD DRAWINGS AND APPROVED CONTRACTOR SHOP DRAWINGS.

5b. FORMS OR SCREEDS SHALL BE POSITIONED TO PROVIDE PLINTH CONCRETE TOP ELEVATION ACCURATE TO THE TOLERANCES STATED IN THE SPECIFICATIONS AND AS SHOWN ON THE STANDARD DRAWINGS.

6a. USING CUT SHEETS AND ESTABLISHED SURVEY POINTS, POSITION, LOCATE AND JIG ANCHOR BOLT INSERTS FOR DIRECT FIXATION FASTENERS.

6b. ON CURVES REQUIRING EMERGENCY GUARD RAIL, POSITION, LOCATE AND JIG ANCHOR BOLT INSERTS FOR DIRECT FIXATION FASTENERS.

7. CLEAN BASE CONCRETE OF ALL OILS, CONTAMINATES AND DIRT FOR APPLICATION OF BONDING AGENT, AS REQUIRED.

8. PRIOR TO BONDING AGENT APPLICATION, INSPECTION AND APPROVAL MUST BE OBTAINED FROM THE CONSTRUCTION RESIDENT ENGINEER.

9. APPLY BONDING AGENT TO BASE CONCRETE SURFACES IN THE AREAS OF PLINTH CONCRETE CONSTRUCTION.

10a. PLACE PLINTH CONCRETE WITH APPROPRAITE VIBRATION TO FILL ALL CORNERS, AND GAPS AROUND REINFORCING BARS AND EMBEDDED ANCHOR INSERTS.

10b. CONCRETE SHALL BE PLACED AND FINISHED TO GENERATE A SMOOTH VOID FREE CONCRETE PLINTH SURFACE IN ACCORDANCE WITH THE SPECIFICATIONS.

11. AFTER PLINTH CONCRETE HAS REACHED SUFFICIENT STRENGTH TO RETAIN EMBEDDED ANCHOR INSERTS, REMOVE ANCHOR BOLTS AND FRAMEWORK AND PATCH SURFACE VOIDS AS REQUIRED USING EPOXY GROUT.

QUALITY CHECKS:

1. ALL DIRECT FIXATION FASTENER PLINTH CONCRETE TOP SURFACE SHALL BE :
   - LEVEL WITH A TOLERANCE OF 1/8" OVER 24" LATERALLY.
   - SLOPED FOR SUPERELEVATION WITH A TOLERANCE OF 1/8" OVER 24" LATERALLY.
   - LEVEL (OR TANGENT GRADE LINE) WITH A TOLERANCE OF:
     - 1/8" OVER 80" LONGITUDINALLY.
     - 1/4" OVER 160" INCHES LONGITUDINALLY.
   - FASTENERS IN VERTICAL CURVE TRACK SHALL BE CHECKED BY SIMILAR PROCEDURE USING VERTICAL OFFSETS BETWEEN FASTENERS AS COMPARISON.
2. ADJACENT PLINTH CONCRETE PADS SHALL BE WITHIN THE ABOVE TOLERANCES. ADJACENT FASTENER LEVELS SHALL BE WITHIN 1/16" OF EACH OTHER.
3. PLINTH CONCRETE SHALL BE QUALITY CHECKED PRIOR TO PLACEMENT OF FASTENERS. PLINTH CONCRETE SURFACE SHALL BE UNIFORM, NO SAGS OR CROWNS IN FASTENER SEAT AREA AND EMERGENCY GUARD RAIL BASE PLATE AREA.
4. DIRECT FIXATION FASTENER POSITION SHALL BE QUALITY CHECKED PRIOR TO PLACEMENT OF RAIL BY THE STRING LINE METHOD. HIGH OUT OF TOLERANCE FASTENERS SHALL BE CORRECTED BY SHIM CHANGEOUTS OR GRINDING OF CONCRETE PLINTH SURFACE WHERE IT IS APPARENT THAT ONE OR TWO ISOLATED FASTENERS ARE HIGH. IN THIS QUALITY CHECK PROCEDURE, ALL FASTENERS SHALL BE TIGHTLY BOLTED TO THE PLINTH CONCRETE SURFACE DURING THIS TEST.
5. A MINIMUM OF ONE 1/8" THICK SHIM SHALL BE INSTALLED UNDER EACH FASTENER, A MAXIMUM OF 1/2" THICK SHIM SHALL BE INSTALLED UNDER FASTENERS AS A CORRECTIVE PROCEDURE. HOWEVER, ONLY 3 FASTENERS CONSECUTIVELY MAXIMUM SHALL BE ALLOWED 1/2" THICK SHIMS. FASTENERS REQUIRING 3/4" AND HIGHER SHIM HEIGHT SHALL BE LIMITED TO SIX CONSECUTIVE FASTENERS. THE NOMINAL FASTENER SHIM HEIGHT SHALL BE 1/8" AT ALL LOCATIONS EXCEPT DIRECT FIXATION TRACK IN STATION AREAS WHERE THE NOMINAL SHIM HEIGHT SHALL BE 1/4"
6. QUALITY CHECK DETAIL IS SHOWN FOR 30" FASTENER SPACING. SEE DRAWING NOs STD-KAD120 TO STD-KAD128 INCLUSIVE FOR FASTENER SPACING CRITERIA.
7. QUALITY CHECK FOR TESTING ELECTRICAL ISOLATION SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS.

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2	2/2024	----	----	----	2024 REVISED STANDARD DWGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1" = 1'-0"
FILENAME: STD-KAD110
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
DIRECT FIXATION TRACK
INSTALLATION PROCEDURES
QUALITY CHECKS

DRAWING No.: **STD-KAD110**
FACILITY ID:
SHEET No.: 2
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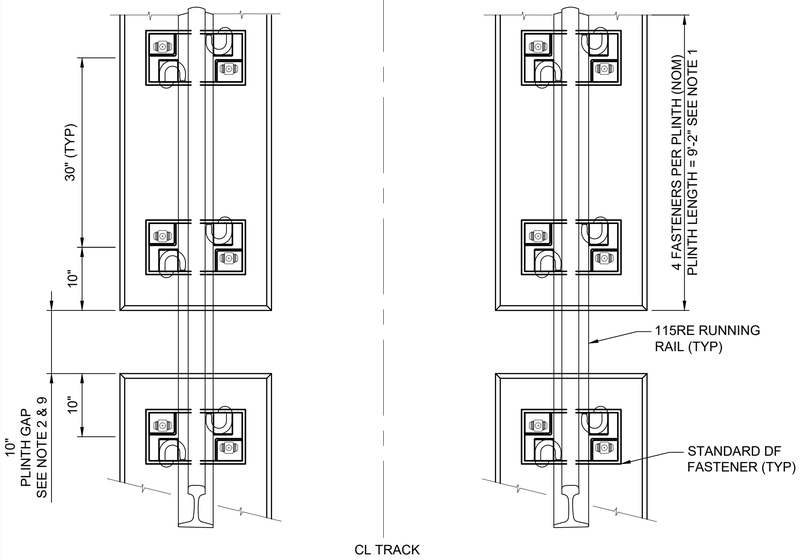
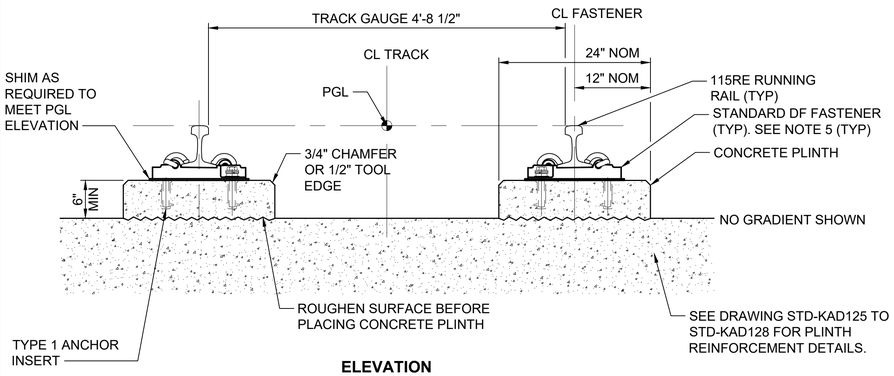


PLAN

GENERAL NOTES:

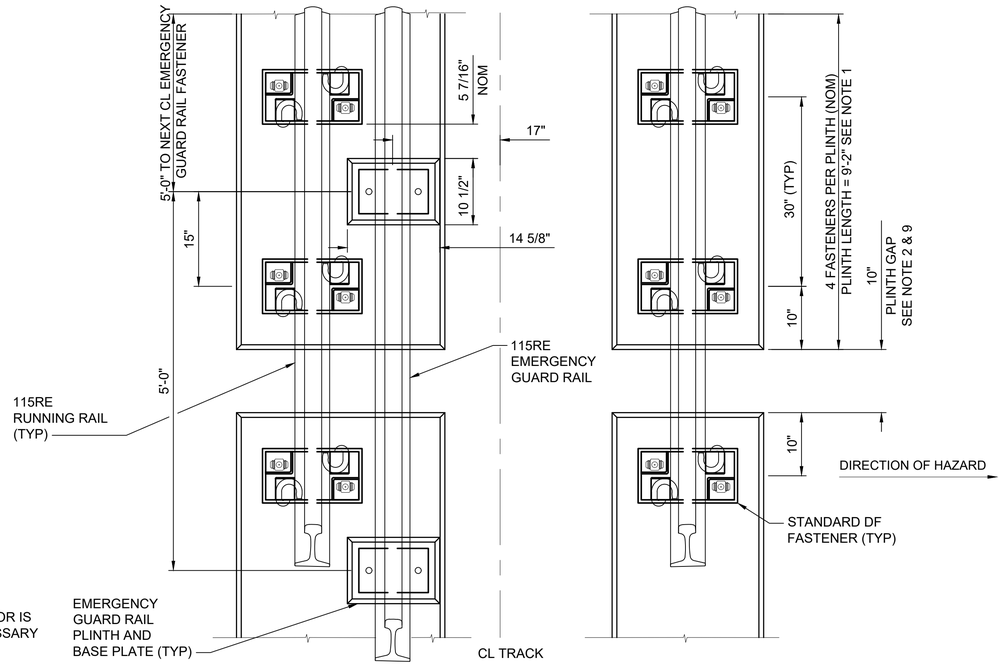
1. PLINTH CONCRETE SHALL BE PLACED IN SEGMENTS. SEGMENTS SHALL BETWEEN 2 AND 4 FASTENER LENGTHS.
2. PLINTH GAPS SHALL BE LOCATED AS REQUIRED FOR STRUCTURAL JOINTS, DRAINAGE, AND PASSAGE OF SIGNAL OR OTHER CABLES.
3. PLINTH SURFACE SHOWN DOES NOT INCLUDE APPLICABLE CROSS SLOPE OR CONSTRUCTION TOLERANCES. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ABILITY TO PLACE MINIMUM REQUIRED DIRECT FIXATION HEIGHTS AS SHOWN AND ANY NECESSARY MODIFICATIONS TO THE PLINTH SURFACE TO MAINTAIN THE PGL.
4. FOR FASTENER SPACING IN CURVES, SEE DWG STD-KAD121.
5. FOR STANDARD FASTENER DETAILS SEE DWG STD-KAD100. FOR STANDARD RESTRAINING RAIL DETAILS SEE DWG STD-KAD101.
6. GUARDRAIL CLIP COMPONENT INCLUDES HEAVY HEX BOLT, COVER PLATE ANCHOR, AND SPRING LOCK WASHER.
7. U-BOLT FOR EMERGENCY GUARD RAIL SHALL BE TIED TO PLINTH REINFORCEMENT FOR ELECTRICAL CONTINUITY OR, ALTERNATIVELY SHALL BE EPOXY COATED.
8. THE TOP LEVEL OF THE EMERGENCY GUARD RAIL MUST BE THE SAME LEVEL OF THE RUNNING RAIL WITH TOLERANCE OF -1" WHEN GROUT PAD IS USED AND 1-1/4" WHEN SHIMS ARE USED.
9. WHERE REQUIRED FOR PASSAGE OF SIGNAL OR OTHER CABLES AND STRUCTURAL JOINTS, THE PLINTH GAP CAN BE INCREASED BY UP TO 4". THE CENTER OF FASTENER TO THE END OF THE PLINTH MUST NOT BE LESS THAN 8".



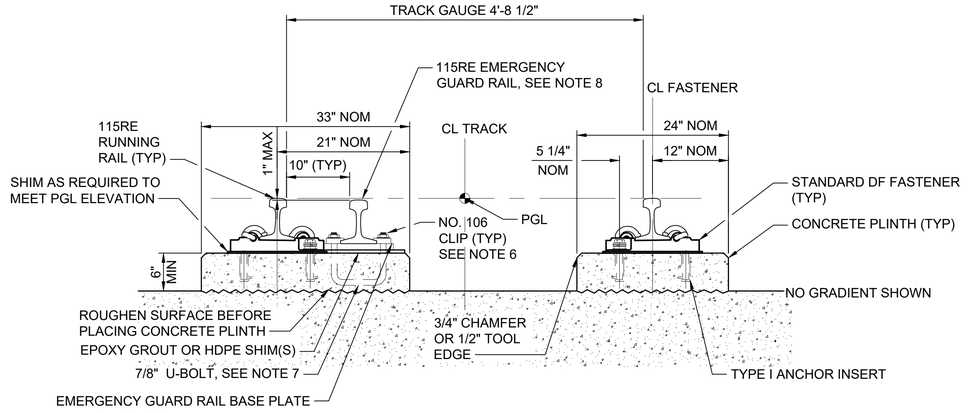
ELEVATION

DIRECT FIXATION TANGENT WITHOUT EMERGENCY GUARD RAIL INSTALLATION

SCALE: 1 1/2" = 1'-0"



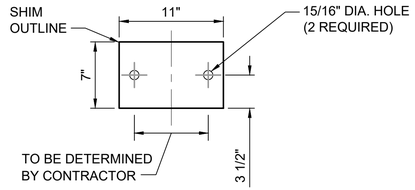
PLAN



ELEVATION

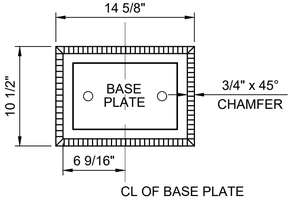
DIRECT FIXATION WITH EMERGENCY GUARDRAIL

SCALE: 1" = 1'-0"

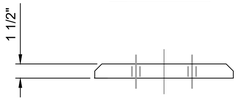


PLAN

ELEVATION



BASE PLATE PLAN



GROUT PAD ELEVATION

EMERGENCY GUARDRAIL PLINTH DETAIL

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1	8/2019	----	----	----	REVISED - C&A GUIDANCE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD120
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION TRACK
INSTALLATION SLAB OR INVERT
TANGENT TRACK PLAN AND TYPICAL SECTIONS

DRAWING No.: **STD-KAD120**
FACILITY ID:
SHEET No.: 2
REV:

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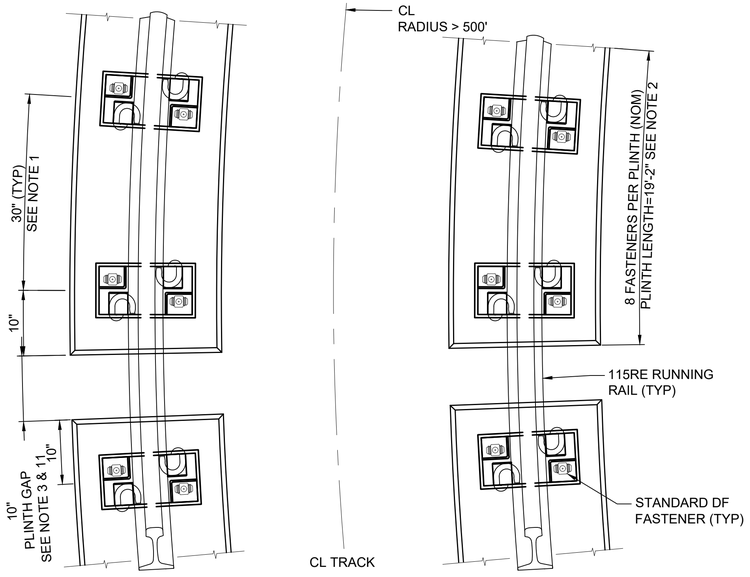
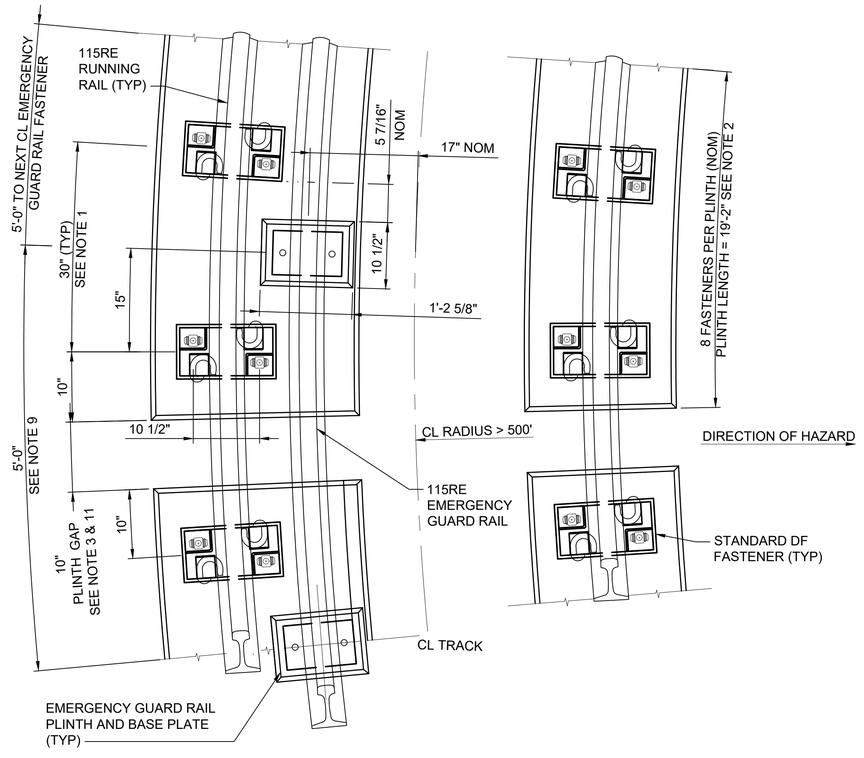


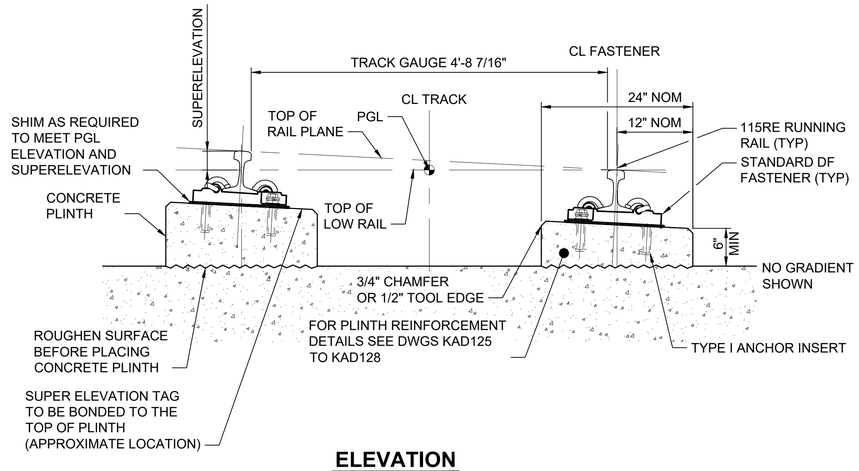
DIRECT FIXATION CURVED AND SUPERELEVATED TRACK WITH RADIUS > 500 FT WITHOUT EMERGENCY GUARD RAIL INSTALLATION

SCALE: 1"=1'-0"



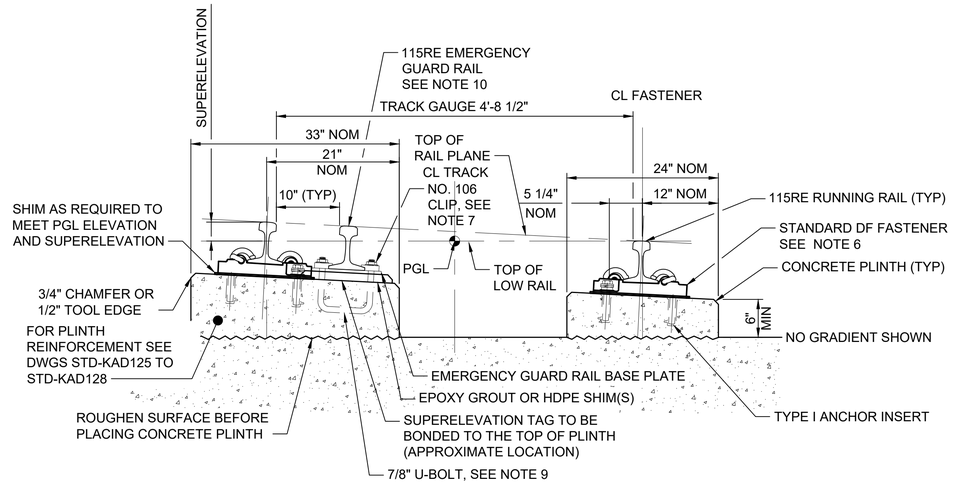
DIRECT FIXATION CURVED AND SUPERELEVATED TRACK WITH RADIUS > 500 FT WITH EMERGENCY GUARD RAIL INSTALLATION

SCALE: 1"=1'-0"



ELEVATION

SCALE: 1"=1'-0"



ELEVATION

SCALE: 1"=1'-0"

GENERAL NOTES:

1. FASTENER SPACING APPLIES FROM TS TO ST OF CURVES AND 100' OR SHORTER TANGENT SECTIONS BETWEEN CURVES. FASTENERS SPACING AT CENTERLINE OF OUTER RAIL FOR CURVES LESS THAN OR EQUAL TO 500' VARY AS PER FOLLOWING CURVE RADII.

CURVE RADIUS	FASTENERS SPACING
500' ≤ R 500' < 1000'	27"
300' < R < 500'	27"
R ≤ 300'	24"

2. PLINTH LENGTHS AND NUMBER OF FASTENERS PER PLINTH VARY (DUE TO SEGMENTAL CONSTRUCTION) AS PER THE FOLLOWING CURVE RADII.

CURVE RADIUS	NO FASTENERS PER PLINTH
R ≤ 200'	2
200' < R ≤ 300'	20R 3
300' < R ≤ 500'	2, 3, 4
500' ≤ R	BETWEEN 2 AND 8 AS REQUIRED

3. PLINTH GAPS SHALL BE LOCATED AS REQUIRED FOR STRUCTURAL JOINTS, DRAINAGE AND PASSAGE OF SIGNAL OR OTHER CABLES.
4. ON CURVED TRACKS DISTANCES SHOWN BETWEEN FASTENERS AND/OR PLINTH ENDS SHALL BE MADE AT THE CENTERLINE OF OUTSIDE RAIL. RAIL FASTENERS ON INSIDE RAIL OF CURVE SHALL BE PLACED RADIAL FROM OUTSIDE RAIL FASTENERS.
5. PLINTH SURFACE SHOWN DOES NOT INCLUDE APPLICABLE CROSS SLOPE OR CONSTRUCTION TOLERANCES. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ABILITY TO PLACE MINIMUM REQUIRED DIRECT FIXATION HEIGHTS AS SHOWN AND ANY NECESSARY MODIFICATIONS TO THE PLINTH SURFACE TO MAINTAIN THE PGL.
6. FOR FASTENER DETAILS SEE DWGS STD-KAD100 TO STD-KAD103.
7. CLIP COMPONENT INCLUDES HEAVY HEX BOLT, COVER PLATE ANCHOR, AND SPRING LOCK WASHER.
8. EMERGENCY GUARDRAIL FASTENERS SHALL BE SPACED SUCH THAT THEY ARE MIDWAY BETWEEN ADJACENT RUNNING RAIL FASTENERS. SPACING IS SUBJECT TO ADJUSTMENT TO ACCOMMODATE ADJACENT RUNNING RAIL FASTENER SPACING ADJUSTMENT, WHERE APPLICABLE, WITH A MINIMUM SPACING OF 5'-3".
9. U-BOLT FOR EMERGENCY GUARD RAIL SHALL BE TIED TO PLINTH REINFORCEMENT FOR ELECTRICAL CONTINUITY OR, ALTERNATIVELY SHALL BE EPOXY COATED.
10. THE TOP LEVEL OF THE EMERGENCY GUARD RAIL MUST BE THE SAME LEVEL OF THE RUNNING RAIL WITH TOLERANCE OF -1" WHEN GROUT PAD IS USED AND 1-1/4" WHEN SHIMS ARE USED.
11. WHERE REQUIRED FOR PASSAGE OF SIGNAL OR OTHER CABLES AND STRUCTURAL JOINTS, THE PLINTH GAP CAN BE INCREASED BY UP TO 4". THE CENTER OF FASTENER TO THE END OF THE PLINTH MUST NOT BE LESS THAN 8"

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1"=1'-0"
FILENAME: STD-KAD121
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION TRACK
INSTALLATION SLAB OR INVERT
CURVED TRACK PLAN TYPICAL SECTIONS

DRAWING No.: **STD-KAD121**
FACILITY ID:
SHEET No.: 2
REV:

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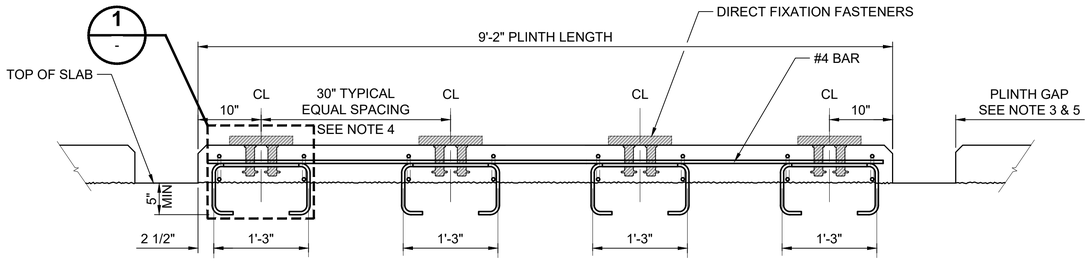
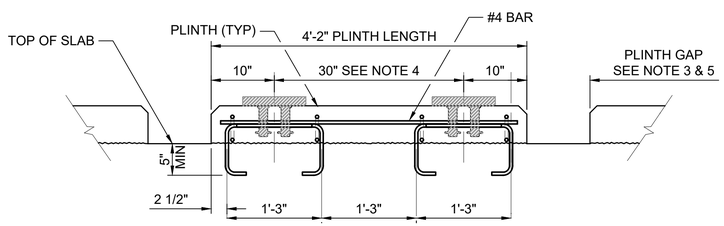
GENERAL NOTES:

1. PLACEMENT OF TIE BARS TO BE CLEAR OF FASTENER INSERT ANCHORS.
2. FOR EMERGENCY GUARD RAIL (EGR) LOCATION SEE TRACK CHARTS.
3. PLINTHS SHALL NOT OVERLAP ANY STRUCTURE JOINTS.
4. WHERE FASTENER SPACING ADJUSTMENT IS REQUIRED. REFER TO THE CONTRACT DOCUMENTS.
5. WHERE REQUIRED FOR PASSAGE OF SIGNAL OR OTHER CABLES AND STRUCTURAL JOINTS, THE PLINTH GAP CAN BE INCREASED BY UP TO 4". THE CENTER OF FASTENER TO END OF THE PLINTH MUST NOT BE LESS THAN 8".
6. 1/2" TOOLED EDGE CAN BE USED IN PLACE OF 1" CHAMFERED EDGE.



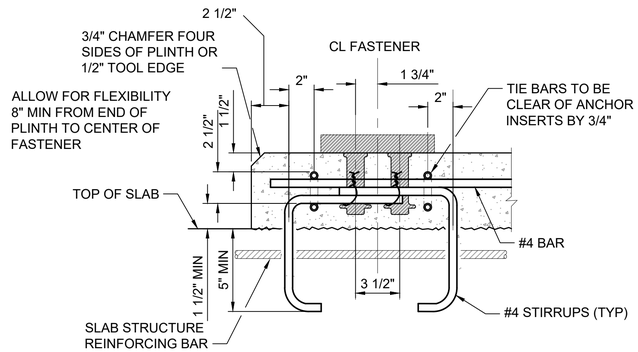
4 FASTENER LONGITUDINAL PLINTH LAYOUT

SCALE: 1" = 1'-0"



2 FASTENER LONGITUDINAL PLINTH LAYOUT

SCALE: 1" = 1'-0"



DETAIL - STIRRUPS

SCALE: NTS

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No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	4/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD125
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION TRACK
AERIAL GUIDEWAY PLINTH REINFORCING FASTERNER SPACING LAYOUT

DRAWING No.: STD-KAD125
FACILITY ID:
SHEET No.: 2
REV:

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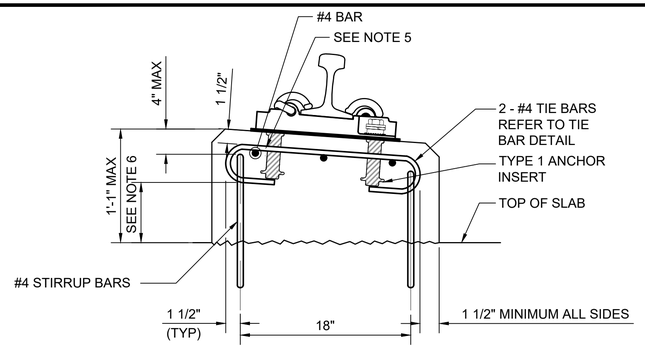
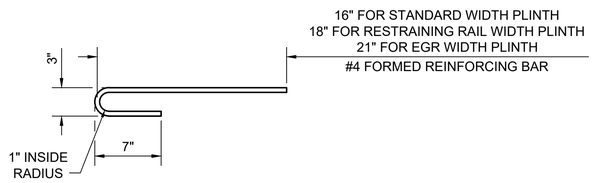


MAXIMUM SUPERELEVATION (Ea = 4")

SCALE: 1 1/2"=1'-0"

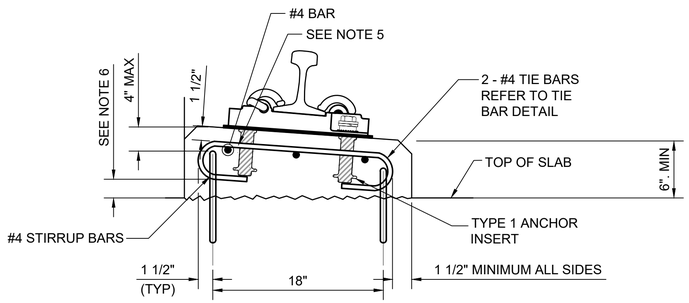


TIE BAR DETAIL

SCALE: 1 1/2"=1'-0"

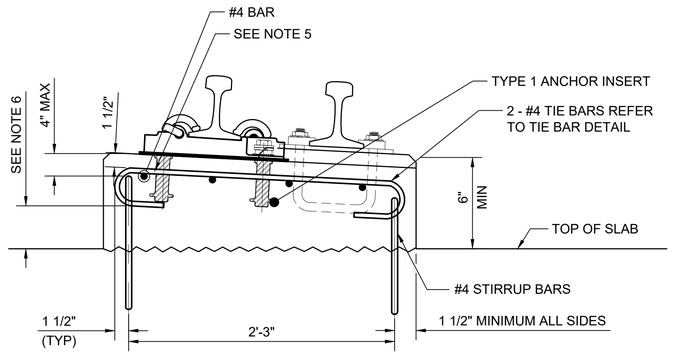
GENERAL NOTES:

1. TIE WIRES TO BE INSULATED.
2. PLINTH THICKNESSES SHOWN DO NOT CONSIDER SLAB CROSS SLOPE AND DO NOT ACCOUNT FOR SLAB CONSTRUCTION TOLERANCES.
3. PLINTH HEIGHT IS SUBJECT TO INCREASE OR DECREASE BASED ON AS-BUILT STRUCTURE SURFACE AND RETAINING DESIGNED PROFILE GRADE LINE.
4. PLINTHS SHALL NOT OVERLAP ANY STRUCTURE JOINTS.
5. REBAR MUST BE A MINIMUM OF 3/4" CLEAR OF ACNHOR INSERT.
6. CLEARNACE FROM THE TIE BAR TO THE BOTTOM OF INVERT SLAB MUST BE A MINIMUM OF 1 1/2".
7. 1/2" TOOLED EDGE CAN BE USED IN PLACE OF 1" CHAMFER EDGE



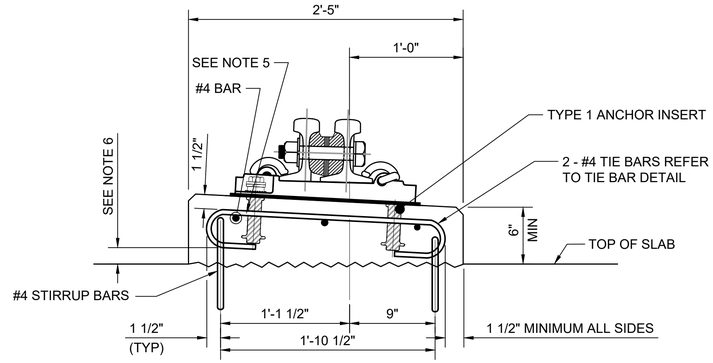
MINIMUM SUPERELEVATION (Ea = 1/2")

SCALE: 1 1/2"=1'-0"



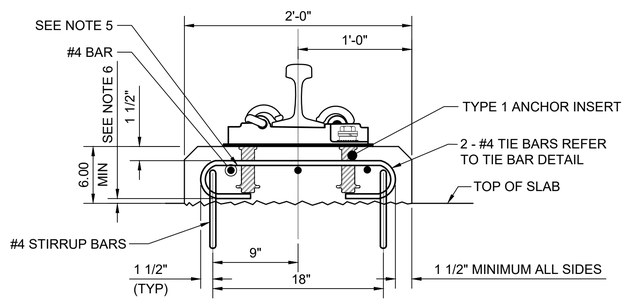
EGR WITH SUPERELEVATION

SCALE: 1 1/2"=1'-0"



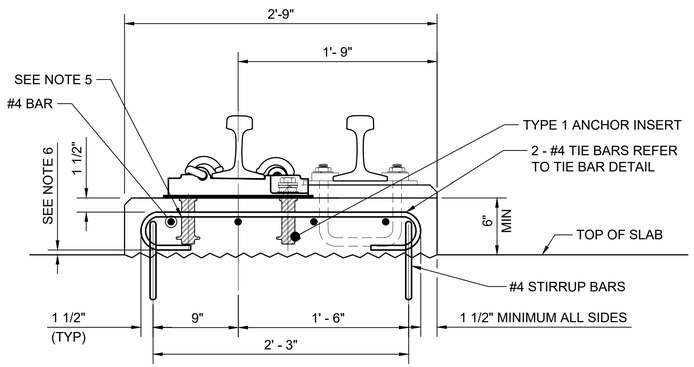
RESTRAINING RAIL WITH SUPERELEVATION

SCALE: 1 1/2"=1'-0"



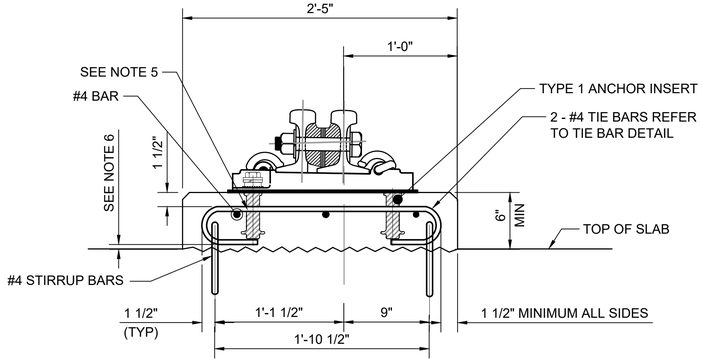
TANGENT NO SUPERELEVATION

SCALE: 1 1/2"=1'-0"



EGR TANGENT NO SUPERELEVATION

SCALE: 1 1/2"=1'-0"



RESTRAINING RAIL NO SUPERELEVATION

SCALE: 1 1/2"=1'-0"

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No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED- C&A GUIDANCE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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CHECKED BY:
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SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1 1/2" = 1'-0"
FILENAME: STD-KAD126
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION TRACK
AERIAL GUIDEWAY PLINTH REINFORCING
DETAILS

DRAWING No.: **STD-KAD126**
FACILITY ID:
SHEET No.: 2
REV:

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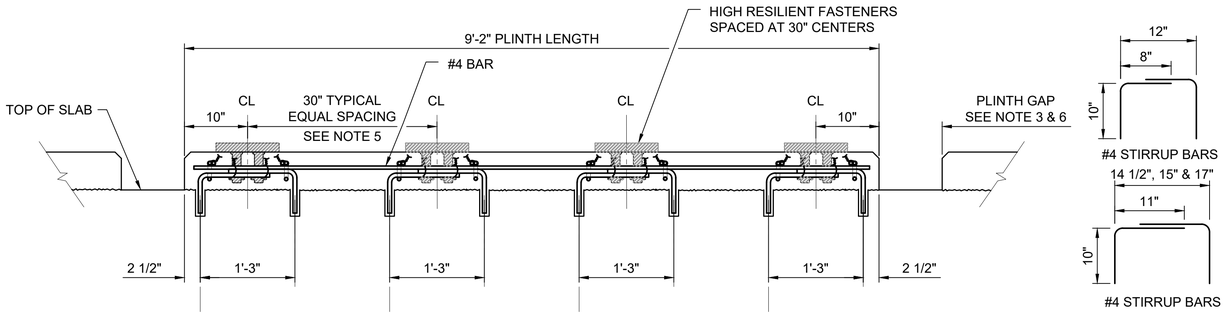
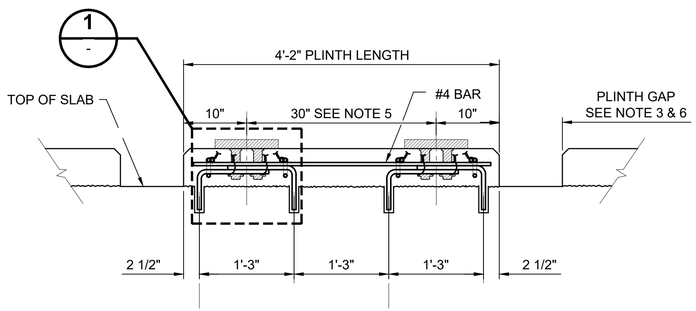
GENERAL NOTES:

1. PLACEMENT OF TIE BARS TO BE CLEAR OF FASTENER INSERT ANCHORS.
2. FOR EMERGENCY GUARD RAIL (EGR) LOCATIONS SEE TRACK CHARTS.
3. PLINTH GAP SHALL BE LOCATED AS REQUIRED FOR STRUCTURE JOINTS, DRAINAGE AND PASSAGE OF SIGNAL OR OTHER CABLES.
4. U SHAPED STIRRUP BAR CAN BE USED IN LIEU OF 2 LAPPED STIRRUP BARS.
5. WHERE FASTENER SPACING ADJUSTMENT IS REQUIRED REFER TO THE CONTRACT DOCUMENT.
6. WHERE REQUIRED FOR PASSAGE OF SIGNAL OR OTHER CABLES AND STRUCTURAL JOINTS, THE PLINTH GAP CAN BE INCREASED BY UP TO 4". THE CENTER OF FASTER TO END OF THE PLINTH MUST NOT BE LESS THAN 8".
7. 1/2" TOOLED EDGE CAN BE USED IN PLACE OF 1" CHAMFER EDGE



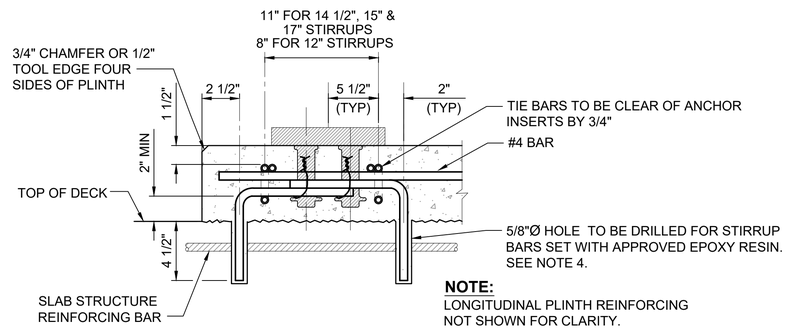
4 FASTENER LONGITUDINAL PLINTH LAYOUT

SCALE: 1" = 1'-0"



2 FASTENER LONGITUDINAL PLINTH LAYOUT

SCALE: 1" = 1'-0"



NOTE:
LONGITUDINAL PLINTH REINFORCING
NOT SHOWN FOR CLARITY.

DETAIL - STIRRUPS 1/-

SCALE: NTS

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 UPDATES
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARDS DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD127
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION
NON-AERIAL GUIDEWAY PLINTH REINFORCING
FASTENER SPACING LAYOUT

DRAWING No.: STD-KAD127
FACILITY ID:
SHEET No.: 2
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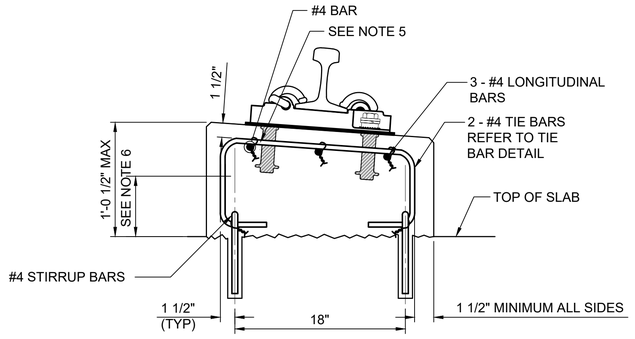
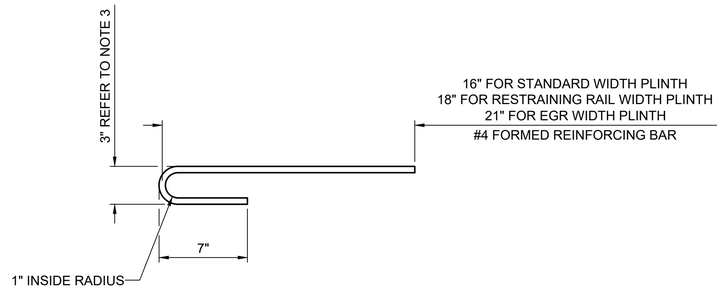


MAXIMUM SUPERELEVATION (Ea = 4")

SCALE: 1 1/2"=1'-0"

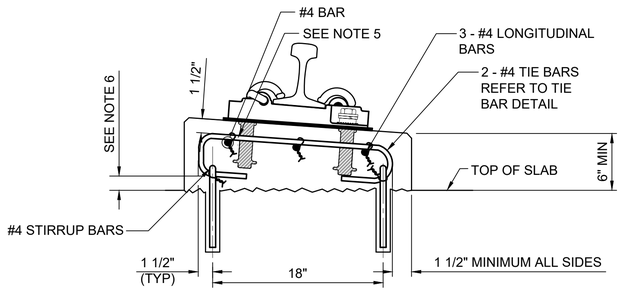


TIE BAR DETAIL

SCALE: NTS

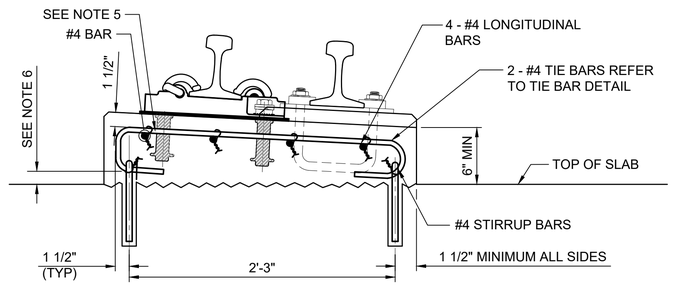
GENERAL NOTES:

1. TIE WIRES TO BE INSULATED.
2. PLINTH THICKNESS SHOWN DO NOT CONSIDER SLAB CROSS SLOPE AND DO NOT ACCOUNT FOR SLAB CONSTRUCTION TOLERANCES.
3. PLINTH HEIGHT IS SUBJECT TO INCREASE OR DECREASE BASED ON AS-BUILT STRUCTURE SURFACE AND RETAINING DESIGNED PROFILE GRADE LINE.
4. PLINTHS SHALL NOT OVERLAP ANY STRUCTURE JOINTS.
5. REBAR MUST BE A MINIMUM OF 3/4" CLEAR OF ANCHOR INSERTS.
6. CLEARANCE FROM THE TIE BAR TO THE BOTTOM OF INVERT SLAB MUST BE A MINIMUM OF 1 1/2".



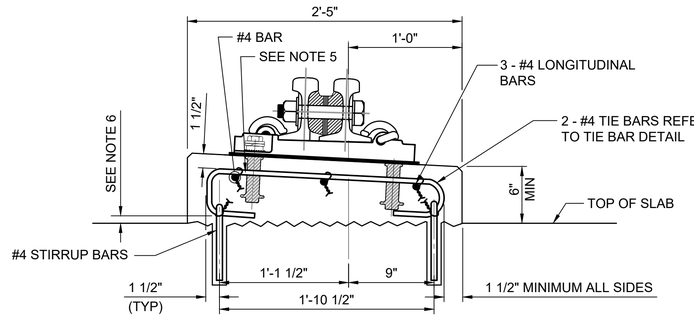
MINIMUM SUPERELEVATION (Ea = 1/2")

SCALE: 1 1/2"=1'-0"



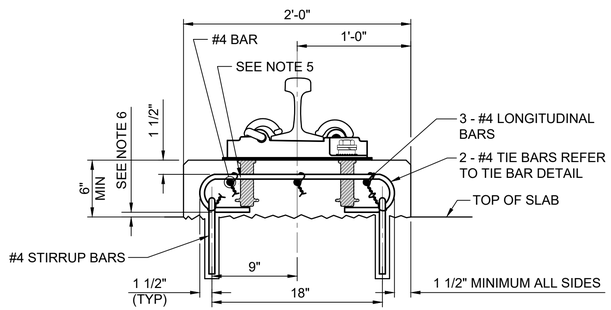
EGR WITH SUPERELEVATION

SCALE: 1 1/2"=1'-0"



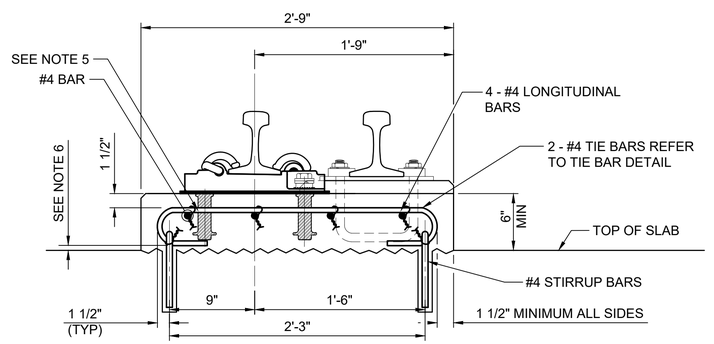
RESTRAINING RAIL WITH SUPERELEVATION

SCALE: 1 1/2"=1'-0"



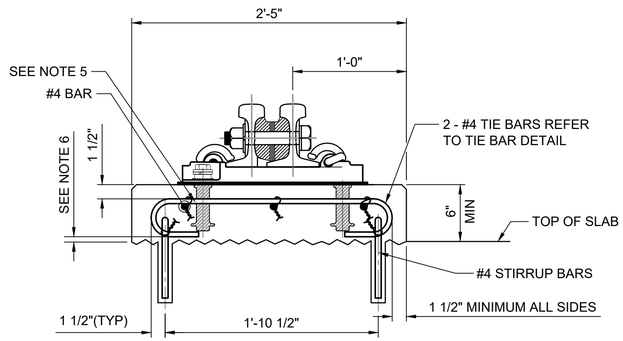
TANGENT NO SUPERELEVATION

SCALE: 1 1/2"=1'-0"



EGR TANGENT NO SUPERELEVATION

SCALE: 1 1/2"=1'-0"



RESTRAINING RAIL NO SUPER ELEVATION

SCALE: 1 1/2"=1'-0"

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1	4/2019	----	----	----	REVISED - C&A GUIIDANCE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
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SUBMITTED BY: -
DATE: -
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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1 1/2" = 1'-0"
FILENAME: STD-KAD128
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION TRACK
NON-AERIAL GUIDEWAY PLINTH REINFORCING DETAILS

DRAWING No.: **STD-KAD128**
FACILITY ID:
SHEET No.: 2
REV:

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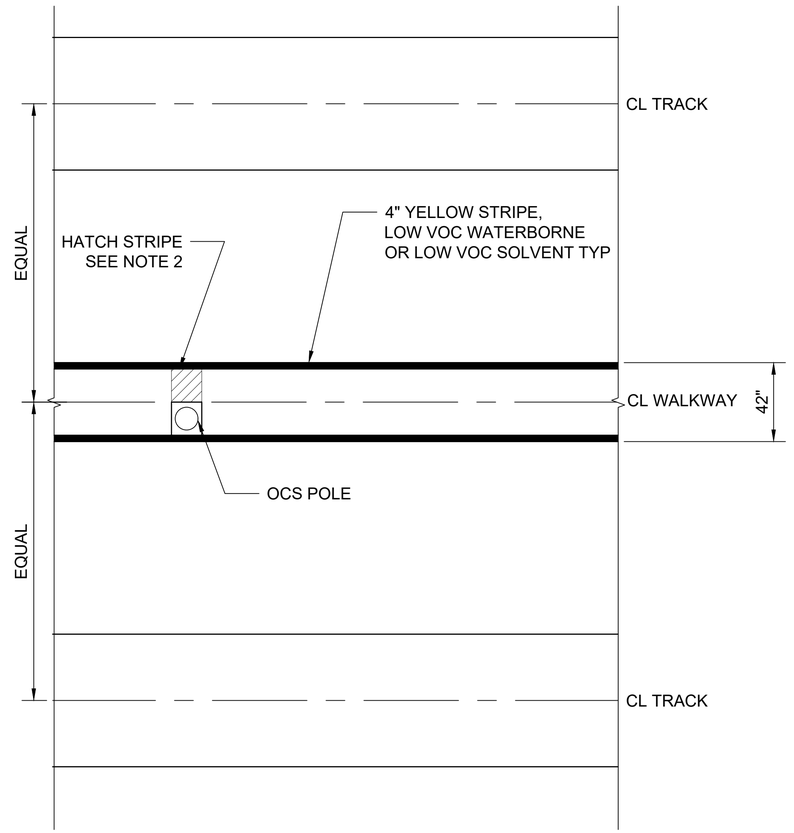
NOTES:

1. PAINT STRIPE AND HATCH STRIPE MARKINGS MUST BE YELLOW IN COLOR, PAINT TYPE MUST BE LOW VOC WATERBORNE OR LOW VOC SOLVENT.



TRACKWAY WALKWAY

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0	2/2024	----	----	----	2024 NEW STANDARD DRAWING

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APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD130
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

ELEVATED GUIDEWAY
CENTER MAINTENANCE WALKWAY STRIPING

DRAWING No.: **STD-KAD130**
FACILITY ID:
SHEET No.: REV: 0

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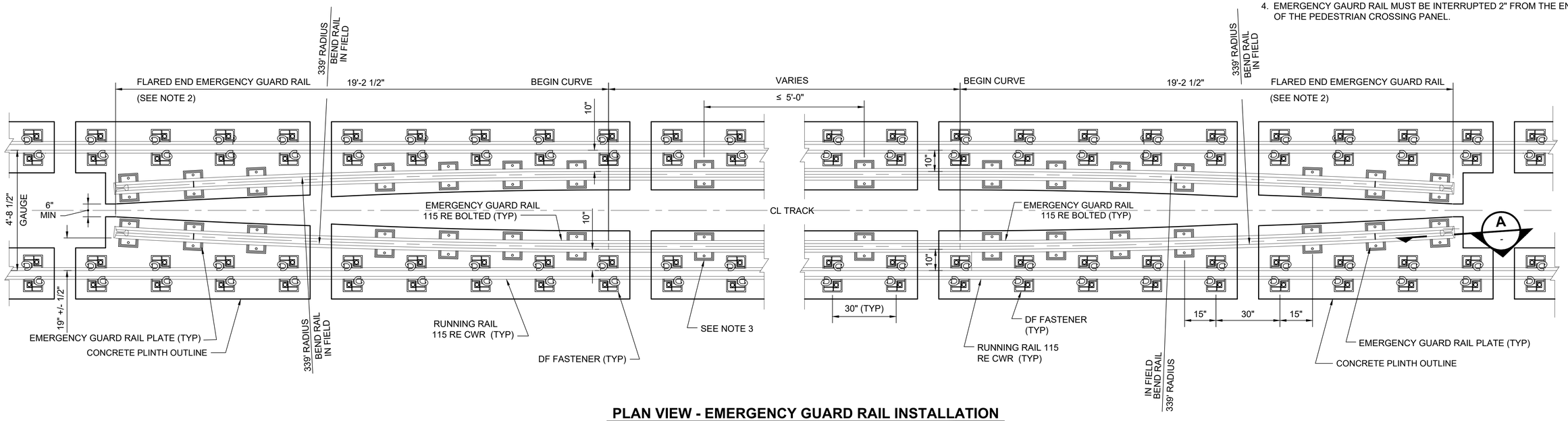
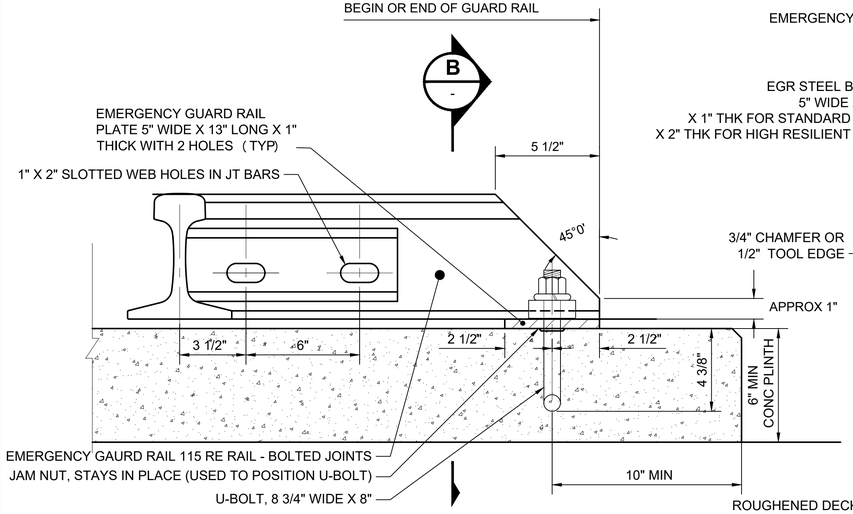
GENERAL NOTES:

1. FOR EMERGENCY GUARD RAIL DIRECT FIXATION TYPICAL SECTION AND DETAIL SEE DWG KAD120.
2. FOR LIMITS OF EMERGENCY GUARD RAILS SEE TRACK CHART DRAWING.
3. WITHIN THE FLARED END, THE EMERGENCY GUARD RAIL SHALL BE FASTENED IN SPACING OF 30" OR LESS. OTHER THAN THE FLARED END, THE EMERGENCY GUARD RAILS SHALL BE FASTENED IN 5'-0" OR LESS.
4. EMERGENCY GAURD RAIL MUST BE INTERRUPTED 2" FROM THE ENDS OF THE PEDESTRIAN CROSSING PANEL.



PLAN VIEW - EMERGENCY GUARD RAIL INSTALLATION

SCALE: 1/2" = 1'-0"



GUARD RAIL BEVEL END CUT DETAIL AT EACH END OF INSTALLATION

SCALE: 3"=1'-0"

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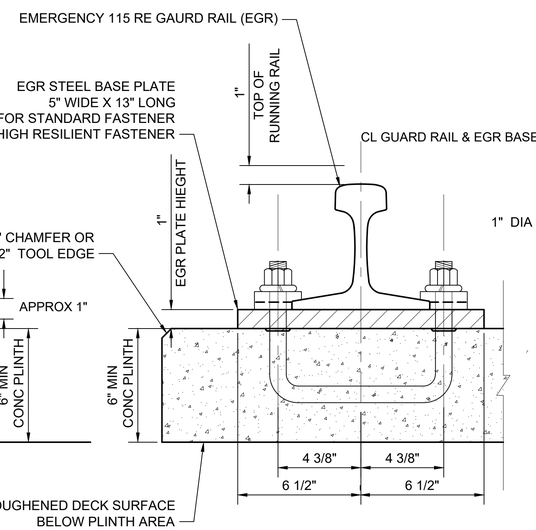

SECTION

SCALE: 3"=1'-0"

B
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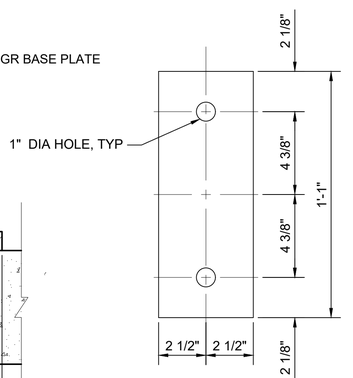
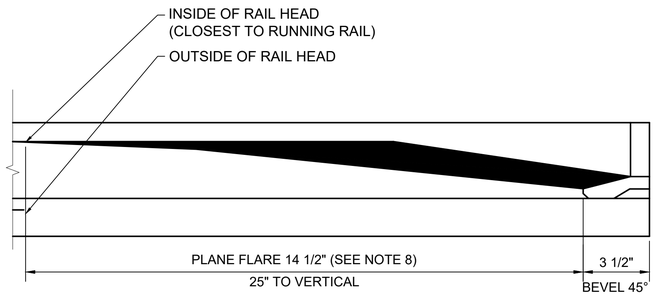


EMERGENCY GUARD RAIL PLATE DETAIL

NTS



PLAN VIEW - END OF GUARD RAIL FLARE DETAIL

NTS

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD145
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

DIRECT FIXATION
EMERGENCY GUARD RAIL INSTALLATION FLARE
LAYOUT AND DETAILS

DRAWING No.: **STD-KAD145**
FACILITY ID:
SHEET No.:
REV: 2

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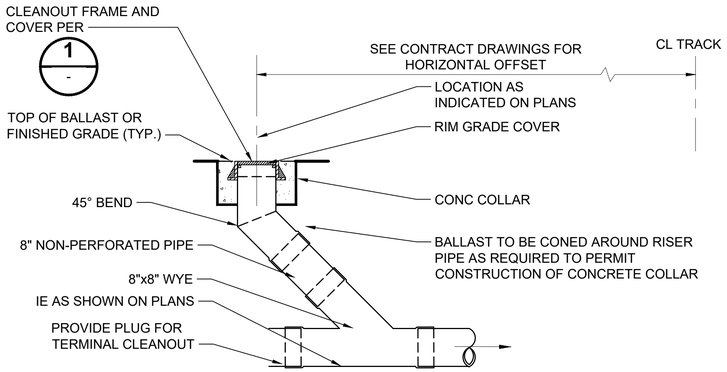
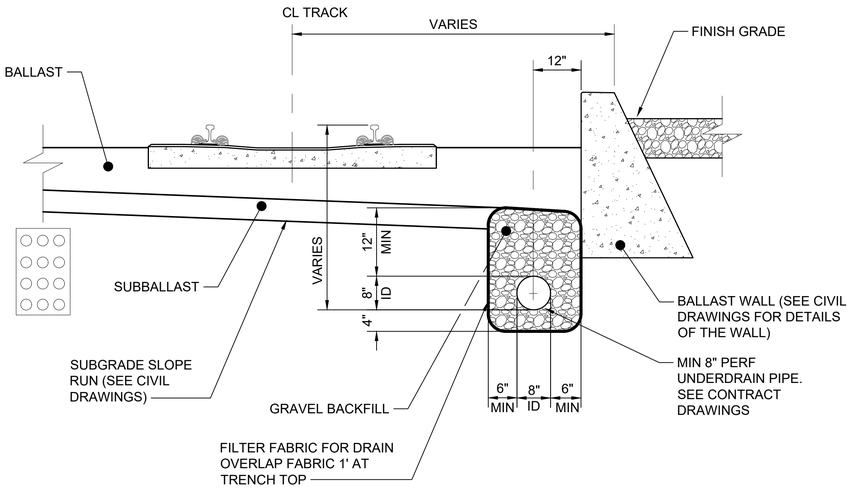


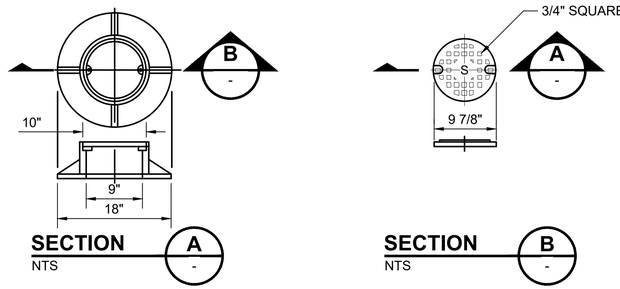
NOTE:

1. TERMINAL CLEANOUT SHALL BE PROVIDED AT UPSTREAM END OF ALL UNDERDRAINS.
2. CLEANOUTS SHALL BE LOCATED AT 300 LF (MAX) SPACING.

UNDERDRAIN CLEANOUT DETAIL
NTS

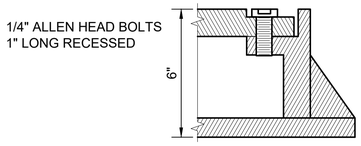


TYPICAL TRACK UNDERDRAIN DETAIL
NTS

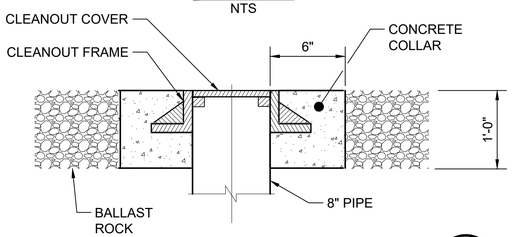


SECTION A
NTS

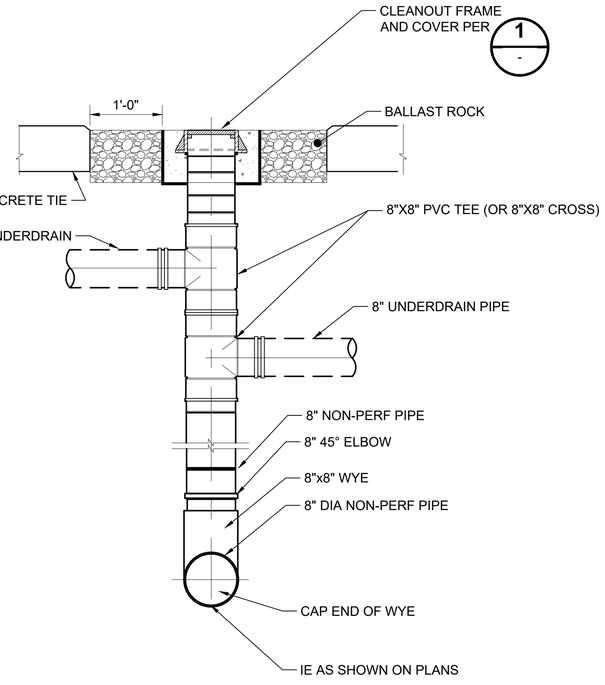
SECTION B
NTS



DETAIL
NTS



CLEANOUT COVER AND RING DETAIL
NTS — 1 -



UNDERDRAIN PIPE CONNECTION TO DRAIN PIPE
NTS

No.	DATE	DSN	CHK	APP	REVISION
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0	2/2024	----	----	----	2024 NEW STANDARD DRAWINGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-KAD251
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
UNDERDRAIN DETAILS

DRAWING No.: STD-KAD251
FACILITY ID:
SHEET No.: REV: 0

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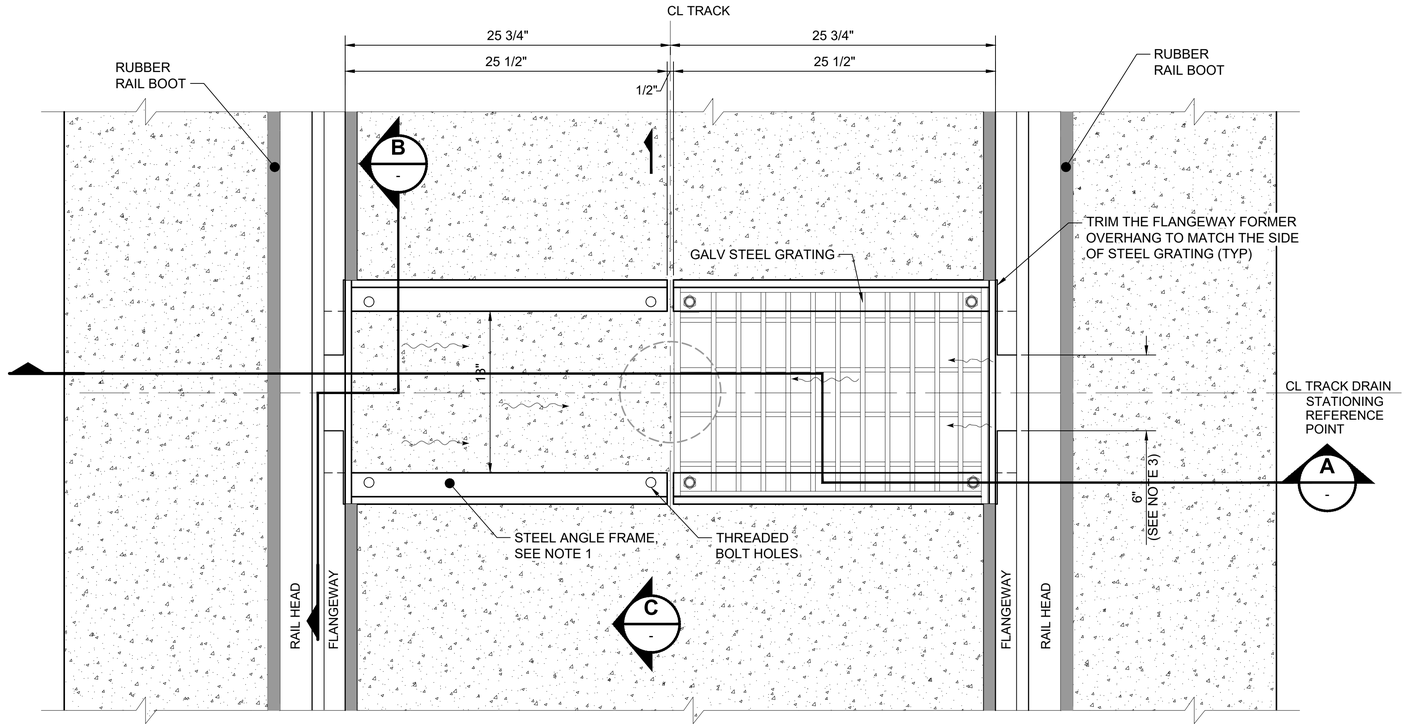
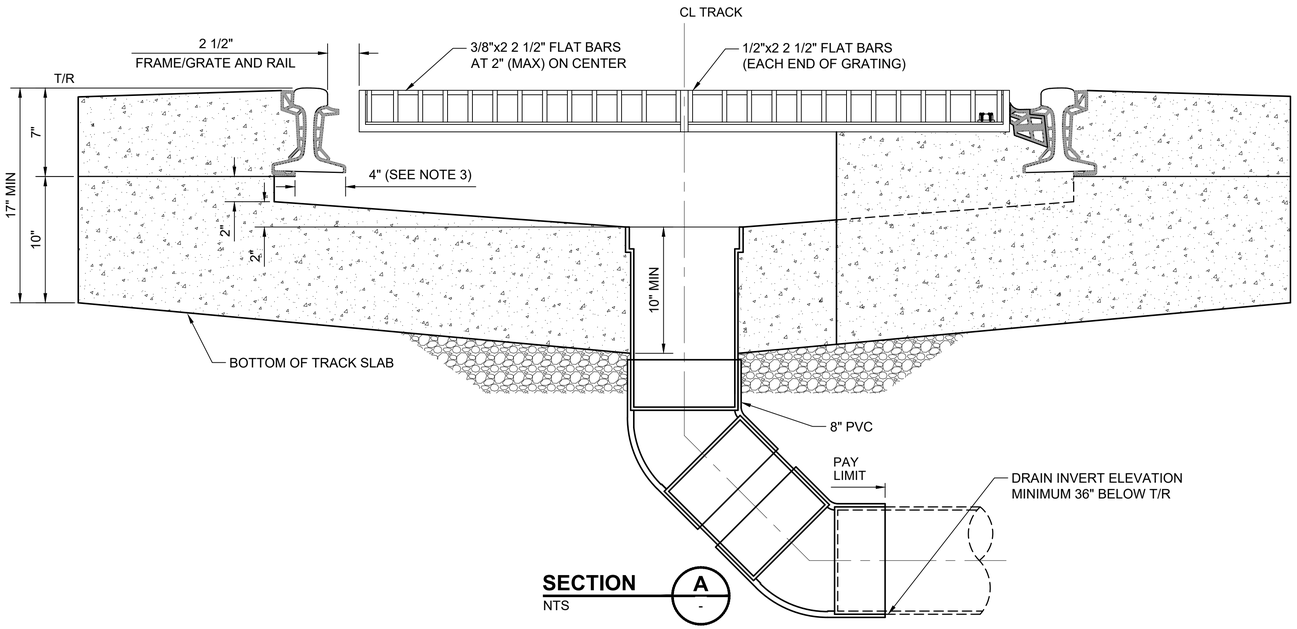


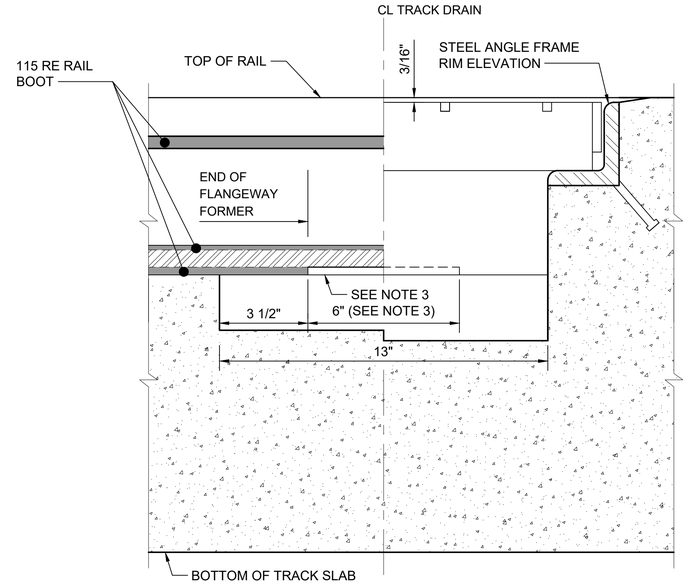
TRACK DRAIN DETAIL
NTS



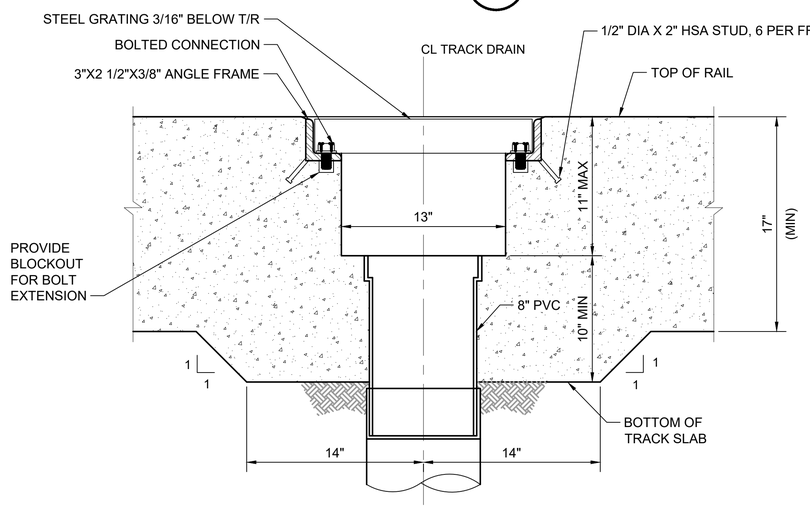
SECTION A
NTS

GENERAL NOTES:

1. SUBMIT STEEL ANGLE FRAME AND GRATING SHOP DRAWINGS TO RESIDENT ENGINEER FOR APPROVAL PRIOR TO FABRICATION. FRAME AND GRATE SHALL BE GALVANIZED STEEL.
2. BOLT GRATES TO FRAME.
3. SLOT BOTTOM OF BOOT AT CENTER OF DRAIN TO ALLOW BOOT VOIDS DRAINAGE. SLOT SHALL BE 6" LONG BY 4" WIDE AT GAUGE SIDE. SEAL WITH ELASTOMERIC GROUT OR SEALANT THE OPEN CAVITIES OF THE RAIL BOOT IN THE DOWNSTREAM SIDE OF THE SLOT. REMOVE 6" LENGTH OF RUBBER EXTRUSION FLANGEWAY FORMER TO DRAIN THE TRACK FLANGEWAY.



