

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0000	CPD	1 OF 9
CITY OF PHILADELPHIA				
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GENERAL NOTES

- CONTRACTOR MUST ADHERE TO PENNDOT PUBLICATION 371 – GRADE CROSSING MANUAL. THIS INCLUDES STANDARD SPECIAL PROVISIONS:
 -A01901
 -A01902
 -A02001
 -A02101
 -A02102
 -A02201
 -A02301
 -A02401
- CONTRACTOR MUST ADHERE TO THE CE-6 SPECIFIC REQUIREMENTS OF CONSOLIDATED RAIL CORPORATION (CONRAIL) FOR WORK ON IT'S RIGHT OF WAY AND OTHER PROPERTY.
- CONRAIL REQUIRES THAT ALL PERSONNEL WORKING WITHIN CONRAIL RIGHT OF WAY PARTICIPATE IN THE CONRAIL CONTRACTOR ORIENTATION TRAINING PROGRAM.
- CONTRACTOR MUST OBTAIN ADEQUATE COMMERCIAL RAILROAD PROTECTIVE LIABILITY INSURANCE IN ACCORDANCE WITH CONRAIL INSURANCE SPECIFICATIONS.
- THE CONTRACTOR IS TO FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS PRIOR TO CONSTRUCTION OR FABRICATION.
- THE TRACK DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND ANY APPLICABLE SPECIFICATIONS. THE CONTRACTOR IS DIRECTED TO NOTIFY THE ENGINEER OF RECORD IMMEDIATELY IF ANY CONFLICT IS FOUND BETWEEN THE TRACK PLANS AND THE PLANS OF OTHER DISCIPLINES.
- ALL MATERIALS MUST COMPLY WITH RAILROAD STANDARDS, AND IF REQUESTED, BE PREPARED TO PROVIDE SUBMITTALS (E.G. GRADATIONS FOR SUBBALLAST, BALLAST ETC.) BEFORE GRADING AND TRACK CONSTRUCTION STARTS.
- POINT OF SWITCH FOR ALL TURNOUTS AND DERAILS SHALL BE MARKED FOR RAILROAD FORCES.

CONSTRUCTION NOTES:

- REPAIRS TO FACILITIES INTENDED TO REMAIN IN PLACE SHALL BE MADE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE UNLESS OTHERWISE STATED BY THE ENGINEER.
- PRIOR TO COMMENCING WORK, ALL EXISTING SITE CONDITIONS SHALL BE FIELD VERIFIED WITH THE ENGINEER TO ASCERTAIN THE LIMITS OF WORK ACTIVITIES. THE CONTRACTOR SHALL SUBMIT AND RECEIVE THE ENGINEER'S APPROVAL OF THE CONTRACTOR'S PROJECT SCHEDULE AND OPERATIONS PLAN. EACH ITEM OF WORK SHALL BE DESCRIBED AND ACCOUNTED FOR IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR FURTHER INFORMATION REGARDING SUBMITTAL REQUIREMENTS.
- THE CONTRACTOR SHALL NOT PLACE MATERIAL AND/OR EQUIPMENT WITHIN 25 FEET OF AN ACTIVE TRACK AT ANY TIME WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY CALLED FOR ON THE DRAWINGS.
- UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND ARE BASED ON INFORMATION PROVIDED. THE UTILITIES SHOWN MAY NOT BE A COMPLETE REPRESENTATION OF ALL UTILITY LINES IN THE PROJECT AREA. CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES BEFORE DIGGING.
- ALL MATERIALS SHALL BE NEW UNLESS SALVAGED MATERIALS ARE AUTHORIZED BY THE OWNER.
- AS WORK PROGRESSES, THE ENTIRE RIGHT-OF-WAY WHERE CONTRACTOR PERFORMS WORK SHALL BE CLEANED OF ALL EQUIPMENT, SURPLUS MATERIALS, CROSSTIES, TURNOUT SWITCH TIES, RAIL, DEBRIS, ETC. ON A DAILY BASIS. DISPOSAL SHALL BE AS DIRECTED BY THE RAILROAD, INCLUDING STACKING, BANDING, AND HAULING OF SALVAGED MATERIALS TO DESIGNATED AREA.
- RAILROAD STANDARDS WILL CONTROL WORK REQUIREMENTS IF REQUIREMENTS AND SPECIFICATIONS OF THESE PLANS DO NOT ADDRESS AN ELEMENT OF REQUIRED WORK, AREMA RECOMMENDED PRACTICES SHALL BE USED AS THE MINIMUM DESIGN CRITERIA.
- ALL PERSONS ENTERING THE PROJECT RIGHT-OF-WAY SHALL FOLLOW SITE SAFETY RULES AND ALL REQUIREMENTS SET FORTH BY RAILROAD WORKPLACE SAFETY STANDARDS.
- ALL MATERIALS REMOVED SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER. NO FOULED BALLAST, CRUSHED STONE OR DIRT IS PERMITTED WITHIN SECTION OF TRACK. TEMPORARY CROSSINGS (IF APPLICABLE) CONSTRUCTED FOR THE CONVENIENCE OF THE CONTRACTOR SHALL HAVE ALL CONTAMINATED STONE, DIRT OR DEBRIS REMOVED, AND RE-TAMPING OF CROSSING SHALL BE PERFORMED AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL COORDINATE ALL INTERRUPTION OF RAIL TRAFFIC WITH THE LOCAL RAIL OPERATIONS SUPERVISOR DURING CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE FLAGGING PROTECTION WITH RAILROADS, IF REQUIRED TO BE ON RAILROAD ROW, AT LEAST 30 DAYS IN ADVANCE NEEDING ACCESS. FLAGGERS ARE SUBJECT TO AVAILABILITY.

PAVING NOTES:

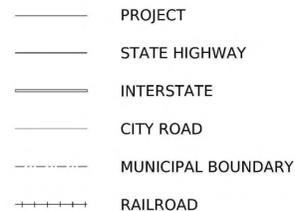
- FILTER FABRIC IS REQUIRED BETWEEN CONCRETE PAVEMENT AND BALLAST TO PREVENT FOULING OF THE BALLAST.
- GEOTEXTILE FABRIC SHALL BE INSTALLED IN ALL LOCATIONS WHERE PAVEMENT AND/OR FILL MATERIALS WOULD BE IN CONTACT WITH THE BALLAST AND/OR TIES. SEE TYPICAL SECTION SHEETS FOR LOCATION DETAILS.

RAIL NOTES:

- RAIL CUTTING SHALL BE PERFORMED WITH RAIL SAWS ONLY. NO TORCHES OR CHISELS PERMITTED.
- ALL RAIL IN CONCRETE EMBEDDED TRACK SECTIONS OR CONCRETE PANEL SECTIONS SHALL BE CONTINUOUSLY WELDED RAIL (CWR). JOINTED RAIL SHOULD BE USED IN BALLASTED SECTIONS OF TRACK. NO JOINT IN ADJOINING TRACK SHALL BE CLOSER THAN 12' TO EDGE OF CROSSING.

CROSSTIE NOTES:

- ANY NEW OR EXISTING CROSSTIES OR TURNOUT SWITCH TIES TO REMAIN THAT ARE DAMAGED BY CONTRACTOR OWNED OR OPERATED EQUIPMENT SHALL BE REPLACED WITH NEW TIES AS DETERMINED AND DIRECTED BY THE RAILROAD OR OWNER AT NO ADDITIONAL COST.



BILL OF MATERIALS			
ITEM NUMBER	DESCRIPTION	UNIT	QTY
0413-0428	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64E-22, 10 TO < 30 MILLION ESALS, 9.5 MM MIX, 1 1/2" DEPTH, SRL-H	SY	370
0413-6077	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64E-22, 10 TO < 30 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH	SY	370
0460-0003	ASPHALT TACK COAT (NTT/CNTT)	SY	740
0212-0014	GEOTEXTILE, CLASS 4, TYPE A	SY	370
	REMOVE PAVEMENT	CY	130
	REMOVE EXISTING TRACKS	TF	650
	SUBBASE 4" DEPTH	SY	370
	H.E.S TINTED CONCRETE PAVEMENT, 8" DEPTH	SY	28
	WOOD TIE BALLASTED TRACK - 10' TIES	TF	510
	WOOD TIE BALLASTED TRACK - 8'-6" TIES.	TF	140
	TRACK JOINTS ALONG TRACKS 1, 2, 3, 4	EA	16
	MAINLINE CONCRETE CROSSING PANELS.	EA	54
	ADA CONCRETE CROSSING PANELS.	EA	8

*FOR CONRAIL CONTRACTOR (FOR INFORMATION ONLY)

DIVISION OF WORK AND MATERIAL SUPPLY			
NUMBER	DESCRIPTION	MATERIAL	FABRICATION
1	REMOVE PAVEMENT WITHIN CROSSING LIMITS AND 4 FT BEYOND.	N/A	C
2	REMOVE EXISTING TRACKS 1,2,3,4 WITHIN PROPOSED CROSSING LIMITS AND 20' ON EITHER SIDE.	N/A	C
3	RECONSTRUCT WOOD TIE BALLASTED TRACK FOR TRACKS 1, 2, 3, 4 WITHIN THE PROPOSED CROSSING LIMITS. USE 10' TIES.	C	C
4	RECONSTRUCT WOOD TIE BALLASTED TRACK FOR TRACKS 1, 2, 3, 4 WITHIN 20' ON EITHER SIDE OF THE PROPOSED CROSSING LIMITS. USE 8'-6" TIES.	C	C
5	INSTALL NEW TRACK JOINTS ALONG TRACKS 1, 2, 3, 4.	C	C
6	INSTALL GEOTEXTILE FABRIC ALONG TRACKS 1, 2, 3, 4 WHERE BALLAST WOULD COME IN CONTACT WITH FILL OR PAVEMENT MATERIALS	C	C
7	INSTALL ADA CONCRETE CROSSING PANELS ALONG SOUTHERN LIMITS OF PROPOSED CROSSING.	C	*
8	INSTALL MAINLINE CONCRETE CROSSING PANELS WITHIN LIMITS OF PROPOSED CROSSING.	C	*
9	INSTALL 8" H.E.S. CONCRETE BETWEEN TRACKS 3, 4.	C	C
10	INSTALL ASPHALT PAVEMENT WITHIN CROSSING LIMITS AS SHOWN	C	C

P= PENNDOT C=CONRAIL *=SHOP FABRICATION

SHEET INDEX

DESCRIPTION	SHEET
GENERAL NOTES, SHEET INDEX, AND LOCATION MAP	1
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PROPOSED CONDITIONS	5
TRACK PROFILES	6-9

CERTIFIED CORRECT PLANS
Robert P. Blalock
 Registered Professional Engineer
 Approved by Bureau of Technical Utility Services
PA PUBLIC UTILITY COMMISSION
 ATTEST *Matthew L. Horn*
 Secretary

A-2024-3051279

AT GRADE CROSSING

PREPARED BY:
Kimley»Horn
 300 CORPORATE CENTER DRIVE,
 SUITE 401, CAMP HILL, PA 17011

DATE: 9/10/2025

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NOTES:

- CONCRETE COMPRESSIVE STRENGTH: @ 28 DAYS = 4000 PSI MINIMUM. @ SHIPMENT = 4000 PSI MINIMUM. @ REMOVAL FROM FORMS = 2500 PSI MINIMUM.
- REINFORCEMENT ASTM A706 #5 WELDABLE REBAR, PER BNSFUPRR COMMON STANDARD DWG No. 200102.
- PANELS ARE DESIGNED TO CLEAR BOTH 16" PANDROL PLATES WITH E-CLIPS AND 14" DOUBLE SHOULDER THE PLATES WITH SPIKES.
- EACH LIFTING DEVICE SAFE WORKING LOAD 4000 LBS.
- OPTION #1: CUSTOM CURVED PANELS.
- OPTION #2: HEAVY-DUTY DESIGN WITH POLYESTER REINFORCED CONCRETE.
- ALL EXPOSED STEEL RECEIVES ONE COAT GRAY PRIMER.
- PANEL DESIGN CONFORMS TO BNSFUP COMMON STANDARDS.
- PANELS BUILT TO MEET AARMA-1003 QUALITY STANDARDS.

WEIGHTS:

115#	136#	141#
GAUGE PANEL	3300	3400
FIELD PANEL	1750	1800
SET WEIGHT	6600	7500

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

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

DETAIL A
SCALE: 2" = 1'-0"

OMEGA INDUSTRIES, INC.
700 N. 32ND ST., JOHNS RD WANKOVIC, PA 19380

MAIN LINE STANDARD
8'-1 1/2" PRECAST CONCRETE PANELS
ON 10" WOOD TIES, 115# & 141# RAIL

DATE: 11/15/15 SCALE: NOTED DRAWN BY: VJK
CHECKED BY: JTB
1004726 1 OF 1 04

NOTES:

- SEE OMEGA'S MANUAL FOR INSTALLATION INSTRUCTIONS.
- REINFORCEMENT ASTM A706 #5 WELDABLE REBAR.
- CONCRETE COMPRESSIVE STRENGTH: @ 28 DAYS = 4000 PSI MINIMUM. @ SHIPMENT = 4000 PSI MINIMUM. @ REMOVAL FROM FORMS = 2500 PSI MINIMUM.
- LIFTING DEVICE LOAD RATING 3000 LB WITH MINIMUM FOS=4.
- ALL EXPOSED STEEL RECEIVES ONE COAT GRAY PRIMER.
- TOLERANCES:
A. OUT OF SQUARE 3/16" (MEASURED ALONG THE DIAGONAL).
B. LENGTH, WIDTH AND THICKNESS ±1/8".
C. BOTTOM SURFACE FLATNESS WITHIN 3/32".
D. REINFORCEMENT PLACEMENT SHALL BE ±3/4" HORIZONTAL, ±1/8" VERTICAL.

CROSS SECTION - GAUGE PANEL
SCALE: 1/2" = 1'-0"

CROSS SECTION - FIELD PANEL
SCALE: 1/2" = 1'-0"

DETAIL A
SCALE: 2" = 1'-0"

OMEGA INDUSTRIES, INC.
700 N. 32ND ST., JOHNS RD WANKOVIC, PA 19380

MAIN LINE STANDARD
PRECAST CONCRETE PANELS
ON 10" WOOD TIES, 115# & 136# RAIL

DATE: 11/15/15 SCALE: NOTED DRAWN BY: VJK
CHECKED BY: JTB
1003647 1 OF 1 03

NOTES:

- CONCRETE COMPRESSIVE STRENGTH: @ 28 DAYS = 4000 PSI MINIMUM. @ SHIPMENT = 4000 PSI MINIMUM. @ REMOVAL FROM FORMS = 2500 PSI MINIMUM.
- REINFORCEMENT ASTM A706 #5 WELDABLE REBAR, PER DWG No. 100750-01.
- PANELS ARE DESIGNED TO CLEAR BOTH 16" PANDROL PLATES WITH E-CLIPS AND 14" DOUBLE SHOULDER THE PLATES WITH SPIKES.
- LIFTING DEVICE IS DESIGNED WITH A MINIMUM SAFETY FACTOR = 4.
- ALL EXPOSED STEEL RECEIVES ONE COAT GRAY PRIMER.
- PANELS MEET AASHTO HS20-44 LOAD RATINGS.

WEIGHTS:

115# (LB)	136# (LB)
GAUGE PANEL	3200
FIELD PANEL	1700
SET WEIGHT	4900

PLAN VIEW
SCALE: N.T.S.

TYPICAL SECTION
SCALE: N.T.S.

DETAIL A
SCALE: N.T.S.

