



COMMONWEALTH OF PENNSYLVANIA  
GOVERNOR'S OFFICE OF GENERAL COUNSEL

June 16, 2025

Matthew L. Homsher, Secretary  
Pennsylvania Public Utility Commission  
400 North Street 2nd FL  
Harrisburg, PA 17120

A-2024-3048837

**RE: Emergency Application of the Department of Transportation of the Commonwealth of Pennsylvania and the City of Pittsburgh for approval to abolish the public above grade crossing and remove the bridge carrying the abandoned cartway of Pittsburgh & West Virginia Railway Company (and the West Side Belt Railroad Company) above S.R. 0051, DOT Number 472 968G in the City of Pittsburgh, Allegheny County and the allocation of costs incident thereto.**

Dear Secretary Homsher,

Enclosed for filing on behalf of the Department and the City of Pittsburgh, please find the Final Report regarding the Wabash Bridge removal project, as required by paragraph 3 of the March 27, 2025 Order in the above-captioned matter.

I hereby certify that a copy has been sent to all parties of record as indicated by the Certificate of Service.

Very truly yours,

A handwritten signature in cursive script that reads "Karen L. Cummings".

Karen L. Cummings  
Senior Counsel

Cc: Parties of Record  
Mark Chappell, P.E., Utilities and Right of Way Section Chief  
Daniel Leonard, Grade Crossing Engineer, Central Office  
Sarah Fenton, Grade Crossing Engineer, Central Office  
Douglas M. Seeley, P.E., Asst. District Executive, District 11-0  
Michele Acitelli, Manager, District 11-0  
John F. Doherty, Associate Solicitor  
Kevin T. Freyder, Assistant Solicitor

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

In re. Emergency Application of the Department of :  
Transportation of the Commonwealth of Pennsylvania : A-2024-3048837  
and the City of Pittsburgh for approval to abolish the : **Electronically Filed**  
public above grade crossing and remove the bridge :  
carrying the abandoned cartway of Pittsburgh & West :  
Virginia Railway Company (and the West Side Belt :  
Railroad Company) above S.R. 0051, DOT Number :  
472 968G in the City of Pittsburgh, Allegheny County :  
and the allocation of costs incident thereto. :

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served a true copy of the foregoing document upon  
the participants listed below:

**Service by Electronic Mail**

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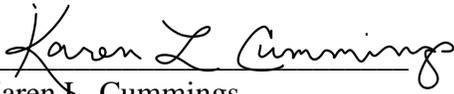
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Respectfully submitted,  
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION

  
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Office of Chief Counsel

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Fax No.: 717-772-2741

DATED: June 16, 2025

**Wabash Bridge Final Report**  
**PUC No. A-2024-3048837**  
**SR 51 17A**  
**ECMS # 117472**

Project Scope of Work

Due to serious condition and safety concerns, the project (SR 51, Section 17A, ECMS 117472) included the removal of the superstructure and portions of the substructure (Bents 1 and 2) of BRKEY 744 (parking lot structure over SR 51 near Woodruff Street) in the City of Pittsburgh, Allegheny County.

The abutments and wingwalls remain; modified to include curtain walls (encapsulating the original bridge deck), modular block (layered atop the original abutment to retain the original fill material), and metal protective fencing at the surface level. Other miscellaneous project work included removal of the bents, abutment repair, minor widening of SR 51 below, sidewalk modifications, and other minor roadside work necessitated by the removal of the substructure.

Condition of Remaining Structure

In addition to abutment modifications, existing maintenance needs were addressed on the vertical abutment faces within right-of-way. Repair work included removal of deteriorated concrete with shotcrete repair, epoxy injection crack sealing, and penetrating sealer.

While no significant concerns were noted on three of the wingwalls, a large crack was identified on the southeastern corner wingwall. However, as the wingwalls extend outside of right-of-way, and project work was limited to that work within PennDOT's right-of-way that met the immediate needs of the project (removal of the deteriorated superstructure). The wingwall was identified as needing future repair by the owner (City of Pittsburgh). Temporary barrier sections were added at the base of the slope to assist in catching any loose debris until the wing can be repaired.

The City of Pittsburgh was involved in a post-construction final inspection of the project to confirm that all provisions of the construction contract and all applicable change orders were complied with by the contractor.

Post Construction As-Built Plans are included in Attachment 1 and Post-Construction Photos are included in Attachment 2.

Future Inspection Responsibilities

New BRKEYS were created for each modified abutment (including wingwalls) as they now function as retaining walls. Wall 1 (BRKEY 70369) is adjacent to SR51 SB lanes and Wall 2 (BRKEY 70368) is adjacent to SR51 NB lanes.

Since retaining walls are not NBIS structures, PennDOT does not oversee those inspections. Moving forward, as shown in the chart from PennDOT Publication 238, Bridge Safety Inspection Manual §2.15.3 below, routine inspections for walls should be scheduled every 5 years. This task will be the responsibility of the owner, the City of Pittsburgh.

**2.15.3 Inspection Intervals and Typical Cycles**

The inspection interval of retaining walls is listed below in Table IP 2.15.3-1. Wingwalls of a bridge are to be inspected with the bridge on the interval defined in Table IP 2.3.2.4-1 or Table IP 2.3.2.4-2.

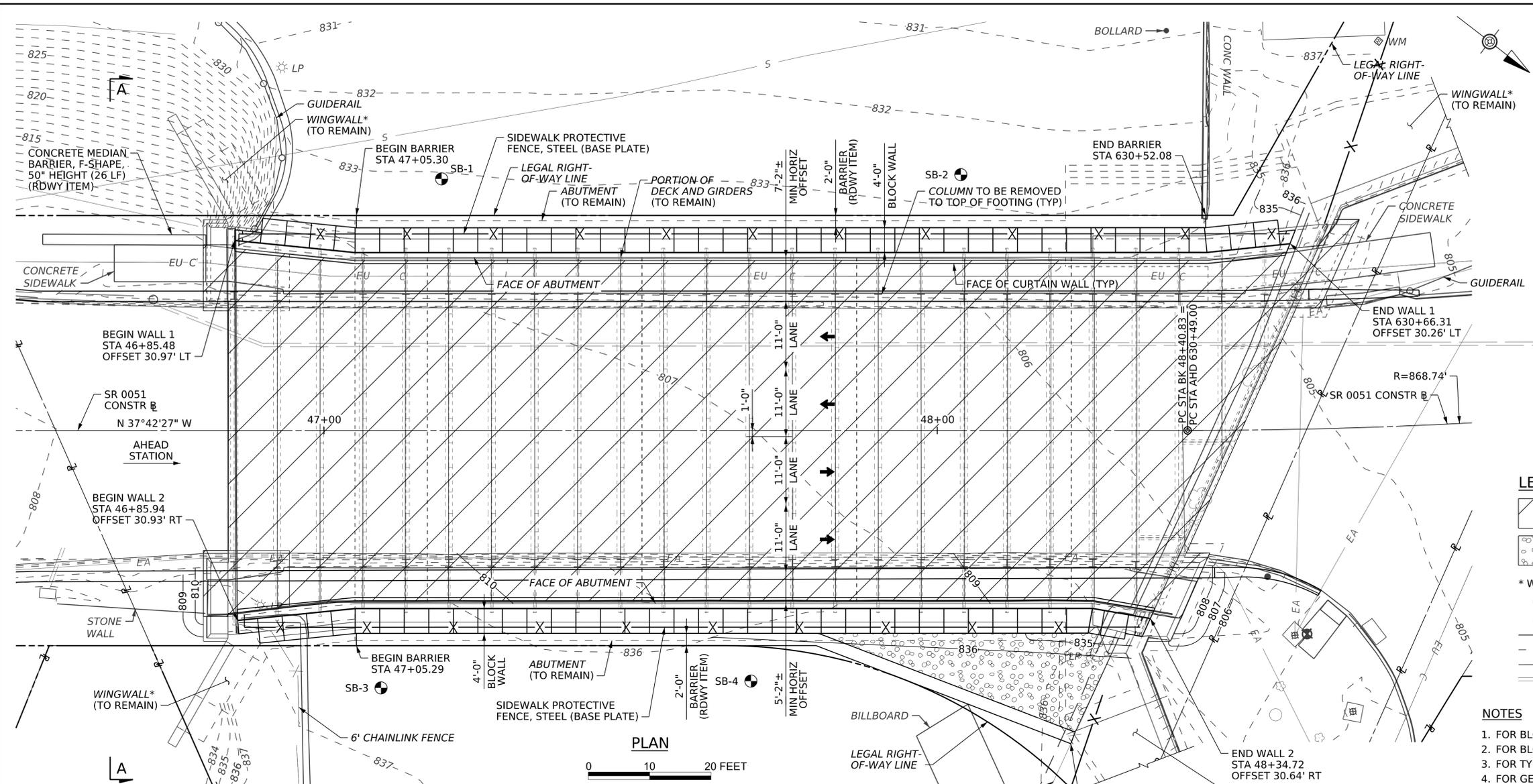
<b>Table IP 2.15.3-1 – Retaining Wall Inspection Intervals</b>			
Inspection Type (IW01)	Type of Inspection	Interval (years)	Comments
F	Initial	N/A	Inspection required within 6 months of construction completion or before opening road to traffic, whichever is less
D	In-Depth	10*	For Structural Evaluation (BMS2 item 4A09) ≤ 4. For MSE Walls only: Three-dimensional survey to be completed for walls ≥100' long and ≥20' in height
		15*	For Structural Evaluation (BMS2 item 4A09) > 4. For MSE Walls only: Three-dimensional survey to be completed for walls ≥100' long and ≥20' in height
R	Routine	5	
P	Special	As required	Performed after a significant occurrence such as a vehicular collision, extreme weather, or indication of wall movement.

\* A three-dimensional survey can be requested for MSE Walls at any time when movement of the wall is suspected.

Project As-built Plans - Refer to Attachment 1

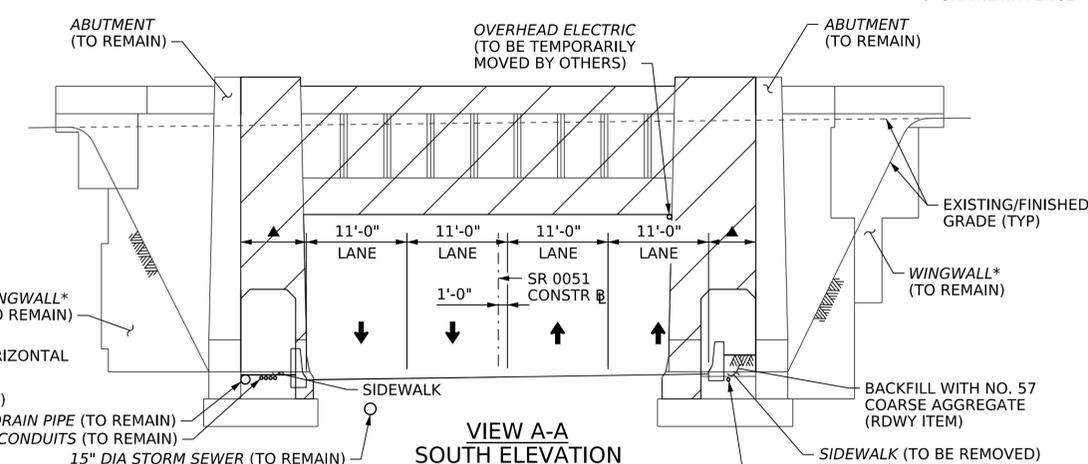
Project As-Built Photos – Refer to Attachment 2

## **ATTACHMENT 1**



**PLAN**

0 10 20 FEET



**VIEW A-A SOUTH ELEVATION**

0 10 20 FEET

**SCOPE OF WORK**

- SEAL CRACKS AND REPAIR DETERIORATED CONCRETE AT ABUTMENTS.
- REMOVE EXISTING BRIDGE SUPERSTRUCTURE AND PIERS DOWN TO TOP OF FOOTING.
- INSTALL BLOCK WALL 1 INCLUDING SIDEWALK PROTECTIVE FENCE, STEEL (BASE PLATE).
- INSTALL BLOCK WALL 2 INCLUDING SIDEWALK PROTECTIVE FENCE, STEEL (BASE PLATE).

INDEX OF DRAWINGS	
SHEET NO.	TITLE
1	GENERAL PLAN & ELEVATION
2	GENERAL NOTES & QUANTITIES
3	TYPICAL SECTION
4	STAKE-OUT PLAN
5	BLOCK WALL 1 PLAN & ELEVATION
6	BLOCK WALL 2 PLAN & ELEVATION
7	BLOCK WALL DETAILS - 1
8	BLOCK WALL DETAILS - 2
9	CAST-IN-PLACE WALL - 1
10	CAST-IN-PLACE WALL - 2
11	REINFORCEMENT BAR SCHEDULE
12	DEMOLITION PLAN
13	DETERIORATED CONCRETE REPAIR DETAILS
14	STRUCTURE BORINGS - 1
15	STRUCTURE BORINGS - 2
16	STRUCTURE BORINGS - 3

**HORIZONTAL CURVE DATA**

**VERTICAL CURVE DATA**

SR 0051 CONSTR E  
 PI STA 632+13.87  
 $\Delta = 21^\circ 29' 30''$  LT  
 $D = 06^\circ 35' 43''$   
 $T = 164.87'$   
 $L = 325.86'$   
 $R = 868.74'$   
 $E = 15.51'$   
 PC STA 630+49.00  
 PT STA 633+74.86

MATCH EXISTING

**LEGEND**

- LIMITS OF REMOVAL OF EXISTING STRUCTURE
- INDICATES LIMITS OF ROCK, CLASS R-3 (RDWY ITEM)
- \* WINGWALL EXTENSIONS NOT SHOWN. WINGWALLS ARE NOT BEING ALTERED.
- DIRECTION OF TRAFFIC
- BORING LOCATION
- S EXISTING SEWER
- 832 EXISTING CONTOUR
- 807 PROPOSED CONTOUR
- EXISTING DRAINAGE
- EA EXISTING AERIAL ELECTRIC
- EU EXISTING ELECTRIC UNDERGROUND
- C EXISTING CONDUIT UNDERGROUND

**NOTES**

1. FOR BLOCK WALL 1 PLAN AND ELEVATION, SEE SHEET 5.
2. FOR BLOCK WALL 2 PLAN AND ELEVATION, SEE SHEET 6.
3. FOR TYPICAL SECTION, SEE SHEET 3.
4. FOR GENERAL NOTES, SEE SHEET 2.
5. MAINTAIN ACCESS TO ALCOSAN MANHOLE AT STA 46+74.12, OFFSET 21.74' LT DURING CONSTRUCTION. COORDINATE WORK WITH ALCOSAN.
6. FOR LIST OF SUPPLEMENTAL DRAWINGS, SEE SHEET 2.

**AS-DRILLED BORING LOCATIONS**

BORING	STATION	OFFSET
SB-1	47+19	41' LT
SB-2	48+04	42' LT
SB-3	47+09	42' RT
SB-4	47+70	41' RT

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
 BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION**

**ALLEGHENY COUNTY  
 SR 7301 SEC LOC**

PARKING LOT BRIDGE OVER S.R. 0051  
 BRIDGE DEMOLITION AND BLOCK WALL

**GENERAL PLAN & ELEVATION**

RECOMMENDED	Digitally signed by Shane Szalankiewicz, P.E. Date: 2024.04.02 10:32:17-04'00'	SHEET <u>1</u> OF <u>16</u> & SUPPLEMENTAL DRAWINGS
DISTRICT BRIDGE ENGINEER		L - 560

CITY OF PITTSBURGH APPROVAL  
**Eric J. Setzler** Digitally signed by Eric J. Setzler  
 Date: 2024.04.01 15:40:32 -04'00'  
 CHIEF ENGINEER

PREPARED BY

**STV Incorporated**  
 444 LIBERTY AVENUE, SUITE 800  
 PITTSBURGH, PA 15222

PROFESSIONAL ENGINEER  
 DATE 04/01/2024

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 7/17/2024 12:30:42 PM (irwin)

**GENERAL NOTES:**

**DESIGN SPECIFICATION**

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATION 2017, AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4, DECEMBER 2019 (INCLUDING LATEST REVISIONS).
2. DESIGN SHALL BE IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD).

**DESIGN LIVE LOADS**

1. A LIVE LOAD SURCHARGE LOADING EQUIVALENT TO AN ADDITIONAL 3 FEET OF SOIL WAS INCLUDED IN THE WALL DESIGN.
2. THE PROPOSED BLOCK WALL WAS NOT DESIGNED FOR IMPACT LOADING.
3. THE PROPOSED CONCRETE MEDIAN BARRIER, F-SHAPE, 32" HEIGHT AND CONCRETE MEDIAN BARRIER WITH DRAINAGE SLOTS, F-SHAPE, 32" HEIGHT PLACED BEHIND THE PROPOSED BLOCK WALL WERE NOT DESIGNED FOR IMPACT LOADING.

**GENERAL**

1. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2020, AASHTO/AWS D1.5M/D1.5, 2015 BRIDGE WELDING CODE (USE AASHTO/AWS D1.1/D1.1M, 2015 FOR WELDING NOT COVERED IN AASHTO/AWS D1.5M/D1.5, 2015), AND CONTRACT SPECIAL PROVISIONS.
2. PROVIDE 2 INCHES CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.
3. USE CLASS AA CEMENT CONCRETE. EXCEPT USE NO. 8 COURSE AGGREGATE FOR REPAIR DETERIORATED CONCRETE - CONVENTIONAL METHOD. USE SHOTCRETE PER SPECIAL PROVISIONS FOR REPAIR DETERIORATED CONCRETE - SHOTCRETE METHOD.
4. USE CLASS A CEMENT CONCRETE IN CAST-IN-PLACE WALLS, CURTAIN WALLS, AND BLOCKS.
5. A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT, IF APPROVED BY THE DISTRICT BRIDGE ENGINEER.
6. PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A615/A615M, A996/A996M, OR A706/A706M. DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. GRADE 40 REINFORCING STEEL BARS MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA, IF APPROVED BY THE CHIEF BRIDGE ENGINEER. DO NOT USE RAIL STEEL A996/A996M REINFORCEMENT BARS WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.
7. USE EPOXY-COATED REINFORCEMENT BARS, EXCEPT AS NOTED.
8. GALVANIZED REINFORCING STEEL BARS MAY BE SUBSTITUTED FOR EPOXY COATED REINFORCING BARS AT NO ADDITIONAL COST TO THE DEPARTMENT.
9. RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS NOTED.
10. VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
11. CHAMFER EXPOSED CONCRETE EDGES 3/4 IN X 3/4 IN, EXCEPT AS NOTED.
12. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
13. PROVIDE MINIMUM EMBEDMENT AND SPLICE LENGTHS IN ACCORDANCE WITH STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.
14. BRIDGE IS CLOSED TO TRAFFIC. DO NOT PLACE CONSTRUCTION VEHICLES, MATERIALS, ETC. WHILE S.R. 0051 IS OPEN TO TRAFFIC BELOW THE STRUCTURE. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SAFE WORKING LOAD ON THE BRIDGE DURING THE DEMOLITION/CONSTRUCTION PROCESS.
15. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFE ERECTION OF ALL STRUCTURES. PROVIDE ALL NECESSARY BRACING AND SUPPORTS.
16. DO NOT USE ADHESIVE ANCHORS IN A TENSION APPLICATION FOR PERMANENT INSTALLATIONS.
17. AN ACI CERTIFIED ANCHOR INSTALLER IS REQUIRED FOR THE INSTALLATION OF ADHESIVE ANCHORS FOR TEMPORARY INSTALLATIONS, INCLUDING DURING CONSTRUCTION.
18. SITE CLASS IS NOT CLASS E.