SECTION B
NTS



SECTION C
NTS

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 NEW STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEN GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD252
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

EMBEDDED TRACK CONSTRUCTION
ROAD INTERSECTIONS TRACK SLAB TRACK DRAIN
(115RE)

DRAWING No.: STD-KAD252
FACILITY ID:
SHEET No.: 2
REV:

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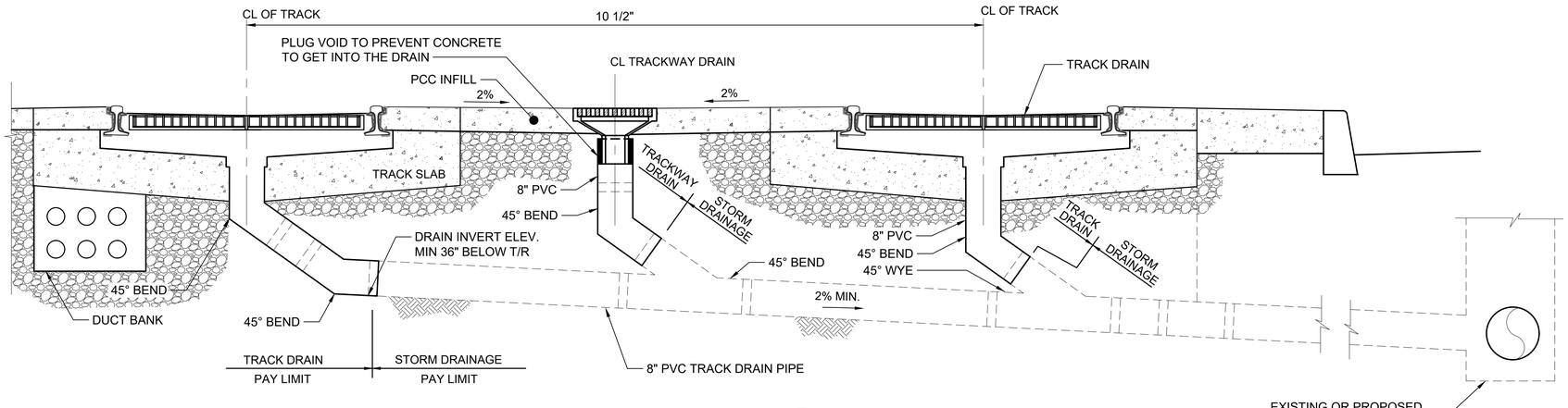
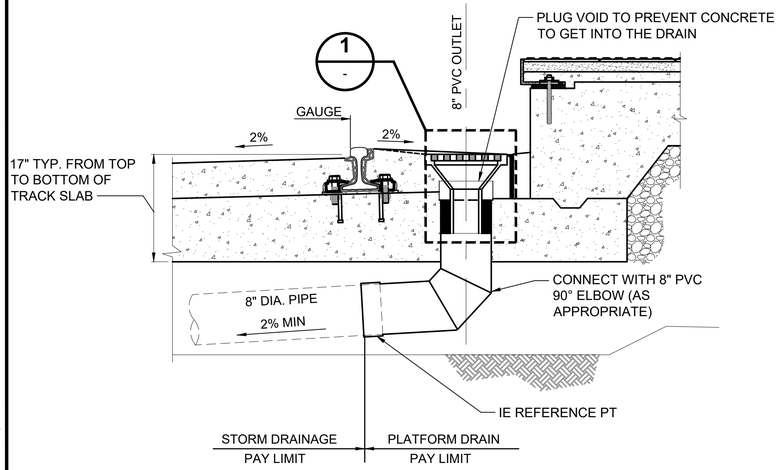
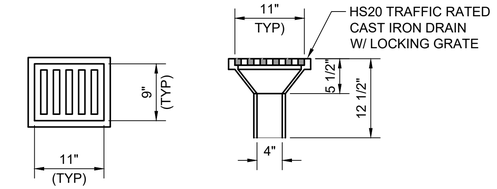


SECTION A / -
SCALE: 3/4" = 1'-0"

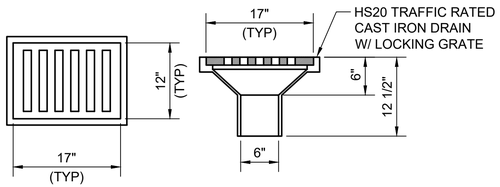


NOTE:
TOP OF DRAIN ALONG PLATFORMS SHALL BE SET AT A MIN. OF 3/4" BELOW TOP OF RAIL. CONCRETE SURFACE SHALL BE GRADED LOCALLY AROUND DRAIN.

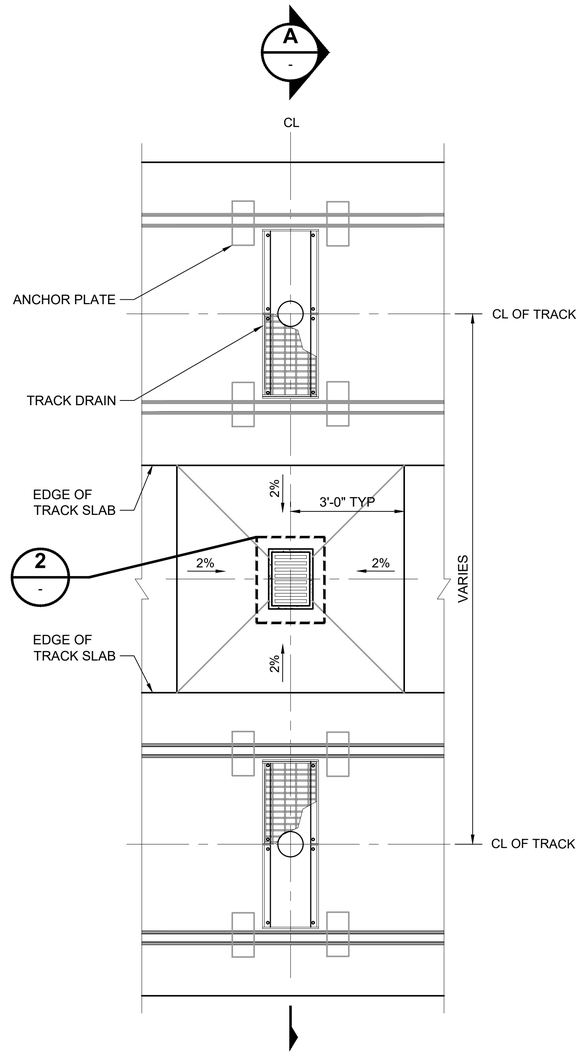
TRACKWAY DRAIN AT PLATFORM DETAIL
SCALE: 1" = 1'-0"



PLATFORM AND AERIAL DRAIN DETAIL 1 / -
SCALE: 1" = 1'-0"



TRACKWAY DRAIN DETAIL 2 / -
SCALE: 1" = 1'-0"



TYPICAL TRACK DRAIN AND TRACKWAY DRAIN LOCATION PLAN
SCALE: 1/2" = 1'-0"

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGFS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
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APPROVED BY:

SUBMITTED BY: -
DATE: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD255
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

EMBEDDED TRACK CONSTRUCTION
TRACK SLAB DRAINAGE DETAILS
DOUBLE MAINLINE TRACKS (115 RE)

DRAWING No.: **STD-KAD255**
FACILITY ID:
SHEET No.: 2
REV:

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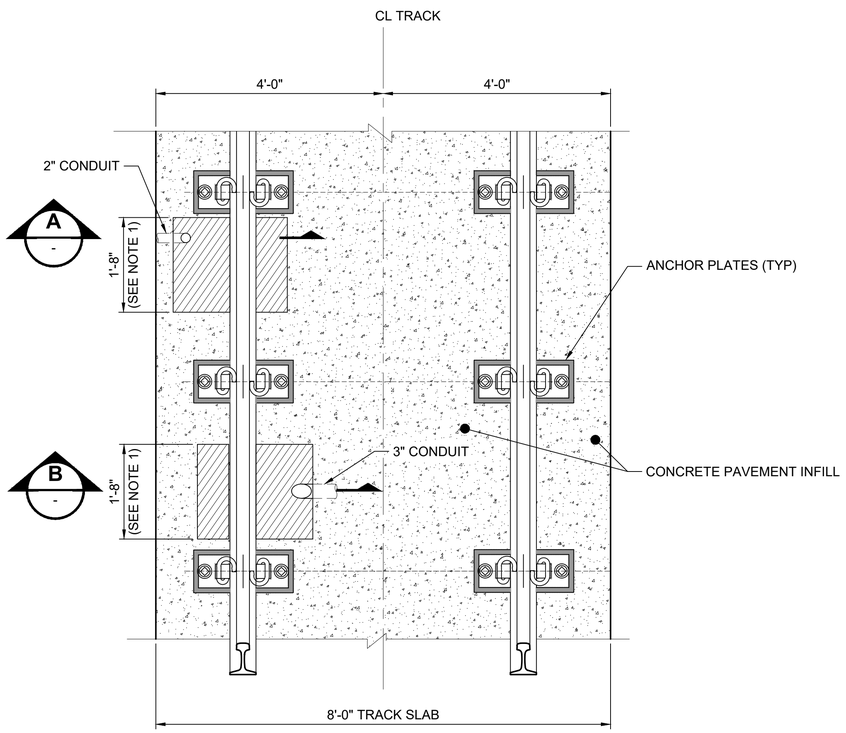
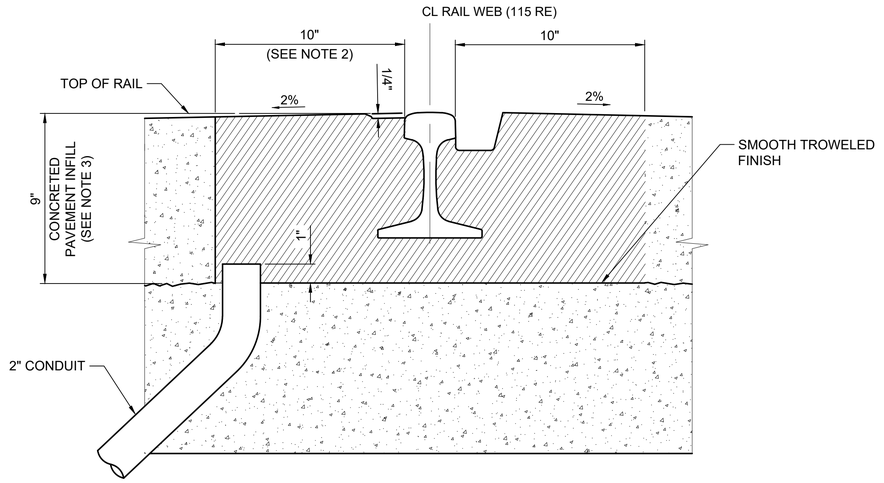


RAIL CONNECTION BLOCKOUT PLAN VIEW

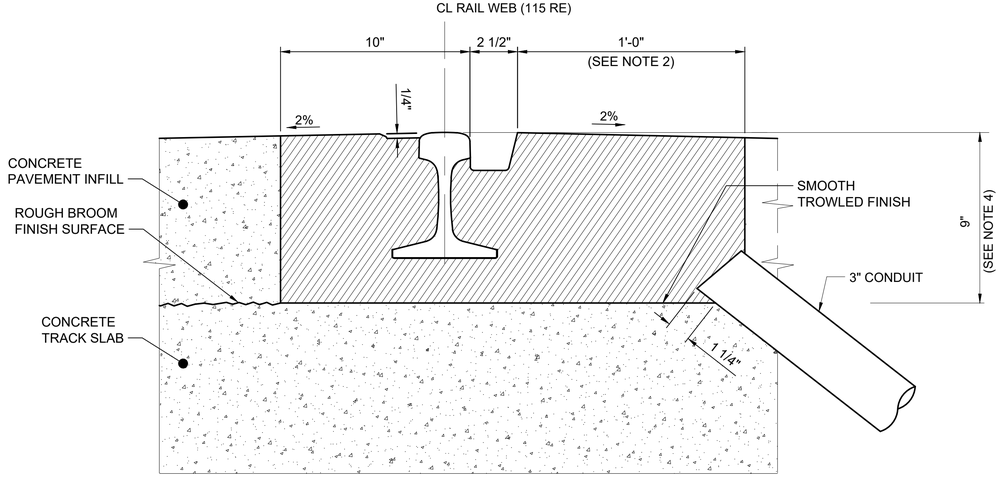
SCALE: 3/4" = 1'-0"



RAIL CONNECTION BLOCKOUT WITH 2" CONDUIT SECTION

A
-

SCALE: 3" = 1'-0"



RAIL CONNECTION BLOCKOUT WITH 3" CONDUIT SECTION

B
-

SCALE: 3" = 1'-0"

GENERAL NOTES:

1. SEE CONDUIT PLANS FOR LOCATION OF BLOCKOUTS. ADJUST LOCATIONS OF CONDUITS AND BLOCKOUTS IN FIELD TO AVOID INTERFERENCE WITH RAIL SUPPORTS.
2. BLOCKOUT DIMENSION IS FROM EITHER FIELD OR GAUGE SIDE OF RAILHEAD OR FLANGEWAY CUP WITH 115 RE RAIL.
3. DISCONTINUE RAIL BOOT THROUGH BLOCKOUT. HOWEVER PROVIDE 1 INCH OVERLAP INTO THE BLOCKOUT.
4. MINIMUM DEPTH FOR 2 INCH CONDUIT BLOCKOUT IS TO THE BASE OF RAIL OR TOP OF FIRST POUR, WHICHEVER IS DEEPER.
5. IF ROUTING CONFLICTS REQUIRE A VERTICAL STUB UP OF THE 3" CONDUIT THEN INCREASE BLOCKOUT DEPTH TO 1 FOOT.
6. CONDUITS SHALL BE CAPPED AND A NYLON PULLROPE INSERTED PRIOR TO ANY CONCRETE POURS. AFTER RAIL INSTALLATION COMPLETE, MANDREL THE CONDUIT AND RE-CAP LEAVING PULLROPE FOR FOLLOW-ON SYSTEMS CONTRACTOR.
7. AFTER INSTALLATION IS COMPLETE, FILL BLOCKOUT WITH TEMPORARY WOOD BLOCKS TO LEVEL FLUSH WITH ROAD SURFACE, CUT AND PLACE WOOD AS NECESSARY TO PROTECT CONDUIT STUB.
8. ELASTOMERIC GROUT PLACEMENT AND WELDED RAIL CONNECTIONS SHALL BE PERFORMED BY THE FOLLOW-ON SYSTEMS CONTRACTOR.

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No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD260
CONTRACT No.: RTA/LR -
DATE: X/2023

SOUND TRANSIT
STANDARD DRAWING
TRACKWORK

EMBEDDED TRACK CONSTRUCTION
SYSTEM RAIL CONNECTION BLOCKOUTS
SECTIONS AND DETAILS (115RE)

DRAWING No.: **STD-KAD260**
FACILITY ID:
SHEET No.: 2
REV:

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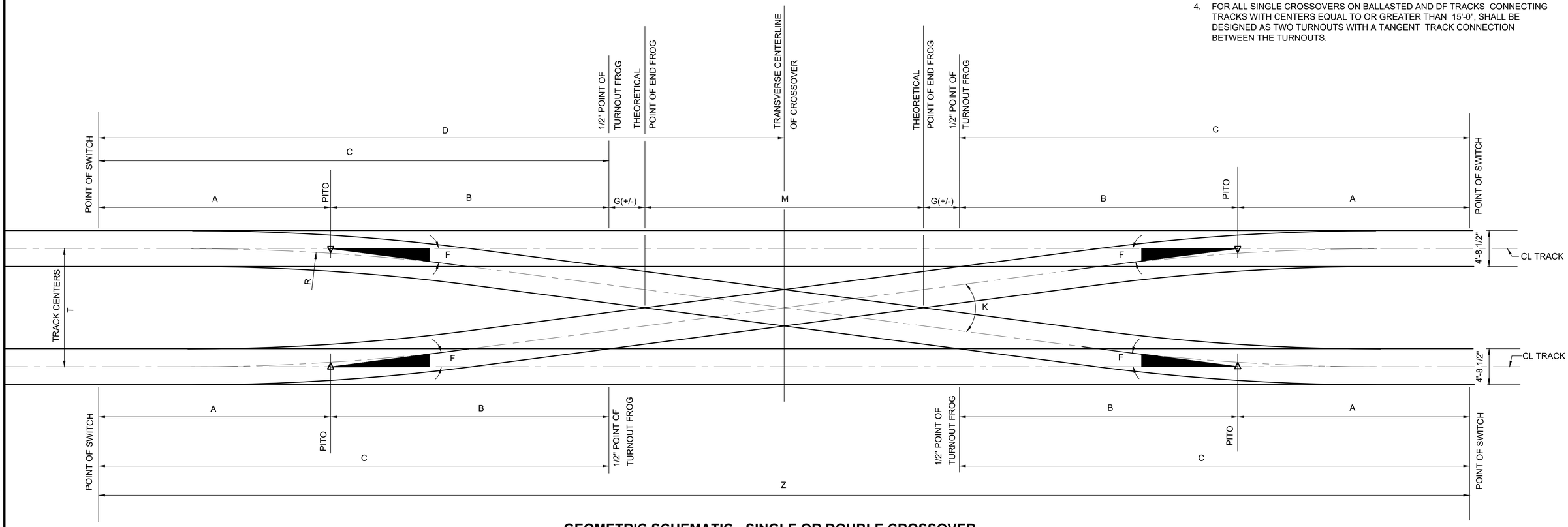
GENERAL NOTES:

1. GEOMETRIC DISTANCES BASED ON 4'-8 1/2" GAUGE. GEOMETRIC DISTANCES BASED ON TANGENT PITO TO PITO. TURNOUTS ARE BASED ON AREMA PLAN.
2. AN INCREASE OF 1.0 FOOT IN TRACK CENTERS CAUSES AN INCREASE OF N/2 AND N IN THE "D" AND "Z" DISTANCES RESPECTIVELY.
3. ALL DATA EXCEPT "G", "K" AND "M" ALSO APPLY TO SINGLE CROSSOVERS.
4. FOR ALL SINGLE CROSSOVERS ON BALLASTED AND DF TRACKS CONNECTING TRACKS WITH CENTERS EQUAL TO OR GREATER THAN 15'-0", SHALL BE DESIGNED AS TWO TURNOUTS WITH A TANGENT TRACK CONNECTION BETWEEN THE TURNOUTS.



GEOMETRIC SCHEMATIC - SINGLE OR DOUBLE CROSSOVER

NTS

TURNOUT DATA TABLE

TURNOUT NUMBER	FROG ANGLE F	SWITCH LENGTH & TYPE	LEAD C	PS TO PITO A	PITO TO 1/2" PF B	CENTERLINE RADIUS R	SWITCH			FROG	
							POINT ANGLE FROM TAN	HEEL ANGLE	RADIUS	TOE LENGTH	HEEL LENGTH
5	11°25'16"	13.00 CV	44.5417	20.7917	23.7500	188.10	1°41'31"	2°54'00"	616.55	4.5000	6.3333
5 EQL	11°25'16"	13.00 CV	44.5417	20.6731	23.8686	352.80	0°50'45"	2°54'00"	1233.10	4.5000	6.3333
6 (15.75' T)	9°31'38"	13.00 CV	49.7500	21.2491	28.5009	283.88	1°41'31"	2°54'00"	616.55	5.6875	11.6823
6 (14.00' T)	9°31'38"	13.00 CV	49.7500	21.2491	28.5009	283.88	1°41'31"	2°54'00"	616.55	5.6875	13.2083
8	7°09'10"	19.50 CV	69.0000	31.0000	38.0000	482.09	1°04'24"	1°59'15"	1222.17	6.2500	9.4167
10	5°43'29"	19.50 CV	78.9167	31.4167	47.5000	806.09	1°04'24"	1°59'15"	1222.17	7.4167	11.3333

(DIMENSIONS IN FEET UNLESS OTHERWISE NOTED)

CROSSOVER DATA TABLE

TRACK CENTERS T	TURNOUT NUMBER	SWITCH LENGTH & TYPE	OVERALL LENGTH Z	CROSSING DATA		OTHER DATA		
				K	M	D	N	G
14.00	6	13.00' CV	125.9149	19°03'16"	28.4462	62.9575	5.9584	-1.0156
15.75	6	13.00' CV	136.3420	19°03'16"	28.4462	68.1710	5.9584	4.1979
14.00	8	19.50' CV	173.5608	14°18'20"	37.8132	86.7804	7.9686	-1.1262
15.75	8	19.50' CV	187.5059	14°18'20"	37.8132	93.7529	7.9686	5.8463
14.00	10	19.50' CV	202.4856	11°26'58"	47.2018	101.2428	9.9752	-1.2748
15.75	10	19.50' CV	219.9421	11°26'58"	47.2018	109.9711	9.9752	7.4522

(DIMENSIONS IN FEET UNLESS NOTED OTHERWISE)

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -
DATE: 2/2024

SCALE: NTS
FILENAME: STD-KAD300
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
TURNOUT AND CROSSOVER DATA

DRAWING No.: **STD-KAD300**
FACILITY ID:
SHEET No.: 2
REV:

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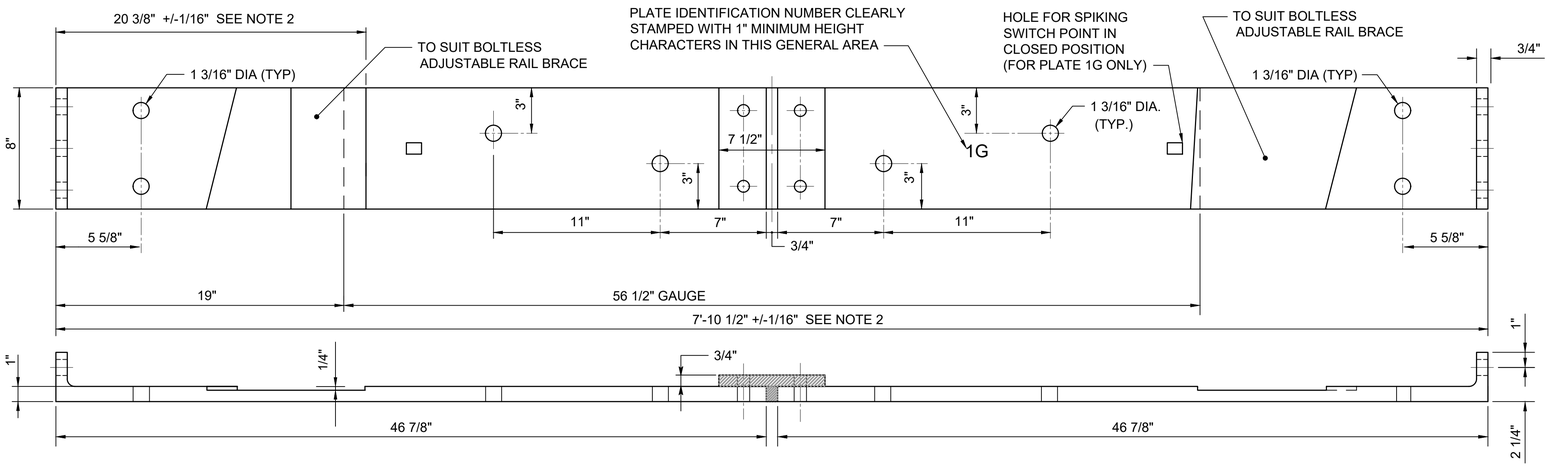
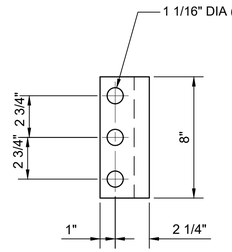


PLAN VIEW



SIDE VIEW

GENERAL NOTES:

1. RIGHT HAND INSULATED GAUGE PLATE No. 1G AND 2G SHOWN, LEFT HAND PLATE IS OPPOSITE.
2. GAUGE PLATES NO. 1 AND 2 ARE DESIGNED TO ACCOMMODATE SWITCH MACHINE CONNECTION ON EITHER END. DIMENSIONS MUST BE HELD TO SPECIFIED TOLERANCES.
3. ALL SPECIAL TRACKWORK FASTENING PLATES SHALL BE INSULATED.
4. GAUGE PLATES FOR FROG INSTALLATION SHALL INCLUDE WELD ON SHOULDERS FOR GUARD RAIL HOLD DOWN ASSEMBLY.

PLATE No. 1G AND 2G

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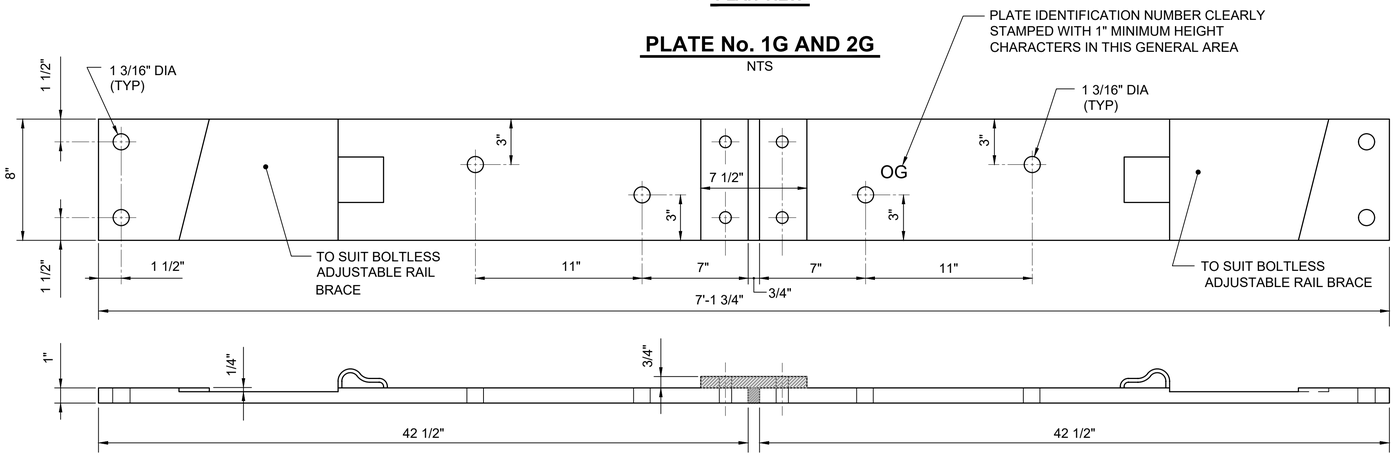
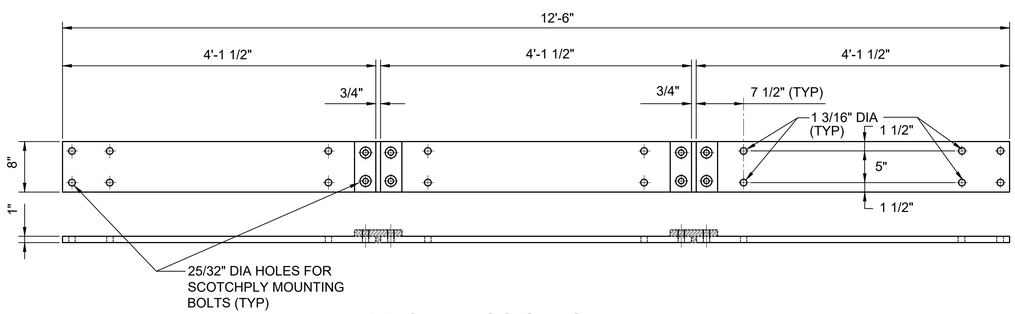


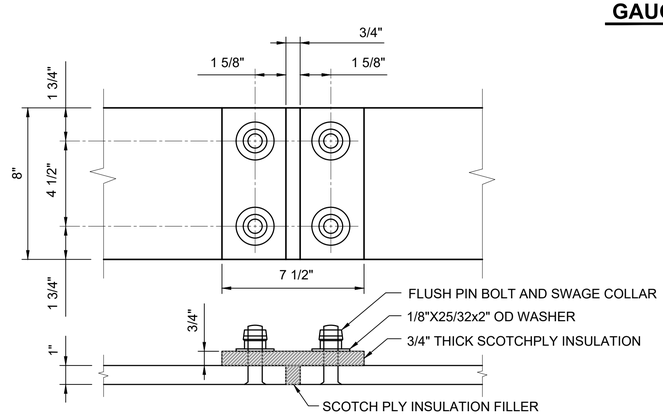
PLATE No. 0G

NTS



TYPICAL FROG GAUGE PLATE

NTS



TYPICAL FROG GAUGE PLATE

NTS

TURNOUT NUMBER (5, 8, 10)
R-RIGHT HAND OR L-LEFT HAND TURNOUT
F FROG
SPECIFIC PLATE NUMBER FOR POSITION
G1-FIRST GAUGE PLATE
G2-SECOND GAUGE PLATE
G3-THIRD GAUGE PLATE

10RFG2

FROGS

0G ← SPECIFIC PLATE NUMBER FOR POSITION
0G-GAUGE PLATE AHEAD OF POINT OF SWITCH
1G-FIRST GAUGE PLATE BEHIND POINT OF SWITCH
2G-SECOND GAUGE PLATE BEHIND POINT OF SWITCH
SWITCH GAUGE PLATES ARE IDENTICAL ON ALL SWITCH TYPES

SWITCHES

GAUGE PLATE IDENTIFICATION STAMPING

No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	8/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -
DATE: 2/2024

SCALE: NTS
FILENAME: STD-KAD305
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

SPECIAL TRACKWORK
GAUGE PLATES
BALLASTED

DRAWING No.: **STD-KAD305**
FACILITY ID:
SHEET No.: REV: 1

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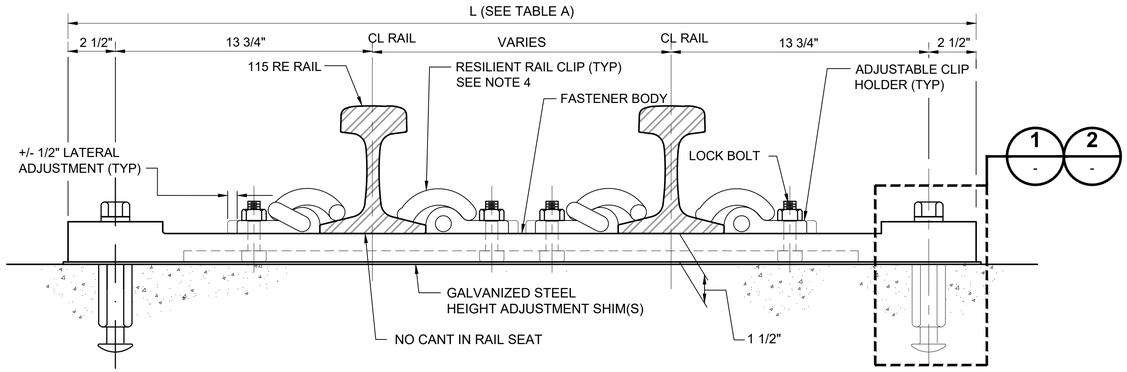
TABLE A SPECIAL TRACKWORK DF FASTENER LENGTH	
TYPE	L
H2	32 1/2"
H3	38 1/4"
H4	48"
H8	66"
10GR1 OR 8GR1	VARIES
10GR2 OR 10GR2	VARIES

BILL OF MATERIAL	
QTY	DESCRIPTION
1	SPECIAL TRACKWORK DF FASTENER BODY (VULCANIZE BONDED W/ ELASTOMER)
A/R	RESILIENT RAIL CLIP (SEE NOTE 4)
A/R	LOCK BOLTS, NUTS AND WASHER
A/R	EPOXY-COATED ANCHOR INSERT
A/R	ANCHOR BOLT
A/R	ADJUSTABLE CLIP HOLDER (SEE NOTE 6)
A/R	BRACES
A/R	BRACE COVER PLATES
A/R	GALVANIZED STEBRACE COVER PLATESEL HEIGHT ADJUSTMENT SHIMS OF 1/16", 1/8", 3/16" AND 1/4" THICKNESS (SEE NOTES 2 & 3)
A/R	EPOXY GROUT (FOR ALT. 1 INSTALLATION ONLY)

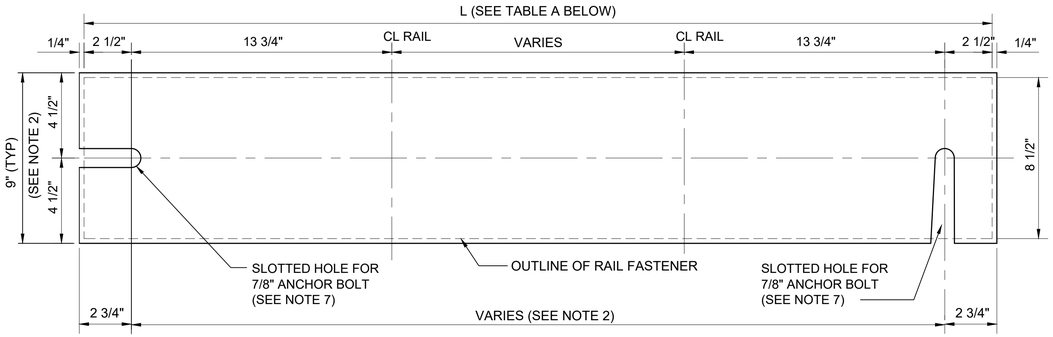
GENERAL NOTES:

1. AT THE OPTION OF THE INSTALLATION CONTRACTOR, ANCHOR INSERT SHALL BE INSTALLED BY EITHER THE DRILL AND GROUT METHOD OR CAST-IN-PLACE WITH SECOND POUR CONCRETE.
2. THE HEIGHT-ADJUSTMENT SHIMS SHALL PROVIDE 1/4 INCH MINIMUM HORIZONTAL PROJECTION BEYOND ALL SIDES OF THE FASTENER AT ANY INSTALLED POSITION.
3. TOTAL NUMBER OF SHIMS PLACED UNDER RAIL FASTENER BODY FOR HEIGHT ADJUSTMENT SHALL BE LIMITED TO A MAXIMUM OF TWO SHIMS AND A MAXIMUM TOTAL THICKNESS OF 1/2".
4. WHERE DF RAIL FASTENERS ARE LOCATED UNDER RAIL JOINTS, INSTALL PANDROL TYPE "E-2063" RAIL CLIPS OR APPROVED EQUALS.
5. BOLT HOLES DIAMETER AND NUMBER OF ANCHOR BOLTS REQUIRED FOR INSTALLATION SHALL BE AS RECOMMENDED BY THE SUPPLIER OF DF FASTENERS.
6. FIXED CLIPS ARE REQUIRED AT LOCATIONS THAT SPRING CLIP HOLDER OR SPRING CLIP WILL NOT FIT, THIS WILL OCCUR AT BOLTED JOINTS AND NARROW AREAS BETWEEN RAILS. CONTRACTOR WILL BE RESPONSIBLE TO LOCATE AREAS WHERE THESE INSTALLATIONS WILL OCCUR.
7. SHIM'S SLOTTED HOLES SHAPE AND SIZE SHALL BE AS RECOMMENDED BY THE SUPPLIER OF DF FASTENERS.



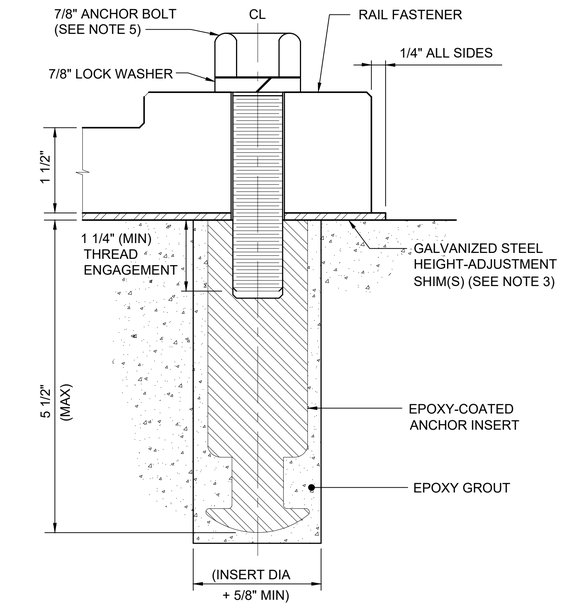
SPECIAL TRACKWORK DF FASTENER TYPICAL SECTION

NTS



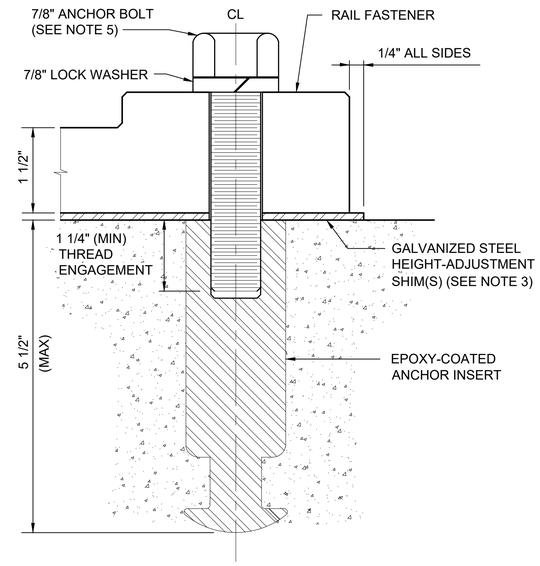
SHIM DETAIL

NTS



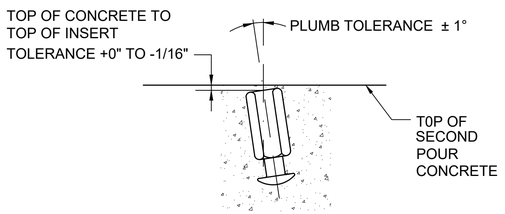
DRILL AND GROUT METHOD INSTALLATION ALTERNATIVE 1 DETAIL 1 -

NTS



CAST-IN-PLACE INSTALLATION ALTERNATIVE 2 DETAIL 2 -

NTS



ELEVATION INSERT PLACEMENT TOLERANCE

NTS

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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-KAD306
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

SPECIAL TRACKWORK
RAIL FASTENER DETAILS
DIRECT FIXATION

DRAWING No.: **STD-KAD306**
FACILITY ID:
SHEET No.: 2
REV:

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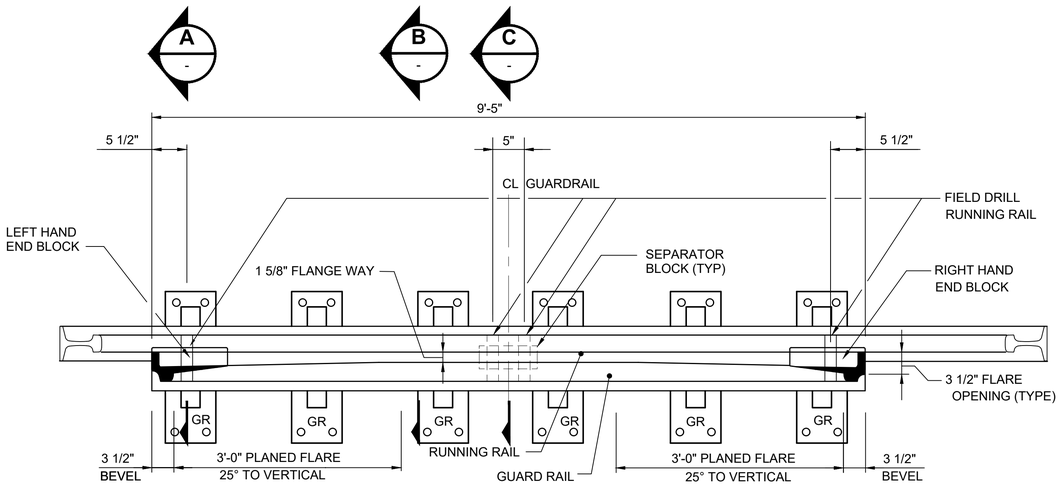
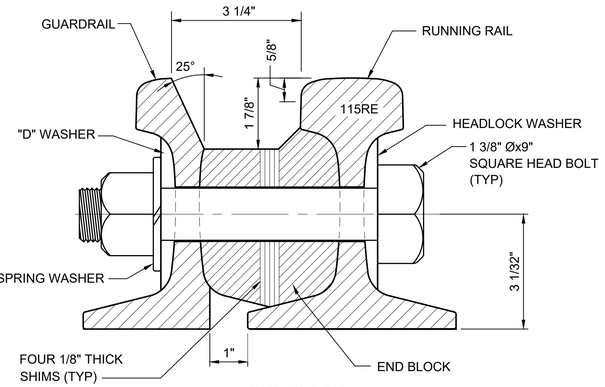


9'-5" TEE GUARD RAIL

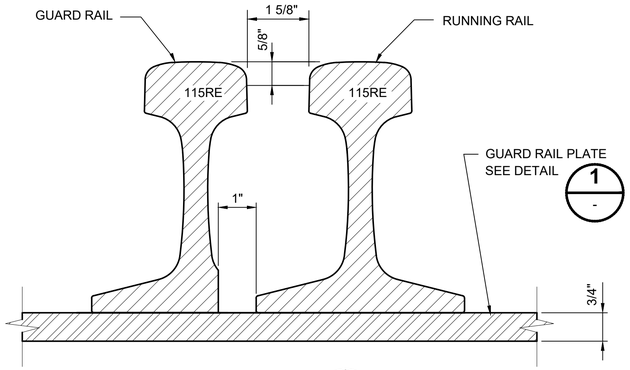
SCALE: 1" = 1'-0"



END BLOCK

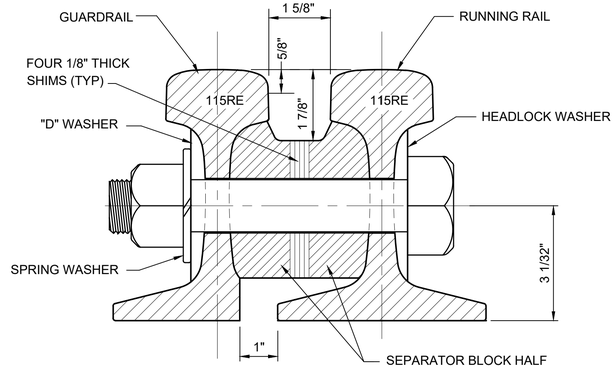
SECTION A

SCALE: 6" = 1'-0"



SECTION B

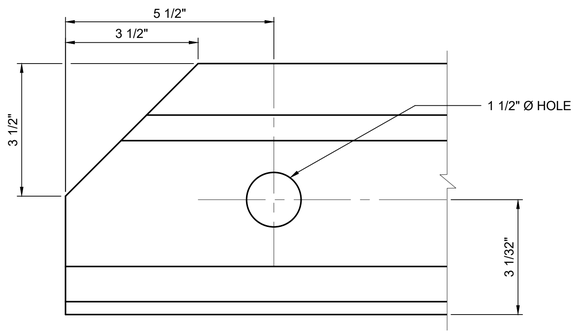
SCALE: 6" = 1'-0"



SEPERATOR BLOCK

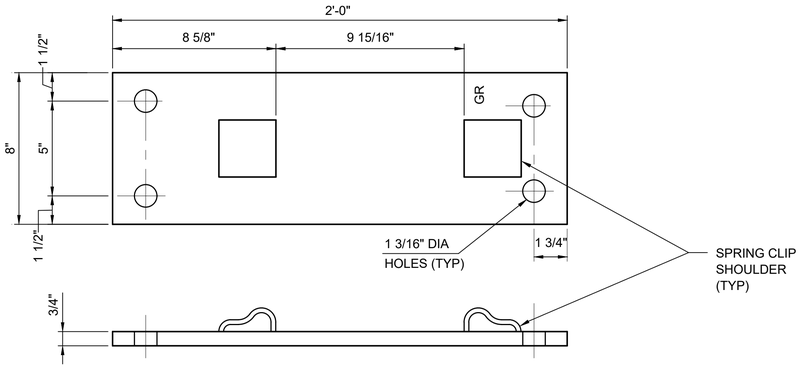
SECTION C

SCALE: 6" = 1'-0"



RAIL END BEVEL

SCALE: 6" = 1'-0"



GUARD RAIL PLATE 1

(FOR BALLASTED TRACK ONLY)

SCALE: 3" = 1'-0"

BILL OF MATERIAL
9'-5" GUARDRAIL COMPLETE

QTY	DESCRIPTION	
1	9'-5" TEE RAIL DESIGN GUARDRAIL	
1 EA	END BLOCKS, LEFT AND RIGHT HAND	
1	ADJUSTABLE SEPARATOR BLOCK WITH SHIMS	
4	BOLTS 1 3/8"DIAx9" GRADE 8 WITH SQUARE HEAD, SQUARE NUTS, SPRING WASHERS, HEADLOCKS, AND "D" WASHERS	
6	GUARDRAIL PLATES	FOR BALLASTED TRACK ONLY
24	7/8" DIAx7" WASHERHEAD LAG SCREW	
12	SPRING CLIPS	
24	DOUBLE COIL SPRING WASHER (EXTRA WIDE)	
24	2 1/4" ODx0.938" IDx0.160" STEEL WASHER	
24	GLASS REINFORCED NYLON COLLAR THIMBLE	

No.	DATE	DSN	CHK	APP	REVISION
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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD310
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
9'-5" ADJUSTABLE GUARD RAIL

DRAWING No.: **STD-KAD310**
FACILITY ID:
SHEET No.: 2
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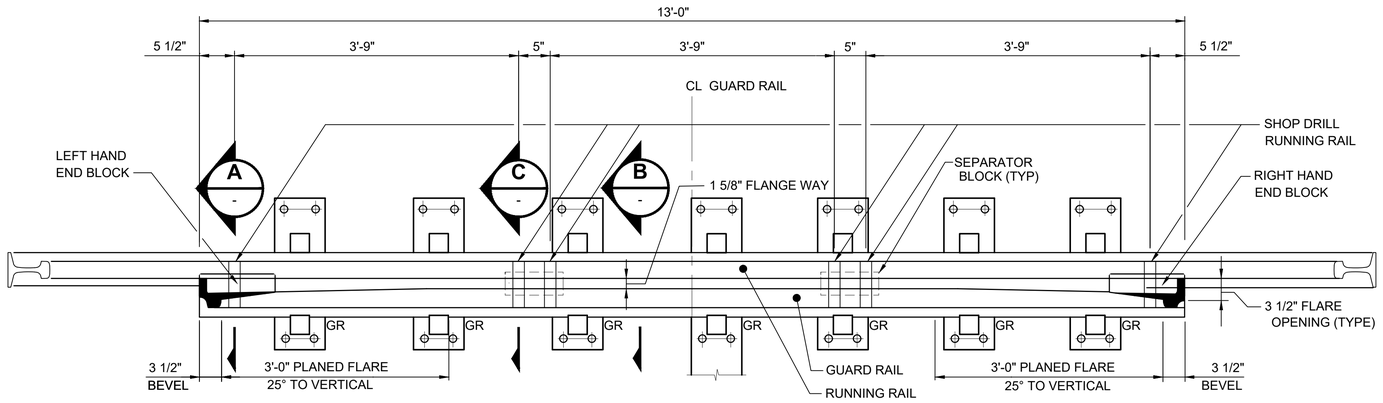
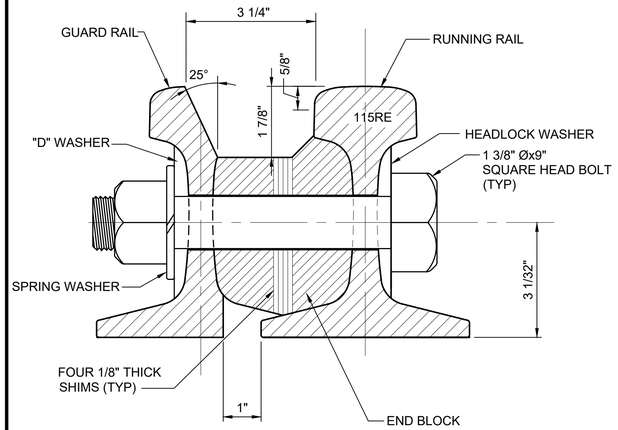


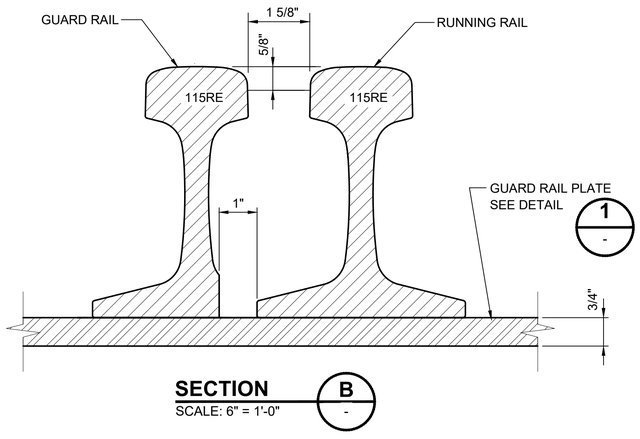
13'-0" TEE GUARD RAIL

SCALE: 1" = 1'-0"

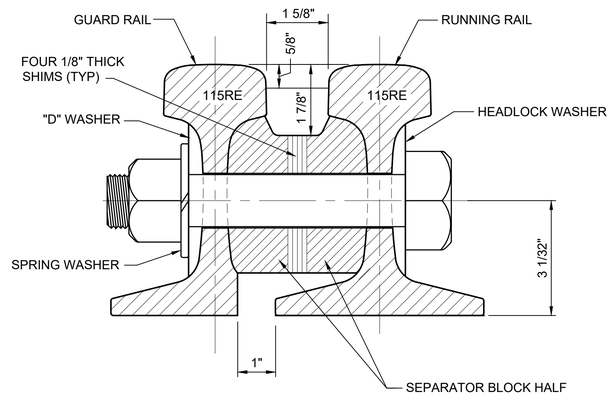


END BLOCK

SECTION A
SCALE: 6" = 1'-0"

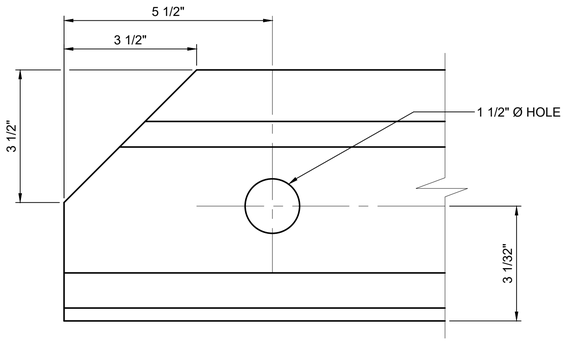


SECTION B
SCALE: 6" = 1'-0"

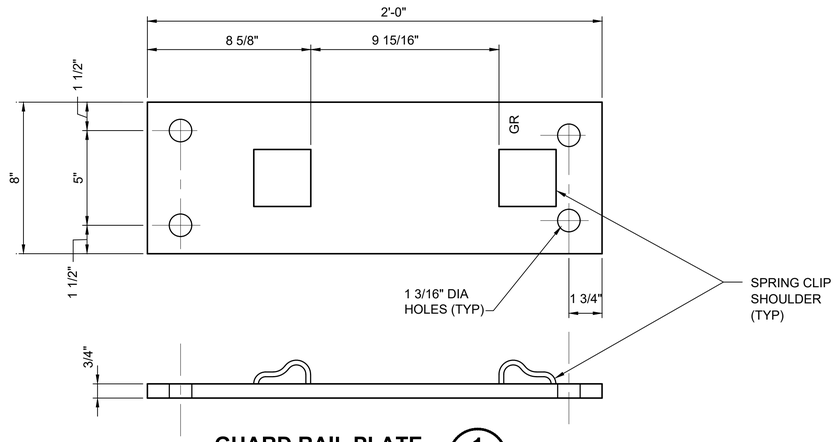


SEPERATOR BLOCK

SECTION C
SCALE: 6" = 1'-0"



RAIL END BEVEL
SCALE: 6" = 1'-0"



GUARD RAIL PLATE 1
(FOR BALLASTED TRACK ONLY)
SCALE: 3" = 1'-0"

BILL OF MATERIAL
13'-0" GUARDRAIL COMPLTE

QTY	DESCRIPTION	
1	13'-0" TEE GUARDRAIL, PREMIUM RAIL	
1 EA	END BLOCKS, LEFT AND RIGHT HAND	
2	ADJUSTABLE SEPARATOR BLOCK WITH SHIMS	
6	BOLTS 1 3/8"DIAx9" GRADE 8 WITH SQUARE HEAD, SQUARE NUTS, SPRING WASHERS, HEADLOCKS, AND "D" WASHERS	
6	GUARDRAIL PLATES	FOR BALLASTED TRACK ONLY
24	7/8" DIAx7" WASHERHEAD LAG SCREW	
12	SPRING CLIPS	
24	DOUBLE COIL SPRING WASHER (EXTRA WIDE)	
24	2 1/4" ODx0.938" IDx0.160" STEEL WASHER	
24	GLASS REINFORCED NYLON COLLAR THIMBLE	

No.	DATE	DSN	CHK	APP	REVISION
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0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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SUBMITTED BY: - DATE: - REVIEWED BY: - DATE: -

LINE IS 1" AT FULL SCALE

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SCALE: AS NOTED
FILENAME: STD-KAD311
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
13'-0" ADJUSTABLE GUARD RAIL

DRAWING No.: **STD-KAD311**
FACILITY ID:
SHEET No.: 2 REV:

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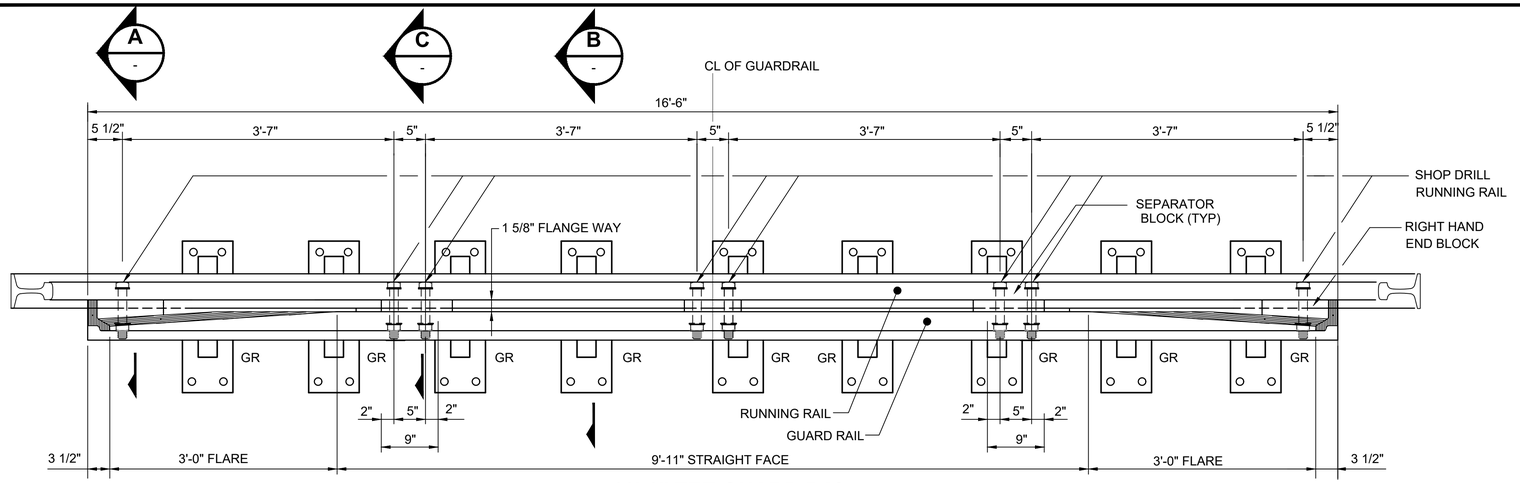
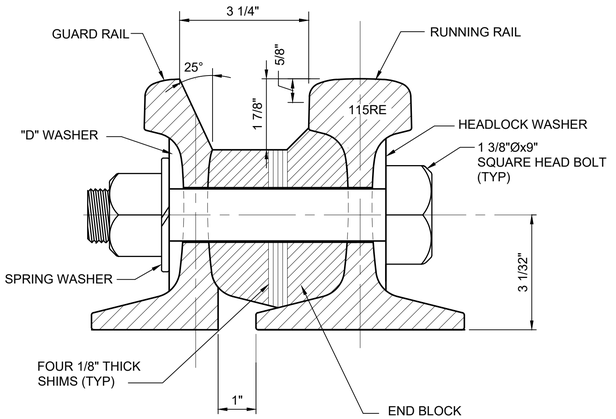


16'-6" TEE GUARD RAIL

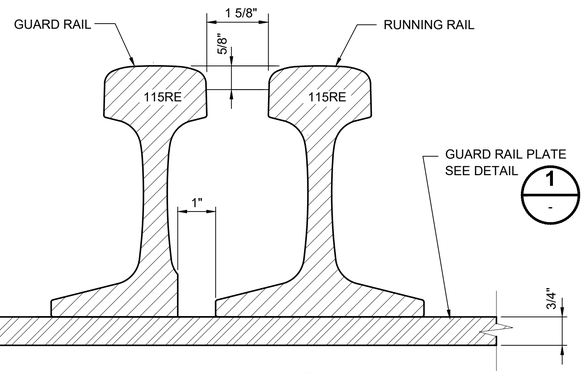
SCALE: 1" = 1'-0"



END BLOCK

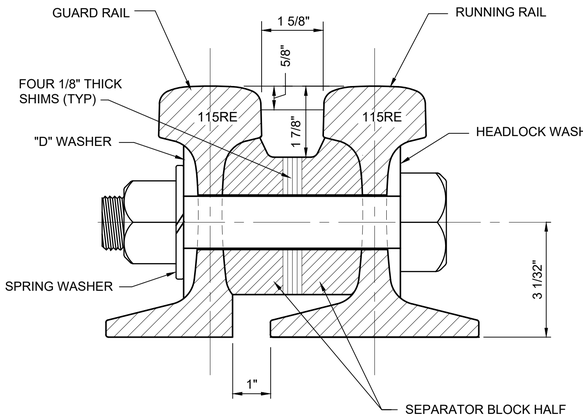
SECTION A

SCALE: 6" = 1'-0"



SECTION B

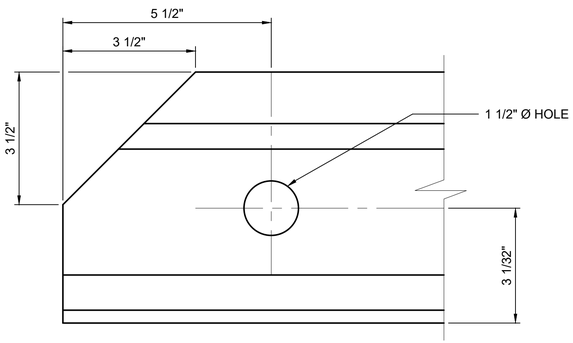
SCALE: 6" = 1'-0"



SEPERATOR BLOCK

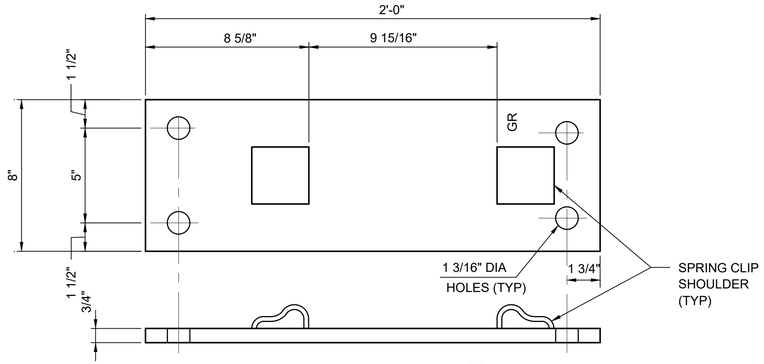
SECTION C

SCALE: 6" = 1'-0"



RAIL END BEVEL

SCALE: 6" = 1'-0"



GUARD RAIL PLATE

(FOR BALLASTED TRACK ONLY)

SCALE: 3" = 1'-0"

1

BILL OF MATERIAL
16'-6" GUARDRAIL COMPLETE

QTY	DESCRIPTION	
1	16'-6" TEE RAIL DESIGN GUARD RAIL	
1 EA	END BLOCKS, LEFT AND RIGHT HAND	
3	ADJUSTABLE SEPARATOR BLOCK WITH SHIMS	
8	BOLTS 1 3/8"DIAx9" GRADE 8 WITH SQUARE HEAD, SQUARE NUTS, SPRING WASHERS, HEADLOCKS, AND "D" WASHERS	
9	GUARDRAIL PLATES	FOR BALLASTED TRACK ONLY
32	7/8" DIAx7" WASHERHEAD LAG SCREW	
18	SPRING CLIPS	
32	DOUBLE COIL SPRING WASHER (EXTRA WIDE)	
32	2 1/4" ODx0.938" IDx0.160" STEEL WASHER	
32	GLASS REINFORCED NYLON COLLAR THIMBLE	

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0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

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REVIEWED BY: -
DATE: -

SCALE: AS NOTED
FILENAME: STD-KAD312
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
16'-6" ADJUSTABLE GUARD RAIL

DRAWING No.: **STD-KAD312**
FACILITY ID:
SHEET No.: 2
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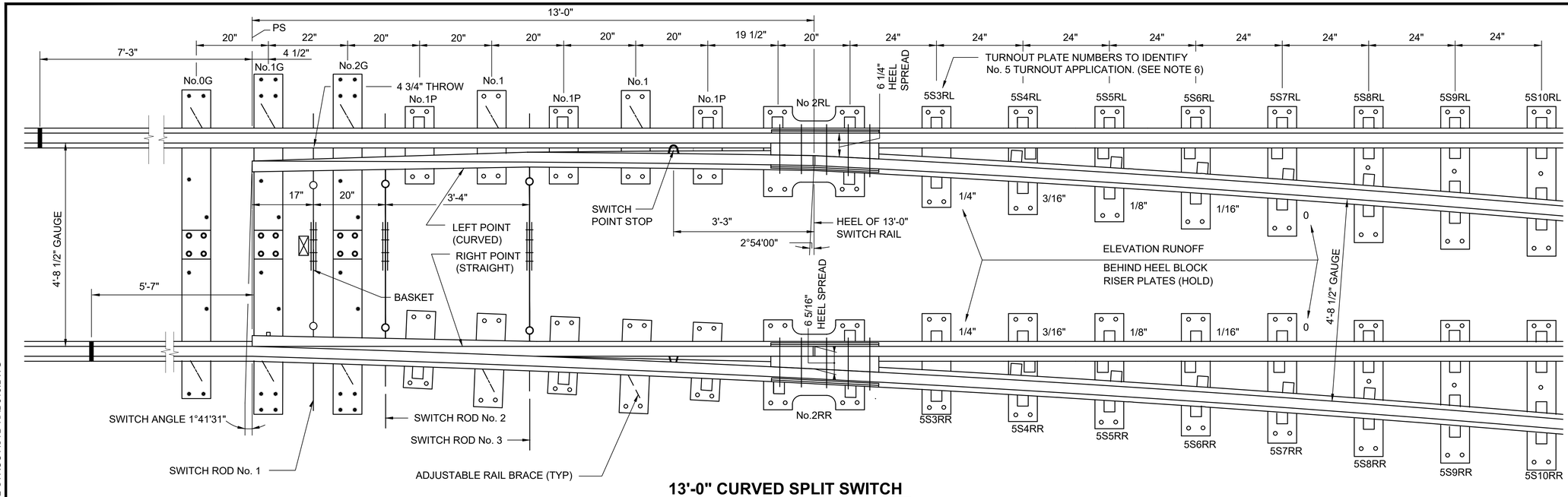
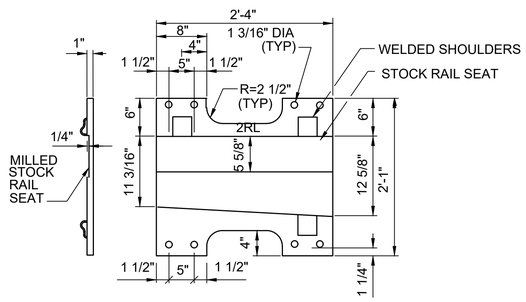


13'-0" CURVED SPLIT SWITCH

SCALE: 3/4" = 1'-0"

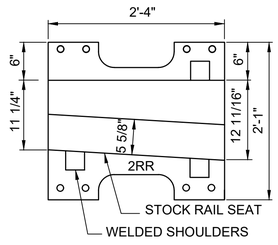
GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION OR THICK WEB SECTION.
2. RAIL END DRILLING, BAR PUNCHING AND TRACK BOLTS SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR 36" SIX HOLE JOINT BARS.
3. ALL STOCK, SWITCH POINT, AND CLOSURE RAIL SHALL BE FABRICATED FROM HEAD HARDENED RAIL.
4. FOR ADDITIONAL DETAILS OF GAUGE PLATES SEE DRAWING STD-KAD305.
5. RAIL ENDS FOR JOINTED TRACK SHALL BE BEVELED IN ACCORDANCE WITH AREMA PLAN NO. 1005-03 WITH DRILLED RAIL ENDS.
6. FOR RH TURNOUT, LH POINT AND RH STOCK RAILS ARE CURVED, RH POINT AND LH STOCK RAILS ARE STRAIGHT. FOR LH TURNOUT, RH POINT AND LH STOCK RAILS ARE CURVED, LH POINT AND RH STOCK RAILS ARE STRAIGHT.
7. RAIL CLIPS OMITTED FROM CENTER OF PLATES S3.
8. FINAL SWITCH PLATE NUMBERING, SPACING AND DIMENSIONS SHALL BE AS PER TURNOUT FABRICATION DRAWINGS.



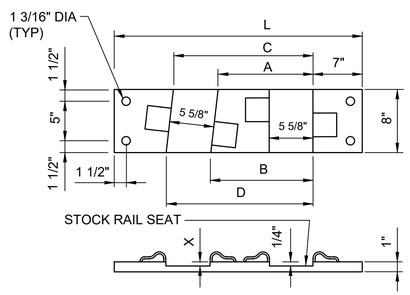
HEEL PLATE No. 2RL - AS SHOWN FOR RH TURNOUT
HEEL PLATE No. 2LR - OPPOSITE FOR LH TURNOUT

OUTSIDE PLATE

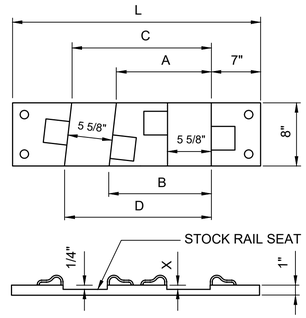


HEEL PLATE No. 2RR - AS SHOWN FOR RH TURNOUT
HEEL PLATE No. 2LL - OPPOSITE FOR LH TURNOUT

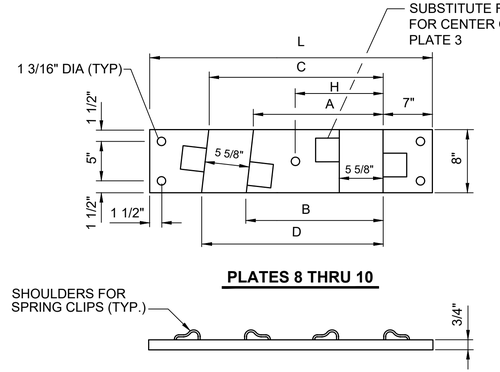
INSIDE PLATE



TANGENT SIDE PLATES
(SEE NOTE 7)



CURVED SIDE PLATES
(SEE NOTE 7)



PLATES 8 THRU 10

SIDE VIEW (TYP)

HEEL PLATES

SCALE: 1" = 1'-0"

BILL OF MATERIAL
13'-0" CURVED INSULATED SPLIT SWITCH

QTY	DESCRIPTION	
1 EA	13'-0" CURVED SWITCH POINTS, LEFT AND RIGHT HAND, COMPLETE WITH 1-CURVED AND 1-STRAIGHT WITH 1 1/4" REINFORCING BAR GAUGE SIDE OR THICK WEB SECTION AND SWITCH POINT STOP. (POINT DETAIL 5100 PER AREMA STANDARD PLAN No. 221-08) SEE NOTE 6.	
1	32'-6" BENT AND CURVED UNDERCUT STOCK RAIL RH OR LH SEE NOTE 6	
1	39'-0" STRAIGHT UNDERCUT STOCK RAIL RH OR LH SEE NOTE 6	
2	INSULATED VERTICAL SWITCH RODS WITH TYPE "MJ" CLIPS, No.1 ROD WITH BASKET FOR 1 1/4" OPERATING ROD	
1 EA	FIVE BOLT RH & LH HEEL BLOCK ASSEMBLIES COMPLETE	
1 EA	INSULATED GAUGE PLATES 0G, 1G, AND 2G COMPLETE WITH ADJUSTABLE BRACES	FOR BALLASTED TRACK ONLY
4	BRACE SLIDE PLATES No. 1 COMPLETE WITH ADJUSTABLE BRACES	
6	PLAIN SLIDE PLATES No. 1-P	
1 EA	2-TIE HEEL PLATE 2RL AND 2RR FOR RH TURNOUT OR 2LL AND 2LR FOR LH TURNOUT	

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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DRAWN BY:
CHECKED BY:
APPROVED BY:

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DATE: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD315
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
13'-0" CURVED SPLIT SWITCH
BALLASTED

DRAWING No.: **STD-KAD315**
FACILITY ID:
SHEET No.: 2
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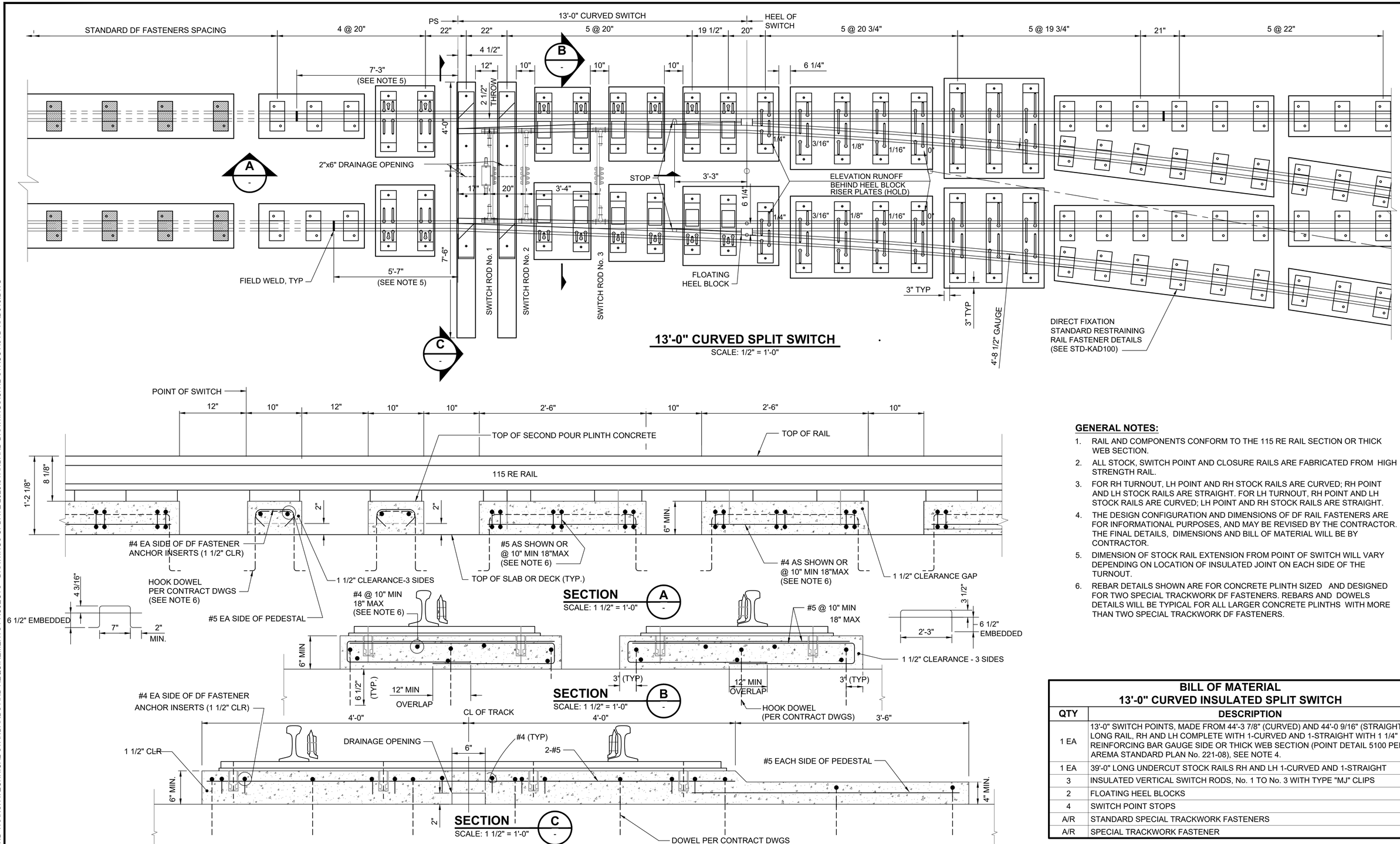

13'-0" CURVED SPLIT SWITCH

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION OR THICK WEB SECTION.
2. ALL STOCK, SWITCH POINT AND CLOSURE RAILS ARE FABRICATED FROM HIGH STRENGTH RAIL.
3. FOR RH TURNOUT, LH POINT AND RH STOCK RAILS ARE CURVED; RH POINT AND LH STOCK RAILS ARE STRAIGHT. FOR LH TURNOUT, RH POINT AND LH STOCK RAILS ARE CURVED; LH POINT AND RH STOCK RAILS ARE STRAIGHT.
4. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS ARE FOR INFORMATIONAL PURPOSES, AND MAY BE REVISED BY THE CONTRACTOR. THE FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY CONTRACTOR.
5. DIMENSION OF STOCK RAIL EXTENSION FROM POINT OF SWITCH WILL VARY DEPENDING ON LOCATION OF INSULATED JOINT ON EACH SIDE OF THE TURNOUT.
6. REBAR DETAILS SHOWN ARE FOR CONCRETE PLINTH SIZED AND DESIGNED FOR TWO SPECIAL TRACKWORK DF FASTENERS. REBARS AND DOWELS DETAILS WILL BE TYPICAL FOR ALL LARGER CONCRETE PLINTHS WITH MORE THAN TWO SPECIAL TRACKWORK DF FASTENERS.