OMEGA INDUSTRIES, INC.
700 N. 32ND ST., JOHNS RD WANKOVIC, PA 19380

8'-1 1/2" LAG DOWN ADA CONCRETE PANELS
ON 10" WOOD TIES, 115# & 136# RAIL
GENERAL ARRANGEMENT

DATE: 09/20/22 SCALE: N.T.S. DRAWN BY: GJT
CHECKED BY: JTB
1006750 1 OF 1 00

MECHANICAL PROPERTIES (FOR REFERENCE)
CORE HARDNESS: Rc 26-36
Min TENSILE: 120,000 PSI
Min YIELD: 92,000 PSI

RECOMMENDED PREDRILL: 1/2"

PLAIN FINISH, WAX DIPPED

SCALE: FULL
TOLERANCES: AS NOTED

DRAWING NO. RHSQH-J11
MATERIAL: 10B22

PRODUCT: 3/4 DEEP RECESSED HEAD TIMBER SCREW
HEAT TREAT: SEE NOTE
SAE J429 GR. 5.2

DATE: 7/25/17
DRAWN BY: TJA/LIC

LEWIS BOLT & NUT COMPANY
30105 Sixth Avenue
La Junta, CO 81050
(719) 384-5400

NOTES:

- FINISH: GRAY PRIMER
- TOTAL WEIGHT FOR ONE SET OF END DEFLECTORS: 205 LBS

136# PANEL
SCALE: 1 : 8

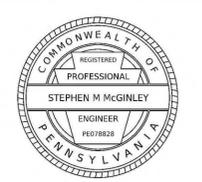
115# PANEL
SCALE: 1 : 8

OMEGA INDUSTRIES, INC.
700 N. 32ND ST., JOHNS RD WANKOVIC, PA 19380

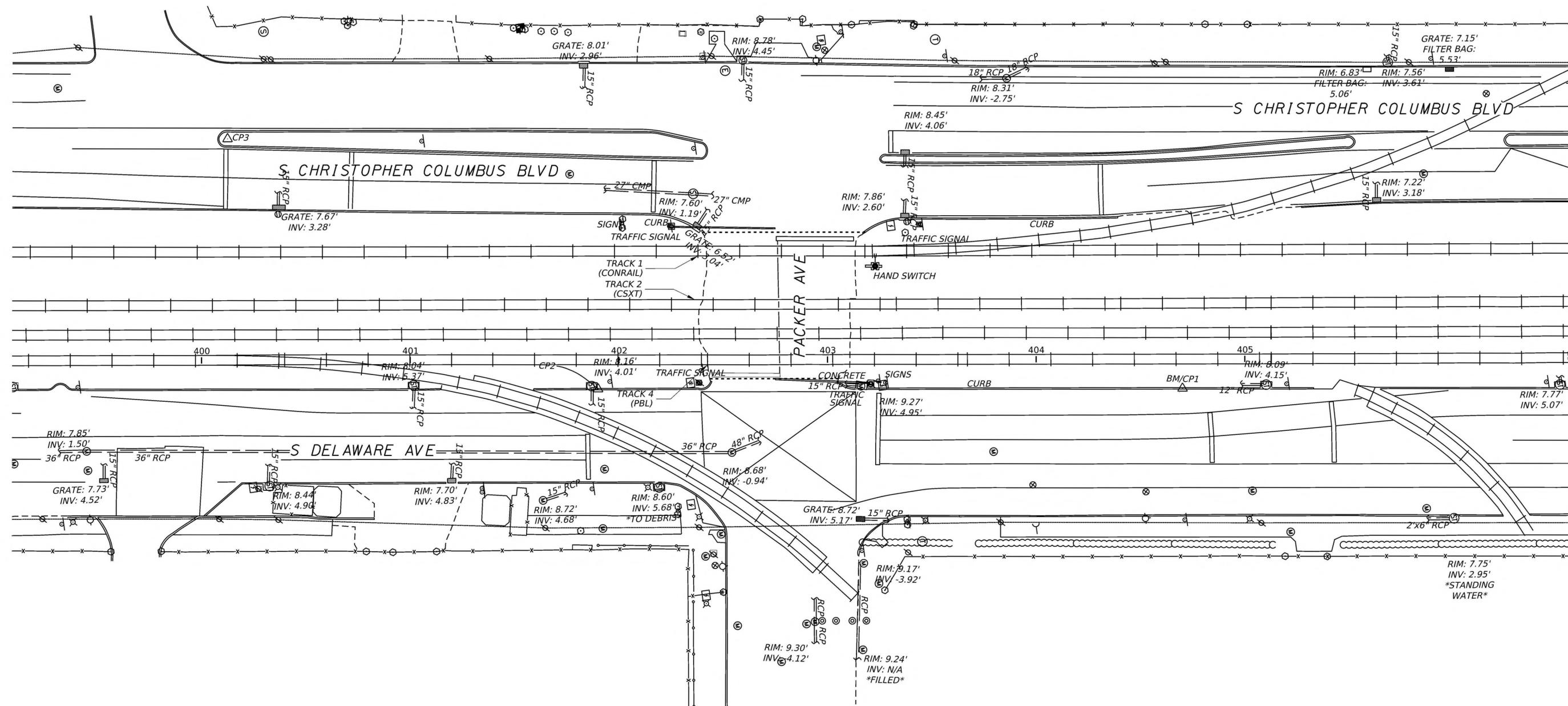
STEEL END DEFLECTOR SYSTEM
FOR USE ON WOOD TIES, 18"-20" SPACING
115# THRU 136# RAIL

DATE: 10-13-15 SCALE: N.T.S. DRAWN BY: VJK
CHECKED BY: JTB
1004438-80 1 OF 1 01

AT GRADE CROSSING
STANDARD DETAILS



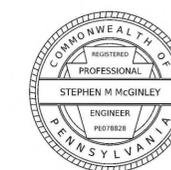
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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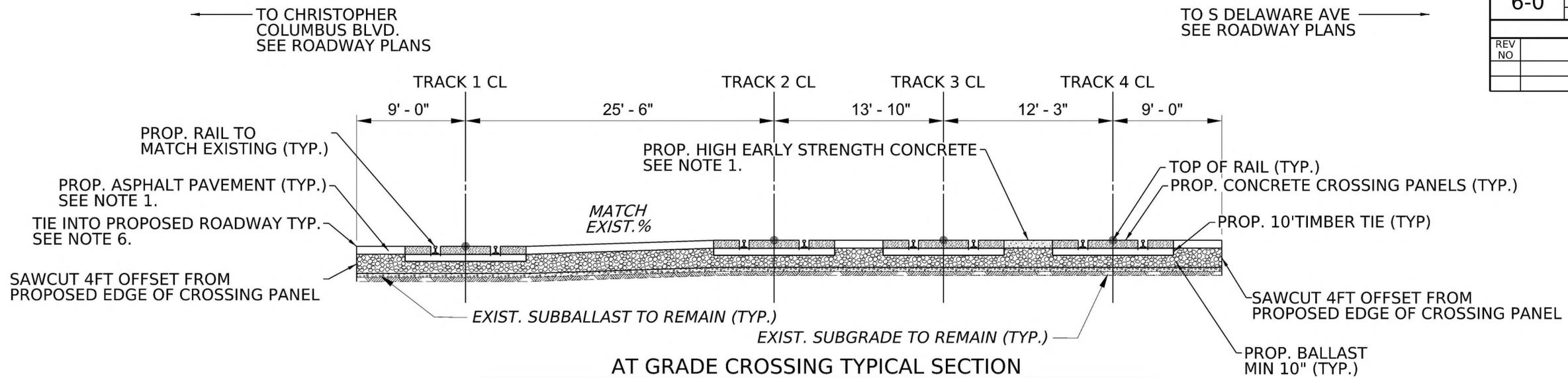
SCALE



AT GRADE CROSSING
EXISTING CONDITIONS



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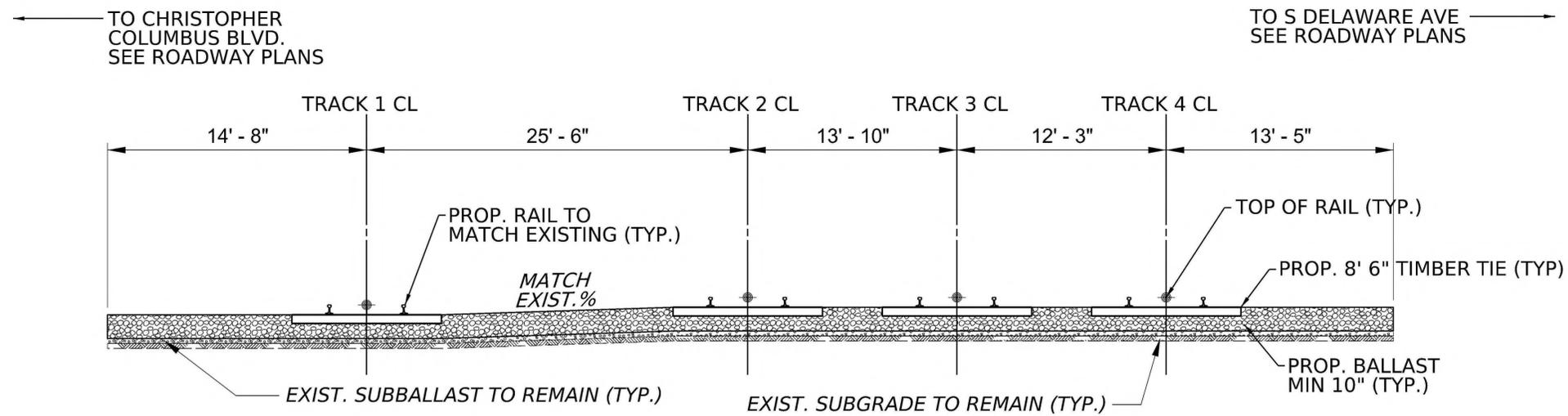
AT GRADE CROSSING TYPICAL SECTION

ADA CROSSING PANELS

TRACK 1 : STA. 101+95.58 TO STA. 102+11.83
 TRACK 2 : STA. 201+94.07 TO STA. 202+10.32
 TRACK 3 : STA. 301+94.07 TO STA. 302+10.32
 TRACK 4 : STA. 401+75.31 TO STA. 402+07.81
 NOT TO SCALE

MAINLINE STANDARD CROSSING PANELS

TRACK 1 : STA. 102+11.83 TO STA. 103+17.46
 TRACK 2 : STA. 202+10.32 TO STA. 203+17.46
 TRACK 3 : STA. 302+10.32 TO STA. 303+17.46
 TRACK 4 : STA. 402+07.81 TO STA. 403+17.46
 NOT TO SCALE



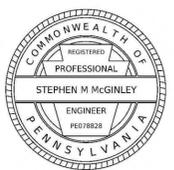
BALLASTED TRACK TYPICAL SECTION

TRACK 1 : STA. 101+74.06 TO STA. 101+95.58 AND STA. 103+17.46 TO STA. 103+37.46 (SEE NOTE 2 FOR DETAILS)
 TRACK 2 : STA. 201+74.06 TO STA. 201+94.07 AND STA. 203+15.94 TO STA. 203+35.94
 TRACK 3 : STA. 301+74.07 TO STA. 301+94.07 AND STA. 303+15.92 TO STA. 303+35.92
 TRACK 4 : STA. 401+55.31 TO STA. 401+75.31 AND STA. 403+13.43 TO STA. 403+35.93
 NOT TO SCALE

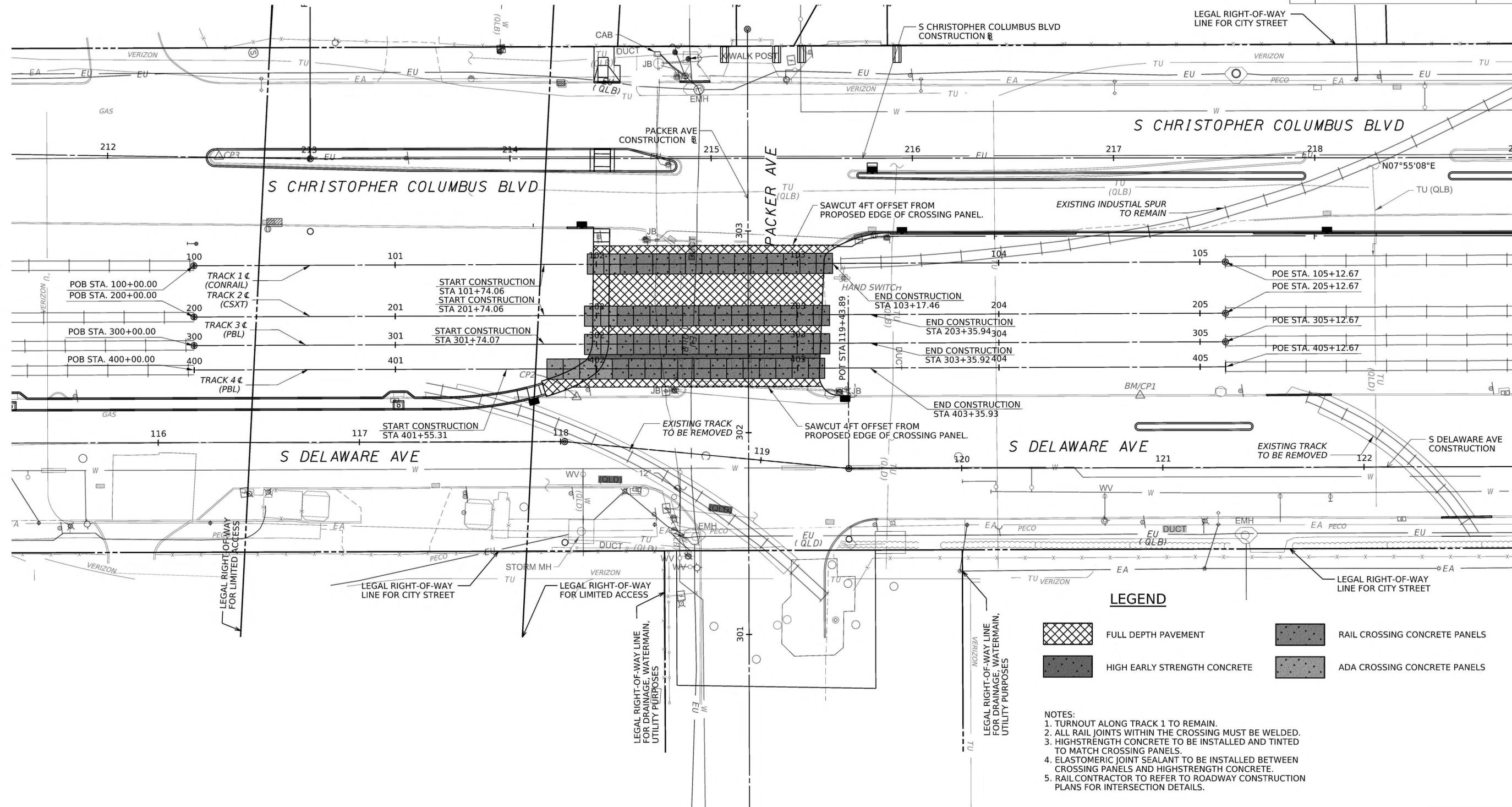
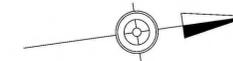
NOTES:

1. HIGH EARLY STRENGTH CONCRETE TO BE TINTED TO MATCH CONCRETE CROSSING PANELS. SEE ROADWAY PLANS FOR PAVEMENT DETAILS.
2. RAIL CONTRACTOR SHALL NOT IMPACT EXISTING TURNOUT ALONG TRACK 1.
3. CONCRETE CROSSING PANELS SHALL BE OMEGA RAIL PANELS OR EQUAL, SEE STANDARD DETAILS.
4. GEOTEXTILE FABRICS SHALL BE PLACED WHERE PAVEMENT AND/OR FILL MATERIALS WOULD COME INTO CONTACT WITH BALLAST AT ALL LOCATIONS.
5. BALLAST SHALL BE FLOODED FROM EDGE OF TIE TO EDGE OF PAVEMENT OF ADJACENT ROADWAYS TO MATCH EXISTING CONDITIONS.
6. RAIL CONTRACTOR TO REFER TO ROADWAY CONSTRUCTION PLANS FOR INTERSECTION DETAILS.

AT GRADE CROSSING TYPICAL SECTIONS



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LEGEND

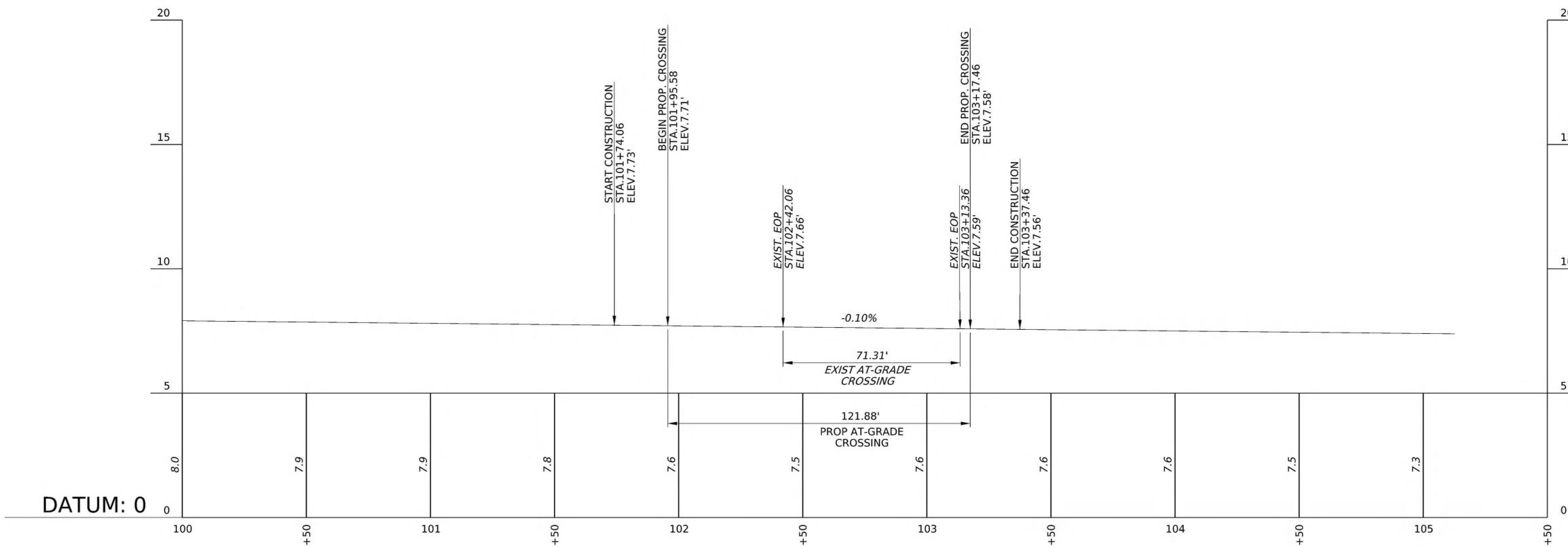
	FULL DEPTH PAVEMENT		RAIL CROSSING CONCRETE PANELS
	HIGH EARLY STRENGTH CONCRETE		ADA CROSSING CONCRETE PANELS

- NOTES:**
1. TURNOUT ALONG TRACK 1 TO REMAIN.
 2. ALL RAIL JOINTS WITHIN THE CROSSING MUST BE WELDED.
 3. HIGHSTRENGTH CONCRETE TO BE INSTALLED AND TINTED TO MATCH CROSSING PANELS.
 4. ELASTOMERIC JOINT SEALANT TO BE INSTALLED BETWEEN CROSSING PANELS AND HIGHSTRENGTH CONCRETE.
 5. RAIL CONTRACTOR TO REFER TO ROADWAY CONSTRUCTION PLANS FOR INTERSECTION DETAILS.