**EXISTING STRUCTURE PLANS**

1. DO NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE TO YOU BY THE DEPARTMENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT YOU WILL ENCOUNTER IN THE FIELD.
2. DATA AND DIMENSIONS USED (AS SHOWN ON THE CONTRACT DESIGN DRAWINGS) FOR THE PROPOSED REHABILITATION WERE OBTAINED FROM THE EXISTING PLANS. ACTUAL FIELD CONDITIONS COULD BE SOMEWHAT DIFFERENT. THEREFORE, SINCE ALL PROPOSED REPAIRS MUST FIT EXISTING CONDITIONS, THE CONTRACTOR MUST VERIFY ALL CRITICAL DIMENSIONS, ELEVATIONS, AND GEOMETRY TO ASSURE THE PROPER FIT OF ALL NEW REPAIRS.
3. THE INFORMATION SHOWN ON THE PLANS FOR THE EXISTING BRIDGE IS NOT PART OF THE PLANS, PROPOSAL, OR CONTRACT AND IS NOT TO BE CONSIDERED A BASIS FOR COMPUTATION OF THE UNIT PRICES USED FOR BIDDING PURPOSES. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT INFORMATION IS CORRECTLY SHOWN. THE BIDDER IS NOT TO RELY ON THIS INFORMATION, BUT IS TO ASSUME THE POSSIBILITY THAT CONDITIONS AFFECTING THE COST AND/OR QUANTITIES OF WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED. ORIGINAL STRUCTURE PLANS: SAW MILL RUN BOULEVARD BRIDGE NO. 2 PLANS (MARCH 11, 1929)

**REHABILITATION NOTES**

1. PERFORM ALL WORK IN ACCORDANCE WITH THE TRAFFIC CONTROL PLAN.
2. COAT ALL EXISTING CONCRETE THAT IS TO COME IN CONTACT WITH NEW CEMENT CONCRETE WITH EPOXY BONDING COMPOUND JUST PRIOR TO PLACING THE NEW CONCRETE. BLAST CLEAN THE EXISTING CONCRETE THOROUGHLY PRIOR TO APPLICATION OF THE EPOXY. THE COST OF CLEANING AND EPOXY APPLICATION IS INCIDENTAL TO THE CLASS OF CONCRETE FOR WHICH IT IS APPLIED. THE EPOXY BONDING COMPOUND IS TYPE 2, GRADE 2 AS DESCRIBED IN ASTM-C881.
3. CONSTRUCTION DETAILS OTHER THAN THOSE SHOWN CONFORM TO THE STANDARD DRAWINGS.
4. CLEAN ALL EXISTING REINFORCEMENT THAT IS TO REMAIN AND REMOVE ANY RUST, DUST, OR OTHER FOREIGN MATERIALS AND COAT WITH AN EPOXY PAINT PRIOR TO PLACING NEW CONCRETE.
5. REMOVE ALL LOOSE AND DELAMINATED CONCRETE TO PROVIDE SOUND BOND BETWEEN EXISTING CONCRETE AND NEW CONCRETE.
6. REPAIR ANY AREAS DAMAGED BEYOND THE REMOVAL LIMITS AT NO EXPENSE TO THE DEPARTMENT.
7. THE DEPARTMENT'S REPRESENTATIVE RESERVES THE RIGHT TO CHANGE THE NATURE AND LIMITS OF WORK TO ASSURE A SATISFACTORY REPAIR.
8. CONCRETE CORE SAMPLES WERE TAKEN FROM THE EXISTING ABUTMENTS AND WERE TESTED FOR CONCRETE STRENGTH. TEST RESULTS INDICATE THAT A CONCRETE STRENGTH OF  $f'c = 5,000$  PSI MAY BE USED FOR ITEMS RELATED TO THE EXISTING ABUTMENTS.

**UTILITY NOTES**

1. COORDINATE, LOCATE, AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH PUBLICATION 408, SECTIONS 105.06 AND 107.12.

**PROPOSED SCOPE OF WORK:**

1. SEE DEMOLITION PLAN.

**ENVIRONMENTAL**

1. THE EXISTING BRIDGE STRUCTURAL MEMBERS DO NOT CONTAIN LEAD PAINT AND OTHER TOXIC MATERIALS (SUCH AS CADMIUM, CHROMIUM, ARSENIC, ETC) BASED ON LABORATORY TESTING. LEAD-BASED PAINT WAS CONFIRMED TO BE PRESENT ON CONDUIT ASSOCIATED WITH THE ATTACHED LIGHTING FEATURES.
2. NO KNOWN ASBESTOS CONTAINING MATERIALS ARE PRESENT ON THE SITE.
3. FILL MATERIAL GENERATED FROM THE PROJECT LIMITS MAY NOT BE CLASSIFIED AS CLEAN FILL UNTIL CHARACTERIZED PER THE PADEP MoFP. SEE SPECIAL PROVISIONS.

TABULATION OF STRUCTURE BID ITEMS & APPROXIMATE QUANTITIES					
BLOCK WALL, AS DESIGNED, L-560					
ITEM NO	DESCRIPTION	UNIT	WALL 1	WALL 2	TOTAL
5018-0050	REMOVAL OF PORTION OF EXISTING BRIDGE, L-560 (1)(4)	LS			
1001-1120	CLASS A CEMENT CONCRETE	CY	35	32	67
1002-0052	REINFORCEMENT BARS, EPOXY COATED	LB	2739	2429	5168
1002-0073	REINFORCEMENT BARS, GALVANIZED	LB	534	460	994
1003-0002	DOWEL HOLES, 6"	EA	254	224	478
1003-0007	DOWEL HOLES, 16"	EA	6	6	12
5016-0102	SIDEWALK PROTECTIVE FENCE, STEEL (BASE PLATE) (1)	LF	172	147	319
1019-0040	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES)	SY	571	450	1021
1091-0331	EPOXY INJECTION CRACK SEAL (2)	LF	66	20	86
9000-0029	VIBRATION AND MOVEMENT MONITORING CONTROL (1)	LS			
9000-9001	BLOCK WALL (1)	SF	999	853	1852
9000-9002	REPAIR DETERIORATED CONCRETE (1)(2)	SF	221	154	375
9000-9003	WEEP HOLE CLEARING (1)(3)	EA	26	24	50

- (1) SEE CONTRACT SPECIAL PROVISIONS.
- (2) ACTUAL LOCATION AND REPAIR AREAS AS DIRECTED.
- (3) ACTUAL LOCATION AS DIRECTED.
- (4) INCLUDES (93) - 54" DEEP DOWEL HOLES PER SECTION 1003.

**LIST OF ABBREVIATIONS**

- ABUT - ABUTMENT
- B - BASELINE
- BOT - BOTTOM
- BRG - BEARING
- C - CENTERLINE
- CLR - CLEAR
- CONSTR - CONSTRUCTION
- CY - CUBIC YARD
- CONC - CONCRETE
- DWG - DRAWING
- ELEV - ELEVATION
- EQ - EQUAL
- ES - EQUAL SPACING
- EXIST - EXISTING
- EXP - EXPANSION
- FF - FRONT FACE
- FOU - FIBER OPTICAL UNIT
- JT - JOINT
- MAX - MAXIMUM
- RDWY - ROADWAY
- SEG - SEGMENT
- SHLDR - SHOULDER
- SPA - SPACING
- SR - STATE ROUTE
- STA - STATION
- TRANS - TRANSVERSE
- TYP - TYPICAL
- LMC - LATEX MODIFIED CONCRETE
- LR - LEGISLATIVE ROUTE
- MIN - MINIMUM
- MPT - MAINTENANCE AND PROTECTION OF TRAFFIC
- NO - NUMBER
- OFF - OFFSET
- P/S - PRESTRESSED
- RF - REAR FACE
- UNO - UNLESS NOTED OTHERWISE

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
 BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION**

**ALLEGHENY COUNTY  
SR 7301 SEC LOC**

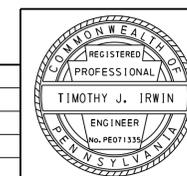
PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL

**GENERAL NOTES & QUANTITIES**

SHEET 2 OF 16

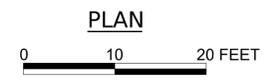
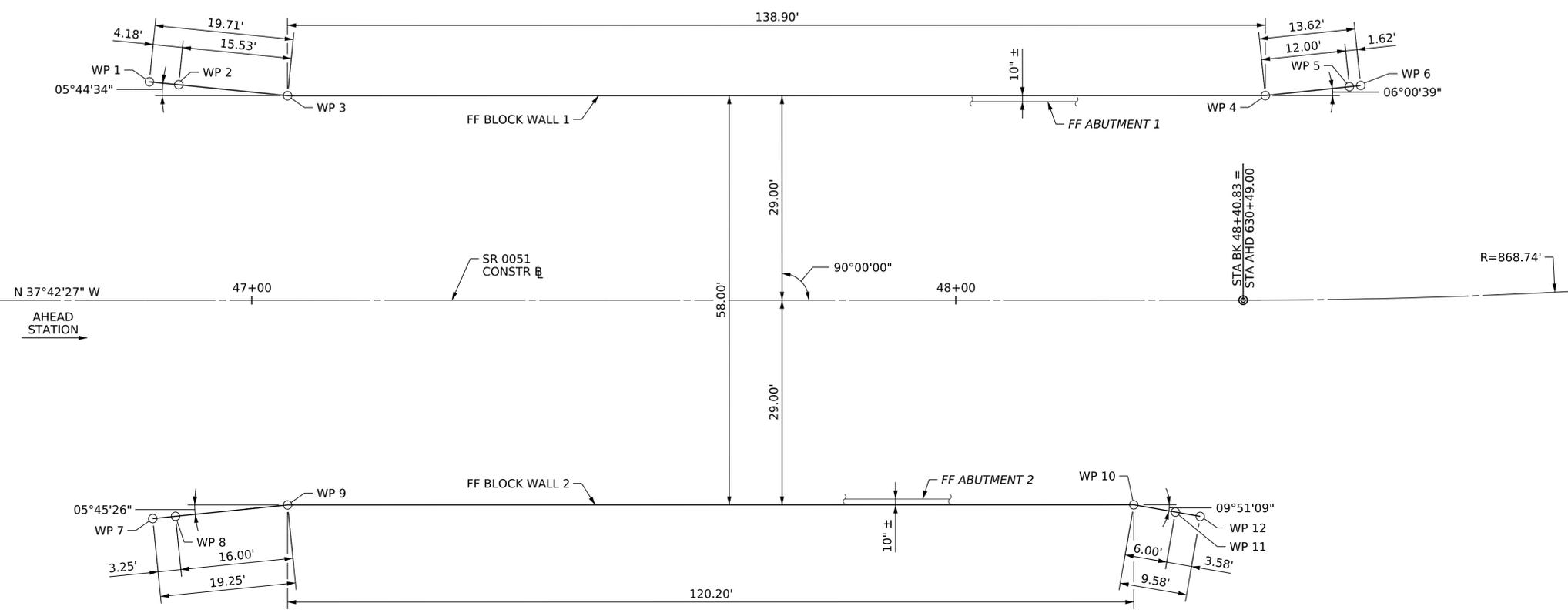
**L - 560**

SUBSURFACE DRAINS	RC-30M	2/27/2023
CONCRETE MEDIAN BARRIER	RC-57M	9/1/2023
INLET AND OUTLET PROTECTION	RC-72M	2/8/2019
PROTECTIVE FENCE	BC-701M	11/23/2022
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	11/23/2022
DESCRIPTION	DWG. NO.	APP. DATE



**SUPPLEMENTAL DRAWINGS**





**NOTES**

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.
2. FOR GENERAL NOTES, SEE SHEET 2.
3. THE HORIZONTAL CONTROL IS TIED TO THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE), NORTH AMERICAN DATUM OF 1983.
4. ALL DIMENSIONS ARE HORIZONTAL.
5. FOUR PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO DECIMAL PLACES.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

STAKE-OUT COORDINATES					
WP	STATION	OFFSET	NORTHING	EASTING	COMMENT
1	46+85.48	30.97' LT	405888.2871	1336751.0146	BEGIN CIP WALL 1A
2	46+89.64	30.56' LT	405891.8338	1336748.8019	END CIP WALL 1A/BEGIN BLOCK WALL 1
3	47+05.10	29.00' LT	405905.0139	1336740.5797	BEND POINT IN BLOCK WALL 1
4	630+52.27	28.99' LT	406014.9007	1336655.6262	BEND POINT IN BLOCK WALL 1
5	630+64.64	30.12' LT	406023.5737	1336647.3348	END BLOCK WALL 1/BEGIN CIP WALL 1B
6	630+66.31	30.26' LT	406024.7432	1336646.2168	END CIP WALL 1B
7	46+85.94	30.93' RT	405926.5136	1336799.7074	BEGIN CIP WALL 2B
8	46+89.17	30.60' RT	405928.8727	1336797.4720	END CIP WALL 2B/BEGIN BLOCK WALL 2
9	47+05.09	29.00' RT	405940.4866	1336786.4671	BEND POINT IN BLOCK WALL 2
10	48+25.29	29.00' RT	406035.5795	1336712.9507	BEND POINT IN BLOCK WALL 2
11	48+31.20	30.03' RT	406040.8841	1336710.1483	END BLOCK WALL 2/BEGIN CIP WALL 2A
12	48+34.72	30.64' RT	406044.0457	1336708.4780	END CIP WALL 2A

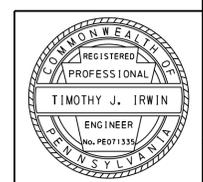
BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
 BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**

**ALLEGHENY COUNTY**  
**SR 7301 SEC LOC**

PARKING LOT BRIDGE OVER S.R. 0051  
 BRIDGE DEMOLITION AND BLOCK WALL

**STAKE-OUT PLAN**

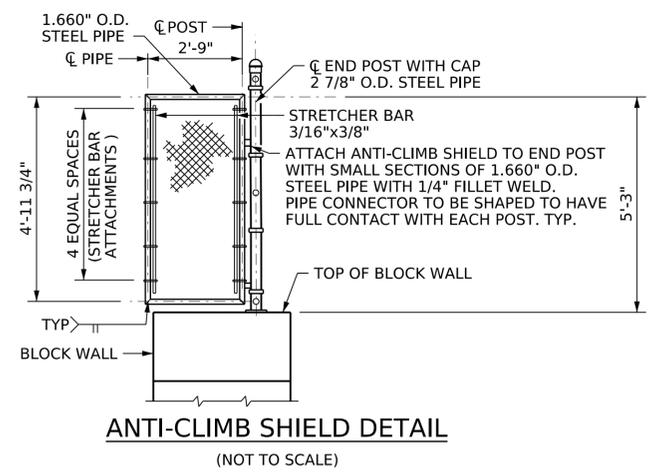
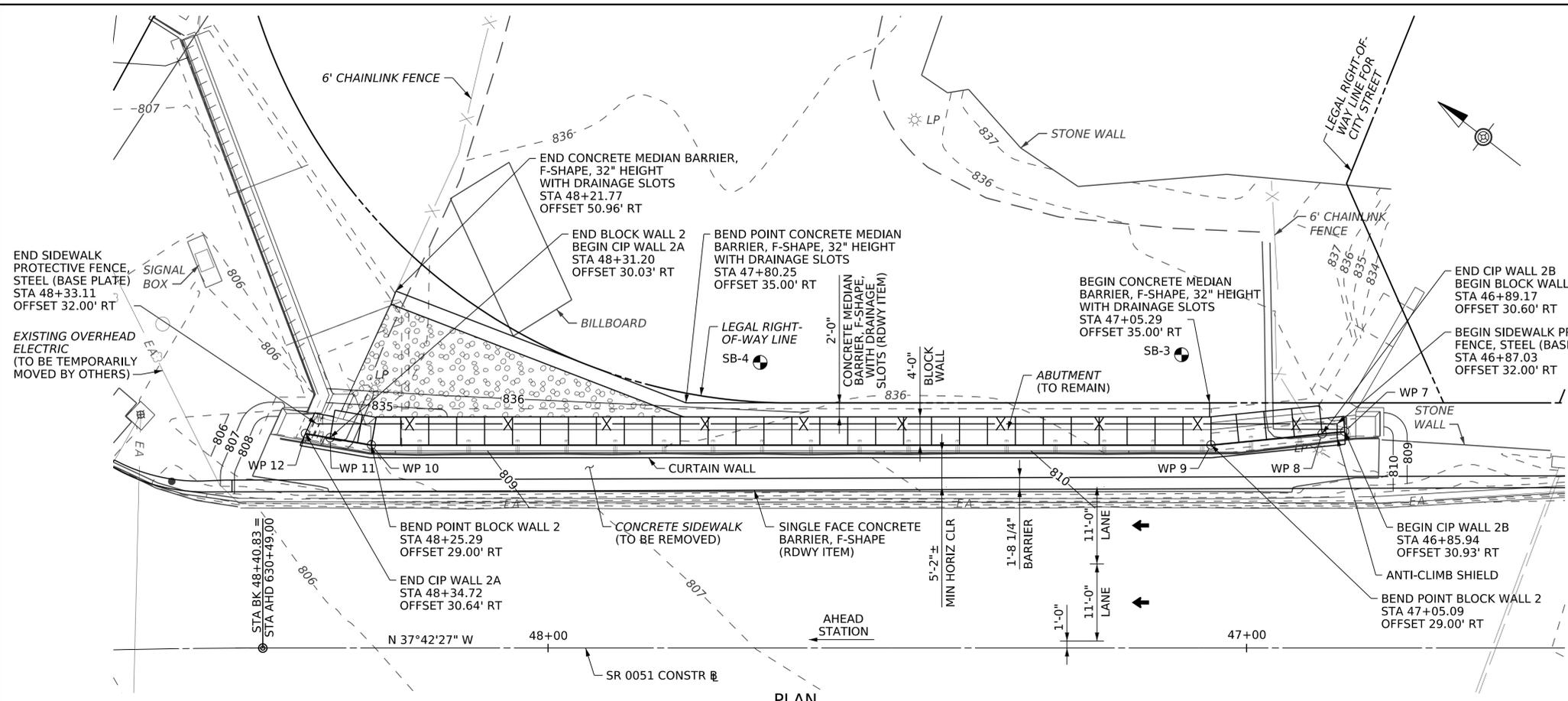


SHEET 4 OF 16

L - 560

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**EPOXY INJECTION CRACK SEAL**

LOCATION	LENGTH (FT)
ABUTMENT 2	20

NOTE: QUANTITIES SHOWN ARE APPROXIMATE AND ARE TO BE VERIFIED IN FIELD PRIOR TO CONSTRUCTION.