BILL OF MATERIAL
13'-0" CURVED INSULATED SPLIT SWITCH

QTY	DESCRIPTION
1 EA	13'-0" SWITCH POINTS, MADE FROM 44'-3 7/8" (CURVED) AND 44'-0 9/16" (STRAIGHT) LONG RAIL, RH AND LH COMPLETE WITH 1-CURVED AND 1-STRAIGHT WITH 1 1/4" REINFORCING BAR GAUGE SIDE OR THICK WEB SECTION (POINT DETAIL 5100 PER AREMA STANDARD PLAN No. 221-08), SEE NOTE 4.
1 EA	39'-0" LONG UNDERCUT STOCK RAILS RH AND LH 1-CURVED AND 1-STRAIGHT
3	INSULATED VERTICAL SWITCH RODS, No. 1 TO No. 3 WITH TYPE "MJ" CLIPS
2	FLOATING HEEL BLOCKS
4	SWITCH POINT STOPS
A/R	STANDARD SPECIAL TRACKWORK FASTENERS
A/R	SPECIAL TRACKWORK FASTENER

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD WDGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DATE: -
REVIEWED BY: -
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LINE IS 1" AT FULL SCALE

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SCALE: AS NOTED
FILENAME: STD-KAD316
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
13'-0" CURVED SPLIT SWITCH
DIRECT FIXATION TRACK

DRAWING No.: **STD-KAD316**
FACILITY ID:
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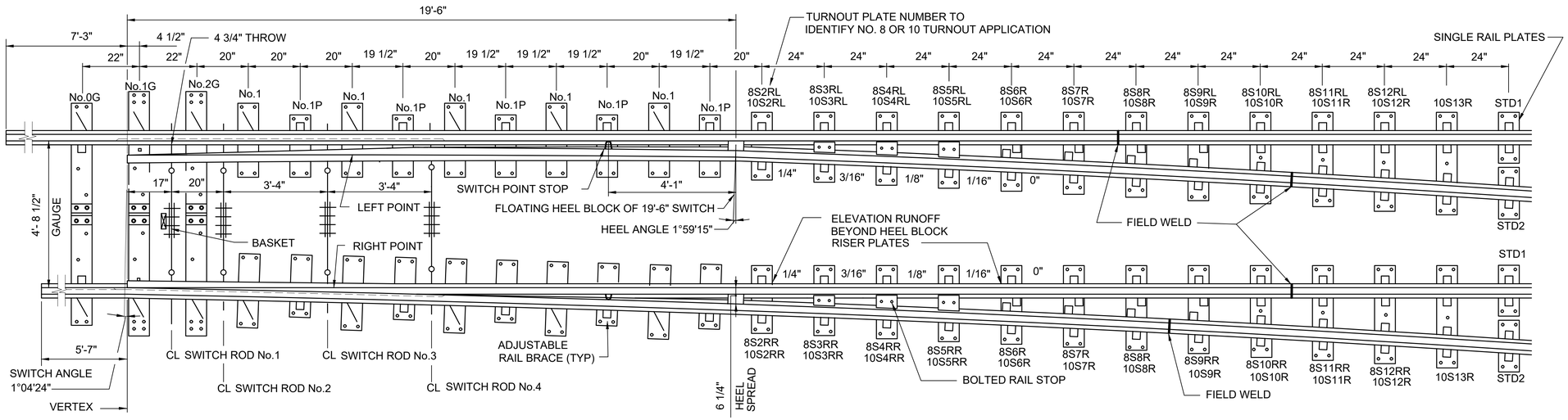


19'-6" CURVED SPLIT SWITCH

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION OR THICK WEB SECTION.
2. 19'-6" SWITCH TO BE INSTALLED AT No. 8 OR No. 10 FULLY WELDED TURNOUTS.
3. ALL STOCK, SWITCH POINT AND CLOSURE RAILS SHALL BE FABRICATED FROM HEAD HARDENED RAIL.
4. FOR DETAILS OF GAUGE PLATES SEE DRAWING KAD305.
5. FOR RH TURNOUT, LH POINT AND RH STOCK RAILS ARE CURVED; RH POINT AND LH STOCK RAILS ARE STRAIGHT. FOR LH TURNOUT, RH POINT AND LH STOCK RAILS ARE CURVED; LH POINT AND RH STOCK RAILS ARE STRAIGHT.
6. SWITCH PLATE NUMBERING IS AS FOLLOWS: "8" OR "10" TURNOUT NUMBER, "S" SWITCH,"2" THROUGH "13" FOR POSITION FROM HEEL OF SWITCH TO END OF LONG PLATES, "R" FOR RIGHT HAND TURNOUT (OR "L" FOR LEFT HAND TURNOUT), "R" FOR RIGHT SIDE OF SWITCH (OR "L" FOR LEFT SIDE OF SWITCH) IF APPROPRIATE.
7. ON THIS DRAWING, SWITCH PLATES ARE NUMBERED AND ILLUSTRATED FOR RIGHT HAND SWITCHES. LEFT HAND SWITCH PLATES FABRICATED TO OPPOSITE HAND AND DIMENSIONS DETERMINED BY MODIFYING TABLE AS FOLLOWS: SUBSTITUTE SUFFIXES "LL" FOR "RR" AND "LR" FOR "RL" ON RISER PLATES AND LONG LEVEL PLATES AND "L" FOR "R" ON SHORT LEVEL PLATES.
8. BOLTED RAIL STOPS ARE APPLICABLE TO RIGHT OR LEFT HAND TURNOUT. "X" DENOTES THAT HAND OF TURNOUT IS IMMATERIAL. HOWEVER, SIDE OF SWITCH IS SIGNIFICANT, HENCE "L" AND "R".
9. FOR INSTALLATION OF 19'-6" CURVED SPLIT SWITCH ON DIRECT FIXATION TRACK CONSTRUCTION SEE DWG STD-KAD321.

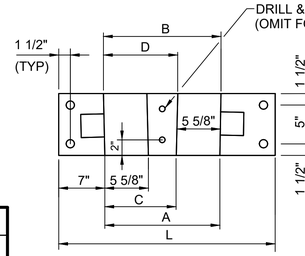
SWITCH PLATE DATA

		PLATE No.	A	B	C	D	L	X OR H
NO. 10 TURNOUT	RISER PLATES	10S2RL & 10S2RR	12.11	12.39	6.48	6.76	28	0.00
		10S3RL & 10S3RR	12.99	13.29	7.36	7.66	28	0.06
		10S4RL & 10S4RR	13.93	14.25	8.30	8.62	30	0.12
		10S5RL & 10S5RR	14.93	15.27	9.30	9.64	30	0.19
	LEVEL PLATES	10S6R	15.99	16.35	10.36	10.72	32	
		10S7R	17.11	17.49	11.47	11.86	32	
		10S8R	18.32	18.69	12.69	13.06	34	
		10S9R	19.52	19.95	13.89	14.32	34	
		10S10R	20.80	21.25	15.15	15.60	35	11"
		10S11R	22.11	22.60	16.50	16.95	37	12 1/4"
		10S12R	23.55	24.05	17.90	18.40	39	13 3/4"
		10S13R	25.05	25.55	19.40	19.90	41	15 1/4"
NO. 8 TURNOUT	RISER PLATES	8S2RL & 8S2RR	12.11	12.39	6.48	6.76	28	0.00
		8S3RL & 8S3RR	13.02	13.34	7.39	7.72	28	0.06
		8S4RL & 8S4RR	14.03	14.39	8.40	8.76	30	0.12
		8S5RL & 8S5RR	15.14	15.54	9.51	9.90	30	0.19
	LEVEL PLATES	8S6R	16.36	16.78	10.73	11.15	32	
		8S7R	17.67	18.13	12.04	12.49	34	
		8S8R	19.08	19.57	13.45	13.94	34	
		8S9RL	20.54	21.06	14.90	15.42	35	
		8S9RR	20.66	21.18	15.02	15.55	35	
		8S10RL	22.14	22.70	16.50	17.06	37	11 1/4"
		8S10RR	22.28	22.84	16.64	17.20	37	11 1/4"
		8S11RL	23.85	24.44	18.21	18.80	39	12 1/4"
		8S11RR	24.00	24.60	18.36	18.96	39	12 1/4"
		8S12RL	25.65	26.28	20.01	20.63	41	13"
		8S12RR	25.82	26.45	20.81	20.81	41	13"

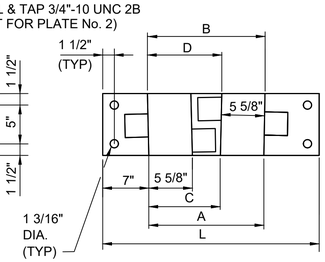
MEASUREMENTS ARE IN INCHES — SEE NOTES 6 & 7

BILL OF MATERIALS

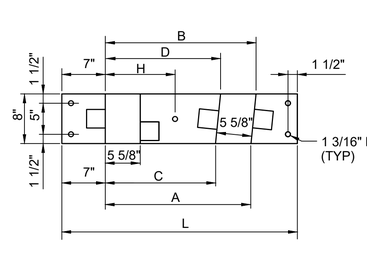
	QTY	DESCRIPTION
COMMON ELEMENTS	1 EA	19'-6" SWITCH POINTS, MADE FROM 37'-4" LONG RAIL, RH AND LH COMPLETE WITH 1-CURVED AND 1-STRAIGHT WITH 1 1/4" REINFORCING BAR GAUGE SIDE OR THICK WEB SECTION (POINT DETAIL 5100 PER AREMA STANDARD PLAN No. 221-62), SEE NOTE 5.
	1 EA	39'-0" LONG UNDERCUT STOCK RAILS RH AND LH 1-CURVED AND 1-STRAIGHT
	4	INSULATED VERTICAL SWITCH RODS, No. 1 TO No. 4 WITH TYPE "MJ" CLIPS
	1 EA	INSULATED GAUGE PLATES 0G, 1G AND 2G COMPLETE WITH ADJUSTABLE BRACES
	10	BRACE SLIDE PLATES No.1 COMPLETE WITH ADJUSTABLE BRACES
	10	PLAIN SLIDE PLATES No.1-P
	2	FLOATING HEEL BLOCKS
	2	SWITCH POINT STOPS
NO. 10 TURNOUT	1 EA	RISER PLATES No. 2L, 3L, 4L, 5L, 2R, 3R, 4R AND 5R
	2 EA	TURNOUT PLATES No. 6 THRU 13
	1 EA	PLATE STOPS 3L, 3R, 4L, 4R, 5L, & 5R
	12	3/4"X 2 1/4" MACHINE BOLTS WITH SPRING WASHERS
NO. 8 TURNOUT	1 EA	RISER PLATES No. 2L, 3L, 4L, 5L, 2R, 3R, 4R AND 5R
	2 EA	TURNOUT PLATES No. 6 THRU 12
	1 EA	PLATE STOPS 3L, 3R, 4L, 4R, 5L, & 5R
	12	3/4" X 2 1/4" MACHINE BOLTS WITH SPRING WASHERS



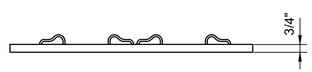
PLATES 2, 3, 4, AND 5



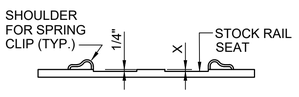
PLATES 6, 7, 8, AND 9



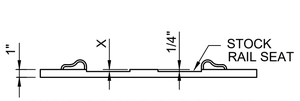
PLATES 10, 11, 12, AND 13



LEVEL PLATES



TANGENT SIDE RISER PLATES



CURVED SIDE RISER PLATES

BOLTED RAIL STOPS

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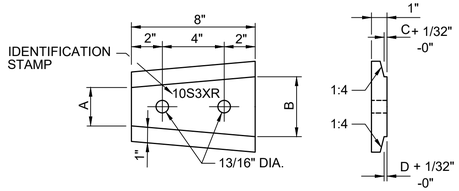

BOLTED RAIL STOPS

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BOLTED RAIL STOP DATA

	STOP NO.	A	B	C	D
NO. 10 TO	10S3XL	1.73	2.04	0.25	0.44
	10S3XR			0.44	0.25
	10S4XL	2.67	3.00	0.25	0.37
	10S4XR			0.37	0.25
	10S5XL	3.67	4.02	0.25	0.31
	10S5XR			0.31	0.25
NO. 8 TO	8S3XL	1.7700	2.09	0.25	0.44
	8S3XR			0.44	0.25
	8S4XL	2.78	3.14	0.25	0.37
	8S4XR			0.37	0.25
	8S5XL	3.89	4.28	0.25	0.31
	8S5XR			0.31	0.25

MEASUREMENTS ARE IN INCHES — SEE NOTE 8

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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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FILENAME: STD-KAD320
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
19'-6" CURVED SPLIT SWITCH

DRAWING No.: **STD-KAD320**
FACILITY ID:
SHEET No.: 2
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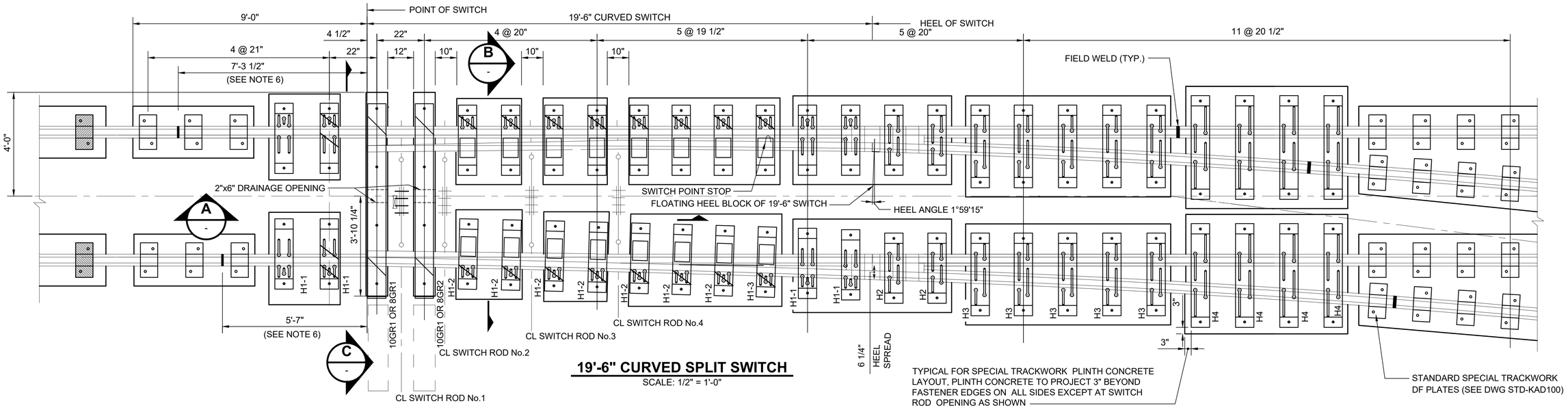
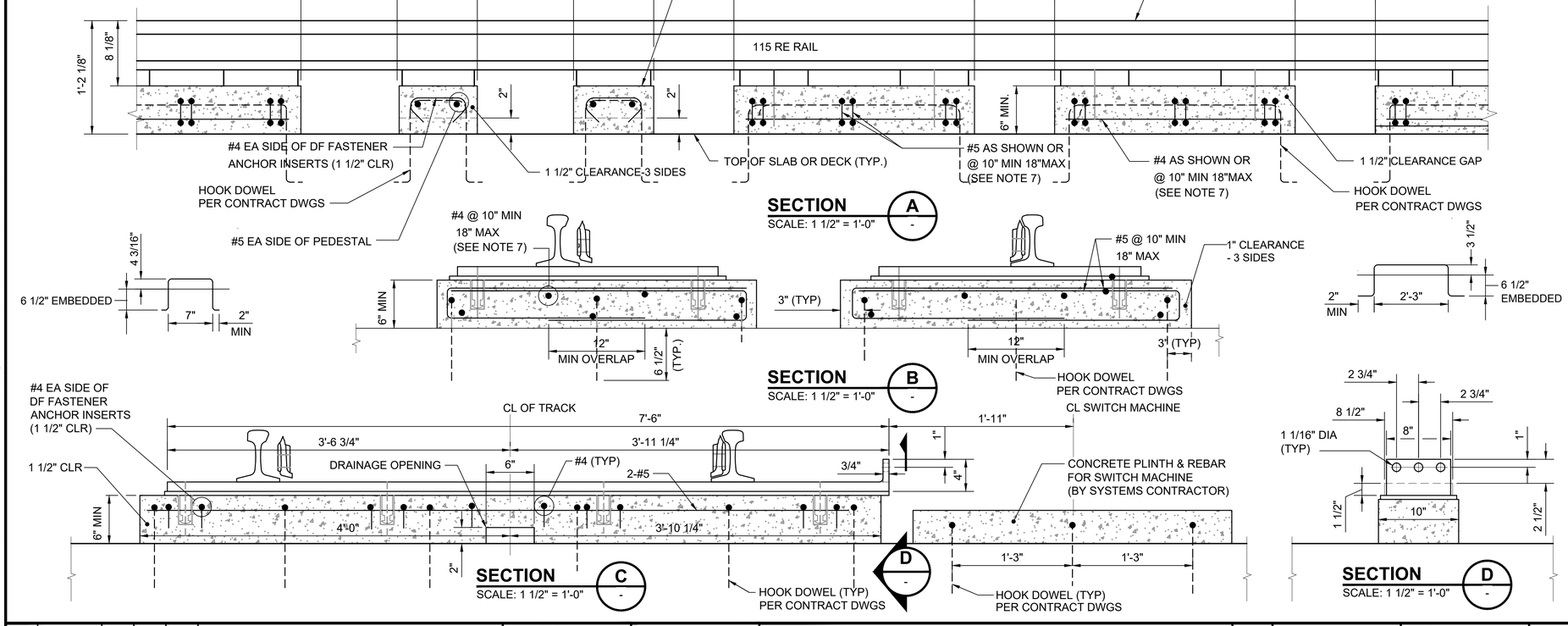


19'-6" CURVED SPLIT SWITCH

SCALE: 1/2" = 1'-0"



GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION OR THICK WEB SECTION.
2. 19'-6" SWITCH TO BE INSTALLED AT No. 8 OR No. 10 FULLY WELDED TURNOUTS.
3. ALL STOCK, SWITCH POINT AND CLOSURE RAILS ARE FABRICATED FROM HIGH STRENGTH RAIL.
4. FOR RH TURNOUT, LH POINT AND RH STOCK RAILS ARE CURVED; RH POINT AND LH STOCK RAILS ARE STRAIGHT. FOR LH TURNOUT, RH POINT AND LH STOCK RAILS ARE CURVED; LH POINT AND RH STOCK RAILS ARE STRAIGHT.
5. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS ARE FOR INFORMATIONAL PURPOSES, AND MAY BE REVISED BY THE CONTRACTOR. THE FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY CONTRACTOR.
6. DIMENSION OF STOCK RAIL EXTENSION FROM POINT OF SWITCH WILL VARY DEPENDING ON LOCATION OF INSULATED JOINT ON EACH SIDE OF THE TURNOUT.
7. REBARS DETAILS SHOWN ARE FOR CONCRETE PLINTH SIZED AND DESIGNED FOR TWO SPECIAL TRACKWORK DF FASTENERS. REBARS AND DOWELS DETAILS WILL BE TYPICAL FOR ALL LARGER CONCRETE PLINTHS WITH MORE THAN TWO SPECIAL TRACKWORK DF FASTENERS.

BILL OF MATERIAL
19'-6" CURVED INSULATED SPLIT SWITCH

QTY	DESCRIPTION
1 EA	19'-6" SWITCH POINTS, MADE FROM 37'-4" LONG RAIL, RH AND LH COMPLETE WITH 1-CURVED AND 1-STRAIGHT WITH 1/2" & 1 1/4" THICK REINFORCING BAR OR THICK WEB SECTION (POINT DETAIL 5100 PER AREMA STANDARD PLAN No. 221-08), SEE NOTE 4.
1 EA	39'-0" LONG UNDERCUT STOCK RAILS RH AND LH 1-CURVED AND 1-STRAIGHT
4	INSULATED VERTICAL SWITCH RODS, No. 1 TO No. 4 WITH TYPE "MJ" CLIPS
4	SWITCH POINT STOPS
A/R	STANDARD SPECIAL TRACKWORK FASTENERS
A/R	SPECIAL TRACKWORK FASTENER

No.	DATE	DSN	CHK	APP	REVISION
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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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SCALE: AS NOTED
FILENAME: STD-KAD321
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

19'-6" CURVED SPLIT SWITCH
DIRECT FIXATION TRACK

DRAWING No.: **STD-KAD321**
FACILITY ID:
SHEET No.: 2
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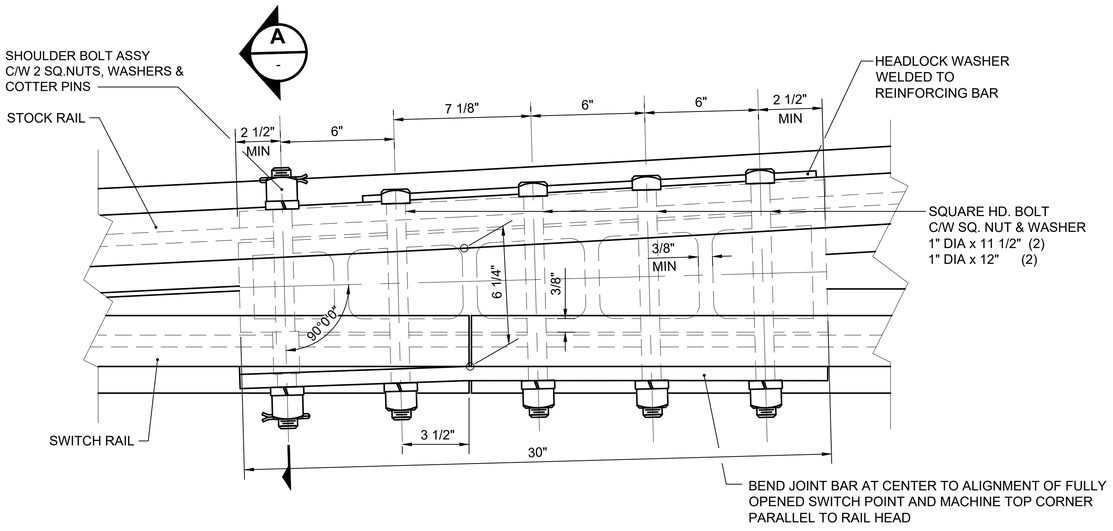
GENERAL NOTES:

1. FOR REINFORCING BAR DETAILS SEE AREMA PLAN 325-12.
2. ALL SPECIAL TRACKWORK TURNOUT PLATES MUST BE INSULATED.
3. SOME OR ALL SWITCH POINTS MAY BE FURNISHED IN 115 TW (THICK WEB) RAIL INSTEAD OF STANDARD 115 RE. THICK WEB RAIL SHALL BE BETHLEHEM STEEL BSCO. 115 TW RAIL SECTION (AS SHOWN) OR APPROVED EQUAL.
4. HEEL BLOCK - CAST STEEL, CLASS B, HARD. 115 TW (THICK WEB) RAIL INSTEAD OF STANDARD 115 RE. THICK WEB RAIL SHALL BE BETHLEHEM STEEL BSCO. 115 TW RAIL SECTION (AS SHOWN) OR APPROVED EQUAL.



HEEL JOINT ASSEMBLY

NTS

SECTION A

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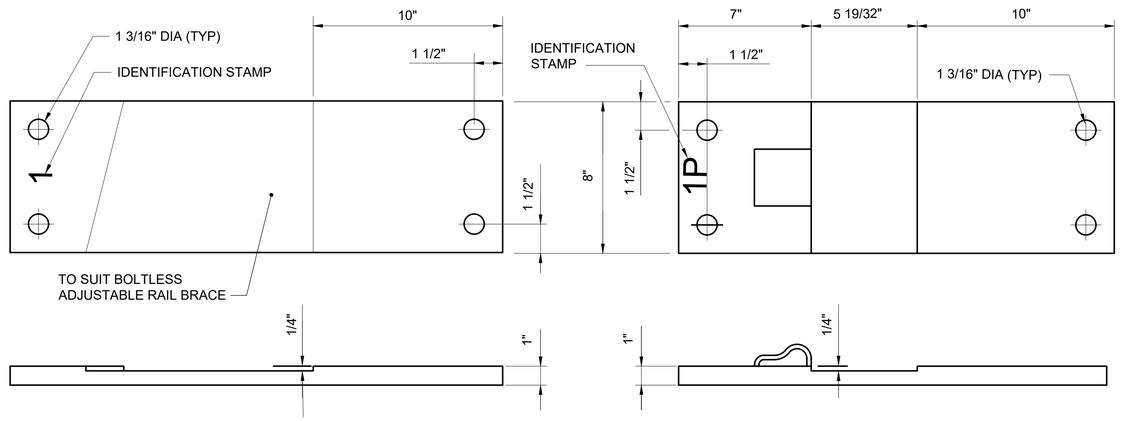

BRACE SLIDE PLATE NO. 1

SCALE: 3" = 1'-0"

PLAIN SLIDE PLATE NO. 1P

SCALE: 3" = 1'-0"

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DATE: -
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SCALE: AS NOTED
FILENAME: STD-KAD325
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
MISCELLANEOUS SWITCH DETAILS

DRAWING No.: **STD-KAD325**
FACILITY ID:
SHEET No.: 2
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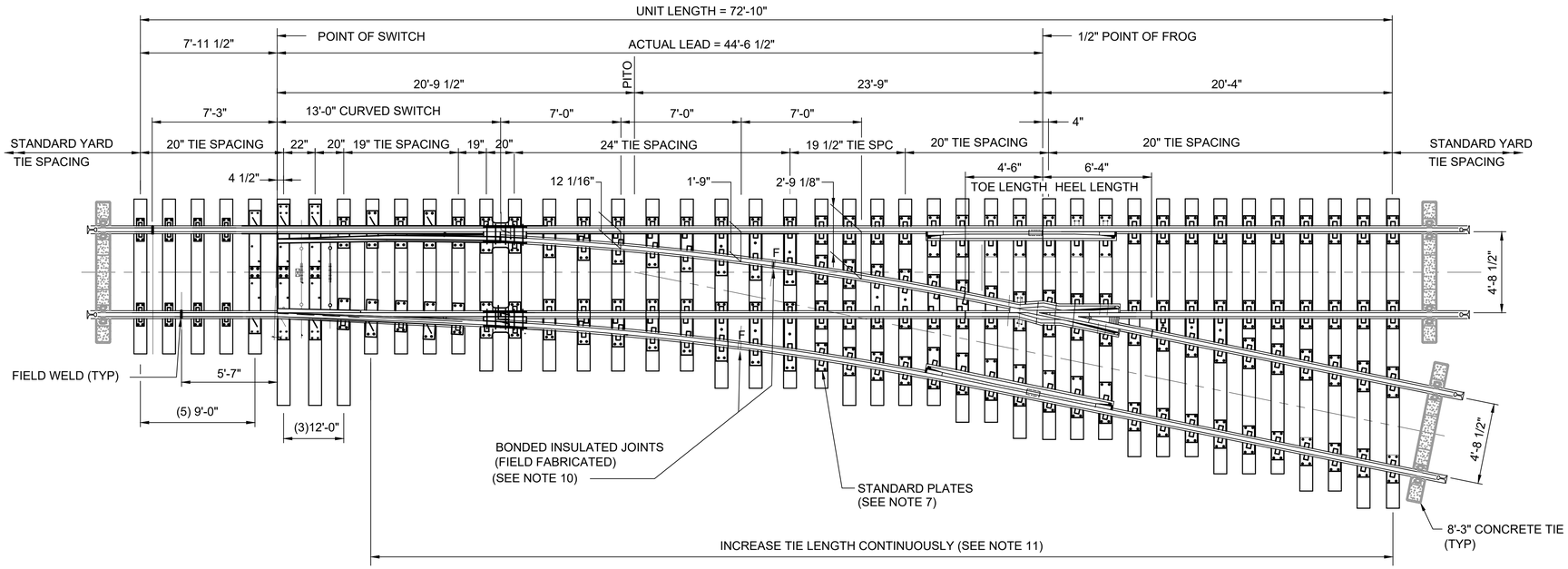
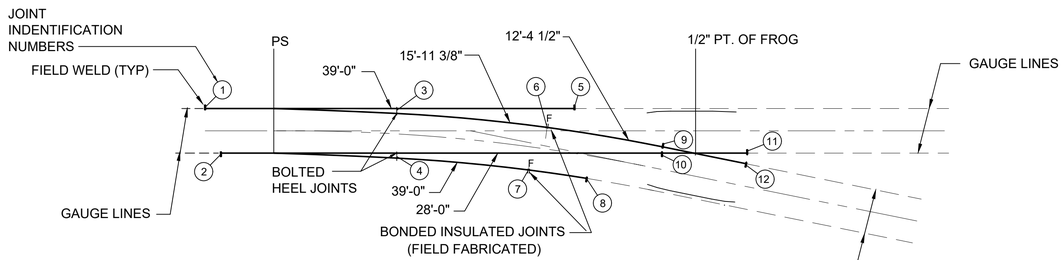


NO. 5 TURNOUT PLAN

SCALE: 1/4" = 1'-0"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL.
2. RAIL AND COMPONENTS SHALL CONFORM TO 115RE RAIL SECTION.
3. ALL RAILS (AS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM) SHALL BE HIGH STRENGTH RAIL.
4. LEFT HAND TURNOUT SHALL BE OPPOSITE TO THAT SHOWN.
5. RAIL END DRILLING SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR 36" SIX HOLE JOINT BARS FOR JOINTED TRACK EXCEPT FOR INSU-LATED JOINTS WHICH SHALL BE DRILLED PER MANUFACTURER'S RECOMMENDATION.
6. RAIL ENDS SHALL BE BEVELED IN ACCORDANCE WITH AREMA PLAN NO. 1005-03 FOR JOINTED TRACK.
7. INSULATED STANDARD PLATES SHALL BE FURNISHED FOR ALL TIES WHERE SPECIAL TRACKWORK PLATES ARE NOT REQUIRED.
8. ALL SPECIAL TRACKWORK FASTENING PLATES SHALL BE INSULATED.
9. NO ALLOWANCE HAS BEEN MADE FOR GAPS OR INSULATED END POSTS IN COMPUTING LENGTHS OF RAILS SHOWN.
10. FINAL LOCATIONS OF (SHOP FABRICATED) BONDED INSULATED JOINTS WILL DEPEND ON THE LOCATION OF TURNOUT INSTALLATION. VERIFY FINAL LOCATION OF INSULATED JOINTS WITH THE RESIDENT ENGINEER BEFORE FABRICATION OF TURNOUT.
11. WITHIN THE INDICATED AREA, INCREASE THE LENGTH OF CONCRETE TIE CONTINUOUSLY WITH THE REQUIRED MINIMUM LENGTH OF 25 3/4" FROM THE GAUGE SIDE OF THE MOST OUTSIDE RUNNING RAIL TO THE END OF THE TIE. IN CASE OF SUCH TIE SETTING IS NOT AVAILABLE, INCREASE TIE LENGTH IN A FAMILY STYLE IS ALLOWED.

BILL OF MATERIAL
No. 5 BALLASTED TURNOUT

QTY	DESCRIPTION	DWG No.
1 ASSY.	13'-0" CURVED SPLIT SWITCH COMPLETE	STD-KAD315
1 ASSY.	NO. 5 RBM FROG COMPLETE	STD-KAD351
2 ASSY.	9'-5" ADJUSTABLE GUARD RAILS COMPLETE	STD-KAD310
A/R	STRAIGHT CLOSURE RAIL	-
A/R	CURVED CLOSURE RAIL	-
A/R	STOCK RAILS	-
1 SET	SWITCH TIES	-
A/R	PANDROL NO. 2055 "E" CLIPS, INCL. MOD. "E" CLIPS	-
A/R	INSULATED LAG SCREW ASSEMBLIES	-
A/R	HIGH DENSITY POLYETHLENE PADS (VARIOUS SIZES)	-
8	THERMITE WELD	-
A/R	STANDARD PANDROL TIE PLATES FOR "E" CLIPS (SEE NOTE 7)	-

TURNOUT DATA

FROG	NUMBER	5
	ANGLE	11° 25' 16"
	TOE LENGTH	4'-6"
	HEEL LENGTH	6'-4"
	TOTAL LENGTH	10'-10"
	TOE SPREAD	10 7/32"
	HEEL SPREAD	15 5/8"
SWITCH	LENGTH OF CURVED SWITCH RAIL	13'-0"
	HEEL SPREAD	6 1/4"
	HEEL ANGLE	2° 54' 00"
	ANGLE AT POINT	1° 41' 31"
	THICKNESS AT POINT	0"
	SWITCH RAIL RADIUS	616.55'
ACTUAL LEAD		44'-6 1/2"
STRAIGHT CLOSURE RAIL DISTANCE		27'-2"
CURVED CLOSURE RAIL DISTANCE		26'-6 3/8"
TURNOUT CURVE	CENTER LINE RADIUS	188.10'
	DEGREE OF CURVE	30° 40' 49"
TANGENT ADJACENT TOE OF FROG		11 1/2"

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APPROVED BY:

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FILENAME: STD-KAD350
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 5 TURNOUT
BALLASTED
13'-0" CURVED SPLIT SWITCH

DRAWING No.: **STD-KAD350**
FACILITY ID:
SHEET No.: 2
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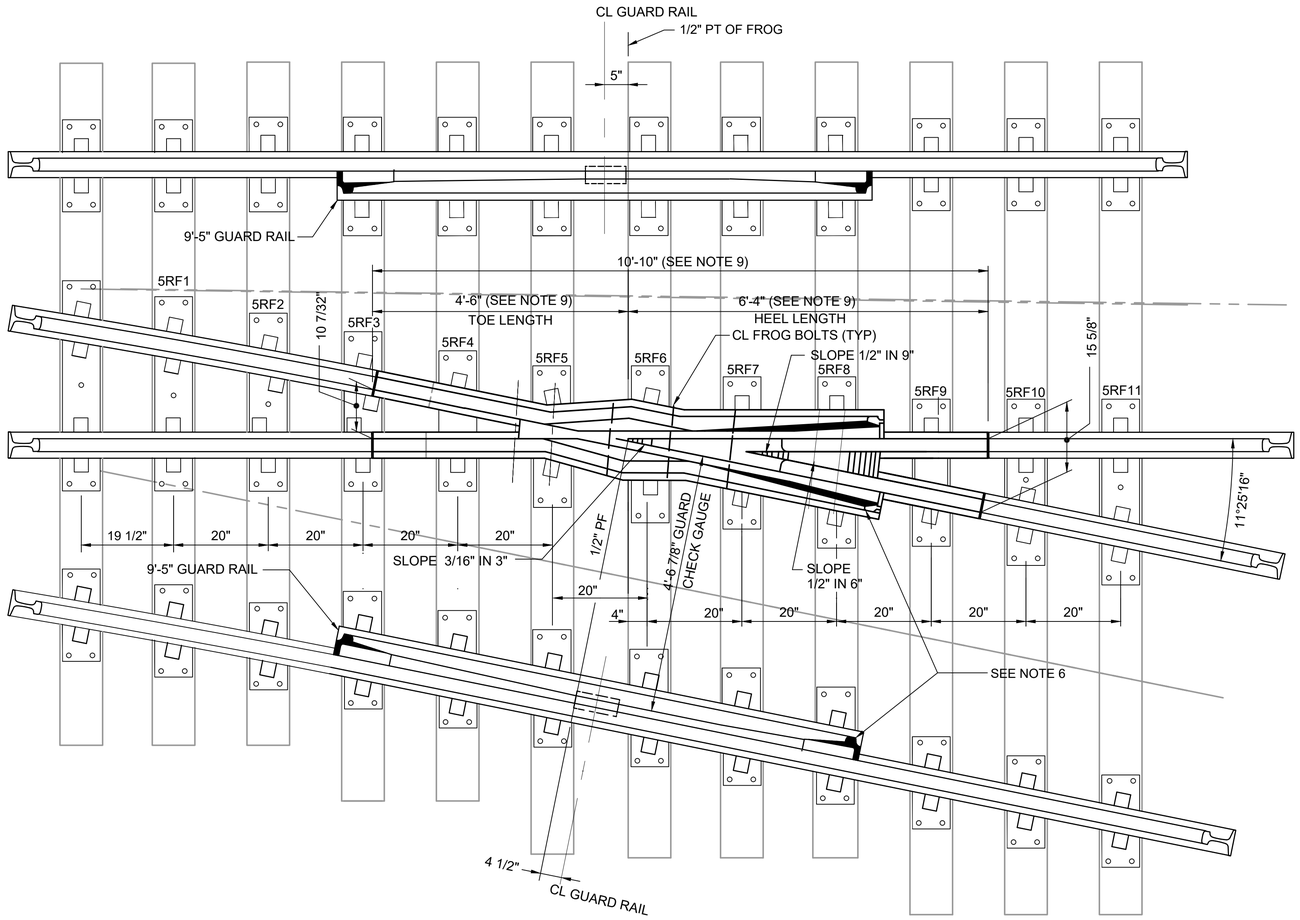
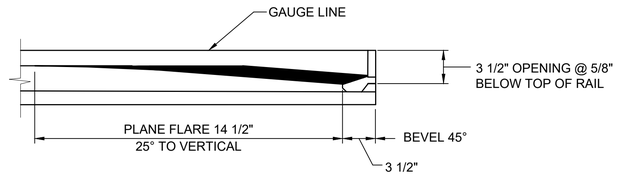


PLAN
SCALE: 3/4" = 1'-0"



FLARE DETAIL
SCALE: 1 1/2" = 1'-0"

GENERAL NOTES:

1. FROG RAIL TO BE 115 RE PREMIUM RAIL.
2. FLANGEWAYS TO BE 1 5/8" WIDE BY 1 7/8" DEEP.
3. RAIL END DRILLING, BAR PUNCHING AND TRACK BOLTS SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR 36" SIX-HOLE JOINT BARS FOR JOINTED TRACK EXCEPT FOR FROG HEEL LEGS, WHICH SHALL BE 5 HOLE JOINTS.
4. RAIL ENDS SHALL BE BEVELED IN ACCORDANCE WITH AREMA PLAN NO. 1005-03.
5. RIGHT HAND FROG SHOWN. LEFT HAND FROG OPPOSITE.
6. FOR ADDITIONAL DETAILS OF GUARD RAILS SEE DRAWING NO. STD-KAD310.
7. THE DESIGN CONFIGURATION AND DIMENSIONS OF FROG AND FROG PLATES ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DESIGN CONFIGURATION AND DIMENSIONS WILL BE BY CONTRACTOR'S FABRICATOR OF TURNOUT, SUBJECT TO APPROVAL BY RESIDENT ENGINEER.
8. ALL SPECIAL TRACKWORK FASTENING PLATES SHALL BE INSULATED.
9. SPARE FROG SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH. (SPARE FROG TOE LENGTH = 5'-6" SPARE FROG HEEL LENGTH = 7'-4")

BILL OF MATERIAL
NO. 5 RAILBOUND MANGANESE FROG

QTY	DESCRIPTION
1 EA	NO. 5 RAILBOUND MANGANESE FROG COMPLETE (PER AREMA STD PLAN 322-59) MODIFIED AS SHOWN
A/R	FROG PLATES, (5RFI TO 5RFII) (FOR BALLASTED TRACK ONLY)

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0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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FILENAME: STD-KAD351
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 5 RAILBOUND MANGANESE FROG
BALLASTED

DRAWING No.: **STD-KAD351**
FACILITY ID:
SHEET No.: 2
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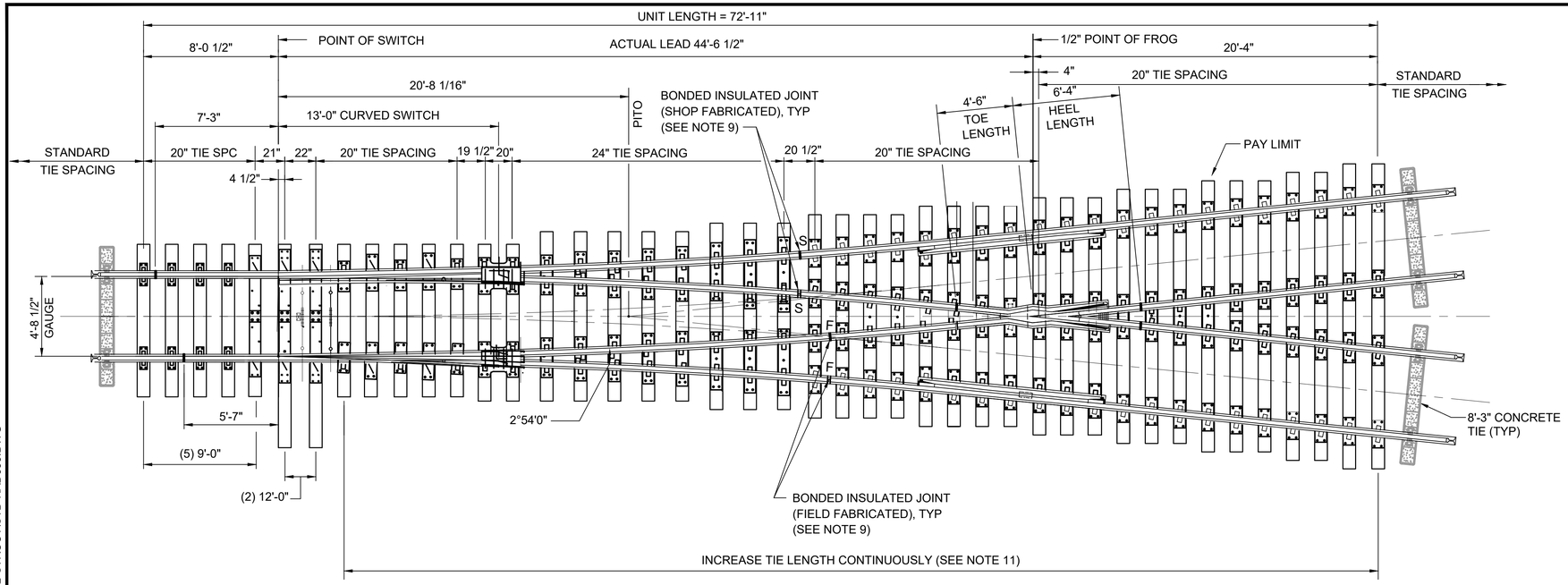
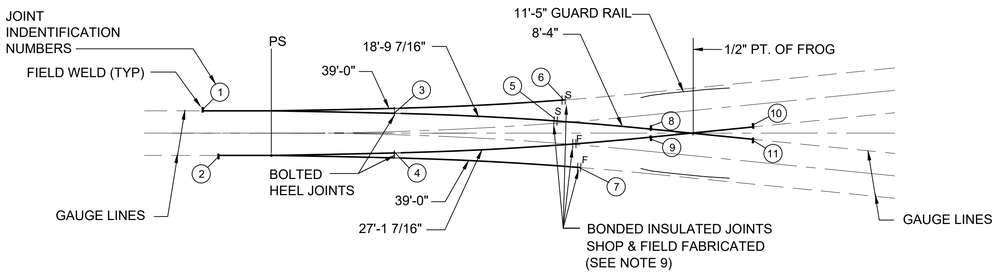


NO. 5 EQUILATERAL PLAN

SCALE: 1/4" = 1'-0"



RAIL LAYOUT DIAGRAM

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BILL OF MATERIAL
PRIMARY CONCRETE SWITCH TIES

LENGTH	QTY
9'-0"	10
10'-0"	7
11'-0"	3
12'-0"	6 (SEE NOTE 10)
13'-0"	4
14'-0"	3
15'-0"	3
16'-0"	3
17'-0"	2
18'-0"	2
TOTAL	43

BILL OF MATERIAL
No. 5 EQUILATERAL BALLASTED TURNOUT

QTY	DESCRIPTION	DWG No.
1 ASSY	No. 5 EQUILATERAL 13'-0" CURVED SPLIT SWITCH COMPLETE	STD-KAD357
1 ASSY	No. 5 EQUILATERAL RBM FROG COMPLETE	STD-KAD358
2 ASSY	11'-5" ADJUSTABLE GUARD RAILS COMPLETE	STD-KAD410
A/R	CLOSURE RAIL WITH BONDED INSULATED JOINT	-
A/R	CLOSURE RAIL WITHOUT BONDED INSULATED JOINT	-
A/R	STOCK RAIL WITH BONDED INSULATED JOINT	-
A/R	STOCK RAIL WITHOUT BONDED INSULATED JOINT	-
1 SET	SWITCH TIES	-
A/R	PANDROL NO. 2055 "E" CLIPS, INCL. MOD. "E" CLIPS FOR IJ	-
A/R	INSULATED LAG SCREW ASSEMBLIES	-
A/R	HIGH DENSITY POLYETHLENE PADS (VARIOUS SIZES)	-
8	THERMITE WELD	-
A/R	STANDARD SPECIAL TRACKWORK PLATES (SEE NOTE 7)	-

TURNOUT DATA

FROG	NUMBER	5
	ANGLE	11° 25' 16"
	TOE LENGTH	4'-6"
	HEEL LENGTH	6'-4"
	TOTAL LENGTH	10'-10"
	TOE SPREAD	10 7/32"
	HEEL SPREAD	15 5/8"
SWITCH	LENGTH OF CURVED SWITCH RAIL	13'-0"
	HEEL SPREAD	6 1/4"
	ANGLE AT POINT	0° 50' 46"
	THICKNESS AT POINT	0"
	SWITCH RAIL RADIUS	1233.10'
ACTUAL LEAD		44'-6 1/2"
STRAIGHT CLOSURE RAIL		27'-0 1/2"
CURVED CLOSURE RAIL		27'- 1 7/16"
TURNOUT CURVE	CENTER LINE RADIUS	352.80'
	DEGREE OF CURVE	16° 14' 25"
	CENTRAL ANGLE	4° 15' 38"
TANGENT ADJACENT TOE OF FROG		0"

GENERAL NOTES:

1. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL.
2. RAIL AND COMPONENTS SHALL CONFORM TO 115RE RAIL SECTION.
3. ALL RAILS (AS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM) SHALL BE PREMIUM RAIL.
4. RAIL END DRILLING SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR 36" SIX HOLE JOINT BARS FOR JOINTED TRACK EXCEPT FOR INSU-LATED JOINTS WHICH SHALL BE DRILLED PER MANUFACTURER'S RECOMMENDATION.
5. RAIL ENDS SHALL BE BEVELED IN ACCORDANCE WITH AREMA PLAN NO. 1005-03 FOR JOINTED TRACK.
6. INSULATED STANDARD PLATES SHALL BE FURNISHED FOR ALL TIES WHERE SPECIAL TRACKWORK PLATES ARE NOT REQUIRED.
7. ALL SPECIAL TRACKWORK FASTENING PLATES SHALL BE INSULATED.
8. NO ALLOWANCE HAS BEEN MADE FOR GAPS OR INSULATED END POSTS IN COMPUTING LENGTHS OF RAILS SHOWN.
9. BONDED INSULATED JOINTS ARE NOT REQUIRED IN SOME TURNOUT INSTALLATION. SEE RESPECTIVE CONTRACT'S TRACK CHART DRAWINGS FOR DETAILS.
10. HEADBLOCK TIES FOR POWER SWITCH MACHINE SHALL BE 9"X9" IN SECTION AND SHALL BE DAPPED AS REQUIRED FOR SWITCH MACHINE.
11. WITHIN THE INDICATED AREA, INCREASE THE LENGTH OF CONCRETE TIE CONTINUOUSLY WITH THE REQUIRED MINIMUM LENGTH OF 25 3/4" FROM THE GAUGE SIDE OF THE MOST-OUTSIDE RUNNING RAIL TO THE END OF THE TIE. IN CASE OF SUCH SETTING IS NOT AVAILABLE, INCREASE TIE LENGTH IN A FAMILY STYLE IS ALLOWED.

LEGEND:

F || FIELD FABRICATED INSULATED JOINT

S || SHOP FABRICATED INSULATED JOINT

I WELDED JOINT

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SCALE: AS NOTED
FILENAME: STD-KAD355
CONTRACT No.: RTA/LR -

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STANDARD DRAWINGS
TRACKWORK

NO. 5 EQUILATERAL TURNNOUT
BALLASTED
13'-0" CURVED EQUILATERAL SPLIT SWITCH

DRAWING No.: **STD-KAD355**
FACILITY ID:
SHEET No.: 2 REV:

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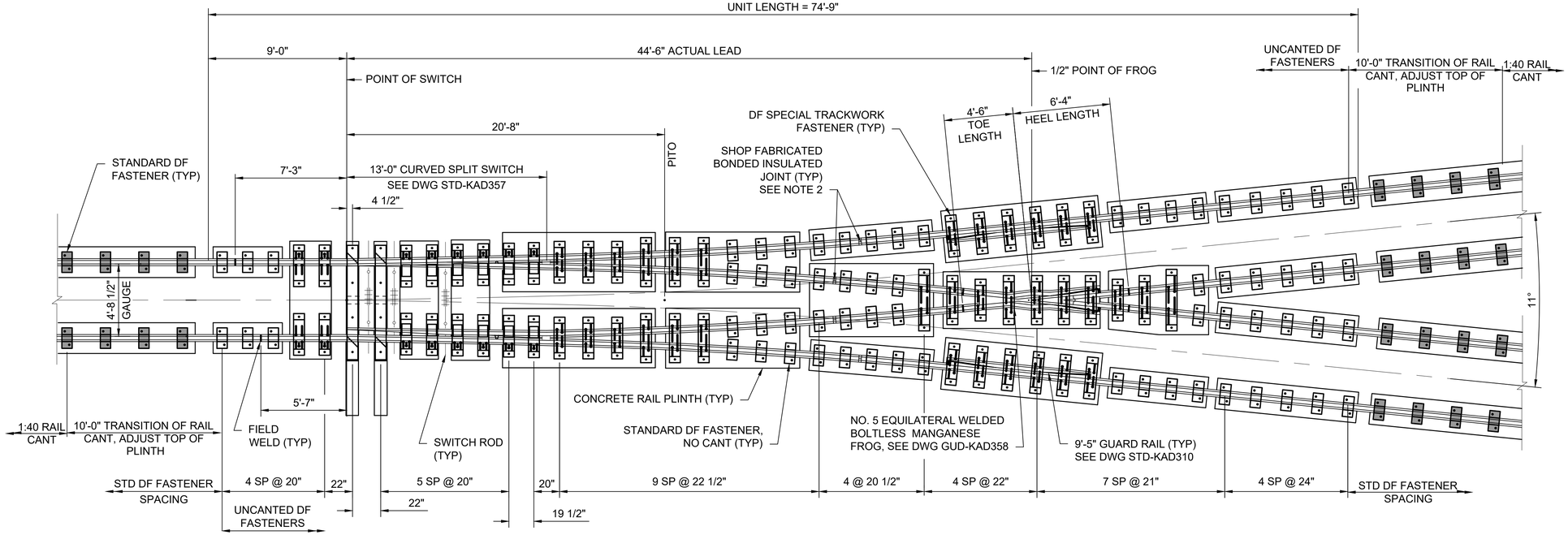
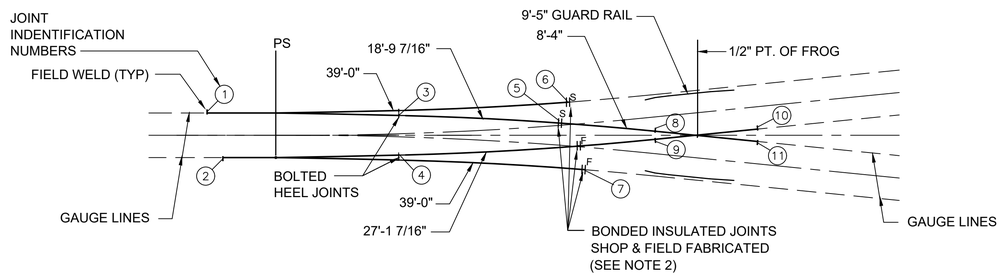


NO. 5 EQUILATERAL TURNOUT

SCALE: 1/4" = 1'-0"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115RE RAIL SECTION.
2. FINAL LOCATIONS OF BONDED INSULATED JOINTS WILL DEPEND ON THE LOCATION OF TURNOUT INSTALLATION. VERIFY FINAL LOCATION OF INSULATED JOINTS WITH THE RESIDENT ENGINEER BEFORE FABRICATION OF THE TURNOUT.
3. DIMENSIONS OF STOCK RAIL EXTENSION FROM POINT OF SWITCH WILL CARY DEPENDING ON LOCATION OF INSULATED JOINT ON EACH SIDE OF THE TURNOUT.
4. RAIL CANT TRANSITION FROM ZERO CANT TO 1:40 CANT TO BE PERFORMED IN PLINTH. ZERO CANT FASTENERS SHALL BE USED THROUGHOUT THE TRANSITION.

LEGEND:

- STANDARD DF FASTENER, NO CANT
- STANDARD DF FASTENER 1:40 CANT
- DF SPECIAL TRACKWORK FASTENER

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SCALE: AS NOTED
FILENAME: STD-KAD356
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 5 EQUILATERAL TURNOUT
13'-0" CURVED EQUILATERAL SPLIT SWITCH
DIRECT FIXATION

DRAWING No.: **STD-KAD356**
FACILITY ID:
SHEET No.: 1
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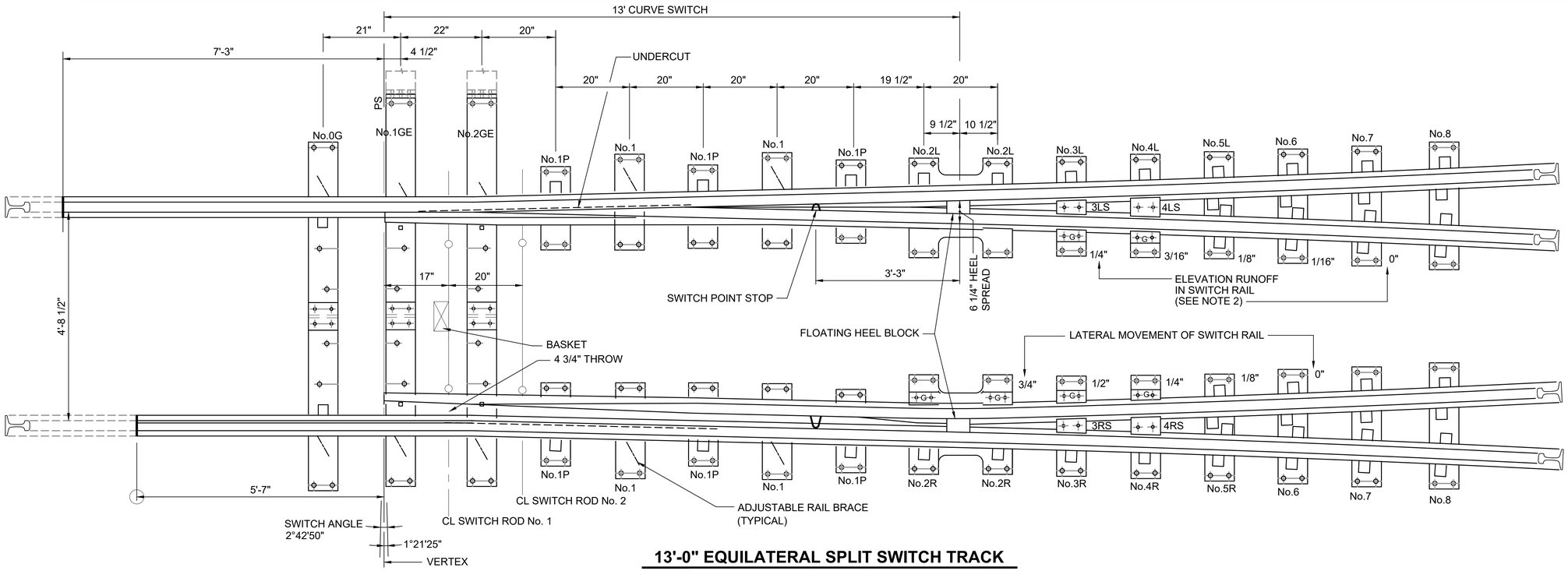

13'-0" EQUILATERAL SPLIT SWITCH TRACK

SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL COMFORM TO 115 RE RAIL SECTION.
2. ALL PLATE LAYOUTS AND DIMENSIONS ARE FOR INFORMATION ONLY. FINAL PLATE LAYOUTS AND DIMENSIONS SHALL BE BY CONTRACTOR AND APPROVED BY RESIDENT ENGINEER.
3. FOR RAIL FASTENER DETAILS IN DIRECT FIXATION TRACK SEE DRAWING STD-KAD306.

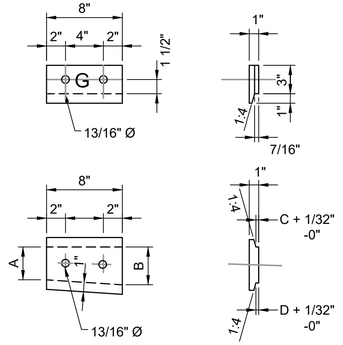

PLATE STOP DETAILS

(SEE NOTE 2)
NTS

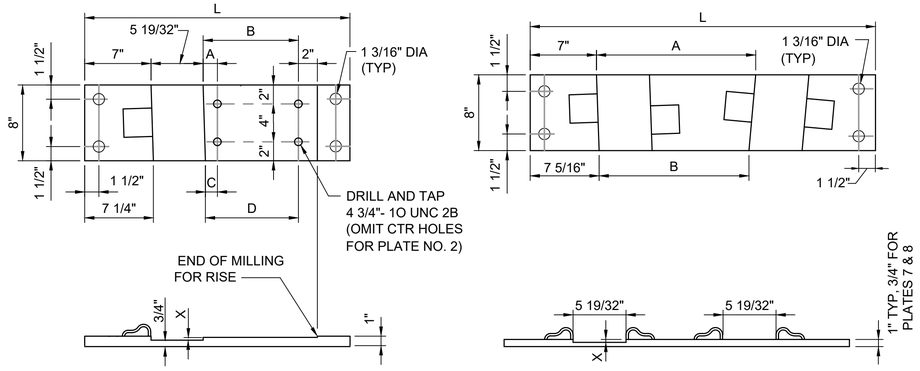

PLATE DETAILS (BALLASTED)

(SEE NOTE 2)
SCALE: 1 1/2"=1'-0"

BILL OF MATERIAL
NO. 5 EQ. INSULATED SPLIT SWITCH COMPLETE

QTY	DESCRIPTION
1-EA	13'-0" SWITCH POINTS. MADE FROM 42'-5 13/16" LONG RAIL RH AND LH COMPLETE WITH REINFORCING BARS. HEEL BLOCK, AND STOP ATTACHED (POINT DETAIL 5100 PER APEMA STANDARD PLAN No. 221-08
1	46'-3/4" LONGUNDERCUT STOCK RAILS. RH AND LH.
2	INSULATED VERTICAL SWITCH RODS, No. 1 ROD WITH BASKET FOR 1 1/4"Ø ROD
1-EA	NSULATED GAUGE PLATE OG. 1GE AND 2GE COMPLETE WITH ADJUSTABLE BRACES.
4	BRACES SLIDE PLATES No. 1 COMPLETE WITH ADJUSTABLE BRACES.
6	PLAN SLIDE PLATES No. 1P
2-EA	TURNOUT PLATES No. 2, 3, 4 AND 5
2-EA	TURNOUT PLATES No. 6, 7, AND 8
A/R	INSULATED LAG SCREW ASSEMBLY.
1-EA	PLATE STOPS 3S AND 4S
6	PLATE STOP G
20	3/4" X 2 1/4" MACHINE BOLTS

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
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LINE IS 1" AT FULL SCALE

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SCALE: AS NOTED
FILENAME: STD-KAD357
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 5 EQUILATERAL SWITCH
13'-0" CURVED SPLIT SWITCH
BALLASTED

DRAWING No.: STD-KAD357
FACILITY ID:
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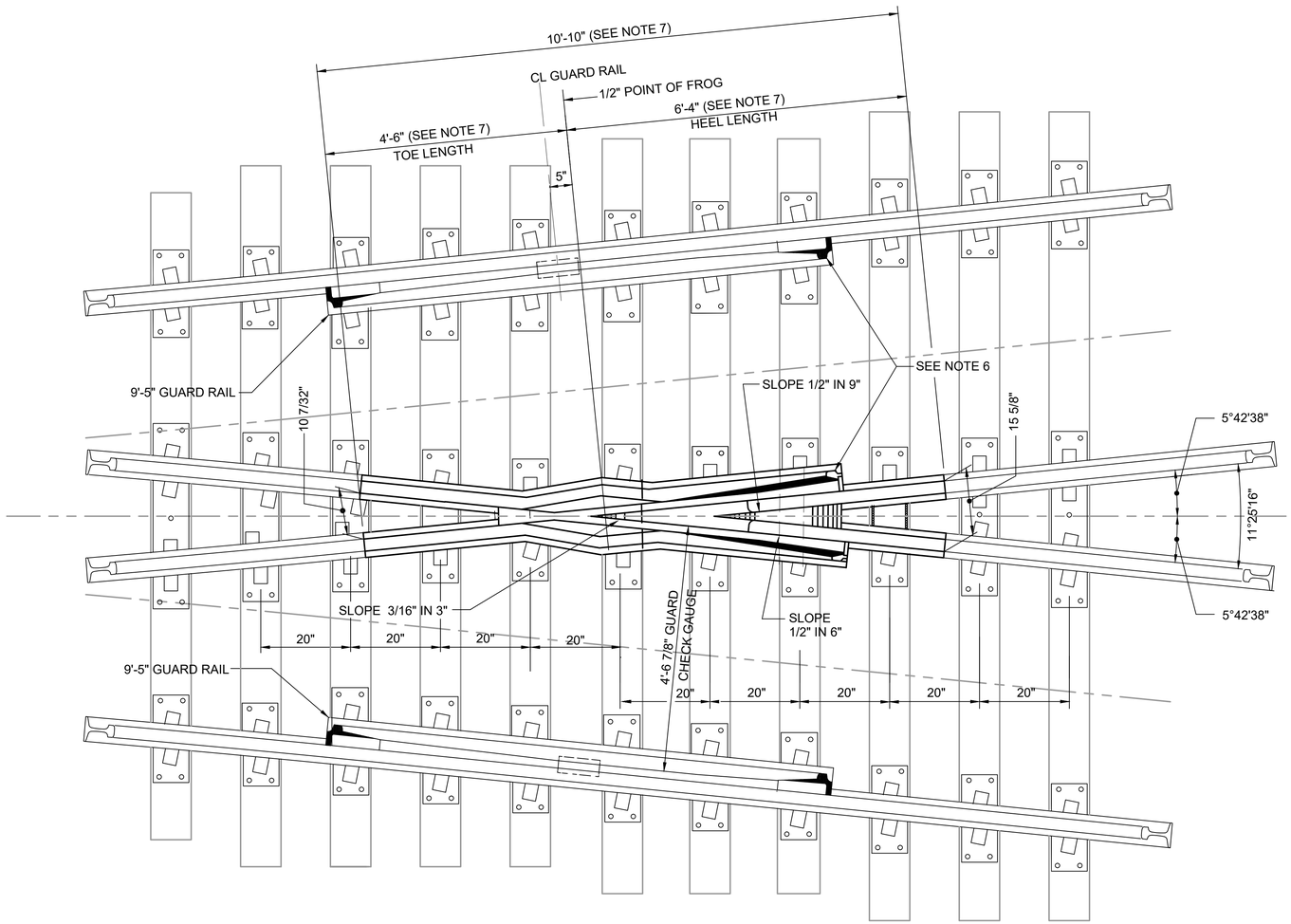
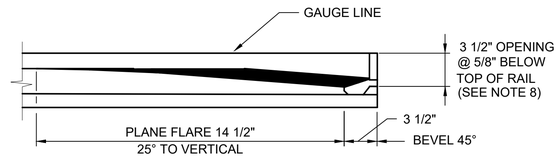


PLAN
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. FROG RAIL TO BE 115 RE PREMIUM RAIL.
2. FLANGEWAYS TO BE 1 5/8" WIDE BY 1 7/8" DEEP.
3. RAIL END DRILLING, BAR PUNCHING AND TRACK BOLTS SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR 36" SIX-HOLE JOINT BARS FOR JOINTED TRACK EXCEPT FOR FROG HEEL LEGS, WHICH SHALL BE 5 HOLE JOINTS.
4. RAIL ENDS SHALL BE BEVELED IN ACCORDANCE WITH AREMA PLAN NO. 1005-03.
5. THE DESIGN CONFIGURATION AND DIMENSIONS OF FROG AND FROG PLATES ARE FOR INFORMATIONAL PURPOSES, FINAL DESIGN CONFIGURATION AND DIMENSIONS WILL BE BY CONTRACTOR'S FABRICATOR OF TURNOUT SUBJECT TO APPROVAL BY RESIDENT ENGINEER.
6. FOR ADDITIONAL DETAILS OF GUARD RAILS SEE DRAWING STD-KAD310.
7. SPARE FROG SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH. (SPARE FROG TOE LENGTH = 5'-6" SPARE FROG HEEL LENGTH = 7'-4")
8. ALL SPECIAL TRACKWORK FASTENING SHALL BE INSULATED.



FLARE DETAIL
SCALE: 1 1/2" = 1'-0"

BILL OF MATERIAL
NO. 5 EQ. INSULATED SPLIT SWITCH COMPLETE

QTY	DESCRIPTION
1-EA	NO. 5 RAILBOUND MANGANESE FROG COMPLETE (PER AREMA STD PLAN 322-59) MODIFIED AS SHOWN
A/R	FROG PLATES. (SRF1 TO SRF11)

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	6/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD358
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 5 EQUILATERAL RBM FROG
BALLASTED

DRAWING No.: **STD-KAD358**
FACILITY ID:
SHEET No.: 2
REV:

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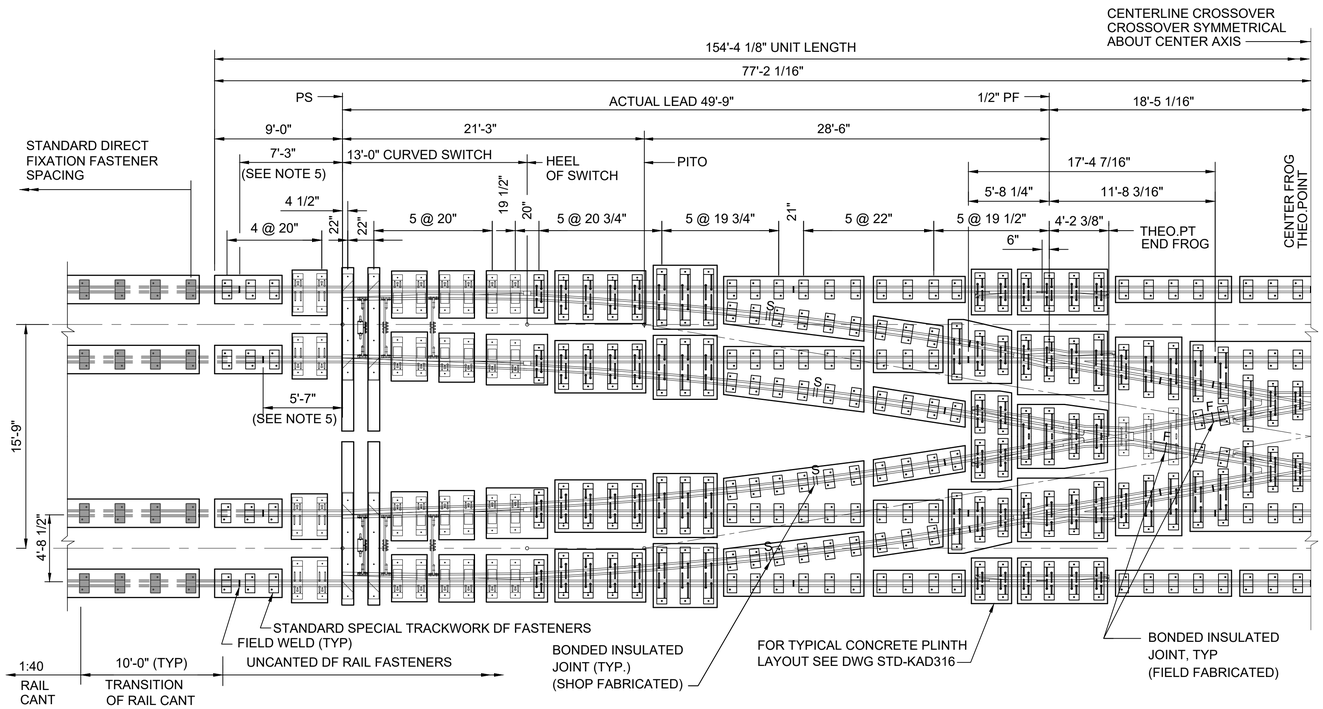


NO. 6 DF DOUBLE CROSSOVER 15'-9" TC

SCALE: 3/16" = 1'-0"

LEGEND:

- STANDARD SPECIAL TRACKWORK DF FASTENER (NO CANT)
- STANDARD DF FASTENER (1:40 CANT)
- SPECIAL TRACKWORK DF FASTENER (NO CANT)
- F — FIELD FABRICATED INSULATED JOINT
- S — SHOP FABRICATED INSULATED JOINT
- I — WELDED JOINT

GENERAL NOTES:

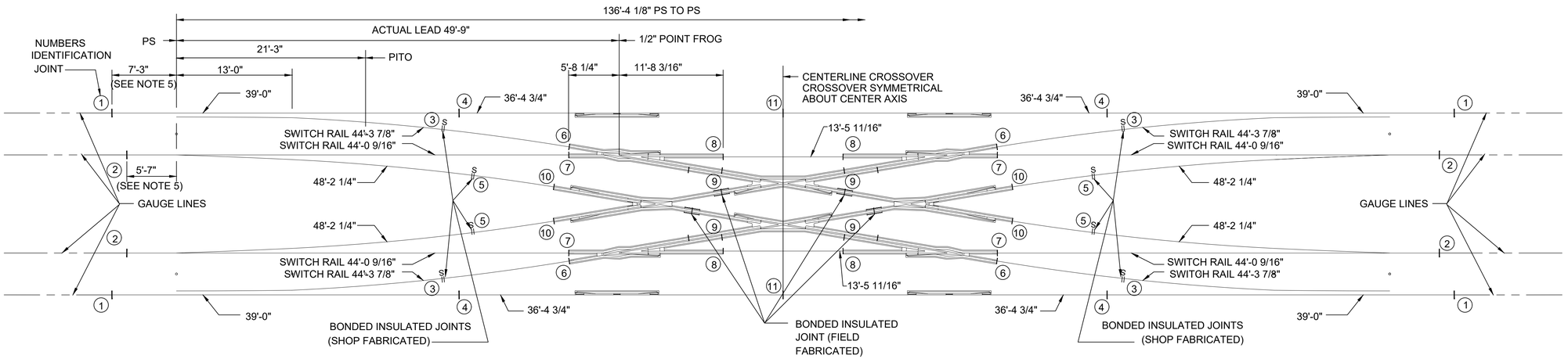
1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
2. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE HIGH STRENGTH RAILS.
3. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS AND CONCRETE PLINTH LAYOUT ARE FOR INFORMATIONAL PURPOSES ONLY, FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY THE CONTRACTOR AFTER APPROVAL BY THE RESIDENT ENGINEER.
4. STANDARD SPECIAL TRACKWORK DIRECT FIXATION FASTENERS SHALL BE FURNISHED WHERE SPECIAL TRACKWORK FASTENERS ARE NOT REQUIRED.
5. DIMENSION OF STOCK RAIL EXTENSION FROM POINT OF SWITCH WILL VARY DEPENDING ON LOCATION OF INSULATED JOINT ON EACH SIDE OF THE TURNOUT.

No. 6 TURNOUT DATA

FROG	ANGLE	9°31'38"
	TOE LENGTH	5'-8 1/4"
	HEEL LENGTH	11'-8 3/16"
	TOTAL LENGTH	17'-4 7/16"
	TOE SPREAD	10 27/32"
	HEEL SPREAD	23 13/16"
SWITCH	LENGTH OF SWITCH	13'-0"
	HEEL SPREAD	6 1/4"
	HEEL ANGLE	2°54'00"
	THICKNESS AT POINT	0"
	ANGLE AT POINT	1°41'31"
	SWITCH RAIL RADIUS	616.55'
ACTUAL LEAD		49'-9"
STRAIGHT CLOSURE RAIL DISTANCE		31'-0 3/4"
CURVED CLOSURE RAIL DISTANCE		31'-4 9/16"
TURNOUT CURVE	CENTER LINE RADIUS	283.88'
	DEGREE OF CURVE	20°10'59"
TANGENT ADJACENT TOE OF FROG		-19 5/8"

BILL OF MATERIAL
No. 6 DOUBLE CROSSOVER - DIRECT FIXATION

QTY	DESCRIPTION	DWG No.
4 ASSY	13'-0" CURVED SWITCH DF COMPLETE	STD-KAD316
4 ASSY	No. 6 RAIL BOUND MANGANESE FROG DF COMPLETE	STD-KAD361
4 ASSY	9'-5" ADJUSTABLE GUARD RAIL COMPLETE	STD-KAD310
1 ASSY	No. 6 DIAMOND CROSSING DF, 15'-9" TC	STD-KAD365
4 EACH	CLOSURE / SWITCH RAIL WITH BONDED INSULATED JOINTS 44'-3 7/8"	-
4 EACH	CLOSURE / STOCK RAIL WITH BONDED INSULATED JOINTS 48'-2 1/4"	-
4 EACH	CLOSURE / SWITCH RAIL 44'-0 9/16"	-
4 EACH	CONNECTING RAILS 36'-4 3/4"	-
2 EACH	CONNECTING RAILS 13'-5 11/16"	-
4 EACH	STOCK RAILS 39'-0" STRAIGHT	-
A/R	STANDARD DF RAIL FASTENERS	STD-KAD100
A/R	SPECIAL DF TRACKWORK FASTENERS	STD-KAD306
A/R	CWR WITHIN CROSSOVER UNIT	-
12	BONDED INSULATED JOINTS	STD-KAD431
A/R	1/16", 1/8" & 1/4" THICK SHIMS	STD-KAD306
A/R	SECOND-POUR PLINTH CONCRETE AND REINFORCING STEEL WITHIN CROSSOVER UNIT	-
A/R	EPOXY GROUT FOR ANCHOR INSERTS FOR DF RAIL FASTENERS WITHIN CROSSOVER UNIT	-



RAIL LAYOUT DIAGRAM

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No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DWGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

AHJ:

PACKAGE #

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD360
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 6 DOUBLE CROSSOVER
13'-0" CURVED SPLIT SWITCH
15'-9" TRACK CENTERS - DIRECT FIXATION

DRAWING No.: STD-KAD360
FACILITY ID:
SHEET No.: 2
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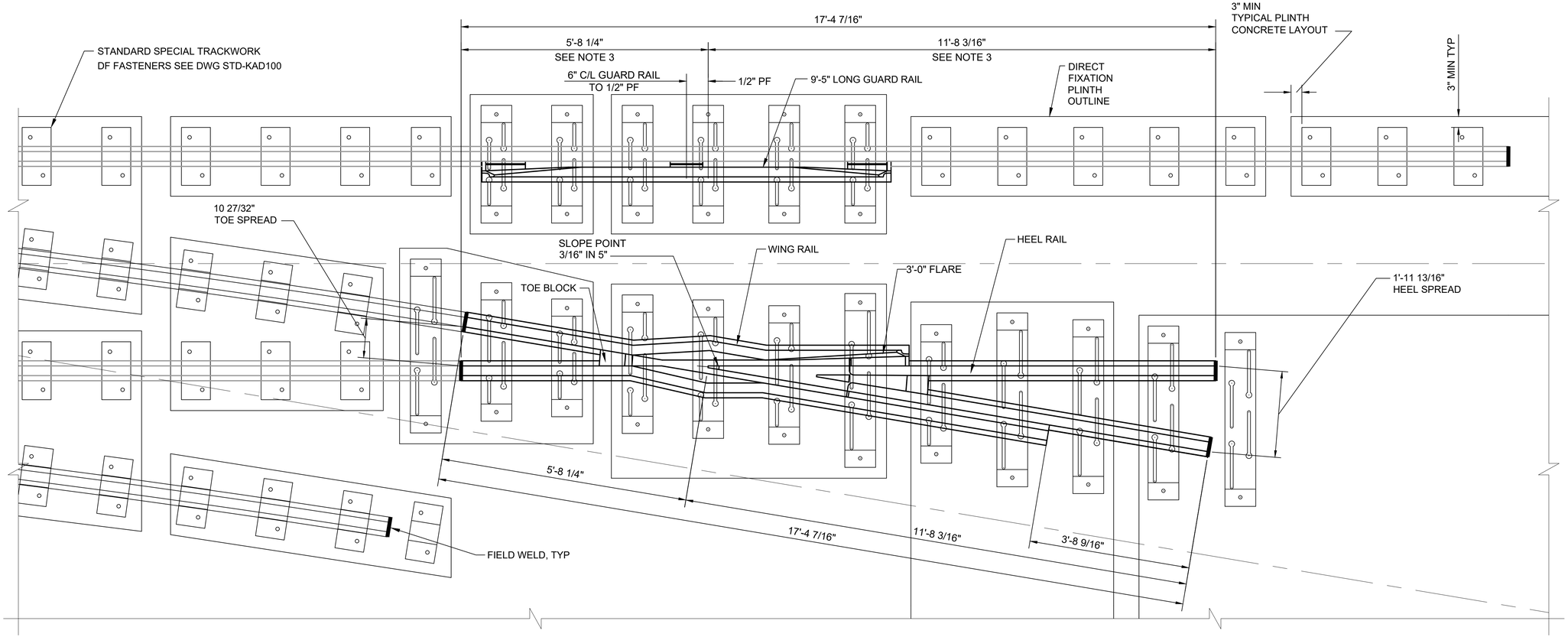
GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL
2. FASTENERS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY THE CONTRACTOR AFTER APPROVAL BY THE RESIDENT ENGINEER.
3. SPARE FROG SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH.