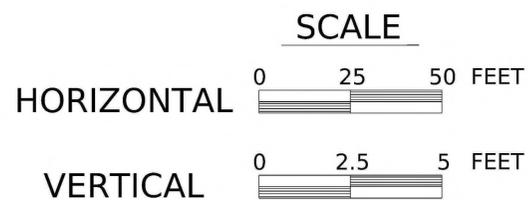
AT GRADE CROSSING IMPROVEMENT PLAN

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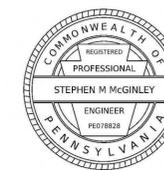
EXISTING PROFILE
TRACK 1

DATUM: 0

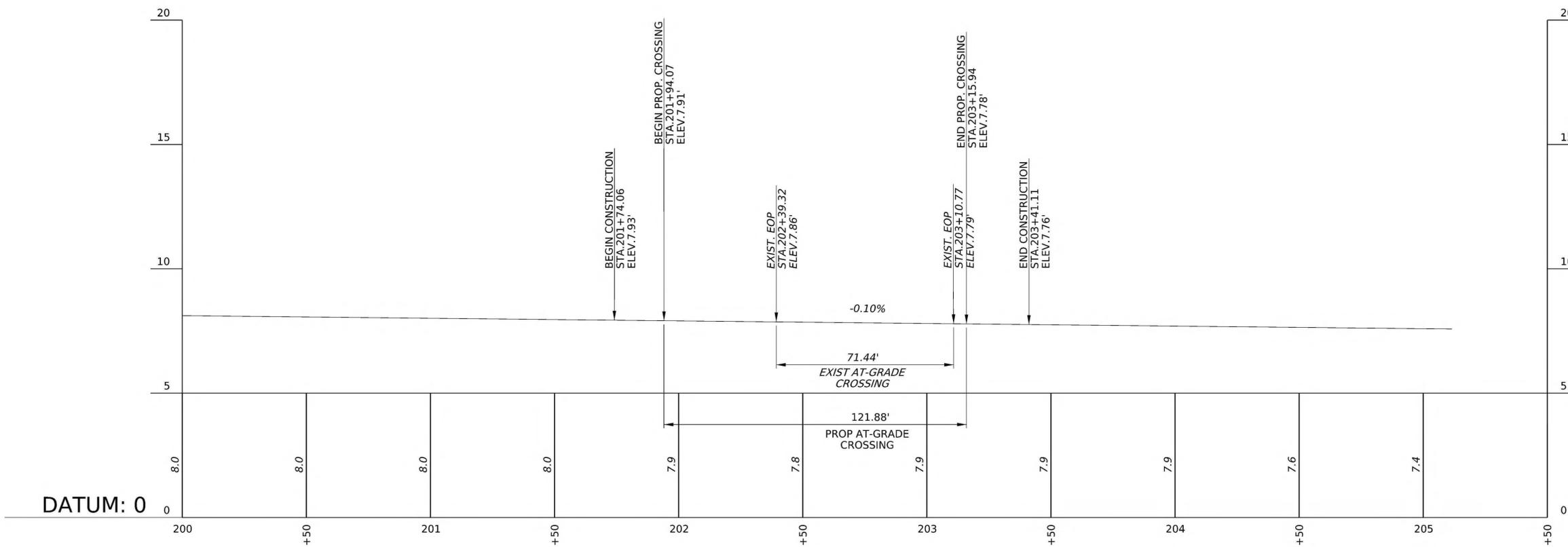


- NOTES:
1. PROPOSED TOP OF RAIL SHOWN TO MATCH EXISTING.
 2. ALL ELEVATIONS ARE SHOWN IN FEET.

AT GRADE CROSSING
TRACK PROFILES

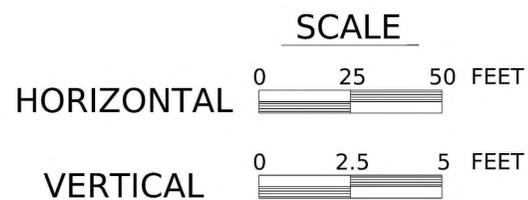


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EXISTING PROFILE
TRACK 2

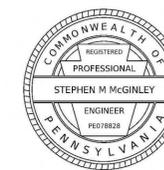
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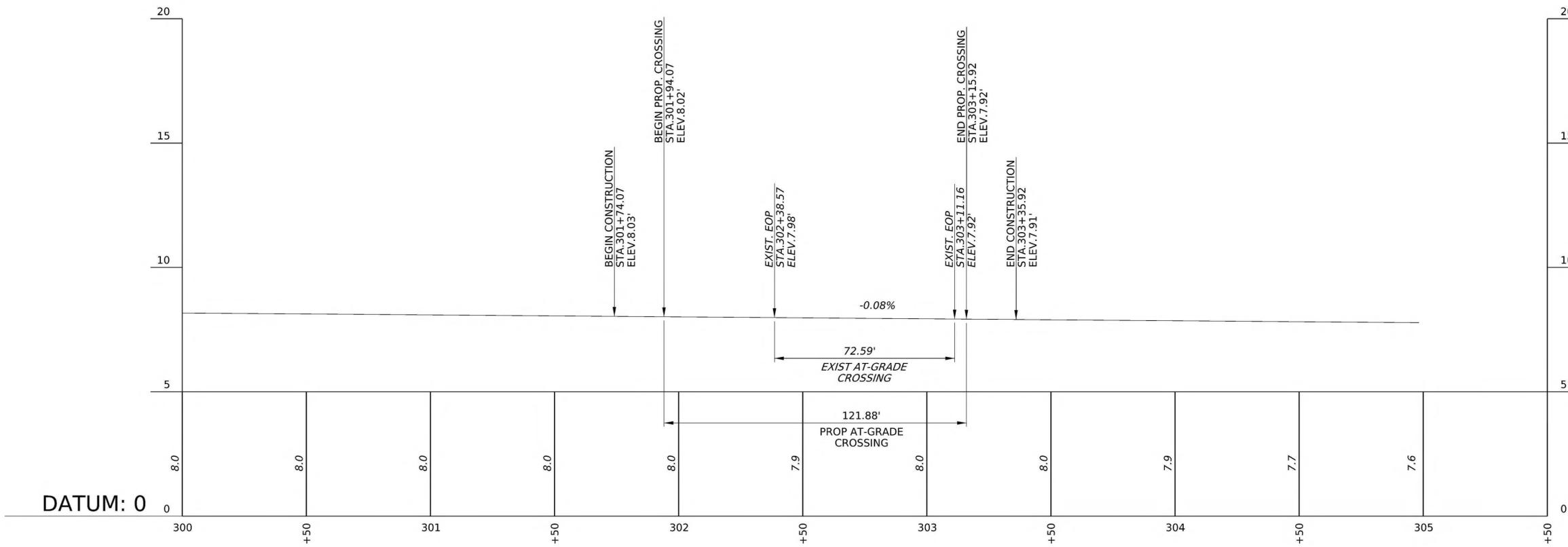
- NOTES:
1. PROPOSED TOP OF RAIL SHOWN TO MATCH EXISTING.
 2. ALL ELEVATIONS ARE SHOWN IN FEET.



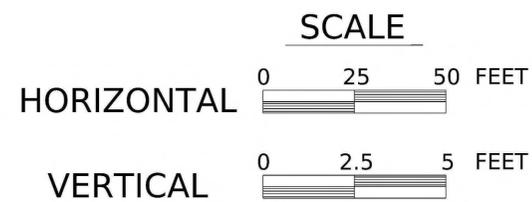
AT GRADE CROSSING
TRACK PROFILES



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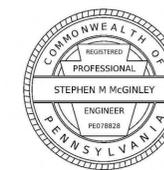


EXISTING PROFILE
TRACK 3

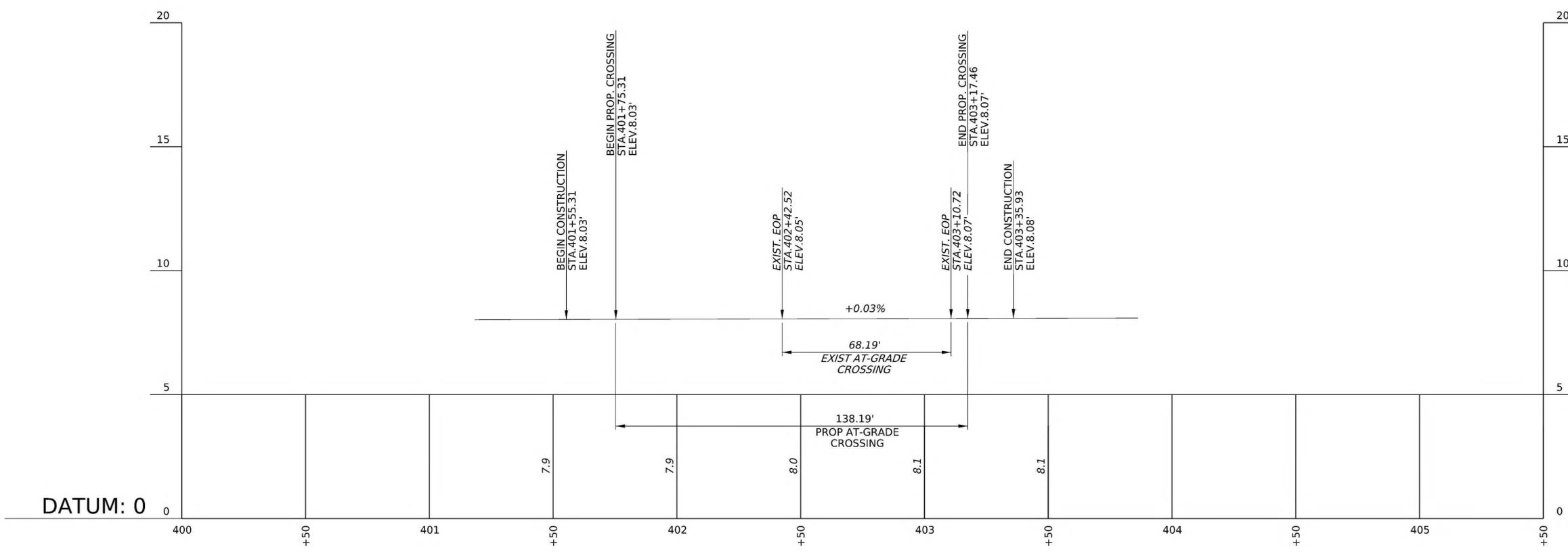


- NOTES:
 1. PROPOSED TOP OF RAIL SHOWN TO MATCH EXISTING.
 2. ALL ELEVATIONS ARE SHOWN IN FEET.

AT GRADE CROSSING
TRACK PROFILES



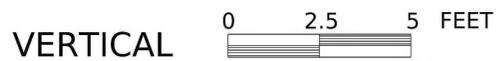
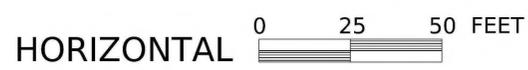
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EXISTING PROFILE
TRACK 4

DATUM: 0

SCALE



- NOTES:
 1. PROPOSED TOP OF RAIL SHOWN TO MATCH EXISTING.
 2. ALL ELEVATIONS ARE SHOWN IN FEET.

AT GRADE CROSSING
TRACK PROFILES



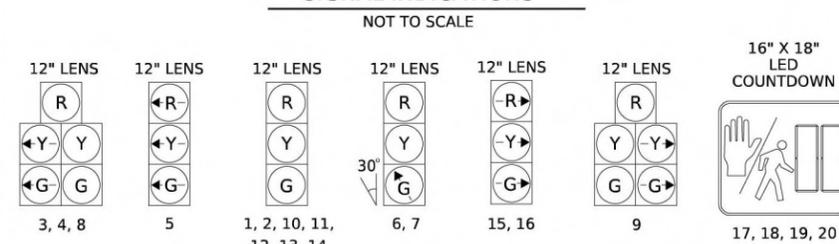
OPERATOR: Georges.Micera
FILE NAME: pw://kh-pw.bentley.com:kh-pw-01/Documents/01 Active Projects/AT-HBG-112464014 - E05849 WO 2 PhilaPort PE/CAD/PlanSheets/Rail Crossing/E05849_Prof-R.dgn

MOVEMENT, SEQUENCE, & TIMING DIAGRAM

Timing diagram table with columns for PHASE, INTERVALS, SIGNALS, and MEMORY. It details signal sequences for various phases (2+6, 1+6+9, 3+8+9, 3+9+10, 3+9 CLEAROUT, 4) across 29 intervals.

FOR CONTRACTOR IMPLEMENTATION AS PART OF SIGNAL UPGRADE. SIGNAL TO RUN FREE. ALL EXCESS GREEN TIME TO GO TO PHASE 2 + 6. Includes notes on signal actuation and contractor requirements.

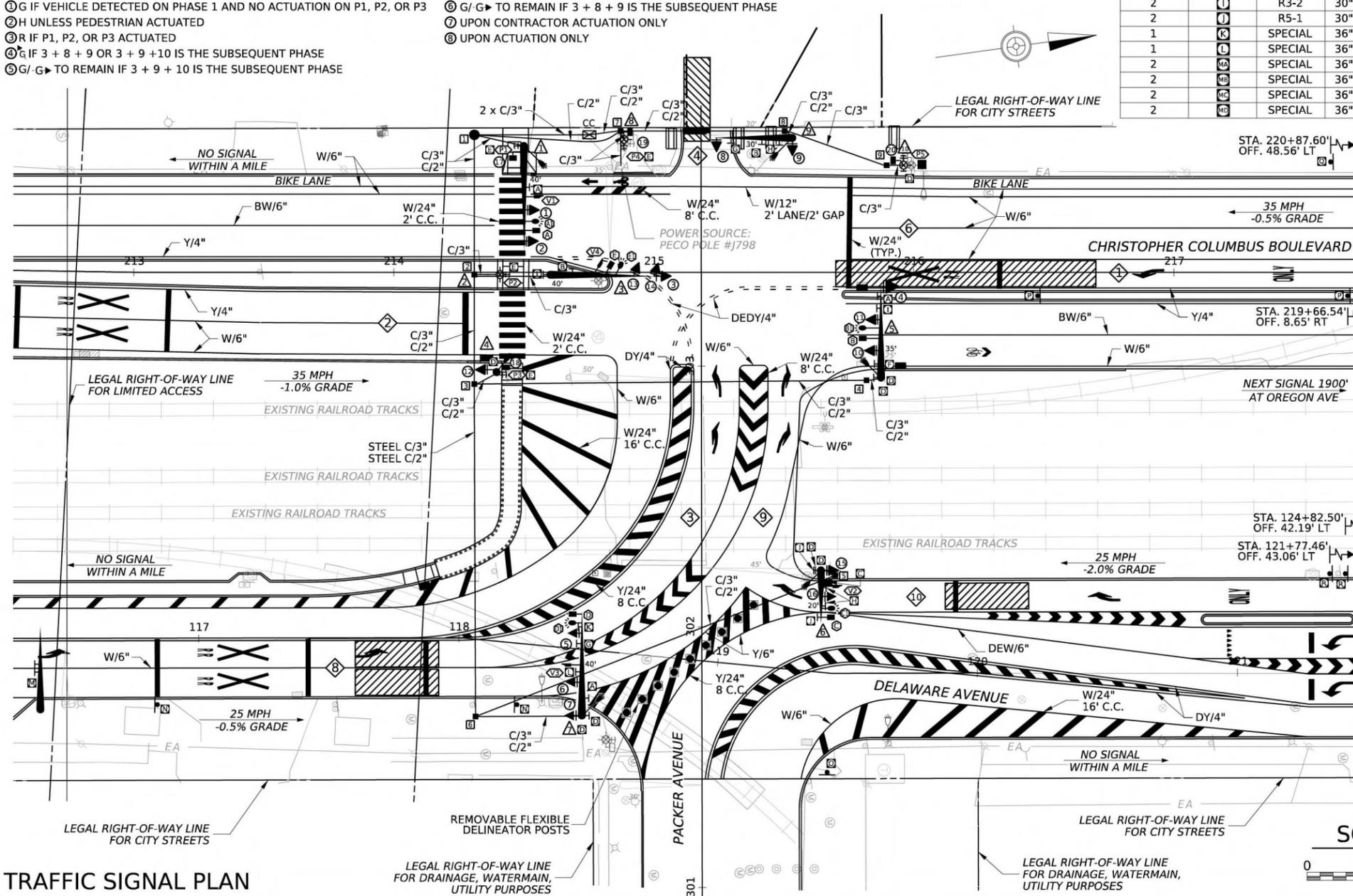
SIGNAL INDICATIONS



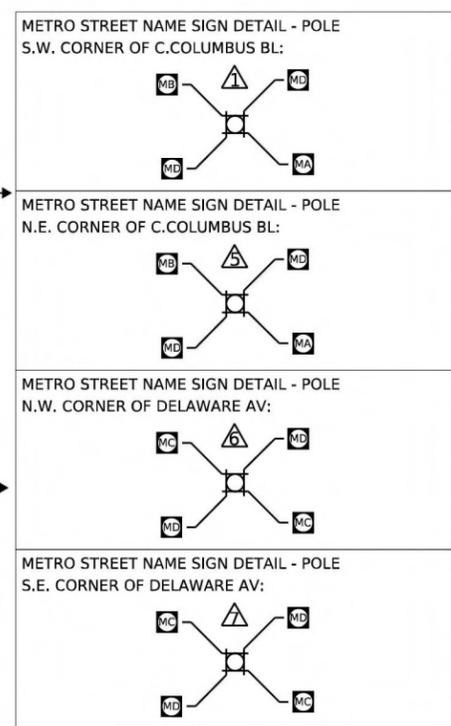
ALL VEHICULAR SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS. ALL OVERHEAD SIGNALS TO INCLUDE RETROREFLECTIVE BACKPLATES. SIGNALS TO BE EQUIPPED WITH TUNNEL LOUVERS.