REPAIR DETERIORATED CONCRETE ON ABUTMENTS. LOCATIONS AND LIMITS TO BE DETERMINED IN THE FIELD.

- LEGEND**
- INDICATES APPROXIMATE LIMITS OF REPAIR DETERIORATED CONCRETE (SEE SPECIAL PROVISIONS)
  - INDICATES LIMITS OF ROCK, CLASS R-3 (RDWY ITEM)
  - BORING LOCATION
  - DIRECTION OF TRAFFIC
  - 832- EXISTING CONTOUR
  - EA EXISTING AERIAL ELECTRIC
  - 807- PROPOSED CONTOUR
  - EXISTING DRAINAGE
  - INDICATES BLOCK TYPE. BLOCKS NOT INDICATED ARE TYPE 1. FOR BLOCK TYPE DETAILS, SEE SHEET 7.

- NOTES**
1. FOR GENERAL PLAN AND ELEVATION AND INDEX OF DRAWINGS, SEE SHEET 1.
  2. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEET 2.
  3. FOR TYPICAL SECTION, SEE SHEET 3.
  4. FOR CAST-IN-PLACE WALL DETAILS, SEE SHEETS 9 & 10.
  5. FOR BLOCK WALL DETAILS, SEE SHEETS 7 & 8, AND SPECIAL PROVISION 9000-9001.
  6. CLEAR WEEP HOLES IN ABUTMENT PER SPECIAL PROVISION 9000-9003 WEEP HOLE CLEARING.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
 BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION**

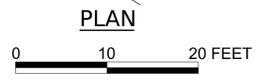
**ALLEGHENY COUNTY  
SR 7301 SEC LOC**

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL

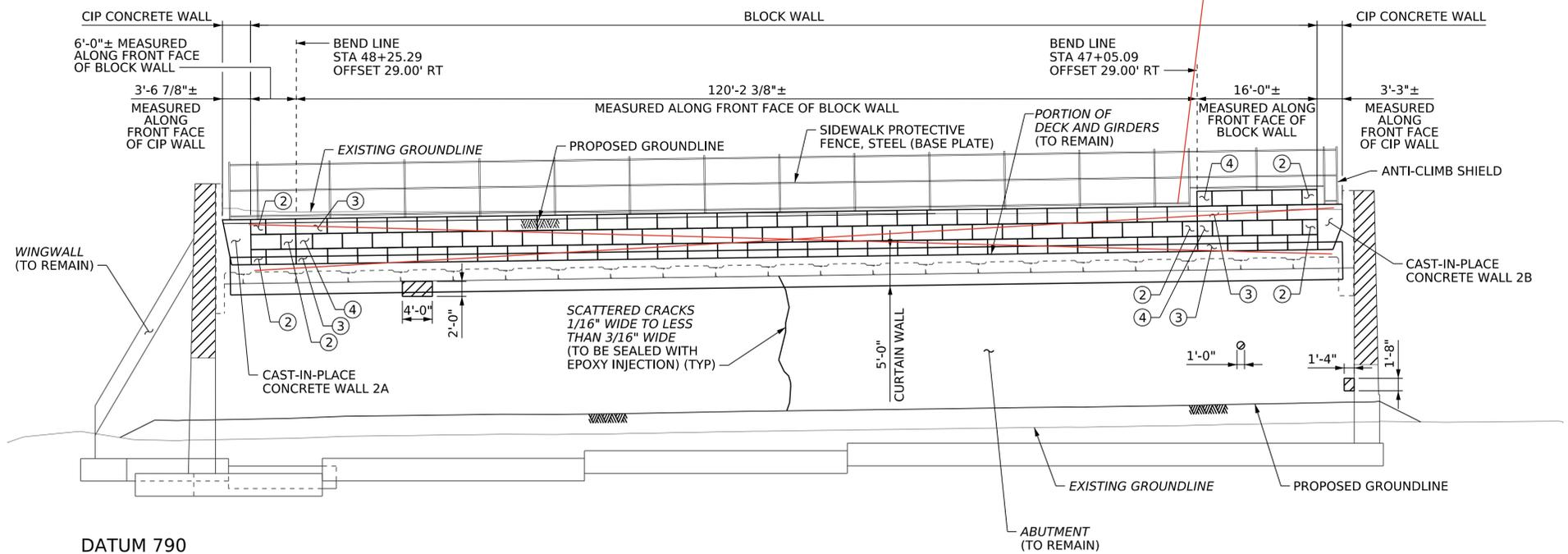
**BLOCK WALL 2 PLAN & ELEVATION**

SHEET 6 OF 16

L - 560



See Alternate Block Wall Shop Drawings

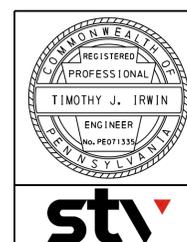


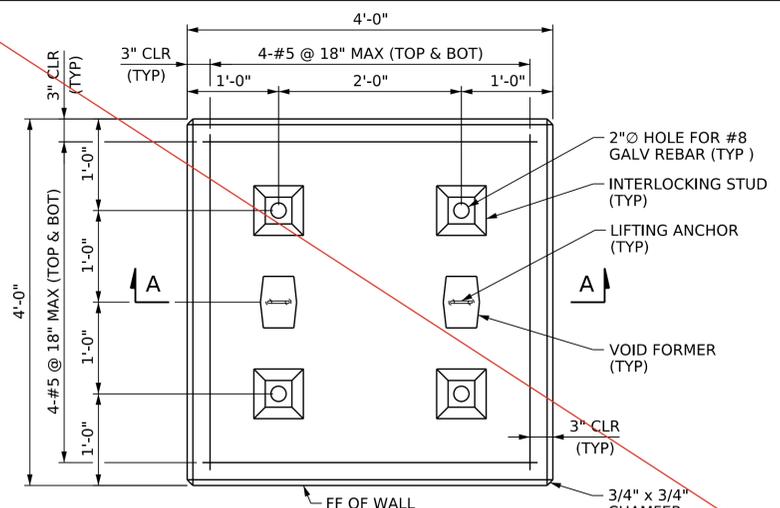
DATUM 790

ELEVATION
48+34.72 TOW EL 834.70
48+25.64 TOW EL 834.78
48+00.00 TOW EL 835.35
47+50.00 TOW EL 836.16
47+05.09 TOW EL 836.73
47+00.00 TOW EL 836.81
46+85.94 TOW EL 836.99



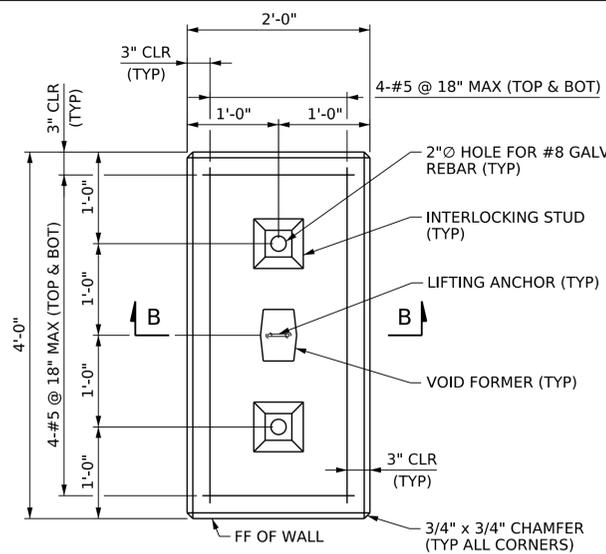
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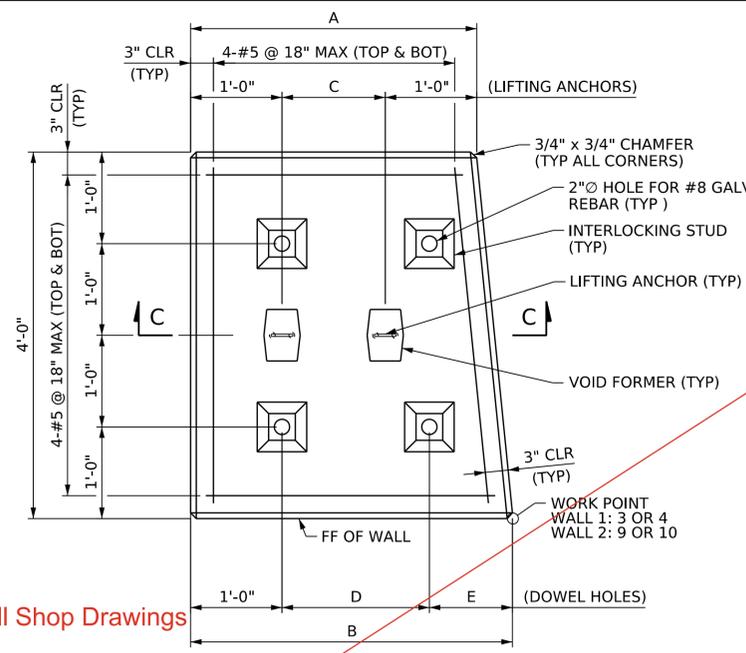
**BLOCK PLAN VIEW - TYPE 1**

6 0 6 12 INCHES



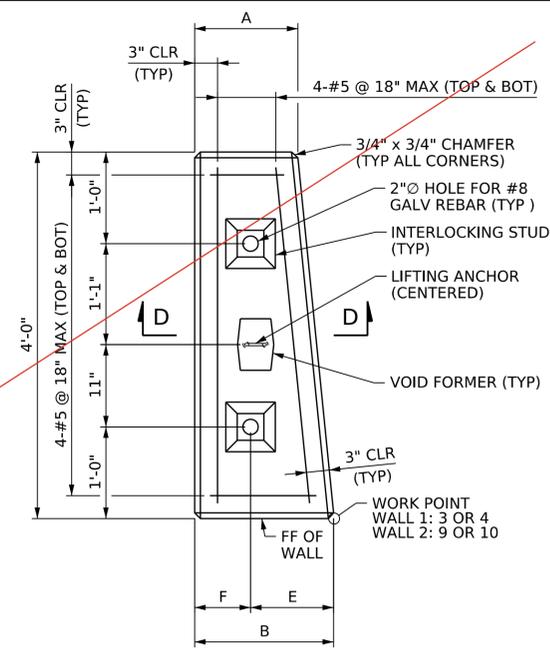
**BLOCK PLAN VIEW - TYPE 2**

6 0 6 12 INCHES



**BLOCK PLAN VIEW - TYPE 3**

6 0 6 12 INCHES

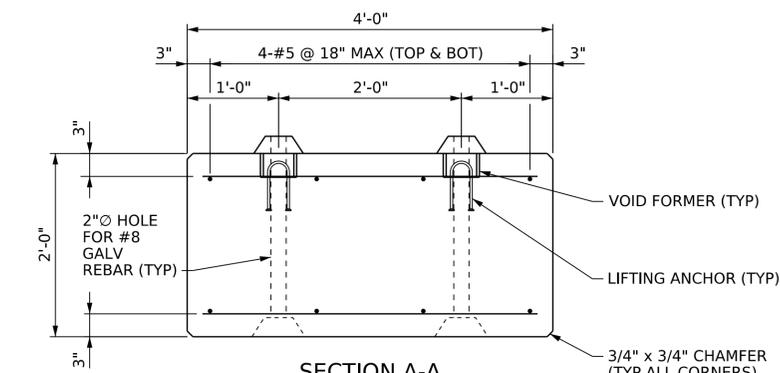


**BLOCK PLAN VIEW - TYPE 4**

6 0 6 12 INCHES

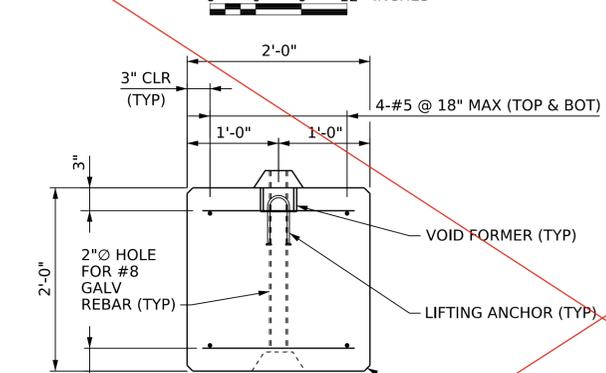
NOTE:  
TYPE 3 & TYPE 4 BLOCKS SHOWN  
FOR WALL 1.  
WALL 2 OPPOSITE HAND

See Alternate Block Wall Shop Drawings



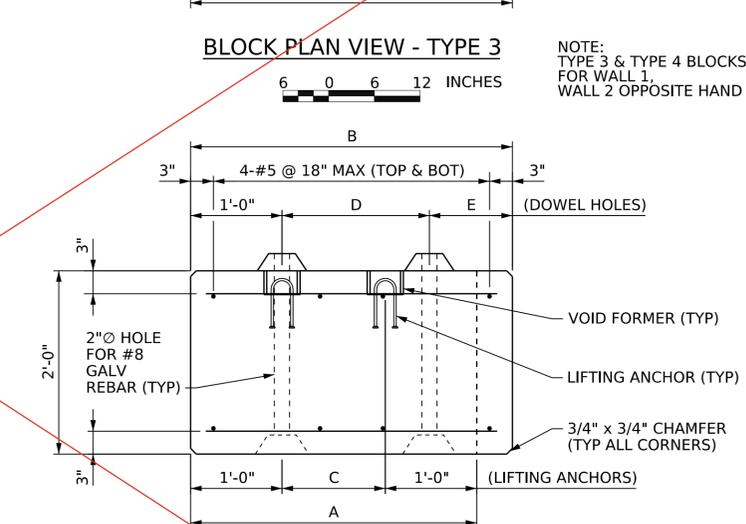
**SECTION A-A**

6 0 6 12 INCHES



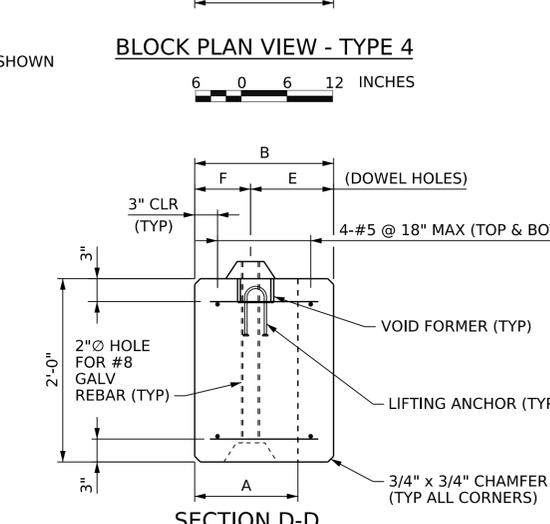
**SECTION B-B**

6 0 6 12 INCHES



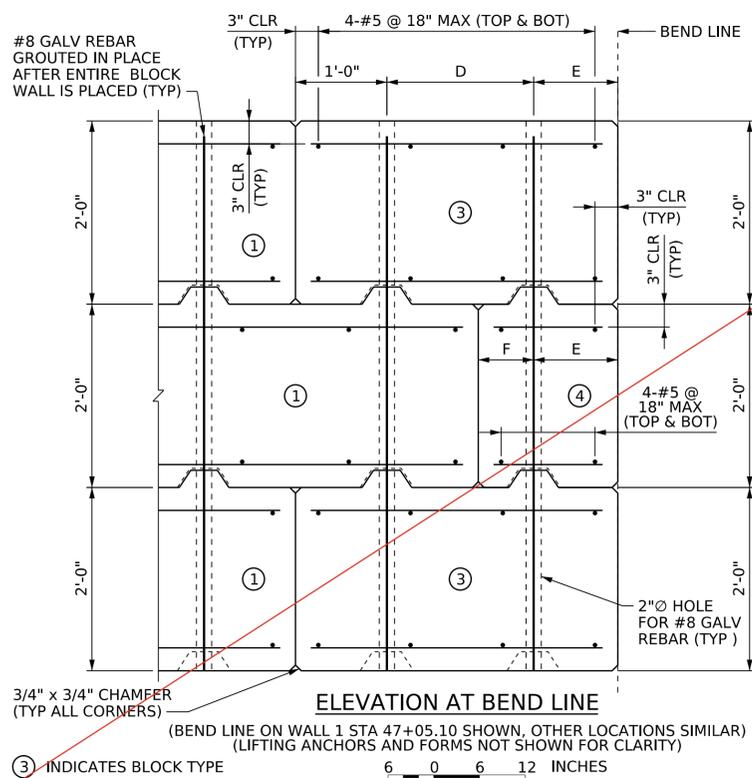
**SECTION C-C**

6 0 6 12 INCHES



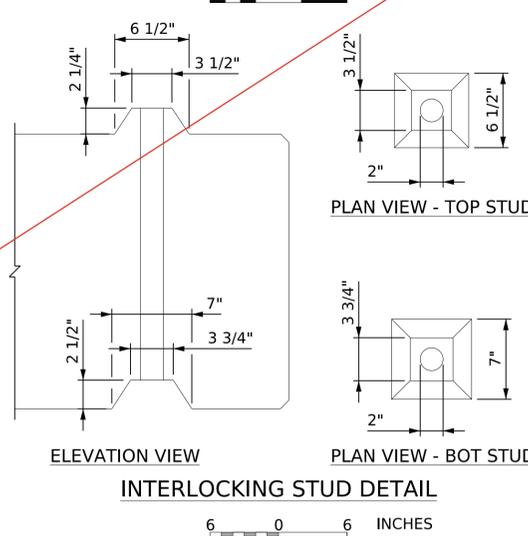
**SECTION D-D**

6 0 6 12 INCHES



**ELEVATION AT BEND LINE**

6 0 6 12 INCHES



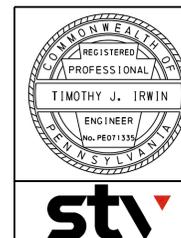
**INTERLOCKING STUD DETAIL**

6 0 6 12 INCHES

**NOTES**

- FOR GENERAL PLAN AND ELEVATION AND INDEX OF DRAWINGS, SEE SHEET 1.
- FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEET 2.
- FOR LOCATION OF WORK POINTS, SEE SHEET 4.
- FOR BLOCK WALL 1 PLAN AND ELEVATION, SEE SHEET 5.
- FOR BLOCK WALL 2 PLAN AND ELEVATION, SEE SHEET 6.
- CONCRETE BLOCKS MUST BE REMOVED FROM THE FORMS BEFORE LIFTING.
- CONCRETE BLOCKS SHALL NOT BE LIFTED BEFORE THE CONCRETE REACHES A STRENGTH OF 2,500 PSI.
- #8 GALVANIZED REBAR DOWEL IS INCIDENTAL TO THE BLOCK WALL. INSERT DOWELS WHEN EACH TOP BLOCK IS PLACED. GROUT ALL DOWELS WHEN THE BLOCK WALL IS FULLY PLACED.
- LIFTING ANCHORS SHALL BE DESIGNED FOR A SAFE WORKING LOAD (SWL) OF 5,700 LB PER BLOCK FOR TYPE 1 AND TYPE 3 BLOCKS, AND A SWL OF 3,300 LB PER BLOCK FOR TYPE 2 AND TYPE 4 BLOCKS. LIFTING ANCHORS SHALL BE FLUSH WITH THE TOP OF THE BLOCK. LIFTING ANCHOR RECESSES IN TOP COURSE OF BLOCKS SHALL BE FILLED WITH GROUT AFTER BLOCK IS IN PLACE.
- CONCRETE BLOCKS IN THE TOP COURSE SHALL BE CAST WITHOUT INTERLOCKING STUDS ON THE TOP FACE.