NO. 6 RAILBOUND MANGANESE FROG ASSEMBLY

(PLATE LAYOUT SHOWN FOR 15'-9" TC CROSSOVER)
SCALE: 3/4" = 1'-0"

No.	DATE	DSN	CHK	APP	REVISION
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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

SUBMITTED BY: -
DATE: -
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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 3/4" = 1'-0"
FILENAME: STD-KAD361
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 6 RAILBOUND MANGANESE FROG ASSEMBLY
FOR 15'-9": TC DOUBLE CROSSOVER
DIRECT FIXATION

DRAWING No.: **STD-KAD361**
FACILITY ID:
SHEET No.: 2
REV:

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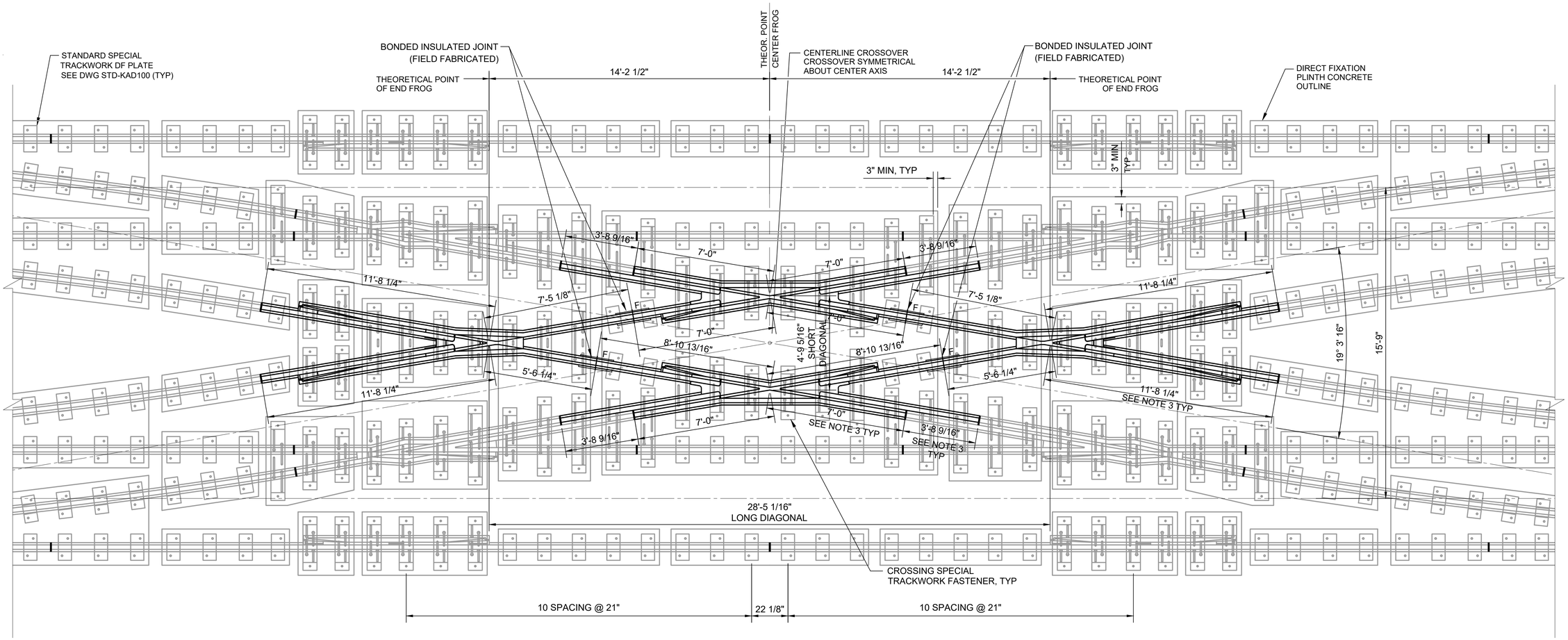
GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION.
2. THE DESIGN CONFIGURATION, PLINTH LAYOUT AND DIMENSIONS OF DF RAIL FASTENERS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY THE CONTRACTOR AFTER APPROVAL BY THE RESIDENT ENGINEER.
3. SPARE DIAMOND CROSSING SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH.



NO. 6 DF DIAMOND CROSSING 15'-9" TC

SCALE: 3/8" = 1'-0"

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0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 3/8" = 1'-0"
FILENAME: STD-KAD365
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 6 DIAMOND CROSSING
DIRECT FIXATION
FOR 15'-9" DOUBLE CROSSOVER

DRAWING No.: **STD-KAD365**
FACILITY ID:
SHEET No.: 2
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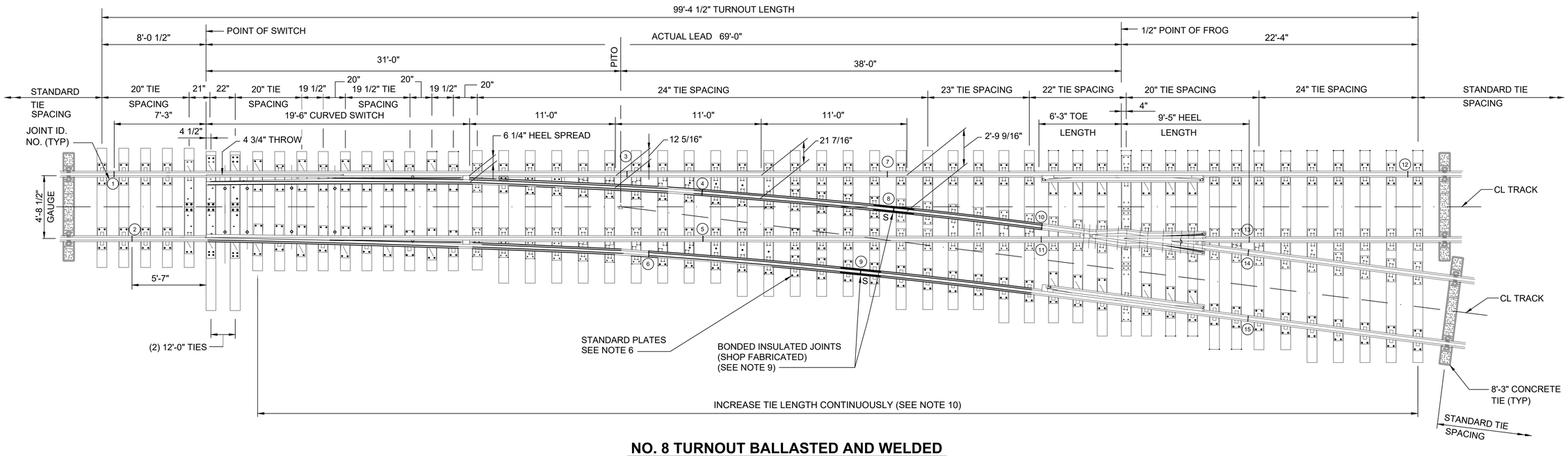
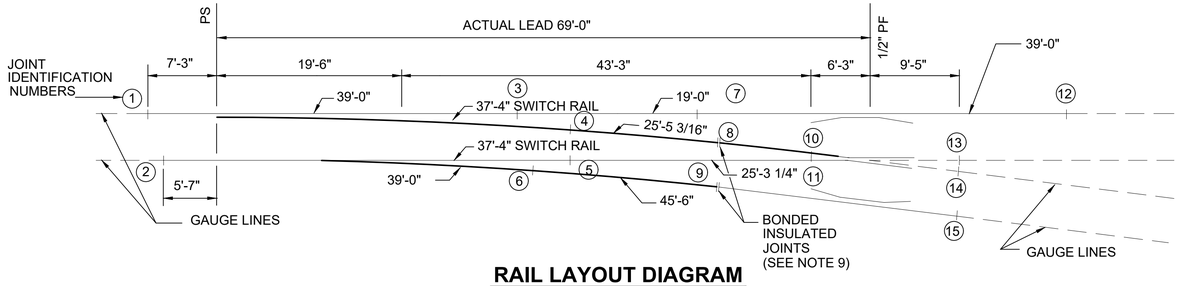


NO. 8 TURNOUT BALLASTED AND WELDED

SCALE: 1/4" = 1'-0"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

TURNOUT DATA			
FROG		NUMBER	8
		ANGLE	7°09'10"
		TOE LENGTH	6'-3"
		HEEL LENGTH	9'-5"
		TOTAL LENGTH	15'-8"
		TOE SPREAD	8 7/8"
		HEEL SPREAD	14 19/32"
SWITCH		LENGTH OF SWITCH	19'-6"
		HEEL SPREAD	6 1/4"
		HEEL ANGLE	1°59'15"
	CURVED POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		SWITCH RAIL RADIUS	1222.17'
		VERTEX DISTANCE	0"
	STRAIGHT POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		STOCK RAIL RADIUS	1217.46'
		VERTEX DISTANCE	0"
ACTUAL LEAD			69'-0"
STRAIGHT CLOSURE RAIL DISTANCE			43'-3"
CURVED CLOSURE RAIL DISTANCE			43'-5 3/8"
TURNOUT CURVE		CENTER LINE RADIUS	482.09'
		DEGREE OF CURVE	11°53'05"
		CENTRAL ANGLE	5°09'55"
TANGENT ADJACENT TOE OF FROG			-0 5/8"

BILL OF MATERIAL
No. 8 BALLASTED TURNOUT

QTY	DESCRIPTION	DWG No.
1 ASSY.	19'-6" CURVED SWITCH COMPLETE	STD-KAD320
1 ASSY.	NO. 8 RAILBOUND MANGANESE FROG WITH PLATES	STD-KAD375
2 ASSY.	13'-0" ADJUSTABLE GUARD RAIL WITH PLATES	STD-KAD311
1 EACH	CLOSURE RAILS WITH BONDED INSULATED JOINTS 25'-5 3/16" AND 45'-6" (SEE NOTE 9)	-
1 EACH	CLOSURE RAIL 25'-3 1/4", 19'-0" AND 39'-0"	-
1 SET	CONCRETE SWITCH TIES AS LISTED (SEE NOTE 8)	-
70	STANDARD PANDROL TIE PLATES FOR "e" CLIPS (SEE NOTE 6).	-
13	THERMITE WELDS	-
143	HIGH DENSITY POLYETHYLENE PADS (VARIOUS SIZES)	-
300	PANDROL NO. 2055 'e' CLIPS, INCL. MODIFIED 'e' CLIPS FOR I.J.	-

BILL OF MATERIAL
CONCRETE SWITCH TIES

LENGTH	QTY
9'-0"	16
10'-0"	9
11'-0"	6
12'-0"	6 (SEE NOTE 8)
13'-0"	4
14'-0"	5
15'-0"	4
16'-0"	5
TOTAL	55

GENERAL NOTES:

1. LEFT HAND TURNOUT SHALL BE OPPOSITE TO THAT SHOWN.
2. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
3. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE FULLY HEAT TREATED OR HEAD HARDENED RAIL.
4. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL (STD. OR HEAT TREATED) BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
5. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD.
6. INSULATED STANDARD PLATES SHALL BE FURNISHED FOR ALL TIES WHERE SPECIAL PLATES ARE NOT REQUIRED.
7. ALL SPECIAL TRACKWORK TURNOUT PLATES MUST BE INSULATED
8. HEADBLOCK TIES FOR POWER SWITCH MACHINE SHALL BE 9"X9" IN SECTION AND SHALL BE DAPPED AS REQUIRED FOR SWITCH MACHINE.
9. BONDED INSULATION JOINTS ARE NOT REQUIRED IN SOME TURNOUT INSTALLATION. SEE RESPECTIVE CONTRACT'S TRACK CHART DRAWINGS FOR DETAILS.
10. INCREASE THE LENGTH OF CONCRETE TIE CONTINUOUSLY WITH THE REQUIRED MINIMUM LENGTH OF 25 3/4" FROM THE GAUGE SIDE OF THE MOST OUTSIDE RUNNING RAIL TO THE END OF THE TIE. IN CASE OF SUCH TIE SETTING IS NOT AVAILABLE, INCREASE TIE LENGTH IN A FAMILY STYLE IS ALLOWED.

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
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DATE: -
DATE: 2/2024

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD370
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 8 TURNOUT
BALLASTED AND WELDED
WITH 19'-6" CURVED SWITCH

DRAWING No.: **STD-KAD370**
FACILITY ID:
SHEET No.: 2
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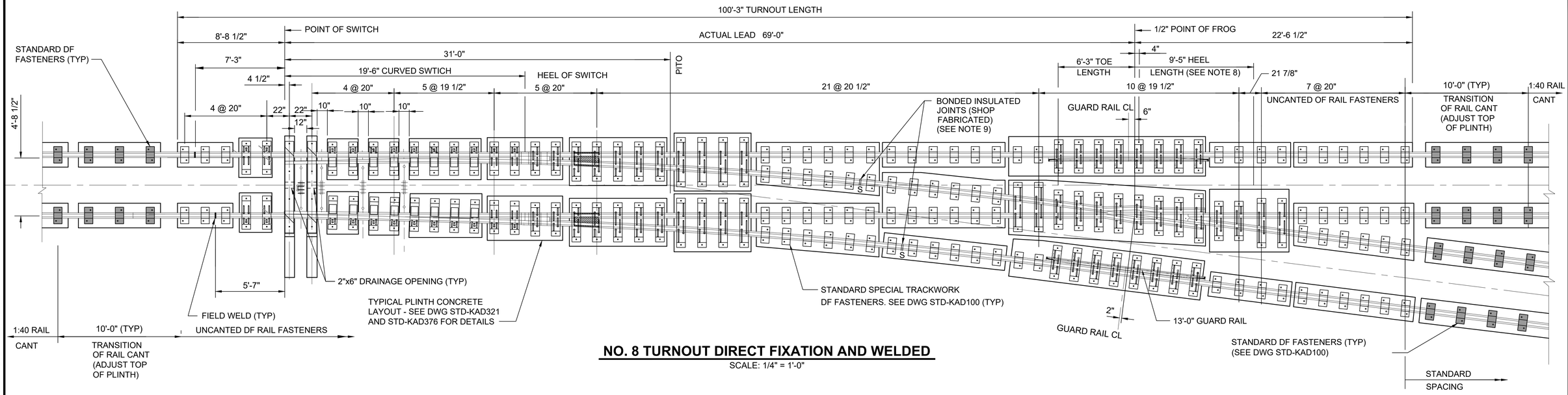
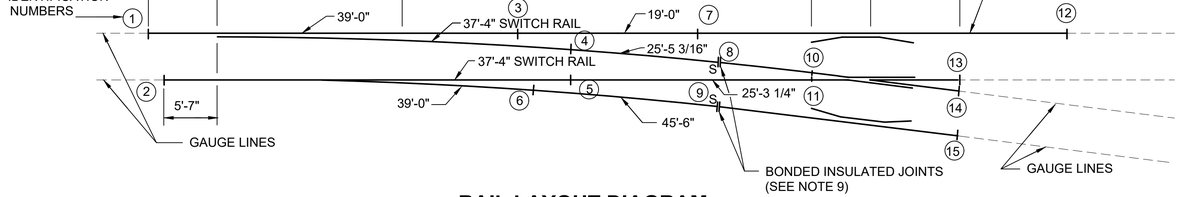


NO. 8 TURNOUT DIRECT FIXATION AND WELDED

SCALE: 1/4" = 1'-0"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

TURNOUT DATA

FROG		NUMBER	8
		ANGLE	7°09'10"
		TOE LENGTH	6'-3"
		HEEL LENGTH	9'-5"
		TOTAL LENGTH	15'-8"
		TOE SPREAD	8 7/8"
		HEEL SPREAD	14 19/32"
SWITCH		LENGTH OF SWITCH	19'-6"
		HEEL SPREAD	6 1/4"
		HEEL ANGLE	1°59'15"
	CURVED POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		SWITCH RAIL RADIUS	1222.17'
		VERTEX DISTANCE	0"
	STRAIGHT POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		STOCK RAIL RADIUS	1217.46'
		VERTEX DISTANCE	0"
ACTUAL LEAD			69'-0"
STRAIGHT CLOSURE RAIL DISTANCE			43'-3"
CURVED CLOSURE RAIL DISTANCE			43'-5 3/8"
TURNOUT CURVE		CENTER LINE RADIUS	482.09'
		DEGREE OF CURVE	11°53'05"
		CENTRAL ANGLE	5°09'55"
TANGENT ADJACENT TOE OF FROG			-0 5/8"

BILL OF MATERIAL
No. 8 DIRECT FIXATION TURNOUT

QTY	DESCRIPTION	DWG. No.
1 ASSY.	19'-6" CURVED SWITCH COMPLETE	STD-KAD321
1 ASSY.	NO. 8 RAILBOUND MANGANESE FROG DIRECT FIXATION FASTENERS	STD-KAD375
2 ASSY.	13'-0" ADJUSTABLE GUARDRAIL COMPLETE	STD-KAD311
1 EACH	CLOSURE AND STOCK RAILS WITH BONDED INSULATED JOINTS 25'-5 3/16" AND 45'-6" (SEE NOTE 9)	-
1 EACH	CLOSURE RAIL 25'-3 1/4", 19'-0" AND 39'-0" (SEE NOTE 9)	-
A/R	STANDARD SPECIAL TRACKWORK DF FASTENERS	STD-KAD100 + STD-KAD306
A/R	SPECIAL TRACKWORK DF FASTENERS	STD-KAD306
A/R	SPECIAL TRACKWORK CONCRETE PLINTH	STD-KAD321
13	THERMITE WELDS	-

GENERAL NOTES:

1. LEFT HAND TURNOUT SHALL BE OPPOSITE TO THAT SHOWN.
2. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
3. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE HIGH STRENGTH RAIL.
4. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL (STD. OR HIGH STRENGTH) BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
5. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD.
6. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS AND CONCRETE PLINTH ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.
7. STANDARD SPECIAL TRACKWORK DIRECT FIXATION FASTENERS SHALL BE FURNISHED WHERE SPECIAL PLATES ARE NOT REQUIRED.
8. FOR NO. 8 DOUBLE CROSSOVER (15'-9" TC) INSTALLATION, FROG HEEL LENGTH AND FROG WING RAIL ARE LONGER SEE KAD473 FOR DETAILS.
9. FINAL LOCATIONS OF (SHOP FABRICATED) BONDED INSULATED JOINTS WILL DEPEND ON THE LOCATION OF TURNOUT INSTALLATION. VERIFY FINAL LOCATION OF INSULATED JOINTS WITH THE RESIDENT ENGINEER BEFORE FABRICATION OF THE TURNOUT.

LEGEND:

- STANDARD SPECIAL TRACKWORK DF FASTENER (NO CANT)
- STANDARD DF FASTENER (1:40 CANT)
- SPECIAL TRACKWORK DF FASTENER (NO CANT)

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DWGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY: ----
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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD371
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 8 TURNOUT
DIRECT FIXATION
WITH 19'-6" CURVED SWITCH

DRAWING No.: **STD-KAD371**
FACILITY ID: ----
SHEET No.: ----
REV: 2

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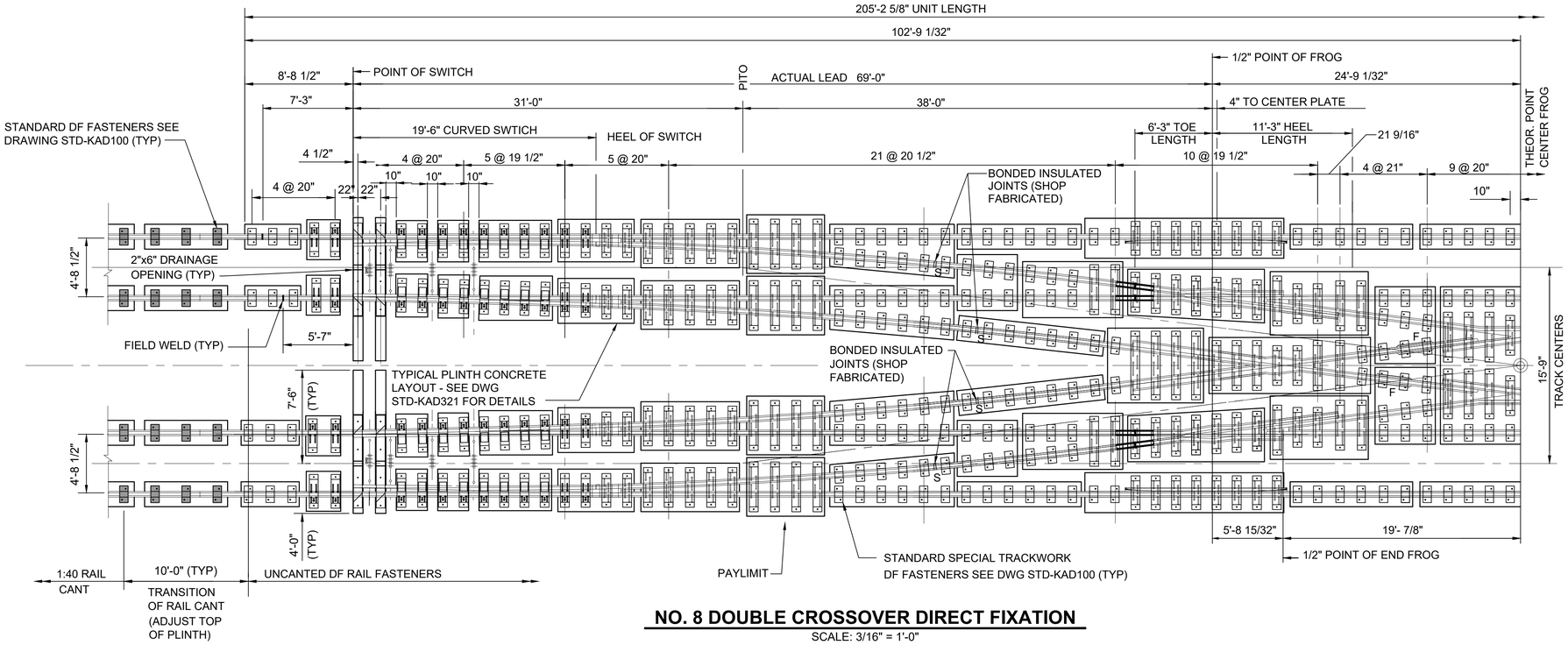


NO. 8 DOUBLE CROSSOVER DIRECT FIXATION

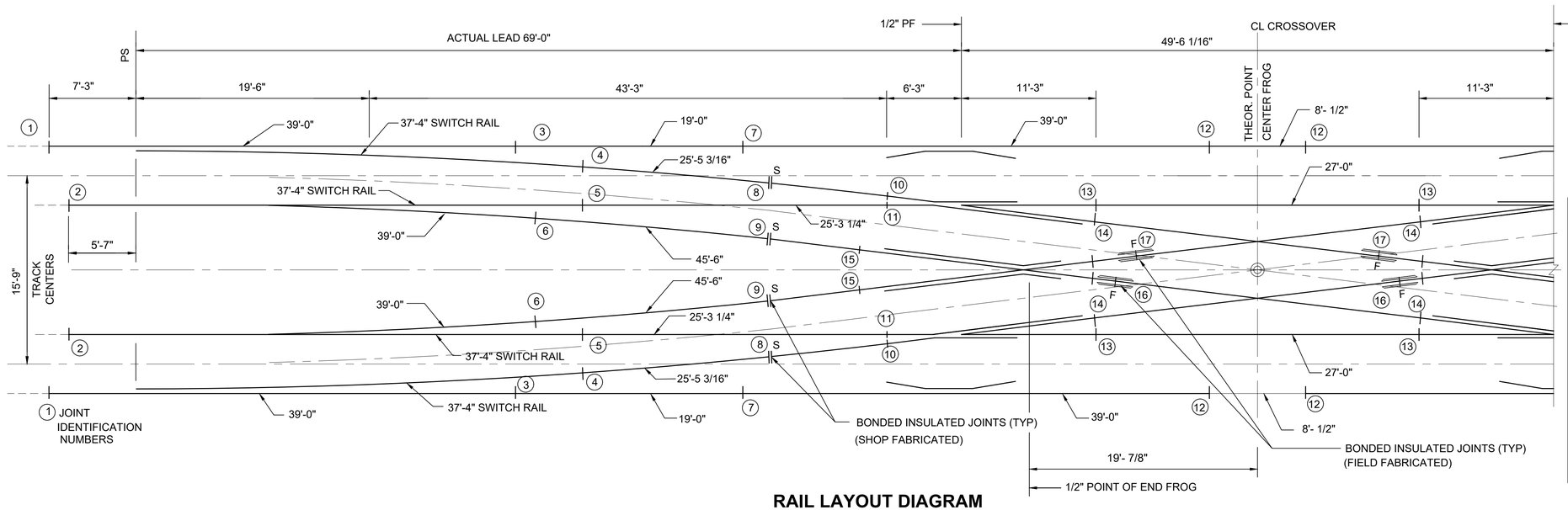
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
2. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE HIGH STRENGTH RAILS.
3. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL (STD OR HIGH STRENGTH) BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
4. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD.
5. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS AND CONCRETE PLINTH LAYOUT ARE FOR INFORMATIONAL PURPOSES ONLY, FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY TURNOUT CONTRACTOR AFTER APPROVAL BY THE RESIDENT ENGINEER.
6. STANDARD SPECIAL TRACKWORK DIRECT FIXATION FASTENERS SHALL BE FURNISHED WHERE SPECIAL TRACKWORK FASTENERS ARE NOT REQUIRED.

LEGEND:

- STANDARD SPECIAL TRACKWORK DF FASTENER (NO CANT)
- STANDARD DF FASTENER (1:40 CANT)
- SPECIAL TRACKWORK DF FASTENER (NO CANT)
- F — FIELD FABRICATED INSULATED JOINT
- S — SHOP FABRICATED INSULATED JOINT
- FIELD WELD



RAIL LAYOUT DIAGRAM

NTS

BILL OF MATERIAL
NO. 6 DOUBLE CROSSOVER - DIRECT FIXATION

QTY	DESCRIPTION	DWG NO
4 ASSY	19'-6" INSULATED CURVED SWITCH COMPLETE	STD-KAD321
4 ASSY	NO. 8 RAIL BOUND MANGANESE FROG COMPLETE	STD-KAD374
4 ASSY	13'-0" GUARD RAIL COMPLETE	STD-KAD311
1 ASSY	NO. 8 DIAMOND CROSSING	STD-KAD373
1 EACH	CLOSURE AND STOCK RAILS WITH BONDED INSULATED JOINTS 25'-3 3/16" AND 45'-6"	-
1 EACH	CLOSURE RAILS 25'-3 3/4", 19'-0" & 39'-0"	-
A/R	STANDARD DF RAIL FASTENERS	STD-KAD100
A/R	SPECIAL TRACK WORK FASTENERS	STD-KAD306
A/R	CWR WITHIN CROSSOVER UNIT	-
12	BONDED INSULATED JOINTS	-
A/R	1/16", 1/8" & 1/4" THICK SHIMS	-
A/R	SECOND-POUR PLINTH CONCRETE AND REINFORCING STEEL WITHIN CROSSOVER UNIT	-
A/R	EPOXY GROUT FOR ANCHOR INSERTS FOR DF RAIL FASTENERS WITHIN CROSSOVER UNIT	-

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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: - | DATE: - | REVIEWED BY: - | DATE: -

SCALE: AS NOTED
FILENAME: STD-KAD372
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 8 DOUBLE CROSSOVER
DIRECT FIXATION
15'-9" TRACK CENTERS

DRAWING No.: STD-KAD372
FACILITY ID:
SHEET No.: 2 REV:

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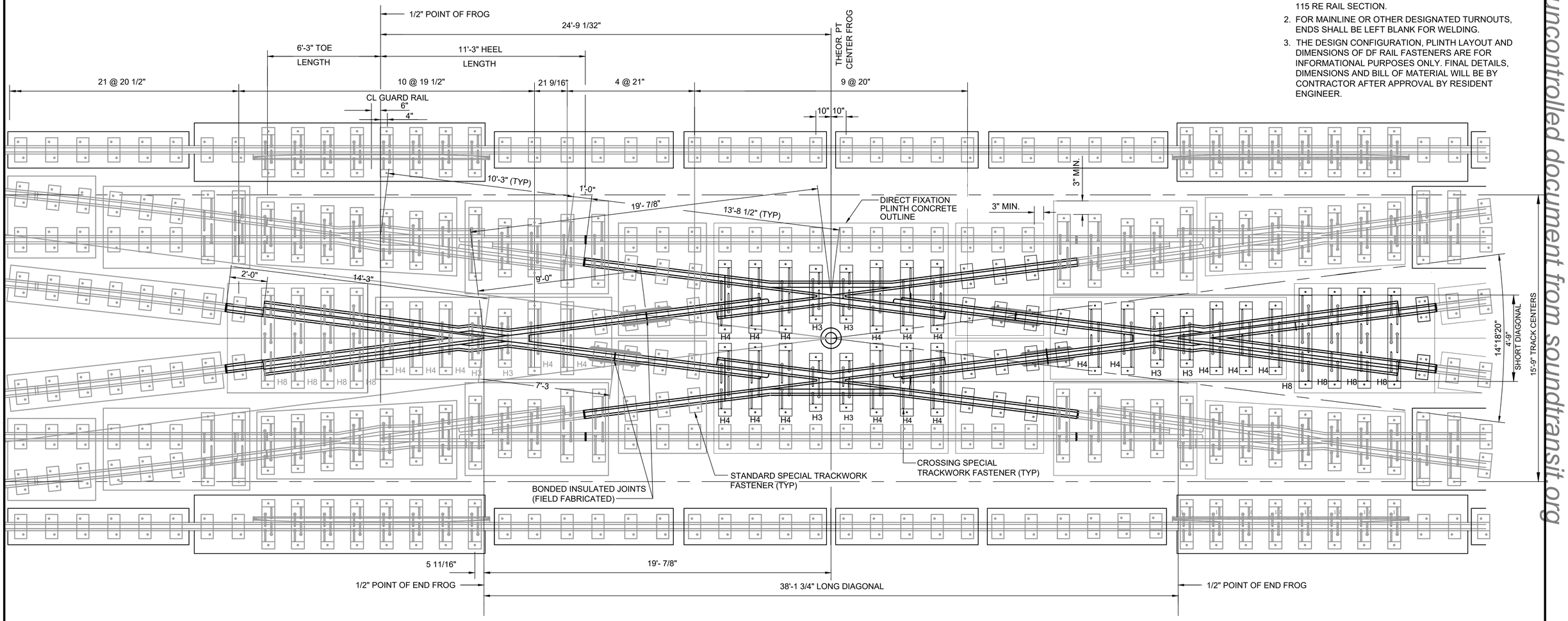
GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION.
2. FOR MAINLINE OR OTHER DESIGNATED TURNOUTS, ENDS SHALL BE LEFT BLANK FOR WELDING.
3. THE DESIGN CONFIGURATION, PLINTH LAYOUT AND DIMENSIONS OF DF RAIL FASTENERS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.



NO. 8 DIAMOND CROSSING

SCALE: 3/8" = 1'-0"

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD373
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 8 DIAMOND CROSSING
DIRECT FIXATION

DRAWING No.: **STD-KAD373**
FACILITY ID:
SHEET No.: 2
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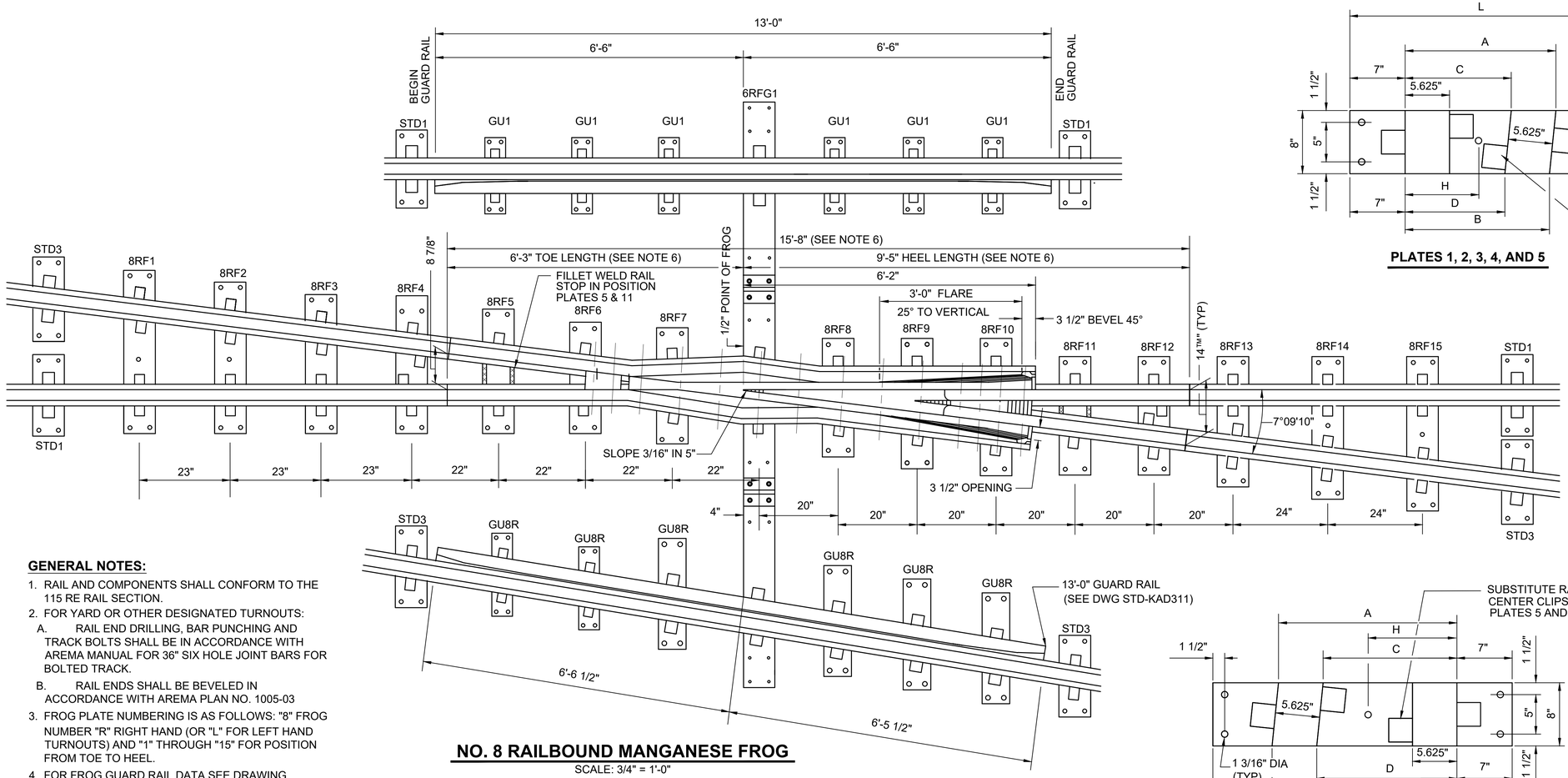


NO. 8 RAILBOUND MANGANESE FROG

SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION.
2. FOR YARD OR OTHER DESIGNATED TURNOUTS:
   - A. RAIL END DRILLING, BAR PUNCHING AND TRACK BOLTS SHALL BE IN ACCORDANCE WITH AREMA MANUAL FOR 36" SIX HOLE JOINT BARS FOR BOLTED TRACK.
   - B. RAIL ENDS SHALL BE BEVELED IN ACCORDANCE WITH AREMA PLAN NO. 1005-03
3. FROG PLATE NUMBERING IS AS FOLLOWS: "8" FROG NUMBER "R" RIGHT HAND (OR "L" FOR LEFT HAND TURNOUTS) AND "1" THROUGH "15" FOR POSITION FROM TOE TO HEEL.
4. FOR FROG GUARD RAIL DATA SEE DRAWING STD-KAD311.
5. FOR TRACKWORK FASTENING PLATE AND INSULATION ASSEMBLY SEE DWG KAD306.
6. SPARE FROG SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH. (SPARE FROG TOE LENGTH = 7'-3" SPARE FROG HEEL LENGTH = 10'-5")

BILL OF MATERIAL
No. 8 RAILBOUND MANGANESE FROG

QTY	DESCRIPTION PROCUREMENT MATERIAL
1	No. 8 RAILBOUND MANGANESE COMPLETE (PER AREMA STD PLAN 617-89) MODIFIED AS SHOWN
1 SET	PLATES NO. 8RF1 THROUGH 8RF15 (NUMBERED 8LF1 THROUGH 8LF15 FOR LEFT HAND TURNOUT)
1	FROG GAUGE PLATE PER DRAWING STD-KAD305 8RFG1 FOR RIGHT HAND TURNOUT (8LFG1 FOR LEFT HAND TURNOUT)

No. 8 FROG PLATE DATA

PL No.	A	B	C	D	L	H
8RF1	26.061	26.951	20.401	21.291	41	13 1/2"
8RF2	23.443	24.365	17.781	18.703	38	12"
8RF3	21.804	20.800	16.135	15.131	36	NONE
8RF4	18.920	17.916	13.251	12.247	33	NONE
8RF5	16.159	15.155	10.490	9.486	30	NONE
8RF8	15.151	16.155	——	——	30	NONE
8RF9	17.661	18.665	——	——	33	NONE
8RF10	20.171	21.175	——	——	36	NONE
8RF11	13.457	14.461	7.788	8.792	30	NONE
8RF12	15.967	16.971	10.298	11.302	30	NONE
8RF13	18.477	19.481	12.807	13.811	33	NONE
8RF14	21.510	22.516	15.843	16.847	36	——
8RF15	24.524	25.528	18.885	19.859	39	12 1/2"

MEASUREMENTS ARE IN INCHES

PLATES 1, 2, 3, 4, AND 5

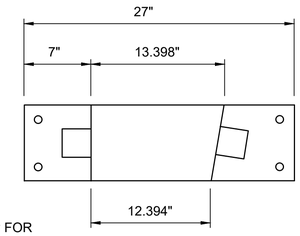


PLATE 6

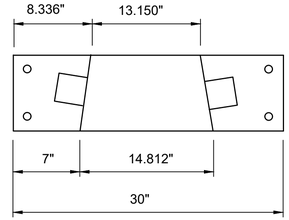
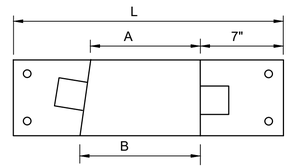
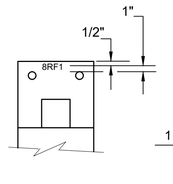


PLATE 7

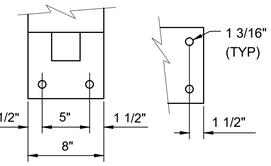


PLATES 8, 9, AND 10

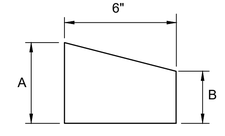
PLATES 11, 12, 13, 14, AND 15



ID. STAMPING (TYP)



END PUNCHING (TYP)

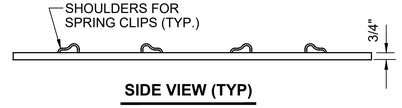


3/8" STEEL PLATE RAIL STOP

STOP No.	A	B
8RF5	4.739	3.986
8RF11	3.042	2.288

MEASUREMENTS ARE IN INCHES

RAIL STOPS
NTS



SIDE VIEW (TYP)

FROG PLATE DETAILS
NTS

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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	6/2013	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD374
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 8 RAILBOUND MANGANESE FROG

DRAWING No.: **STD-KAD374**
FACILITY ID:
SHEET No.: 2
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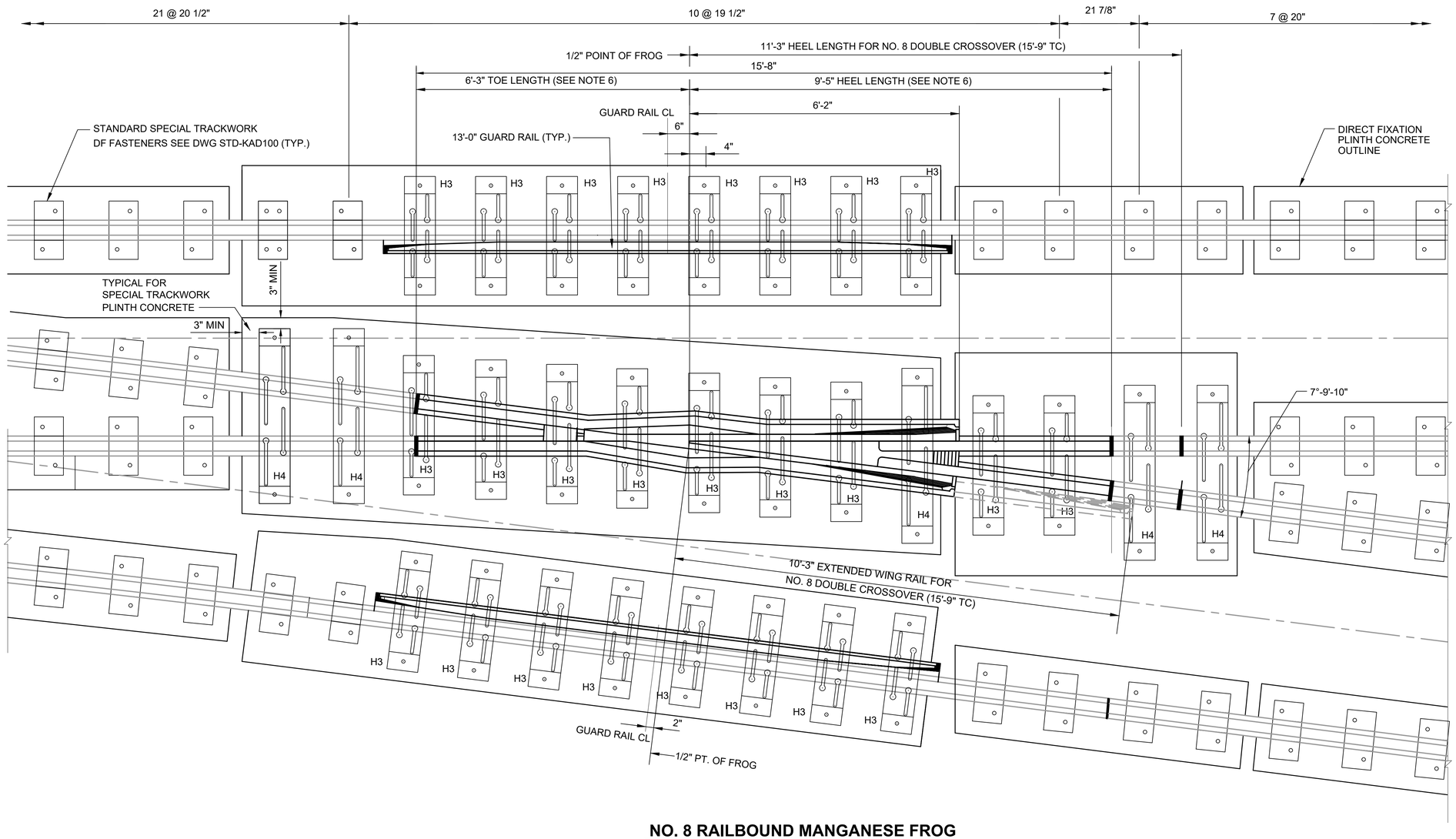

NO. 8 RAILBOUND MANGANESE FROG

SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION.
2. FOR MAINLINE OR OTHER DESIGNATED TURNOUTS, ENDS SHALL BE LEFT BLANK FOR WELDING.
3. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY TURNOUT CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.
4. FOR DETAIL OF 13'-0" ADJUSTABLE GUARD RAIL SEE DWG STD-KAD311.
5. FOR ADDITIONAL DETAIL OF NO. 8 FROG ON NO. 8 DOUBLE CROSSOVER INSTALLATION SEE DWG STD-KAD372.
6. SPARE FROG SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH. (SPARE FROG TOE LENGTH = 7'-3" SPARE FROG HEEL LENGTH = 10'-5")

BILL OF MATERIAL
NO. 8 RAILBOUND MANGANESE FROG

QTY	DESCRIPTION - PROCUREMENT MATERIAL
1 ASSY	No. 8 RAILBOUND MANGANESE STEEL FROG (PER AREMA STD PLAN 617-89 MODIFIED AS SHOWN)
A/R	MODEL H3 SPECIAL FASTENERS
A/R	MODEL H4 SPECIAL FASTENERS

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 3/4" = 1'-0"
FILENAME: STD-KAD375
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 8 RAILBOUND MANGANESE FROG
DIRECT FIXATION

DRAWING No.: **STD-KAD375**
FACILITY ID:
SHEET No.: 2
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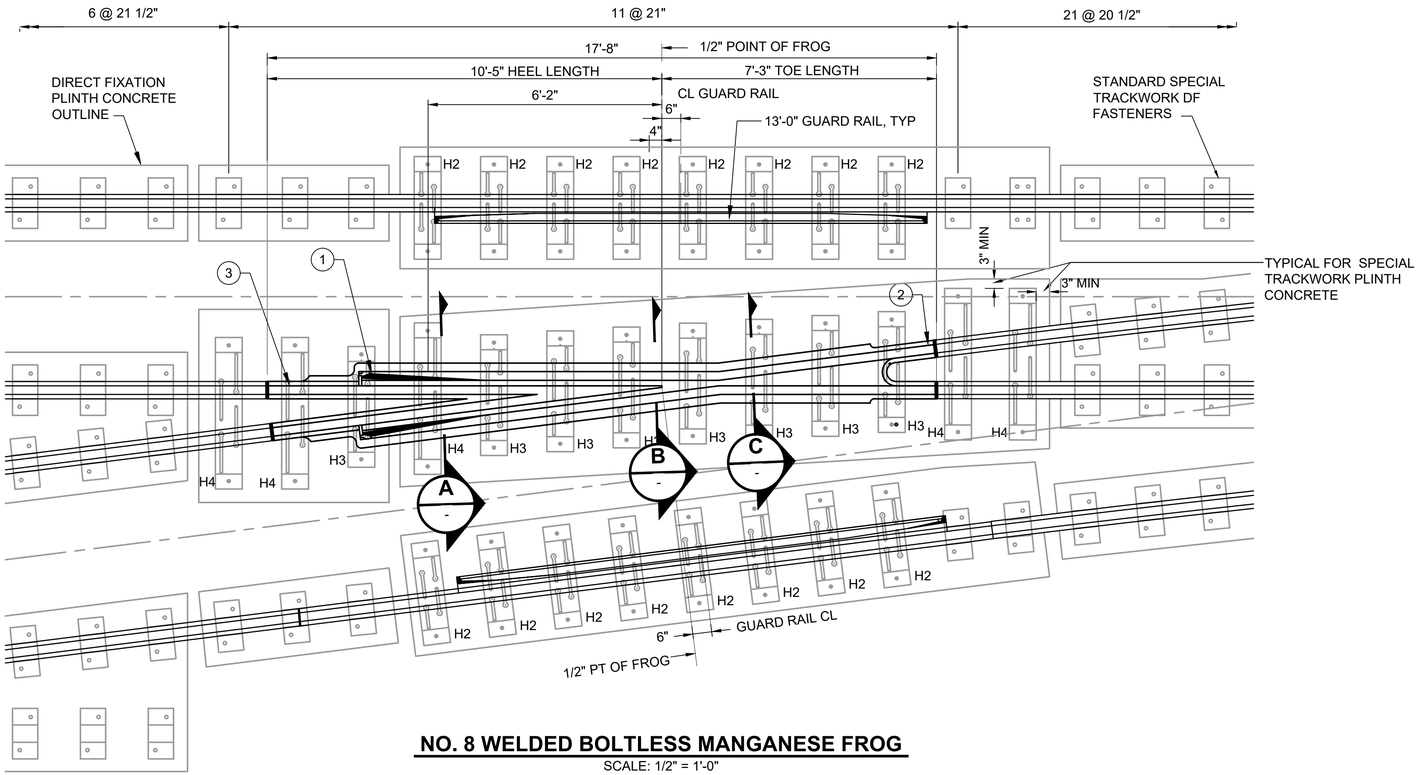


NO. 8 WELDED BOLTLESS MANGANESE FROG

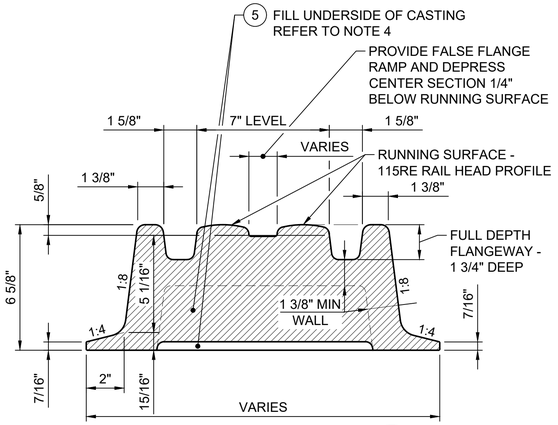
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
2. FOR GUARD RAIL DATA REFER TO DWG STD-KAD311.
3. PROVIDE WHEEL FALSE FLANGE WEAR RAMP AT RAIL HEAD TO SUIT WHEEL TREAD WIDTH.
4. FILL UNDERSIDE VOIDS OF FROG CASTING WITH TWO COMPONENT POLYURETHANE HAVING AN 85 SHORE A DUROMETER. MACHINE EXCESS FILL MATERIAL TO PROVIDE A FLAT FROG SURFACE.

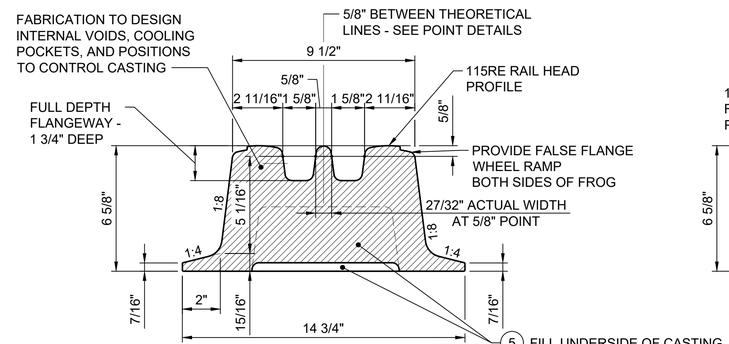
BILL OF MATERIAL - FROG
NO 8 WELDED BOLTLESS MANGANESE FROG COMPLETE

ITEM NO	QTY	DESCRIPTION
1	1	NO 8 - 115RE WELDED BOLTLESS MANGANESE FROG CASTING
2	2	TOE RAIL
3	3	HEEL RAIL
4	1 SET	FASTENERS NO H2 THROUGH H4
5	AS REQUIRED	POLYURETHANE FILLER



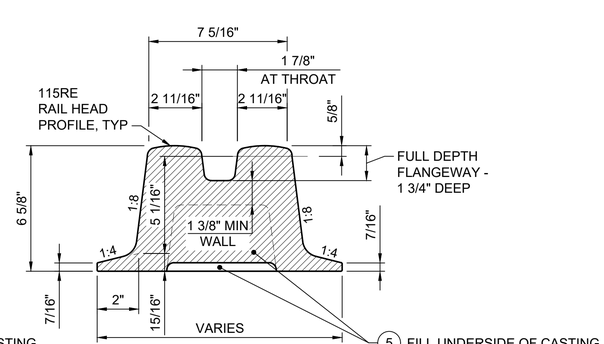
SECTION A

SCALE: 3" = 1'-0"



SECTION AT 5/8" POINT B

SCALE: 3" = 1'-0"



SECTION AT THROAT C

SCALE: 3" = 1'-0"

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 3/4" = 1'-0"
FILENAME: STD-KAD376
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 8 WELDED BOLTLESS MANGANESE FROG
DIRECT FIXATION TRACK

DRAWING No.: STD-KAD376
FACILITY ID:
SHEET No.: 1
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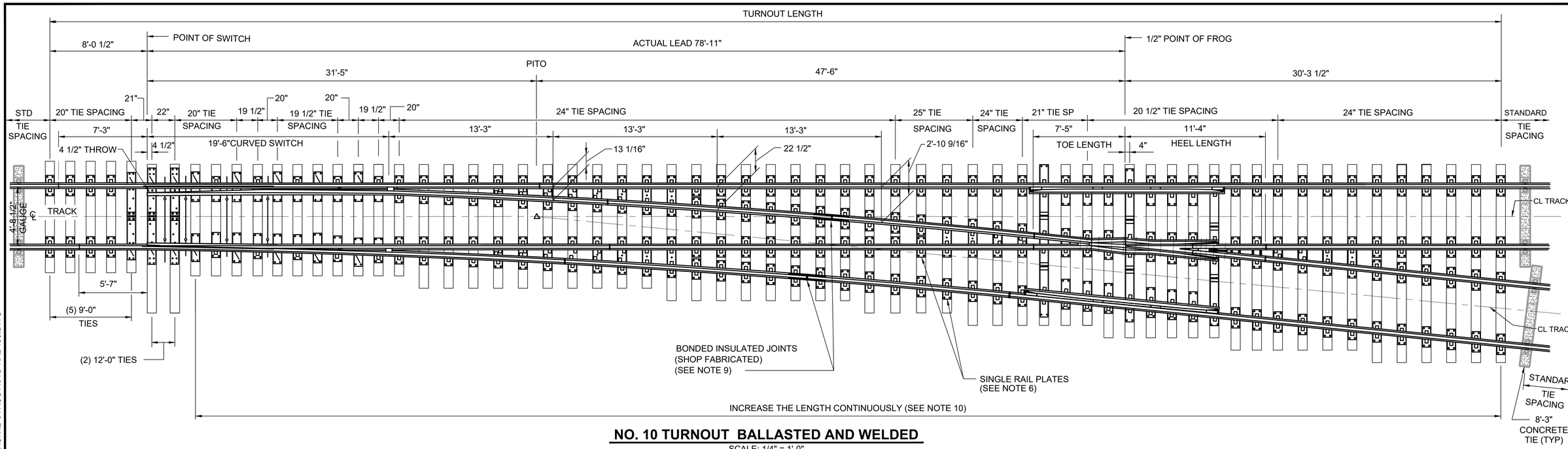
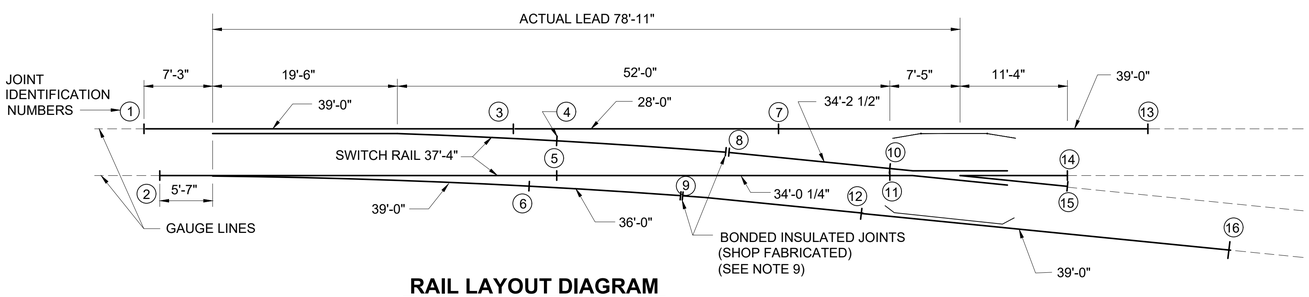


NO. 10 TURNOUT BALLASTED AND WELDED

SCALE: 1/4" = 1'-0"

TURNOUT DATA			
FROG	NUMBER		10
	ANGLE		5°43'29"
	TOE LENGTH		7'-5"
	HEEL LENGTH		11'-4"
	TOTAL LENGTH		18'-9"
	TOE SPREAD		8 3/8"
	HEEL SPREAD		14 1/8"
SWITCH	LENGTH OF SWITCH		19'-6"
	HEEL SPREAD		6 1/4"
	HEEL ANGLE		1°59'15"
	CURVED POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		SWITCH RAIL RADIUS	1222.17'
		VERTEX DISTANCE	0"
	STRAIGHT POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		STOCK RAIL RADIUS	1217.46'
		VERTEX DISTANCE	0"
ACTUAL LEAD			78'-11"
STRAIGHT CLOSURE RAIL DISTANCE			52'-0"
CURVED CLOSURE RAIL DISTANCE			52'-2"
TURNOUT CURVE	CENTER LINE RADIUS		806.09'
	DEGREE OF CURVE		7°06'45"
	CENTRAL ANGLE		3°44'14"
TANGENT ADJACENT TOE OF FROG			-6 13/16"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

BILL OF MATERIAL
N0. 10 BALLASTED TURNOUT

QTY	DESCRIPTION	DWG NO.
1 ASSY.	19'-6" CURVED SWITCH COMPLETE	STD-KAD320
1 ASSY.	NO. 10 RAIL BOUND MANGANESE FROG COMPLETE	STD-KAD406
2 ASSY.	16'-6" GUARD RAIL WITH PLATES & ADJ. RAIL BRACES	STD-KAD312
1 EACH	CLOSURE RAILS WITH BONDED INSULATED JOINTS 34'-2 1/2" AND 36'-0" (SEE NOTE 9)	-
1 EACH	CLOSURE RAILS 28'-0", 34'-0 1/4", 39'-0", 39'-0"	-
1 SET	CONCRETE SWITCH TIES AS LISTED (SEE NOTE 8)	-
90	SINGLE RAIL TIE PLATES FOR PANDROL "e" CLIPS (SEE NOTE 6).	-
14	THERMITE WELDS	-
170	HIGH DENSITY POLYETHYLENE PADS (VARIOUS SIZES)	-
368	PANDROL NO. 2055 'e' CLIPS INCL. MODIFIED 'e' CLIPS FOR I.J.	-

GENERAL NOTES:

1. LEFT HAND TURNOUT SHALL BE OPPOSITE TO THAT SHOWN.
2. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
3. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE FULLY HEAT TREATED OR HEAD HARDENED.
4. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL (STD OR HEAT TREATED) BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
5. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD.
6. INSULATED SINGLE RAIL PLATES SHALL BE FURNISHED FOR 6. ALL TIES WHERE SPECIAL PLATES ARE NOT REQUIRED.
7. ALL SPECIAL TRACKWORK TURNOUT PLATES MUST BE INSULATED.
8. HEADBLOCK TIES FOR POWER SWITCH MACHINE SHALL BE 9"x9" IN SECTION AND SHALL BE DAPPED AS REQUIRED FOR SWITCH MACHINE.
9. BONDED INSULATED JOINTS ARE NOT REQUIRED IN SOME TURNOUT. INSTALLATION. SEE RESPECTIVE CONTRACT'S TRACK CHART DRAWINGS FOR DETAILS.
10. INCREASE THE LENGTH OF CONCRETE TIE CONTINUOUSLY WITH THE REQUIRED MINIMUM LENGTH OF 25 3/4" FROM THE GAUGE SIDE OF THE MOST OUTSIDE RUNNING RAIL TO THE END OF THE TIE. IN CASE OF SUCH TIE SETTING IS NOT AVAILABLE, INCREASE TIE LENGTH IN A FAMILY STYLE IS ALLOWED.

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

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REVIEWED BY: -
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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD400
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 10 TURNOUT
WITH 19'-6" CURVED SWITCH
BALLASTED AND WELDED

DRAWING No.: STD-KAD400
FACILITY ID:
SHEET No.: 2
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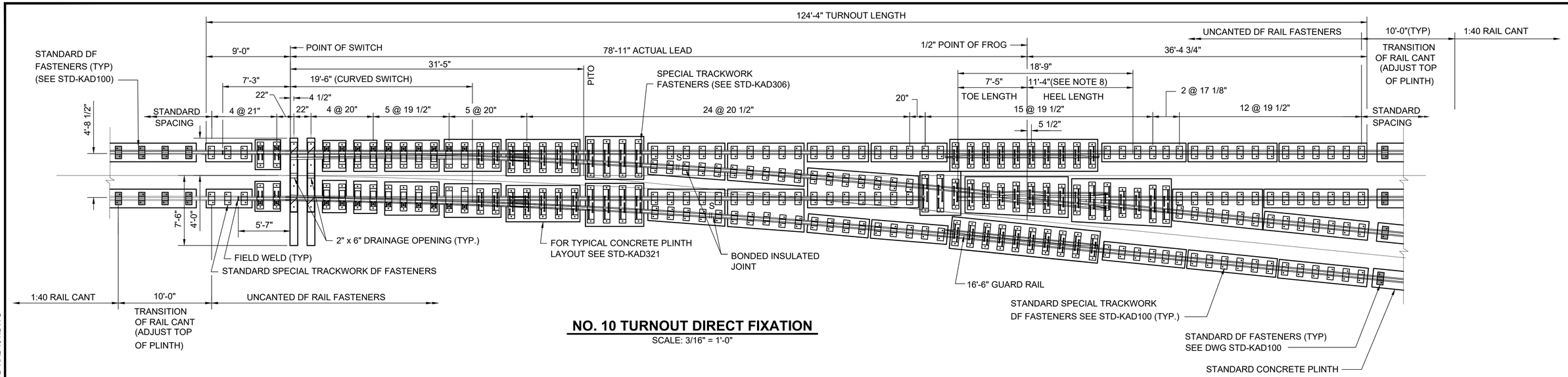
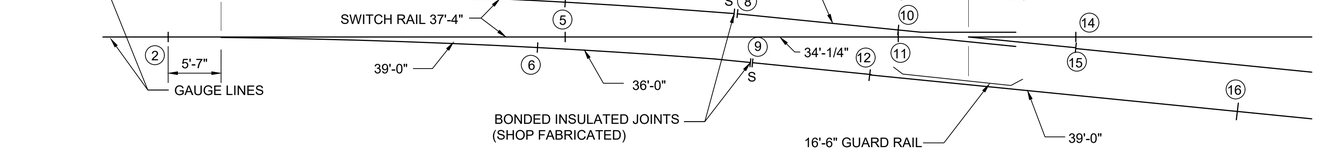


NO. 10 TURNOUT DIRECT FIXATION

SCALE: 3/16" = 1'-0"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

BILL OF MATERIAL
No. 10 DIRECT FIXATION TURNOUT

QTY	DESCRIPTION	DWG No.
1 ASSY.	19'-6" INSULATED CURVED SWITCH COMPLETE	STD-KAD321
1 ASSY.	NO. 10 RAIL BOUND MANGANESE FROG COMPLETE	STD-KAD406
2 ASSY.	16'-6" GUARD RAIL COMPLETE WITH PLATES.	STD-KAD312
1 EACH	CLOSURE RAILS WITH BONDED INSULATED JOINTS 34'-2 1/2" AND 36'-0"	–
1 EACH	CLOSURE RAILS 28'-0", 34'-0 1/4", 39'-0", 39'-0"	–
A/R	SPECIAL TRACKWORK DF FASTENERS	STD-KAD100 & STD-KAD306
A/R	STANDARD DF FASTENERS	STD-KAD100
14	THERMITE WELDS	–
A/R	SPECIAL TRACKWORK CONCRETE PLINTH	STD-KAD321

TURNOUT DATA

FROG		NUMBER	10
		ANGLE	5°43'29"
		TOE LENGTH	7'-5"
		HEEL LENGTH	11'-4"
		TOTAL LENGTH	18'-9"
		TOE SPREAD	8 3/8"
		HEEL SPREAD	14 1/8"
SWITCH		LENGTH OF SWITCH	19'-6"
		HEEL SPREAD	6 1/4"
		HEEL ANGLE	1°59'15"
	CURVED POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		SWITCH RAIL RADIUS	1222.17'
		VERTEX DISTANCE	0"
	STRAIGHT POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		STOCK RAIL RADIUS	1217.46'
		VERTEX DISTANCE	0"
ACTUAL LEAD			78'-11"
STRAIGHT CLOSURE RAIL DISTANCE			52'-0"
CURVED CLOSURE RAIL DISTANCE			52'-2"
TURNOUT CURVE		CENTER LINE RADIUS	806.09'
		DEGREE OF CURVE	7°06'45"
		CENTRAL ANGLE	3°44'14"
TANGENT ADJACENT TOE OF FROG			-6 13/16"

GENERAL NOTES:

1. LEFT HAND TURNOUT SHALL BE OPPOSITE TO THAT SHOWN.
2. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
3. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE HIGH STRENGTH RAIL.
4. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL (STD. OR HIGH STRENGTH) BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
5. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD.
6. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS AND CONCRETE PLINTH LAYOUT ARE FOR INFORMATIONAL PURPOSES ONLY, FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY TURNOUT CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.
7. STANDARD SPECIAL TRACKWORK DIRECT FIXATION FASTENERS SHALL BE FURNISHED WHERE SPECIAL TRACKWORK FASTENERS ARE NOT REQUIRED.
8. FOR NO. 10 DOUBLE CROSSOVER (15'-9" TC) INSTALLATION FROG WHEEL LENGTH AND FROG WING RAIL ARE LONGER SEE STD-KAD404 AND STD-KAD405 FOR DETAILS.

LEGEND:

STANDARD SPECIAL TRACKWORK DF FASTENER (NO CANT)

STANDARD DF FASTENER (1:40 CANT)

SPECIAL TRACKWORK DF FASTENER (NO CANT)

No.	DATE	DSN	CHK	APP	REVISION
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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD401
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 10 TURNOUT
WITH 19'-6" CURVED SWITCH
DIRECT FIXATION

DRAWING No.: STD-KAD401
FACILITY ID:
SHEET No.: 2
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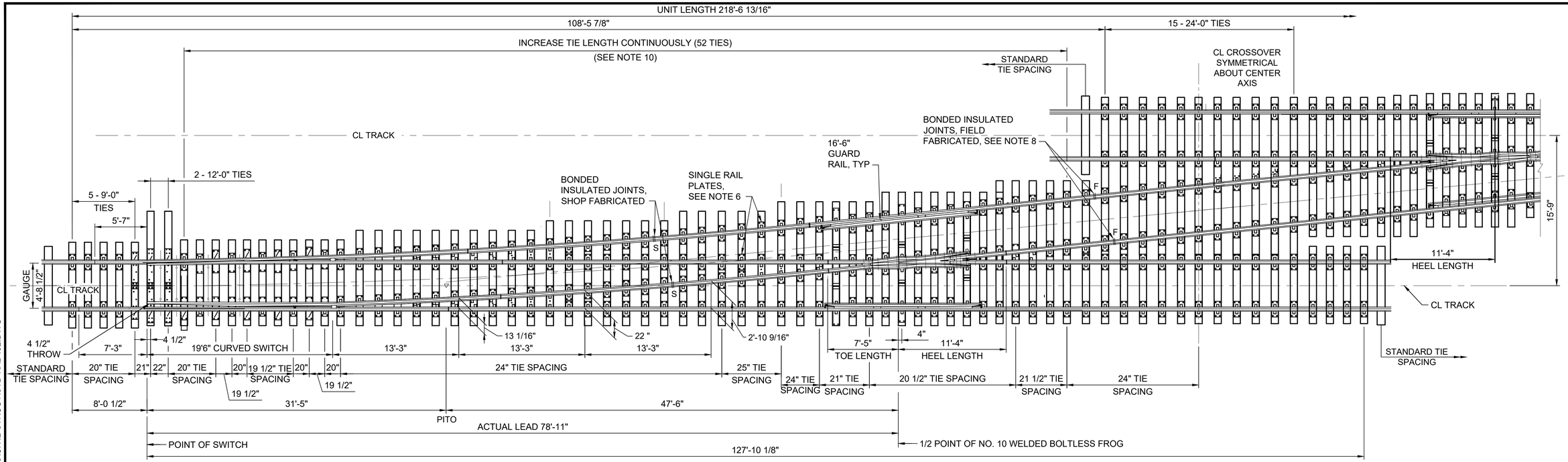
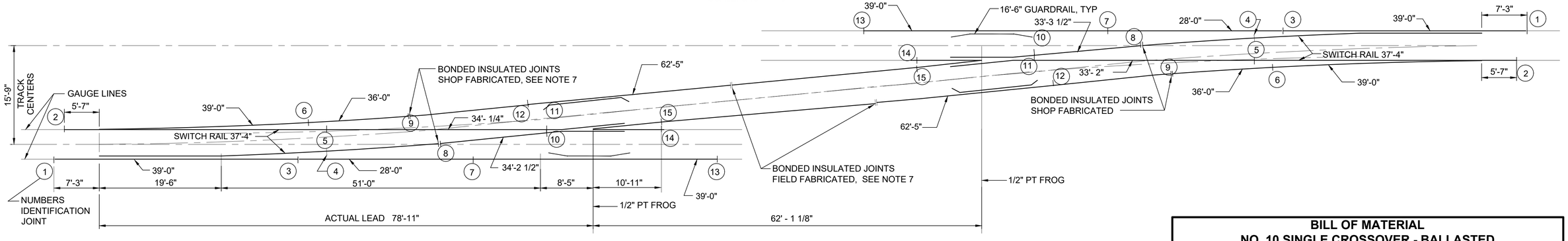


No. 10 SINGLE CROSSOVER

SCALE: 3/16" = 1'-0"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
2. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM SHALL BE HIGH STRENGTH HEAD HARDENED RAILS.
3. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL, STD OR HIGH STRENGTH, BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
4. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD.
5. INSULATED SINGLE RAIL PLATES SHALL BE FURNISHED FOR ALL TIES WHERE SPECIAL PLATES ARE NOT REQUIRED.
6. ALL SPECIAL TRACKWORK TURNOUT PLATES MUST BE INSULATED.
7. HEADBLOCK TIES FOR POWER SWITCH MACHINE SHALL BE 9"X9" IN SECTION AND SHALL BE DAPPED AS REQUIRED FOR SWITCH MACHINE.
8. FINAL LOCATIONS OF BONDED INSULATED JOINTS WILL DEPEND ON THE LOCATION OF TURNOUT INSTALLATION. VERIFY FINAL LOCATION OF INSULATED JOINTS WITH THE RESIDENT ENGINEER BEFORE FABRICATION OF THE TURNOUT.
9. SWITCH MACHINE SIDE OF TRACK AND SPACING FROM TRACK CENTERLINE VARIES PER LOCATION.
10. WITHIN THE INDICATED AREA, INCREASE THE LENGTH OF CONCRETE TIE CONTINUOUSLY WITH THE REQUIRED MINIMUM LENGTH OF 25 3/4" FROM THE GAUGE SIDE OF THE MOST OUTSIDE RUNNING RAIL TO THE END OF THE TIE. IN CASE OF SUCH TIE SETTING IS NOT ABAILABLE, INCREASE TIE LENGTH IN A FAMILY STYLE IS ALLOWED.