SIGN TABULATION

Table listing sign specifications including quantity, plan symbol, series number, sign dimensions, and description for various street name and turn signs.



* INTERNALLY ILLUMINATED SIGN REFER TO SHEET 6 FOR ADDITIONAL SIGN TABULATIONS



Project information table including District (6-0), County (Philadelphia), Route (0000), Section (CPD), and Revision details.

MATERIAL LIST table detailing quantities and descriptions for various items such as signal supports, brackets, and cables.

LEGEND table defining symbols used in the plan, including mast arm lengths, C-posts, poles, and various utility markers.



LICENSE NO. PE091721 DATE: 09/10/2025



TRAFFIC SIGNAL PLAN

CITY OF PHILADELPHIA TRAFFIC CONTROL SYSTEM PACKER AVENUE AT DELAWARE AVENUE & CHRISTOPHER COLUMBUS BOULEVARD

EMERGENCY PRE-EMPTION MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

Timing diagram for emergency pre-emption with 29 signal intervals and 5 phases. Includes signal status (R, G, Y, OFF) and flashing indicator.

EMERGENCY PRE-EMPTION NOTES

CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR EACH APPROACH WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION.

EMERGENCY BEACON TO CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH.

SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE ARE TO TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.

PEDESTRIAN TIME TO BE SPLIT BETWEEN PED "WALK (MAN)" AND PED "CLEAR (HAND)". THE PED "WALK (MAN)" INTERVAL TO TERMINATE IMMEDIATELY, FOLLOWED BY THE PED "CLEAR (HAND)" INTERVAL. INTERVAL TO TIME OUT FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES, BEFORE GOING INTO EMERGENCY PRE-EMPTION.

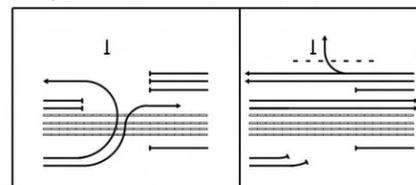
IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE TO TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.

UPON COMPLETION OF ANY PRE-EMPTION PHASE, IN RETURNING TO NORMAL OPERATION, PHASE 2+5, INTERVAL 1 TO FOLLOW.

IN EMERGENCY PRE-EMPTION, NO PRIORITY TO BE ESTABLISHED, PRE-EMPTION TO BE A "FIRST COME, FIRST SERVE" OPERATION.

IF THE SIGNALS, WHEN ACTIVATED BY AN EMERGENCY VEHICLE ARE FLASHING, ALL SIGNALS TO REMAIN FLASHING.

TRAIN PRE-EMPTION MOVEMENT, SEQUENCE, AND TIMING DIAGRAM



Timing diagram for train pre-emption with 15 signal intervals and 5 phases. Includes signal status (R, G, Y, ON, OFF) and flashing indicator.

TRAIN PRE-EMPTION NOTES

THE SIGNALS, WHEN ACTUATED BY A TRAIN, TO TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, EXCEPT FOR SIGNAL HEADS 1, 2, 10, 11, AND 12, FOLLOWED BY SELECTIVE CLEARANCES DEPENDENT UPON THE PHASE IN WHICH THE PRE-EMPTION OCCURS, FOLLOWED BY TRAIN PRE-EMPTION INTERVAL.

THE SIGNALS, WHEN ACTUATED BY A TRAIN TO TIME OUT ALL YELLOW AND RED INDICATIONS, FOLLOWED BY THE TRAIN PRE-EMPTION PHASE. UPON COMPLETION OF TRAIN PRE-EMPTION, IN RETURNING TO NORMAL OPERATION, PHASE 2, INTERVAL 1 TO FOLLOW.

STREET LIGHTING NOTES

- 1. A PECO S&M APPLICATION NEEDS TO BE INITIATED AND SUBMITTED FOR ANY NEW STREET LIGHTING INFRASTRUCTURE WITH A COPY TO STREET LIGHTING. THE APPLICATION IS SEPERATE FROM ANY BUILDING OR OTHER INFRASTRUCTURE THAT NEEDS POWER.
2. 2" PVC CONDUIT TO BE ROUTED AROUND THE INTERSECTION FOR STREET LIGHT WIRING. STEEL CONDUIT TO BE INSTALLED UNDER ANY TRACKS. CONDUIT FOR STREET LIGHTING WIRING IS TO BE SEPERATE FROM CONDUIT FOR TRAFFIC SIGNAL WIRING AS FOR BOTH CURCUITS WILL NOT FIT IN THE SAME CONDUIT. TRENCH CAN BE SHARED.
3. CONDUIT IS TO BEGIN AT POWER SOURCE AND ROUTE TO EACH TRAFFIC STRUCTURE WITH A LUMINAIRE. LIGHTING IS TO BE FED VIA 1 SOLE PECO-APPROVED POWER SOURCE.
4. CITY STANDARD STREET LIGHTING WIRING TO BE UTILIZED IS (3) #4 AWG WITH (1) #6 AWG GROUND. NO SPLICING IN JUNCTION BOXES. USE IN-LINE FUSE HOLDER WITH 10 A FUSES AT THE BASE OF EACH TRAFFIC POLE WITH A LUMINAIRE.
5. PROJECT TO CONTACT STREET LIGHTING KEVIN MCGINLEY(KEVIN.MCCGINLEY@PHILA.GOV) AND PATRICE NUBLE (PATRICE.NUBLE@PHILA.GOV) DURING CONSTRUCTION FOR MODEL NUMBER OF LUMINAIRE AND PHOTOCNTROLS VIA STANDARD RFI AND SUBMITTAL PROCESS.
6. SPECIFICATION SHEETS TO BE SUBMITTED AND APPROVED PRIOR TO INSTALLATION OF FIXTURES AND PHOTOCNTROLS VIA STANDARD RFI AND SUBMITTAL PROCESS.
7. STREET LIGHTING TO BE CONTACTED ONCE WORK IS COMPLETE TO SCHEDULE AN INSPECTION FOR PROPER OPERATION.
8. REFERENCE STREET LIGHTING DETAIL #SL0204 FOR 6' BRACKET.
9. REFERENCE STREET LIGHTING DETAIL #TE0101 FOR 20' C-POST.
10. REFERENCE STREET LIGHTING DETAIL #TE0102 FOR 20' C-POST SPLIT BASE ASSEMBLY.
11. REFERENCE STREET LIGHTING DETAIL #TE0201FOR 30' D-POLE.
12. REFERENCE STREET LIGHTING DETAIL #TE0202 FOR 30' D-POLE FOUNDATION.
13. REFERENCE STREET LIGHTING DETAIL #TE0703 FOR 30' D-POLE TAP.
14. IF THERE ARE ANY SIDEWALK MODIFICATIONS, THEN A 2" REVEAL FOR STREET LIGHT POLE FOUNDATIONS MUST BE MAINTAINED AT FINAL GRADE. IF THE 2" REVEAL CAN NOT BE MAINTAINED, THEN THE RESPECTIVE FOUNDATION IS TO BE RECONSTRUCTED BY THE PROJECT. CONTACT STREET LIGHTING IMMEDIATELY.
15. PROTECT ALL STREET LIGHTING INFRASTRUCTURE DURING CONSTRUCTION. IF ANY INFRASTRUCTURE IS DAMAGED DURING CONSTRUCTION, THEN THE PROJECT IS RESPONSIBLE FOR REPAIR/REPLACEMENT. CONTACT PECO AND STREET LIGHTING IMMEDIATLEY (KEVIN.MCCGINLEY@PHILA.GOV AND PATRICE.NUBLE@PHILA.GOV).
16. CONTACT STREET LIGHTING TWO WEEKS PRIOR TO POURING STREET LIGHTING FOUNDATIONS FOR POLE SPOTTING MEETING.
17. REFERENCE CITY OF PHILADELPHIA, DEPARTMENT OF STREETS DETAIL TE0201, TE0202, AND TE0703 FOR 30' D-POLE, D-POLE FOUNDATION, AND D-POLE TAP FOR PROPOSED D-POLES.
18. REFERENCE CITY OF PHILADELPHIA, DEPARTMENT OF STREETS DETAIL SL0204 FOR 6' BRACKET
19. STREETLIGHTING CURCUIT TO HAVE ITS OWN DEDICATED SERVICE TAP SEPERATE FROM THE SERVICE TAP FOR THE TRAFFIC SIGNAL CICIUT.

RAILROAD PRE-EMPTION PARAMETERS (SECONDS)

Table with 3 columns: Description, Value. Rows include MT (20), CT (4), APT (42), and Maximum Pre-emption Time (66).

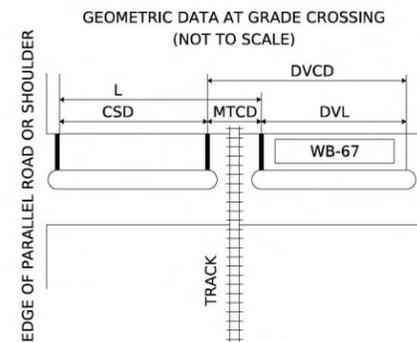
RAILROAD PRE-EMPTION TIMING SEQUENCE

RIGHT OF WAY TRANSFER TIME: 27 SECONDS
QUEUE CLEARANCE TIME: 34 SECONDS
DESIRED MAXIMUM SEPERATION TIME: 4 SECONDS
MAXIMUM PRE-EMPTION TIME: 66 SECONDS

RAILROAD LIGHTS FLASH AFTER: 28 SECONDS
RAILROAD GATES START DESCENDING AFTER: 33 SECONDS
RAILROAD GATES DOWN AFTER: 43 SECONDS
FASTEST TRAIN CROSSES AFTER: 66 SECONDS

QUEUE CLEARANCE TIME CALCULATION PARAMETERS

Table with 3 columns: Description, Value. Rows include CSD (8'), MTCD (73'), DVL (75'), L (185'), and DVCD (252').



DISTRICT: 6-0, COUNTY: PHILADELPHIA, ROUTE: 0000, SECTION: CPD, 4 OF 7

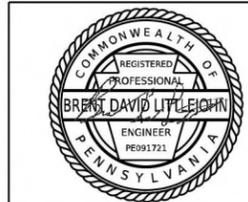
APPROVED: Kasim K. Ali, 9/15/2025, TRAFFIC ENGINEERING DIVISION, DESIGN REVIEW: Ashwin B. Patel, P.E., PENNDOT TRAFFIC ENGINEER

MATERIAL LIST

Empty table for material list.

LEGEND

Legend table listing symbols for NEW MAST ARM / LENGTH, NEW C.O.P. C-POST, NEW C.O.P. D-POLE, NEW SIGNAL HEAD / NUMBER, NEW PEDESTRIAN SIGNAL HEAD / NUMBER, NEW JUNCTION BOX / NUMBER, NEW LUMINAIRE, NEW PEDESTRIAN PUSH BUTTON, SIGNALING / ID, EX. MAST ARM / LENGTH, EX. C.O.P. C-POST, EX. C.O.P. D-POLE, EX. PEDESTRIAN SIGNAL HEAD, EX. SIGN, EX. JUNCTION BOX / NUMBER, EX. LUMINAIRE, EX. PEDESTRIAN PUSH BUTTON, SIGNALING, EX. FIRE HYDRANT, NEW PREEMPT. DETECTOR/ID, NEW PREEMPT. BEACON/ID, NEW VIDEO DETECTOR / ID, NEW CONDUIT / SIZE, EX. AERIAL SERVICE WIRE, EX. AERIAL WIRE, DOUBLE SOLID YELLOW LINE / WIDTH, DOTTED EXTENSION DOUBLE YELLOW LINE / WIDTH, SOLID WHITE LINE / WIDTH, NEW CURB RAMP, EX. CURB RAMP, VIDEO DETECTION AREA, SIGNAL PHASE NUMBER, EX. CONTROLLER, EX. WATER VALVE, EX. UTILITY MANHOLE, EX. STORMWATER MANHOLE, EX. UTILITY PWR. MANHOLE, EX. TELE./COMM. MANHOLE, EX. UTILITY POLE, EX. CONCRETE FOUNDATION



LICENSE NO. PE091721, DATE: 09/10/2025

CITY OF PHILADELPHIA TRAFFIC CONTROL SYSTEM

PACKER AVENUE AT DELAWARE AVENUE & CHRISTOPHER COLUMBUS BOULEVARD

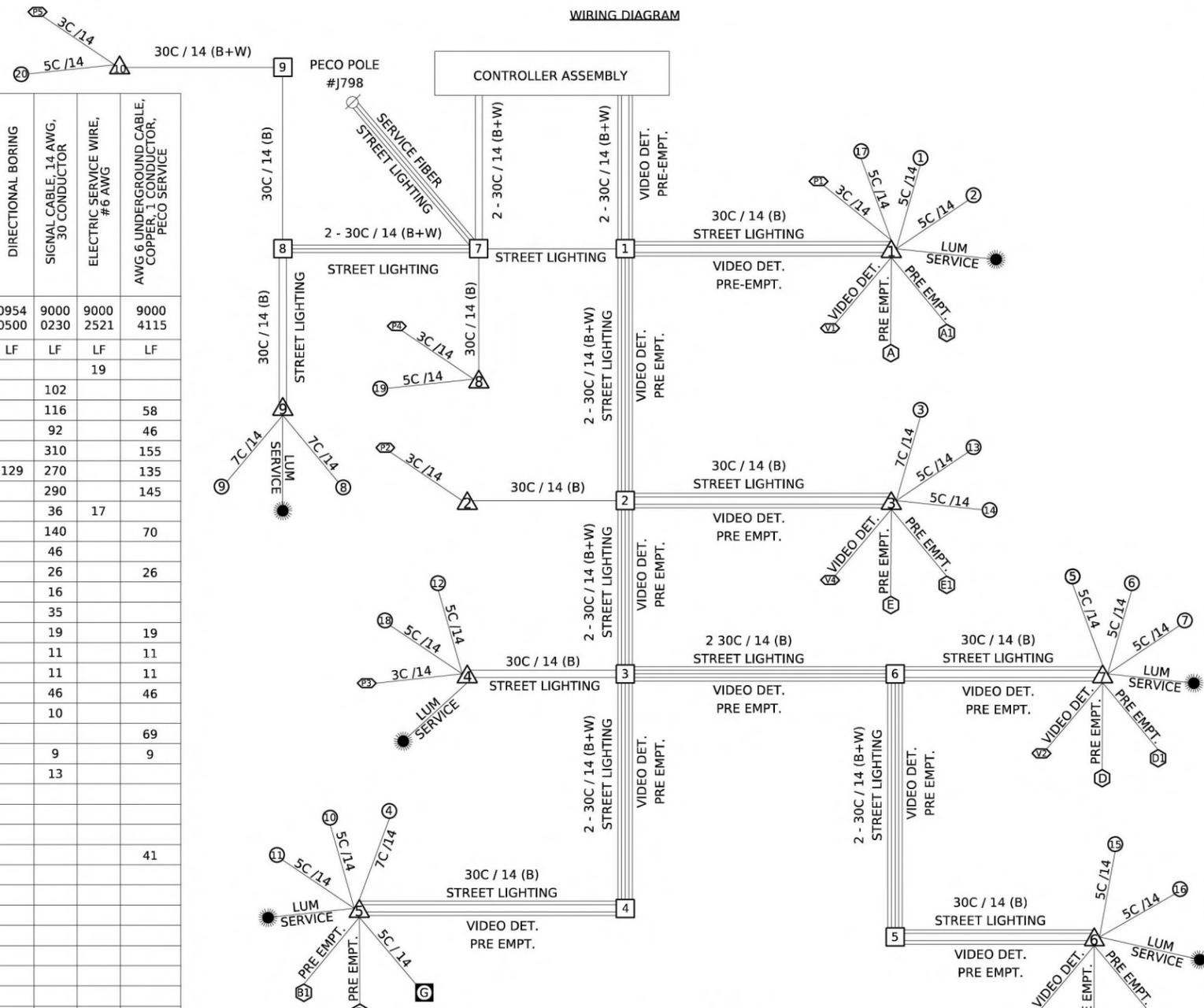
TRAFFIC SIGNAL PLAN

TRENCH, CONDUIT, JUNCTION BOX, ELECTRICAL ITEMS

DESCRIPTION	AWG 4 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR, PECO SERVICE	2" DIRECT BURIAL CONDUIT MODIFIED	3" DIRECT BURIAL CONDUIT MODIFIED	2" CONDUIT, STEEL, UNDER TRACKS	3" CONDUIT, STEEL, UNDER TRACKS	TRENCH AND BACKFILL, TYPE 1	TRENCH AND BACKFILL, TYPE 2	TRENCH AND BACKFILL, TYPE 3	SIGNAL CABLE, 14 AWG, 3 CONDUCTOR	SIGNAL CABLE, 14 AWG, 5 CONDUCTOR	SIGNAL CABLE, 14 AWG, 7 CONDUCTOR	DIRECTIONAL BORING	SIGNAL CABLE, 14 AWG, 30 CONDUCTOR	ELECTRIC SERVICE WIRE, #6 AWG	AWG 6 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR, PECO SERVICE
ITEM NUMBER	4910 4114	4910 5055	4910 5059	4954 0012	4954 0013	0954 0151	0954 0152	0954 0153	0954 0201	0954 0202	0954 0203	0954 0500	9000 0230	9000 2521	9000 4115
UNIT	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
SERVICE TO JB 7			14				14							19	
CC TO JB1			90				45						102		
JB 1 TO JB 2	174	52	52				20	32					116		58
JB 2 TO JB 3	138	40	40			6	6	28					92		46
JB 3 TO JB 4	465	149	149			30		119					310		155
JB 3 TO JB 6	405			129	129							129	270		135
JB 6 TO JB 5	435	139	139			22		117					290		145
CC TO JB 7			12				12						36	17	
JB 7 TO JB 8	210	64	64				45	19					140		70
JB 8 TO JB 9			40				40						46		
JB 1 TO SS 1	78	20	20				20						26		26
JB 2 TO SS 2			10				10						16		
JB 2 TO SS 3			29				29						35		
JB 3 TO SS 4	57	13	13			13							19		19
JB 4 TO SS 5	33	5	5			5							11		11
JB 5 TO SS 6	33	5	5			5							11		11
JB 6 TO SS 7	138	40	40			40							46		46
JB 7 TO SS 8			4				4						10		
JB 7 TO JB 1	207	57					57								69
JB 8 TO SS 9	27	3	3				3						9		9
JB 9 TO SS 10			7				7						13		
SS 1 TO 1													50		
SS 1 TO 2													62		
SS 1 TO 17													15		
SS 1 TO 21	123														41
SS 1 TO 22									4						
SS 3 TO 3													65		
SS 3 TO 13													57		
SS 3 TO 14													65		
SS 4 TO 12													20		
SS 4 TO 18													15		
SS 4 TO 23									4						
SS 4 TO 24	123														41
SS 5 TO 4													60		
SS 5 TO 10													36		
SS 5 TO 11													48		
SS 5 TO 20	123														41
SS 5 TO F													31		
SS 6 TO 15													20		
SS 6 TO 16													35		
SS 6 TO 20	123														41
SS 7 TO 5													57		
SS 7 TO 6													38		
SS 7 TO 7													20		
SS 7 TO 20	123														41
SS 8 TO 19													15		
SS 8 TO 23									4						
SS 9 TO 8													54		
SS 9 TO 9													20		
SS 9 TO 20	123														41
SS 10 TO 20													15		
SS 10 TO 25									4						
TOTAL	3138	587	736	129	129	121	312	315	20	599	199	129	1598	36	1046