TYPE 3 & TYPE 4 BLOCK DIMENSIONS								
DIMENSION	WALL 1				WALL 2			
	WORK POINT 3		WORK POINT 4		WORK POINT 9		WORK POINT 10	
	TYPE 3	TYPE 4	TYPE 3	TYPE 4	TYPE 3	TYPE 4	TYPE 3	TYPE 4
QTY	2	1	2	2	2	2	2	1
A	3'-1 1/2"	1'-1 1/2"	4'-6"	2'-6"	3'-7 1/4"	1'-7 1/4"	3'-6 1/4"	1'-6 1/4"
B	3'-6 1/4"	1'-6 1/4"	4'-10 7/8"	2'-10 7/8"	3'-11 7/8"	1'-11 7/8"	4'-2 3/8"	2'-2 3/8"
C	1'-1 1/2"	---	2'-6"	---	1'-7 1/4"	---	1'-6 1/4"	---
D	1'-7 1/4"	---	2'-3 5/8"	---	1'-10 1/8"	---	1'-10 1/8"	---
E	11"	11"	1'-7 1/4"	1'-7 1/4"	1'-1 3/4"	1'-1 3/4"	1'-4 1/4"	1'-4 1/4"
F	---	7 1/4"	---	1'-3 5/8"	---	10 1/8"	---	10 1/8"



Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

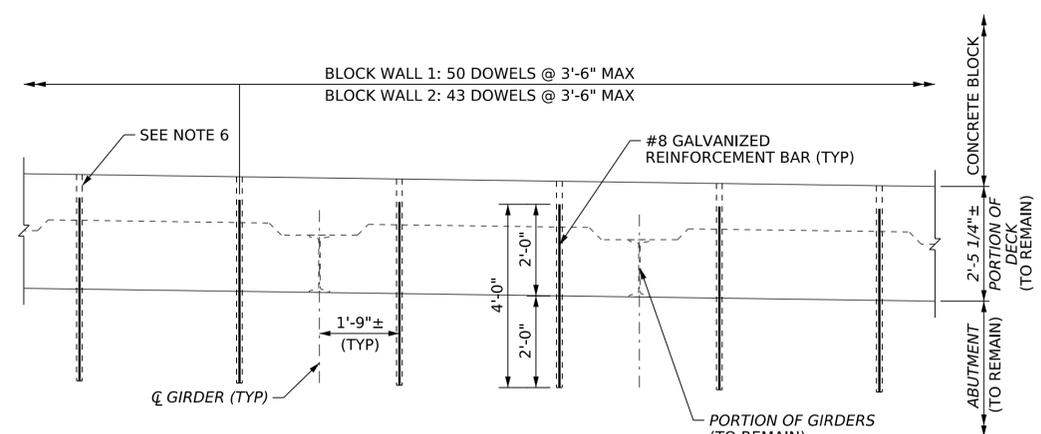
**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
**ALLEGHENY COUNTY**  
**SR 7301 SEC LOC**

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL

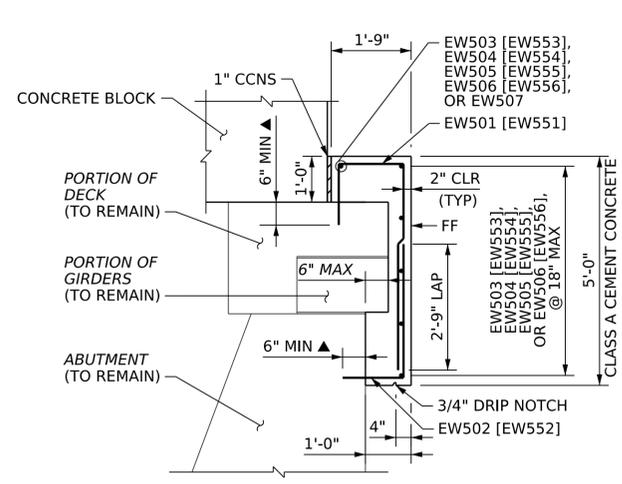
**BLOCK WALL DETAILS - 1**

SHEET 7 OF 16

L - 560



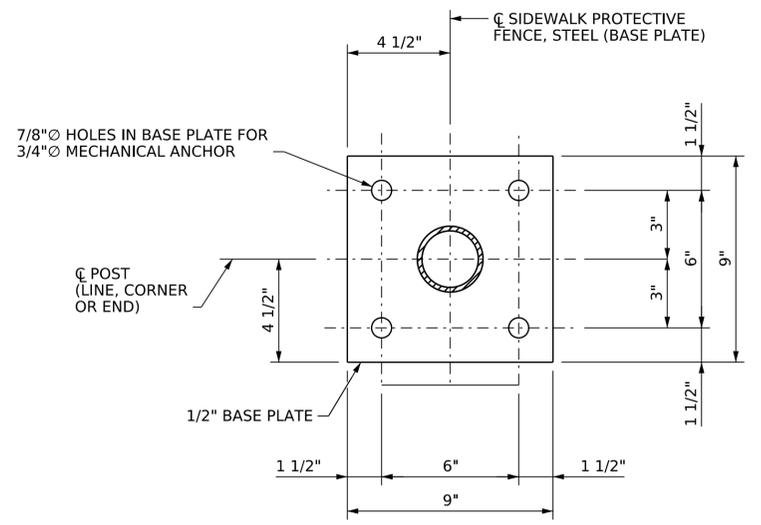
**ABUTMENT DOWEL DETAIL**  
(LOOKING AT FRONT FACE OF ABUTMENT)  
NOT TO SCALE



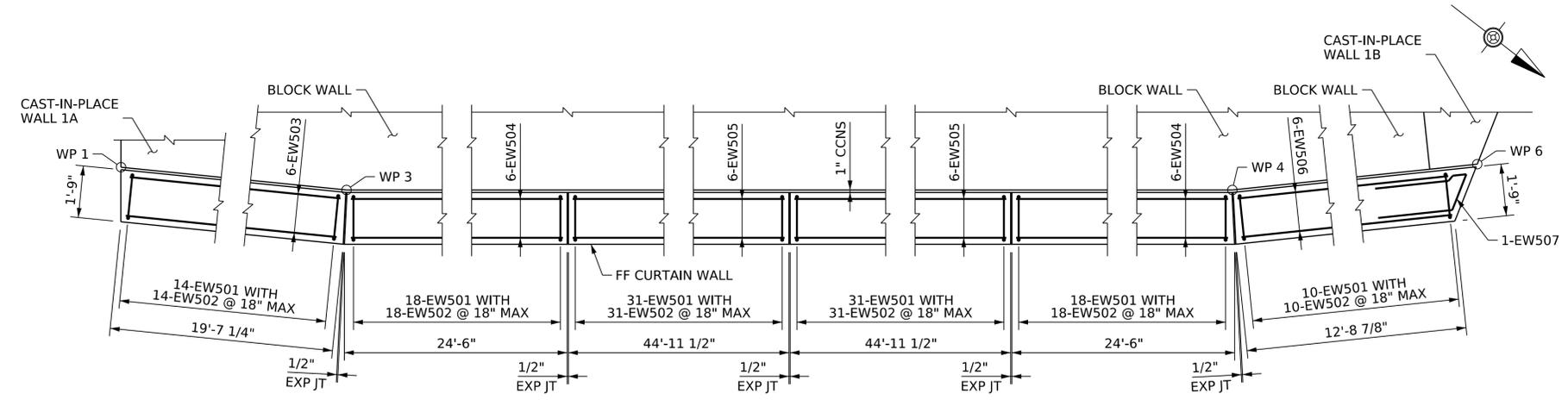
▲ DRILL 1" DIA DOWEL HOLE FOR #5 DOWEL BARS.  
GROUT #5 DOWEL BARS INTO HOLES.

NOTE: ABUTMENT DOWELS OMITTED FOR CLARITY.  
SEE SHEET 3 FOR ABUTMENT DOWEL LOCATIONS.  
CURTAIN WALL AT WALL 1 SHOWN,  
CURTAIN WALL AT WALL 2 NOTED THUS [ ]

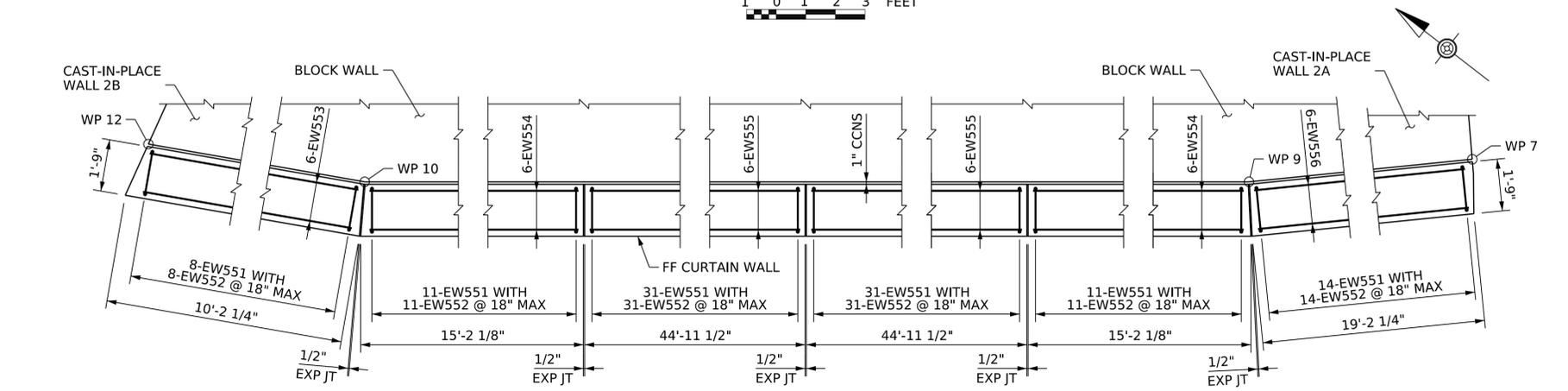
**CURTAIN WALL DETAIL**



**SIDEWALK PROTECTIVE FENCE, STEEL (BASE PLATE) PLAN**



**CURTAIN WALL 1 PLAN**



**CURTAIN WALL 2 PLAN**



**NOTES**

1. FOR GENERAL PLAN AND ELEVATION AND INDEX OF DRAWINGS, SEE SHEET 1.
2. FOR GENERAL NOTES AND LIST OF ABBREVIATIONS, SEE SHEET 2.
3. FOR THE LOCATION OF THE ABUTMENT DOWELS, SEE TYPICAL SECTION ON SHEET 3.
4. FOR BLOCK WALL 1 PLAN AND ELEVATION, SEE SHEET 5.
5. FOR BLOCK WALL 2 PLAN AND ELEVATION, SEE SHEET 6.
6. DRILL 1.5" DOWEL HOLE FOR #8 DOWEL BARS. GROUT #8 DOWEL BARS INTO HOLES. FILL HOLE WITH GROUT TO TOP OF PORTION OF EXISTING DECK TO REMAIN.
7. FOR LOCATION OF WORK POINTS, SEE SHEET 4.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**

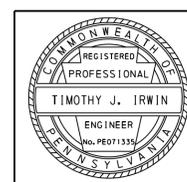
**ALLEGHENY COUNTY**  
**SR 7301 SEC LOC**

**PARKING LOT BRIDGE OVER S.R. 0051**  
**BRIDGE DEMOLITION AND BLOCK WALL**

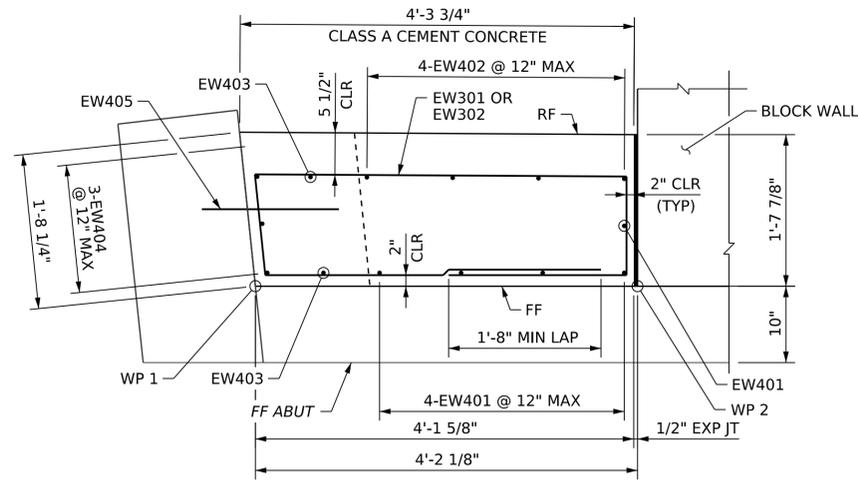
**BLOCK WALL DETAILS - 2**

SHEET 8 OF 16

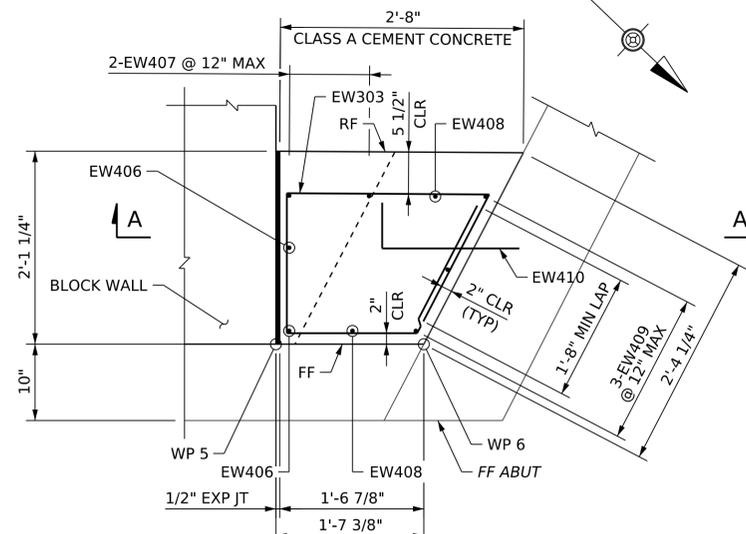
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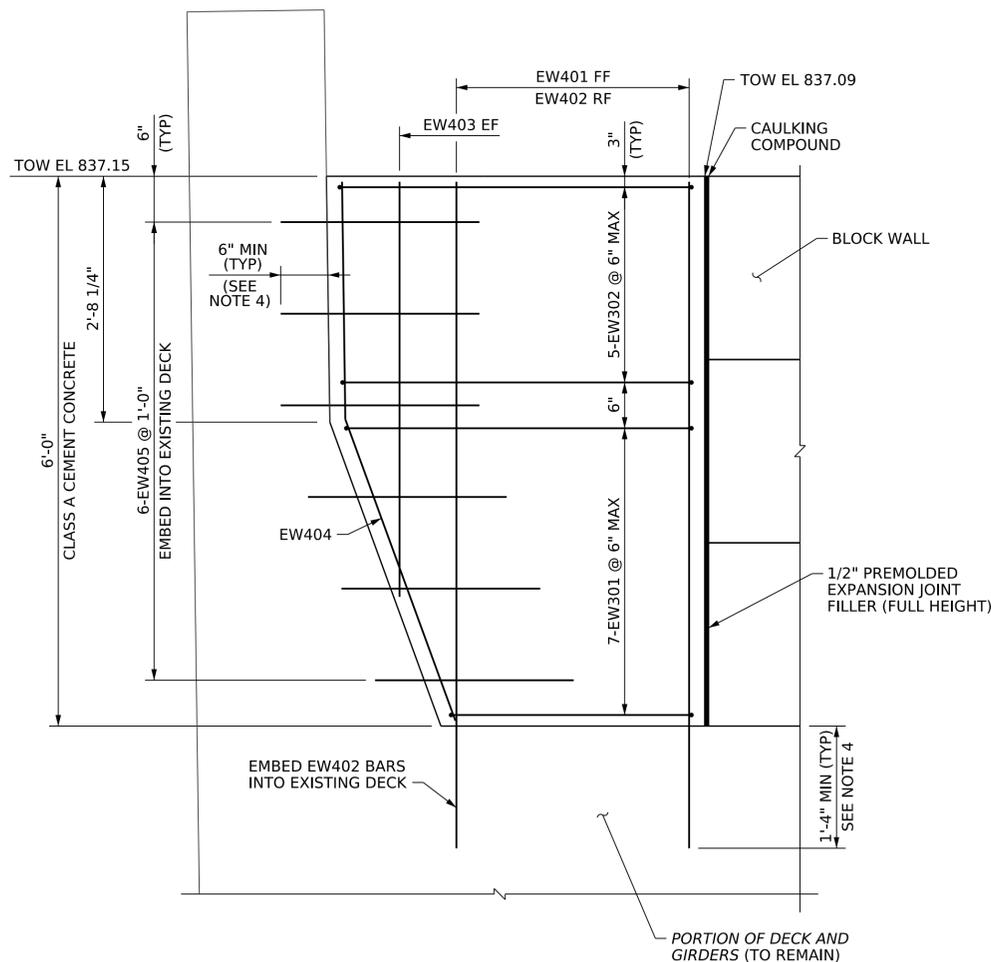
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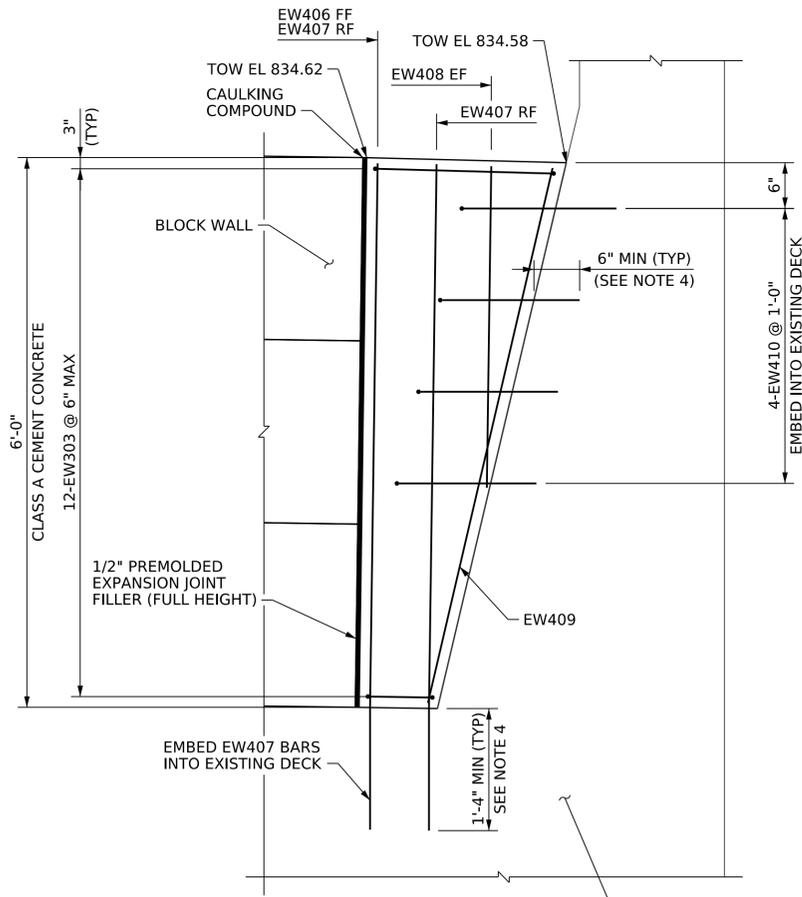
CAST-IN-PLACE WALL 1A PLAN