BILL OF MATERIAL
NO. 10 SINGLE CROSSOVER - BALLASTED

QTY	DESCRIPTION	
2 ASSY	19'-6" CURVED SWITCH COMPLETE	STD-KAD321
2 ASSY	No. 10 RBM FROG COMPLETE	STD-KAD406
4 ASSY	16'-6" GUARD RAIL COMPLETE	STD-KAD312
A/R	CLOSURE RAILS WITH BONDED INSULATED JOINTS	-
A/R	CLOSURE RAILS	-
A/R	STOCK RAILS	-
1 SET	CONCRETE SWITCH TIES AS LISTED, SEE NOTE 8	-
A/R	SINGLE RAIL TIE PLATES FOR PANDROL "e" CLIPS OR APPROVED EQUAL, SEE NOTE 6.	-
A/R	THERMITE WELDS	-
A/R	HIGH DENSITY POLYETHYLENE PADS, VARIOUS SIZES	-
A/R	PANDROL No. 2055 'e' CLIPS INCL MODIFIED 'e' CLIPS FOR IJ OR APPROVED EQUAL	-

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1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	8/2019	----	----	----	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

DESIGNED BY:
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APPROVED BY:

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DATE: -
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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD402
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 10 TURNOUT
DIRECT FIXATION
19'-6" CURVED SPLIT SWITCH

DRAWING No.: **STD-KAD402**
FACILITY ID:
SHEET No.: 1
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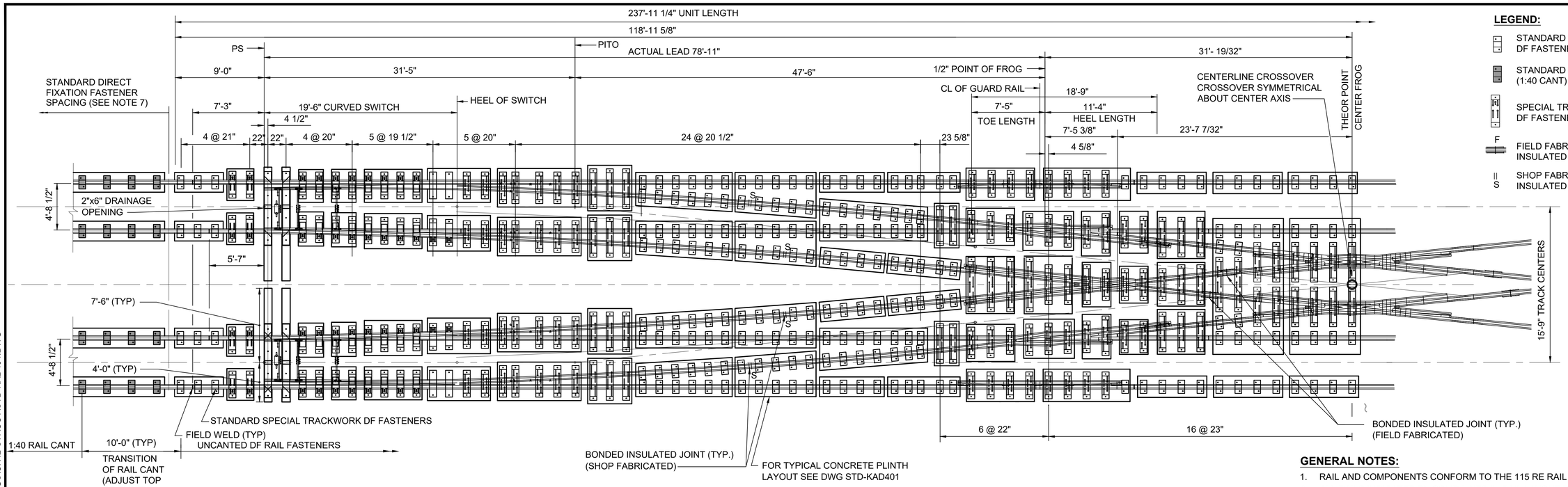


NO. 10 DOUBLE CROSSOVER DIRECT FIXATION PLAN

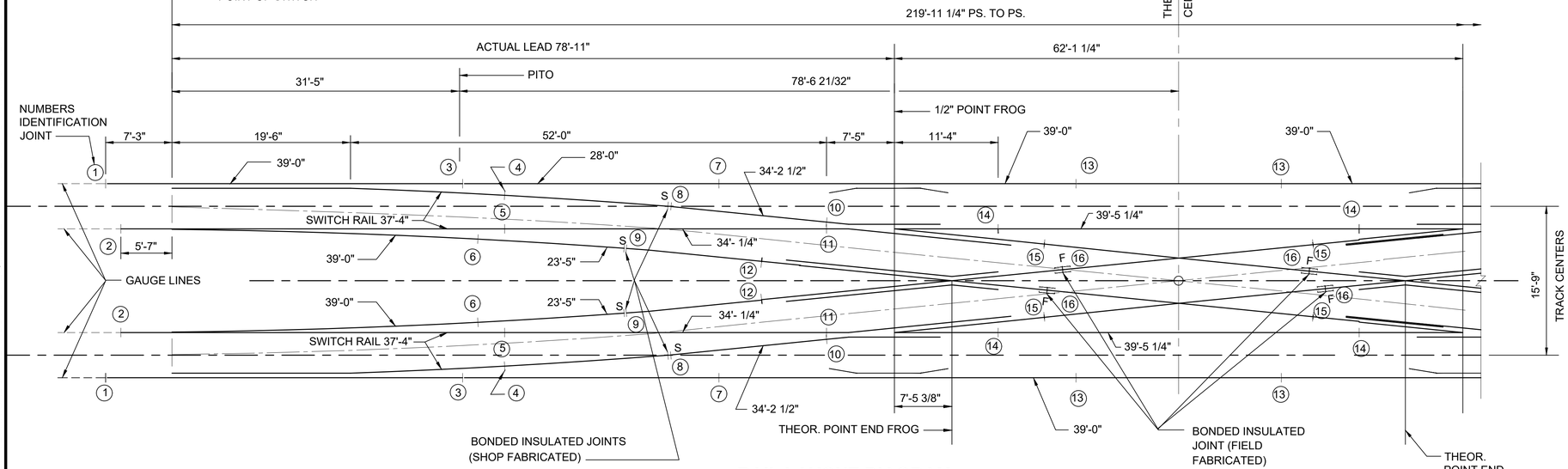
SCALE: 3/16" = 1'-0"

LEGEND:

- STANDARD SPECIAL TRACKWORK DF FASTENER (NO CANT)
- STANDARD DF FASTENER (1:40 CANT)
- SPECIAL TRACKWORK DF FASTENER (NO CANT)
- F — FIELD FABRICATED INSULATED JOINT
- S — SHOP FABRICATED INSULATED JOINT

GENERAL NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
2. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE HIGH STRENGTH RAILS.
3. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL (STD OR HIGH STRENGTH) BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
4. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD.
5. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS AND CONCRETE PLINTH LAYOUT ARE FOR INFORMATIONAL PURPOSES ONLY, FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.
6. STANDARD SPECIAL TRACKWORK DIRECT FIXATION FASTENERS SHALL BE FURNISHED WHERE SPECIAL TRACKWORK FASTENERS ARE NOT REQUIRED.
7. FOR DETAILS OF TRANSITIONING OF RAIL CANT SEE STD-KAD401.



RAIL LAYOUT DIAGRAM

NTS

BILL OF MATERIAL
NO. 10 DOUBLE CROSSOVER - DIRECT FIXATION

QTY	DESCRIPTION	DWG NO
4 ASSY	19'-6" CURVED SWITCH COMPLETE	STD-KAD321
4 ASSY	NO. 10 RAIL BOUND MANGANESE FROG COMPLETE	STD-KAD406
4 ASSY	16'-6" ADJUSTABLE GUARD RAIL COMPLETE	STD-KAD312
1 ASSY	NO. 10 DIAMOND CROSSING	STD-KAD405
1 EA	CLOSURE RAILS WITH BONDED INSULATED JOINTS 34'-2 1/2" AND 36'-0"	-
1 EA	CLOSURE RAILS 28'-0", 34'-0 1/4" & 39'-0"	-
1 EA	STOCK RAILS 28'-0" & 39'-0"	-
A/R	STANDARD DF RAIL FASTENERS	STD-KAD100
A/R	SPECIAL TRACKWORK FASTENERS	STD-KAD100 STD-KAD306
A/R	CWR WITHIN CROSSOVER UNIT	-
12	BONDED INSULATED JOINTS	STD-KAD431
A/R	1/16", 1/8" & 1/4" THICK SHIMS	-
A/R	SECOND-POUR PLINTH CONCRETE AND REINFORCING STEEL WITHIN CROSSOVER UNIT	-
A/R	EPOXY GROUT FOR ANCHOR INSERTS FOR DF RAIL FASTENERS WITHIN CROSSOVER UNIT	-

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DRAWN BY:
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APPROVED BY:

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SCALE: AS NOTED
FILENAME: STD-KAD404
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 10 DOUBLE CROSSOVER
DIRECT FIXATION
15'-9" TRACK CENTERS

DRAWING No.: **STD-KAD404**
FACILITY ID:
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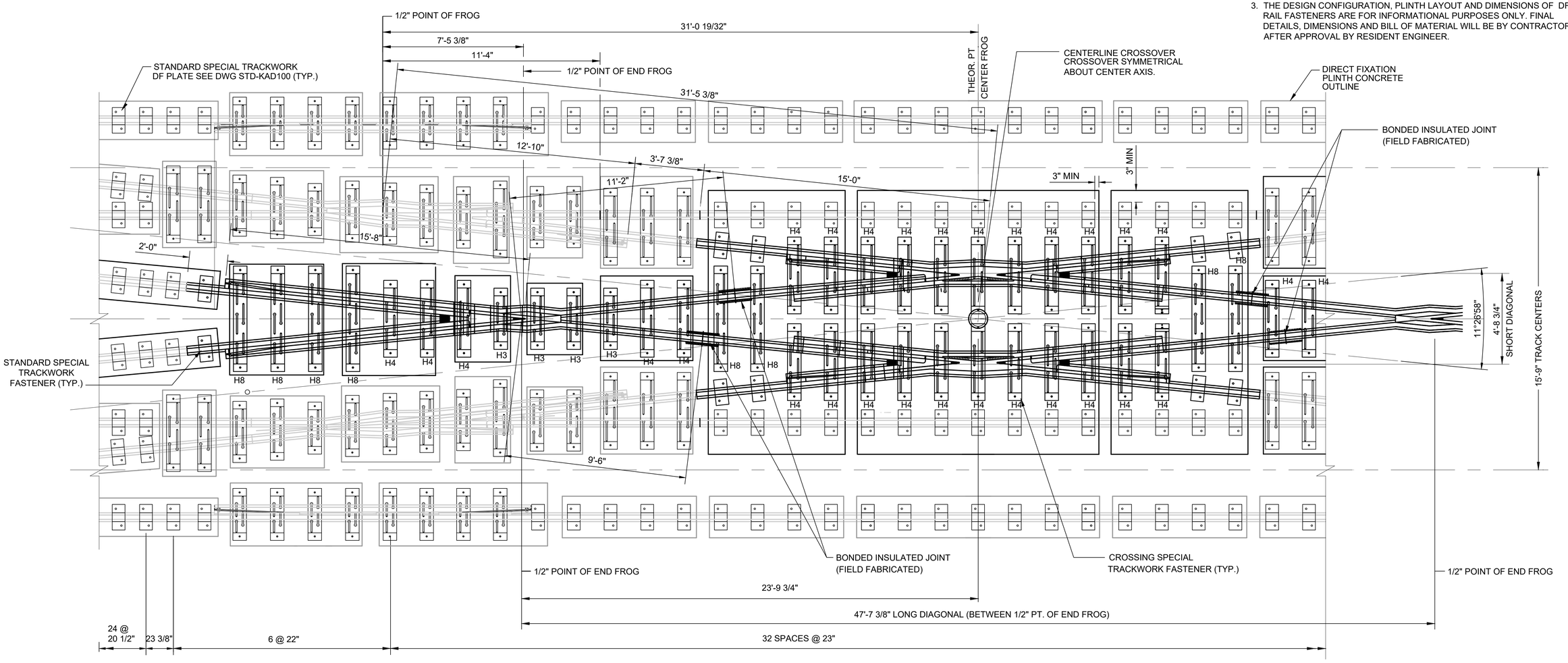
GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION.
2. FOR MAINLINE OR OTHER DESIGNATED TURNOUTS, ENDS SHALL BE LEFT BLANK FOR WELDING.
3. THE DESIGN CONFIGURATION, PLINTH LAYOUT AND DIMENSIONS OF DF RAIL FASTENERS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.



NO. 10 DIAMOND CROSSING

SCALE: 3/8" = 1'-0"

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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LINE IS 1" AT FULL SCALE

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SCALE: 3/8" - 1'-0"
FILENAME: STD-KAD405
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 10 DIAMOND CROSSING
DIRECT FIXATION

DRAWING No.: **STD-KAD405**
FACILITY ID:
SHEET No.: 2
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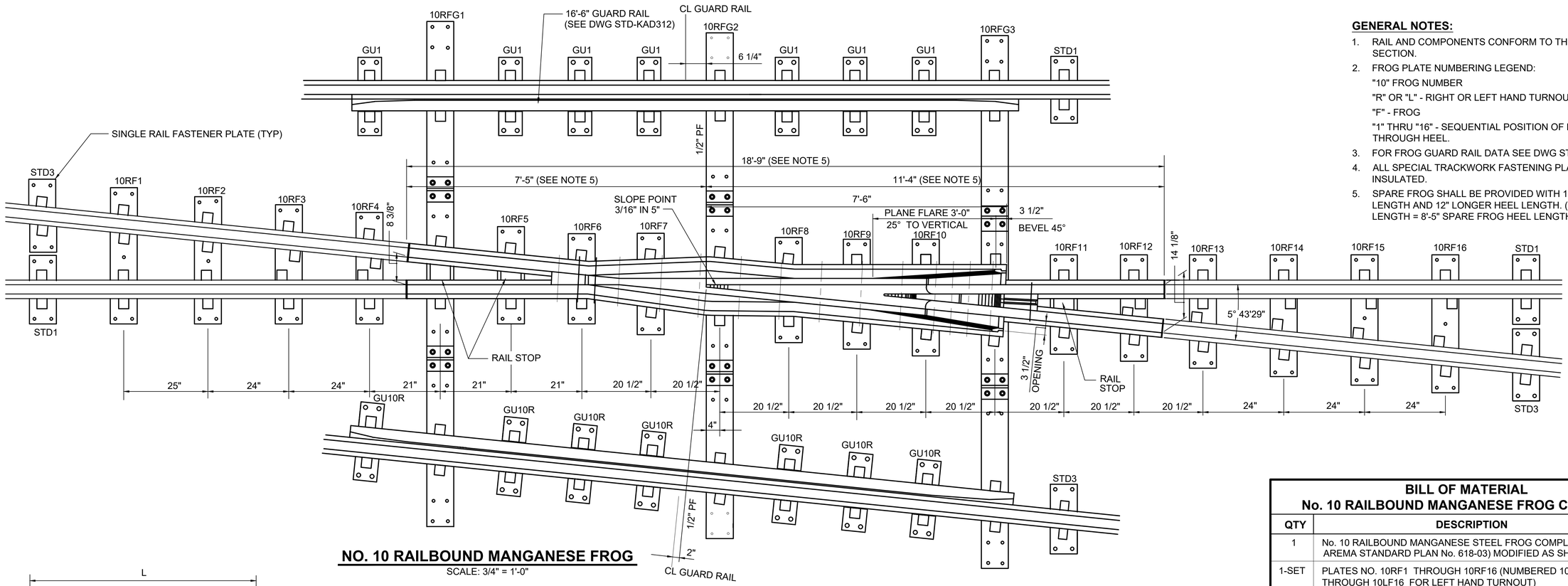


NO. 10 RAILBOUND MANGANESE FROG

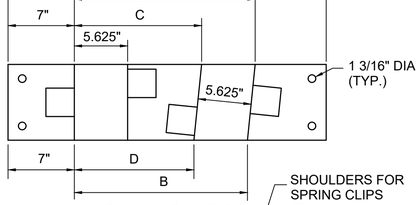
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

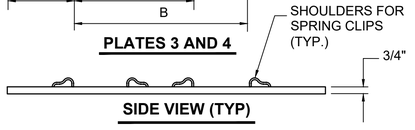
1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
2. FROG PLATE NUMBERING LEGEND:
   "10" FROG NUMBER
   "R" OR "L" - RIGHT OR LEFT HAND TURNOUT
   "F" - FROG
   "1" THRU "16" - SEQUENTIAL POSITION OF PLATES FROM TOE THROUGH HEEL.
3. FOR FROG GUARD RAIL DATA SEE DWG STD-KAD312.
4. ALL SPECIAL TRACKWORK FASTENING PLATES SHALL BE INSULATED.
5. SPARE FROG SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH. (SPARE FROG TOE LENGTH = 8'-5" SPARE FROG HEEL LENGTH = 12'-4").

BILL OF MATERIAL
No. 10 RAILBOUND MANGANESE FROG COMPLETE

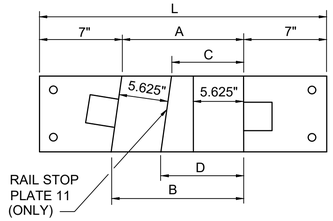
QTY	DESCRIPTION
1	No. 10 RAILBOUND MANGANESE STEEL FROG COMPLETE (PER AREMA STANDARD PLAN No. 618-03) MODIFIED AS SHOWN
1-SET	PLATES NO. 10RF1 THROUGH 10RF16 (NUMBERED 10LF1 THROUGH 10LF16 FOR LEFT HAND TURNOUT)
3	FROG GAUGE PLATES NUMBERED 10RFG1 THROUGH 10RFG3 (10LFG1 THROUGH 10LFG3 FOR LEFT HAND TURNOUT) PER DWG STD-KAD305



PLATES 3 AND 4



SIDE VIEW (TYP)



PLATES 9, 10 AND 11

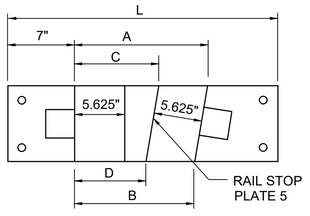
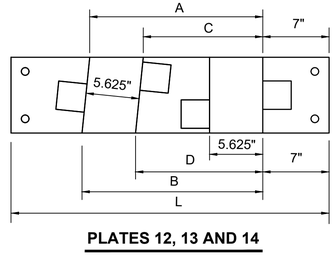


PLATE 5



PLATES 12, 13 AND 14

FROG PLATE DETAILS

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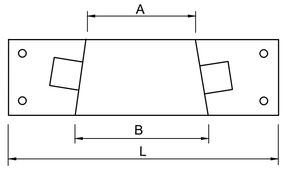
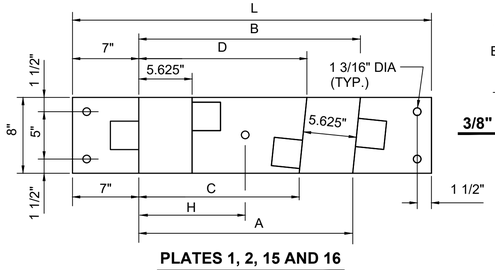
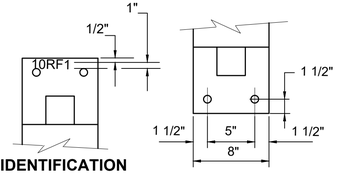


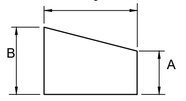
PLATES 6, 7 AND 8



PLATES 1, 2, 15 AND 16



IDENTIFICATION STAMPING (TYP) | **END DRILLING**



3/8" STEEL PLATE RAIL STOP

STOP No.	A	B
10FG1	4.200	4.800
10F5	2.097	2.697
10F11	2.496	3.096

(MEASUREMENTS IN INCHES LEFT HAND AND RIGHT HAND IDENTICAL)

RAIL STOP

NTS

No. 10 FROG PLATE DATA

PL No.	A	B	C	D	L	H
10RF1	24.42	25.15	18.77	19.50	39	12 1/2"
10RF2	22.10	22.85	16.45	17.20	37	11 1/2"
10RF3	20.695	19.893	15.042	14.240	35	NONE
10RF4	18.289	17.487	12.636	11.834	33	NONE
10RF5	14.079	13.277	8.426	7.624	29	NONE
10FR6	11.974	11.172	——	——	27	NONE
10RF7	13.742	15.189	——	——	29	NONE
10RF8	15.873	15.782	——	——	33	NONE
10RF9	16.736	17.538	——	——	33	NONE
10RF10	18.791	19.593	——	——	35	NONE
10RF11	13.690	14.492	8.037	8.839	29	NONE
10FR12	15.745	16.547	10.092	10.894	31	NONE
10RF13	17.800	18.602	12.147	12.949	33	NONE
10RF14	20.206	21.008	14.553	15.355	35	NONE
10RF15	21.84	22.64	16.19	16.99	37	11 1/2"
10RF16	25.05	25.85	19.40	20.20	41	13 1/2"

MEASUREMENTS ARE IN INCHES

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DRAWN BY:
CHECKED BY:
APPROVED BY: ----

SUBMITTED BY: - | DATE: - | REVIEWED BY: - | DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD406
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 10 RAILBOUND MANGANESE FROG

DRAWING No.: **STD-KAD406**
FACILITY ID:
SHEET No.: 2 REV:

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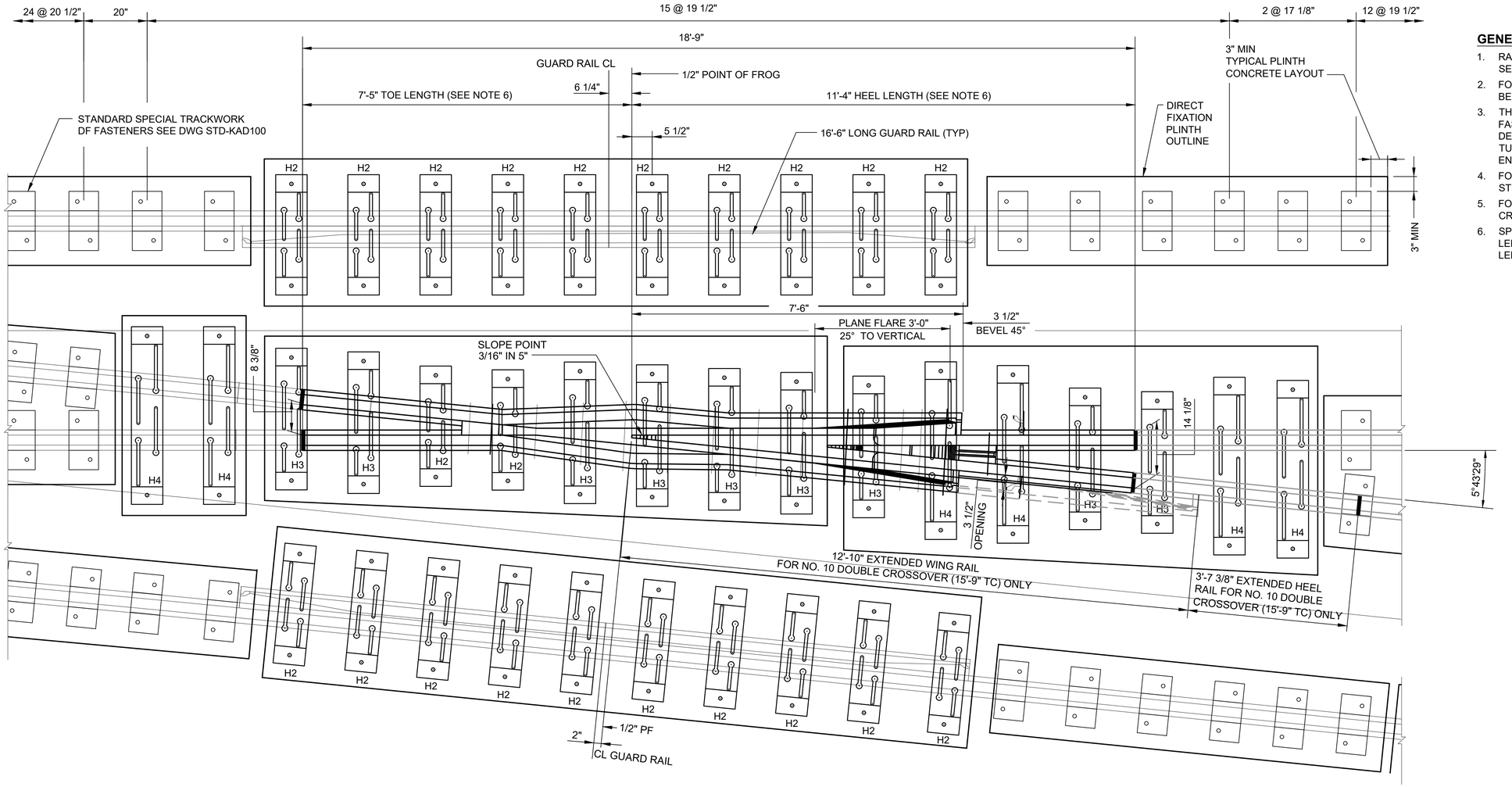

NO. 10 RAILBOUND MANGANESE FROG

SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. RAIL AND COMPONENTS SHALL CONFORM TO THE 115 RE RAIL SECTION.
2. FOR MAINLINE OR OTHER DESIGNATED TURNOUTS, ENDS SHALL BE LEFT BLANK FOR WELDING.
3. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL FASTENERS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY TURNOUT CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.
4. FOR DETAIL OF 16'-6" ADJUSTABLE GUARD RAIL, SEE DRAWING STD-KAD312.
5. FOR ADDITIONAL DETAIL OF NO. 10 FROG ON NO. 10 DOUBLE CROSSOVER INSTALLATION SEE DWG. KAD404 AND KAD405.
6. SPARE FROG SHALL BE PROVIDED WITH 12" LONGER TOE LENGTH AND 12" LONGER HEEL LENGTH. (SPARE FROG TOE LENGTH = 8'-5" SPARE FROG HEEL LENGTH = 12'-4")

No. 10 RAILBOUND MANGANESE FROG
BILL OF MATERIAL

QTY	DESCRIPTION / PROCUREMENT MATERIAL
1	No. 10 RAILBOUND MANGANESE COMPLETE (PER AREMA STD PLAN 618-89)
A/R	SPECIAL TRACKWORK FASTENERS (H2)
A/R	SPECIAL TRACKWORK FASTENERS (H3)
A/R	SPECIAL TRACKWORK FASTENERS (H4)

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1	4/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SCALE: 3/4" = 1'-0"
FILENAME: STD-KAD407
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
NO. 10 RAILBOUND MANGANESE FROG
DIRECT FIXATION TRACK

DRAWING No.: STD-KAD407
FACILITY ID:
SHEET No.: 2
REV:

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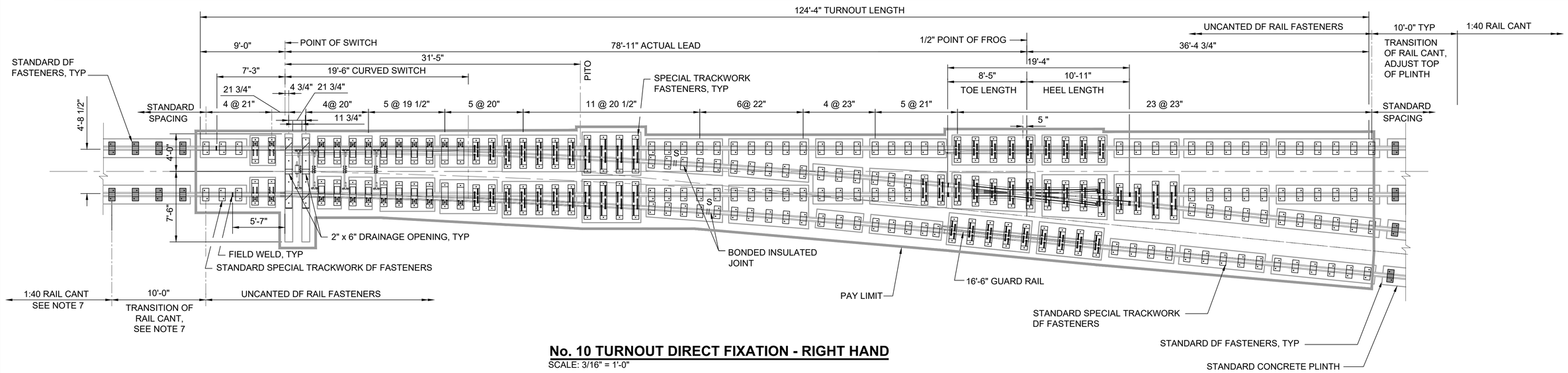
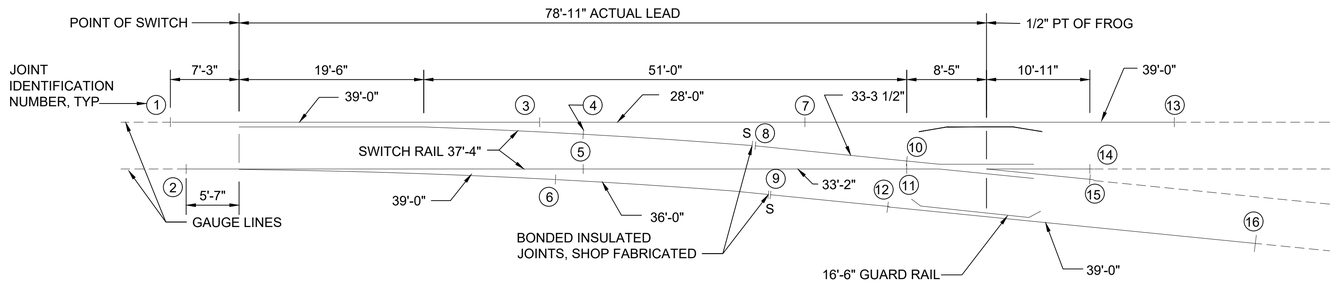


No. 10 TURNOUT DIRECT FIXATION - RIGHT HAND

SCALE: 3/16" = 1'-0"



RAIL LAYOUT DIAGRAM

SCALE: 1/8" = 1'-0"

NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115 RE RAIL SECTION.
2. ALL RAILS INDICATED BY SOLID LINES IN RAIL LAYOUT DIAGRAM ARE HIGH STRENGTH RAIL.
3. DASHED LINES IN RAIL LAYOUT DIAGRAM INDICATE CONTINUOUS WELDED RAIL (STD. OR HIGH STRENGTH) BEYOND TURNOUT RAIL. RAIL INDICATED BY DASHED LINES ARE NOT INCLUDED IN THE BILL OF MATERIAL ON THIS DRAWING.
4. CLOSURE RAIL LENGTHS ALLOW 7/8" FOR EACH THERMITE WELD. THE DESIGN CONFIGURATION AND DIMENSIONS OF DF RAIL
5. FASTENERS AND CONCRETE PLINTH LAYOUT ARE FOR INFORMATIONAL PURPOSES ONLY, FINAL DETAILS, DIMENSIONS AND BILL OF MATERIAL WILL BE BY CONTRACTOR AFTER APPROVAL BY RESIDENT ENGINEER.
6. STANDARD SPECIAL TRACKWORK DIRECT FIXATION FASTENERS SHALL BE FURNISHED WHERE SPECIAL TRACKWORK FASTENERS ARE NOT REQUIRED.
7. RAIL TO BE INSTALLED WITHOUT CANT BETWEEN TURNOUTS T3 AND T4 POINTS OF SWITCH.

PLATES LEGEND

- STANDARD SPECIAL TRACKWORK DF FASTENER (NO CANT)
- STANDARD DF FASTENER (1:40 CANT)
- SPECIAL TRACKWORK DF FASTENER (NO CANT)

No. 10 DIRECT FIXATION TURNOUT

BILL OF MATERIAL

QTY	DESCRIPTION	DWG No.
1 ASSY.	19'-6" INSULATED CURVED SWITCH COMPLETE	STD-KAD321
1 ASSY.	NO. 10 WELDED BOLTLESS MANGANESE FROG COMPLETE	STD-KAD416
2 ASSY.	16'-6" ADJUSTABLE GUARD RAIL COMPLETE WITH PLATES	STD-KAD312
1 EACH	CLOSURE RAILS WITH BONDED INSULATED JOINTS 33'-3 1/2" AND 36'-0"	-
1 EACH	CLOSURE RAILS 28'-0", 33'-2", 39'-0", 39'-0"	-
A/R	SPECIAL TRACKWORK DF FASTENERS	SEE SPECIFICATIONS
A/R	STANDARD DF FASTENERS	SEE SPECIFICATIONS
14	THERMITE WELDS	-
A/R	SPECIAL TRACKWORK CONCRETE PLINTH	SEE SPECIFICATIONS

TURNOUT DATA

FROG		NUMBER	10
		ANGLE	5°43'29"
		TOE LENGTH	8'-5"
		HEEL LENGTH	10'-11"
		TOTAL LENGTH	19'-4"
		TOE SPREAD	10 1/8"
		HEEL SPREAD	1'-1 5/8"
SWITCH		LENGTH OF SWITCH RAIL	37'-4"
		HEEL SPREAD	6 1/4"
		HEEL ANGLE	1°59'15"
	CURVED POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		SWITCH RAIL RADIUS	1222.17'
		VERTEX DISTANCE	0"
	STRAIGHT POINT	THICKNESS AT POINT	0"
		ANGLE AT POINT	1°04'24"
		STOCK RAIL RADIUS	1217.46'
		VERTEX DISTANCE	0"
ACTUAL LEAD			78'-11"
STRAIGHT CLOSURE RAIL DISTANCE			33'-2"
CURVED CLOSURE RAIL DISTANCE			33'-3 1/2"
TURNOUT CURVE		CENTER LINE RADIUS	806.09'
		DEGREE OF CURVE	7°06'45"
		CENTRAL ANGLE	3°44'14"
TANGENT ADJACENT TOE OF FROG			-1' 3 1/8"

No.	DATE	DSN	CHK	APP	REVISION
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DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD415
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 10 TURNOUT
DIRECT FIXATION WITH 19'-6" CURVED SWITCH

DRAWING No.: **STD-KAD415**
FACILITY ID:
SHEET No.: REV: 0

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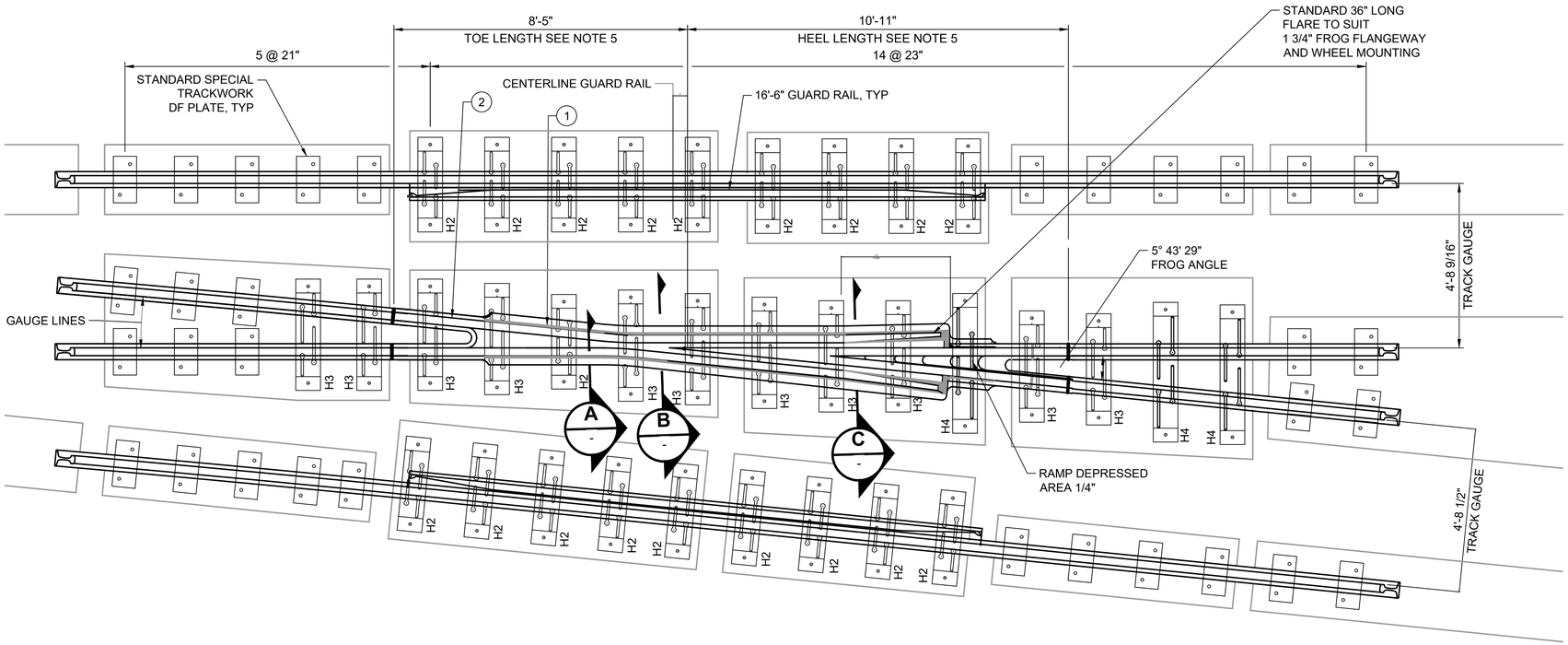


No. 10 WELDED BOLTLESS MANGANESE FROG

SCALE: 1/2" = 1'-0"

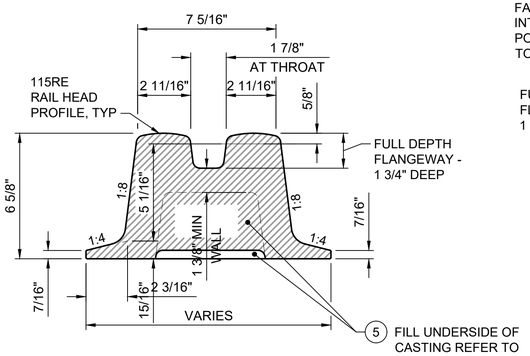
NOTES:

1. RAIL AND COMPONENTS CONFORM TO THE 115RE RAIL SECTION.
2. FOR GUARD RAIL DATA REFER TO DWG STD-KAD312.
3. PROVIDE WHEEL FALSE FLANGE WEAR RAMP AT RAIL HEAD TO SUIT WHEEL TREAD WIDTH.
4. FILL UNDERSIDE VOIDS OF FROG CASTING WITH TWO COMPONENT POLYURETHANE HAVING AN 85 SHORE A DUROMETER. MACHINE EXCESS FILL MATERIAL TO PROVIDE A FLAT FROG SURFACE.
5. SPARE FROG SHALL BE PROVIDED WITH 24" LONGER TOE LENGTH AND 24" LONGER HEEL LENGTH. SPARE FROG TOE LENGTH = 10'-5" SPARE FROG HEEL LENGTH = 12'-11".

NO 10 WELDED BOLTLESS MANGANESE FROG COMPLETE

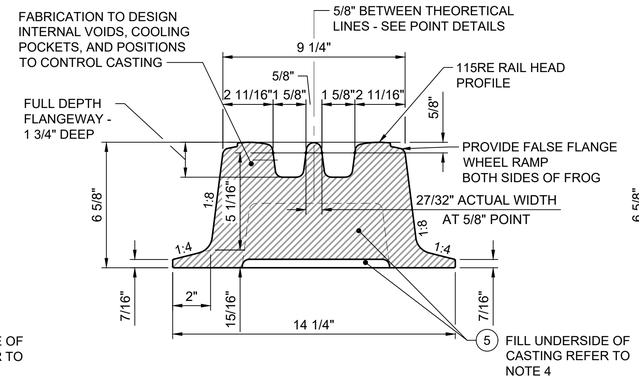
BILL OF MATERIAL - FROG

ITEM #	QTY	DESCRIPTION
1	1	NO 10 - 115RE WELDED BOLTLESS MANGANESE FROG CASTING
2	2	TOE RAIL
3	2	HEEL RAIL
4	1 SET	FASTENERS NO H2 THROUGH H4
5	AS REQUIRED	POLYURETHANE FILLER



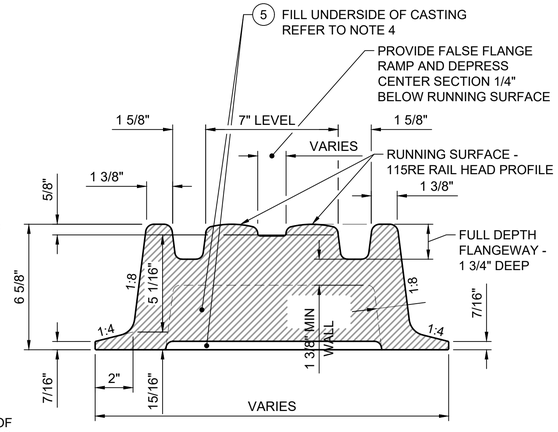
SECTION AT THROAT (A)

SCALE: 3" = 1'-0"



SECTION AT 5/8" POINT (B)

SCALE: 3" = 1'-0"



SECTION (C)

SCALE: 3" = 1'-0"

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LINE IS 1" AT FULL SCALE

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SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

NO. 10 DIRECT FIXATION
WELDED BOLTLESS MANGANESE FROG
DETAILS

DRAWING No.: **STD-KAD416**
FACILITY ID:
SHEET No.: REV: 0

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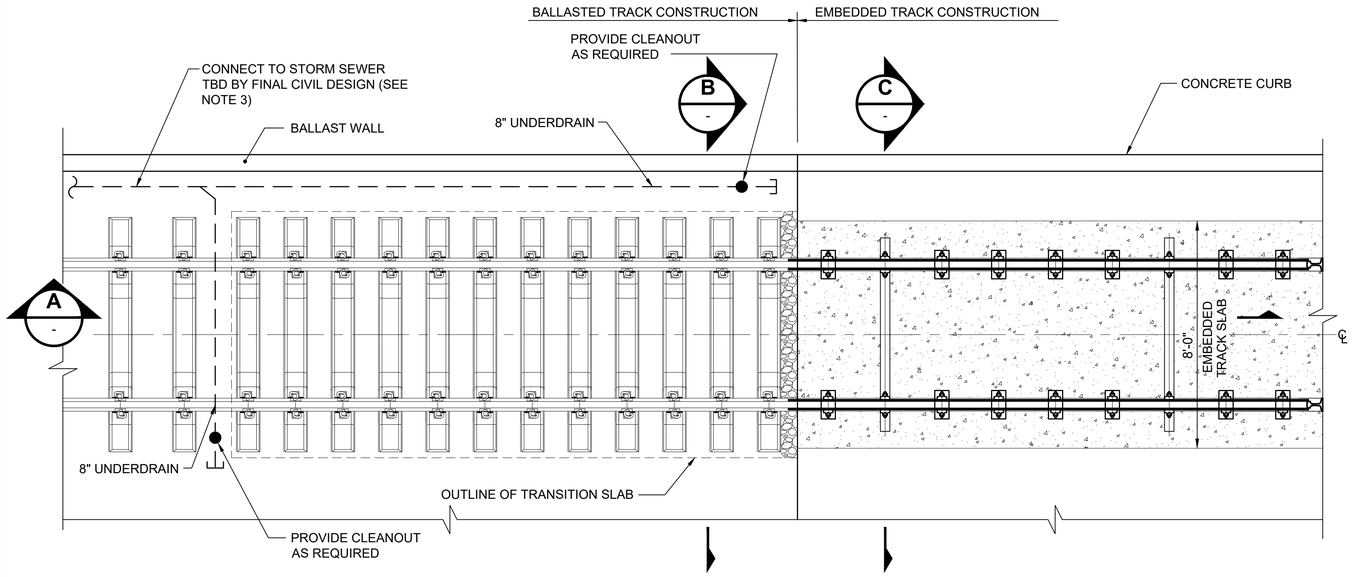
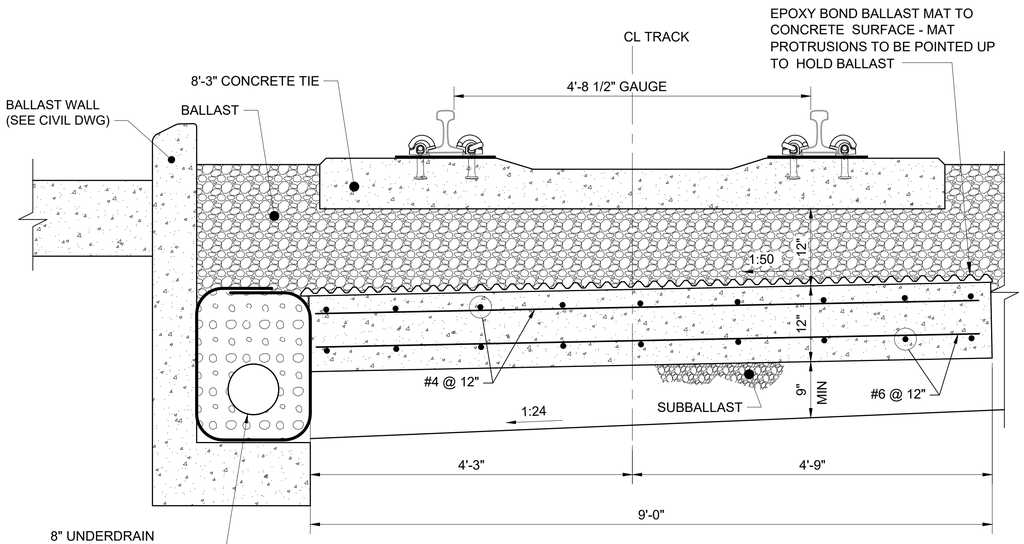


BALLASTED / EMBEDDED TRACK TRANSITION PLAN

SCALE: 3/8" = 1'-0"

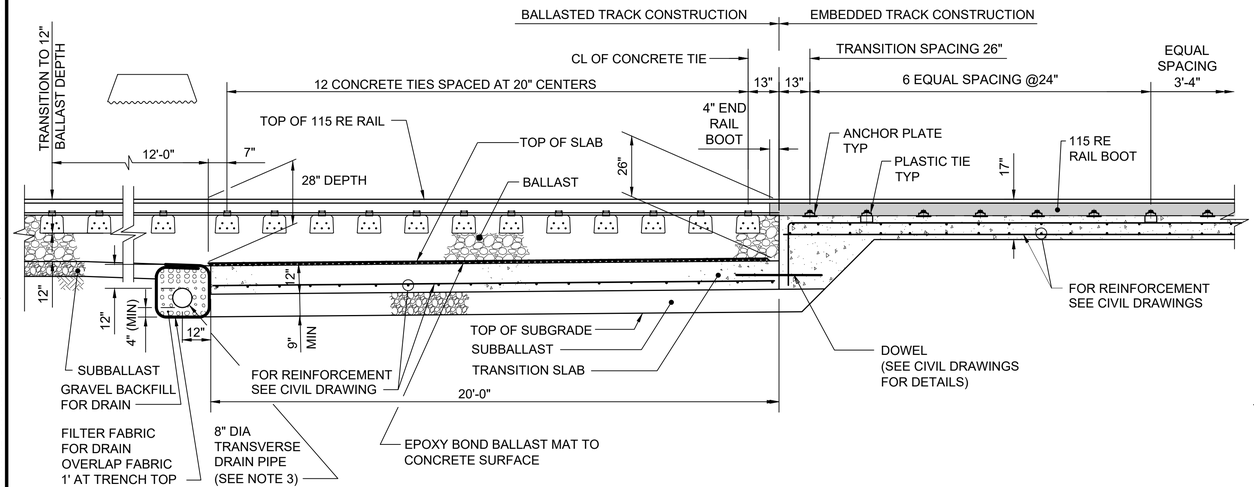
GENERAL NOTES:

1. FOR TRANSITION SLAB DETAILS, REFER TO CIVIL DRAWINGS.
2. FOR BALLASTED TRACK SECTION AND DETAILS, SEE TYPICAL TRACK SECTIONS DRAWINGS.
3. FOR PIPE OUTLETS IN BALLASTED TRACKS, REFER TO CIVIL DRAWINGS.
4. TRANSITION SLAB'S REINFORCEMENT SHALL BE ELECTRICALLY BONDED TO TRACK SLAB REINFORCEMENT.



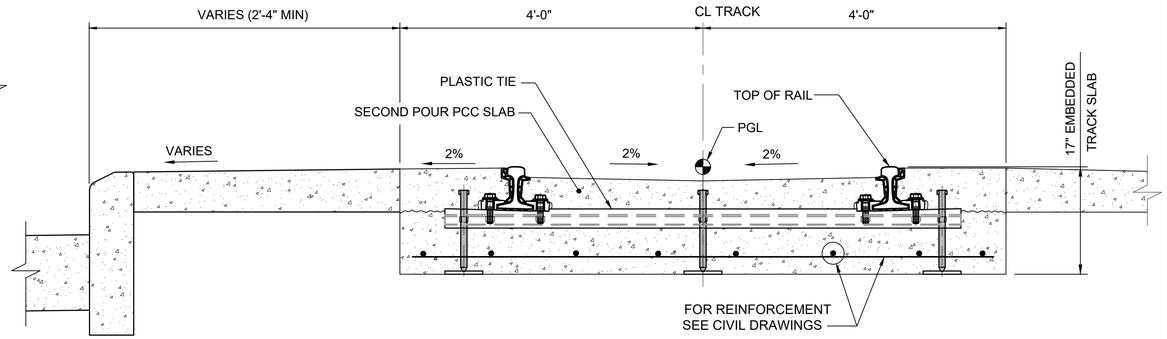
SECTION B

SCALE: 1" = 1'-0"



TRANSITION BETWEEN BALLASTED TRACK AND EMBEDDED TRACK INSTALLATIONS A

SCALE: 3/8" = 1'-0"



SECTION C

SCALE: 1" = 1'-0"

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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

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APPROVED BY:

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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD500
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

TRANSITION SLAB
EMBEDDED TRACK TO BALLASTED TRACK
(115RE)

DRAWING No.: **STD-KAD500**
FACILITY ID:
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REV:

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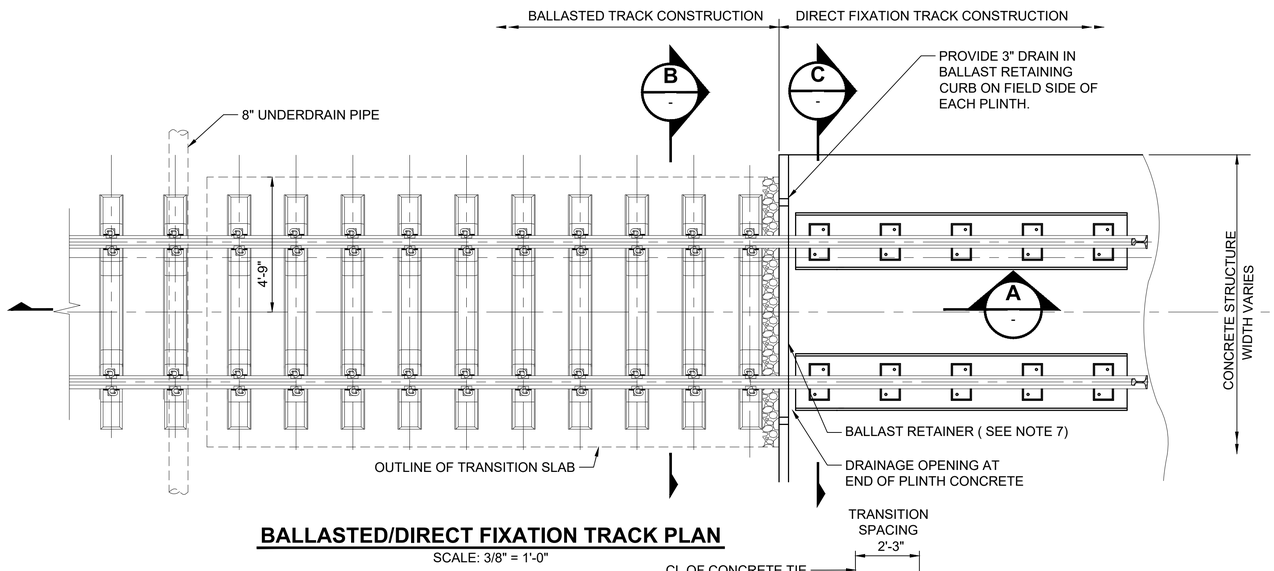
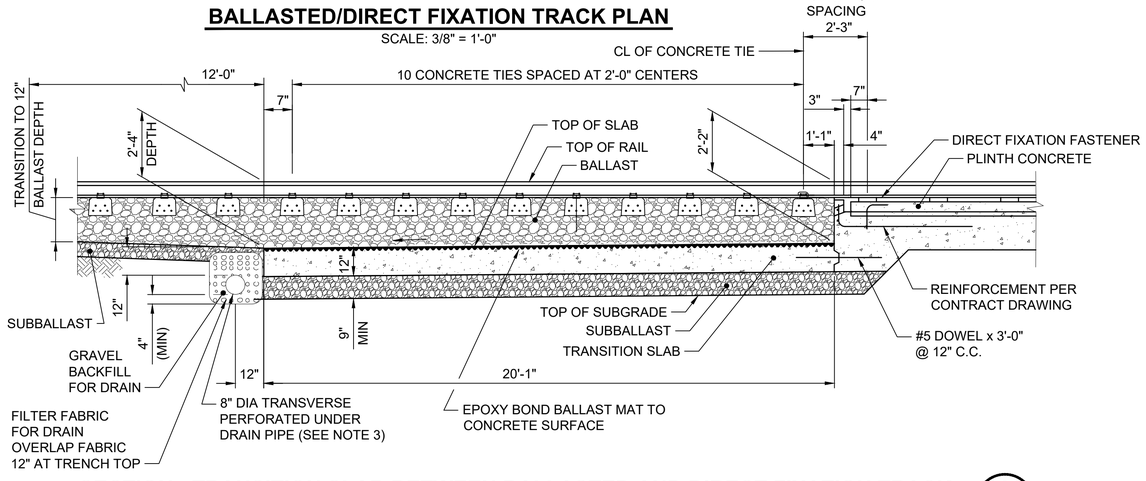
GENERAL NOTES:

1. FOR DIRECT FIXATION SECTION AND DETAILS, SEE DWGS STD-KAD120 AND STD-KAD121 AND THE TRACK CHARTS DRAWINGS.
2. FOR BALLASTED SECTION AND DETAILS, SEE TRACKWORK DRAWINGS AND THE TRACK CHARTS DRAWINGS.
3. FOR PIPE OUTLETS IN BALLASTED TRACK, REFER TO DRAINAGE DRAWINGS AND TYPICAL TRACK UNDERDRAIN DETAILS.
4. INTERFACE BETWEEN THE TRANSITION SLAB SHALL BE 90 DEGREES AS MEASURED FROM THE CENTERLINE OF TRACK.
5. PROVIDE GROUNDING AND BONDING FOR TRANSITION SLAB AS PER NEC REQUIREMENTS.
6. IN CURVES SUPERELEVATED TRACK, THE TOP OF BALLAST RETAINER MUST FOLLOW THE BALLAST SURFACE AND BE 1" BELOW BASE OF RAIL
7. DIRECT FIXATION RACK DRAINAGE TO BE COLLECT PRIOR TO TRANSITION TO BALLASTED TRACK. SLOPE TRACK INVERT SLAB TO DRAIN INLETS. SEE CONTRACT DRAWINGS



BALLASTED/DIRECT FIXATION TRACK PLAN

SCALE: 3/8" = 1'-0"



SECTION - TRANSITION SLAB BETWEEN BALLASTED AND DIRECT FIXATION TRACK

SCALE: 3/8" = 1'-0"

A
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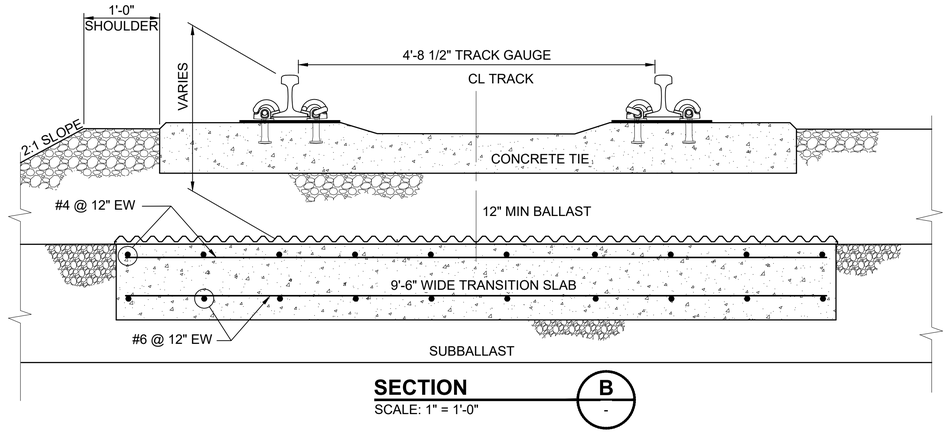

SECTION

SCALE: 1" = 1'-0"

B
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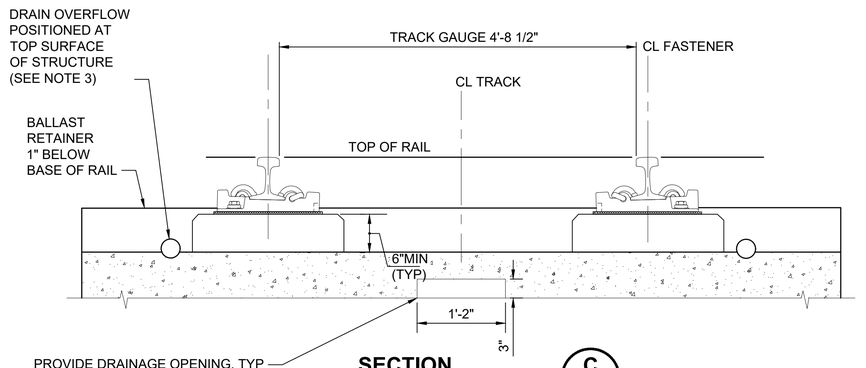

SECTION

SCALE: 1" = 1'-0"

C
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No.	DATE	DSN	CHK	APP	REVISION
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1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH., SYSTEMS GUIDANCE DWGS

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DRAWN BY:
CHECKED BY:
APPROVED BY:

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD501
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

TRANSITION SLAB DETAILS
BALLASTED TRACK TO DIRECT FIXATION TRACK

DRAWING No.: **STD-KAD501**
FACILITY ID:
SHEET No.: REV: 2

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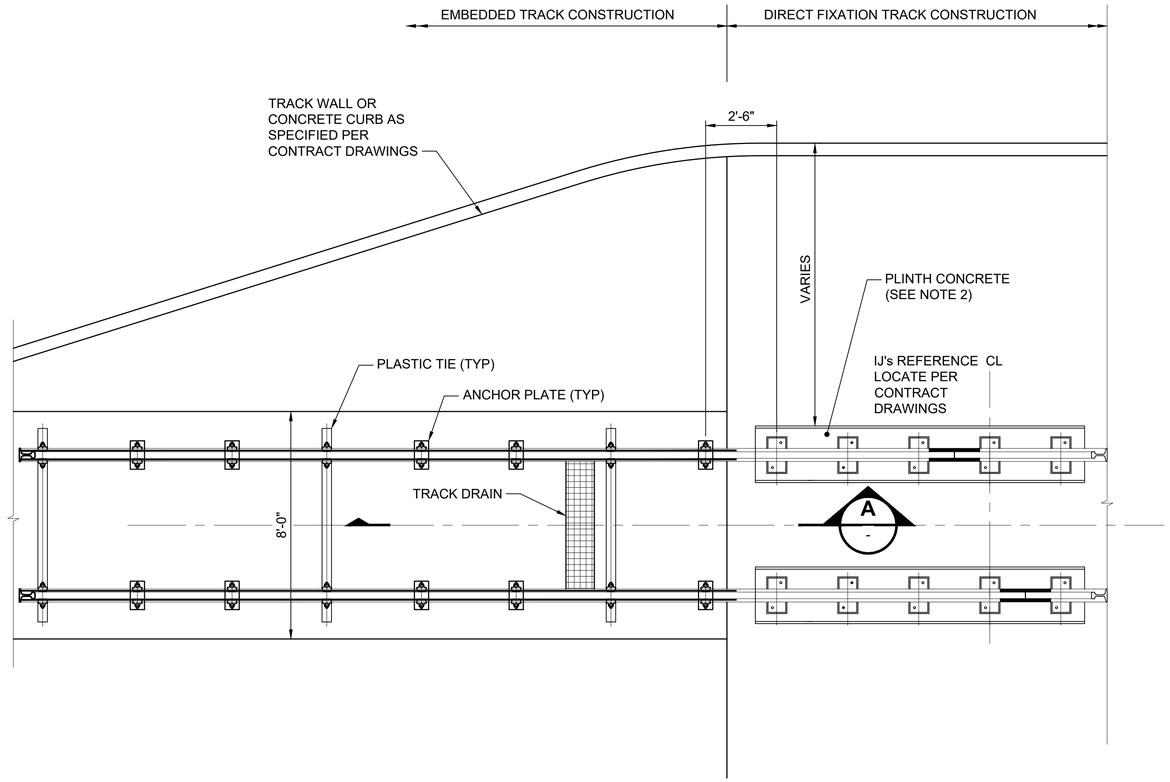
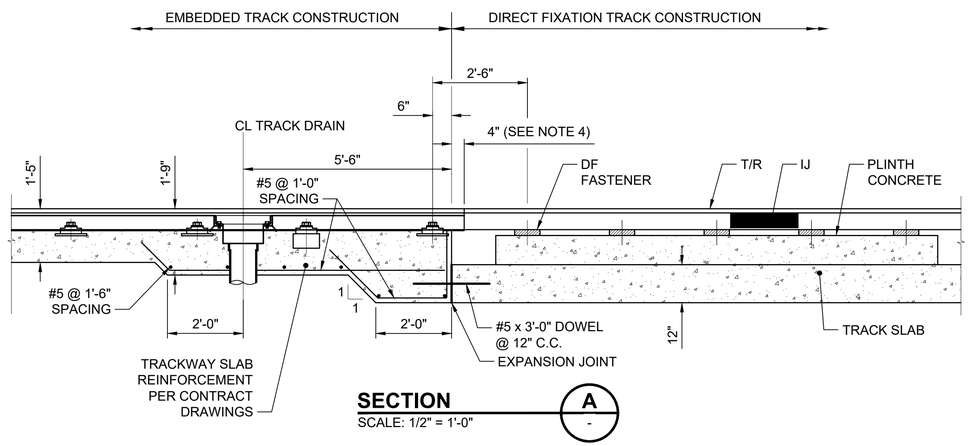


TRANSITION EMBEDDED TO DIRECT FIXATION TRACK PLAN

SCALE: 3/8" = 1'-0"



SECTION A -

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. FOR DIRECT FIXATION TRACK SLAB DETAILS REFER TO STRUCTURAL DRAWINGS.
2. FOR DIRECT FIXATION TRACK DETAILS, SEE DRAWINGS STD-KAD120 AND STD-KAD121.
3. FOR EMBEDDED TRACK DETAILS, SEE TRACKWORK DRAWINGS.
4. EXTEND RAIL BOOT 4" BEYOND FACE OF SECOND POUR CONCRETE PAVEMENT INFILL.
5. INTERFACE BETWEEN THE TRANSITION SLAB SHALL BE 90 DEGREES AS MEASURED FROM THE CENTERLINE OF TRACK.

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No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD503
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

TRANSITION SLAB
DIRECT FIXATION TRACK TO EMBEDDED TRACK
(115RE)

DRAWING No.: **STD-KAD503**
FACILITY ID:
SHEET No.: 2
REV:

03/21/24 | 8:55 AM | HARRISBK
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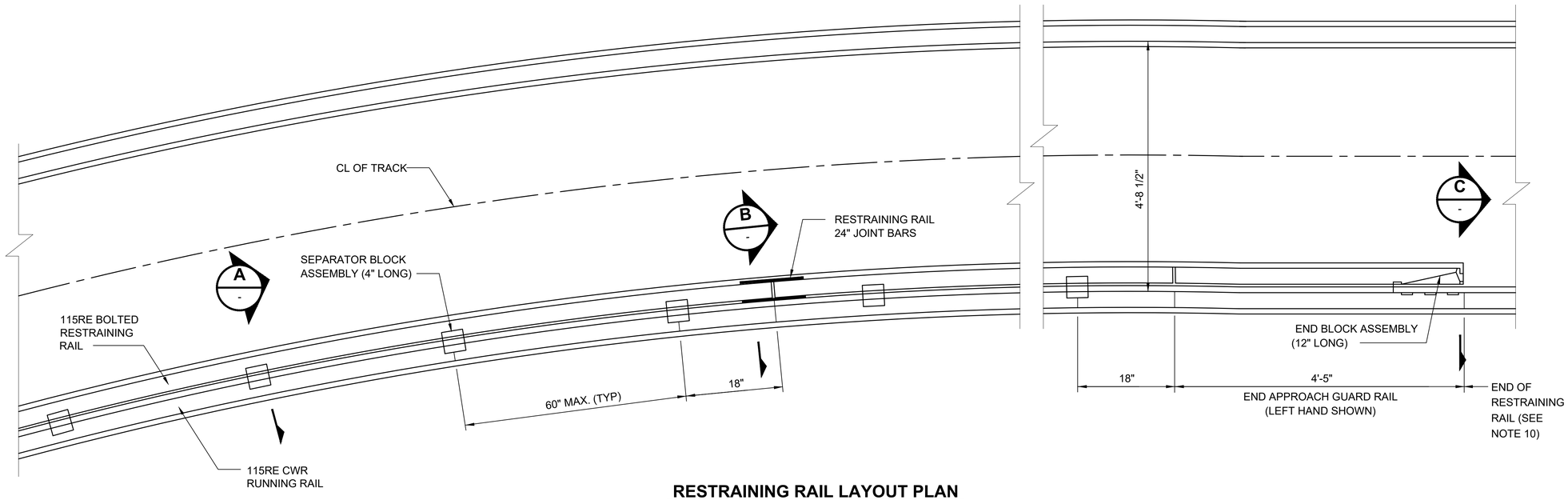
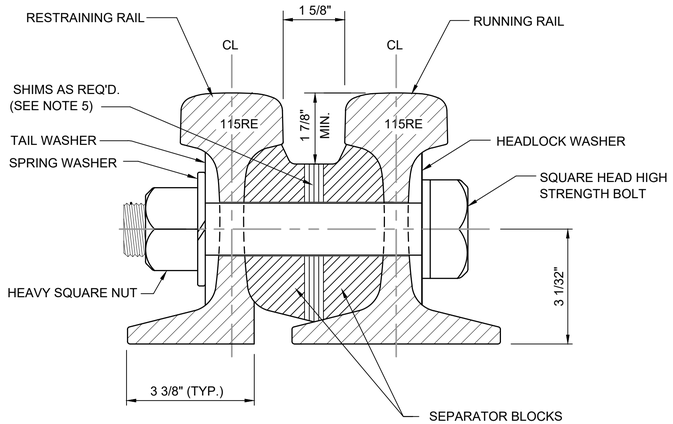


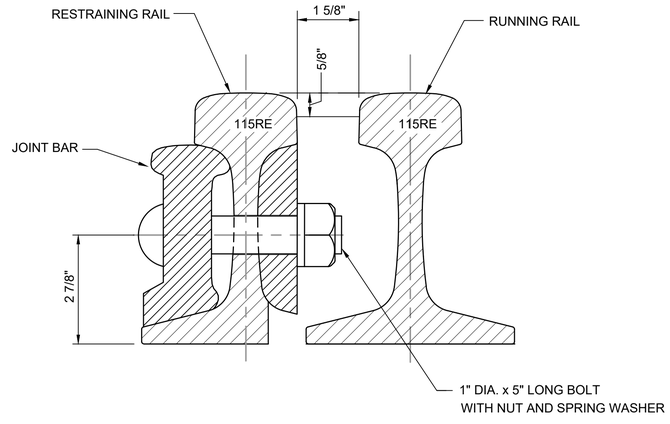
RESTRAINING RAIL LAYOUT PLAN
NTS

GENERAL NOTES:

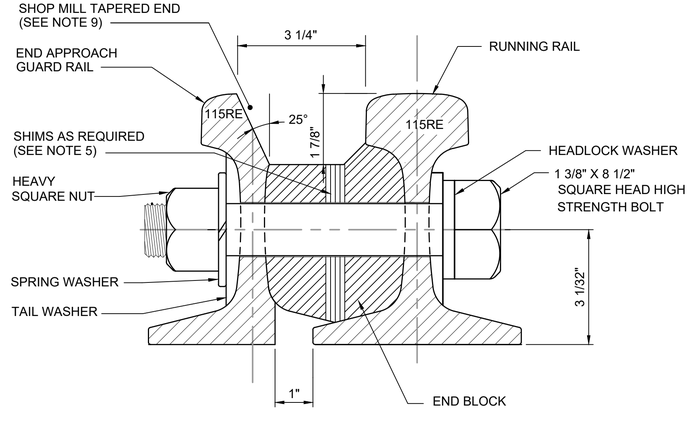
1. FOR LIMITS OF RESTRAINING RAIL SEE TRACK CHART DRAWINGS.
2. SEPARATOR AND END BLOCK SHIMS ARE TO BE FABRICATED FOR THE APPROPRIATE FLANGEWAY WIDTH.
3. SEPARATOR BLOCKS ARE 4" LONG, AT 60" MAXIMUM SPACING O.C.
4. RESTRAINING RAIL JOINT BARS ARE 24" LONG, 4 HOLES.
5. RESTRAINING RAIL DRILLING IS 3 1/2" FROM END OF RAIL 1 7/16" DIA., AT 3 1/32" A.B.R.
6. THREE (3) SHIMS WILL BE PROVIDED WITH EACH SEPARATOR AND END BLOCK TO PROVIDE 1 5/8" FLANGEWAY WITH NEW RAILS.
7. RESTRAINING RAIL IS PRE-DRILLED FOR INSTALLATION OF SEPARATOR BLOCKS. CONTRACTOR SHALL FIELD DRILL RUNNING RAIL TO MATCH HOLES IN RESTRAINING RAIL.
8. FOR RESTRAINING RAIL TYPICAL PRECURVING DETAIL SEE DWG STD-KAD015.
9. CONCRETE TIE SPACING SHALL BE 27" OR LESS ON BALLASTED TRACK CONSTRUCTION.
10. RESTRAINING RAIL TAPERED END IS NOT REQUIRED ON EMBEDDED TRACK CONSTRUCTION.



SEPARATOR BLOCK ASSEMBLY - SECTION A
NTS



RESTRAINING RAIL JOINT ASSY - SECTION B
NTS



END BLOCK - SECTION C
NTS

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-KAD505
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
RESTRAINING RAIL
DETAILS

DRAWING No.: **STD-KAD505**
FACILITY ID:
SHEET No.: 2
REV:

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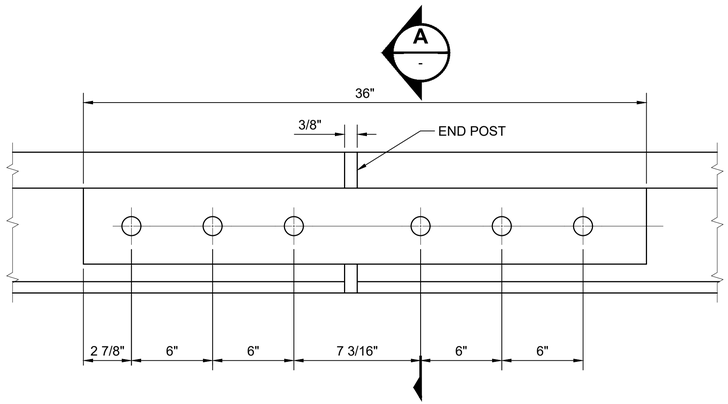
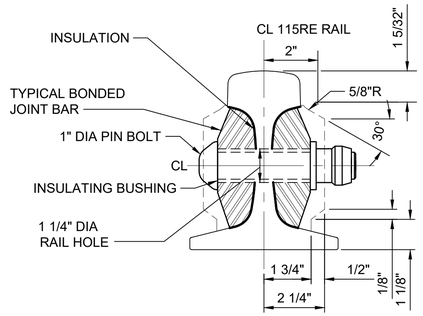


36" BONDED INSULATED JOINT BAR
NTS

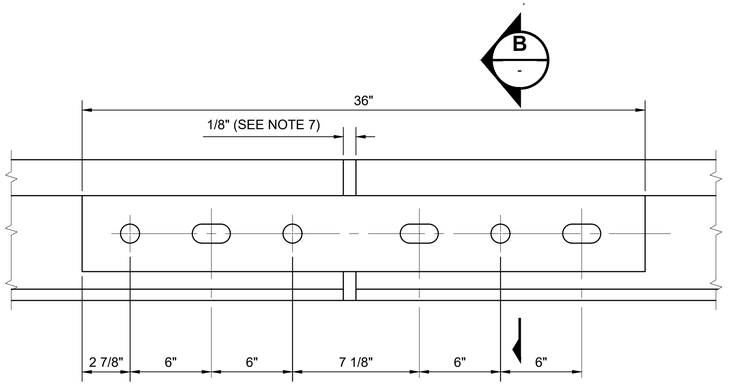


MAXIMUM JOINT BAR
ENVELOPE EXCLUDING BOLTS
(BOLTS ARE 1" DIA x 6" MAX)

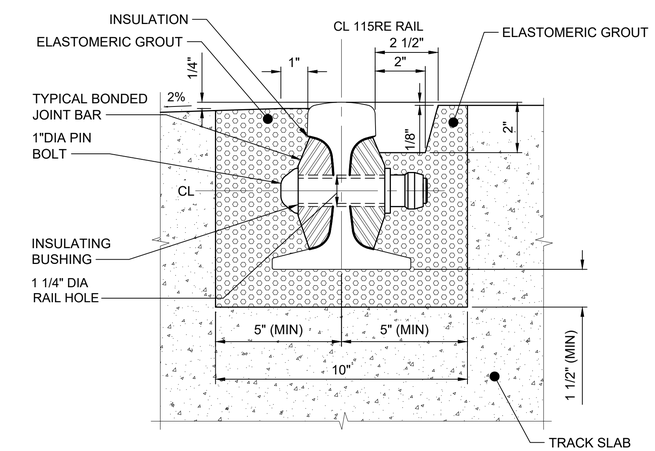
SECTION A
NTS

GENERAL NOTES:

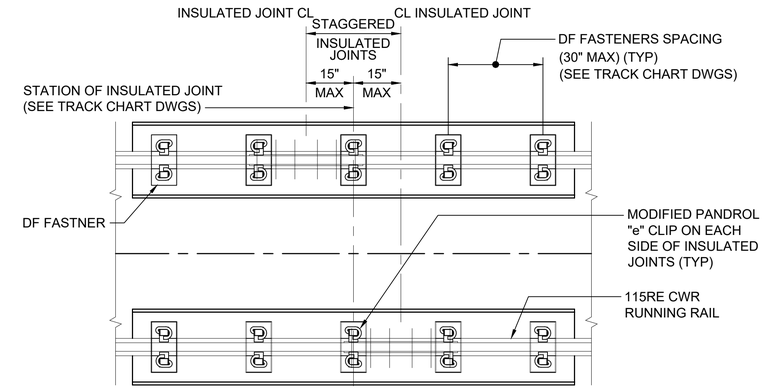
1. JOINT BAR DIMENSIONS ARE FOR 115RE RAIL. FOR ADDITIONAL INFORMATION ON THE OTHER RAIL SECTION AND JOINT BARS. SEE AREMA MANUAL VOL 1 CH. 4.
2. ALL STANDARD JOINTS FOR 115RE RAIL SHALL USE 1"x5-1/2" ELLIPTICAL-NECKED TRACK BOLTS, COMPLETE WITH NUTS AND WASHERS.
3. THE APPLIED BOLT TENSION SHALL BE BETWEEN 20,000 LBS AND 30,000 LBS PER BOLT.
4. ALL HOLES DRILLED WITH A DRILL BIT (OR SIMILAR METHOD SHALL BE GROUND AND FILED SMOOTH SO AS TO KEEP NO ROUGH EDGES BEFORE ASSEMBLING A BONDED INSULATED JOINT. MAKE SURE RAIL AND JOINT BARS ARE CLEAN AND FREE OF METAL FILINGS.
5. SPRING CLIPS SHALL BE MODIFIED AS REQUIRED TO AVOID CONTACT BETWEEN RAIL CLIP AND JOINT BAR FOR INSULATED JOINTS.
6. FOR BALLASTED AND DIRECT FIXATION TRACK CONSTRUCTION SUSPENDED ALL BONDED INSULATED JOINTS BETWEEN TIES OR DIRECT FIXATION FASTNERS, AS APPLICABLE.
7. FOR EMBEDDED TRACK CONSTRUCTION BONDED INSULATED JOINT AND RAIL SHALL BE ENCASED IN ELASTOMERIC GROUT FOR THE FULL LENGTH AS SHOWN HEREIN.
8. SEE SPECIFICATIONS FOR RAIL GAP DURING INSTALLATION.
9. RAIL HOLES FOR STANDARD JOINT BARS SHALL BE 1-1/4" DIAMETER.