CC = CONTROLLER CABINET
JB = JUNCTION BOX
SS = SIGNAL SUPPORT

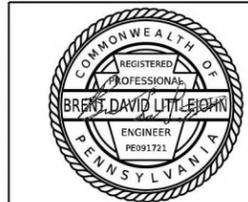
WIRING DIAGRAM



WIRING DIAGRAM LEGEND

- ▲ SUPPORT NUMBER
- JUNCTION BOX
- Ⓢ SIGNAL HEAD
- Ⓟ PEDESTRIAN PUSH BUTTON
- Ⓜ PRE-EMPT. DETECTOR
- Ⓜ PRE-EMPT. BEACON
- Ⓜ VIDEO DETECTOR
- ☀ LUMINAIRE SERVICE
- Ⓧ UTILITY POLE

WIRING DIAGRAM NOTES:
VIDEO DETECTION AND EMERGENCY PREEMPTION QUANTITIES TO BE DETERMINED BY CONTRACTOR.



LICENSE NO. PE091721
DATE: 09/10/2025

DISTRICT	COUNTY	ROUTE	SECTION	
6-0	PHILADELPHIA	0000	CPD	5 OF 7

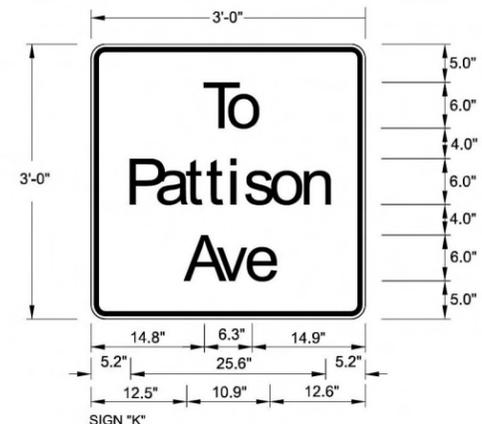
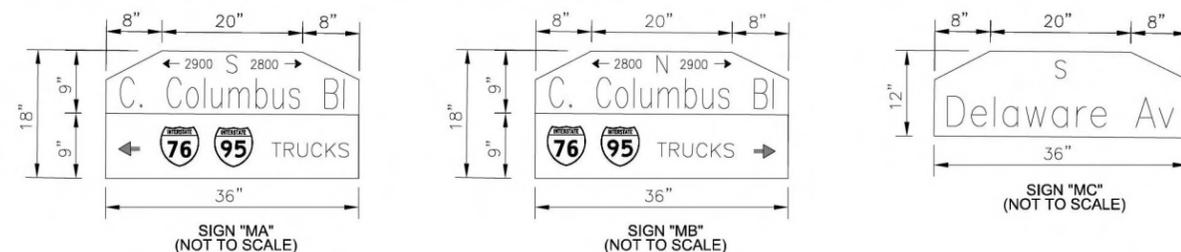
CITY OF PHILADELPHIA
APPROVED: Kasim K. Ali 9/15/2025
TRAFFIC ENGINEERING DIVISION DATE
DESIGN REVIEW: Ashwin B. Patel, P.E. Digitally signed by Ashwin B. Patel, P.E. Date: 2025.09.15 13:58:18 -0400
PENNDOT TRAFFIC ENGINEER DATE

MATERIAL LIST

ITEM	DESCRIPTION	QUANTITY	UNIT
1	NEW MAST ARM / LENGTH		
2	NEW C.O.P. C-POST		
3	NEW C.O.P. D-POLE		
4	NEW SUPPORT NUMBER		
5	NEW SIGNAL HEAD / NUMBER		
6	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
7	NEW JUNCTION BOX / NUMBER		
8	NEW LUMINAIRE		
9	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
10	NEW MAST ARM / LENGTH		
11	NEW C.O.P. C-POST		
12	NEW C.O.P. D-POLE		
13	NEW SUPPORT NUMBER		
14	NEW SIGNAL HEAD / NUMBER		
15	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
16	NEW JUNCTION BOX / NUMBER		
17	NEW LUMINAIRE		
18	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
19	NEW MAST ARM / LENGTH		
20	NEW C.O.P. C-POST		
21	NEW C.O.P. D-POLE		
22	NEW SUPPORT NUMBER		
23	NEW SIGNAL HEAD / NUMBER		
24	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
25	NEW JUNCTION BOX / NUMBER		
26	NEW LUMINAIRE		
27	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
28	NEW MAST ARM / LENGTH		
29	NEW C.O.P. C-POST		
30	NEW C.O.P. D-POLE		
31	NEW SUPPORT NUMBER		
32	NEW SIGNAL HEAD / NUMBER		
33	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
34	NEW JUNCTION BOX / NUMBER		
35	NEW LUMINAIRE		
36	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
37	NEW MAST ARM / LENGTH		
38	NEW C.O.P. C-POST		
39	NEW C.O.P. D-POLE		
40	NEW SUPPORT NUMBER		
41	NEW SIGNAL HEAD / NUMBER		
42	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
43	NEW JUNCTION BOX / NUMBER		
44	NEW LUMINAIRE		
45	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
46	NEW MAST ARM / LENGTH		
47	NEW C.O.P. C-POST		
48	NEW C.O.P. D-POLE		
49	NEW SUPPORT NUMBER		
50	NEW SIGNAL HEAD / NUMBER		
51	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
52	NEW JUNCTION BOX / NUMBER		
53	NEW LUMINAIRE		
54	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
55	NEW MAST ARM / LENGTH		
56	NEW C.O.P. C-POST		
57	NEW C.O.P. D-POLE		
58	NEW SUPPORT NUMBER		
59	NEW SIGNAL HEAD / NUMBER		
60	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
61	NEW JUNCTION BOX / NUMBER		
62	NEW LUMINAIRE		
63	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
64	NEW MAST ARM / LENGTH		
65	NEW C.O.P. C-POST		
66	NEW C.O.P. D-POLE		
67	NEW SUPPORT NUMBER		
68	NEW SIGNAL HEAD / NUMBER		
69	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
70	NEW JUNCTION BOX / NUMBER		
71	NEW LUMINAIRE		
72	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
73	NEW MAST ARM / LENGTH		
74	NEW C.O.P. C-POST		
75	NEW C.O.P. D-POLE		
76	NEW SUPPORT NUMBER		
77	NEW SIGNAL HEAD / NUMBER		
78	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
79	NEW JUNCTION BOX / NUMBER		
80	NEW LUMINAIRE		
81	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
82	NEW MAST ARM / LENGTH		
83	NEW C.O.P. C-POST		
84	NEW C.O.P. D-POLE		
85	NEW SUPPORT NUMBER		
86	NEW SIGNAL HEAD / NUMBER		
87	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
88	NEW JUNCTION BOX / NUMBER		
89	NEW LUMINAIRE		
90	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
91	NEW MAST ARM / LENGTH		
92	NEW C.O.P. C-POST		
93	NEW C.O.P. D-POLE		
94	NEW SUPPORT NUMBER		
95	NEW SIGNAL HEAD / NUMBER		
96	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
97	NEW JUNCTION BOX / NUMBER		
98	NEW LUMINAIRE		
99	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
100	NEW MAST ARM / LENGTH		
101	NEW C.O.P. C-POST		
102	NEW C.O.P. D-POLE		
103	NEW SUPPORT NUMBER		
104	NEW SIGNAL HEAD / NUMBER		
105	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
106	NEW JUNCTION BOX / NUMBER		
107	NEW LUMINAIRE		
108	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
109	NEW MAST ARM / LENGTH		
110	NEW C.O.P. C-POST		
111	NEW C.O.P. D-POLE		
112	NEW SUPPORT NUMBER		
113	NEW SIGNAL HEAD / NUMBER		
114	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
115	NEW JUNCTION BOX / NUMBER		
116	NEW LUMINAIRE		
117	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
118	NEW MAST ARM / LENGTH		
119	NEW C.O.P. C-POST		
120	NEW C.O.P. D-POLE		
121	NEW SUPPORT NUMBER		
122	NEW SIGNAL HEAD / NUMBER		
123	NEW PEDESTRIAN SIGNAL HEAD / NUMBER		
124	NEW JUNCTION BOX / NUMBER		
125	NEW LUMINAIRE		
126	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID		
127	NEW MAST ARM / LENGTH		
128	NEW C.O.P. C-POST		
129	NEW C.O.P. D-POLE		
130	NEW SUPPORT NUMBER		
131	NEW SIGNAL		

SIGN TABULATION

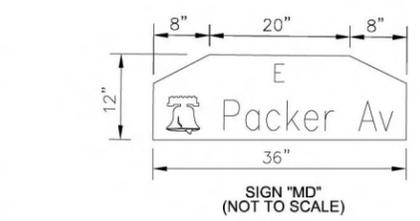
PLAN SYMBOL	SERIES NUMBER	DESCRIPTION	SIZE WxH	AREA (SF)	ST. MTD. 0936-0200	
					QUANTITY	TOTAL AREA
A	D3-4	OVERHEAD STREET SIGN NAME - "PACKER AV"	96" X 28.6"	19.07	3	57.21
B	D3-4	OVERHEAD STREET SIGN NAME - "C COLUMBUS BL"	96" X 28.6"	19.07	2	38.14
C	R10-11	NO TURN ON RED	24" X 30"	5.00	1	5.00
D	R9-3	NO PEDESTRIAN CROSSING	18" X 18"	2.25	8	18.00
E	R10-3R MOD.	PUSH OR WAVE AT BUTTON FOR MAN	9" X 12"	0.75	5	3.75
F	R3-1	NO RIGHT TURN - TRAIN BLANK-OUT	30" X 36"	7.50	1	7.50
G	R10-10L	LEFT TURN SIGNAL	30" X 36"	7.50	1	7.50
H	R10-10R	RIGHT TURN SIGNAL	30" X 36"	7.50	3	22.50
I	R3-2	NO LEFT TURN	36" X 18"	4.50	2	9.00
J	R5-1	DO NOT ENTER	30" X 30"	6.25	2	12.50
K	SPECIAL	"TO PATTISON AV"	36" X 36"	9.00	1	9.00
L	SPECIAL	"TO OREGON AV"	36" X 36"	9.00	1	9.00
MA	SPECIAL	METRO STREET SIGN NAME - "C COLUMBUS BL"	36" X 18"	4.50	2	9.00
MB	SPECIAL	METRO STREET SIGN NAME - "C COLUMBUS BL"	36" X 18"	4.50	2	9.00
MC	SPECIAL	METRO STREET SIGN NAME - "DELAWARE AV"	36" X 12"	3.00	2	6.00
MD	SPECIAL	METRO STREET SIGN NAME - "PACKER AV"	36" X 12"	3.00	2	6.00
TOTAL					38	229.10



SIGN "K"
 SIGN SIZE: 3'-0" x 3'-0"
 SIGN AREA: 9 SQUARE FEET
 BORDER RADIUS: 1.5"
 BORDER THICKNESS: 0.6"
 BORDER INSET: 0.4"
 BACKGROUND COLOR: GREEN (RETROREFLECTIVE)
 BORDER COLOR: WHITE (RETROREFLECTIVE)
 LEGEND COLOR: WHITE (RETROREFLECTIVE)
 LEGEND SIZE: 6"
 LEGEND SERIES: ClearviewHwy-1-w [To], [Pattison], [Ave]
 NOT TO SCALE



SIGN "L"
 SIGN SIZE: 3'-0" x 3'-0"
 SIGN AREA: 9 SQUARE FEET
 BORDER RADIUS: 1.5"
 BORDER THICKNESS: 0.6"
 BORDER INSET: 0.4"
 BACKGROUND COLOR: GREEN (RETROREFLECTIVE)
 BORDER COLOR: WHITE (RETROREFLECTIVE)
 LEGEND COLOR: WHITE (RETROREFLECTIVE)
 LEGEND SIZE: 6"
 LEGEND SERIES: ClearviewHwy-1-w [To], [Oregon], [Ave]
 NOT TO SCALE



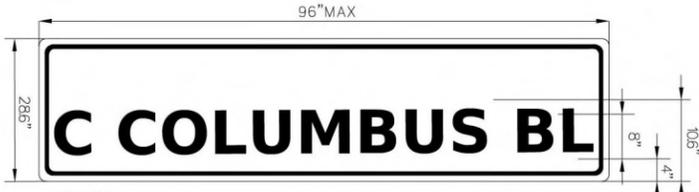
SIGN "MD"
(NOT TO SCALE)



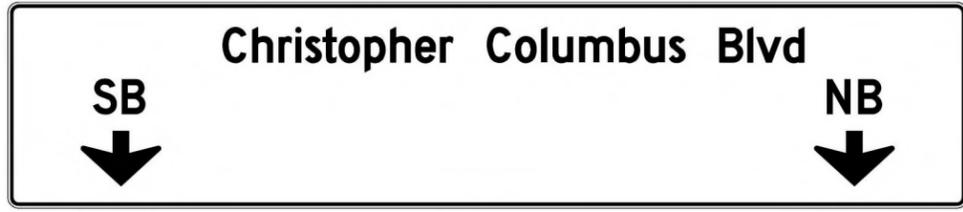
SIGN "F"
30" X 36"
(NOT TO SCALE)



SIGN "A"
 CLEARVIEW HIGHWAY LETTERS
 SERIES 1-W
 BORDER = 1" AT 1" OFFSET
 CORNER RADIUS 2.5"
 NOT TO SCALE



SIGN "B"
 CLEARVIEW HIGHWAY LETTERS
 SERIES 1-W
 BORDER = 1" AT 1" OFFSET
 CORNER RADIUS 2.5"
 NOT TO SCALE

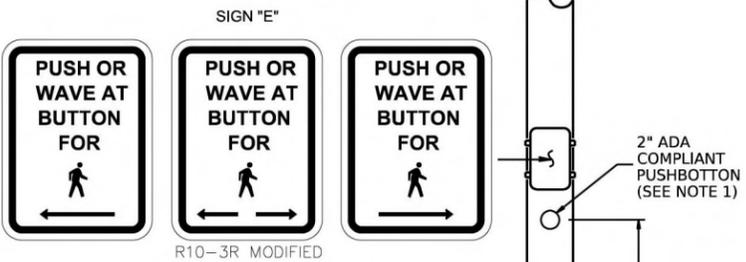


SIGN "M"
168" X 36"
(NOT TO SCALE)
(FOR INFORMATION ONLY)

SIGN TABULATION (FOR INFORMATION ONLY)

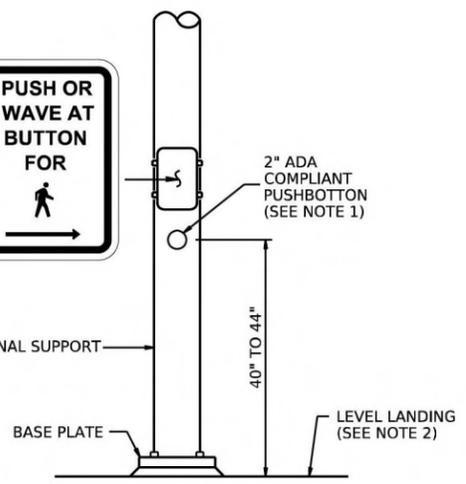
QUAN	PLAN SYMBOL	SERIES NUMBER	SIGN DIMENSIONS	DESCRIPTION
1	M	FAB-9	168" X 36"	CHRISTOPHER COLUMBUS BLVD SB/NB
2	N	R3-8A(L-R)	30" X 30"	ADVANCED INTERSECTION LANE CONTROL
1	O	R3-7-1R	36" X 36"	ALL TRAFFIC MUST TURN RIGHT
2	P	R3-7LA	24" X 48"	LEFT LANE MUST TURN LEFT
1	Q	R3-8B(L-S-SR)	48" X 30"	ADVANCED INTERSECTION LANE CONTROL
2	R	R3-7R	36" X 36"	RIGHT LANE MUST TURN RIGHT

REFER TO SIGNING AND PAVEMENT MARKING PLAN FOR DETAILS.