CAST-IN-PLACE WALL 1B PLAN



CAST-IN-PLACE WALL 1A ELEVATION



VIEW A-A  
CAST-IN-PLACE WALL 1B ELEVATION



NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEET 2.
2. FOR STAKE OUT PLAN, SEE SHEET 4.
3. FOR WALL 1 PLAN & ELEVATION, SEE SHEET 5.
4. DRILL 1" DIA DOWEL HOLE FOR #4 DOWEL BARS. GROUT #4 DOWEL BARS INTO HOLES.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

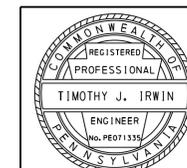
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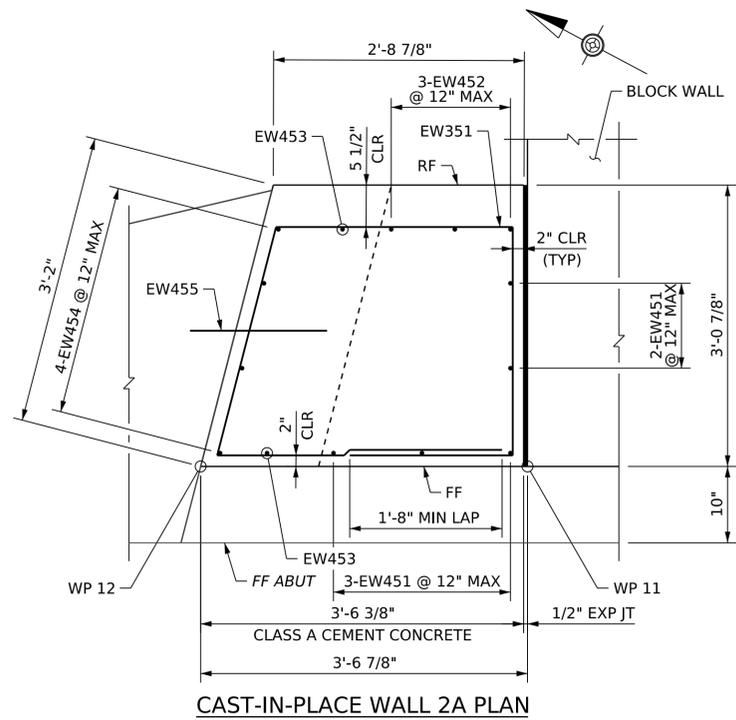
COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
 SR 7301 SEC LOC

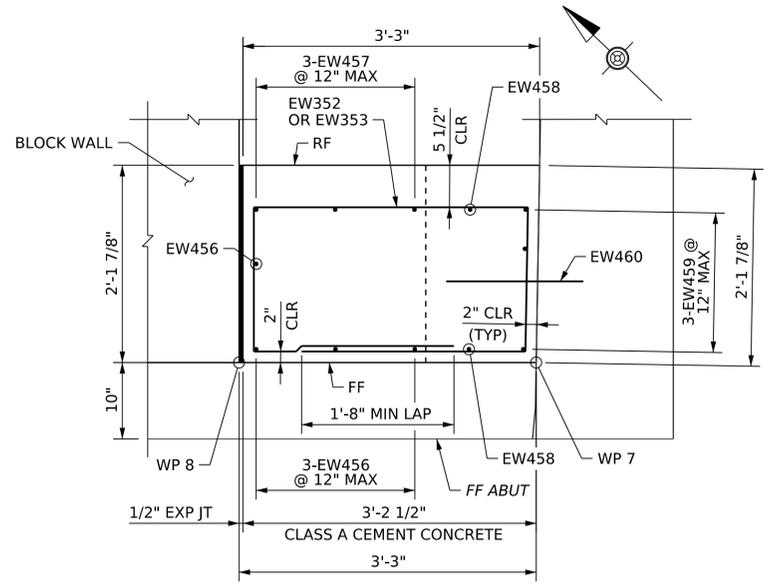
PARKING LOT BRIDGE OVER S.R. 0051  
 BRIDGE DEMOLITION AND BLOCK WALL

CAST-IN-PLACE WALL DETAILS-1

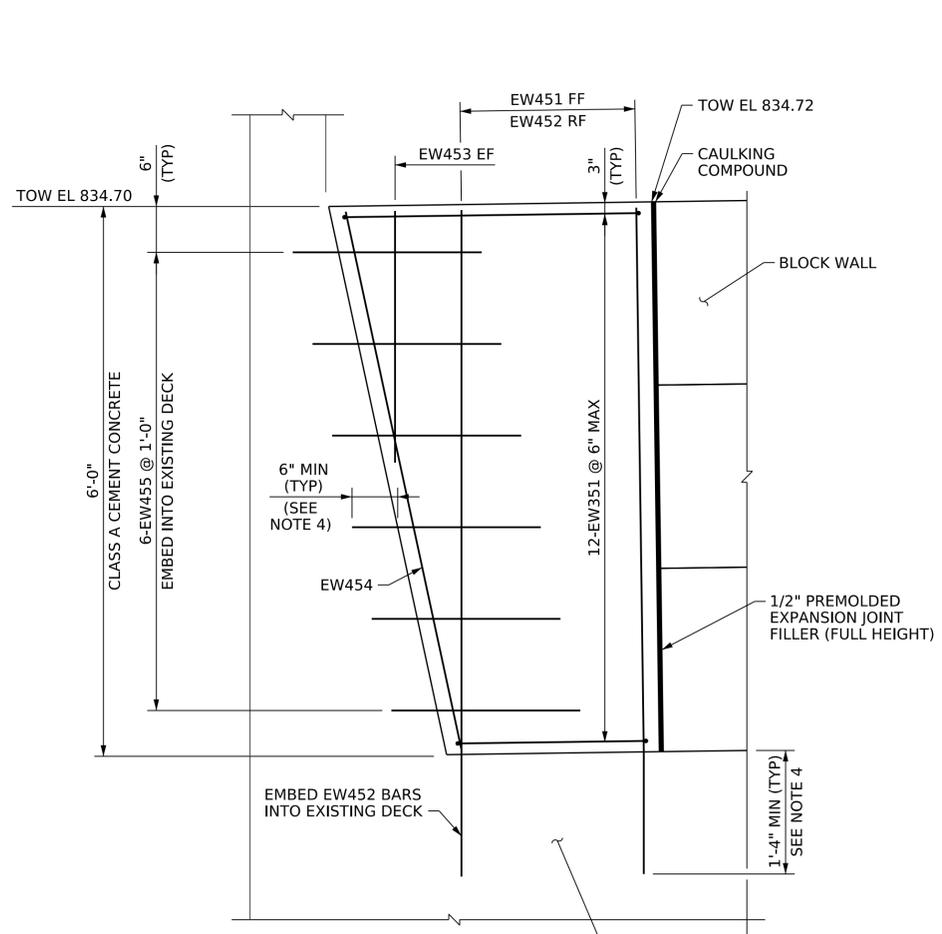




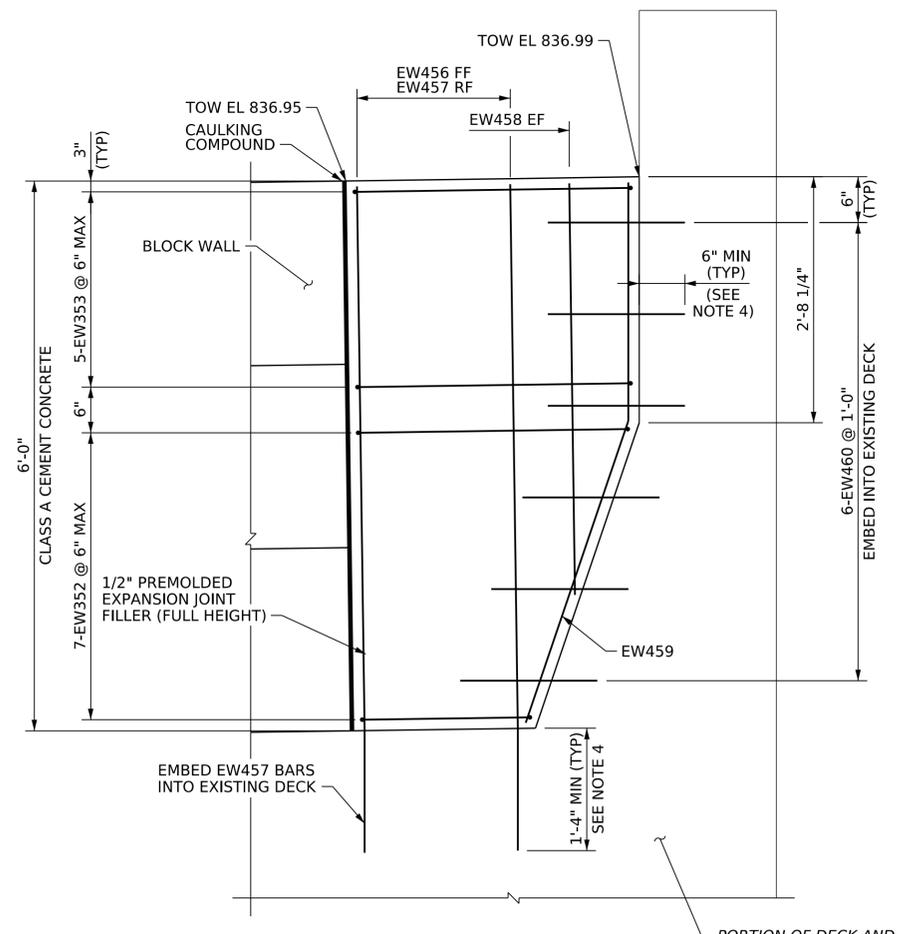
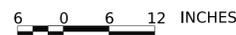
CAST-IN-PLACE WALL 2A PLAN



CAST-IN-PLACE WALL 2B PLAN



CAST-IN-PLACE WALL 2A ELEVATION



CAST-IN-PLACE WALL 2B ELEVATION



NOTES

1. FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEET 2.
2. FOR STAKE OUT PLAN, SEE SHEET 4.
3. FOR WALL 2 PLAN & ELEVATION, SEE SHEET 6.
4. DRILL 1" DIA DOWEL HOLE FOR #4 DOWEL BARS. GROUT #4 DOWEL BARS INTO HOLES.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

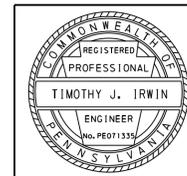
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 BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
 SR 7301 SEC LOC

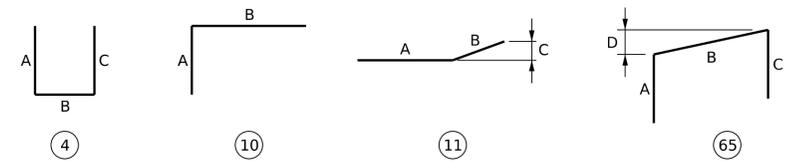
PARKING LOT BRIDGE OVER S.R. 0051  
 BRIDGE DEMOLITION AND BLOCK WALL

CAST-IN-PLACE WALL DETAILS - 2



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CAST-IN-PLACE WALL 1A REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
EW301	3	7	10'-11 1/2" TO 13'-5 1/2"	STR							VARY EA BY 5" BEND IN FIELD
EW302	3	5	13'-5 1/2"	STR							BEND IN FIELD
EW401	4	5	5'-10"	STR							
EW402	4	4	7'-2"	STR							
EW403	4	2	4'-3"	STR							
EW404	4	3	6'-0 1/4"	11	2'-6 1/4"	3'-6"	1'-2 1/2"				
EW405	4	6	2'-2"	STR							
CAST-IN-PLACE WALL 1B REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
EW303	3	12	10'-4 1/2"	STR							BEND IN FIELD
EW406	4	2	5'-10"	STR							
EW407	4	2	7'-2"	STR							
EW408	4	2	3'-6"	STR							
EW409	4	3	5'-11 3/4"	STR							
EW410	4	4	2'-0"	10	1'-6"	6"					
CAST-IN-PLACE WALL 2A REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
EW351	3	12	14'-2"	STR							BEND IN FIELD
EW451	4	5	5'-10"	STR							
EW452	4	3	7'-2"	STR							
EW453	4	2	2'-11"	STR							
EW454	4	4	5'-11 3/4"	STR							
EW455	4	6	2'-2"	STR							
CAST-IN-PLACE WALL 2B REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
EW352	3	7	9'-11 1/4" TO 12'-5 1/4"	STR							VARY EA BY 5" BEND IN FIELD
EW353	3	5	12'-5 1/4"	STR							BEND IN FIELD
EW456	4	4	5'-10"	STR							
EW457	4	3	7'-2"	STR							
EW458	4	2	4'-3"	STR							
EW459	4	3	6'-0 1/4"	11	2'-6 1/4"	3'-6"	1'-2 1/2"				
EW460	4	6	2'-2"	STR							
CURTAIN WALL 1 REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
EW501	5	122	7'-4"	4	1'-4"	1'-5"	4'-7"				
EW502	5	122	4'-2"	10	1'-4"	2'-10"					
EW503	5	6	19'-2 5/8"	STR							
EW504	5	12	24'-1 1/8"	STR							
EW505	5	12	44'-7 1/2"	STR							
EW506	5	6	12'-5"	STR							
EW507	5	1	7'-10"	65	2'-9"	1'-7"	3'-6"	8 7/8"			
CURTAIN WALL 2 REINFORCEMENT BAR SCHEDULE											
MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	F	REMARKS
EW551	5	106	7'-4"	4	1'-4"	1'-5"	4'-7"				
EW552	5	106	4'-2"	10	1'-4"	2'-10"					
EW553	5	6	9'-8 1/4"	STR							
EW554	5	12	14'-8 5/8"	STR							
EW555	5	12	44'-7 1/2"	STR							
EW556	5	6	18'-9 7/8"	STR							



**REINFORCEMENT NOTES**

- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES INDICATE BAR TYPES.
- "E" PREFIX IN BAR MARK DENOTES EPOXY-COATED BARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-F AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

**NOTES**

- FOR GENERAL NOTES & LIST OF ABBREVIATIONS, SEE SHEET 2.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
 BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION**

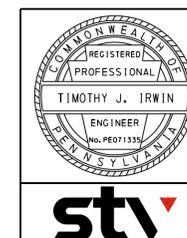
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SR 7301 SEC LOC**

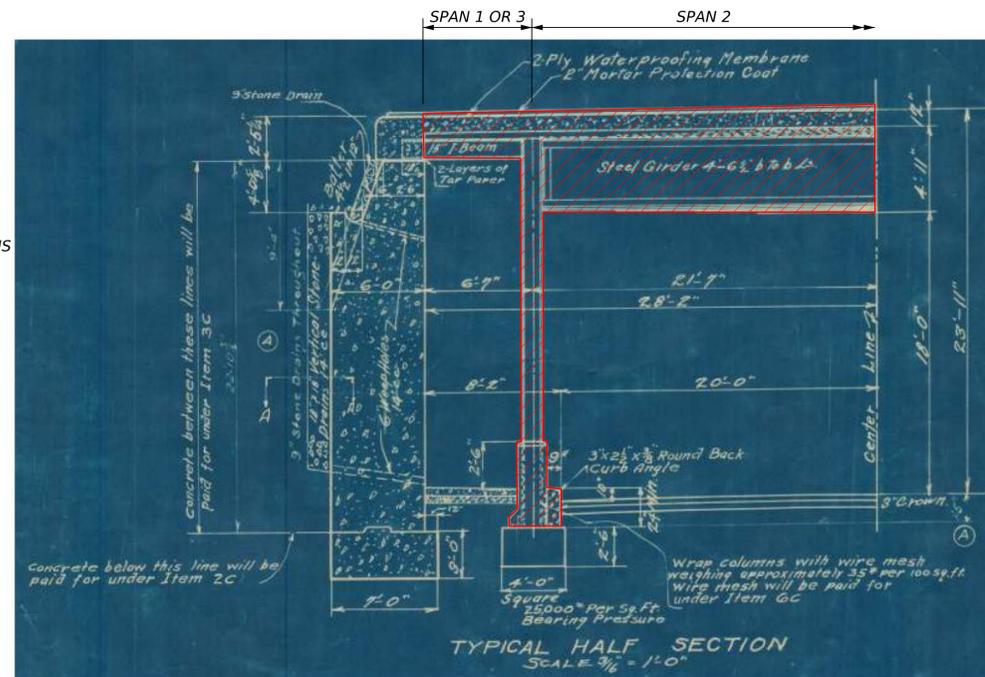
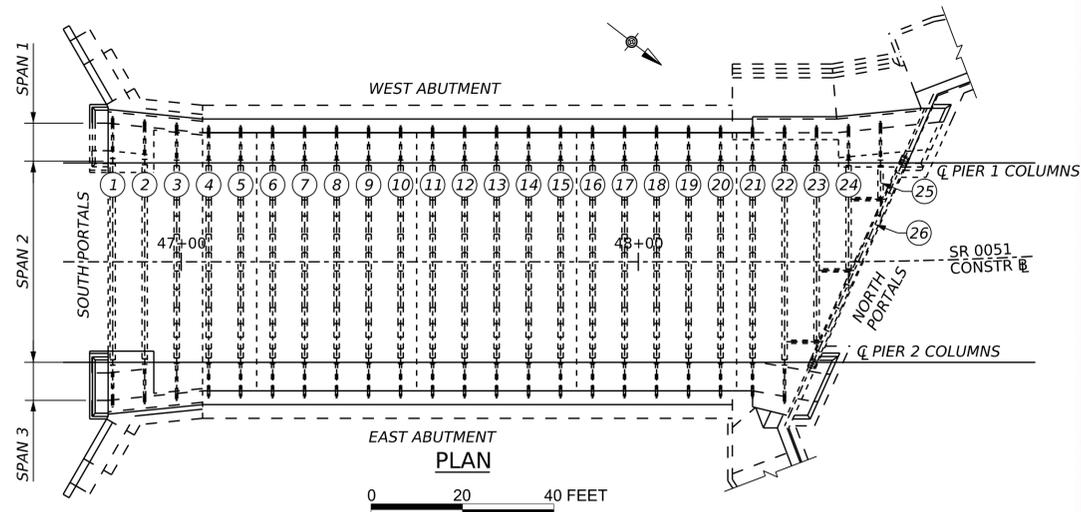
**PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL**

**REINFORCEMENT BAR SCHEDULE**

SHEET 11 OF 16

**L - 560**





TYPICAL HALF SECTION  
NOT TO SCALE

**FOR CONCEPT ONLY**  
**STRUCTURE DEMOLITION PLAN**

**GENERAL**

1. SET UP DETOUR.
2. UNCOVER DETOUR SIGNS, CLOSE SR 51, AND CLEAR TRAFFIC.
3. MOBILIZE DEMOLITION EQUIPMENT, REMOVE ROADWAY BARRIER FOR ACCESS, INSTALL CRANE MATS AND UTILITY SHIELDING.
4. RELOCATE EXISTING TEMPORARY BARRIER TO ROW LINE (ON TOP).