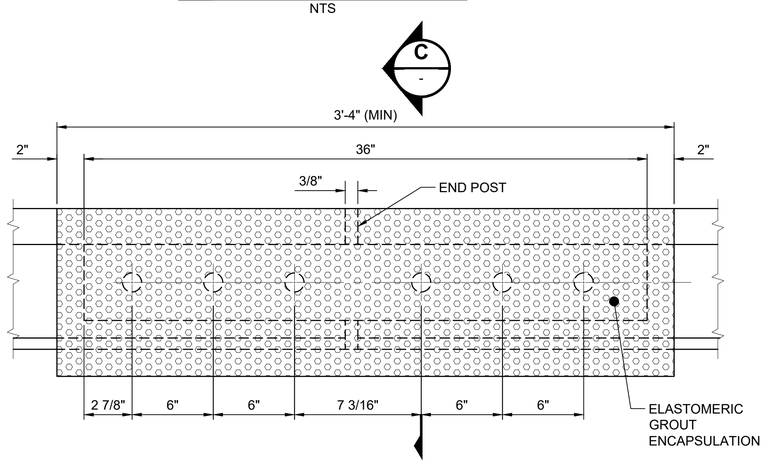
36" STANDARD JOINT BAR
NTS



SECTION B
NTS

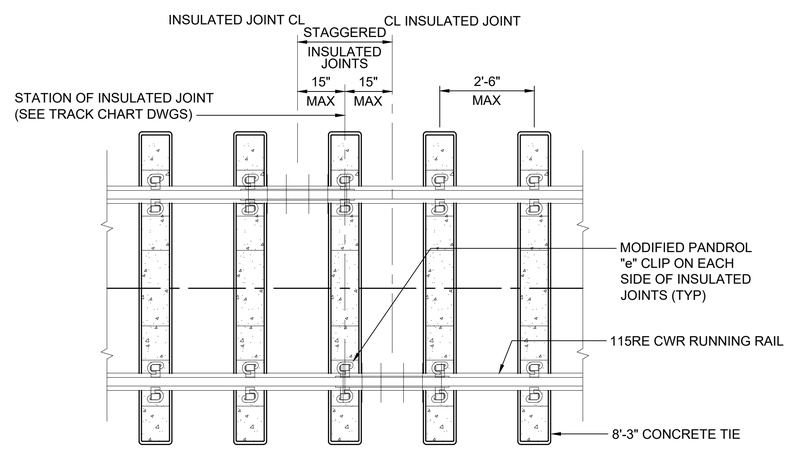


INSULATED JOINT ON DF TRACK DETAIL
SCALE: 1/2" = 1'-0"



EMBEDDED 36" BONDED INSULATED JOINT
NTS

SECTION C
NTS



INSULATED JOINT ON BALLASTED TRACK DETAIL
SCALE: 1/2" = 1'-0"

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD506
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
INSULATED AND STANDARD JOINT DETAILS

DRAWING No.: **STD-KAD506**
FACILITY ID:
SHEET No.: 2
REV:

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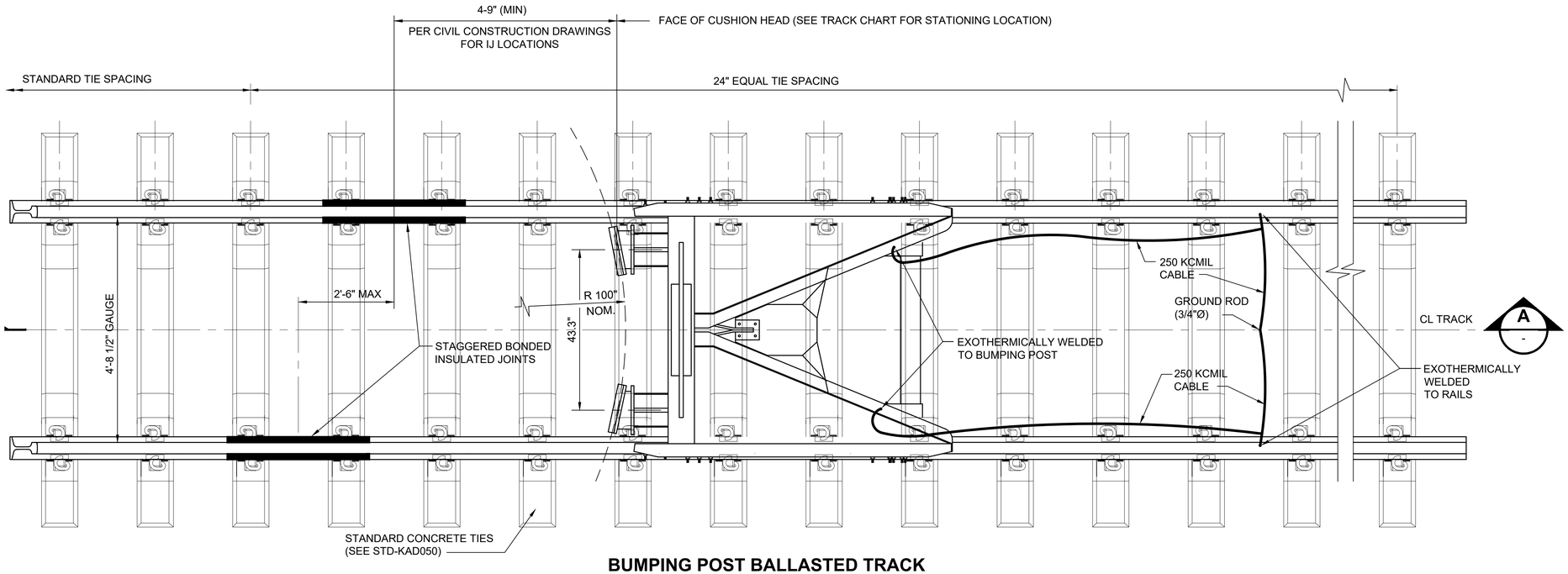


BUMPING POST BALLASTED TRACK

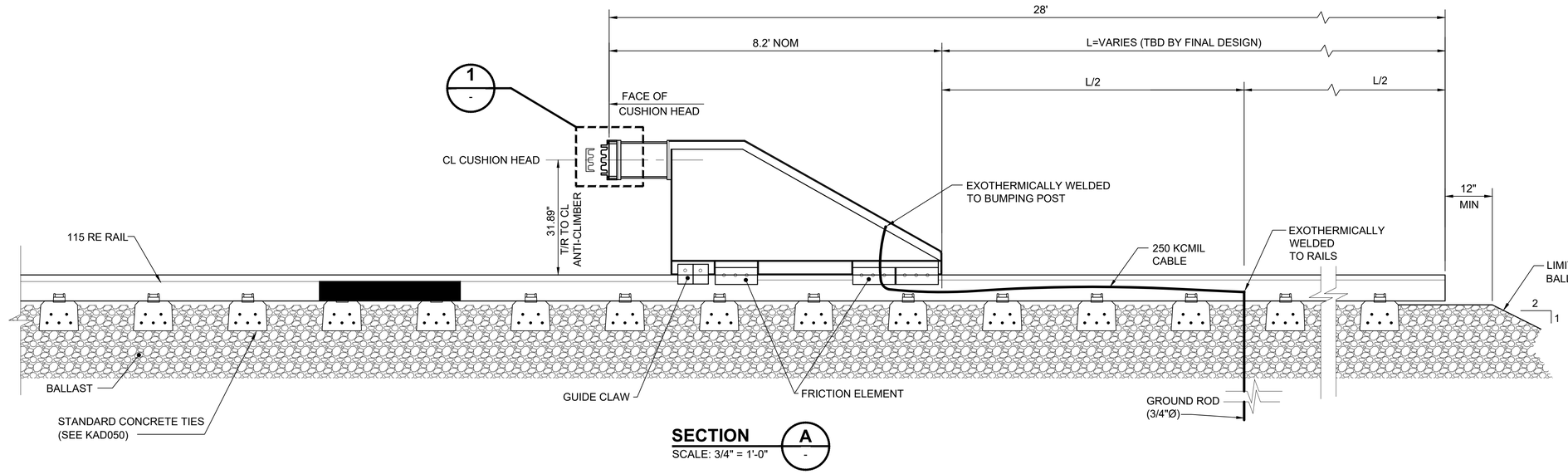
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. THE BUMPING POST ASSEMBLY SHALL BE CONNECTED TO THE RUNNING RAIL BY THE USE OF RAIL CLAMPS AND BE SUITABLE FOR INSTALLATION IN BALLASTED TRACK CONSTRUCTION.

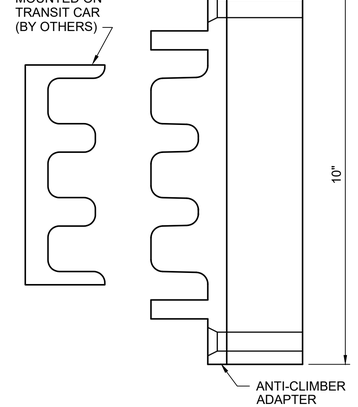
BILL OF MATERIAL PER POST

QUANTITY	DESCRIPTION
1	BUMPING POST ASSEMBLY COMPLETE
1	ANTI-CLIMBER ADAPTER
AS REQD	250 KCMIL CABLE
AS REQD	3/4" Ø GROUND ROD
AS REQD	EXOTHERMIC WELDING



SECTION A

SCALE: 3/4" = 1'-0"



TYPICAL ANTI-CLIMBER DETAIL 1 -

SCALE: 6" = 1'-0"

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2109	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 3/4" = 1'-0"
FILENAME: STD-KAD510
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

BUMPING POST
BALLASTED TRACK
(115RE)

DRAWING No.: **STD-KAD510**
FACILITY ID:
SHEET No.: 2
REV:

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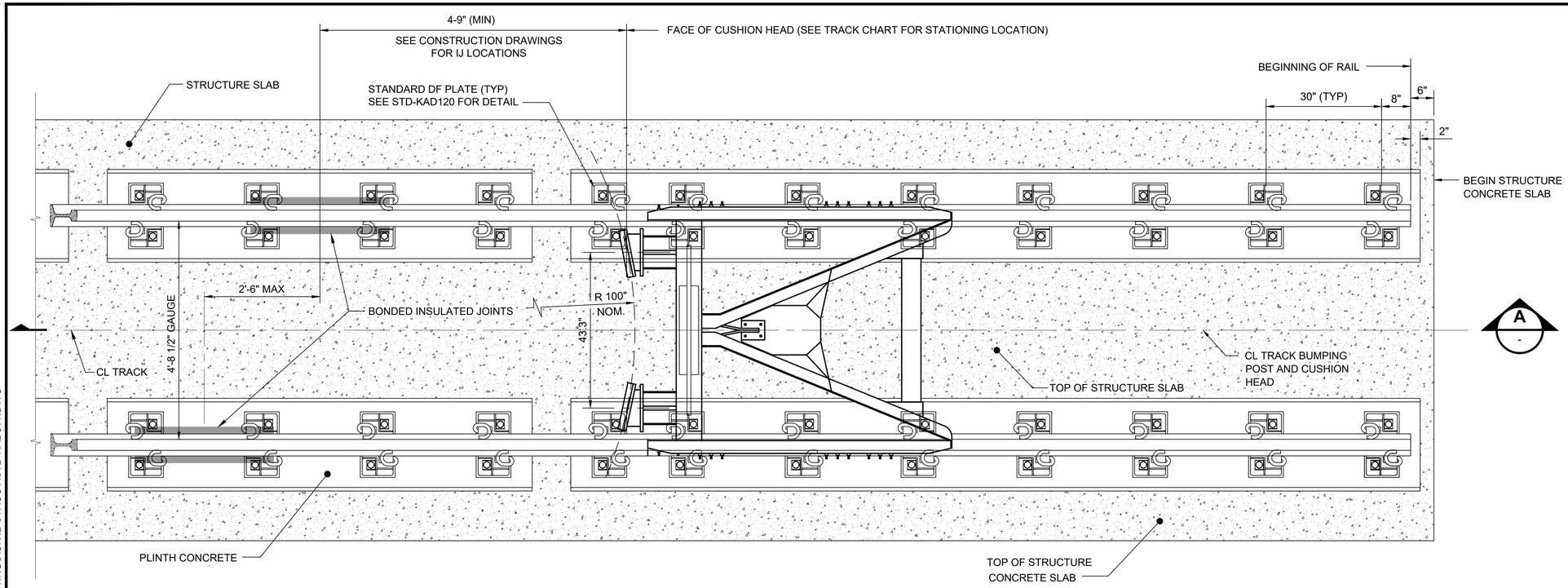
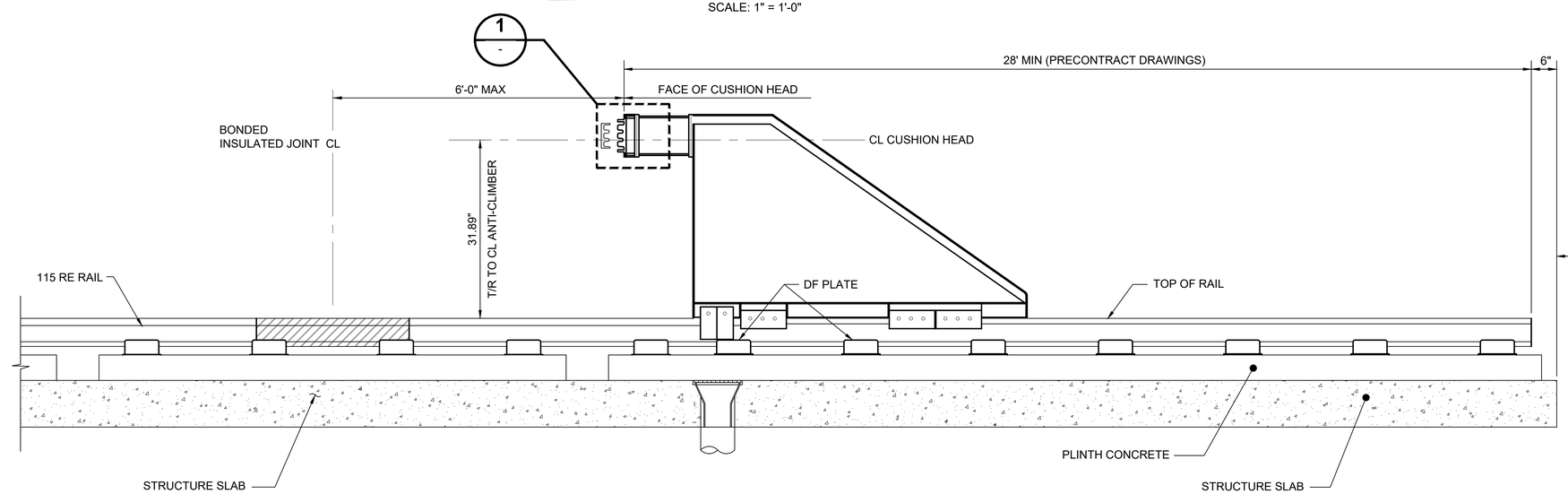


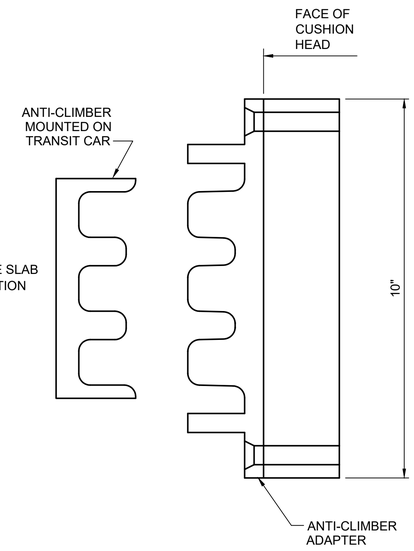
BUMPING POST - DIRECT FIXATION TRACK

SCALE: 1" = 1'-0"



SECTION A

SCALE: 3/4" = 1'-0"



TYPICAL ANTI-CLIMBER DETAIL 1

SCALE: 6" = 1'-0"

GENERAL NOTES:

1. THE BUMPING POST ASSEMBLY SHALL BE CONNECTED TO THE RUNNING RAIL BY THE USE OF RAIL CLAMPS AND BE SUITABLE FOR INSTALLATION IN DIRECT FIXATION TRACK CONSTRUCTION.

BILL OF MATERIAL PER POST

QUANTITY	DESCRIPTION
1	BUMPING POST ASSEMBLY COMPLETE
1	ANTI-CLIMBER ADAPTER

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
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APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD511
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

BUMPING POST
DIRECT FIXATION TRACK
(115RE TEE RAIL)

DRAWING No.: **STD-KAD511**
FACILITY ID:
SHEET No.: REV: 2

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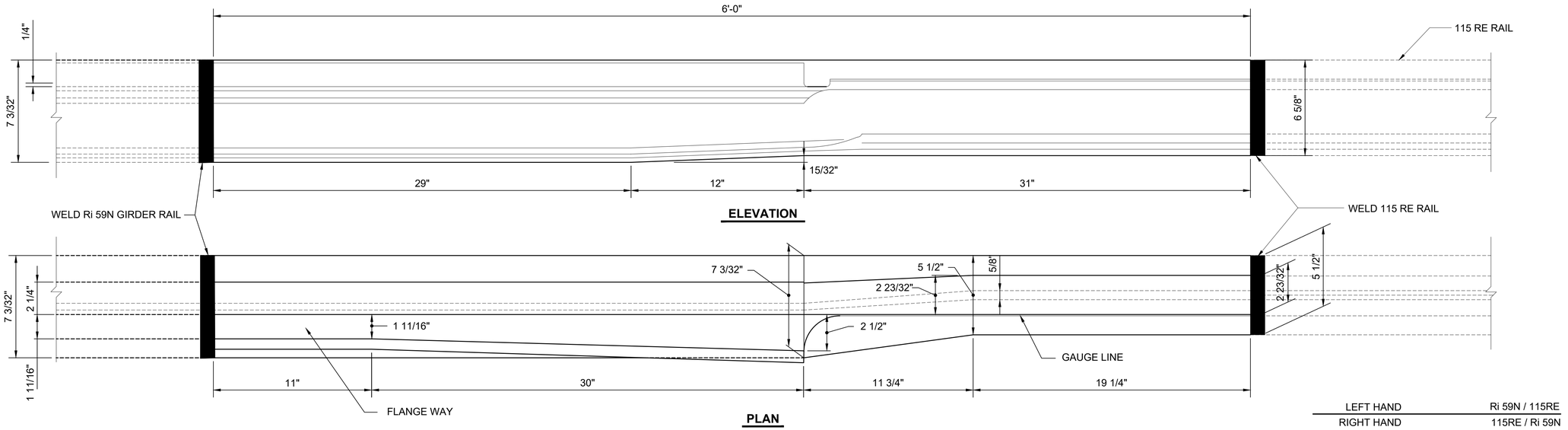
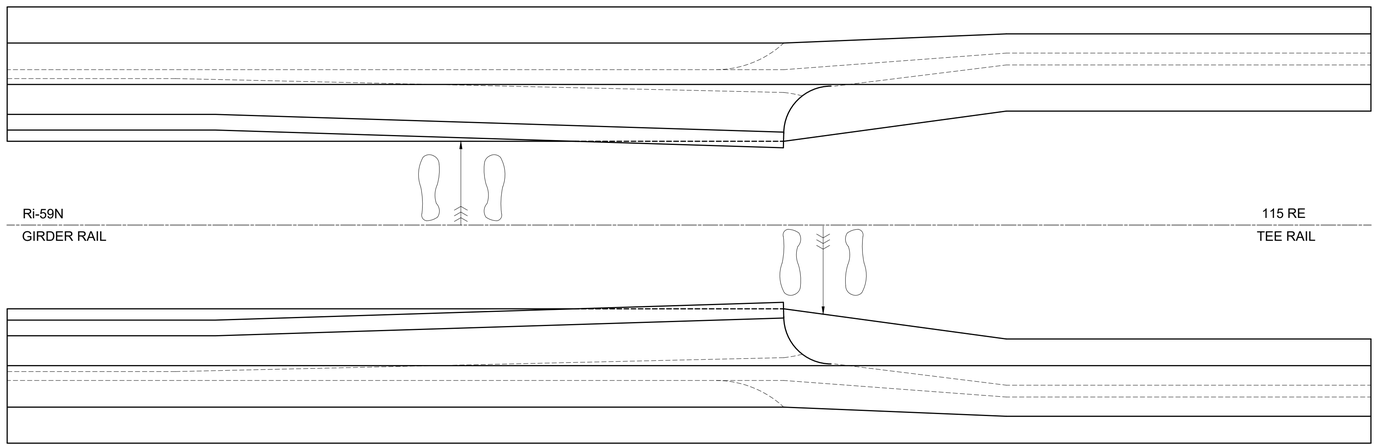


LEFT HAND	Ri 59N / 115RE
RIGHT HAND	115RE / Ri 59N

115 RE / Ri 59N COMPROMISE RAIL

(LEFT HAND SHOWN, RIGHT HAND OPPOSITE)
SCALE: 3" = 1'-0"

LEFT HAND



RIGHT HAND

TRANSITION RAIL

SCALE: 3" = 1'-0"

No.	DATE	DSN	CHK	APP	REVISION
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2	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
1	8/2019	----	----	----	REVISED - CIVIL DIRECTIVE AND STANDARD DWGS
0	6/2013	----	----	----	NEW - CIVIL, ARCH, SYSTEMS GUIDANCE DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -
DATE: 2/2024

SCALE: 3" = 1'-0"
FILENAME: STD-KAD520
CONTRACT No.: RTA/LR -

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK
COMPROMISE RAIL 115RE / RI 59N

DRAWING No.: **STD-KAD520**
FACILITY ID:
SHEET No.: 2
REV:

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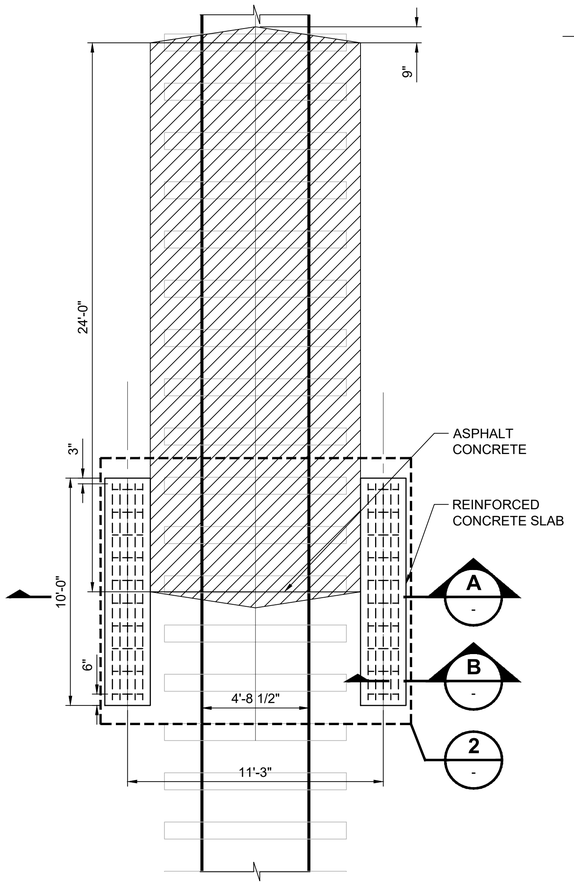
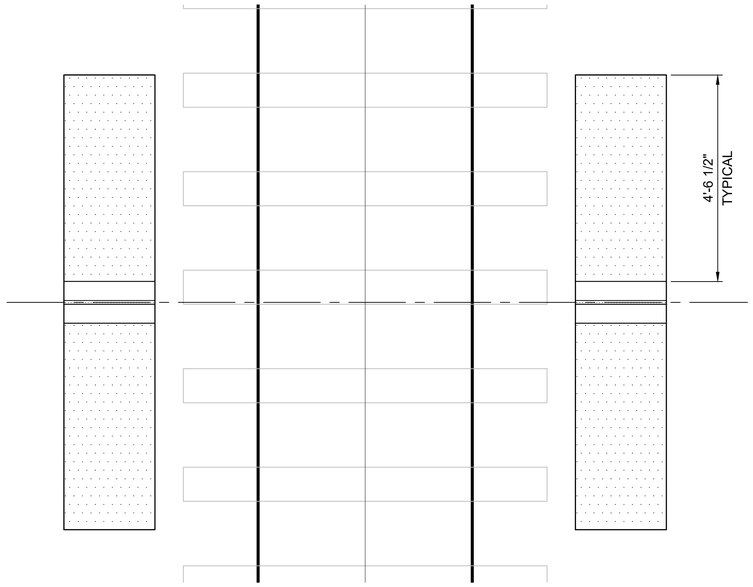


REINFORCED CONCRETE SLAB PLAN

SCALE: 1" = 30'

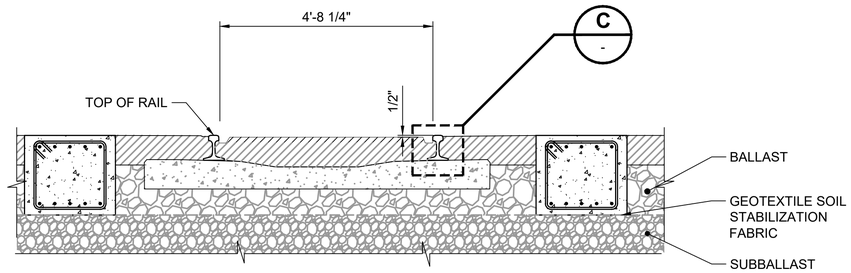
1 / Y01-CXP001



PAVEMENT MARKING PLAN

SCALE: 1" = 20'

2 / -



LRV RAMP ZONE

SCALE: 1" = 20'

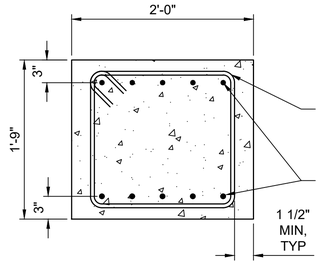
A / -

PAVING LEGEND

- BALLAST
- CONCRETE
- SUBBALLAST
- ASPHALT CONCRETE
- PAVEMENT MARKING, RED COLOR STRIPED BOX

GENERAL NOTES:

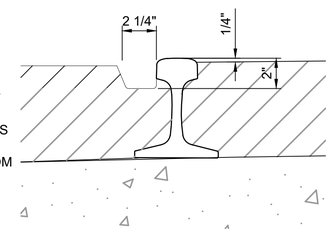
1. DO NOT CAST CONCRETE AGAINST BALLAST.
2. RESTORE ANY DISTURBED TRACK BALLAST AND TEMP PRIOR TO LAYING DOWN PAVEMENT.



REINFORCED CONCRETE SLAB SECTION

SCALE: 1" = 10'

B / -



RAIL FLANGEWAY

SCALE: 1" = 5'

C / -

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0	2/2024	----	----	----	2024 NEW STANDARD DRAWING

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

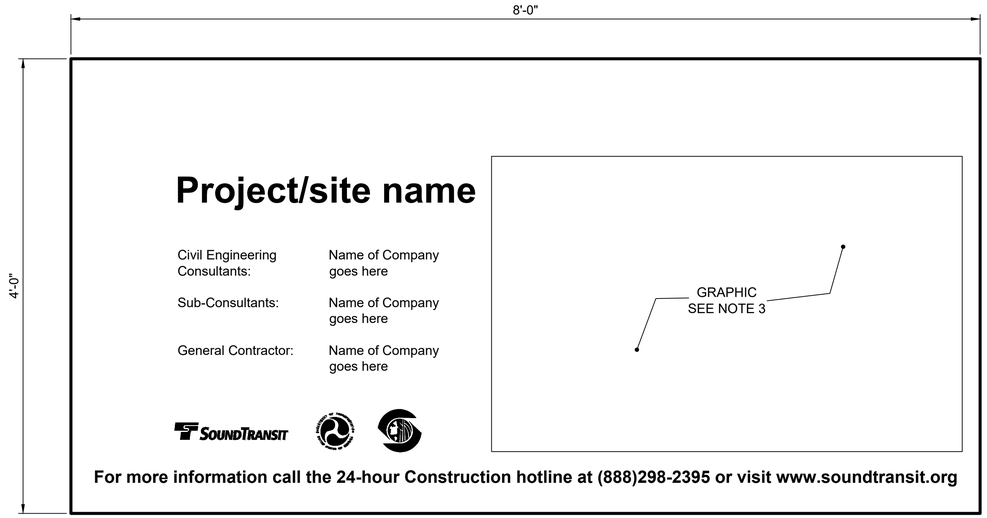
SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-KAD550
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
TRACKWORK

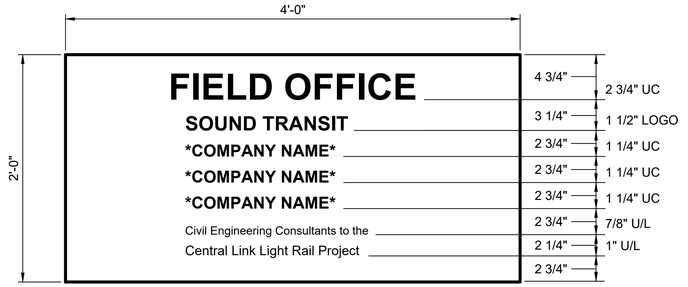
PAVING AND PAD DETAILS
CONCRETE SLAB FOR LRV UNLOADING SUPPORT

DRAWING No.: STD-KAD550
FACILITY ID:
SHEET No.: REV: 0



GENERAL CONSTRUCTION SIGN — A

NTS



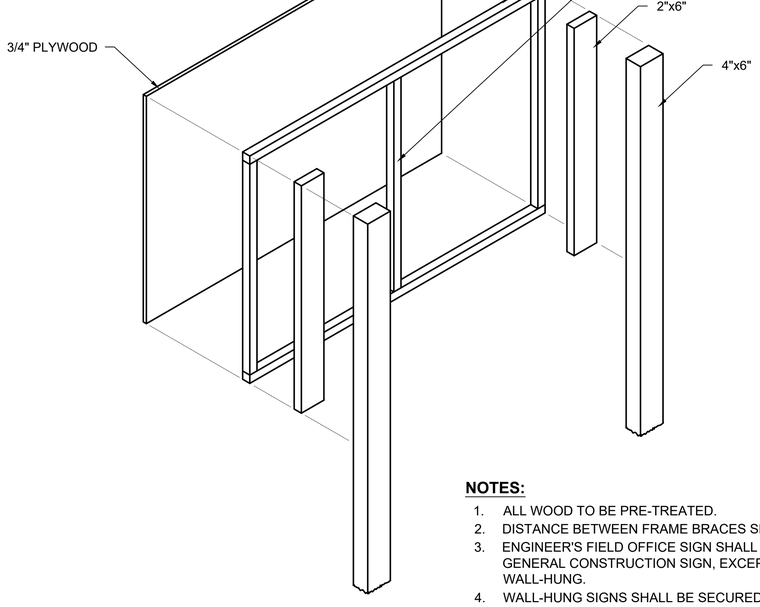
LETTERS SHALL BE HELVETICA MEDIUM, AND SHALL BE BLUE, BACKGROUND SHALL BE WHITE.

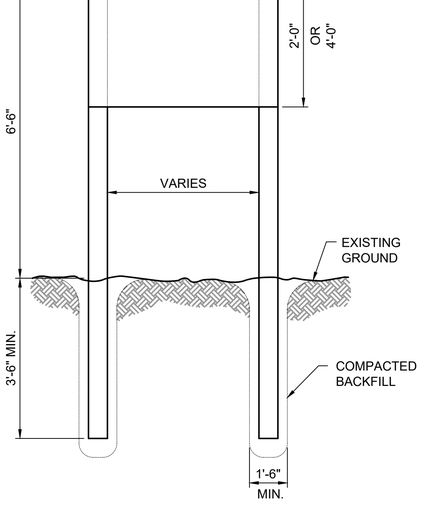
NOTES:

1. DIGITAL IMAGE GRAPHIC FILES FOR CONSTRUCTION SIGNS ARE TO BE SECURED FROM SOUND TRANSIT AND SIGN PLACEMENT ON THE SITE TO BE IN CONSULTATION WITH SOUND TRANSIT PRIOR TO PLACEMENT.
2. FOR NUMBER OF SIGN SEE SPECIAL PROVISIONS.
3. IMAGE PROVIDED BY SOUND TRANSIT SHALL BE PRINTED ONTO 3M EXTERIOR GRADE, SELF-ADHESIVE, UVB PROTECTED VINYL OR EQUAL.

ENGINEER'S FIELD OFFICE SIGN — B

NTS





NOTES:

1. ALL WOOD TO BE PRE-TREATED.
2. DISTANCE BETWEEN FRAME BRACES SHOULD NOT BE MORE THAN 2'-0".
3. ENGINEER'S FIELD OFFICE SIGN SHALL BE MOUNTED SIMILARLY TO GENERAL CONSTRUCTION SIGN, EXCEPT THAT FIELD OFFICE SIGN MAY BE WALL-HUNG.
4. WALL-HUNG SIGNS SHALL BE SECURED AT BOTTOM AS WELL AS TOP.

SIGN ASSEMBLY DETAIL — 1

NTS

No.	DATE	DSN	CHK	APP	REVISION
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1	2/2024	----	----	----	2024 REVISED STANDARD DRAWINGS
0	8/2019	----	----	----	NEW - CIVIL DIRECTIVE & STANDARD DWGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

SOUNDTRANSIT

SCALE: NTS
FILENAME: STD-CMD001
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
PROJECT CONSTRUCTION SITE
PROJECT SIGN

DRAWING No.: **STD-CMD001**
FACILITY ID:
SHEET No.: REV: 1

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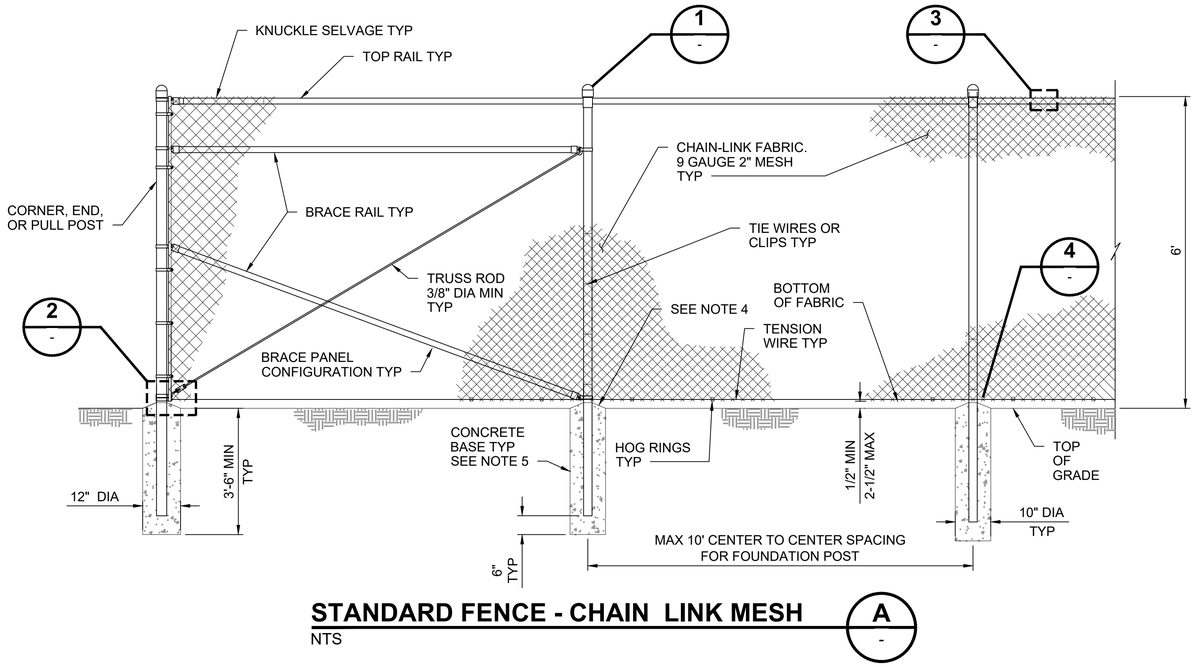
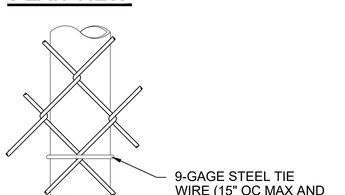


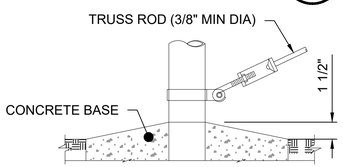
STANDARD FENCE - CHAIN LINK MESH A
NTS



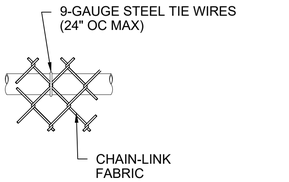
PLAN VIEW

SIDE VIEW

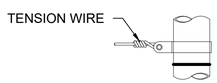
ROUND POST DETAIL 1
NTS



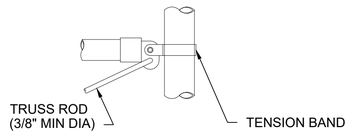
TRUSS AND ROD DETAIL 2
NTS

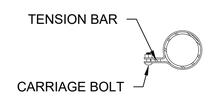


TOP OR RAIL BRACE ATTACHMENT 3
NTS

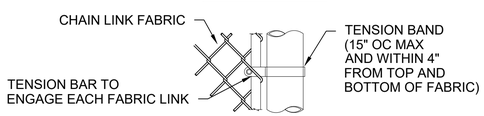


TENSION BAND DETAIL 4
NTS





PLAN VIEWS



SIDE VIEW

END OR GATE POST DETAIL 5
NTS

STEEL POST SCHEDULE	
USE AND SELECTION	**MINIMUM OUTSIDE DIMENSIONS (NOMINAL)**
	FABRIC WIDTH 108" AND OVER
CORNER, END & PULL POSTS	
TUBULAR - ROUND	4.00" OD
LINE POSTS	
TUBULAR - ROUND	2.875" OD
TOP, BOTTOM & BRACE RAILS	
TUBULAR - ROUND	1.66" OD
TUBULAR - SQUARE	1.50" SQ
H-SECTION	1.625" X 1.5"
C-SECTION (ROLL-FORMED)	1.625" X 1.5"

NOTES:

1. SEE SPECIFICATIONS SECTION 32 31 13 FOR STANDARD CHAIN LINK FENCE MATERIALS DETAILS.
2. CONSTRUCTION WIRE TIES, RAILS, POSTS, AND BRACES ON THE SECURE SIDE OF THE THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE OF THE SECURE AREA.
3. FENCE FABRIC SHALL BE BLACK VINYL COATED. POSTS , RAILS, AND HARDWARE SHALL BE BLACK POWDER COATED.
4. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
5. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
6. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS

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DESIGNED BY:
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CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD101
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
STANDARD FENCE
CHAIN LINK MESH

DRAWING No.: **STD-CSD101**
FACILITY ID:
SHEET No.: REV: 0

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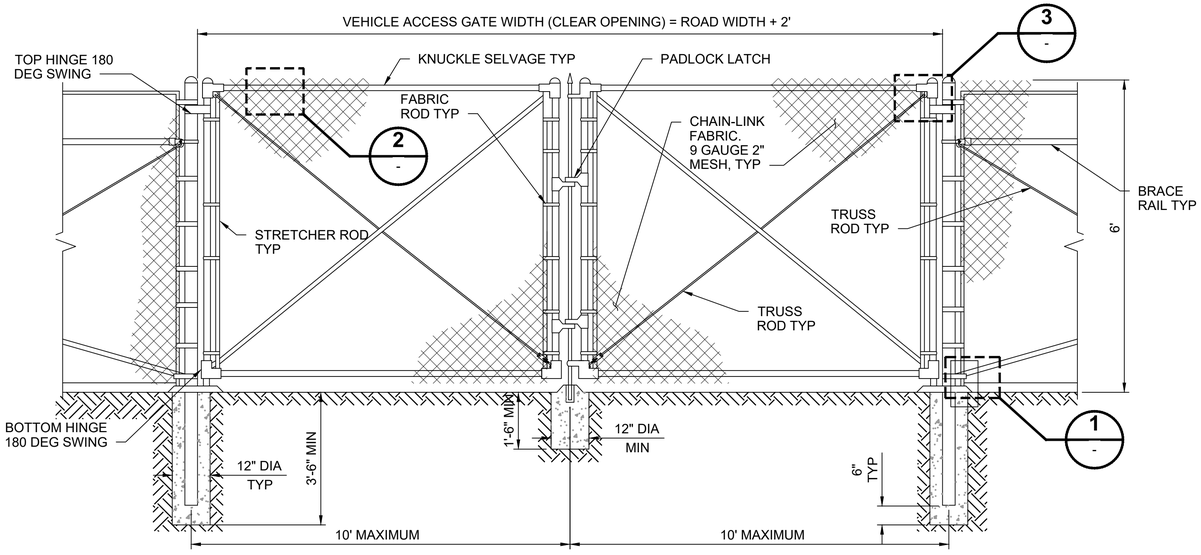
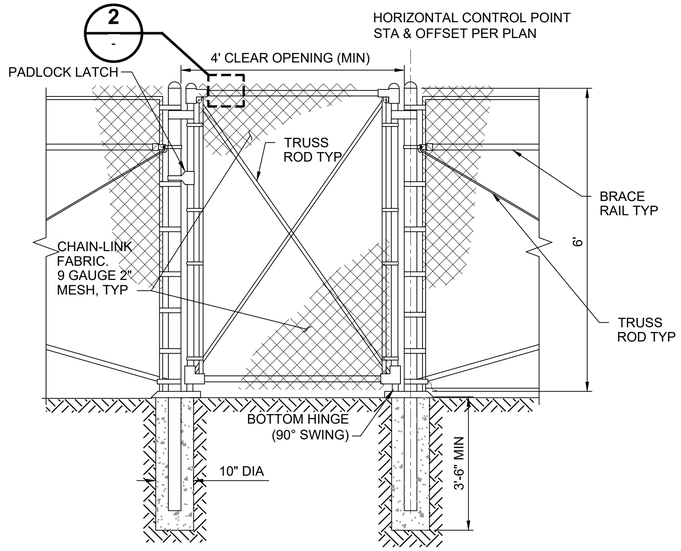


STANDARD FENCE - CHAIN LINK VEHICLE GATE A -

NTS

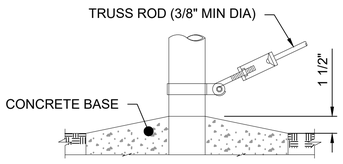


STANDARD FENCE - CHAIN LINK PED SWING GATE B -

NTS

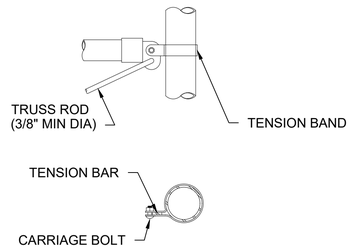
NOTES:

1. THIS STANDARD DRAWING ILLUSTRATES THE DETAILS FOR STANDARD CHAIN LINK FENCE GATES - VEHICLE GATE AND PEDESTRIAN ACCESS GATE.
2. SEE SPECIFICATIONS SECTION 32 31 13 FOR STANDARD CHAIN LINK FENCE MATERIALS DETAILS.
3. CONSTRUCTION WIRE TIES, RAILS, POSTS, AND BRACES ON THE SECURE SIDE OF THE THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE OF THE SECURE AREA.
4. FENCE FABRIC SHALL BE BLACK VINYL COATED. POSTS, RAILS, AND HARDWARE SHALL BE BLACK POWDER COATED.
5. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
6. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
7. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD101 FOR GROUNDING DETAILS.

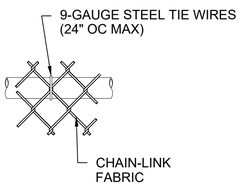


TRUSS AND ROD DETAIL 1 -

NTS

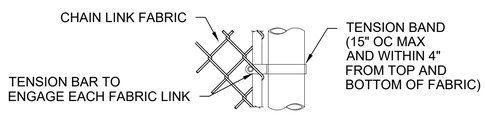


PLAN VIEWS



TOP OR RAIL BRACE ATTACHMENT 2 -

NTS



SIDE VIEW

END OR GATE POST DETAIL 3 -

NTS

STEEL POST SCHEDULE

USE AND SELECTION	MINIMUM OUTSIDE DIMENSIONS (NOMINAL)
	FABRIC WIDTH 108" AND OVER
CORNER, END & PULL POSTS	
TUBULAR - ROUND	4.00" OD
LINE POSTS	
TUBULAR - ROUND	2.875" OD
TOP, BOTTOM & BRACE RAILS	
TUBULAR - ROUND	1.66" OD
TUBULAR - SQUARE	1.50" SQ
H-SECTION	1.625" X 1.5"
C-SECTION (ROLL-FORMED)	1.625" X 1.5"

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DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

SCALE: AS NOTED
FILENAME: STD-CSD102
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
STANDARD FENCE
CHAIN LINK FENCE GATES

DRAWING No.: STD-CSD102
FACILITY ID:
SHEET No.: REV: 0

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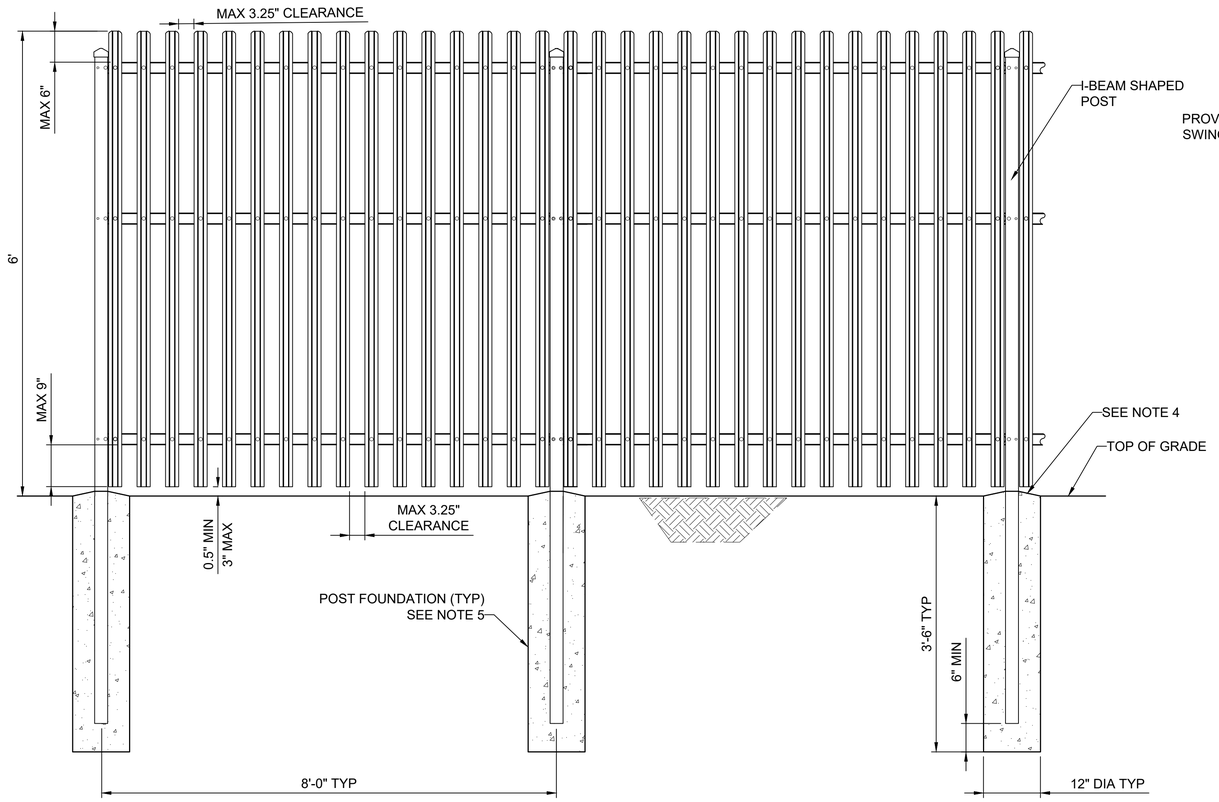

STANDARD FENCE - STEEL PICKET FENCE

NTS

A
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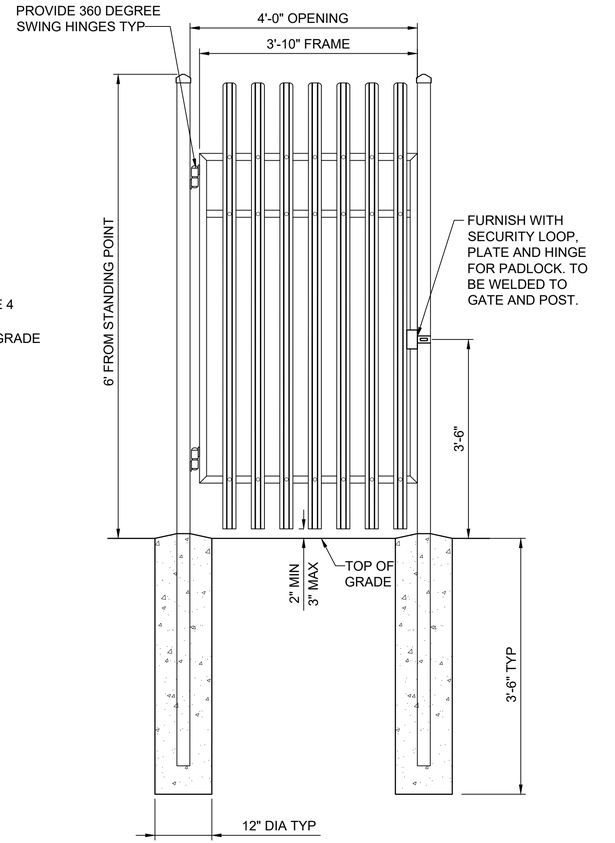

STANDARD FENCE - STEEL PICKET SWING GATE

NTS

1
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NOTES:

1. SEE SPECIFICATIONS SECTION 32 31 56 FOR STEEL PICKET FENCE REQUIREMENTS.
2. POSTS ARE CENTERED ON WALL, UNLESS OTHERWISE NOTED.
3. POST SHALL BE INSTALLED INTERNAL TO SECURE SOUND TRANSIT PROPERTY, TO BE VERIFIED BY THE DOR.
4. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
5. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
6. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD103
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
STANDARD FENCE
STEEL PICKET FENCE AND SWING GATE

DRAWING No.: **STD-CSD103**
FACILITY ID:
SHEET No.: REV: 0

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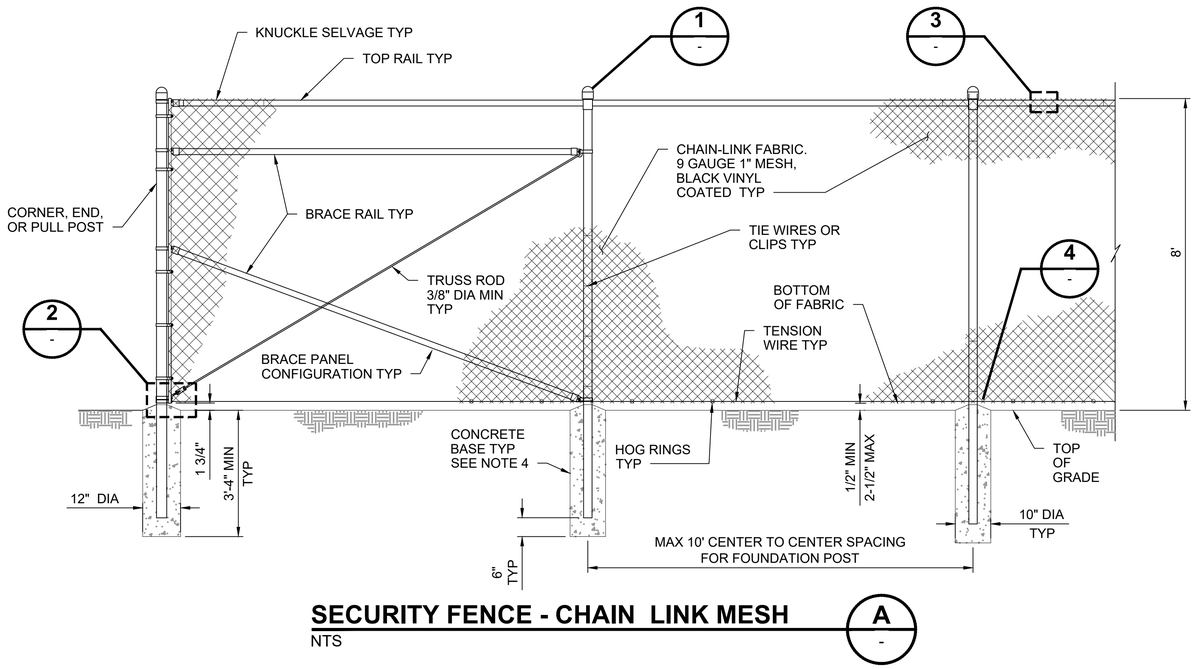


SECURITY FENCE - CHAIN LINK MESH (A)

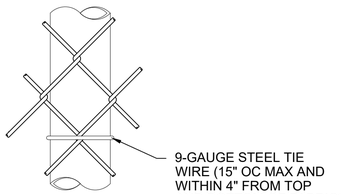
NTS

STEEL POST SCHEDULE	
USE AND SELECTION	**MINIMUM OUTSIDE DIMENSIONS (NOMINAL)**
	FABRIC WIDTH 108" AND OVER
CORNER, END & PULL POSTS	
TUBULAR - ROUND	4.00" OD
LINE POSTS	
TUBULAR - ROUND	2.875" OD
TOP, BOTTOM & BRACE RAILS	
TUBULAR - ROUND	1.66" OD
TUBULAR - SQUARE	1.50" SQ
H-SECTION	1.625" X 1.5"
C-SECTION (ROLL-FORMED)	1.625" X 1.5"

NOTES:

1. SEE SPECIFICATIONS SECTION 32 31 13 FOR SECURITY CHAIN LINK FENCE MATERIALS DETAILS.
2. CONSTRUCTION WIRE TIES, RAILS, POSTS, AND BRACES ON THE SECURE SIDE OF THE THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE OF THE SECURE AREA.
3. FENCE FABRIC SHALL BE BLACK VINYL COATED. POSTS , RAILS, AND HARDWARE SHALL BE BLACK POWDER COATED.
4. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
5. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
6. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.

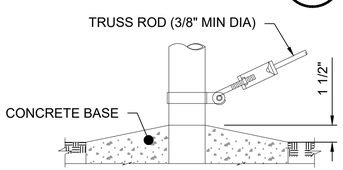
PLAN VIEW



SIDE VIEW

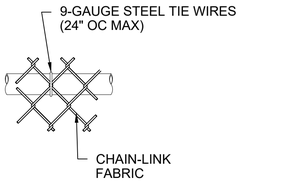
ROUND POST DETAIL (1)

NTS



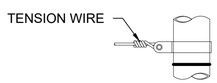
TRUSS AND ROD DETAIL (2)

NTS



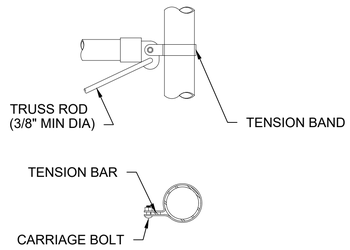
TOP OR RAIL BRACE ATTACHMENT (3)

NTS

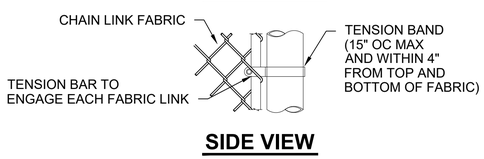


TENSION BAND DETAIL (4)

NTS



PLAN VIEWS



SIDE VIEW

END OR GATE POST DETAIL (5)

NTS

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No.	DATE	DSN	CHK	APP	REVISION	SUBMITTED BY: -	DATE: -	REVIEWED BY: -	DATE: -	

SOUNDTRANSIT

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL

SECURITY FENCE
CHAIN LINK MESH

DRAWING No.: **STD-CSD104**
FACILITY ID:
SHEET No.: REV: 0

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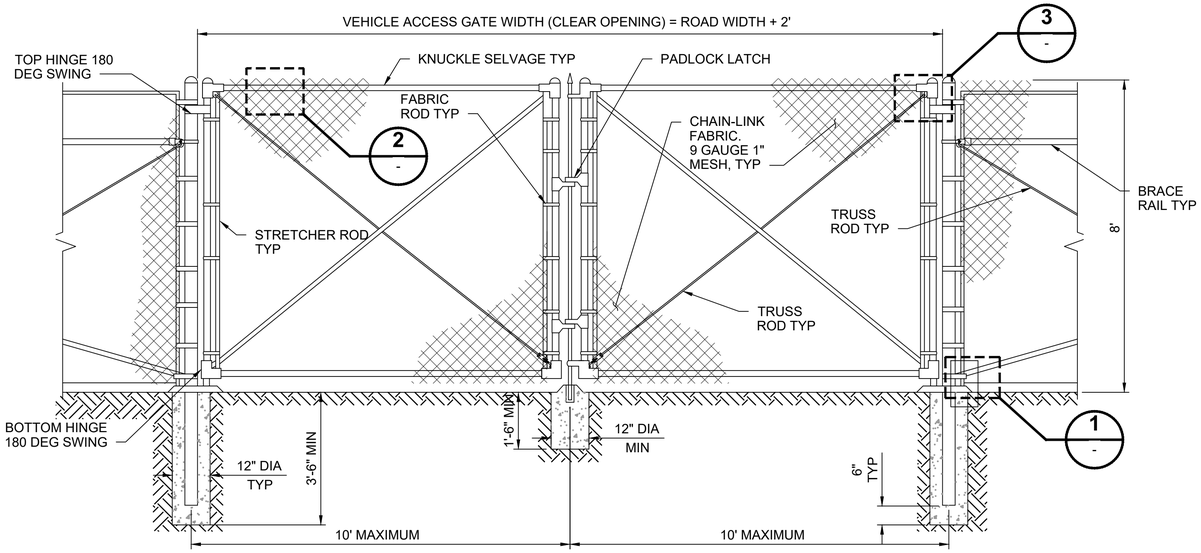
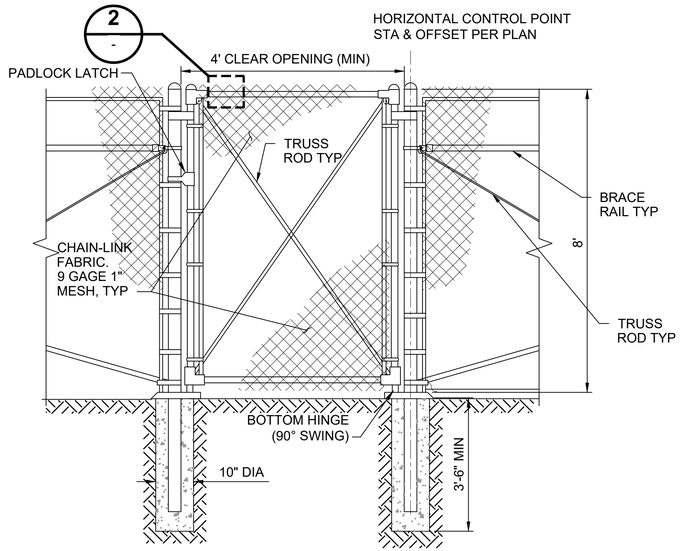


SECURITY FENCE - CHAIN LINK VEHICLE GATE — A

NTS

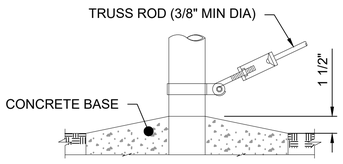


SECURITY FENCE - CHAIN LINK PED SWING GATE — B

NTS

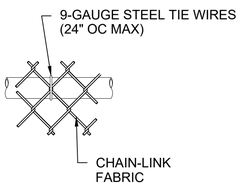
NOTES:

1. SEE SPECIFICATIONS SECTION 32 31 13.53 FOR SECURITY CHAIN LINK FENCE DETAILS.
2. CONSTRUCTION WIRE TIES, RAILS, POSTS, AND BRACES ON THE SECURE SIDE OF THE THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE OF THE SECURE AREA.
3. FENCE FABRIC SHALL BE BLACK VINYL COATED. POSTS, RAILS, AND HARDWARE SHALL BE BLACK POWDER COATED.
4. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
5. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
6. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.



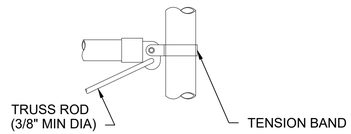
TRUSS AND ROD DETAIL — 1

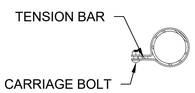
NTS



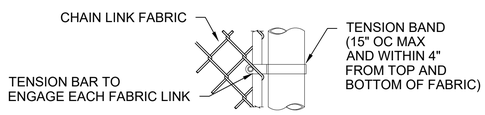
TOP OR RAIL BRACE ATTACHMENT — 2

NTS





PLAN VIEWS



SIDE VIEW

END OR GATE POST DETAIL — 3

NTS

STEEL POST SCHEDULE	
USE AND SELECTION	MINIMUM OUTSIDE DIMENSIONS (NOMINAL)
	FABRIC WIDTH 108" AND OVER
CORNER, END & PULL POSTS	
TUBULAR - ROUND	4.00" OD
LINE POSTS	
TUBULAR - ROUND	2.875" OD
TOP, BOTTOM & BRACE RAILS	
TUBULAR - ROUND	1.66" OD
TUBULAR - SQUARE	1.50" SQ
H-SECTION	1.625" X 1.5"
C-SECTION (ROLL-FORMED)	1.625" X 1.5"

No.	DATE	DSN	CHK	APP	REVISION
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0	2/2024	----	----	----	2024 NEW STANDARD DRAWINGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

LINE IS 1" AT FULL SCALE

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD105
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
SECURITY FENCE
CHAIN LINK FENCE GATES

DRAWING No.: STD-CSD105
FACILITY ID:
SHEET No.: REV: 0

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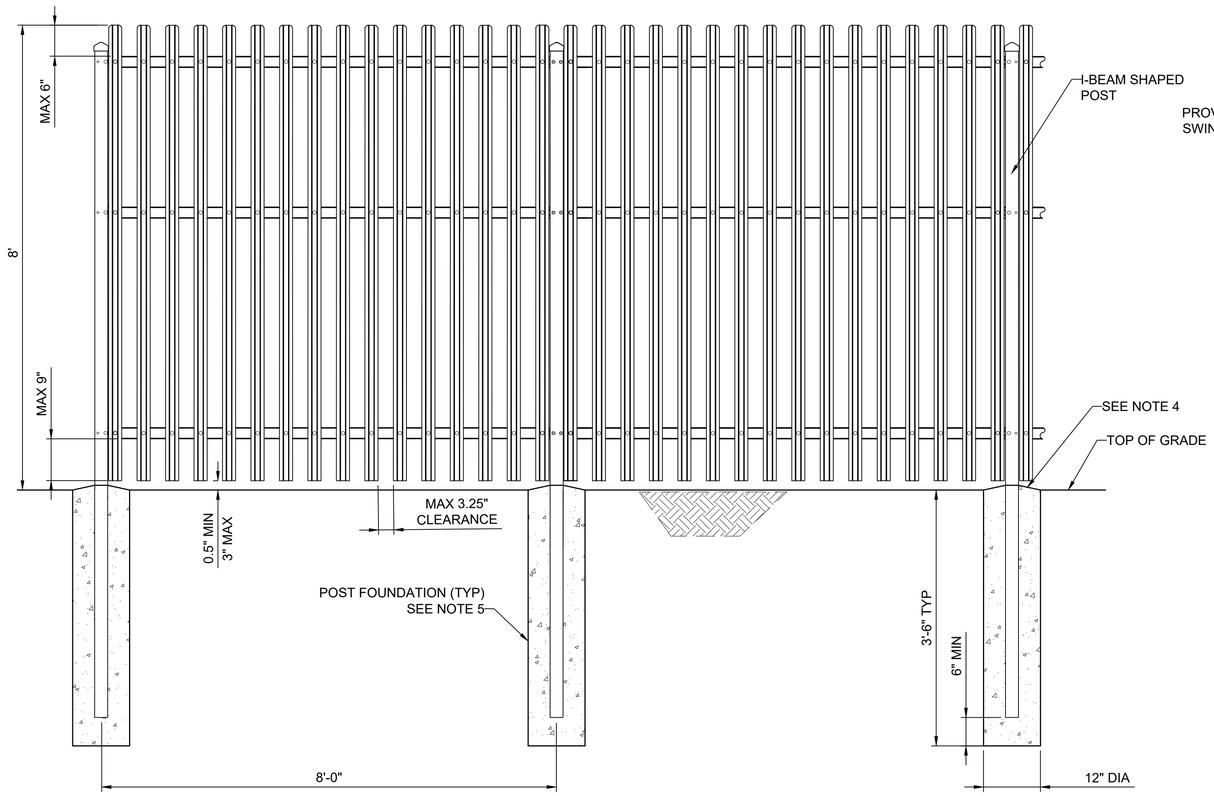
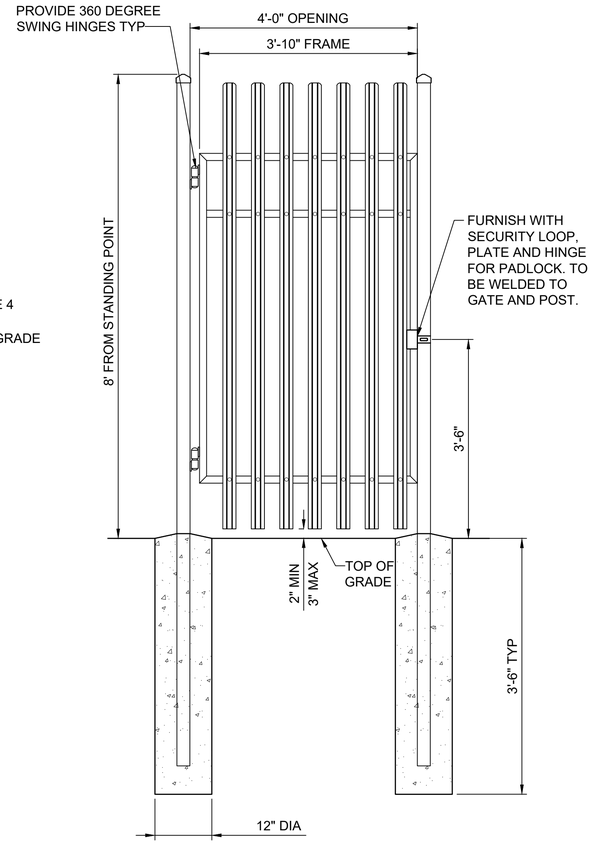


SECURITY FENCE - STEEL PICKET FENCE (A)
NTS



SECURITY FENCE - STEEL PICKET SWING GATE (1)
NTS

NOTES:

1. SEE SPECIFICATIONS SECTION 32 31 56 FOR STEEL PICKET FENCE REQUIREMENTS.
2. POSTS ARE CENTERED ON WALL, UNLESS OTHERWISE NOTED.
3. POST SHALL BE INSTALLED INTERNAL TO SECURE SOUND TRANSIT PROPERTY, TO BE VERIFIED BY THE DOR.
4. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
5. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
6. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.