SIGN "E"

R10-3R MODIFIED



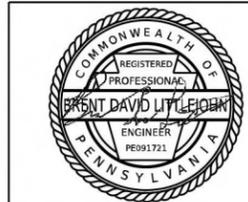
PUSHBUTTON VERTICAL PLACEMENT

SIGNALS TO BE EQUIPPED WITH ACCESSIBLE PEDESTRIAN SIGNALS (APS) WITH THE FOLLOWING FEATURES:

- ADA COMPLIANT PUSHBUTTON WITH MATCHING LED INDICATOR AND TONE.
- A TACTILE DIRECTIONAL ARROW. TACTILE ARROW TO BE ALIGNED PARALLEL TO THE CROSSING AND VIBRATE DURING WALK INDICATION.
- A PUSHBUTTON LOCATOR TONE. LOCATOR TONE TO HAVE A DURATION OF 0.15 SECONDS AND REPEAT AT 1 SECOND INTERVALS, TO BE INTENSITY RESPONSIVE TO AMBIENT SOUND, AND AUDIBLE FROM 6-12 FEET FROM THE PUSHBUTTON.
- ACTUATION OF THE PEDESTRIAN PUSHBUTTON TO BE ACCOMPANIED BY THE SPEECH MESSAGE "WAIT" WHEN THE WALK INTERVAL IS NOT TIMING
- THE WALK INDICATION TO BE THE VERBAL WALK MESSAGE "CHRISTOPHER COLUMBUS BLVD. WALK SIGN IS ON TO CROSS CHRISTOPHER COLUMBUS BLVD."

NOTES:

1. PEDESTRIAN PUSHBUTTONS TO BE A MINIMUM OF 2" DIAMETER AND A FORCE PER ACTUATION THAT CANNOT EXCEED 5 LBS.
2. ALL ACCESSIBILITY FEATURES MUST BE COMPLIANT TO PENNDOT PUBLICATION 12M (DM-2), CHAPTER 6, PUBLICATION 72M (RC STANDARDS) CRITERIA AND PUBLICATION 149.



LICENSE NO. PE091721
 DATE: 09/10/2025

DISTRICT	COUNTY	ROUTE	SECTION	
6-0	PHILADELPHIA	0000	CPD	6 OF 7

CITY OF PHILADELPHIA

REV NO	REVISIONS	DATE	BY	APPD

APPROVED **Kasim K. Ali** 9/15/2025
 TRAFFIC ENGINEERING DIVISION DATE

DESIGN REVIEW **Ashwin B. Patel, P.E.** Digitally signed by Ashwin B. Patel, P.E. Date: 2025.09.15 13:58:36 -0400

PW **PENNDOT TRAFFIC ENGINEER** DATE

MATERIAL LIST

LEGEND			
25'	NEW MAST ARM / LENGTH	⊗	NEW PREEMPT. DETECTOR/ID
25'	EX. MAST ARM / LENGTH	⊗	NEW PREEMPT. BEACON/ID
⊗	NEW C.O.P. C-POST	⊗	NEW VIDEO DETECTOR / ID
⊗	EX. C.O.P. C-POST	C/3"	NEW CONDUIT / SIZE
⊗	NEW C.O.P. D-POLE	-EA-	NEW AERIAL SERVICE WIRE
⊗	EX. C.O.P. D-POLE	-EA-	EX. AERIAL WIRE
⊗	NEW SUPPORT NUMBER	DY / 4"	DOUBLE SOLID YELLOW LINE / WIDTH
⊗	NEW SIGNAL HEAD / NUMBER	DEDY / 4"	DOTTED EXTENSION DOUBLE YELLOW LINE / WIDTH
⊗	NEW PEDESTRIAN SIGNAL HEAD / NUMBER	W / 4"	SOLID WHITE LINE / WIDTH
⊗	EX. PEDESTRIAN SIGNAL HEAD	⊗	NEW CURB RAMP
⊗	EX. SIGN	⊗	EX. CURB RAMP
⊗	NEW STRUCTURE MOUNTED SIGN	⊗	VIDEO DETECTION AREA
⊗	NEW JUNCTION BOX / NUMBER	⊗	SIGNAL PHASE NUMBER
⊗	EX. JUNCTION BOX / NUMBER	CC	NEW CONTROLLER
⊗	NEW LUMINAIRE	⊗	EX. CONTROLLER
⊗	EX. LUMINAIRE	⊗	EX. WATER VALVE
⊗	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID	⊗	EX. UTILITY MANHOLE
⊗	EX. PEDESTRIAN PUSH BUTTON, SIGNING	⊗	EX. STORMWATER MANHOLE
⊗	EX. FIRE HYDRANT	⊗	EX. UTILITY PWR. MANHOLE
		⊗	EX. TELE./COMM. MANHOLE
		⊗	EX. UTILITY POLE
		⊗	EX. CONCRETE FOUNDATION

LEGEND

LEGEND			
25'	NEW MAST ARM / LENGTH	⊗	NEW PREEMPT. DETECTOR/ID
25'	EX. MAST ARM / LENGTH	⊗	NEW PREEMPT. BEACON/ID
⊗	NEW C.O.P. C-POST	⊗	NEW VIDEO DETECTOR / ID
⊗	EX. C.O.P. C-POST	C/3"	NEW CONDUIT / SIZE
⊗	NEW C.O.P. D-POLE	-EA-	NEW AERIAL SERVICE WIRE
⊗	EX. C.O.P. D-POLE	-EA-	EX. AERIAL WIRE
⊗	NEW SUPPORT NUMBER	DY / 4"	DOUBLE SOLID YELLOW LINE / WIDTH
⊗	NEW SIGNAL HEAD / NUMBER	DEDY / 4"	DOTTED EXTENSION DOUBLE YELLOW LINE / WIDTH
⊗	NEW PEDESTRIAN SIGNAL HEAD / NUMBER	W / 4"	SOLID WHITE LINE / WIDTH
⊗	EX. PEDESTRIAN SIGNAL HEAD	⊗	NEW CURB RAMP
⊗	EX. SIGN	⊗	EX. CURB RAMP
⊗	NEW STRUCTURE MOUNTED SIGN	⊗	VIDEO DETECTION AREA
⊗	NEW JUNCTION BOX / NUMBER	⊗	SIGNAL PHASE NUMBER
⊗	EX. JUNCTION BOX / NUMBER	CC	NEW CONTROLLER
⊗	NEW LUMINAIRE	⊗	EX. CONTROLLER
⊗	EX. LUMINAIRE	⊗	EX. WATER VALVE
⊗	NEW PEDESTRIAN PUSH BUTTON, SIGNING / ID	⊗	EX. UTILITY MANHOLE
⊗	EX. PEDESTRIAN PUSH BUTTON, SIGNING	⊗	EX. STORMWATER MANHOLE
⊗	EX. FIRE HYDRANT	⊗	EX. UTILITY PWR. MANHOLE
		⊗	EX. TELE./COMM. MANHOLE
		⊗	EX. UTILITY POLE
		⊗	EX. CONCRETE FOUNDATION

CITY OF PHILADELPHIA

TRAFFIC CONTROL SYSTEM
PACKER AVENUE AT DELAWARE AVENUE & CHRISTOPHER COLUMBUS BOULEVARD

SHEET INDEX:

SHEET NO.	DESCRIPTION:
T-1 OF 8	TITLE SHEET
W-1 OF 8	S. CHRISTOPHER COLUMBUS BOULEVARD WATER MAIN RELAY
W-2 OF 8	S. CHRISTOPHER COLUMBUS BOULEVARD WATER MAIN RELAY
W-3 OF 8	S. CHRISTOPHER COLUMBUS BOULEVARD WATER MAIN RELAY
W-4 OF 8	S. CHRISTOPHER COLUMBUS BOULEVARD WATER MAIN RELAY CROSS SECTIONS
W-5 OF 8	S. CHRISTOPHER COLUMBUS BOULEVARD WATER MAIN RELAY ACTIVE CONRAIL TRACK CROSSINGS
W-6 OF 8	TABULATION OF QUANTITIES
W-7 OF 8	TABULATION OF QUANTITIES

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	6000	CPD	1 OF 8
CITY OF PHILADELPHIA				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED



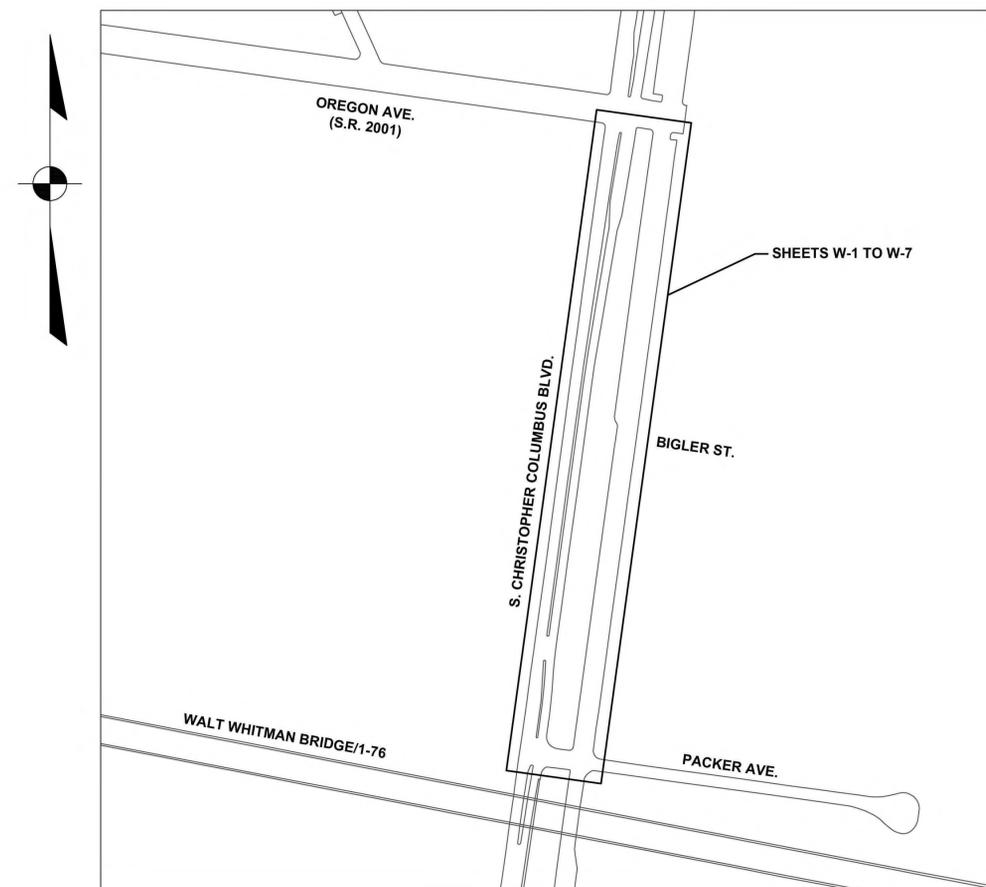
CITY OF PHILADELPHIA
WATER DEPARTMENT

PHILADELPHIA
WATER
— DEPARTMENT —

WATER MAIN RELAY PROJECT

S. CHRISTOPHER COLUMBUS BOULEVARD

PWD WORK NO. W-90482-D



LOCATION MAP
SCALE:
1" = 250'



BASE PLAN & DESIGN
PREPARED BY:



WATER MAIN RELAY PROJECT

PHILADELPHIA WATER DEPARTMENT
TITLE SHEET

APPROVED *Joe Little*
HUNT ENGINEERING COMPANY

APPROVED *Vake Hovsepian*
DEPUTY COMMISSIONER - ENGINEERING

APPROVED *[Signature]*
WATER COMMISSIONER

CITY OF PHILADELPHIA
WATER DEPARTMENT

SCALES:
AS NOTED

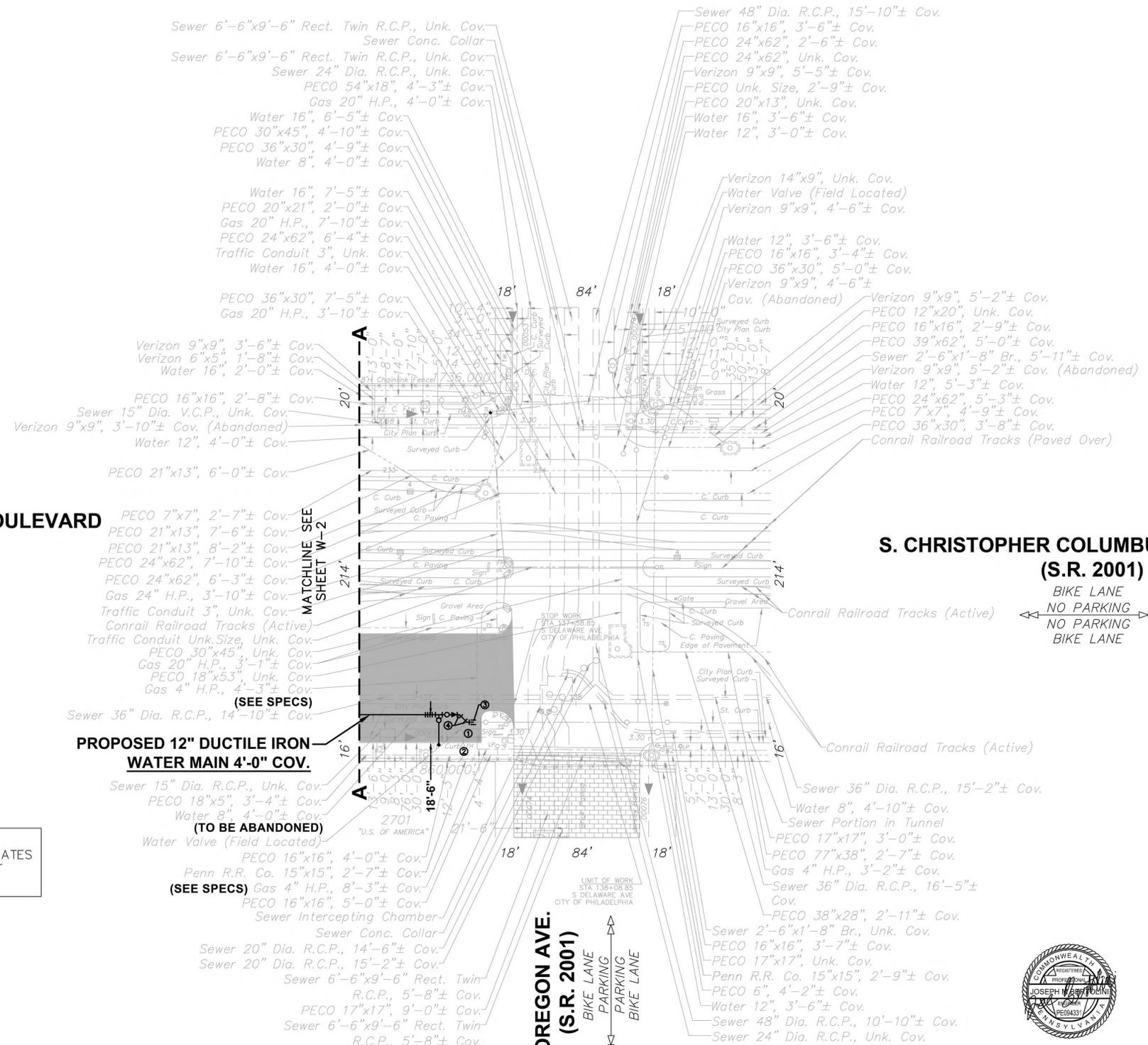
NOTE:

THE VERTICAL DATA SHOWN ON THESE PLANS IS BASED ON THE PHILADELPHIA CITY DATUM AND NOT ON PENNSYLVANIA STATE PLAN NAVD88 DATUM. THE PLANS AND DATA CONTAINED THEREIN SHALL NOT BE USED TO COORDINATE ANY OTHER SYSTEM DATUMS. USING THE HORIZONTAL AND/OR VERTICAL DATA ON THESE PLANS TO DIRECTLY TIE TO ANOTHER DATUM OTHER THAN THE PROJECT SPECIFIC DATUM MAY RESULT IN ERRORS INCLUDING MISALIGNMENTS. HUNT ENGINEERING COMPANY ASSUMES NO LIABILITY OR RESPONSIBILITY FOR TIE TO ANY DATUM OTHER THAN THAT EXPRESSLY NOTED ON THE PLAN SET.