**SPAN 2**

1. DEMO SOUTH PARAPET FOR ACCESS TO THE DECK.
2. DEMO SOUTH PORTALS TO THE LIMITS SHOWN BELOW.
3. REMOVE FILL FROM THE FIRST 25' (AREA ABOVE BEAMS 1 THRU 3) OF THE DECK IN SPAN 2, SLOPE FILL IN SPANS 1 & 3 FROM THE PIER LINE TO ADJACENT TO TEMPORARY BARRIER.
4. SAWCUT AND REMOVE DECK FROM THE FIRST 25' (AREA ABOVE BEAMS 1 THRU 3) OF SPAN 2.
5. TORCH CUT AND REMOVE BEAMS 1-3 OF SPAN 2.
6. REPEAT STEPS 3 THRU 5 FOR BEAM GROUPS 4-6, 7-9, 10-12, 13-15, 16-18, 19-21, 22-25.
7. DEMO NORTH PORTALS AND CONCRETE FASCIA INCLUDING BEAM 26 OF SPAN 2.

**SPAN 1 & 3**

1. INSTALL DOWELS ON EAST ABUTMENT.
2. INSTALL DOWELS ON WEST ABUTMENT.
3. REMOVE FILL AND SET BLOCKS ON EAST ABUTMENT.
4. REMOVE FILL AND SET BLOCKS ON WEST ABUTMENT.
5. INSTALL FINAL BLOCKS AND GROUT BLOCK DOWELS.
6. SAWCUT THE DECK AT THE WEST ABUTMENT FOR SPAN 1 AND AT THE EAST ABUTMENT FOR SPAN 3.
7. SAWCUT DECK ALONG SPAN 1/3 BEAMS, TORCH CUT THE SPAN 1/3 BEAMS, DIAPHRAGM BEAM BETWEEN COLUMNS, AND COLUMNS AT THE TOP OF BARRIER AND REMOVE ENTIRE UNIT.
8. INSTALL ROCK DRAIN AT THE EAST ABUTMENT.
9. INSTALL BARRIER AT THE EAST AND WEST ABUTMENTS (ON TOP).
10. MOUNT PROTECTIVE FENCE TO BLOCKS AT THE EAST AND WEST ABUTMENTS.

**RECONSTRUCT EAST AND WEST ABUTMENTS**

1. FORM, REINFORCE, AND POUR CURTAIN WALL AT EAST ABUTMENT.
2. FORM, REINFORCE, AND POUR CURTAIN WALL AT WEST ABUTMENT.
3. REPAIR DETERIORATED CONCRETE AT BOTH ABUTMENTS.
4. CURE ALL WALLS AND SEAL.

**SOUTHBOUND ROADWAY WIDENING**

1. REMOVE SIDEWALK AND PIER 1 TO TOP OF FOOTING.
2. SAWCUT ROADWAY ALONG PIER 1 TO CLEAN LINES.
3. EXCAVATE ROADWAY, INSTALL SUBBASE, AND INSTALL CONCRETE BASE PAVEMENT.
4. INSTALL 2A SUBBASE FOR SINGLE-FACE BARRIER AND SIDEWALK.
5. INSTALL SINGLE-FACE BARRIER.
6. FORM, REINFORCE, AND POUR SIDEWALK.
7. FORM, REINFORCE, AND POUR BARRIER TRANSITIONS.

**NORTHBOUND ROADWAY WIDENING**

1. REMOVE SIDEWALK AND PIER 2 TO TOP OF FOOTING.
2. SAWCUT ROADWAY ALONG PIER 2 TO CLEAN LINES.
3. EXCAVATE ROADWAY, INSTALL SUBBASE, AND INSTALL CONCRETE BASE PAVEMENT.
4. INSTALL 2A SUBBASE FOR SINGLE-FACE BARRIER.
5. INSTALL SINGLE-FACE BARRIER.
6. BACKFILL SINGLE-FACE BARRIER WITH NO. 57 STONE.

**NOTES**

1. FOR BLOCK WALL 1 PLAN AND ELEVATION, SEE SHEET 5.
2. FOR BLOCK WALL 2 PLAN AND ELEVATION, SEE SHEET 6.
3. FOR TYPICAL SECTION, SEE SHEET 3.
4. FOR GENERAL NOTES AND QUANTITIES, SEE SHEET 2.
5. FOR GENERAL PLAN AND ELEVATION, SEE SHEET 1.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**

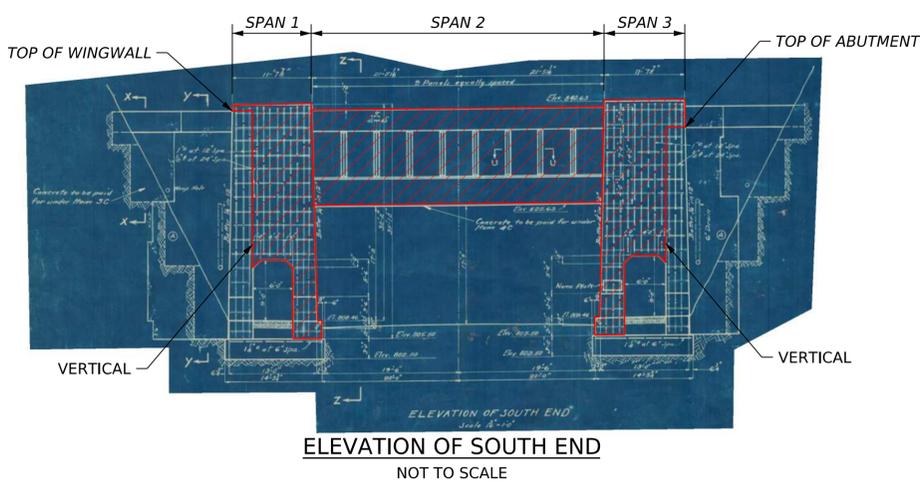
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**SR 7301 SEC LOC**

**PARKING LOT BRIDGE OVER S.R. 0051**  
**BRIDGE DEMOLITION AND BLOCK WALL**

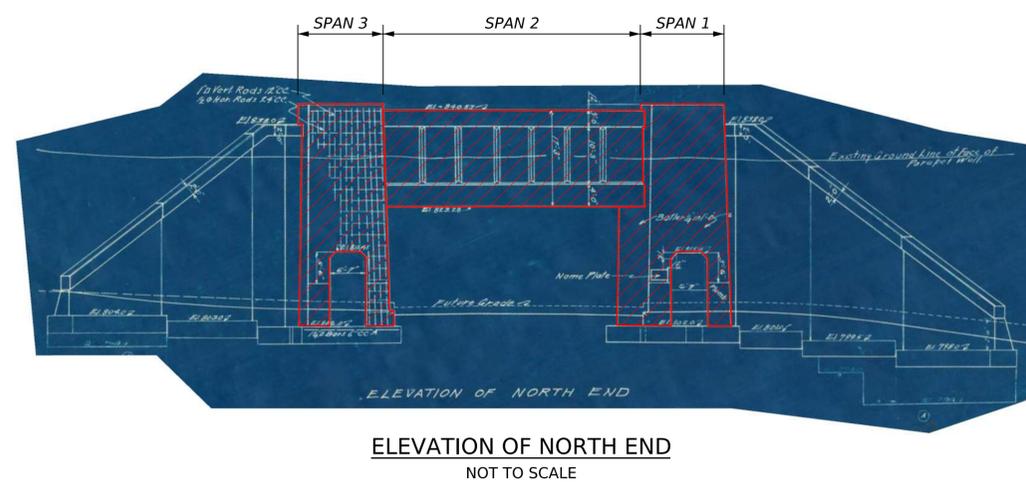
**DEMOLITION PLAN**

SHEET 12 OF 16

**L - 560**



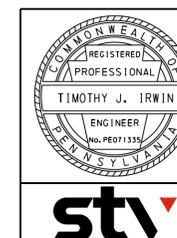
ELEVATION OF SOUTH END  
NOT TO SCALE



ELEVATION OF NORTH END  
NOT TO SCALE

**LEGEND**

LIMITS OF REMOVAL OF EXISTING STRUCTURE



**CONSTRUCTION PROCEDURE**

**REMOVAL, REPAIR AREA PREPARATION, AND REINFORCEMENT INSTALLATION.**

- PROVIDE SATISFACTORY PROTECTIVE SHIELDING BELOW REPAIR AREAS.
- PROVIDE MEANS TO COLLECT CONCRETE AND DEBRIS FROM REMOVAL OPERATIONS AND ABRASIVE BLAST MEDIA USED TO CLEAN THE REPAIR AREAS.
- SOUND AND DETERMINE EXTENT OF REPAIR AREAS IN THE PRESENCE OF A REPRESENTATIVE.
- OUTLINE EDGE OF THE DESIGNATED REPAIR AREAS WITH A 1" MAXIMUM DEPTH SAWCUT.
- WITHIN THE OUTLINED REPAIR AREAS, REMOVE DETERIORATED CONCRETE TO A DEPTH OF 3/4-INCH BEHIND THE FIRST MAT OF REINFORCEMENT BARS TO SOUND CONCRETE. ALLOW UNCOVERED OR EXPOSED REINFORCEMENT BARS TO HAVE A 3/4-INCH CLEARANCE ALL AROUND. IF CONCRETE IS UNSOUND AT A DEPTH OF 3/4-INCH BEHIND REINFORCEMENT BARS, DO NOT REMOVE ADDITIONAL CONCRETE WITHOUT APPROVAL OF THE STRUCTURE CONTROL ENGINEER. REFER TO EXISTING PLANS FOR LOCATION OF REINFORCEMENT BARS. WHERE CONCRETE REPAIRS ARE REQUIRED AND NO REINFORCEMENT IS PRESENT, THE DEPTH OF THE REPAIR SHALL BE TO SOUND CONCRETE OR 3 1/2", WHICHEVER IS MORE.
- SQUARE-OUT/BEVEL EDGE OF REPAIR AREAS TO KEY IN CONSTRUCTION. USE HAND TOOLS FOR REMOVING DETERIORATED CONCRETE. USE PNEUMATIC HAMMERS, IF REQUIRED, NOT EXCEEDING AN IMPACT RATING OF 30 FOOT POUNDS. IF DETERIORATED CONCRETE EXTENDS BEYOND THE INITIALLY OUTLINED REPAIR AREA, ENLARGE AREA AS DIRECTED BY THE REPRESENTATIVE.
- AFTER REMOVAL OPERATIONS ARE COMPLETE, REMOVE DEBRIS AND LOOSE MATERIALS. IMMEDIATELY BEFORE WET ABRASIVE BLASTING (WAB), WET REPAIR AREAS WITH LOW PRESSURE WATER. CLEAN REPAIR AREAS, PREPARED SUBSTRATE AND REINFORCEMENT BARS, BY WAB. WAB EXPOSED REINFORCEMENT BARS TO NEAR-WHITE METAL ACCORDING TO SSPC-SP 10 (WAB). ONCE WAB IS COMPLETE, FLUSH REPAIR AREAS WITH WATER TO REMOVE ANY REMAINING ABRASIVE BLAST MEDIA. ENSURE REPAIR AREAS ARE DRY AND FREE OF SPENT ABRASIVE, THEN EPOXY COAT EXPOSED REINFORCEMENT BARS WITHIN THE SAME WORKDAY AS WAB. REBLAST REINFORCEMENT BARS THAT ARE NOT EPOXY COATED WITHIN THE SAME WORKDAY OR DO NOT MEET SSPC-SP 10 (WAB). SPLICE DAMAGED OR HEAVILY CORRODED REINFORCEMENT BARS AT 50% OR MORE SECTION LOSS AS SHOWN ON STANDARD DRAWING BC-736M. IF ENOUGH SPLICE LENGTH IS NOT AVAILABLE, DRILL NEW DOWEL HOLES AND PLACE DOWEL BARS AS DIRECTED.

- PLACE EPOXY COATED NO. 4 BENT "L" REINFORCEMENT BARS IN A 1'-0" CENTER-TO-CENTER MAXIMUM SPACED GRID. ANCHOR INTO SOUND CONCRETE WITH EPOXY ANCHORING SYSTEM.

- ATTACH WWF TO THE BENT "L" REINFORCEMENT BARS WITH ANNEALED IRON WIRE AT A MAXIMUM SPACING OF 1'-0" IN EACH DIRECTION. IF USING 6X6 WWF, PLACE A SECOND LAYER OF 6X6 WWF AND STAGGER TO ACHIEVE A 3X3 GRID SPACING.

- REPAIR CONCRETE DAMAGED DURING REPAIR OPERATIONS TO THE SATISFACTION OF THE REPRESENTATIVE AT NO ADDITIONAL COST TO THE DEPARTMENT.

- PROPERLY DISPOSE COLLECTED CONCRETE, DEBRIS, AND ABRASIVE BLAST MEDIA.

**CONCRETE PLACEMENT**

c : CONVENTIONAL METHOD

- SET FORMS TO PROVIDE MINIMUM CONCRETE COVER OF 2 INCHES. IF ENOUGH CONCRETE COVER ON EXISTING REINFORCEMENT BARS IS NOT AVAILABLE, HAUNCH REPAIR OUTWARD.

- MAINTAIN EXISTING CHAMFERS.

- AIR-BLAST REPAIR AREAS WITH OIL-FREE COMPRESSED AIR TO REMOVE ANY REMAINING CONTAMINANTS DETRIMENTAL TO THE BOND OF NEW CONCRETE. APPLY EPOXY BONDING COMPOUND TO REPAIR AREAS. WHILE EPOXY BONDING COMPOUND IS STILL TACKY, PLACE CLASS AA CEMENT CONCRETE WITH NO. 8 COARSE AGGREGATE. DO NOT PLACE CONCRETE IF COMPOUND IS NO LONGER TACKY OR HAS HARDENED. RECOAT COMPOUND THAT IS NO LONGER TACKY. WIRE BRUSH HARDENED COMPOUND AND RECOAT REPAIR AREA.

- WATER CURE REPAIR AREAS.

f : SHOTCRETE METHOD

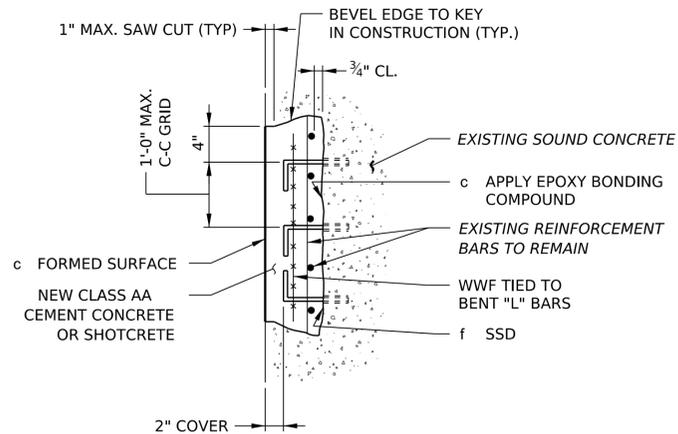
- PROVIDE MINIMUM CONCRETE COVER OF 2 INCHES. IF ENOUGH CONCRETE COVER ON EXISTING REINFORCEMENT BARS IS NOT AVAILABLE, HAUNCH REPAIR OUTWARD.

- MAINTAIN EXISTING CHAMFERS.

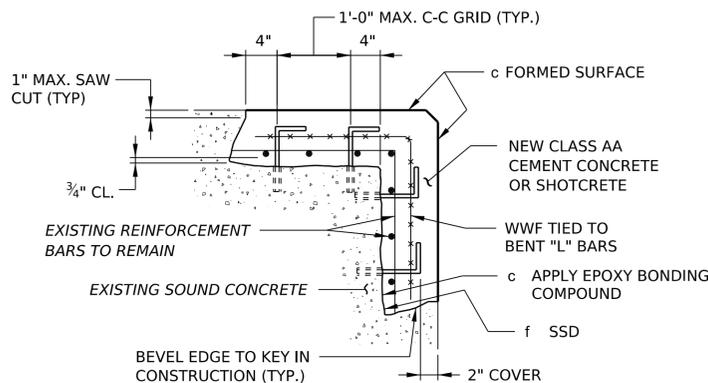
- AIR-BLAST REPAIR AREAS WITH OIL-FREE COMPRESSED AIR TO REMOVE ANY REMAINING CONTAMINANTS DETRIMENTAL TO THE BOND OF NEW CONCRETE.