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DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: - | DATE: - | REVIEWED BY: - | DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

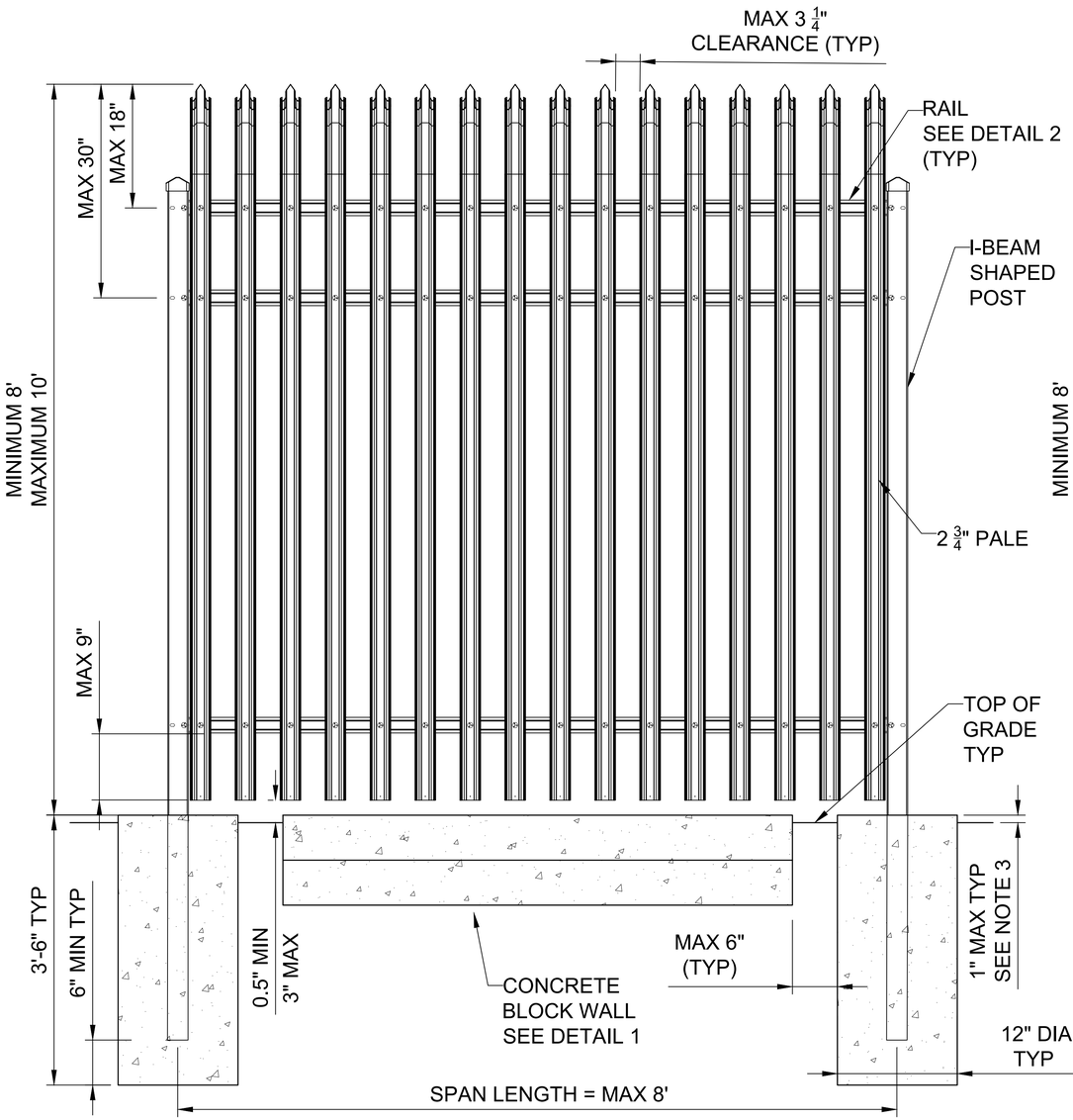
SCALE: AS NOTED
FILENAME: STD-CSD106
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
SECURITY FENCE
STEEL PICKET FENCE GATES

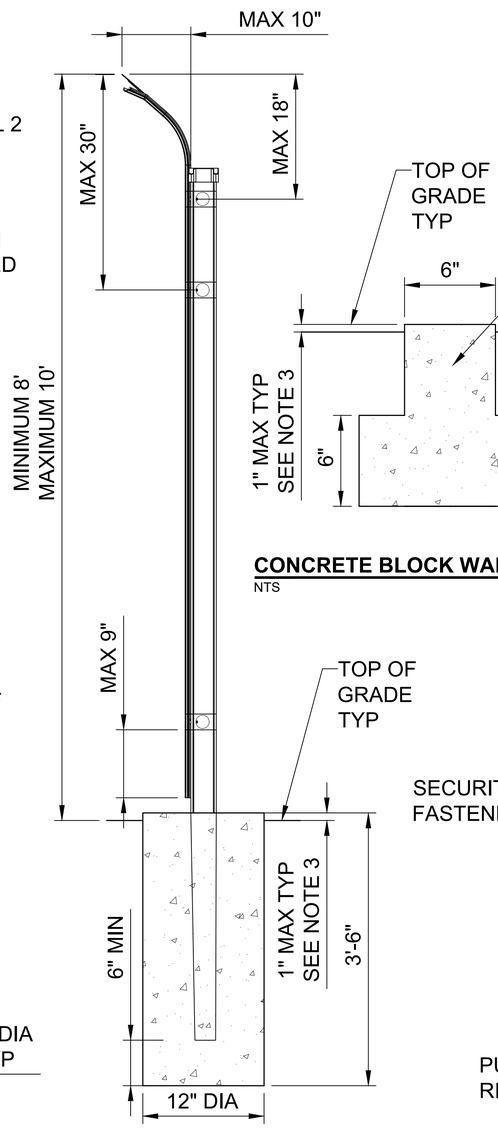
DRAWING No.: **STD-CSD106**
FACILITY ID:
SHEET No.: REV: 0

NOTES:

1. SEE SPECIFICATIONS SECTION 32 31 56 FOR STEEL PICKET FENCE REQUIREMENTS.
2. POST SHALL BE INSTALLED INTERNAL TO SECURE SOUND TRANSIT PROPERTY, TO BE VERIFIED BY THE DOR.
3. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
4. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
5. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS

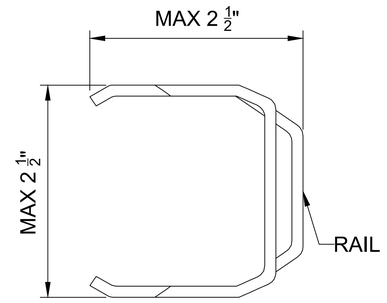


HIGH-SECURITY PICKET FENCE - FRONT VIEW A
NTS -

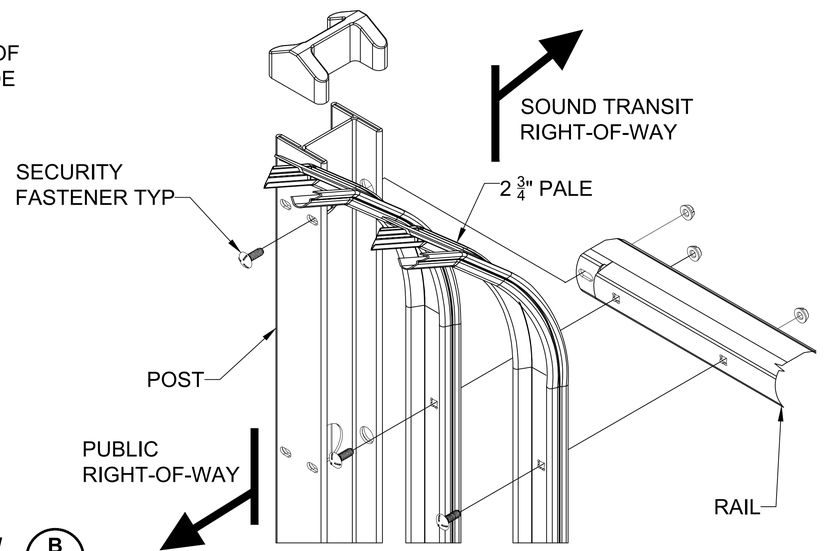


HIGH-SECURITY PICKET FENCE - SIDE VIEW B
NTS -

CONCRETE BLOCK WALL 1
NTS -



RAIL DETAILS 2
NTS -



HIGH-SECURITY PICKET FENCE - ISOMETRIC VIEW C
NTS -

No.	DATE	DSN	CHK	APP	REVISION
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CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD107
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
HIGH SECURITY FENCE
STEEL PICKET FENCE

DRAWING No.: **STD-CSD107**
FACILITY ID:
SHEET No.: REV: 0

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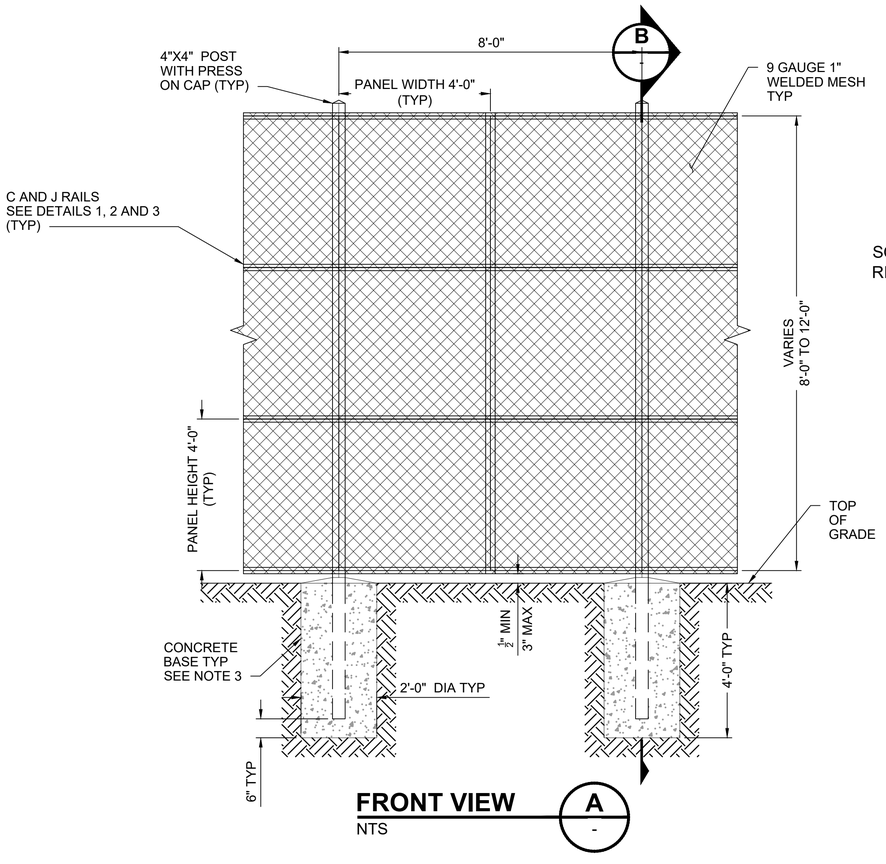
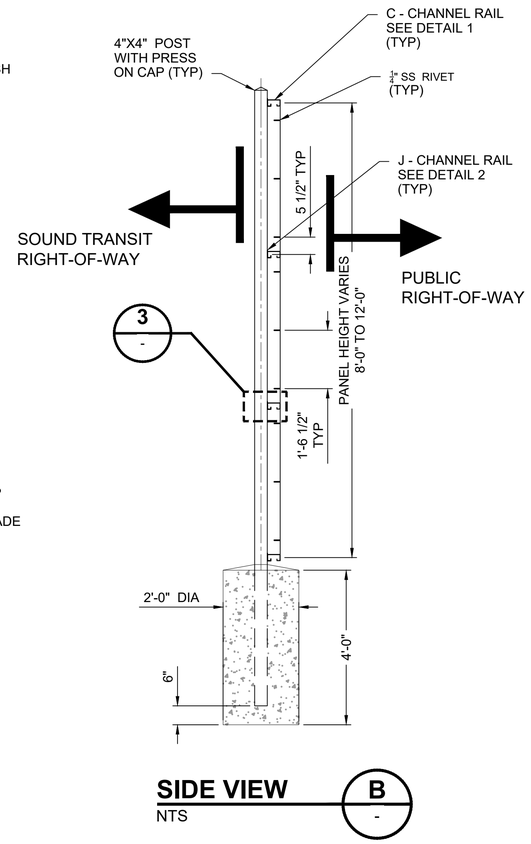


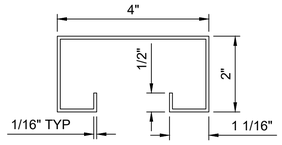
FRONT VIEW A - NTS



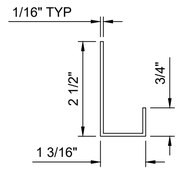
SIDE VIEW B - NTS

NOTES:

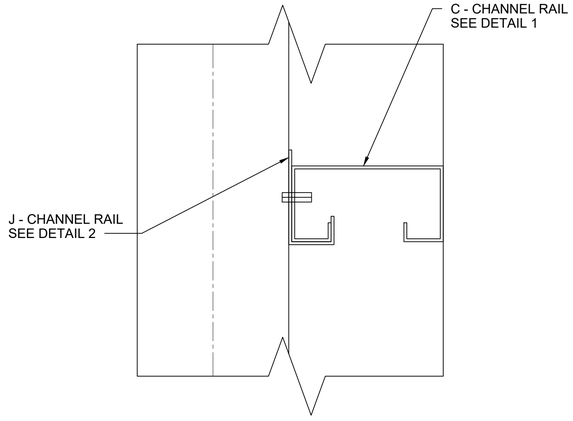
1. FENCE MESH SHALL BE BLACK VINYL COATED. POSTS , RAILS, AND HARDWARE SHALL BE BLACK POWDER COATED.
2. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
3. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
4. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.



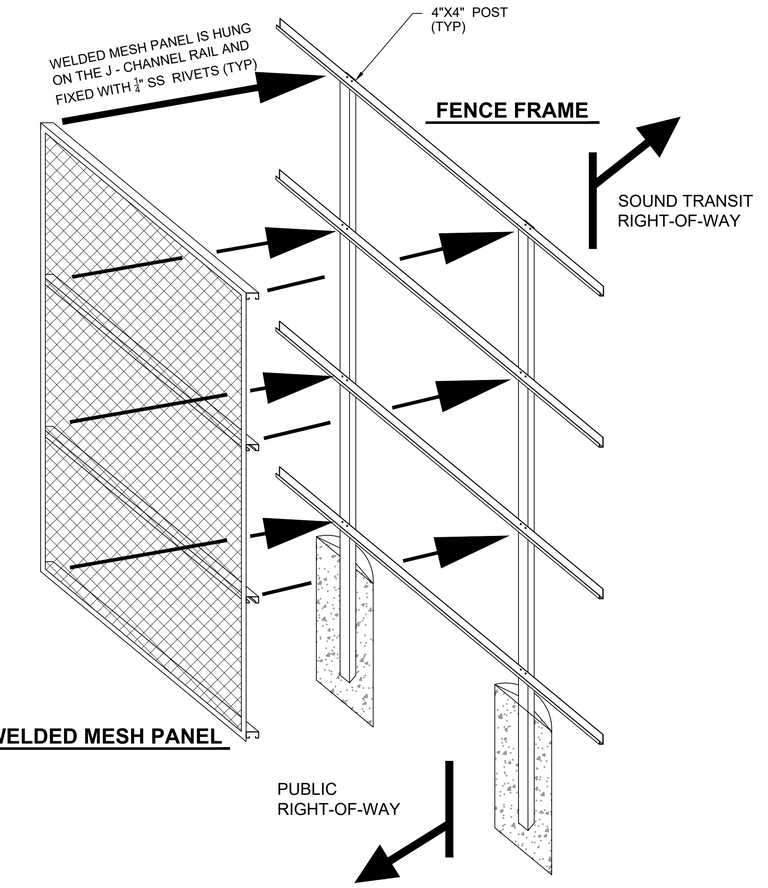
C - CHANNEL RAIL DETAIL 1 - NTS



J - CHANNEL RAIL DETAIL 2 - NTS



C AND J CHANNEL JOINT DETAIL 3 - NTS



ISOMETRIC VIEW C - NTS

No.	DATE	DSN	CHK	APP	REVISION
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APPROVED BY:

SUBMITTED BY: -
DATE: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD108
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
HIGH SECURITY FENCE
WELDED MESH FENCE

DRAWING No.: **STD-CSD108**
FACILITY ID:
SHEET No.: REV: 0

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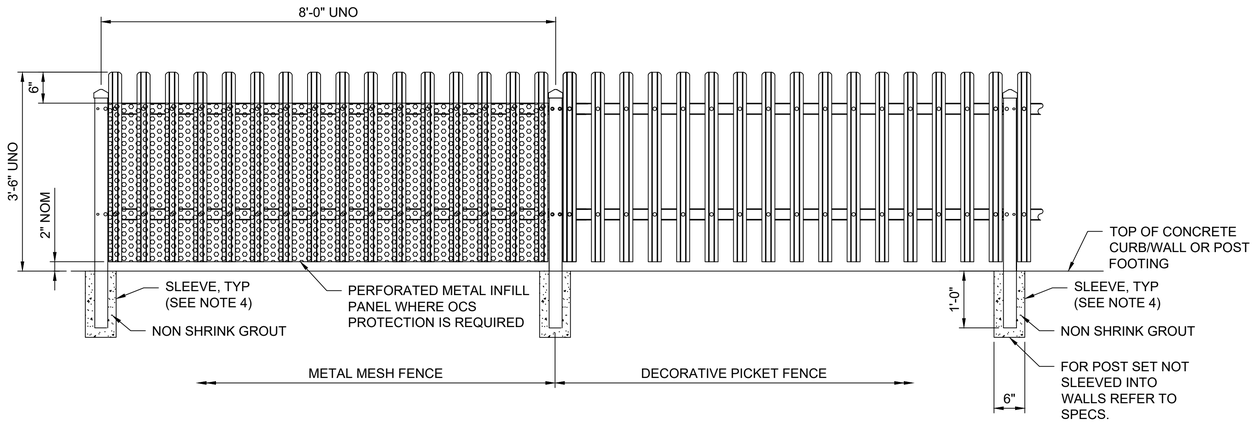
NOTES:

1. POSTS ARE CENTERED ON WALL, UNLESS OTHERWISE NOTED.
2. SEE SPECIFICATIONS SECTION 32 31 56 FOR DECORATIVE PICKET FENCE DETAILS, DECORATIVE PICKET FENCE GATE AND METAL MESH FENCE DETAILS.
3. SEE SPECIFICATIONS SECTION 32 31 13 FOR CHAIN LINK FENCE DETAILS.
4. SLEEVE SHALL BE SCHEDULE 40 PVC. SEE SLEEVE SIZE TABLE FOR SLEEVE SIZES.
5. FENCE TYPE ACCOMMODATES SLOPES UP TO 36" IN 8'-0". INFILL PANELS TO BE VERTICAL WITH TOP/BOTTOM CUT TO SLOPE REQUIRED.
6. FOR STEPPED CONDITIONS, STEP CURBS/WALLS ON 8'-0" MODULE TO WORK WITH FENCE POST MODULE OF 8', UNO.
7. POST SHALL BE INSTALLED INTERNAL TO THE SECURED SOUND TRANSIT PROPERTY, TO BE VERIFIED BY THE ENGINEER.

POST SLEEVE SCHEDULE	
POST SIZE	SLEEVE SIZE
4" DIAMETER	5" DIAMETER *
2 7/8" DIAMETER	4" DIAMETER
3" SQUARE	6" DIAMETER *

* SEE DETAIL 1 /STD-SED142 FOR ADDITIONAL REINFORCEMENT.



DECORATIVE PICKET / METAL MESH FENCE

SCALE: 3/4" = 1'-0"

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD109
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
PEDESTRIAN FENCING
STEEL PICKET FENCE

DRAWING No.: **STD-CSD109**
FACILITY ID:
SHEET No.: REV: 0

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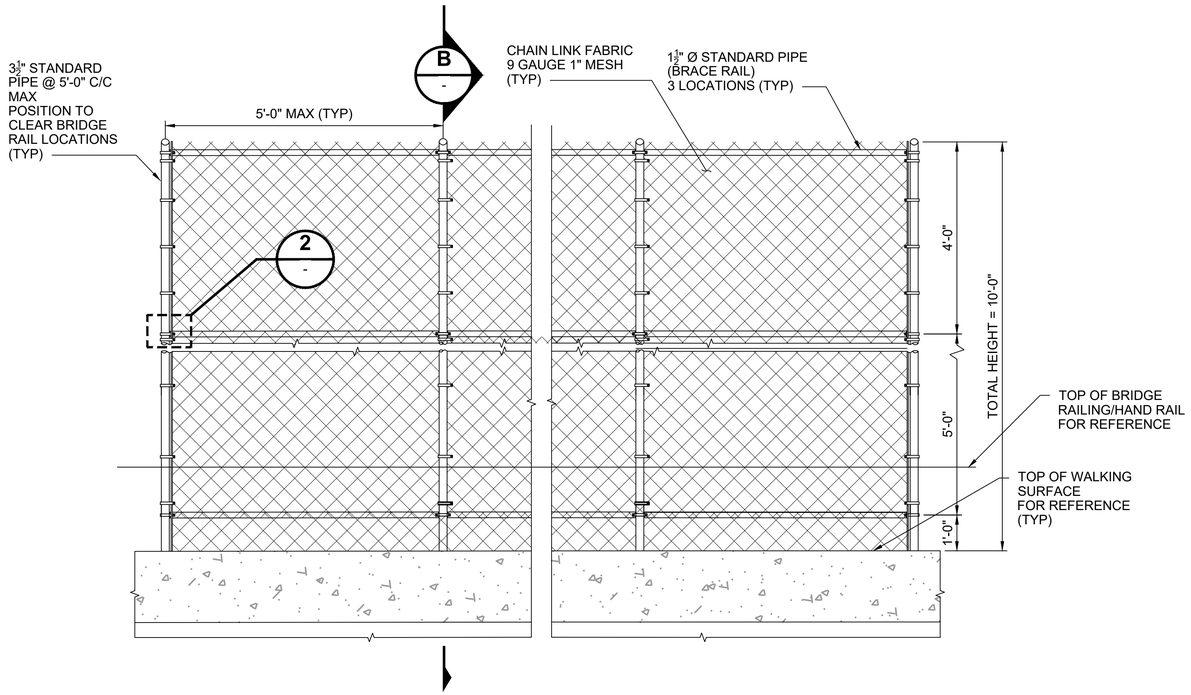
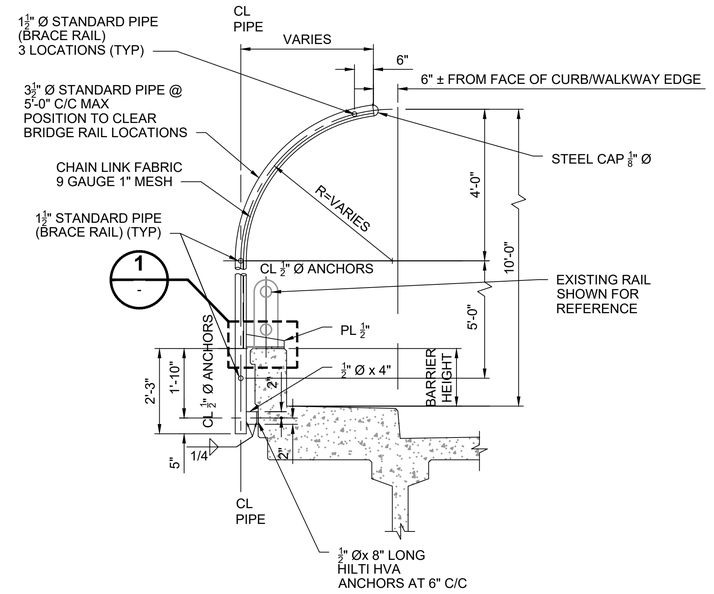


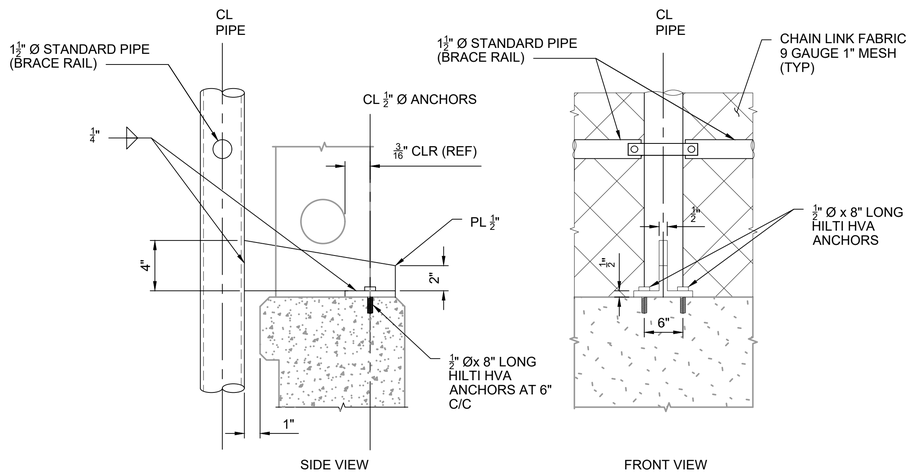
THROW PROTECTION FENCE - FRONT VIEW (A)

NTS



THROW PROTECTION FENCE - SIDE VIEW (B)

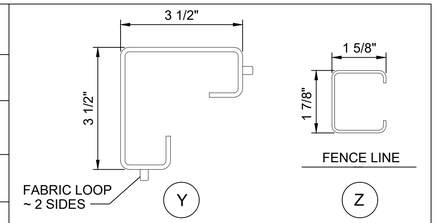
NTS

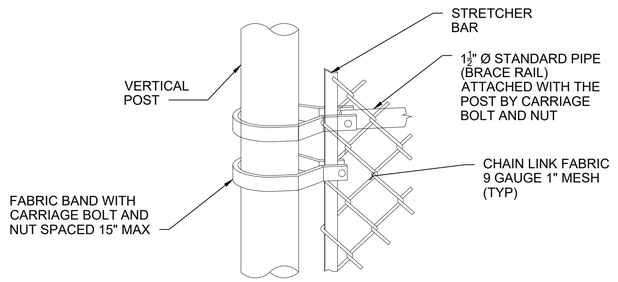


MOUNTING/ANCHOR DETAILS (1)

NTS

POST AND RAIL SPECIFICATIONS			
POST	PIPE	ROLL FORMED	
	NOM SIZE SCH 40 ID	SECTION	WEIGHT LB/FT
VERTICAL POST	3 1/2" DIA	Y	5.10
BRACE POST	1 1/2" DIA	Z	1.85





FENCE ATTACHMENT DETAILS (2)

NTS

No.	DATE	DSN	CHK	APP	REVISION
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DRAWN BY:
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APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD110
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
THROW PROTECTION FENCING DETAILS

DRAWING No.: **STD-CSD110**
FACILITY ID:
SHEET No.:
REV: 0

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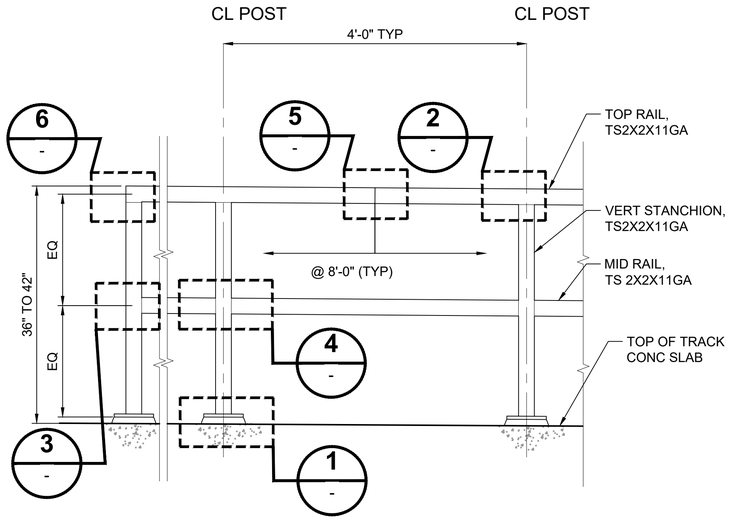
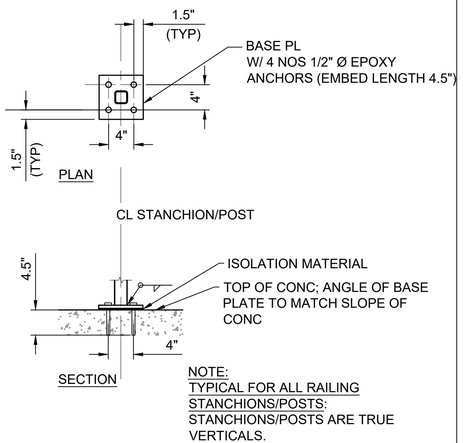
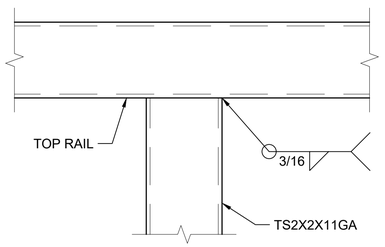


BASE PLATE 1
NTS



NOTES:

1. SEE SPECIFICATIONS SECTION 32 31 56 FOR INTER-TRACK FENCE MATERIALS AND SIZE REQUIREMENTS.
2. SEE SPECIFICATIONS SECTION 26 05 26 FOR FENCE AND GATE GROUNDING REQUIREMENTS.
3. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.



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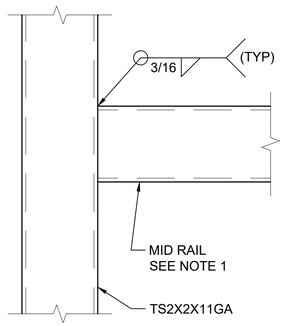
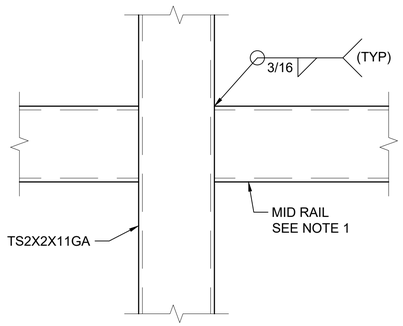
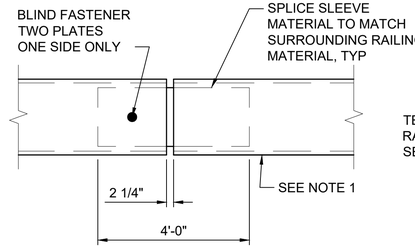


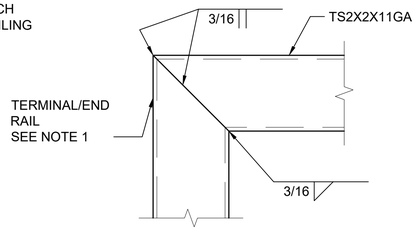
TYPICAL END SECTION 3
NTS



TYPICAL MID OR BOTTOM RAIL 4
NTS



TYPICAL SPLICE 5
NTS



TERMINAL POST 6
NTS

No.	DATE	DSN	CHK	APP	REVISION
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DRAWN BY:
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APPROVED BY:

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DATE: -
REVIEWED BY: -
DATE: -

SCALE: AS NOTED
FILENAME: STD-CSD111
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
INTER-TRACK FENCE
LINK LIGHT RAIL

DRAWING No.: **STD-CSD111**
FACILITY ID:
SHEET No.: REV: 0

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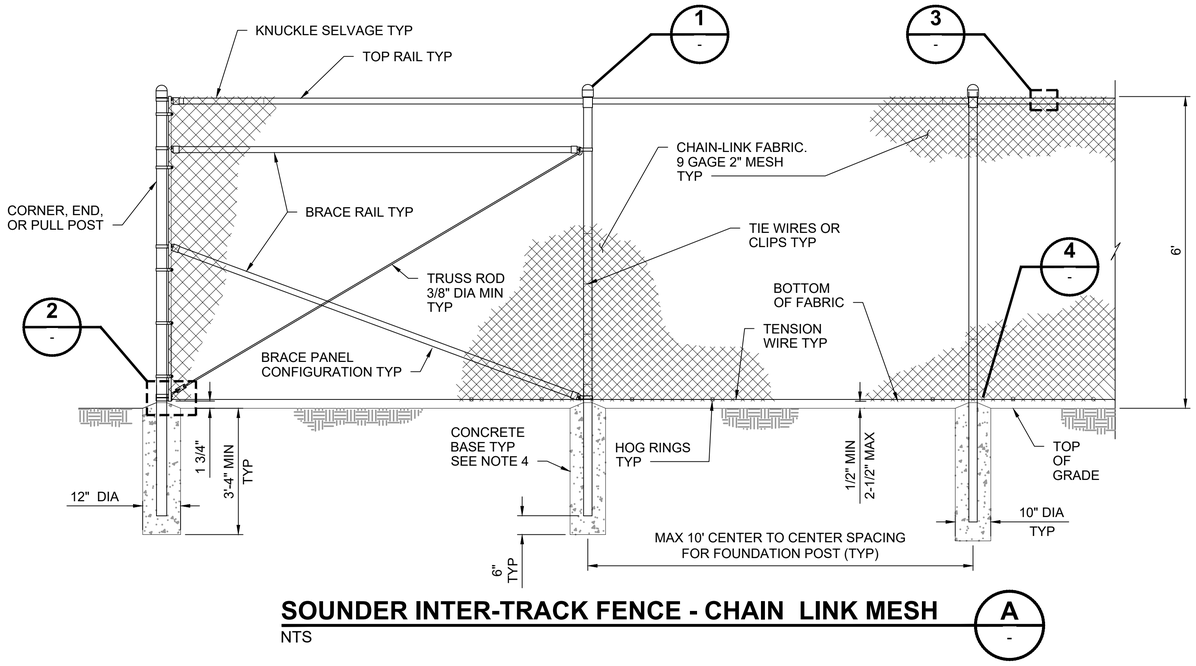


SOUNDER INTER-TRACK FENCE - CHAIN LINK MESH (A)

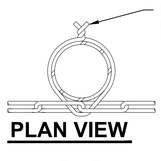
NTS

NOTES:

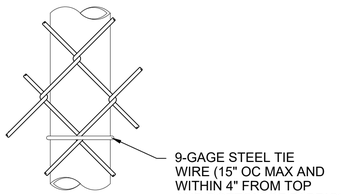
1. SEE SPECIFICATIONS SECTION 32 31 13.53 FOR CHAIN LINK FENCE MATERIALS DETAILS.
2. CONSTRUCTION WIRE TIES, RAILS, POSTS, AND BRACES ON THE SECURE SIDE OF THE THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE OF THE SECURE AREA.
3. FENCE FABRIC MUST BE BLACK VINYL COATED. POSTS , RAILS, AND HARDWARE SHALL BE BLACK POWDER COATED.
4. MOUND TOP OF CONCRETE BASE 1" ABOVE SURROUNDING GRADE.
5. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
6. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.

STEEL POST SCHEDULE

USE AND SELECTION	MINIMUM OUTSIDE DIMENSIONS (NOMINAL)
	FABRIC WIDTH 108" AND OVER
CORNER, END & PULL POSTS	
TUBULAR - ROUND	4.00" OD
LINE POSTS	
TUBULAR - ROUND	2.875" OD
TOP, BOTTOM & BRACE RAILS	
TUBULAR - ROUND	1.66" OD
TUBULAR - SQUARE	1.50" SQ
H-SECTION	1.625" X 1.5"
C-SECTION (ROLL-FORMED)	1.625" X 1.5"



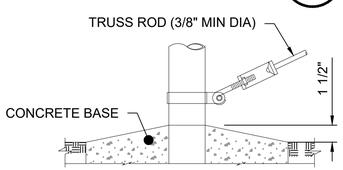
PLAN VIEW



SIDE VIEW

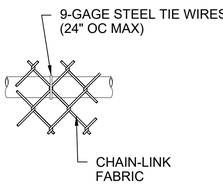
ROUND POST DETAIL (1)

NTS



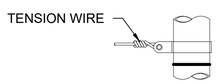
TRUSS AND ROD DETAIL (2)

NTS



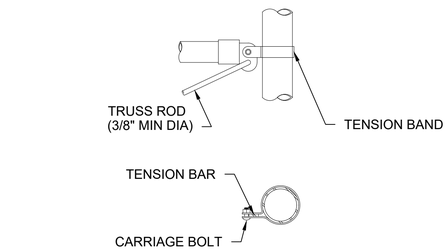
TOP OR RAIL BRACE ATTACHMENT (3)

NTS

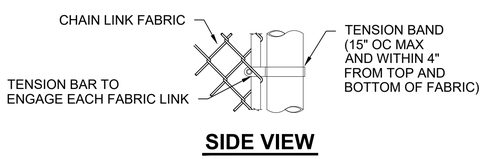


TENSION BAND DETAIL (4)

NTS



PLAN VIEWS



SIDE VIEW

END OR GATE POST DETAIL (5)

NTS

No.	DATE	DSN	CHK	APP	REVISION
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0	2/2024	----	----	----	2024 NEW STANDARD DRAWINGS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD112
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
INTER-TRACK FENCE
SOUNDER

DRAWING No.: STD-CSD112
FACILITY ID:
SHEET No.: REV: 0

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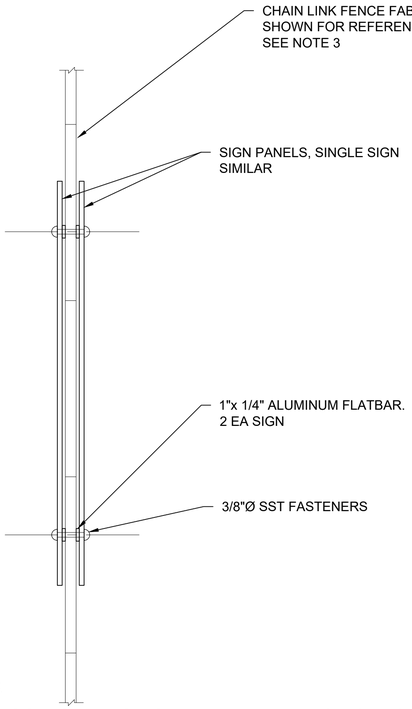
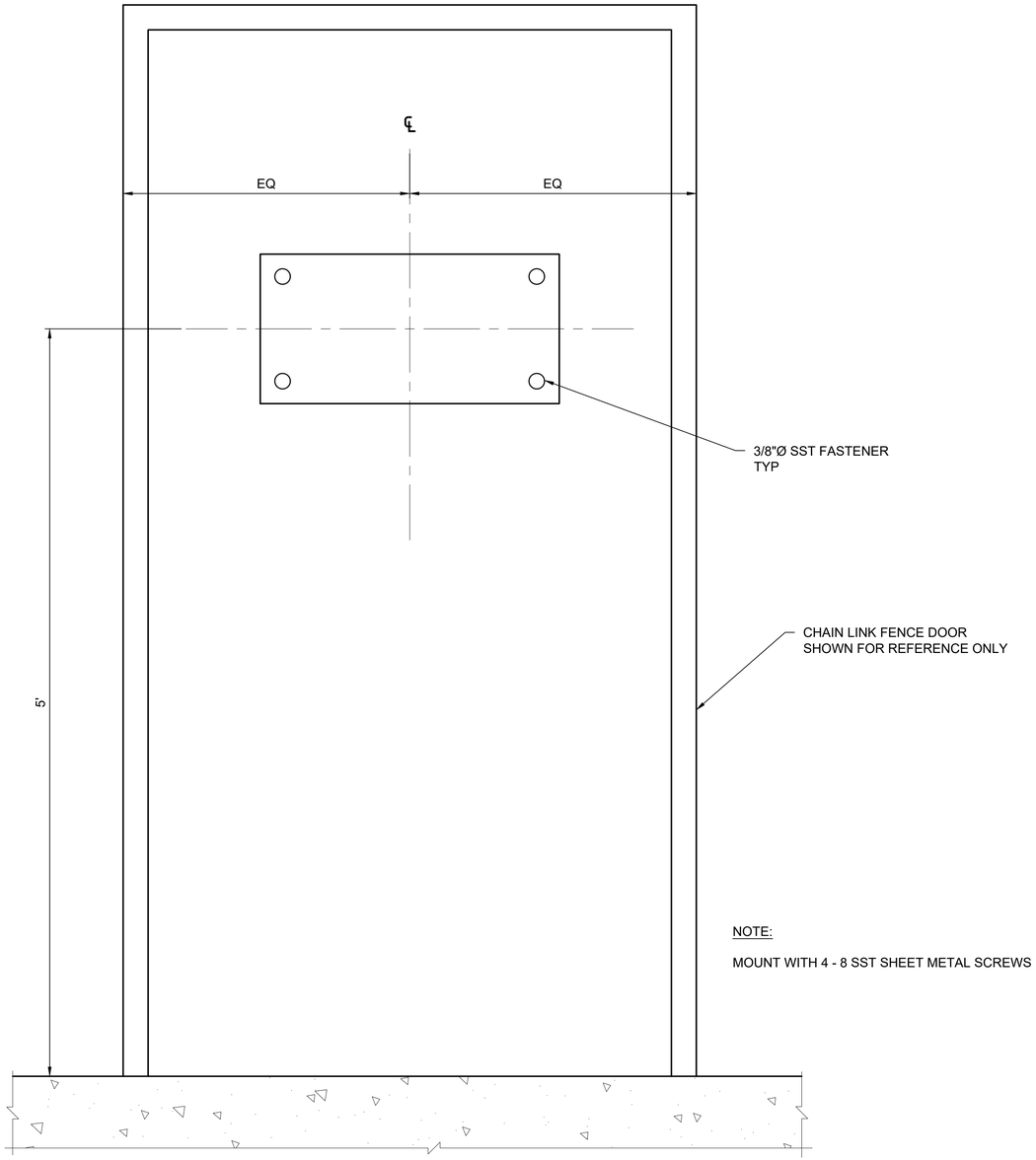


NOTE:

SINGLE SIGN INSTALLATION TO UTILIZE 4 ALUMINUM BACKING BARS AS ABOVE.

FENCE MOUNT SIGN DETAIL 1
NTS -



NOTE:

MOUNT WITH 4 - 8 SST SHEET METAL SCREWS

GATE MOUNT SIGN DETAIL 2
NTS -

No.	DATE	DSN	CHK	APP	REVISION
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APPROVED BY:

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD113
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL

SIGNAGE MOUNTING ON CHAINLINK FENCE & GATE

DRAWING No.: **STD-CSD113**
FACILITY ID:
SHEET No.: REV: 0

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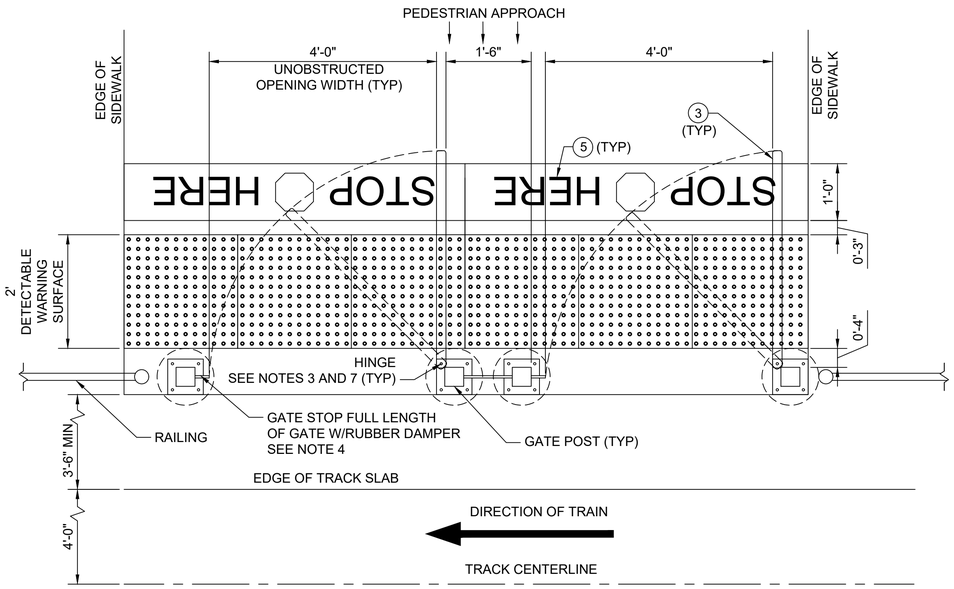
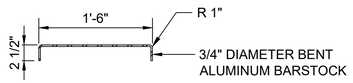
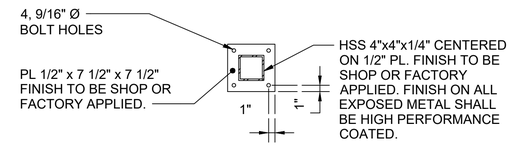


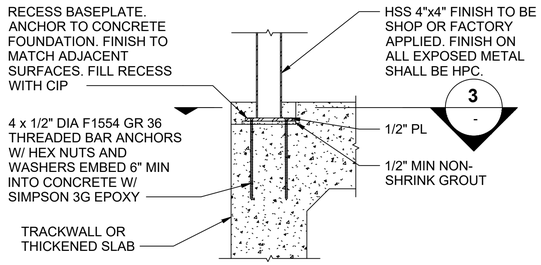
PEDESTRIAN CROSSING SWING GATE INSTALLATION 1 -
NTS



GATE PULL HANDLE DETAIL 2 -
NTS



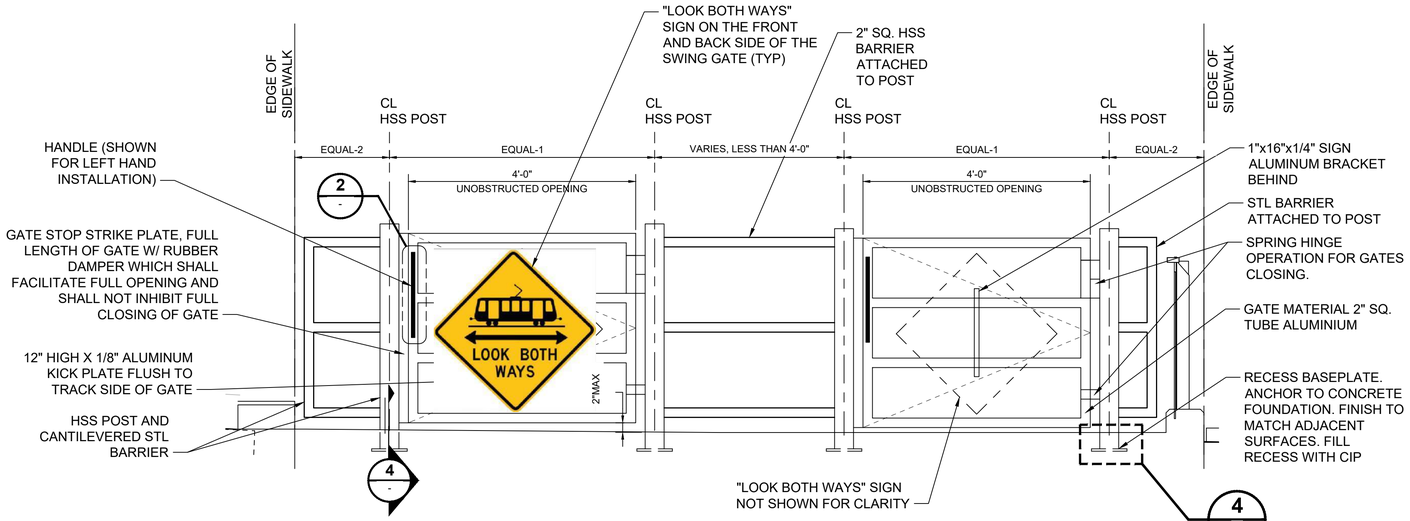
GATE POST BASE PLATE 3 -
NTS



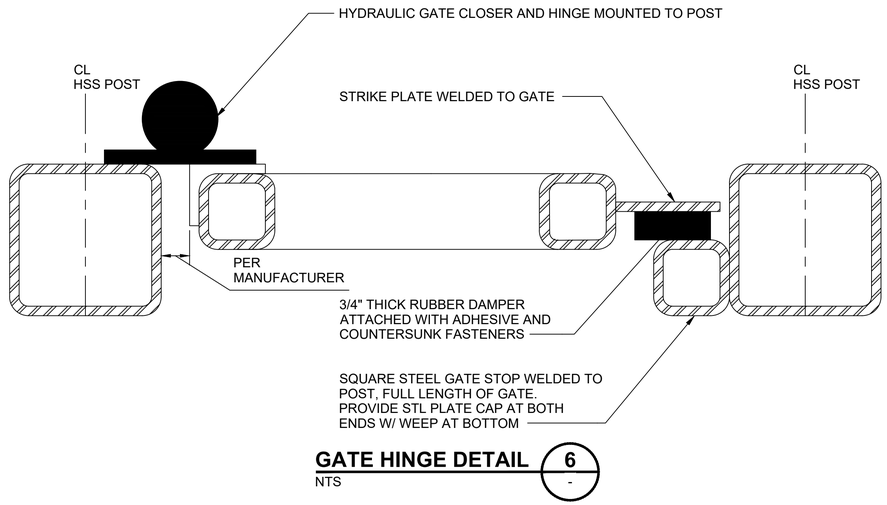
SECTION AT GATE POST 4 -
NTS

NOTES:

1. RECESS BASEPLATE. ANCHOR TO CONCRETE FOUNDATION. FINISH TO MATCH ADJACENT SURFACES. FILL RECESS WITH CONCRETE. SEE SPECIFICATION SECTION 03 30 00 F0R CAST-IN-PLACE CONCRETE REQUIREMENTS.
2. FINISH TO BE SHOP OR FACTORY APPLIED. FINISH ON ALL EXPOSED METAL SHALL BE GALVANIZED WITH ST CHARCOAL GRAY POWDER COAT FINISH.
3. GATES SHALL SWING OPEN AWAY FROM TRACKWAY AND RETURN TO THE CLOSED POSITION THROUGH SPRING HINGE. GATES SHALL TAKE LESS THAN 5 POUNDS OF PRESSURE TO OPEN. HINGES ON GATES MUST PROVIDE ENOUGH TENSION TO CONSISTENTLY CLOSE GATE COMPLETELY. COORDINATE WITH SOUND TRANSIT PASSENGER EXPERIENCE DEPARTMENT TO HAVE THEIR STAFF MONITOR DURING INSTALLATION.
4. DAMPER SHALL BE ADDED TO EACH GATE. DAMPER SHALL FACILITATE FULL OPENING AND SHALL NOT INHIBIT FULL CLOSING OF GATE.
5. 6" WHITE LETTERS ON RED NON-SLIP THERMOPLASTIC BACKGROUND BONDED TO PAVEMENT.
6. FOR PEDESTRIAN SWING GATE, FURNISH AND INSTALL A PUSH TO EXIT SIGN ON THE TRACK SIDE OF THE SWING GATE AND A LOOK BOTH WAYS SIGN ON THE SIDE OF THE SWING GATE FACING AWAY FROM THE TRACKS.
7. GATE HINGE ASSEMBLY MUST BE MADE OF STEEL OR ALUMINUM.
8. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.



PEDESTRIAN CROSSING SWING GATE ELEVATION 5 -
NTS



GATE HINGE DETAIL 6 -
NTS

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DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD201
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
PEDESTRIAN CROSSING SWING GATE DETAILS

DRAWING No.: **STD-CSD201**
FACILITY ID:
SHEET No.: REV: 1

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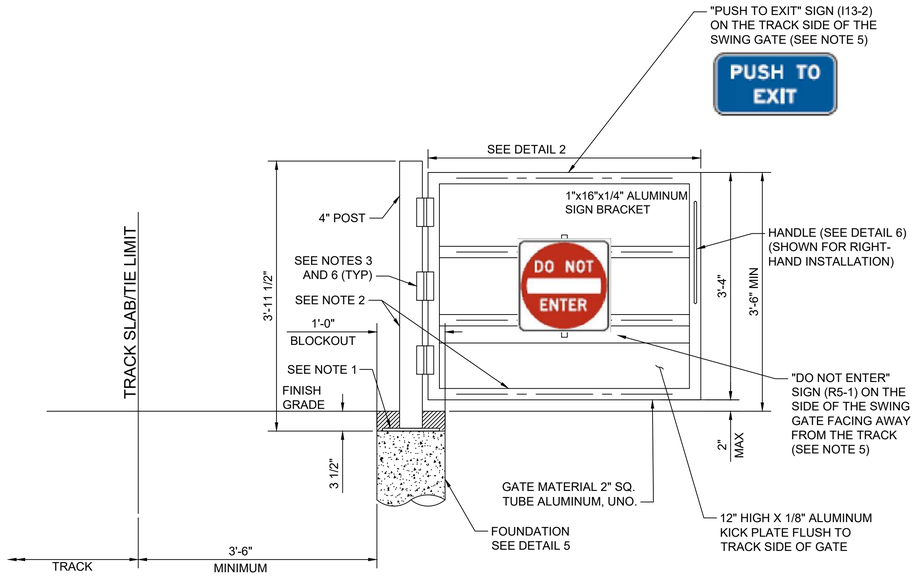
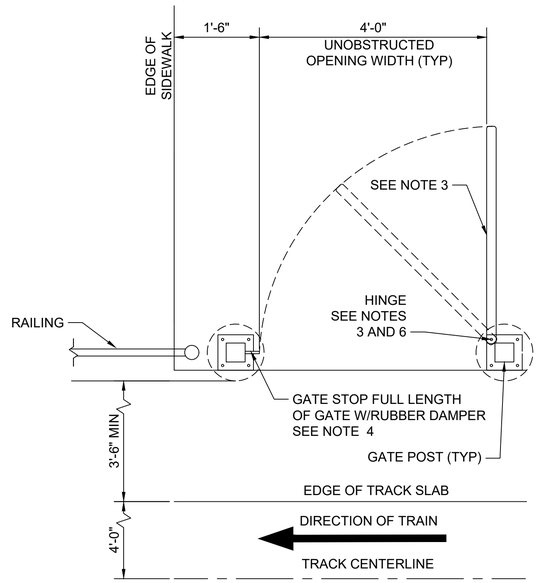


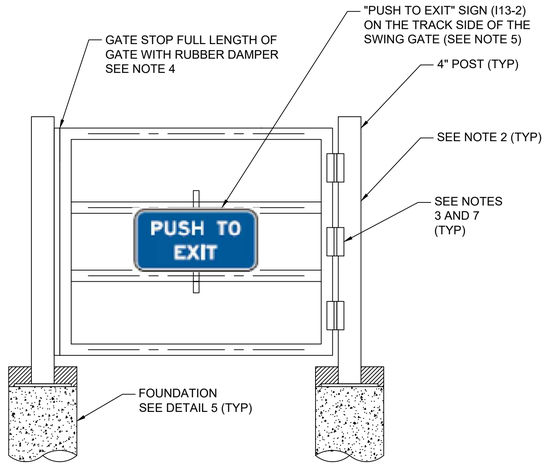
PEDESTRIAN ESCAPE ROUTE SWING GATE 1
NTS



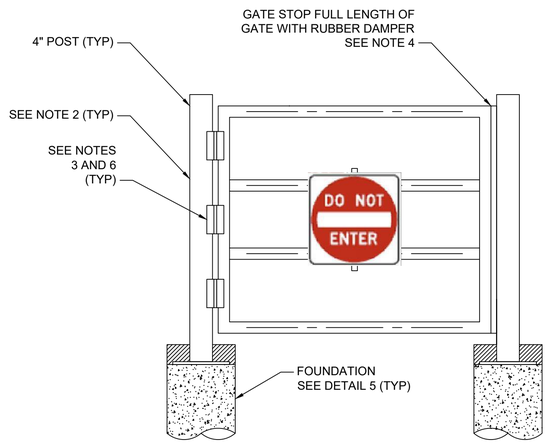
PEDESTRIAN ESCAPE ROUTE SWING GATE INSTALLATION 2
NTS

NOTES:

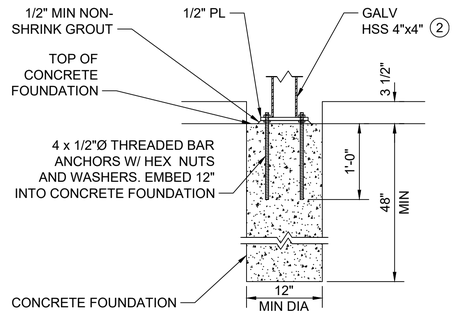
1. RECESS BASEPLATE. ANCHOR TO CONCRETE FOUNDATION. FINISH TO MATCH ADJACENT SURFACES. FILL RECESS WITH CONCRETE. SEE SPECIFICATION SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS.
2. FINISH TO BE SHOP OR FACTORY APPLIED. FINISH ON ALL EXPOSED METAL SHALL BE GALVANIZED WITH ST CHARCOAL GRAY POWDER COAT FINISH.
3. GATES SHALL SWING OPEN AWAY FROM TRACKWAY AND RETURN TO THE CLOSED POSITION THROUGH SPRING HINGE. GATES SHALL TAKE LESS THAN 5 POUNDS OF PRESSURE TO OPEN. HINGES ON GATES MUST PROVIDE ENOUGH TENSION TO CONSISTENTLY CLOSE GATE COMPLETELY. COORDINATE WITH SOUND TRANSIT PASSENGER EXPERIENCE DEPARTMENT TO HAVE THEIR STAFF MONITOR DURING INSTALLATION. PROVIDE NOTIFICATION OF INSTALLATION TO SOUND TRANSIT STAFF PER CONTRACT SPECIFICATION.
4. DAMPER SHALL BE ADDED TO EACH GATE. DAMPER SHALL FACILITATE FULL OPENING AND SHALL NOT INHIBIT FULL CLOSING OF GATE.
5. FOR ESCAPE ROUTE PEDESTRIAN SWING GATE, FURNISH AND INSTALL A PUSH TO EXIT SIGN ON THE TRACK SIDE OF THE SWING GATE AND A DO NOT ENTER SIGN ON THE SIDE OF THE SWING GATE FACING AWAY FROM THE TRACKS.
6. GATE HINGE ASSEMBLY MUST BE MADE OF STEEL OR ALUMINUM.
7. SEE SOUND TRANSIT STANDARD DETAIL SHEET JGD-101 FOR GROUNDING DETAILS.



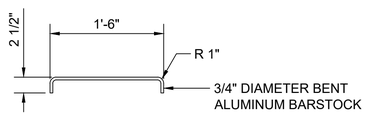
VIEW FROM THE TRACK SIDE 3
NTS



VIEW FROM THE PUBLIC ROW SIDE 4
NTS



FOUNDATION 5
NTS



HANDLE DETAIL 6
NTS

No.	DATE	DSN	CHK	APP	REVISION
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APPROVED BY:

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DATE: -

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SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD202
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
PEDESTRIAN ESCAPE ROUTE SWING GATE DETAILS

DRAWING No.: STD-CSD202
FACILITY ID:
SHEET No.: REV: 0

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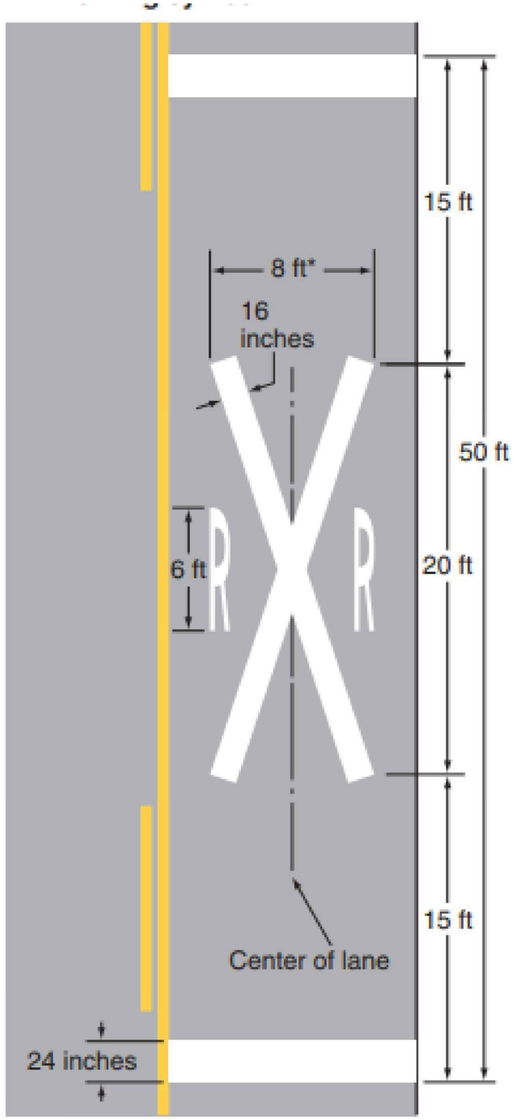
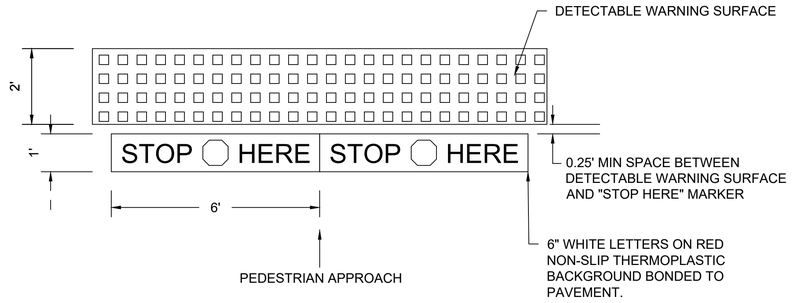


*Width may vary according to lane width

RAILROAD PAVEMENT MARKING (1)
SCALE: NTS

NOTES:

1. NOT ALL PAVEMENT MARKINGS ARE SHOWN.
2. SEE CIVIL DESIGN REQUIREMENTS MANUAL SET 120 - AT-GRADE CROSSINGS FOR PAVEMENT MARKINGS REQUIREMENTS.
3. SEE LATEST VERSION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR PAVEMENT MARKING DETAILS INFORMATION.



(DUAL STOP HERE MARKER WITH DETECTABLE WARNING SURFACE) (2)
SCALE: NTS

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DRAWN BY:
CHECKED BY:
APPROVED BY:

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SCALE: AS NOTED
FILENAME: STD-CSD203
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
PAVEMENT MARKING DETAILS

DRAWING No.: **STD-CSD203**
FACILITY ID:
SHEET No.: REV: 0

DO NOT STOP TRACKS
R8-8
24 X 30

STOP HERE WHEN FLASHING
R8-10
24 X 36

STOP HERE ON RED
R10-6
24 X 36

GRADE CROSSING (CROSSBUCK)
R15-1
48 X 9

NUMBER OF TRACKS (PLAQUE)
R15-2P
27 X 18

LOOK
R15-8
36 X 18

NO MOTOR VEHICLES ON
TRACKS SYMBOL
R15-6
24 X 24

EXAMPLE OF EMERGENCY
NOTIFICATION SIGN
I13-1

GRADE CROSSING ADVANCE
WARNING
W10-1
36 DIA.

USE CROSSWALK LEFT
R9-3B

NO PEDESTRIAN
CROSSING (SYMBOL)
R9-3

USE CROSSWALK RIGHT
R9-3B

NO PEDESTRIAN
CROSSING (SYMBOL)
R9-3

NO PEDESTRIAN CROSSING
(SYMBOL)
R9-3
18 X 18

LINK LOOK BOTH WAYS
30 X 30
W82-1(CA)

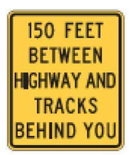
SOUNDER LOOK BOTH WAYS
30 X 30
CUSTOM

NOTES:

1. ALL SIGN DIMENSIONS ARE IN INCHES.
2. SEE LATEST VERSION OF MANUAL ON UNIFORM TRAFFIC CONTROL AND DEVICES (MUTCD) FOR SIGNAGE DETAILS.

LOW GROUND
CLEARANCE
W10-5
36 X 36

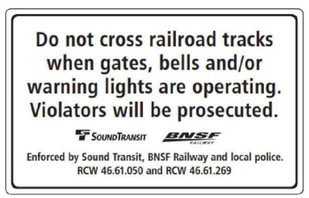
LOW GROUND
CLEARANCE (PLAQUE)
W10-5P
30 X 24



STORAGE SPACE XX FEET BETWEEN
HIGHWAY & TRACKS BEHIND YOU
W10-11B
30 X 36

ROUGH CROSSING
(PLAQUE)
W10-15P
30 X 24

NO TRAIN HORN
(PLAQUE)
W10-9P
30 X 24



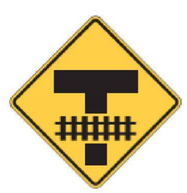
DO NOT CROSS RAILROAD TRACKS...
CUSTOM

DANGER HIGH SPEED TRAINS CAN TRAVEL IN
BOTH DIRECTIONS
CUSTOM

GRADE CROSSING AND INTERSECTION
ADVANCE WARNING
W10-2
36 X 36

GRADE CROSSING AND
INTERSECTION ADVANCE WARNING
W10-3
36 X 36

GRADE CROSSING AND
INTERSECTION ADVANCE WARNING
W10-4
36 X 36



GRADE CROSSING AND INTERSECTION
ADVANCE WARNING
W10-11
36 X 36

SKEWED CROSSING
W10-12
36 X 36

NO TRAIN HORN
W10-9
36 X 36

No.	DATE	DSN	CHK	APP	REVISION
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APPROVED BY:

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD204
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL

AT-GRADE CROSSING SIGNAGE
LINK & SOUNDER

DRAWING No.: **STD-CSD204**
FACILITY ID:
SHEET No.:
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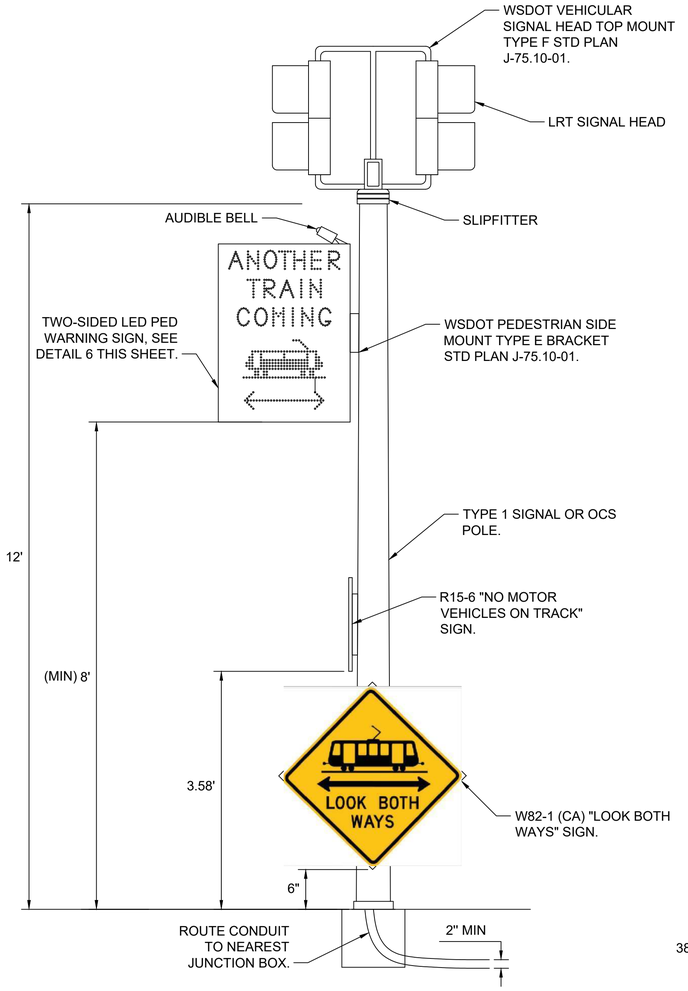
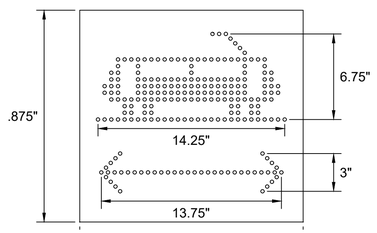


LRT TYPE 1 SIGNAL MOUNT DETAIL — 1

SCALE: NTS



TWO SIDED PART-TIME RESTRICTION ACTIVATED BLANK-OUT PEDESTRIAN WARNING LED SIGN.

THE ARROW HAS 44 RED LED'S.

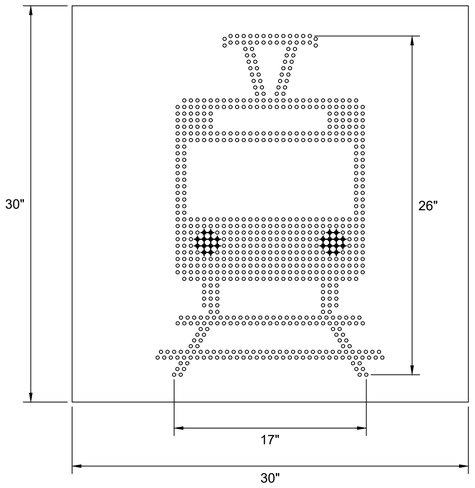
TRAIN & TRACK IMAGE HAS 179 YELLOW/AMBER LED'S.

BLACK NON-REFLECTIVE BACKGROUND PLATE WITH A POLYCARBONATE PROTECTIVE LENS.

HOUSED IN A DOUBLE FACED 8" DEEP CABINET WITH 3" VISORS.

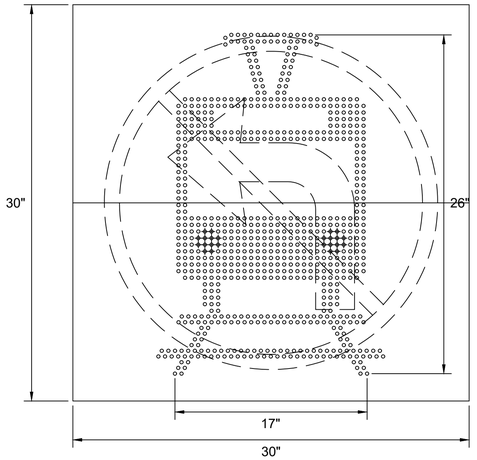
TWO-SIDED LED PEDESTRIAN WARNING SIGN — 2

SCALE: NTS



FLASHING LED TRAIN APPROACHING SIGN — 3

SCALE: NTS



PART TIME RESTRICTION ACTIVATED BLANK-OUT WARNING LED SIGNS - MUTCD W10-7 AND R3-2.

TRACK & TRAIN - YELLOW/AMBER LED'S.

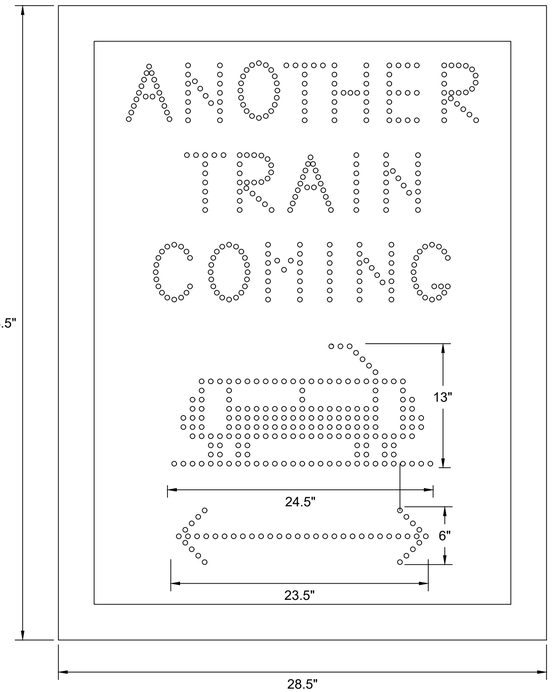
HEADLIGHTS - WHITE LED'S.

BLACK NON-REFLECTIVE BACKGROUND PLATE WITH A POLYCARBONATE PROTECTIVE LENS.

HOUSED IN A HINGED 8" DEEP CABINET WITH 7" VISORS.

FLASHING LED TRAIN APPROACHING SIGN ALTERNATING WITH NO LEFT TURN SIGN — 4

SCALE: NTS



TWO-SIDED LED PEDESTRIAN WARNING SIGN ANOTHER TRAIN COMING — 6

SCALE: NTS

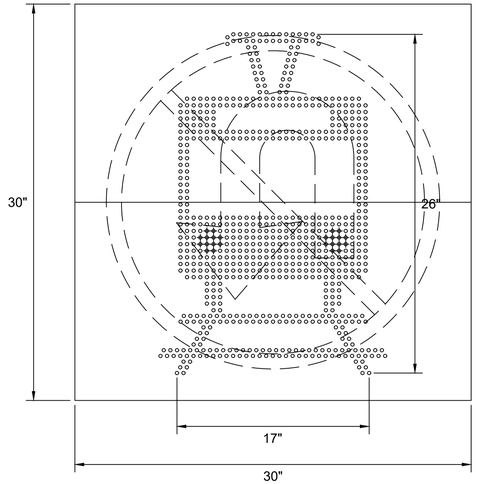
TWO SIDED PART-TIME RESTRICTION ACTIVATED BLANK-OUT PEDESTRIAN WARNING LED SIGN.

THE ARROW HAS 44 RED LED'S.

TRAIN & TRACK IMAGE HAS 179 YELLOW/AMBER LED'S.

BLACK NON-REFLECTIVE BACKGROUND PLATE WITH A POLYCARBONATE PROTECTIVE LENS.

HOUSED IN A DOUBLE FACED 7" DEEP CABINET WITH 13.5" VISORS.



PART TIME RESTRICTION ACTIVATED BLANK-OUT WARNING LED SIGNS - MUTCD W10-7 AND R3-4.

TRACK & TRAIN - YELLOW/AMBER LED'S.

HEADLIGHTS - WHITE LED'S.

BLACK NON-REFLECTIVE BACKGROUND PLATE WITH A POLYCARBONATE PROTECTIVE LENS.

HOUSED IN A HINGED 8" DEEP CABINET WITH 7" VISORS.

FLASHING LED TRAIN APPROACHING SIGN ALTERNATING WITH NO U-TURN SIGN — 5

SCALE: NTS

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD205
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
TRAIN DYNAMIC SIGN DETAILS

DRAWING No.: **STD-CSD205**
FACILITY ID:
SHEET No.:
REV: 0

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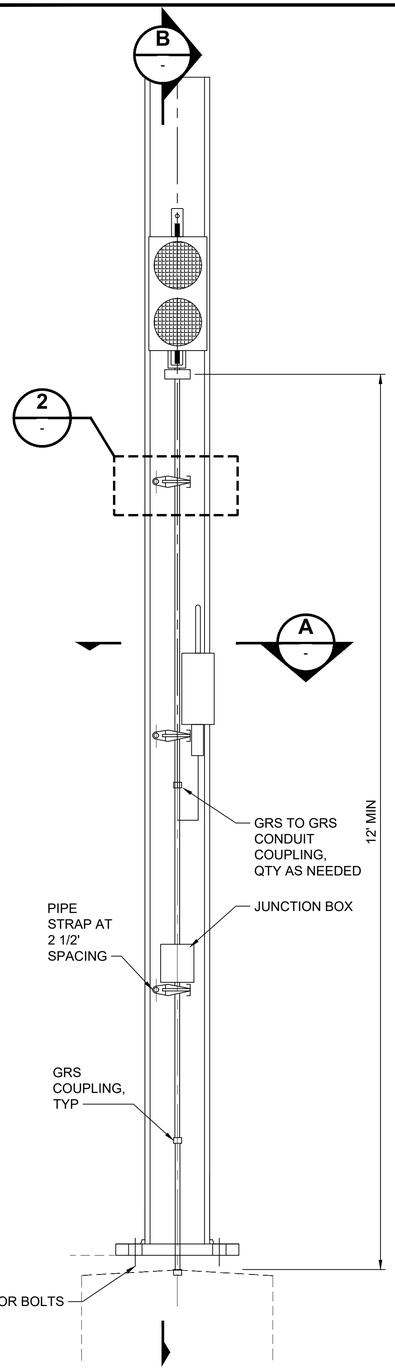
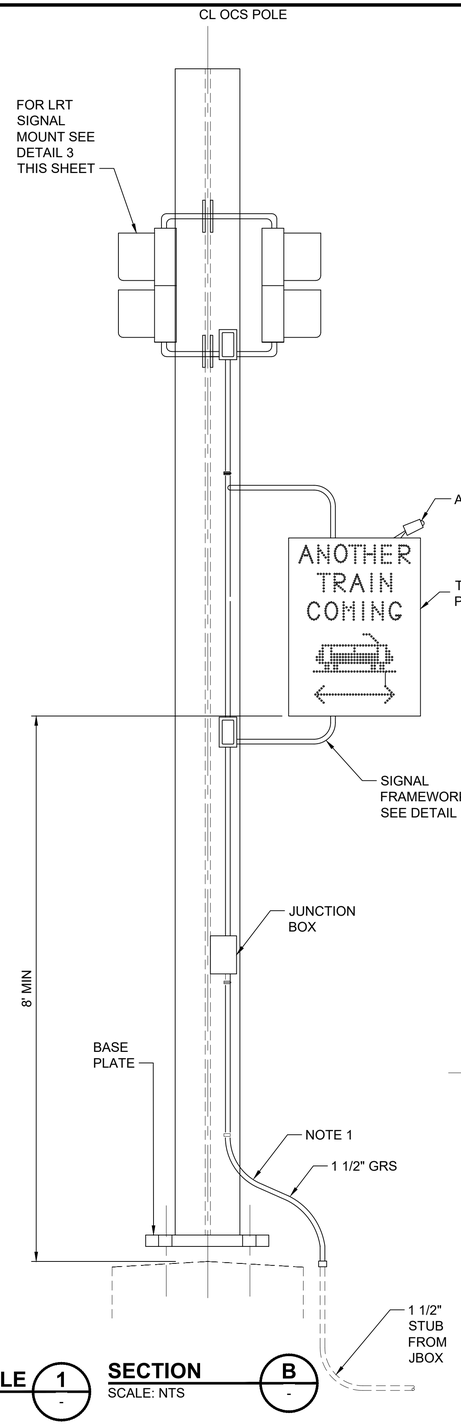


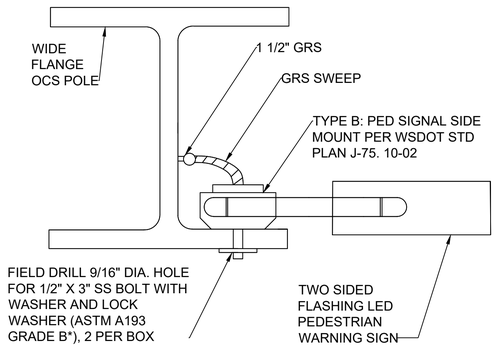
SIGNAL ATTACHMENT ON WIDE FLANGE OCS POLE 1

SCALE: NTS



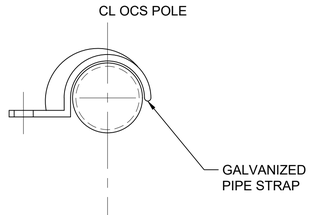
SECTION B

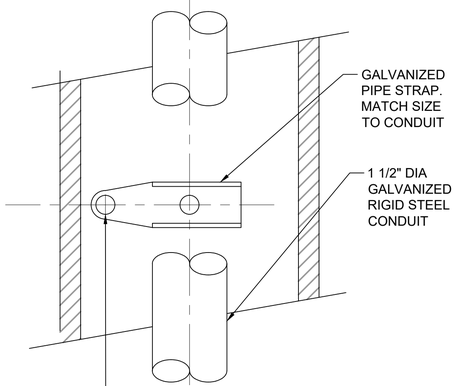
SCALE: NTS



SECTION A

SCALE: NTS



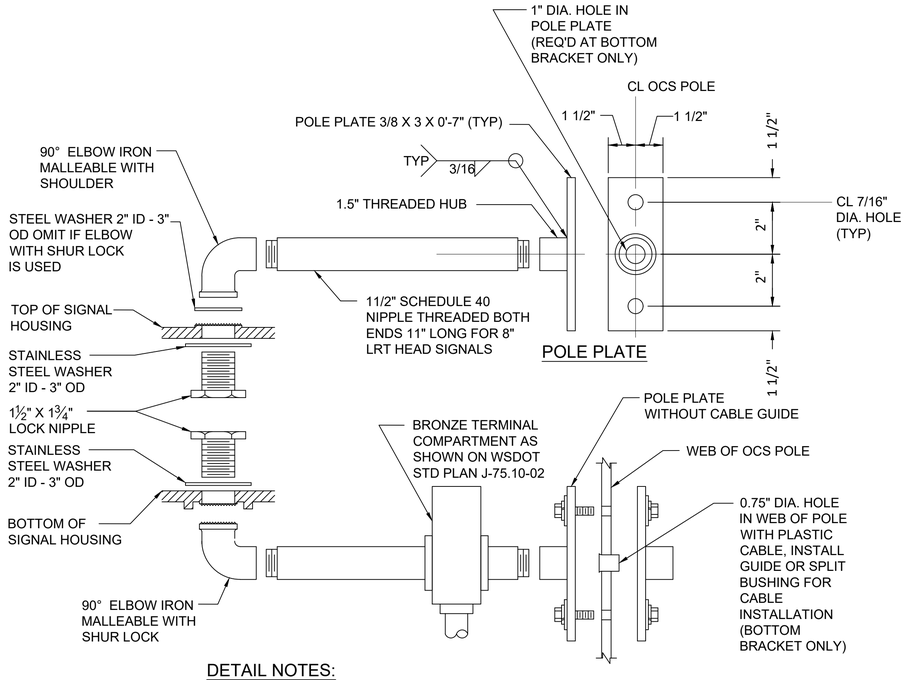


PIPE STRAP DETAIL 2

SCALE: NTS

NOTES:

1. CONDUIT BEND SHALL BE FACTORY ELBOWS. CONNECT TO DUCTBANK STUB-UP AT POLE FOUNDATION OR STUB-OUT ON GUIDEWAY.
2. SEE SPECIFICATION 34 41 13 FOR FIELD DRILLING REPAIR PROCEDURES.