WORK NO. W-90482-D
SHEET NO. T-1 OF 8 SHEETS

DRAWN BY:	HUNT ENGINEERING	AUG. 2025
PROJECT ENGR.		
SUPERVISOR		DATE

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0000	CPD	2 OF 8
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED



S. CHRISTOPHER COLUMBUS BOULEVARD

BIKE LANE
NO PARKING
NO PARKING
BIKE LANE

**S. CHRISTOPHER COLUMBUS BOULEVARD
(S.R. 2001)**

BIKE LANE
NO PARKING
NO PARKING
BIKE LANE

NOTE:
SHADED AREA INDICATES
PROPOSED PENNDOT
ROADWAY ITEMS

**PROPOSED 12" DUCTILE IRON
WATER MAIN 4'-0" COV.**

(SEE SPECS)

(TO BE ABANDONED)

(SEE SPECS)

**OREGON AVE.
(S.R. 2001)**
BIKE LANE
PARKING
PARKING
BIKE LANE

NOTES:

DIMENSIONS AS SHOWN ARE BASED OFF OF PHYSICAL SURVEYED CURB LINES

SEE SPECIFICATION REGARDING ALL ACTIVE, INACTIVE, AND PAVED OVER RAILROAD TRACKS

ALL WORK ON OR ABOUT CONRAIL PROPERTY (OR TRACK) SHALL BE PERFORMED IN ACCORDANCE WITH: "AMERICAN RAILWAY ENGINEERING MAINTENANCE OF WAY ASSOCIATION (AREMA) REQUIREMENTS, LATEST EDITION", "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF CONSOLIDATED RAIL CORPORATION PROPERTY (CE-8)" DATED APRIL 6, 2021, AND "SPECIFIC REQUIREMENTS OF CONSOLIDATED RAIL CORPORATION FOR WORK ON ITS RIGHT-OF-WAY AND OTHER PROPERTY (CE-6)" DATED OCTOBER 8, 2021.

SCALES:
PLAN 1"= 40'
AND AS NOTED

WATER MAIN NOTES:

- ① REMOVE FRAME AND COVER.
- ② REMOVE FIRE HYDRANTS.
- ③ REMOVE PIPE AND/OR FITTING AND RECONNECT.
- ④ ROTATE FITTING AS REQUIRED.
- ⑤ REMOVE AND RETURN VALVE - SEE SPEC'S

GENERAL NOTES:

ALL DISTANCES SHOWN ARE IN DISTRICT STANDARD MEASUREMENT. PAYMENT FOR ALL WORK WILL BE BASED UPON THAT STANDARD.
EXISTING WATER MAINS SHALL BE CUT & PLUGGED AS APPROVED BY THE CITY ENGINEER.
THE CONTRACTOR SHALL MAINTAIN A MINIMUM 6-INCH CLEARANCE BETWEEN ALL UNDERGROUND STRUCTURES AND THE NEW WATER MAINS.
BILLS OF MATERIAL AND PIPE TOTALS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND PAYMENT WILL BE MADE ONLY FOR THE ACTUAL AMOUNT OF PIPE AND APPURTENANCES INSTALLED.
FIRE HYDRANTS SHALL NOT BE CONSTRUCTED OR RELOCATED UNTIL SUCH LOCATIONS HAVE BEEN APPROVED BY THE WATER DEPARTMENT CONSTRUCTION DIVISION IN THE FIELD.



PREPARED FOR:



BASE PLAN & DESIGN
PREPARED BY:



101 Lindenwood Drive | Suite 125 | Malvern, PA 19355
610.644.4600 | www.huntengineering.com

BILL OF MATERIALS

- 1 STD. FIRE HYDRANT W/CCL
- 2 STD. 7" VALVE BOXES
- 1 12" VALVE
- 1 6" VALVE
- 1 12"x6" HYD. ANCH. TEE
- 2 12" 1/8 BENDS (2 VERT.)
- 2 8" 1/8 BENDS
- 1 12"x8" REDUCER
- 1 8" SLEEVE

PIPE TOTALS (THIS SHEET)

- 20' ± 6" DUCTILE IRON WATER MAIN
- 15' ± 8" DUCTILE IRON WATER MAIN
- 65' ± 12" DUCTILE IRON WATER MAIN

PIPE TOTALS (ALL SHEETS)

- 40' ± 3" DUCTILE IRON WATER MAIN
- 30' ± 4" DUCTILE IRON WATER MAIN
- 160' ± 6" DUCTILE IRON WATER MAIN
- 75' ± 8" DUCTILE IRON WATER MAIN
- 1710' ± 12" DUCTILE IRON WATER MAIN
- 870' ± 16" DUCTILE IRON WATER MAIN

NOTICE:

PURSUANT TO THE REQUIREMENTS OF PENNSYLVANIA ACT 38 (1991), THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776, AT LEAST 3 DAYS PRIOR TO EXCAVATION

HIGHWAY DISTRICT NO. 2 WARD NO. 39
SURVEY DISTRICT NO. 2 WATER PLAT NO. 19

PA ONE CALL SERIAL 20200912240, 20200912406
GPIS NUMBER: G2020-00231

WATER MAIN RELAY PROJECT

**S. CHRISTOPHER COLUMBUS BOULEVARD
FROM
BIGLER ST. TO OREGON AVE.**

APPROVED *Joe Bortnick*
HUNT ENGINEERING COMPANY

CITY OF PHILADELPHIA
WATER DEPARTMENT

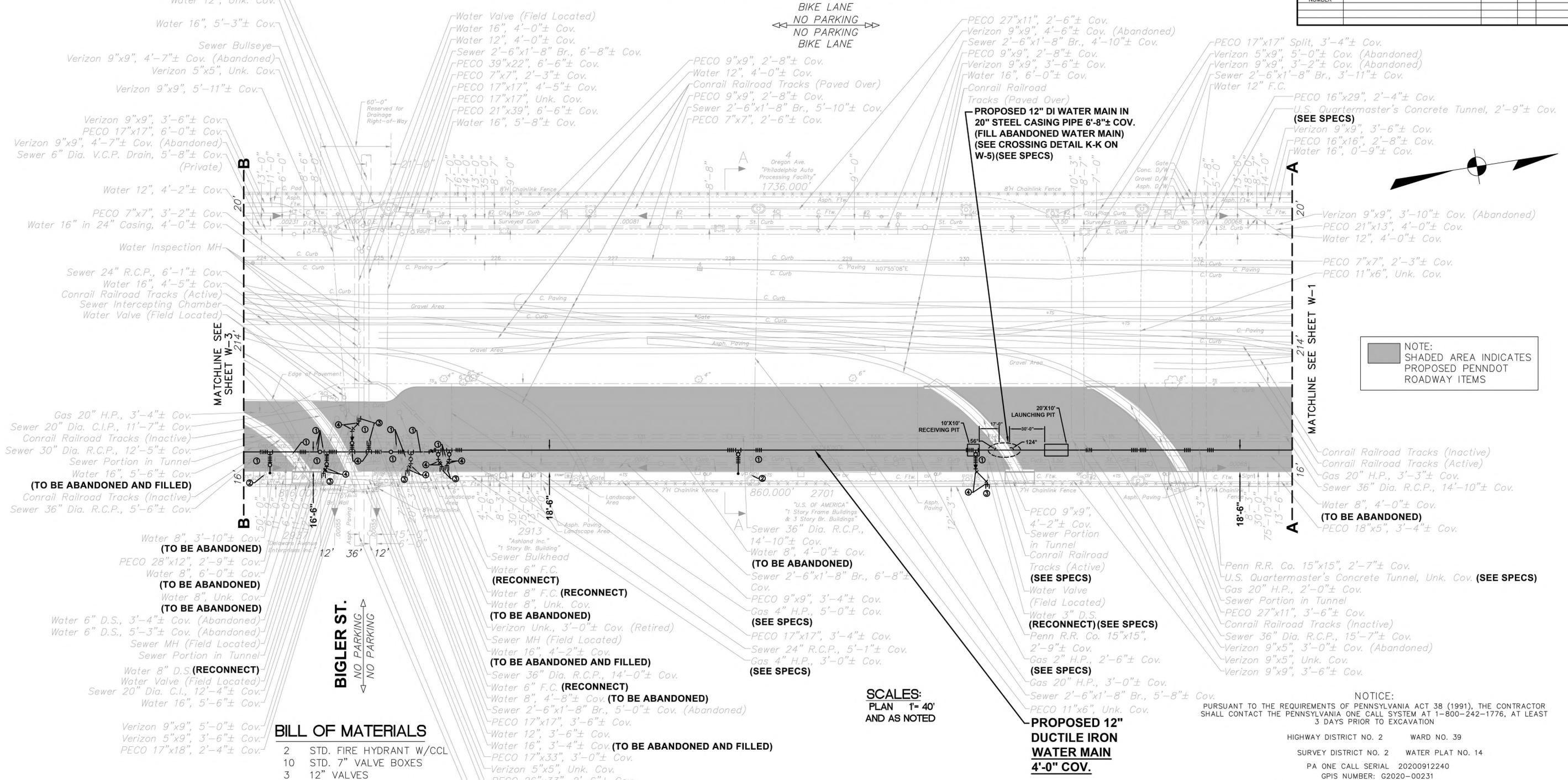
SCALES:
PLAN 1" = 40'
AND AS NOTED

WORK NO. W-90482-D
SHEET NO. W-1 OF 8 SHEETS

DRAWN BY:	HUNT ENGINEERING	AUG. 2025
PROJECT ENGR.		
SUPERVISOR		DATE

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0000	000	3 OF 8
CITY OF PHILADELPHIA				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED

S. CHRISTOPHER COLUMBUS BOULEVARD



NOTE: SHADED AREA INDICATES PROPOSED PENNDOT ROADWAY ITEMS

SCALES:
PLAN 1" = 40'
AND AS NOTED

NOTICE:
PURSUANT TO THE REQUIREMENTS OF PENNSYLVANIA ACT 38 (1991), THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776, AT LEAST 3 DAYS PRIOR TO EXCAVATION

HIGHWAY DISTRICT NO. 2 WARD NO. 39
SURVEY DISTRICT NO. 2 WATER PLAT NO. 14
PA ONE CALL SERIAL 20200912240
GPS NUMBER: G2020-00231

WATER MAIN RELAY PROJECT

S. CHRISTOPHER COLUMBUS BOULEVARD
FROM
BIGLER ST. TO OREGON AVE.

APPROVED *[Signature]*
HUNT ENGINEERING COMPANY

CITY OF PHILADELPHIA
WATER DEPARTMENT

SCALES:
PLAN 1" = 40'
AND AS NOTED

WORK NO. W-90482-D
SHEET NO. W-2 OF 8 SHEETS

DRAWN BY:	HUNT ENGINEERING	AUG. 2025
PROJECT ENGR.		
SUPERVISOR		DATE

NOTES:
SEE SHEET W-4 FOR A-A CROSS SECTION
DIMENSIONS AS SHOWN ARE BASED OFF OF PHYSICAL SURVEYED CURB LINES
SEE SPECIFICATION REGARDING ALL ACTIVE, INACTIVE, AND PAVED OVER RAILROAD TRACKS
ALL WORK ON OR ABOUT CONRAIL PROPERTY (OR TRACK) SHALL BE PERFORMED IN ACCORDANCE WITH: "AMERICAN RAILWAY ENGINEERING MAINTENANCE OF WAY ASSOCIATION (AREMA) REQUIREMENTS, LATEST EDITION", "SPECIFICATIONS FOR PIPELINE OCCUPANCY OF CONSOLIDATED RAIL CORPORATION PROPERTY (CE-8)" DATED APRIL 6, 2021, AND "SPECIFIC REQUIREMENTS OF CONSOLIDATED RAIL CORPORATION FOR WORK ON ITS RIGHT-OF-WAY AND OTHER PROPERTY (CE-6)" DATED OCTOBER 8, 2021.

BILL OF MATERIALS

- 2 STD. FIRE HYDRANT W/CCL
- 10 STD. 7" VALVE BOXES
- 3 12" VALVES
- 2 8" VALVES
- 4 6" VALVES
- 1 4" VALVES
- 1 12"x6" HYD. ANCH. TEE
- 2 12"x12" TEES
- 2 12"x8" TEES
- 3 12"x6" TEES
- 1 12"x4" TEE
- 2 16" 1/8 BENDS
- 32 12" 1/8 BENDS (30 VERT.)
- 6 8" 1/8 BENDS (2 VERT.)
- 8 6" 1/8 BENDS (4 VERT.)
- 2 4" 1/8 BENDS (2 VERT.)
- 2 3" 1/8 BENDS
- 1 16"x12" REDUCER
- 1 4"x3" REDUCER
- 1 12" SLEEVE
- 2 8" SLEEVES
- 2 6" SLEEVES
- 1 3" SLEEVE
- 1 16" MECHANICAL COUPLING

PIPE TOTALS (THIS SHEET)

- 25' ± 3" DUCTILE IRON WATER MAIN
- 15' ± 4" DUCTILE IRON WATER MAIN
- 75' ± 6" DUCTILE IRON WATER MAIN
- 40' ± 8" DUCTILE IRON WATER MAIN
- 915' ± 12" DUCTILE IRON WATER MAIN
- 20' ± 16" DUCTILE IRON WATER MAIN

WATER MAIN NOTES:

- 1 REMOVE FRAME AND COVER.
- 2 REMOVE FIRE HYDRANTS.
- 3 REMOVE PIPE AND/OR FITTING AND RECONNECT.
- 4 ROTATE FITTING AS REQUIRED.
- 5 REMOVE AND RETURN VALVE - SEE SPEC'S

GENERAL NOTES:

ALL DISTANCES SHOWN ARE IN DISTRICT STANDARD MEASUREMENT. PAYMENT FOR ALL WORK WILL BE BASED UPON THAT STANDARD.
EXISTING WATER MAINS SHALL BE CUT & PLUGGED AS APPROVED BY THE CITY ENGINEER.
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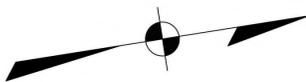
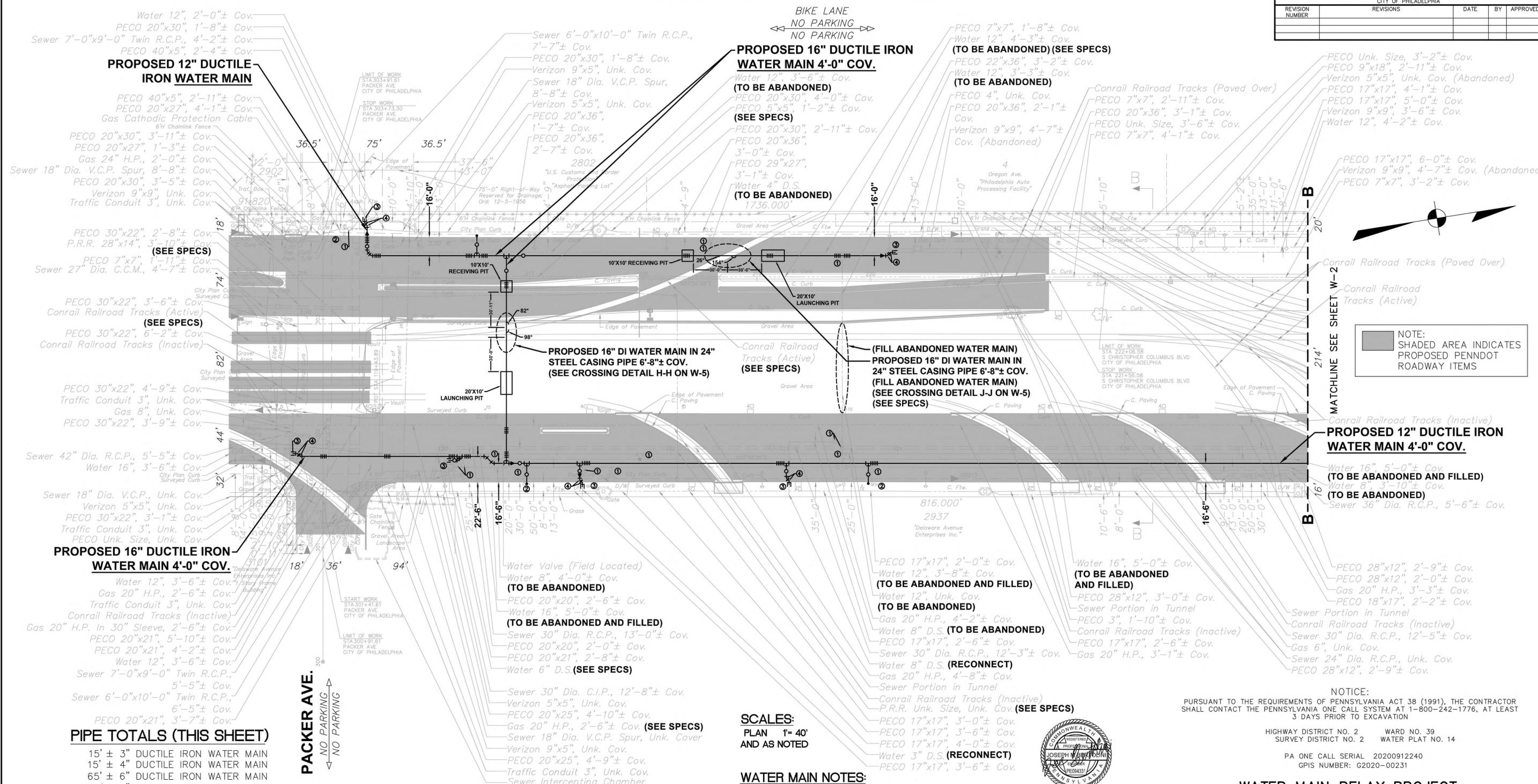
PREPARED FOR:
PHILADELPHIA WATER DEPARTMENT



101 Lindenwood Drive | Suite 125 | Malvern, PA 19355
610.644.4600 | www.huntengineering.com

S. CHRISTOPHER COLUMBUS BOULEVARD

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0000	CPD	4 OF 8
CITY OF PHILADELPHIA				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED



NOTE: SHADED AREA INDICATES PROPOSED PENNDOT ROADWAY ITEMS

**PROPOSED 12\"/>

**PROPOSED 16\"/>

**PROPOSED 16\"/>

**PROPOSED 16\"/>

**PROPOSED 12\"/>

PIPE TOTALS (THIS SHEET)

15' ± 3\"/>

15' ± 4\"/>

65' ± 6\"/>

20' ± 8\"/>

730' ± 12\"/>

850' ± 16\"/>**********

NOTES:

SEE SHEET W-4 FOR B-B CROSS SECTION

DIMENSIONS AS SHOWN ARE BASED OFF OF PHYSICAL SURVEYED CURB LINES

SEE SPECIFICATION REGARDING ALL ACTIVE, INACTIVE, AND PAVED OVER RAILROAD TRACKS

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BILL OF MATERIALS

3	STD. FIRE HYDRANT W/CCL	36	16\"/>
10	STD. 7\"/>		
3	16\"/>		
1	12\"/>		
1	8\"/>		
4	6\"/>		
1	4\"/>		
2	16\"X16\" TEES	2	12\"/>
2	16\"X6\" TEES	1	8\"/>
1	12\"X8\" TEE	1	6\"/>
2	12\"X6\" TEES	1	3\"/>
1	12\"X4\" TEE	1	16\"/>

SCALES:
 PLAN 1" = 40'
 AND AS NOTED

- WATER MAIN NOTES:**
- REMOVE FRAME AND COVER.
 - REMOVE FIRE HYDRANTS.
 - REMOVE PIPE AND/OR FITTING AND RECONNECT.
 - ROTATE FITTING AS REQUIRED.
 - REMOVE AND RETURN VALVE - SEE SPEC'S

GENERAL NOTES:

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FIRE HYDRANTS SHALL NOT BE CONSTRUCTED OR RELOCATED UNTIL SUCH LOCATIONS HAVE BEEN APPROVED BY THE WATER DEPARTMENT CONSTRUCTION DIVISION IN THE FIELD.