- SATURATE PREPARED CONCRETE SUBSTRATE WITH CLEAN WATER THE DAY BEFORE SHOTCRETE APPLICATION. BRING WETTED SURFACES TO A SATURATED SURFACE DRY (SSD) CONDITION BEFORE APPLICATION OF SHOTCRETE. DO NOT APPLY SHOTCRETE TO A DRY SURFACE, OR TO A SURFACE WITH FREE SURFACE WATER.

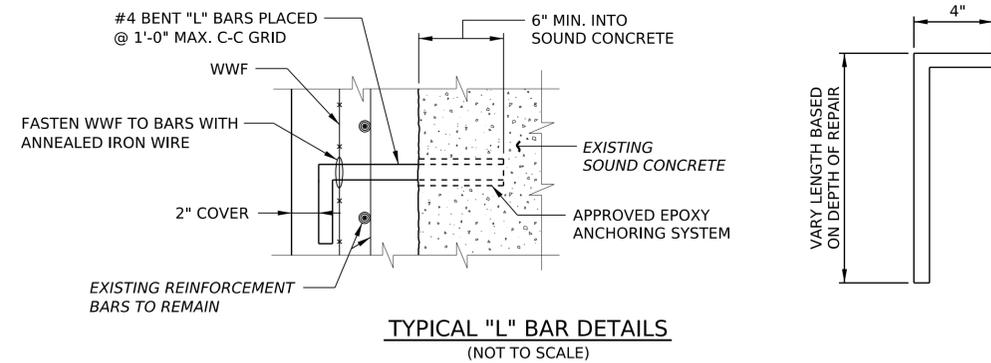
- WATER CURE REPAIR AREAS. LIQUID MEMBRANE CURING COMPOUND MAY BE USED ONLY WHEN ACCEPTED BY THE REPRESENTATIVE.



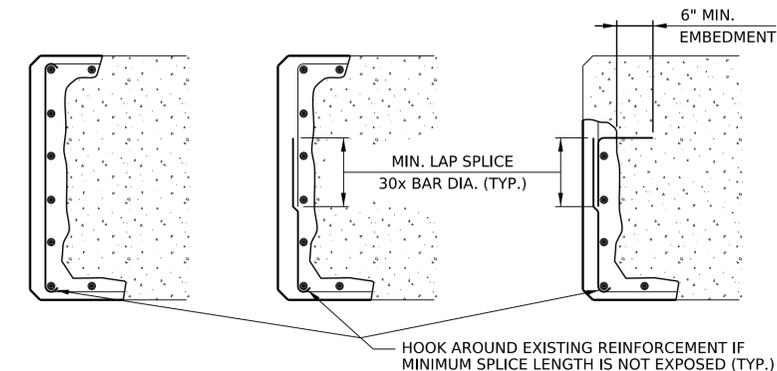
**TYPICAL REPAIR DETAIL**  
(NOT TO SCALE)



**TYPICAL CORNER REPAIR DETAIL**  
(NOT TO SCALE)



**TYPICAL "L" BAR DETAILS**  
(NOT TO SCALE)



**SPLICE DETAILS FOR PIER CAP STIRRUPS WITH ≥ 50% SECTION LOSS**  
(NOT TO SCALE)

**NOTES**

USE A PACHOMETER TO LOCATE EXISTING REINFORCEMENT WHEN DRILLING DOWEL HOLES TO AVOID DRILLING THRU EXISTING BARS.

**LEGEND**

- c : CONVENTIONAL METHOD (FORM AND PLACE) ONLY
- f : SHOTCRETE METHOD ONLY
- SSD : SATURATED SURFACE DRY
- WWF : WELDED WIRE FABRIC

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**

**ALLEGHENY COUNTY**  
**SR 7301 SEC LOC**

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL

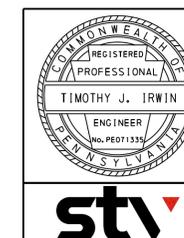
**DETERIORATED CONCRETE REPAIR DETAILS**

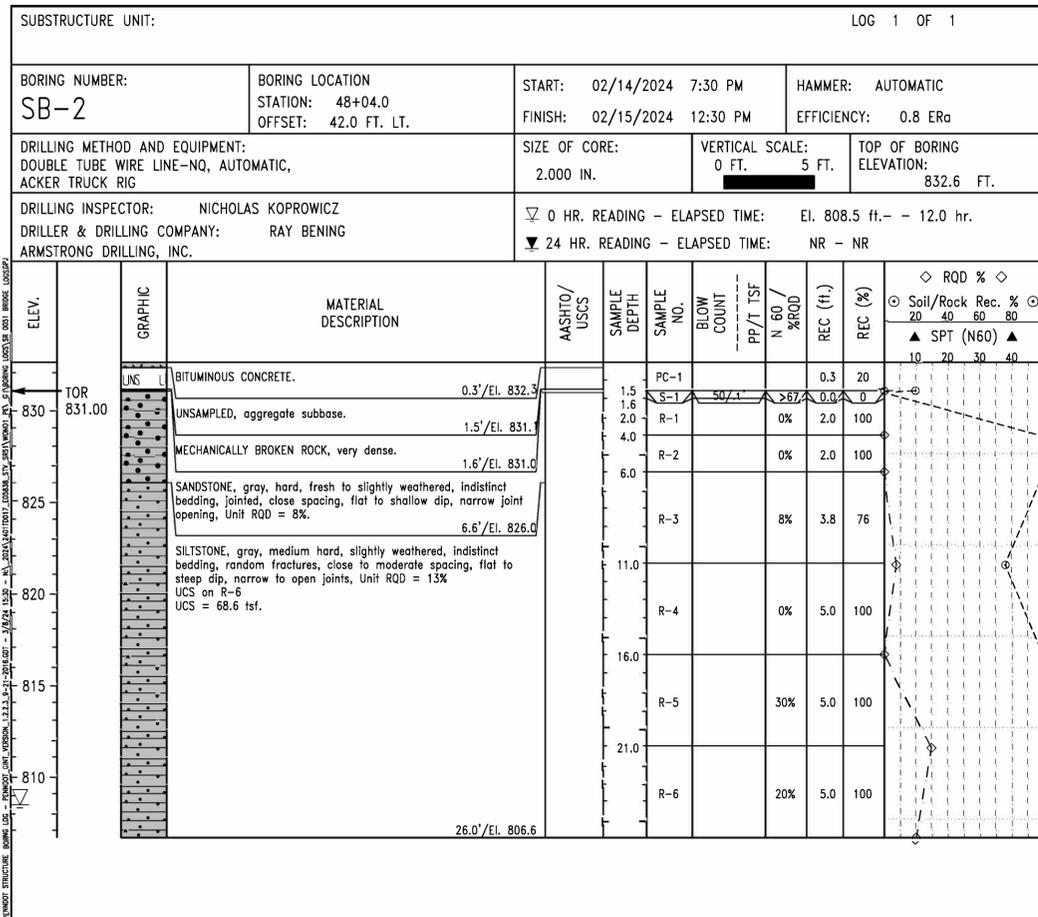
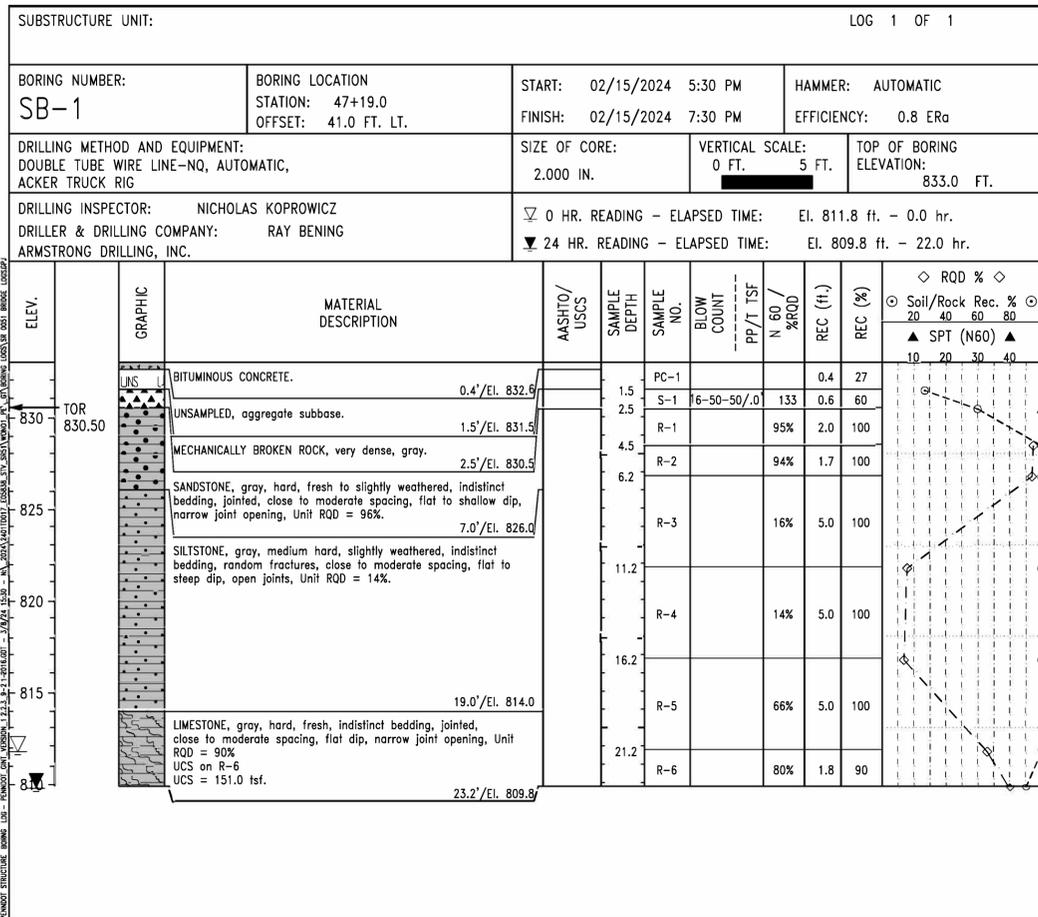
SHEET 13 OF 16

L - 560

ITEM 9000-9002 REPAIR DETERIORATED CONCRETE (FOR INFORMATION ONLY)	
(THIS ITEM INCLUDES PAYMENT FOR THE FOLLOWING MATERIALS AND THEIR INSTALLATIONS)	
DOWEL HOLES	SECTION 1003, DIAMETER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
REINFORCEMENT BARS (EPOXY COATED)	SECTION 709.1
EPOXY ANCHORING SYSTEM	BULLETIN 15 AND MANUFACTURER'S RECOMMENDATIONS
WELDED WIRE FABRIC (WWF) EPOXY OR GALVANIZED	SECTION 709.3, 3x3, 4x4, OR 6x6 WWF MADE OF 8, 10, OR 11 GAUGE WIRE
ANNEALED IRON WIRE	ASTM A684
c FORMS	SECTION 1001.2(h)
c EPOXY BONDING COMPOUND	ASTM C881 TYPE II, GRADE 2
c CLASS AA CEMENT CONCRETE	SECTION 704 EXCEPT USE NO. 8 COARSE AGGREGATE
f SHOTCRETE	SECTION 1043.2(a)

NOTE: ANY ADDITIONAL REINFORCING STEEL IS INCIDENTAL TO ITEM 9000-9002.





GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

LEGEND

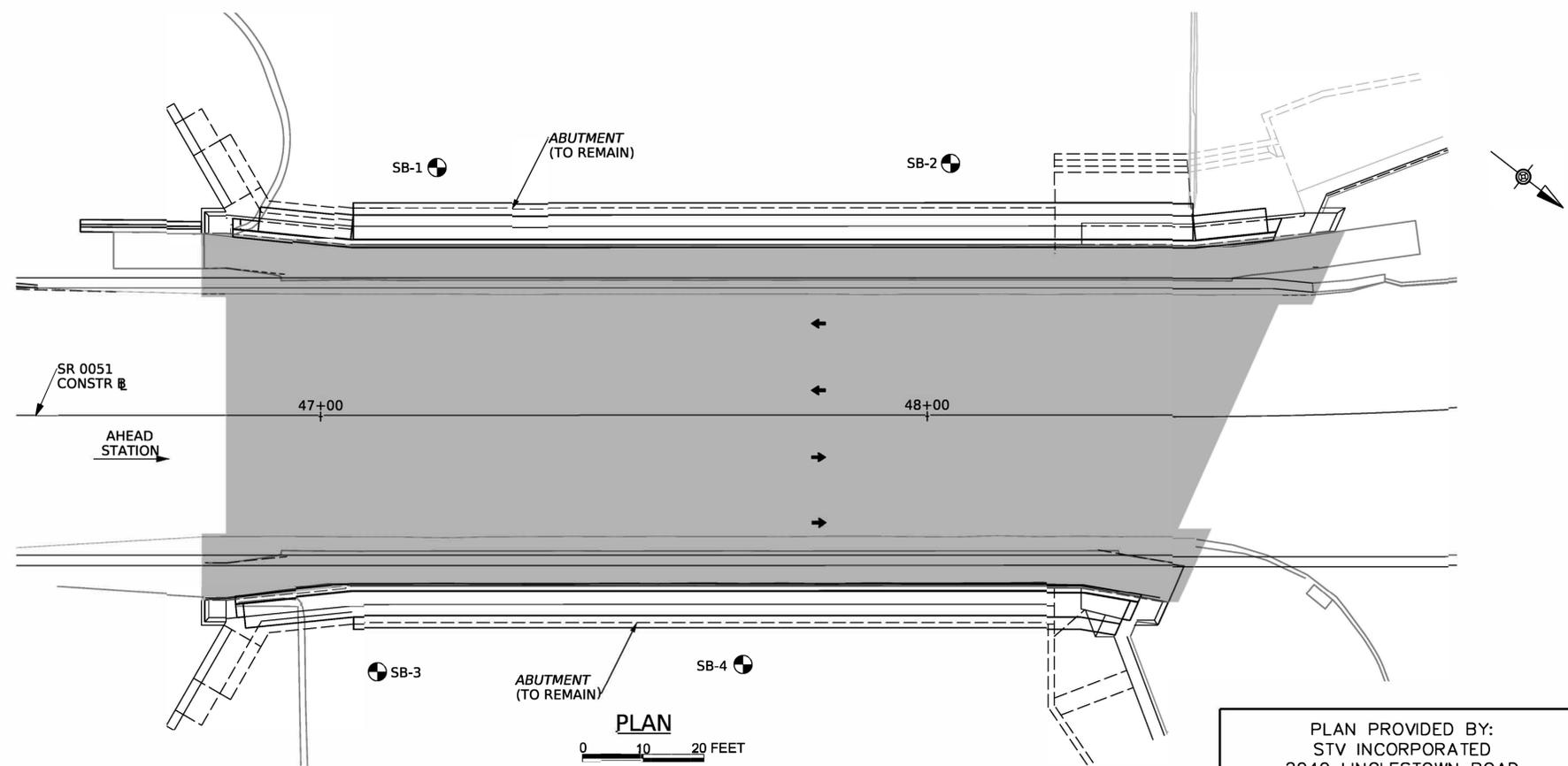
- PP POCKET PENETROMETER
- T TORVANE
- NTS NOT TO SCALE
- TOR ESTIMATED TOP OF ROCK ELEVATION
- TEST BORING LOCATION

THE DESCRIPTIONS OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

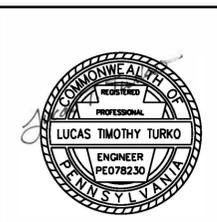
*JTT*

THE SUBSURFACE EXPLORATION DATA THAT ARE PRESENTED ON THESE DRAWINGS (INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATION OF MATERIALS AND DEPTH OF BORINGS) ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM AT EACH BORING LOCATION.

*Lucas T. Turko* 3/11/2024  
 GEOTECHNICAL ENGINEER/ENGINEERING GEOLOGIST DATE:



PLAN PROVIDED BY:  
STV INCORPORATED  
2040 LINGESTOWN ROAD  
SUITE 104  
HARRISBURG, PA 17110



BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
 BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION  
 ALLEGHENY COUNTY  
 SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
 BRIDGE DEMOLITION AND BLOCK WALL