DETAIL NOTES:

1. GALVANIZED WELDED POLE PLATE AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111.
2. MOUNTING SHALL BE AS FOLLOWS:
   - FIELD DRILL (4) 7/16" DIA. HOLES IN WEB OF OCS POLE TO MATCH HOLE PATTERN FROM LRT SIGNAL MOUNT POLE PLATES.
   - INSTALL (4) ⅜" DIA. X 1 ½" HEX HEAD STAINLESS STEEL BOLTS (ASTM A193 GRADE B8) WITH PLAIN WASHERS, LOCK WASHER AND HEX NUT.

LRT SIGNAL MOUNT FOR WIDE FLANGE OCS POLE 3

SCALE: NTS

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LINE IS 1" AT FULL SCALE

SCALE: AS NOTED
FILENAME: STD-CSD206
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
SIGNAL ASSEMBLY ON OCS POLES DETAILS

DRAWING No.: STD-CSD206
FACILITY ID:
SHEET No.: REV: 0

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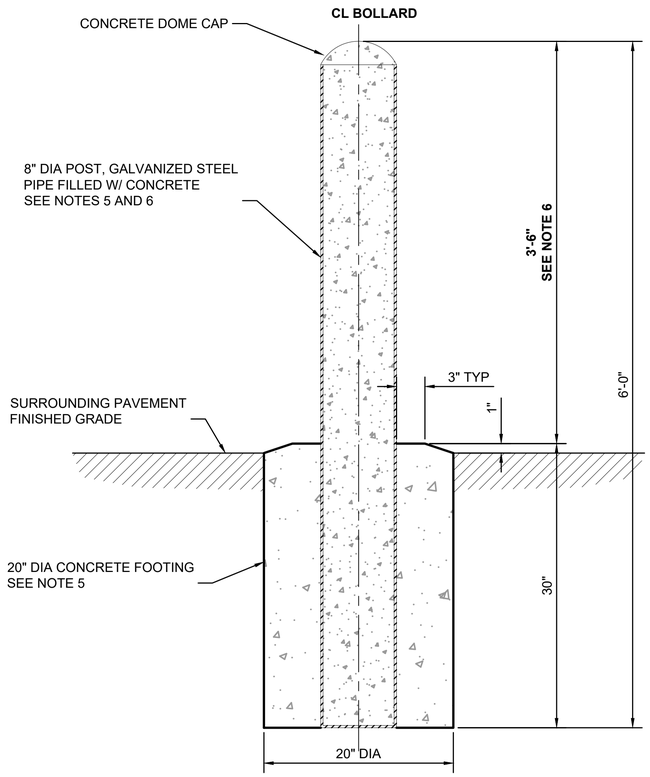
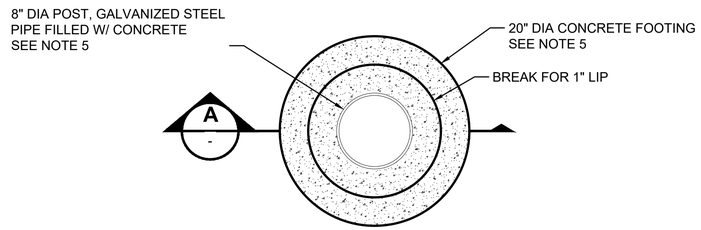


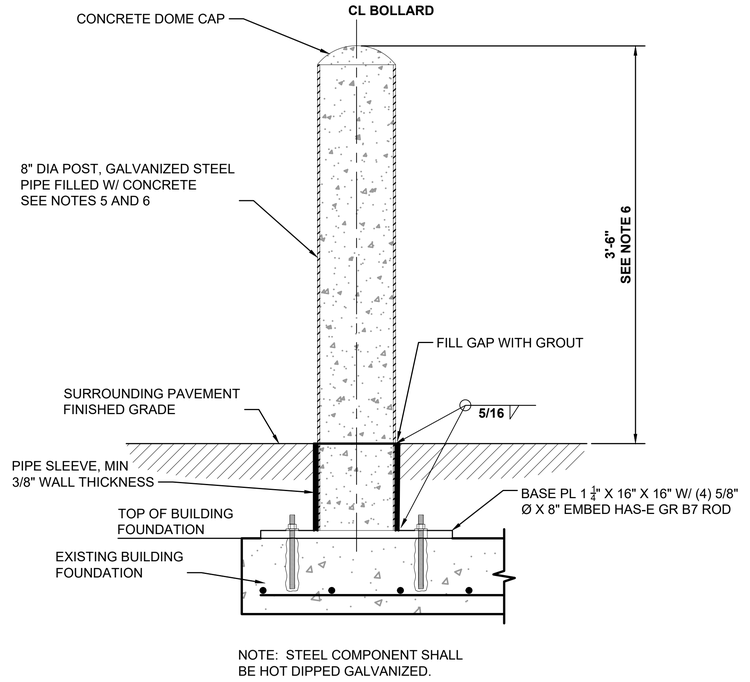
SECTION A



FOOTING

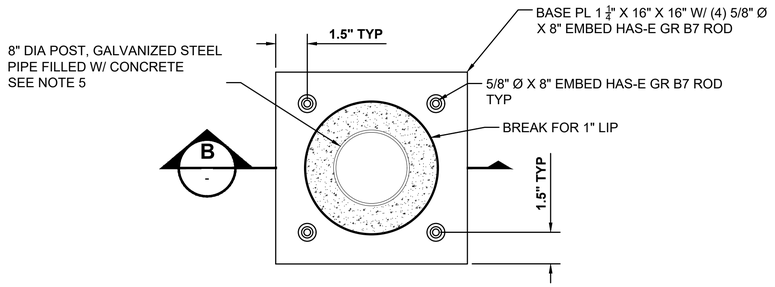
BOLLARD (W/ CONCRETE FOUNDATION) - TYPE 1 A -

NTS



NOTE: STEEL COMPONENT SHALL BE HOT DIPPED GALVANIZED.

SECTION B



FOOTING

BOLLARD (ATTACHED TO BUILDING FOUNDATION) - TYPE 2 A -

NTS

NOTES:

1. BOLLARDS PROTECTING BUILDING OPENINGS SHALL BE LOCATED SUCH THAT THE CENTER OF THE BOLLARD TO BE 16" FROM OUTSIDE FACE OF BUILDING, AND THE OUTSIDE EDGE OF BOLLARD TO BE IN LINE WITH THE DOOR OPENING.
2. BOLLARDS PROTECTING THE OUTSIDE CORNER OF A BUILDING SHALL BE LOCATED SUCH THAT THE CENTER OF THE BOLLARD TO BE 16" FROM CORNER OF BUILDING, MEASURE AT A DIAGONAL FROM THE BUILDING.
3. BOLLARDS PROTECTING FIRE HYDRANTS TO BE LOCATED IN ACCORDANCE WITH THE AHJ REQUIREMENTS.
4. BOLLARDS PROTECTING ABOVE GROUND ELECTRICAL OR COMMUNICATION EQUIPMENT SHALL BE PLACED SUCH THAT THE EDGE OF THE BOLLARD IS 18" FROM EDGE OF CONCRETE EQUIPMENT PAD, PARALLEL WITH FACE OF CABINET.
5. SEE SPECIFICATIONS SECTION 03 30 00 FOR CAST-IN-PLACE CONCRETE REQUIREMENTS FOR FOUNDATION.
6. SEE ARCHITECTURE REQUIREMENTS FOR BOLLARD PAINT.
7. CATALOG CUTS OF ALL BOLLARDS AND MATERIALS MUST BE SUBMITTED FOR APPROVAL BY SOUND TRANSIT ENGINEER PRIOR TO PURCHASE.

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-CSD301
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
CIVIL
BOLLARDS
DETAILS

DRAWING No.: **STD-CSD301**
FACILITY ID:
SHEET No.:
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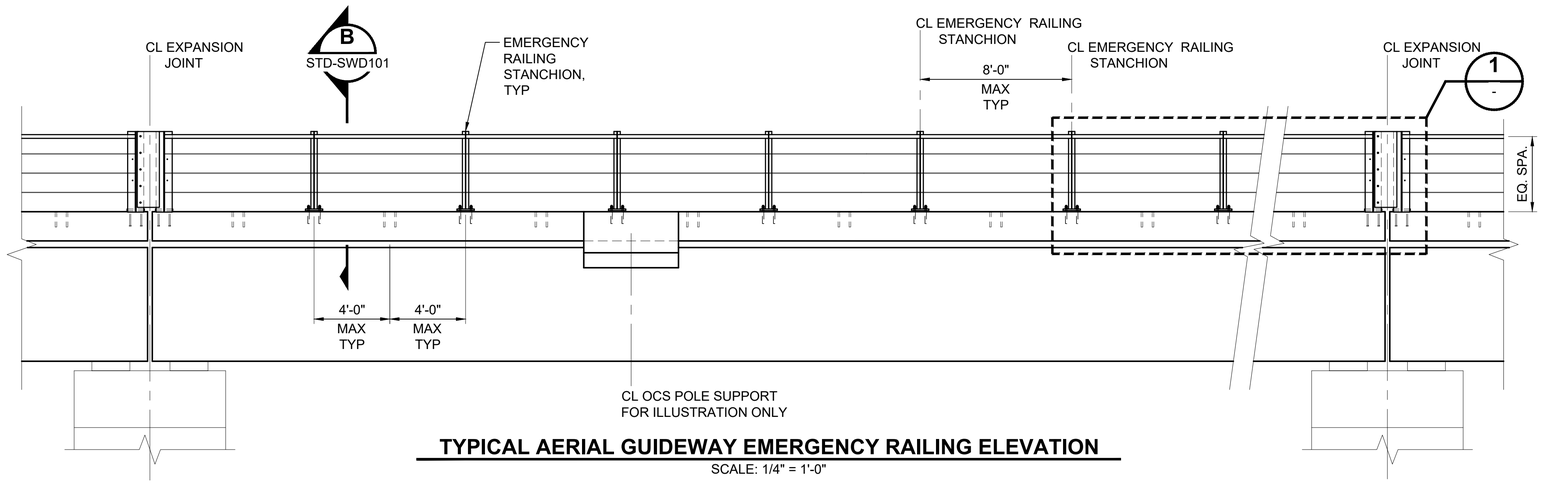
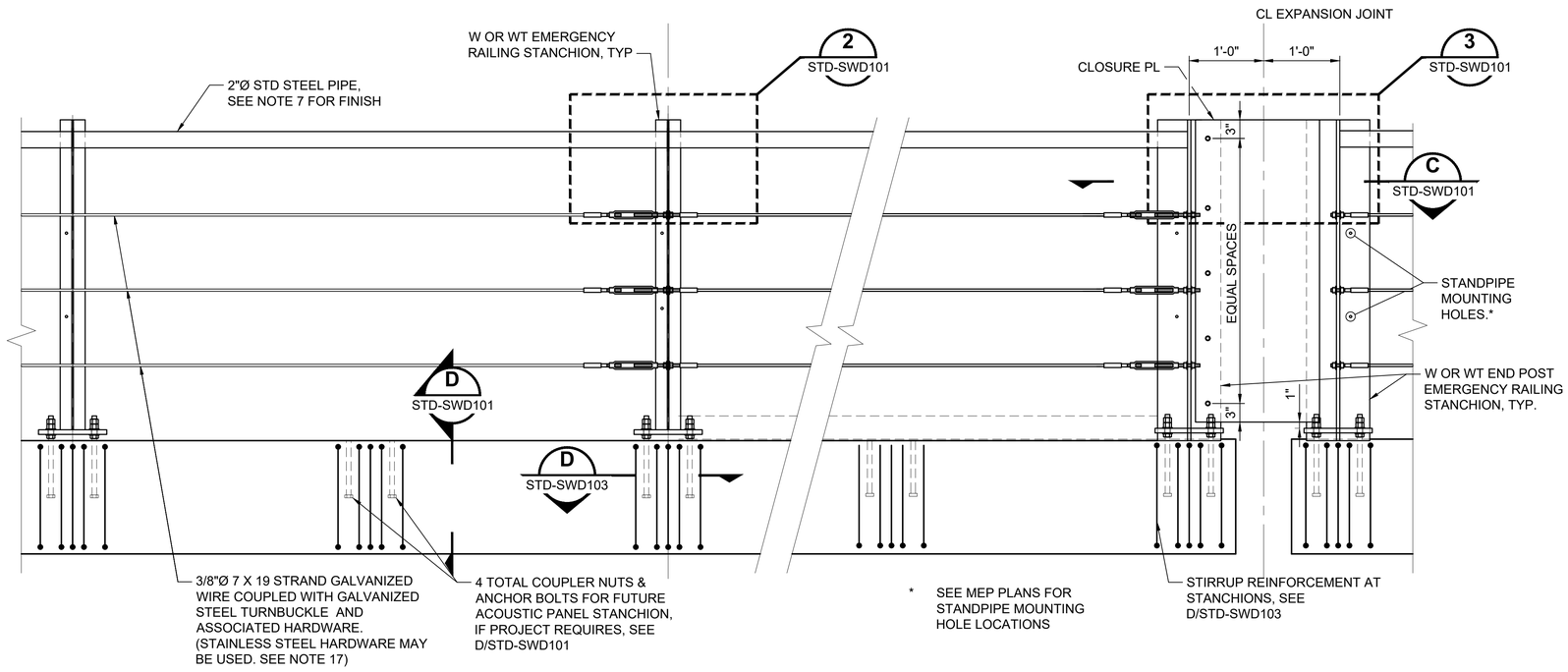


TYPICAL AERIAL GUIDEWAY EMERGENCY RAILING ELEVATION

SCALE: 1/4" = 1'-0"



* SEE MEP PLANS FOR STANDPIPE MOUNTING HOLE LOCATIONS

LARGE SCALE ELEVATION 1

SCALE: 1" = 1'-0"

GENERAL NOTES:

1. PROVIDE EMERGENCY RAILING AT ALL ELEVATED STRUCTURE PERIMETER LOCATIONS EXCEPT WHERE ACOUSTIC PANELS ARE REQUIRED.
2. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IN THE LATEST VERSION OF THE SOUND TRANSIT STANDARD SPECIFICATIONS, LATEST VERSION.
3. THESE DETAILS ESTABLISH GENERAL CONFIGURATION FOR DESIGN OF EMERGENCY RAILING. THE DETAILS DO NOT ENCOMPASS GEOMETRY AT ALL LOCATIONS. IT HAS BEEN PROVIDED TO CONTRACTOR FOR GENERAL DETAILING INFORMATION ONLY.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF EMERGENCY RAILING LAYOUT/CONFIGURATIONS FOR ITS FULL LENGTH.
5. ALL MEMBER'S SIZES, DIMENSIONS, AND NUMBERS ON THE DRAWING ARE FOR REFERENCE ONLY. THE ENGINEER OF RECORD SHALL VERIFY AND CONFIRM ALL THE NUMBERS BY CALCULATION FOR THE SPECIFIC PROJECT.
6. MATERIAL SPECIFICATIONS:
   - W- AND WT-SHAPES: ASTM A992
   - PLATES: ASTM A36
   - PIPES: ASTM A53
   - ANCHOR BOLTS:
     - HEAVY HEX HEADED ANCHOR BOLTS: ASTM F1554 GRADE 55
     - HEX NUTS: ASTM A563
     - WASHERS: ASTM F436
7. ALL STEEL SHALL BE GALVANIZED OR RECEIVE A HIGH PERFORMANCE COAT (HPC) PAINT IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS, UNLESS NOTED OTHERWISE.
8. THE CONTRACTOR SHALL REPAIR ALL GALVANIZED STEEL SURFACES DAMAGED BY FIELD OPERATIONS, BY PAINTING THE DAMAGED AREAS CONFORMING TO ASTM A780/A780M.
9. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH.
10. WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1. SIZE OF FILLET WELDS SHALL BE 5/16" MINIMUM, EXCEPT WHERE NOTED.
11. MAXIMUM SPACING OF EMERGENCY RAILING STANCHIONS SHALL BE 8'-0". ADJUST SPACING OF STANCHIONS AT EXPANSION JOINTS AND OCS POLE SUPPORTS.
12. ALL VERTICAL ELEMENTS SHALL BE INSTALLED PLUMB. PROVIDE TURNBUCKLES AT A NOMINAL 60' SPACING.
13. MATCH EMERGENCY RAILING EXPANSION JOINTS WITH TRACK SLAB EXPANSION JOINTS.
14. PRETENSION IN EACH CABLE SHALL NOT BE SMALLER THAN 120 LBS BUT NOT HIGHER THAN 150 LBS.
15. ANCHOR BOLTS ARE DESIGNED TO BE COMPATIBLE WITH FUTURE INSTALLATION OF ACOUSTIC PANELS WITH A HEIGHT UP TO 8'-4" ABOVE TOP OF LOW RAIL AND WITH STANCHIONS SPACED NO GREATER THAN 4'-0" APART.
16. STANDPIPE LOCATION AND MOUNTING DETAILS ARE FOR ILLUSTRATION ONLY.
17. WHERE STAINLESS STEEL INTERFACES WITH CARBON STEEL, PROVIDE A WEAR SURFACE OR BARRIER TO INHIBIT GALVANIC CORROSION BY PREVENTING CONTACT OF THE TWO MATERIALS WHERE IT OCCURS.

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0	8/2019	-	-	-	NEW - CIVIL DIRECTIVE AND STANDARD DWGS

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SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-SWD100
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
STRUCTURAL
AERIAL GUIDEWAY
EMERGENCY RAILING/ACOUSTIC BARRIER SYSTEM
1 OF 5

DRAWING No.: **STD-SWD100**
FACILITY ID:
SHEET No.: REV: 1

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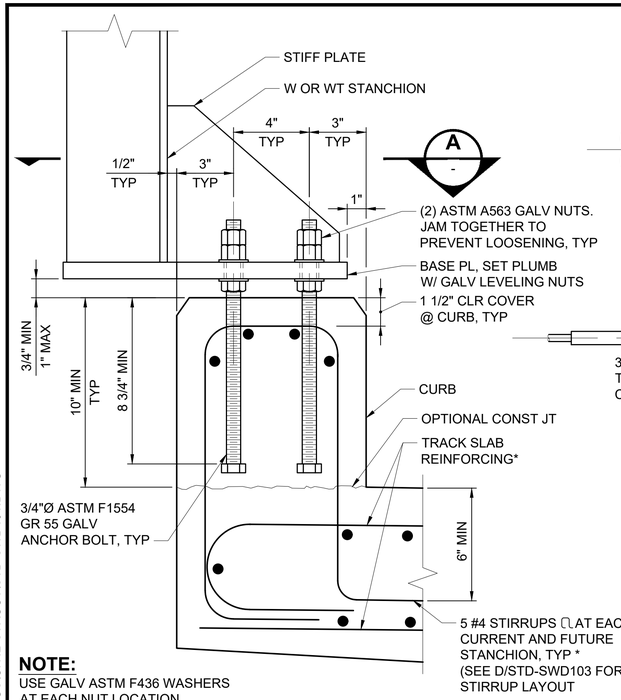
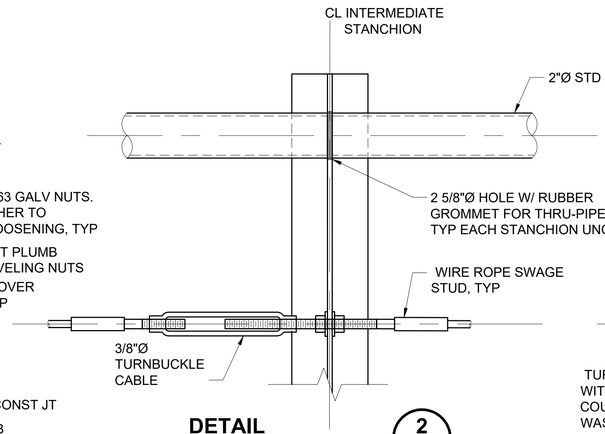


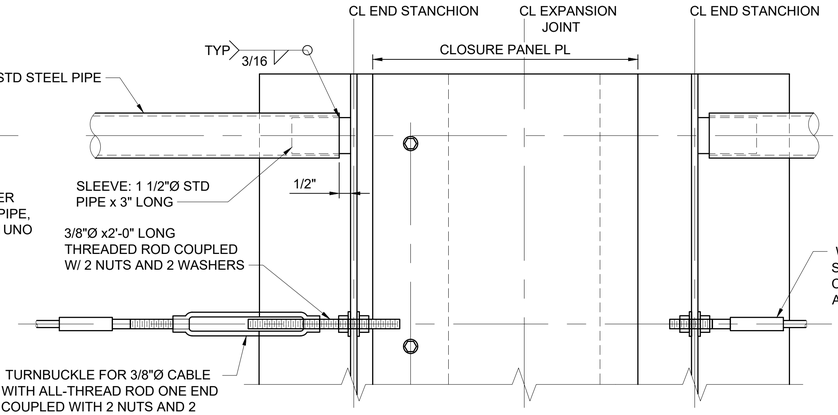
NOTE:
USE GALV ASTM F436 WASHERS AT EACH NUT LOCATION.

EMERGENCY RAILING STANCHION
SCALE: 3" = 1'-0"
*SHALL BE DESIGNED BY THE DESIGNER

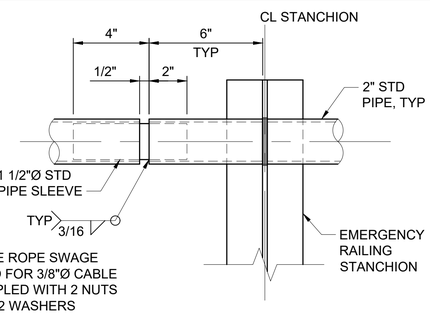
1 -

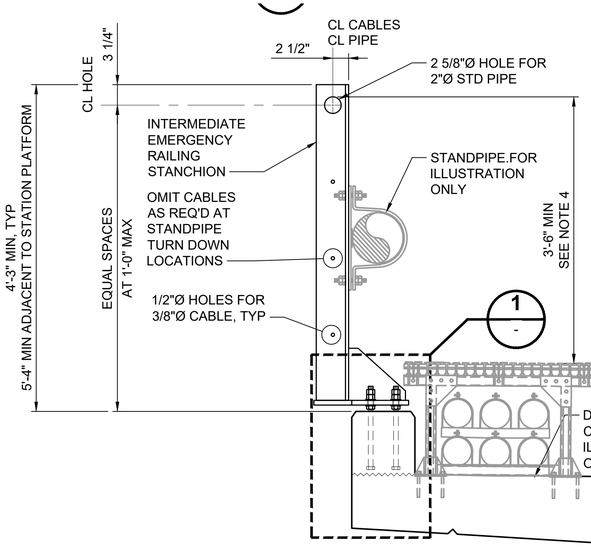


DETAIL 2
SCALE: 3" = 1'-0" STD-SWD100



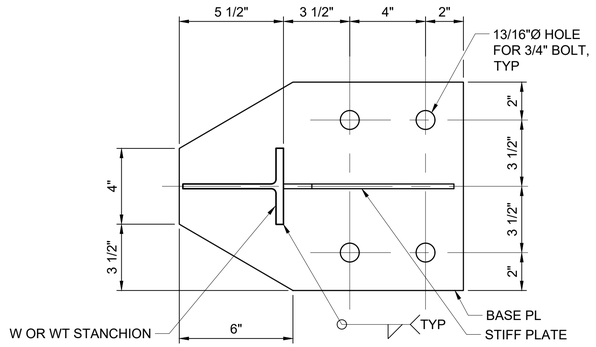
DETAIL 3
SCALE: 3" = 1'-0" STD-SWD100





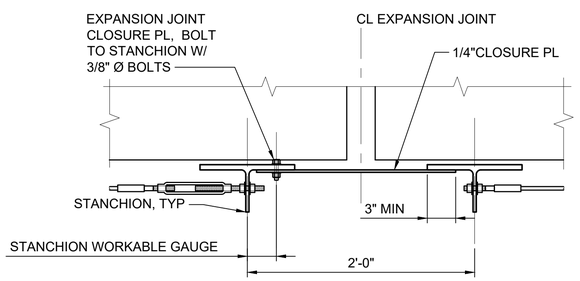
TYPICAL EMERGENCY RAILING SECTION
SCALE: 1" = 1'-0" STD-SWD100

B

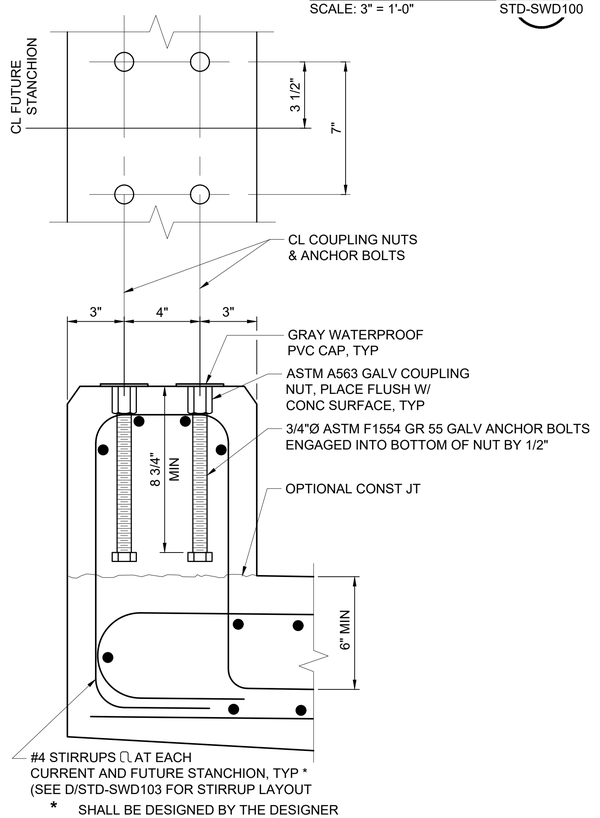


VIEW A
SCALE: 3" = 1'-0"

A -



SECTION C
SCALE: 1 1/2" = 1'-0" STD-SWD100



COUPLING NUTS & ANCHOR BOLTS AT FUTURE STANCHION
SCALE: 3" = 1'-0" STD-SWD100

D

GENERAL NOTES:

1. WIRE ROPE SHALL BE INITIALLY TENSIONED TO 150 LBS. TENSIONING SEQUENCE FOR EACH SEGMENT OF AERIAL GUIDEWAY (EXP JT TO EXP JT) SHALL BE TOP WIRE ROPE TO BOTTOM WIRE ROPE. AT INTERMEDIATE STANCHIONS WITH TURNBUCKLES, TENSIONING SEQUENCE SHALL BE PERFORMED SO THAT THE STANCHION HAS A MAXIMUM OF 150 LBS OF UNEVEN LOADING.
2. DURING TENSIONING, THE STANCHIONS SHALL BE MONITORED FOR DEFLECTION. TENSIONING SHOULD BE STOPPED IF DEFLECTION OF THE STANCHION IS OBSERVED.
3. ALL MEMBER'S SIZES, DIMENSIONS, AND NUMBERS ON THE DRAWING ARE FOR REFERENCE ONLY. THE ENGINEER OF RECORD SHALL VERIFY AND CONFIRM ALL THE NUMBERS BY CALCULATION FOR THE SPECIFIC PROJECT.
4. 3'-6" SHALL BE MEASURED FROM ABOVE ADJACENT WALKING SURFACE OR ABOVE THE VEHICLE FLOOR, WHICHEVER IS HIGHER, TO THE TOP OF THE 2 5/8" DIA HOLE.

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1	2/2024	-	-	-	2024 REVISED STANDARD DRAWINGS
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DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-SWD101
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
STRUCTURAL
AERIAL GUIDEWAY
EMERGENCY RAILING/ACOUSTIC BARRIER SYSTEM
2 OF 5

DRAWING No.: **STD-SWD101**
FACILITY ID:
SHEET No.: REV: 1

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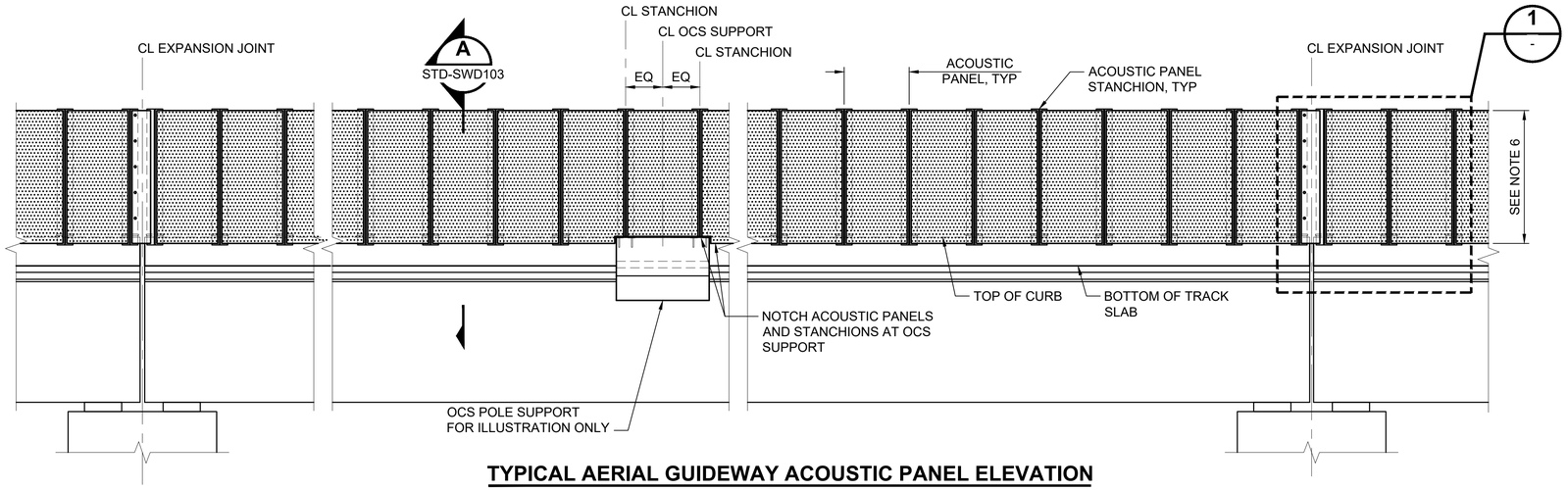
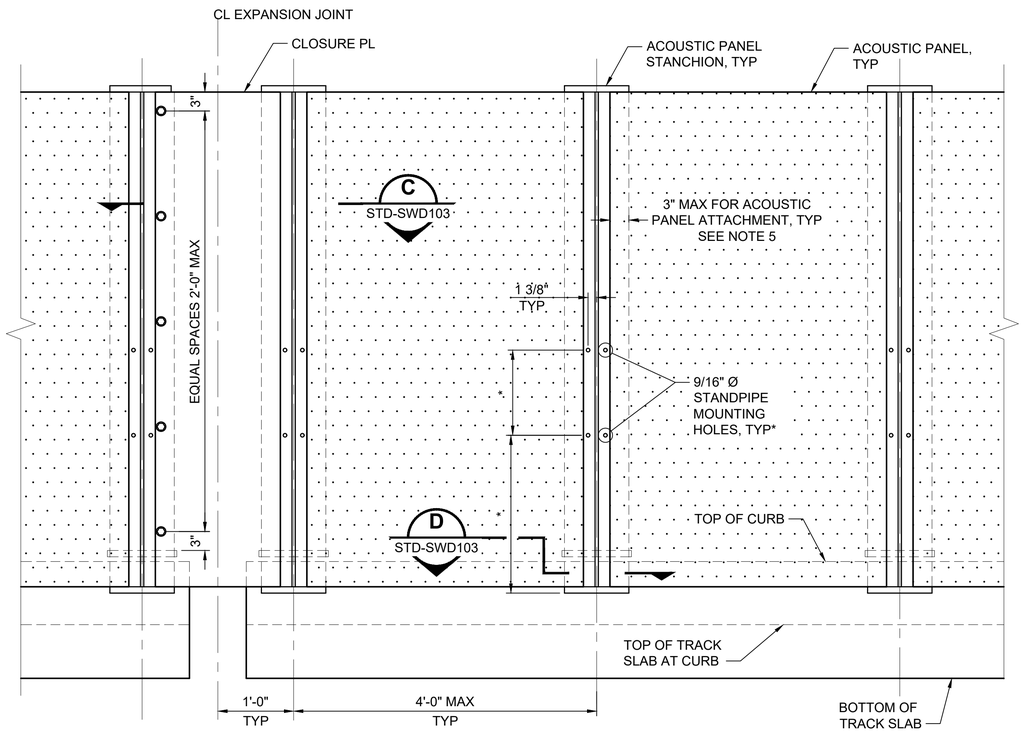


TYPICAL AERIAL GUIDEWAY ACOUSTIC PANEL ELEVATION

SCALE: 1/4" = 1'-0"



NOTE:
ANCHOR RODS AND STIRRUPS ARE NOT SHOWN FOR CLARITY. SEE DRAWING STD-SWD103 FOR DETAILS.

LARGE SCALE ELEVATION 1

SCALE: 1" = 1'-0"

*SEE MEP PLANS FOR STANDPIPE MOUNTING HOLE LOCATIONS

GENERAL NOTES:

1. THESE DETAILS ESTABLISH GENERAL CONFIGURATION FOR DESIGN OF ACOUSTIC BARRIER. THE DETAILS DO NOT ENCOMPASS GEOMETRY AT ALL LOCATIONS. IT HAS BEEN PROVIDED TO CONTRACTOR FOR GENERAL DETAILING INFORMATION ONLY. CORRESPONDING ACOUSTIC PANELS SHALL MEET ALL CRITERIA IN ACCORDANCE WITH CORRESPONDING CONTRACT SPECIFICATION.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ACOUSTIC BARRIER LAYOUT / CONFIGURATIONS FOR ITS FULL LENGTH.
3. ALL ACOUSTIC PANEL STANCHIONS SHALL BE INSTALLED PLUMB.
4. ALL STEEL SHALL BE GALVANIZED OR RECEIVE A HIGH PERFORMANCE COAT (HPC) PAINT IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS, UNLESS NOTED OTHERWISE.
5. THE STANDPIPE SYSTEM AND THE ACOUSTIC PANEL SYSTEM SHALL BE ATTACHED TO THE STANCHION IN SUCH A WAY AS TO ALLOW FOR THE REMOVAL OF ONE SYSTEM WITHOUT IMPACTING OR REQUIRING THE REMOVAL OF THE OTHER.
6. THIS STANDARD ACOUSTICAL PANEL STANCHION SYSTEM IS DESIGNED FOR ACOUSTIC PANELS WITH A HEIGHT UP TO 8'-4" ABOVE TOP OF LOW RAIL AND WITH A WEIGHT UP TO 25 PSF.
7. ALL MEMBER'S SIZES, DIMENSIONS, AND NUMBERS ON THE DRAWING ARE FOR REFERENCE ONLY. THE ENGINEER OF RECORD SHALL VERIFY AND CONFIRM ALL THE NUMBERS BY CALCULATION FOR THE SPECIFIC PROJECT.

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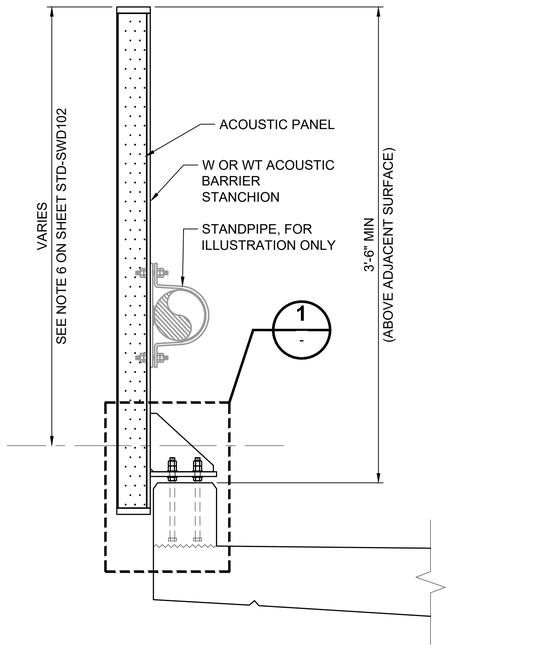
LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

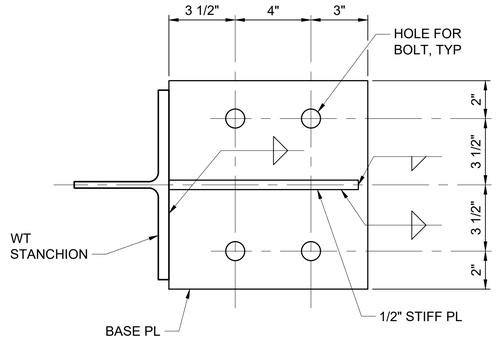
SCALE: AS NOTED
FILENAME: STD-SWD102
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
STRUCTURAL
AERIAL GUIDEWAY
EMERGENCY RAILING/ACOUSTIC BARRIER SYSTEM
3 OF 5

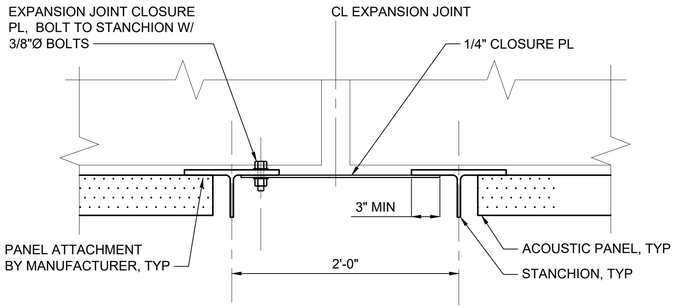
DRAWING No.: **STD-SWD102**
FACILITY ID:
SHEET No.: REV: 1



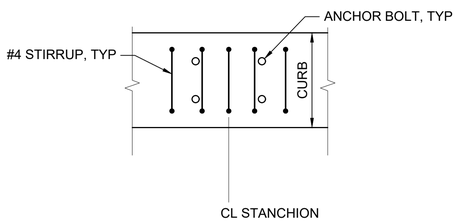
TYPICAL ACOUSTIC PANEL SECTION — A
SCALE: 1" = 1'-0" — STD-SWD102



VIEW — B
SCALE: 3" = 1'-0" — -



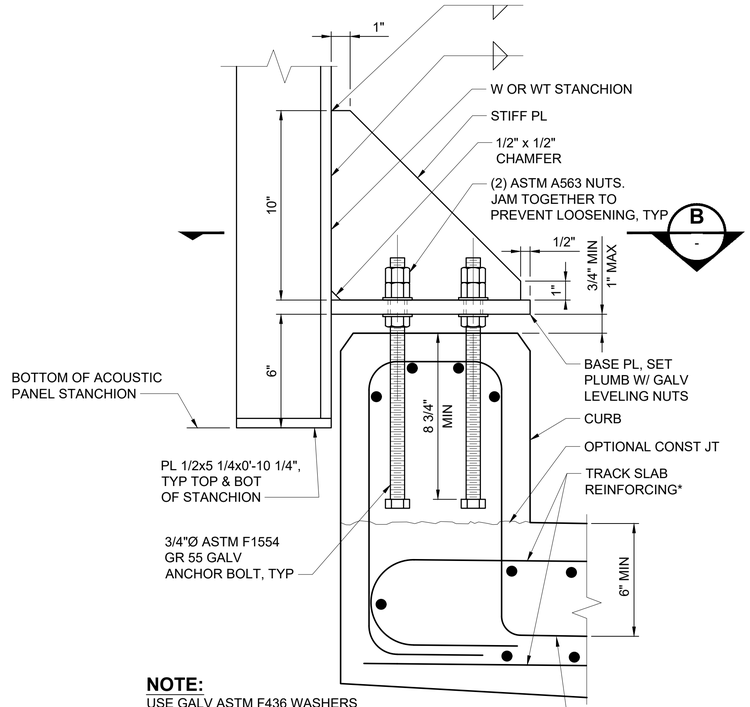
SECTION — C
SCALE: 1 1/2" = 1'-0" — STD-SWD102



STIRRUP LAYOUT — D
SCALE: 1 1/2" = 1'-0" — STD-SWD100, STD-SWD102

GENERAL NOTES:

1. ALL MEMBER'S SIZES, DIMENSIONS, AND NUMBERS ON THE DRAWING ARE FOR REFERENCE ONLY. THE ENGINEER OF RECORD SHALL VERIFY AND CONFIRM ALL THE NUMBERS BY CALCULATION FOR THE SPECIFIC PROJECT.



NOTE:
USE GALV ASTM F436 WASHERS AT EACH NUT LOCATION.

ACOUSTIC PANEL STANCHION — 1
SCALE: 3" = 1'-0" — -

*SHALL BE DESIGNED BY THE DESIGNER

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STANDARD DRAWINGS
STRUCTURAL

AERIAL GUIDEWAY
EMERGENCY RAILING/ACOUSTIC BARRIER SYSTEM
4 OF 5

DRAWING No.: **STD-SWD103**
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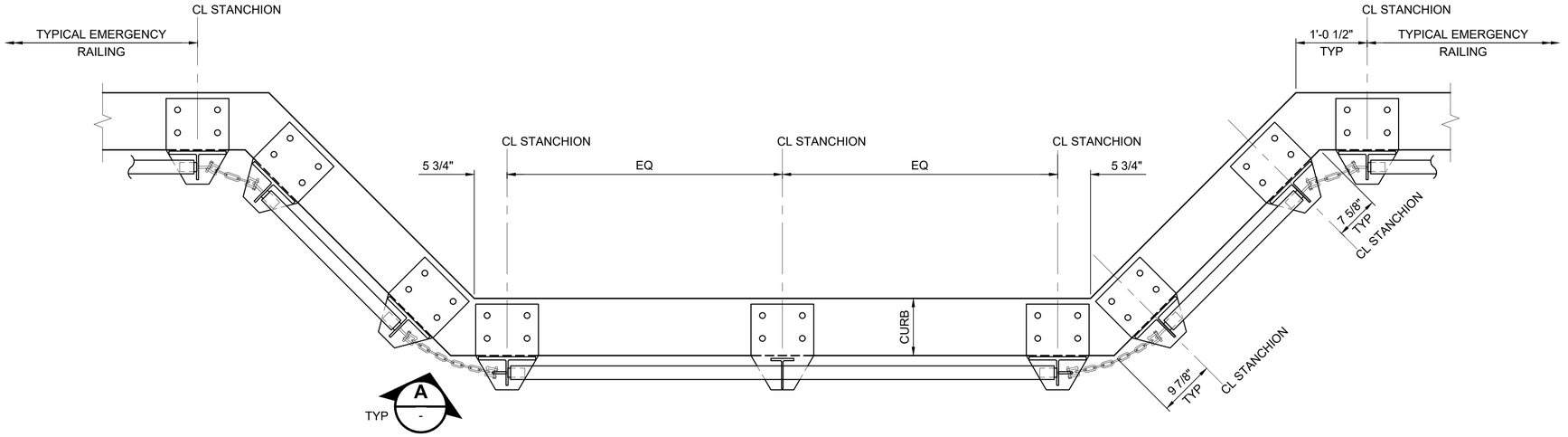
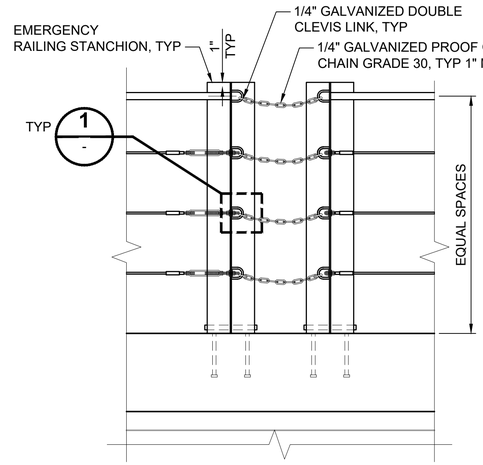


EMERGENCY RAILING LAYOUT AT RAIL LUBRICATOR SUPPORT PLAN

SCALE: 1" = 1'-0"

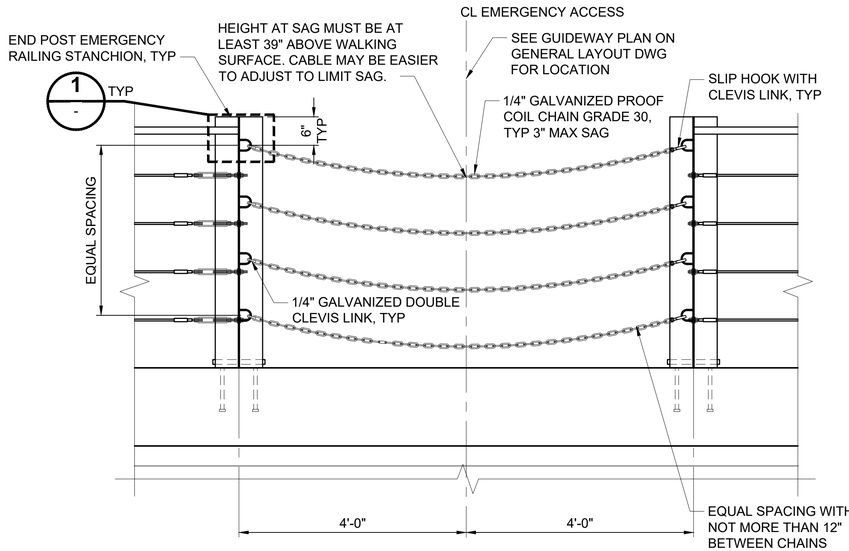
GENERAL NOTE:

1. ALL MEMBER'S SIZES, DIMENSIONS, AND NUMBERS ON THE DRAWING ARE FOR REFERENCE ONLY. THE ENGINEER OF RECORD SHALL VERIFY AND CONFIRM ALL THE NUMBERS BY CALCULATION FOR THE SPECIFIC PROJECT.



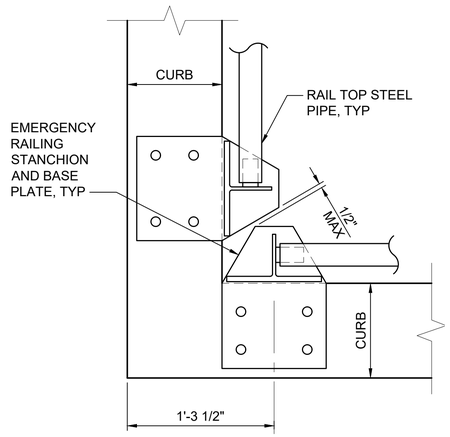
ELEVATION A

SCALE: 3/4" = 1'-0"



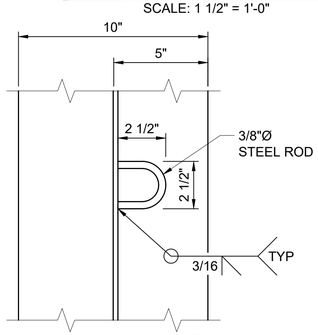
EMERGENCY ACCESS THROUGH EMERGENCY RAILING

SCALE: 3/4" = 1'-0"



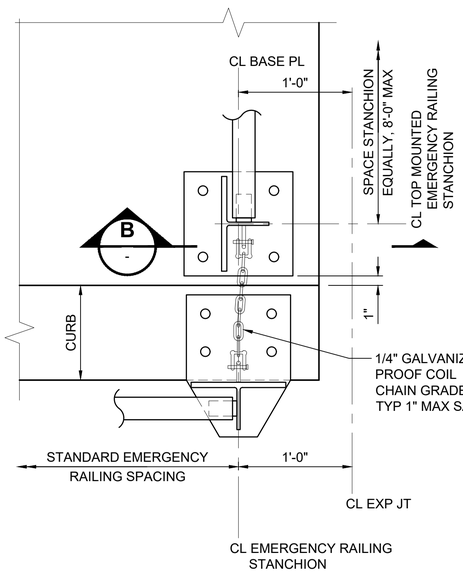
EMERGENCY RAILING LAYOUT AT INTERIOR CORNER

SCALE: 1 1/2" = 1'-0"



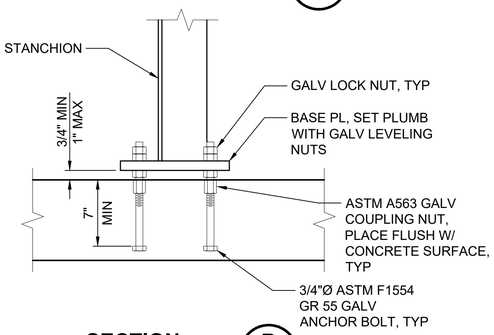
DETAIL 1

SCALE: 3" = 1'-0"



PLAN - EMERGENCY RAILING TERMINATION

SCALE: 1 1/2" = 1'-0"



SECTION B

SCALE: 1 1/2" = 1'-0"

NOTE: ANCHOR BOLTS SHALL BE THREADED 125% BOLT DIAMETERS IN LENGTH INTO EACH END OF COUPLING NUT

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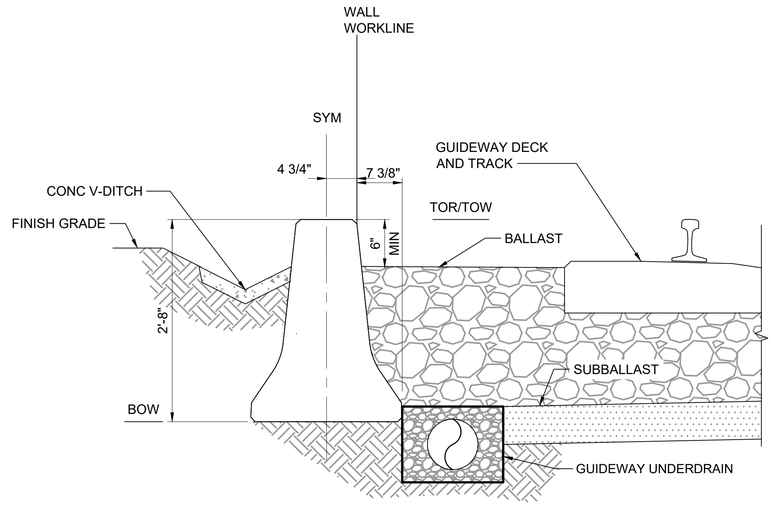
SOUNDTRANSIT

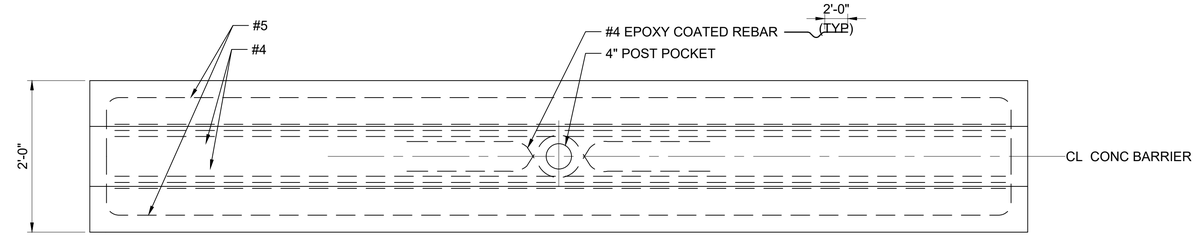
SCALE: AS NOTED
FILENAME: STD-SWD104
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
STRUCTURAL
AERIAL GUIDEWAY
EMERGENCY RAILING/ACOUSTIC BARRIER SYSTEM
5 OF 5

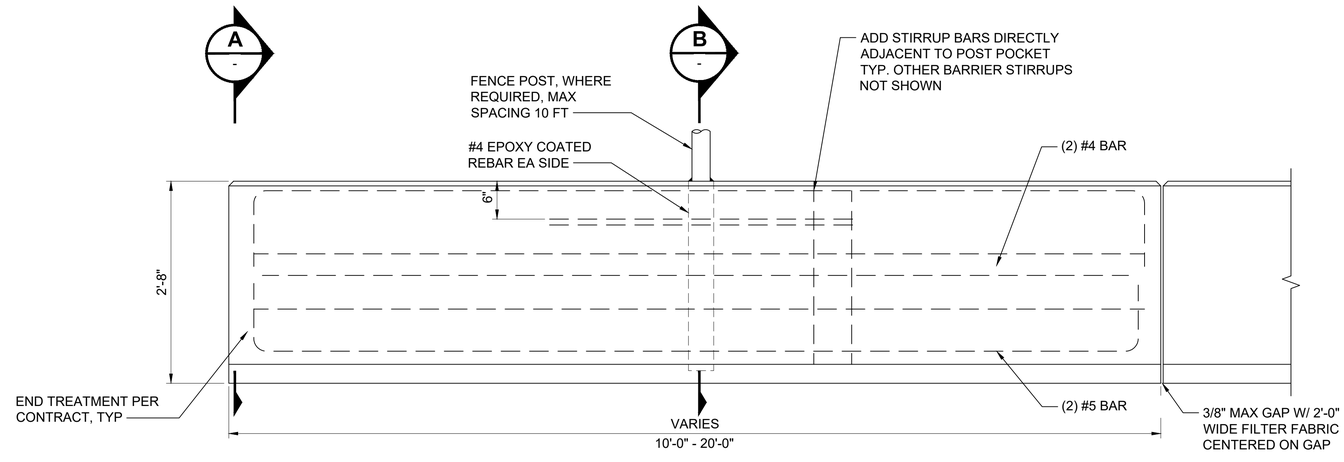
DRAWING No.: **STD-SWD104**
FACILITY ID:
SHEET No.: REV: 1



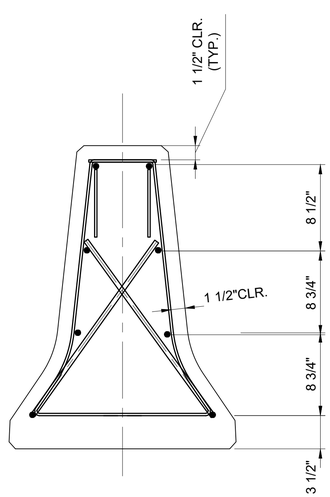
TYPICAL SECTION
NOT TO SCALE



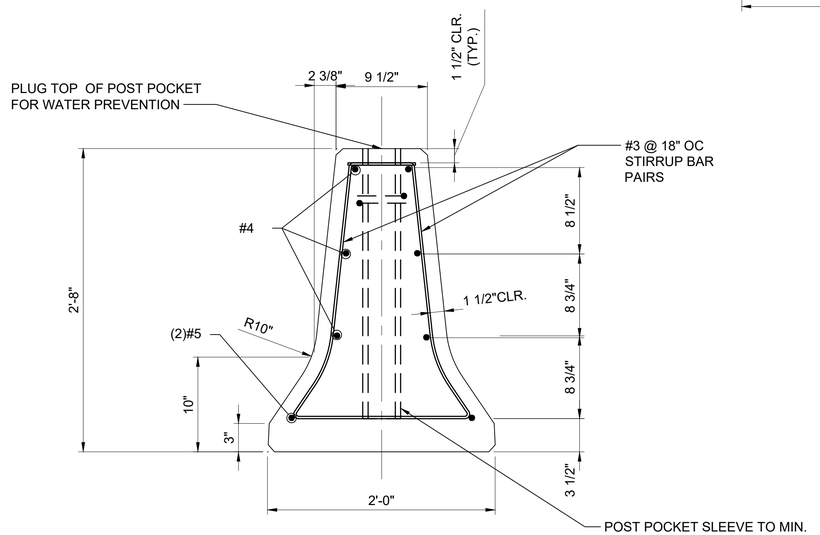
PLAN
NTS



TYPICAL ELEVATION
NTS



END SECTION A
NTS



SECTION B
NTS

NOTES:

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOUND TRANSIT STANDARD SPECIFICATIONS AND DESIGN REQUIREMENTS, LATEST VERSIONS.
2. ALL MEMBER SIZES AND DIMENSIONS ON THE DRAWING ARE FOR REFERENCE ONLY EXCEPT REBAR AND SPACING SHOWN ARE CONSIDERED DESIGN MINIMUM. THE ENGINEER OF RECORD SHALL VERIFY AND CONFIRM BY CALCULATION FOR THE SPECIFIC PROJECT.
3. LOCATION AND QUANTITY OF BALLAST BARRIERS TO BE SHOWN IN THE CONTRACT DRAWINGS.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF BALLAST BARRIERS INCLUDING POST SLEEVES.
5. POST SLEEVES SHALL BE LOCATED A MINIMUM OF 3'-0" FROM BARRIER ENDS.
6. MATERIAL SPECIFICATIONS:
   - CONCRETE: f'c = 4,000 PSI
   - REINFORCEMENT ASTM A615 GR. 60
   - NON-EPOXY COATED UNLESS NOTED OTHERWISE
7. BARRIER CONFIGURATION IS BASED ON WSDOT CONCRETE BARRIER TYPE F.
8. LIFTING AND TRANSPORTATION METHODS TO BE DETERMINED BY CONTRACTOR.

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SCALE: AS NOTED
FILENAME: STD-SWD200
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
STRUCTURAL

BALLAST BARRIER
DETAILS

DRAWING No.: **STD-SWD200**
FACILITY ID:
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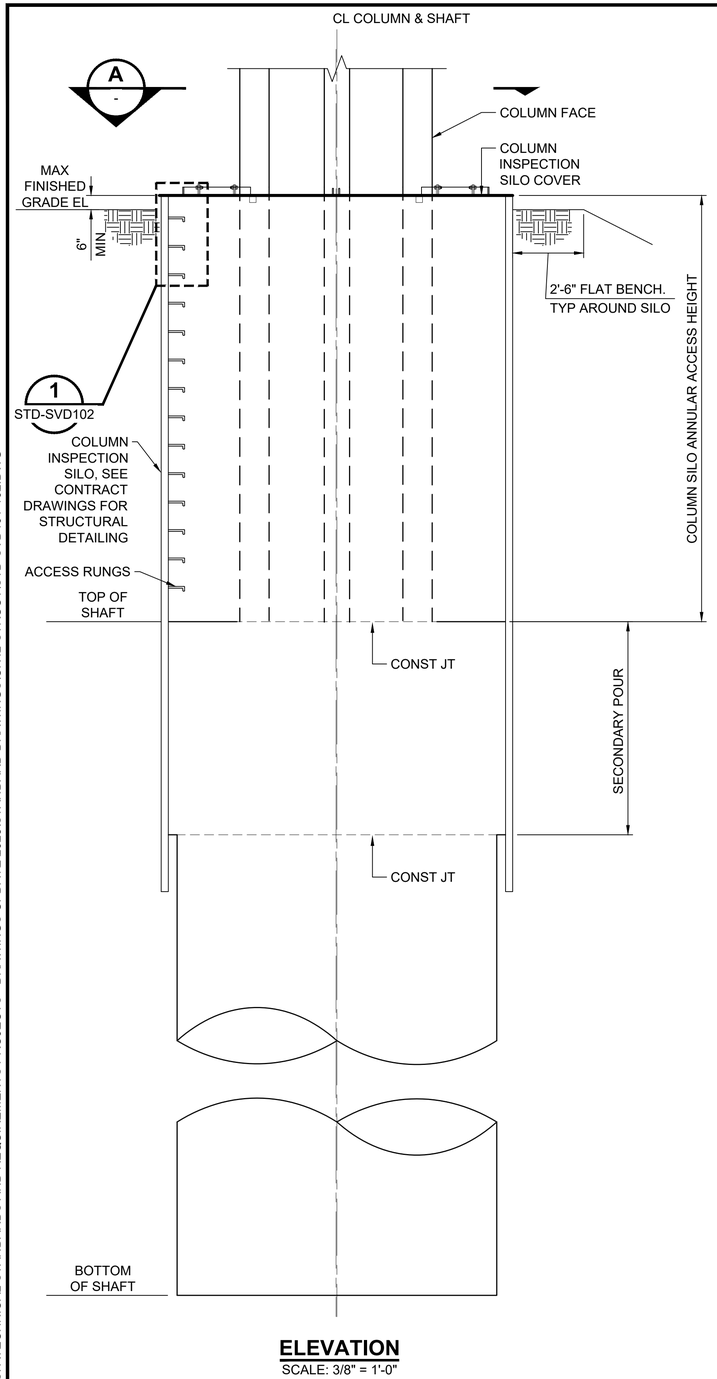
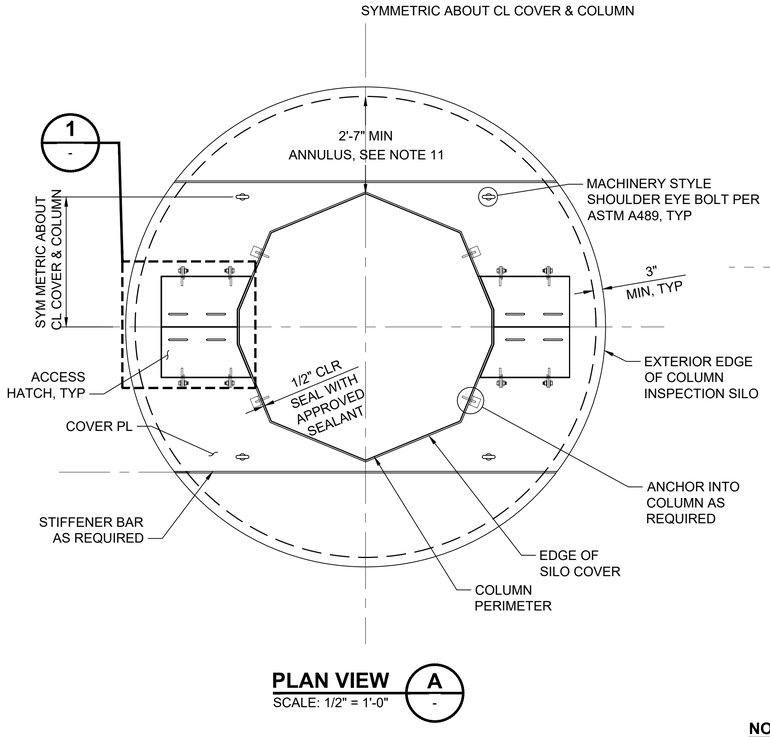
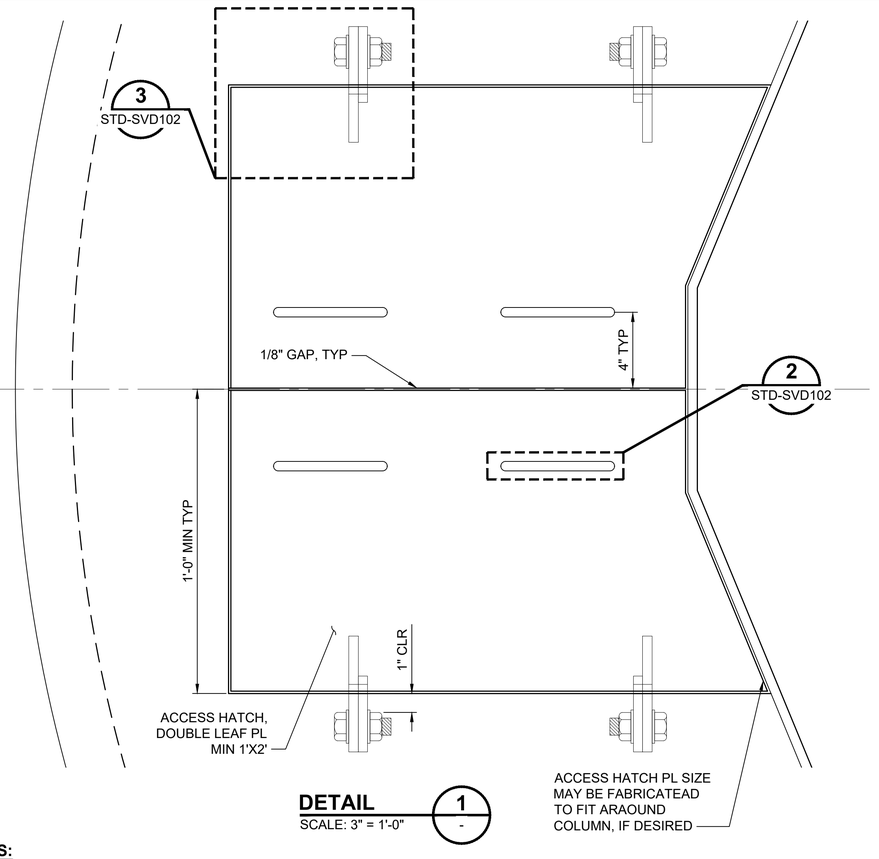


ELEVATION
SCALE: 3/8" = 1'-0"



PLAN VIEW A -
SCALE: 1/2" = 1'-0"



DETAIL 1 -
SCALE: 3" = 1'-0"

NOTES:

1. PROVIDE A MINIMUM OF TWO ACCESS HATCHES AT ALL COLUMN SILO LOCATIONS.
2. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOUND TRANSIT STANDARD SPECIFICATIONS AND DESIGN REQUIREMENTS, SET 721 BRIDGES AND ELEVATED STRUCTURES, LATEST VERSIONS.
3. THESE DETAILS ESTABLISH GENERAL CONFIGURATION FOR ALLOWANCE OF ACCESS HATCHES FOR COLUMN SILO INSPECTION. THE DETAILS DO NOT ENCOMPASS GEOMETRY AT ALL LOCATIONS. IT HAS BEEN PROVIDED TO CONTRACTOR FOR GENERAL DETAILING INFORMATION ONLY.
4. EACH ACCESS HATCH PANEL SHALL BE SIZED AS TO NOT EXCEED 80 LBS EACH.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ACCESS HATCHES AND COLUMN SILO INFORMATION .
6. ALL MEMBER SIZES AND DIMENSIONS ON THE DRAWING ARE FOR REFERENCE ONLY. THE ENGINEER OF RECORD SHALL VERIFY AND CONFIRM BY CALCULATION FOR THE SPECIFIC PROJECT.
7. MATERIAL SPECIFICATIONS: SEE SOUND TRANSIT STANDARD SPECIFICATION 05 12 00 STRUCTURAL STEEL FRAMING.
8. ALL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS, UNLESS NOTED OTHERWISE
9. THE CONTRACTOR SHALL REPAIR ALL GALVANIZED STEEL SURFACES DAMAGED BY FIELD OPERATIONS, BY PAINTING THE DAMAGED AREAS CONFORMING TO ASTM A780/A780M
10. WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1. SIZE OF FILLET WELDS SHALL BE 5/16" MINIMUM, EXCEPT WHERE NOTED.
11. COLUMN SILOS WITH A CONCRETE FILL AND INNER STEEL SHELL ANNULUS SHALL MAINTAIN THE 2'-7" CLEAR ANNULAR SPACE FOR INSPECTION. IF AN INNER SHELL IS NOT SPECIFIED, THE LADDER RUNGS MUST ANCHOR INTO THE CONCRETE. ATTACHMENTS MUST BE DESIGNED TO RESIST LOADS SPECIFIED IN WAC296-56-60209
12. FOR SILO DIAMETER AND FINISHED GRADE ELEVATION, SEE CONTRACT DRAWINGS.

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FILENAME: STD-SVD101-102
CONTRACT No.: RTA/LR -
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SOUND TRANSIT
STANDARD DRAWINGS
STRUCTURAL

AERIAL GUIDEWAY STRUCTURE
COLUMN INSPECTION SILO DETAILS
1 OF 2

DRAWING No.: **STD-SVD101**
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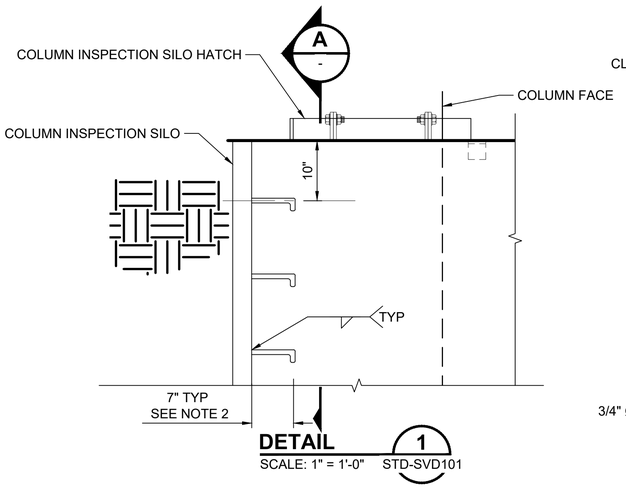
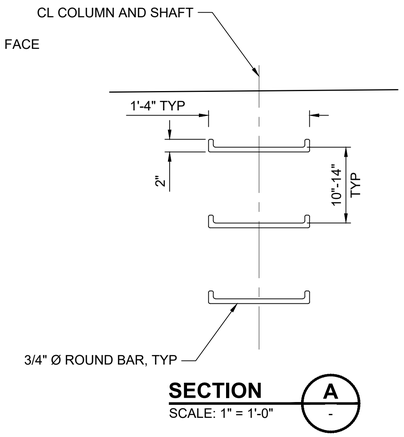
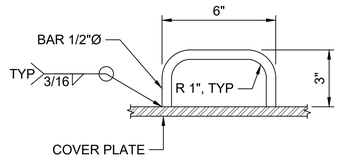


DETAIL 1 — SCALE: 1" = 1'-0" STD-SVD101



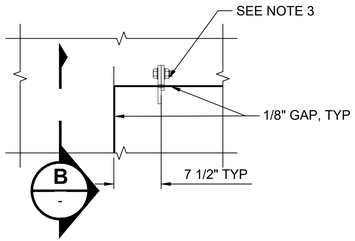
SECTION A — SCALE: 1" = 1'-0"



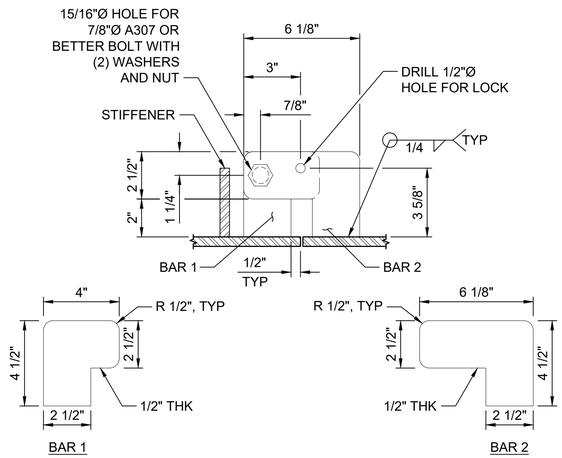
DETAIL 2 — SCALE: 3" = 1'-0" STD-SVD101

NOTES:

1. INDIVIDUAL LADDER RUNG SIZES AND SPACING SHALL CONFORM TO ANSI A14.3-2008
2. 7" DIMENSION SHALL BE MEASURED FROM INSIDE FACE OF THE SHAFT TO CENTERLINE OF RUNG.
3. INSTALL NUT SO THAT HATCH OPENS FREELY. TACK-WELD NUT TO BOLT.



DETAIL 3 — SCALE: 1/2" = 1'-0" STD-SVD101



SECTION B — SCALE: 3" = 1'-0"

No.	DATE	DSN	CHK	APP	REVISION
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0	2/2024	----	----	----	2024 NEW STANDARD DRAWING

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:

SUBMITTED BY: -
DATE: -
REVIEWED BY: -
DATE: -

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: STD-SVD101-102
CONTRACT No.: RTA/LR -
DATE: 2/2024

SOUND TRANSIT
STANDARD DRAWINGS
STRUCTURAL

AERIAL GUIDEWAY STRUCTURE
COLUMN INSPECTION SILO DETAILS
2 OF 2

DRAWING No.: **STD-SVD102**
FACILITY ID:
SHEET No.:
REV: 0

03/21/24 | 7:57 AM | HARRISBK
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