PREPARED FOR:
PHILADELPHIA WATER DEPARTMENT

BASE PLAN & DESIGN PREPARED BY:
HUNT ENGINEERING COMPANY
 101 Lindenwood Drive | Suite 125 | Malvern, PA 19355
 610.644.4600 | www.huntengineering.com

NOTICE: PURSUANT TO THE REQUIREMENTS OF PENNSYLVANIA ACT 38 (1991), THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776, AT LEAST 3 DAYS PRIOR TO EXCAVATION

HIGHWAY DISTRICT NO. 2 WARD NO. 39
 SURVEY DISTRICT NO. 2 WATER PLAT NO. 14

PA ONE CALL SERIAL 20200912240
 GPS NUMBER: G2020-00231

WATER MAIN RELAY PROJECT

S. CHRISTOPHER COLUMBUS BOULEVARD FROM PACKER AVE. TO BIGLER ST.

APPROVED: *Joe Larkin*
 HUNT ENGINEERING COMPANY

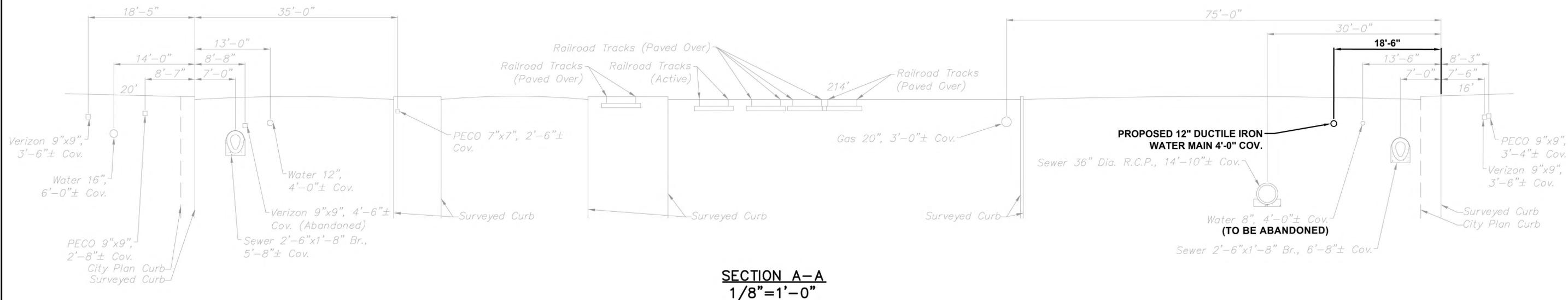
CITY OF PHILADELPHIA WATER DEPARTMENT

SCALES: PLAN 1" = 40" AND AS NOTED

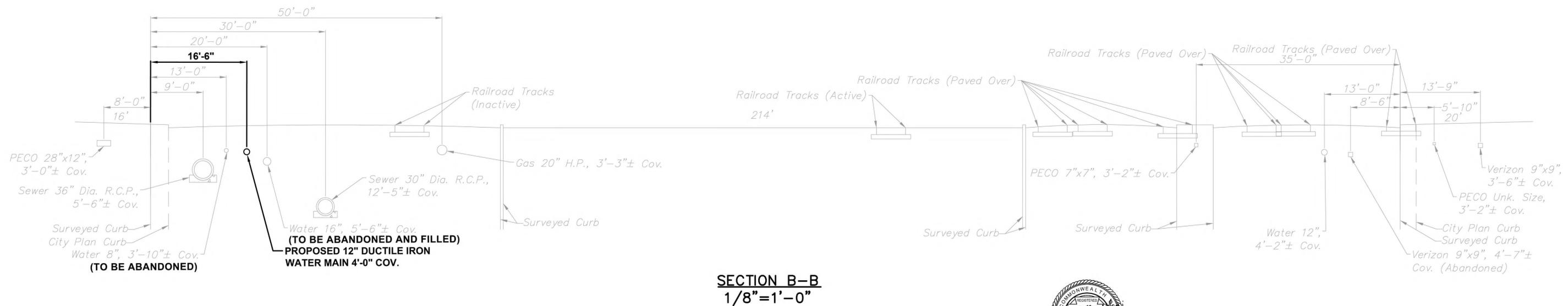
WORK NO. W-90482-D
 SHEET NO. W-3 OF 8 SHEETS

DRAWN BY:	HUNT ENGINEERING	AUG. 2025
PROJECT ENGR.		
SUPERVISOR		

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0000	CPD	5 OF 8
CITY OF PHILADELPHIA				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED



SECTION A-A
1/8"=1'-0"



SECTION B-B
1/8"=1'-0"

NOTES:

DIMENSIONS AS SHOWN ARE BASED OFF OF PHYSICAL SURVEYED CURB LINES

SEE SPECIFICATION REGARDING ALL ACTIVE, INACTIVE, AND PAVED OVER RAILROAD TRACKS

ALL WORK ON OR ABOUT CONRAIL PROPERTY (OR TRACK) SHALL BE PERFORMED IN ACCORDANCE WITH: "AMERICAN RAILWAY ENGINEERING MAINTENANCE OF WAY ASSOCIATION (AREMA) REQUIREMENTS, LATEST EDITION", "[SPECIFICATIONS FOR PIPELINE OCCUPANCY OF CONSOLIDATED RAIL CORPORATION PROPERTY (CE-8)]" DATED APRIL 6, 2021, AND "SPECIFIC REQUIREMENTS OF CONSOLIDATED RAIL CORPORATION FOR WORK ON ITS RIGHT-OF-WAY AND OTHER PROPERTY (CE-6)" DATED OCTOBER 8, 2021.

GENERAL NOTES:

ALL DISTANCES SHOWN ARE IN DISTRICT STANDARD MEASUREMENT. PAYMENT FOR ALL WORK WILL BE BASED UPON THAT STANDARD.

EXISTING WATER MAINS SHALL BE CUT & PLUGGED AS APPROVED BY THE CITY ENGINEER.

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PREPARED FOR:



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PREPARED BY:



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WATER MAIN RELAY PROJECT

CROSS SECTIONS

APPROVED *Joe Burtin*
HUNT ENGINEERING COMPANY

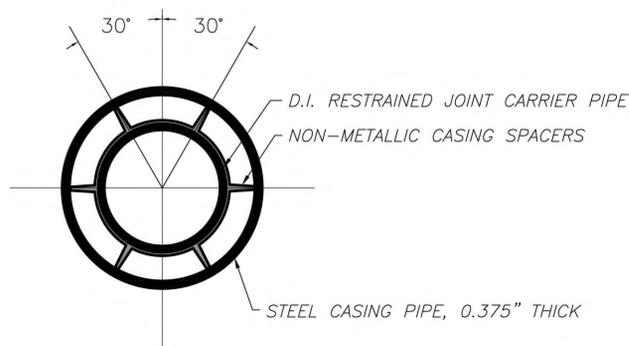
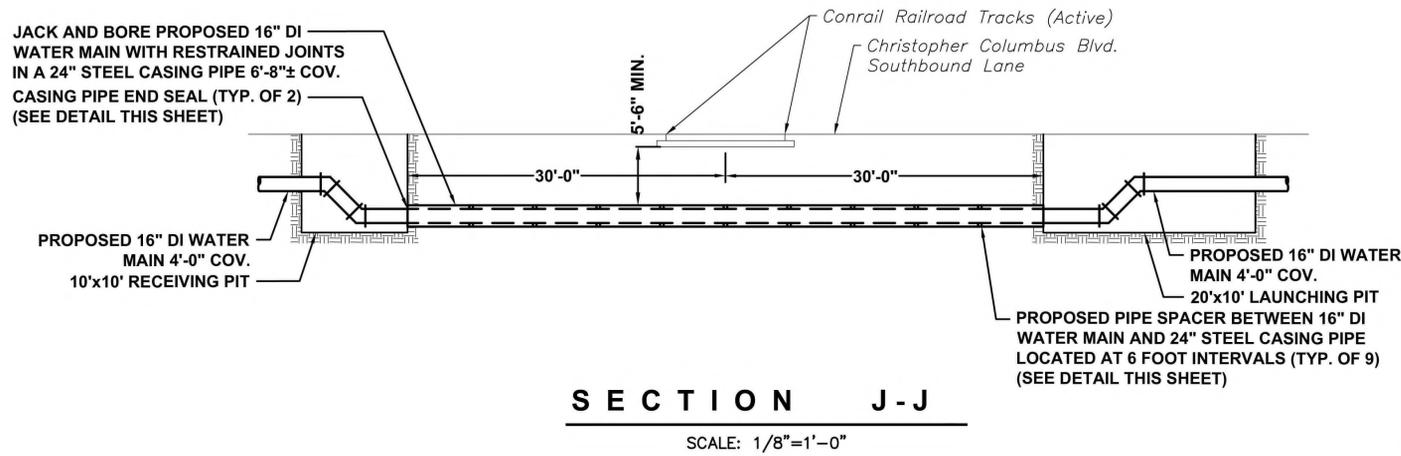
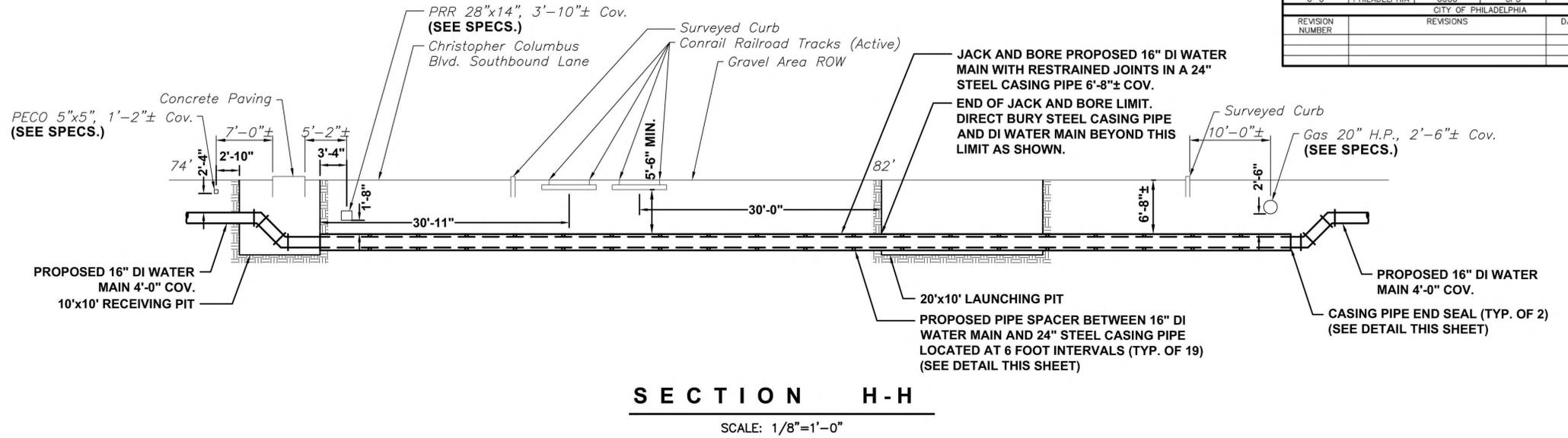
CITY OF PHILADELPHIA
WATER DEPARTMENT

SCALES:
PLAN 1" = 40'
AND AS NOTED

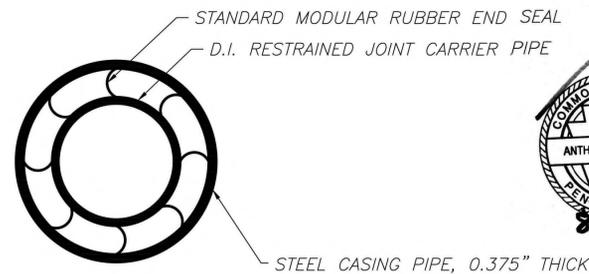
WORK NO. W-90482-D
SHEET NO. W-4 OF 8 SHEETS

DRAWN BY:	HUNT ENGINEERING	AUG. 2025
PROJECT ENGR.		
SUPERVISOR		DATE

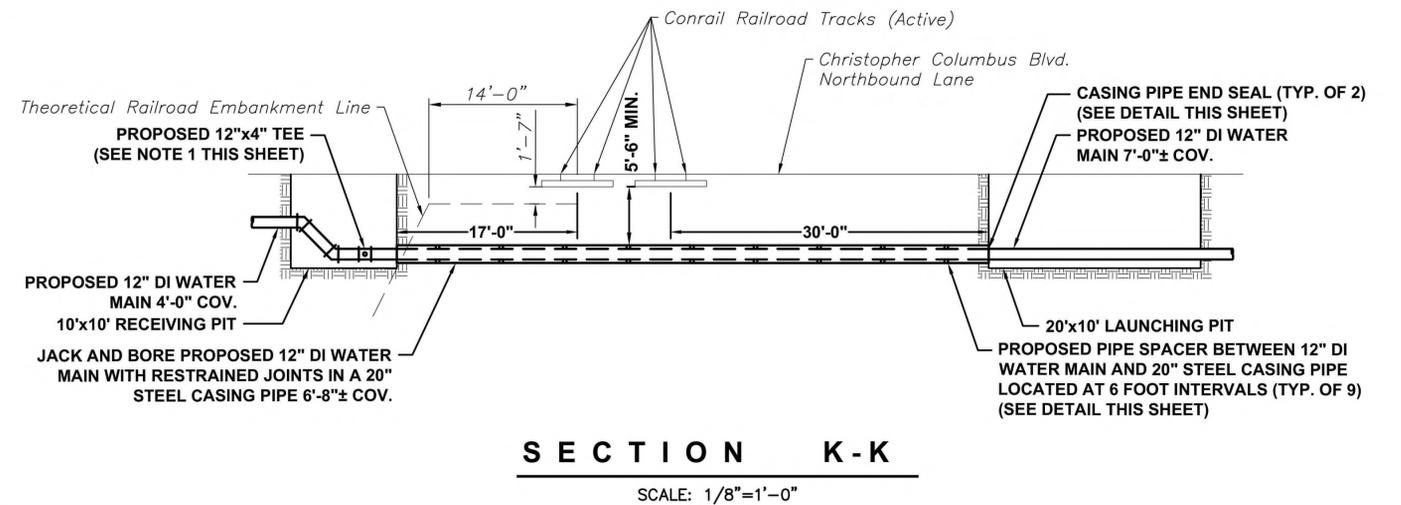
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	PHILADELPHIA	0000	CPD	6 of 8
CITY OF PHILADELPHIA				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED



NOTE:
CONTRACTOR TO SUBMIT SHOP DRAWINGS
FOR ACTUAL CASING SPACERS TO BE USED.



NOTE:
CONTRACTOR TO SUBMIT SHOP DRAWINGS
FOR ACTUAL END SEALS TO BE USED.



NOTE 1:
DUE TO LOCATION OF EXISTING 3" DOMESTIC
WATER SERVICE, CASING PIPE CANNOT
EXTEND 30 LF FROM CENTERLINE OF TRACK.
CASING PIPE WILL EXTEND JUST BEYOND
THE THEORETICAL RAILROAD EMBANKMENT
LINE AS SHOWN IN SECTION K-K TO
FACILITATE RECONNECTION OF SERVICE.

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PREPARED FOR:



BASEPLAN PREPARED BY:



DESIGN PREPARED BY:



WATER MAIN RELAY PROJECT

**ACTIVE CONRAIL TRACK CROSSINGS
PROPOSED WATER MAIN
SECTION VIEWS**

APPROVED

[Signature]
COLLIERS ENGINEERING & DESIGN

CITY OF PHILADELPHIA
WATER DEPARTMENT

SCALES:
AS NOTED

WORK NO. W-90482-D
SHEET NO. W-5 OF 8 SHEETS

DRAWN BY:	A. W-CLARK	8/14/2025
PROJECT ENGR.	R. BITTERMAN	8/14/2025
SUPERVISOR		DATE