STRUCTURE BORINGS - 1

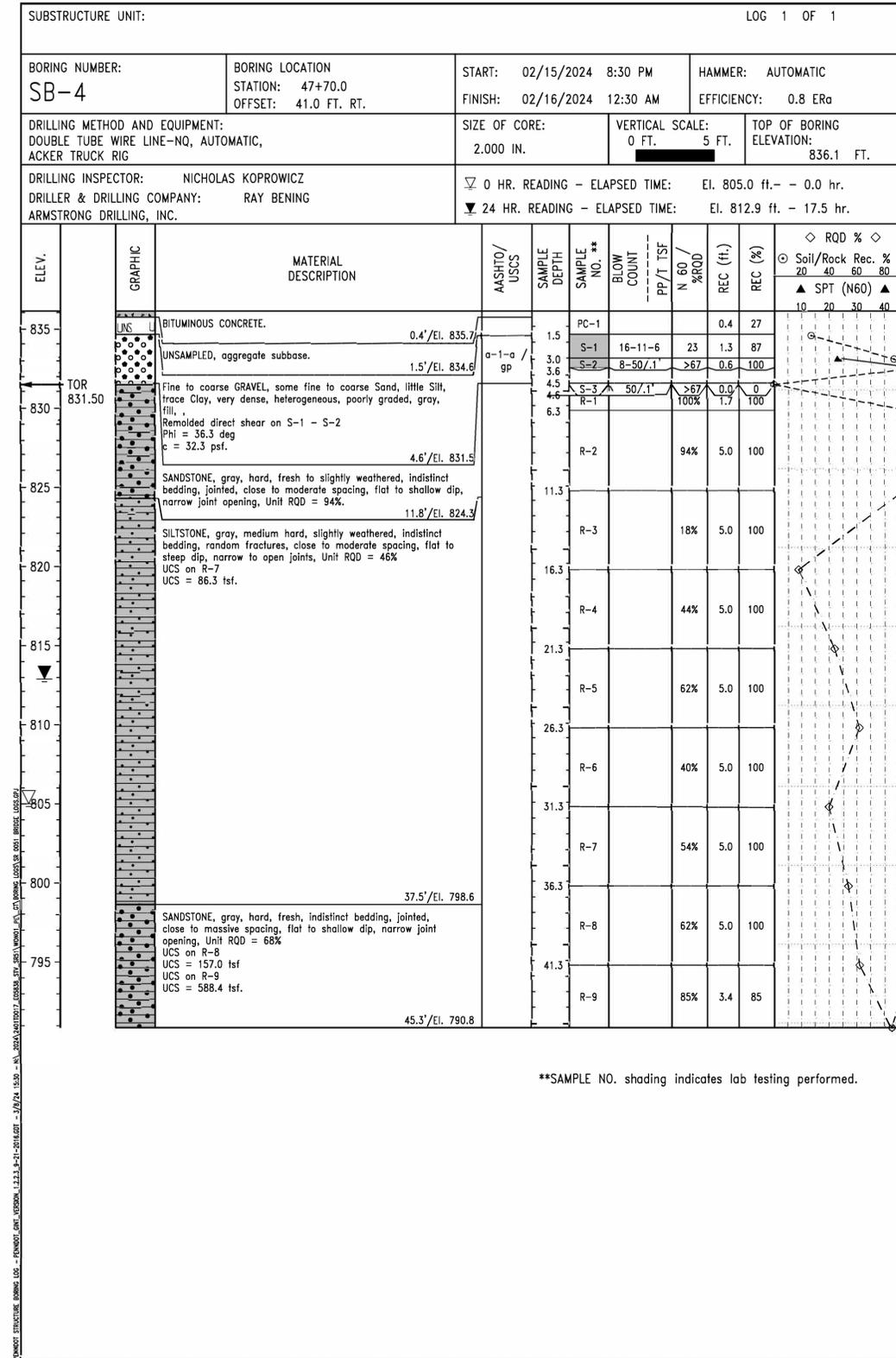
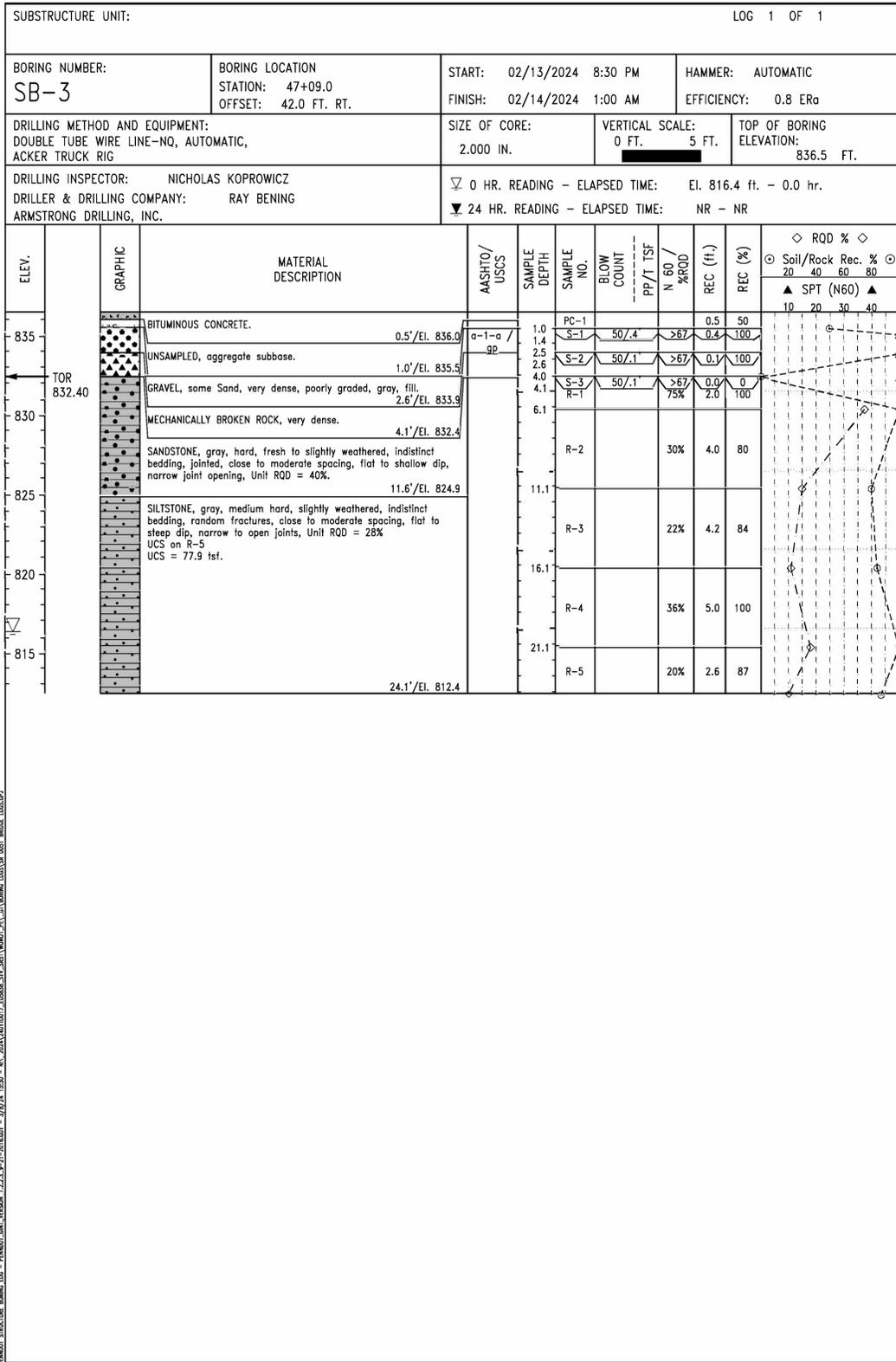
RECOMMENDED BY \_\_\_\_\_ SHEET 14 OF 16

DISTRICT GEOTECHNICAL ENGINEER L - 560

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N:\2024\2401\TD017\_E05838\_STV\_SRF5\WONO1\_PE\_CADD\MicroStation\SR\_0051\_StructureBoringSheet.dgn

3/18/2024



\*\*SAMPLE NO. shading indicates lab testing performed.

GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

LEGEND

- PP POCKET PENETROMETER
- T TORVANE
- NTS NOT TO SCALE
- TOR ESTIMATED TOP OF ROCK ELEVATION

THE DESCRIPTIONS OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

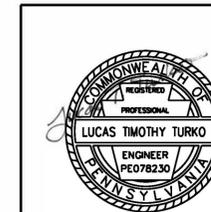
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BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
ALLEGHENY COUNTY  
SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL

STRUCTURE BORINGS - 2

RECOMMENDED BY: \_\_\_\_\_ SHEET 15 OF 16  
DISTRICT GEOTECHNICAL ENGINEER L - 560



LABORATORY TEST SUMMARY – SOILS

BORING NUMBER	STATION & OFFSET	SAMPLE #	TEST DEPTH (FT.)	NATURAL MOISTURE %	% GRAIN SIZE DISTRIBUTION (AASHTO)							CLASSIFICATION		PLASTICITY PARAMETERS			SHEAR STRENGTH						
					GRAVEL %	SAND %	COARSE SAND %	FINE SAND %	FINES %	SILT %	CLAY %	AASHTO	USCS	S.G.	LIQUID LIMIT	PLASTIC LIMIT	P. I.	c (TSF)	φ (DEG.)	c' (TSF)	φ' (DEG.)	TEST METHOD	
SB-4	47+70.0 41.0 FT. RT.	S-1 to S-2	1.5 to 3.6	15.5	61.2	24.7	15.7	9.1	14.0										32.300	36.3			DIR. SHR.-CD

LABORATORY TEST SUMMARY – SHEAR AND CONSOLIDATION

BORING NUMBER	STATION & OFFSET	SAMPLE #	TEST DEPTH (FT.)	SHEAR STRENGTH PARAMETERS					CONSOLIDATION PARAMETERS														
				c (TSF.)	φ (DEG.)	c' (TSF.)	φ' (DEG.)	TEST METHOD	INITIAL MOIST DENSITY (PCF)	e0	PRECONSOLID. PRESSURE Pp (TSF)	COMPRESSION INDEX (Cc)	RECOMPRESSION INDEX (Cr)	COEFF. OF CONSOLID. (cv FT2/YR)	PERMEABILITY k (CM/SEC)								
SB-4	47+70.0 41.0 FT. RT.	S-1 to S-2	1.5 to 3.6	32.300	36.3			DIR. SHR.-CD															

LABORATORY TEST SUMMARY – ROCK CORE

BORING NUMBER	STATION & OFFSET	SAMPLE #	TEST DEPTH (FT.)	TEST	STRENGTH	JAR SLAKE TEST PERFORMED?	SLAKE DURABILITY INDEX & TYPE	ROCK RECOVERY %	RQD %	BEDROCK LITHOLOGY	STRATIGRAPHIC UNIT
SB-1	47+19.0 41.0 FT. LT.	R-6	22.4 to 23.2	UNCONFINED COMPRESSIVE TEST	2097.2 PSI / 151.0 TSF	NO		90	80	LIMESTONE	
SB-2	48+04.0 42.0 FT. LT.	R-6	24.0 to 24.6	UNCONFINED COMPRESSIVE TEST	952.8 PSI / 68.6 TSF	NO		100	20	SILTSTONE	
SB-3	47+09.0 42.0 FT. RT.	R-5	23.5 to 24.1	UNCONFINED COMPRESSIVE TEST	1081.9 PSI / 77.9 TSF	NO		87	20	SILTSTONE	
SB-4	47+70.0 41.0 FT. RT.	R-7	32.7 to 33.2	UNCONFINED COMPRESSIVE TEST	1198.6 PSI / 86.3 TSF	NO		100	54	SILTSTONE	
SB-4	47+70.0 41.0 FT. RT.	R-8	38.2 to 38.7	UNCONFINED COMPRESSIVE TEST	2180.6 PSI / 157.0 TSF	NO		100	62	SANDSTONE	
SB-4	47+70.0 41.0 FT. RT.	R-9	43.6 to 44.2	UNCONFINED COMPRESSIVE TEST	8172.2 PSI / 588.4 TSF	NO		85	85	SANDSTONE	

GENERAL NOTES

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT. REFER TO PUBLICATION 408 SECTION 102.05 FOR FURTHER INFORMATION.

FOR ADDITIONAL SOIL AND ROCK DESCRIPTIONS SEE PUBLICATION 222.

THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SUBSURFACE CONDITIONS MAY DIFFER FROM THE CONDITIONS REPORTED AT THE SPECIFIC LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE OF CONDITIONS AT THE BORING LOCATIONS.

LEGEND

- PP POCKET PENETROMETER
- T TORVANE
- NTS NOT TO SCALE
- TOR ESTIMATED TOP OF ROCK ELEVATION

THE DESCRIPTIONS OF THE MATERIALS ENCOUNTERED HAVE BEEN VERIFIED.

BMS STR ID: 02-7301-0000-3934 MPMS/ECMS PROJ: 117472 BRKEY: 70368 (WALL 2)  
BMS STR ID: 02-7301-0000-3935 MPMS/ECMS PROJ: 117472 BRKEY: 70369 (WALL 1)

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL

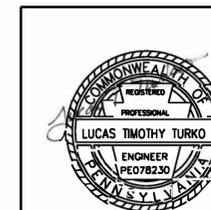
STRUCTURE BORINGS – 3

RECOMMENDED BY

SHEET 16 OF 16

DISTRICT GEOTECHNICAL ENGINEER

L – 560



# COMMONWEALTH OF PENNSYLVANIA



## DEPARTMENT OF TRANSPORTATION

### DRAWINGS

FOR

### RETAINING WALL CONSTRUCTION

OF

STATE ROUTE 051 SECTION 17A

IN ALLEGHENY COUNTY



**Shop Drawing Review**

CONFORMS

CONFORMS AS NOTED

REVISE AS NOTED AND RESUBMIT

REJECTED, RESUBMIT

REVIEW NOT REQUIRED

Review of submittal is limited to general conformance with the design concept and Contract Documents. Markings or comments shall not be construed as relieving the Contractor/Supplier from compliance with the Project Plans and Specifications nor departure therefrom. The Contractor/Supplier remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performing their work in a safe manner.

BY IrwinTJ DATE 7/30/2024

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

I HEREBY CERTIFY THAT ALL DESIGN ASSUMPTIONS HAVE BEEN VALIDATED EITHER THROUGH CONSTRUCTION DETAILS OR NOTES ON THESE DRAWINGS, OR THROUGH THE CONTRACT PLANS AND PROVISIONS.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL  
STONE STRONG RETAINING WALLS  
TITLE SHEET

RECOMMENDED \_\_\_\_\_

SHEET 1 OF 7

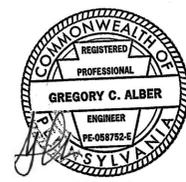
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INDEX OF DRAWINGS	
SHEET NUMBER	TITLE
1	TITLE SHEET
2	GENERAL PLAN
3	GENERAL NOTES AND QUANTITIES
4	RETAINING WALL ELEVATIONS 1
5	RETAINING WALL ELEVATIONS 2
6	RETAINING WALL CROSS SECTION & DETAILS
7	STONE STRONG DETAILS 1

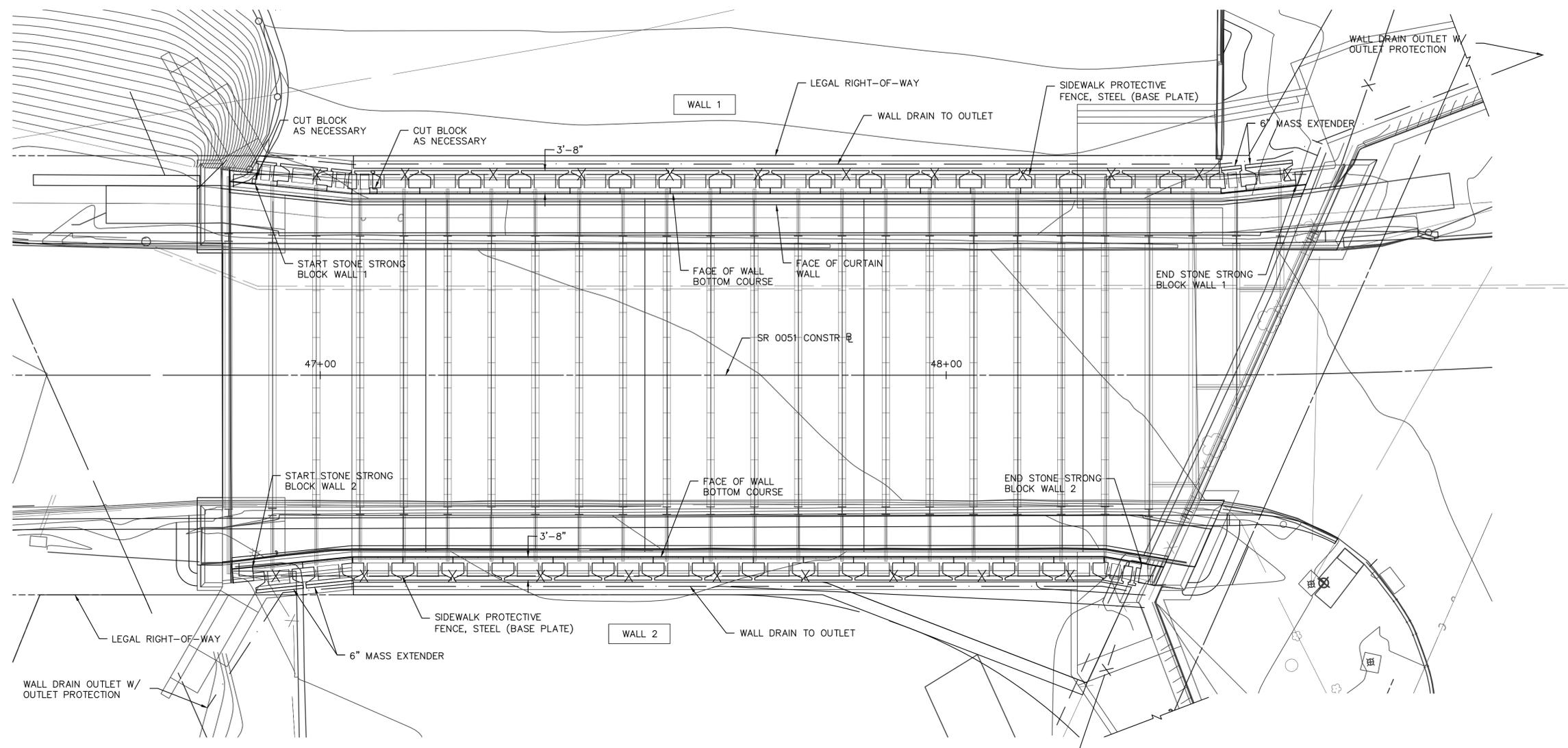
PLANS PREPARED BY



**ALBER & RICE**  
CIVIL + STRUCTURAL ENGINEERS  
17138 Lorain Avenue | Cleveland | Ohio | 44111



GREGORY C. ALBER  
ENGINEER  
PE-088782-4  
07-16-24  
Greg Alber, P.E.



PLAN - STONE STRONG RETAINING WALL (LOWEST COURSE SHOWN)

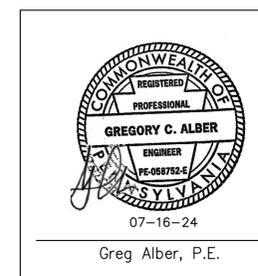


Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

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DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL  
STONE STRONG RETAINING WALLS  
GENERAL PLAN



07-16-24  
Greg Alber, P.E.

SHEET 2 OF 7

L-560

GENERAL NOTES

DESIGN SPECIFICATIONS

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2017 AND AS SUPPLEMENTED BY DESIGN MANUAL PART 4, DECEMBER 2019 (INCLUDING LATEST REVISIONS)
- DESIGN IS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN (LRFD)

DESIGN LIVE LOADS

- LIVE LOAD SURCHARGE - 3'-0"

UTILITIES

- COORDINATE, LOCATE, AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH PUBLICATION 408/2020, SECTION 105.06 AND 107.12.

PROPRIETARY RETAINING WALLS

- THESE DRAWINGS ARE INTENDED FOR USE ONLY AT THE SITE FOR WHICH THEY ARE PREPARED. ALBER AND RICE CONSULTING ENGINEERS DISCLAIMS ANY LIABILITY FOR ANY OTHER USE.
- FOR ADDITIONAL DESIGN INFORMATION, CORE BORINGS AND OTHER GEOTECHNICAL INFORMATION NOT SHOWN ON THESE PLANS, REFER TO THE ORIGINAL DESIGN PLANS, L-560.
- ALL DESIGN ASSUMPTIONS ARE VALIDATED THROUGH EITHER NOTES TO THE CONTRACTOR OR DETAILS ON THESE DRAWINGS.

GENERAL

- THE STONE STRONG RETAINING WALL SYSTEM DESIGNER TAKES FULL RESPONSIBILITY FOR THE ENGINEERING THEORY, CALCULATIONS, AND ENSURING ALL DESIGN ASSUMPTIONS ARE VALIDATED IN THE CONTRACT DOCUMENTS: EITHER BY NEEDED DETAILS OR CONSTRUCTION SPECIFICATIONS.

- WORK INCLUDES FURNISHING AND INSTALLING PRECAST MODULAR BLOCKS (PMB) TO THE LINES AND GRADES SHOWN ON THE PLANS AND AS SPECIFIED HEREIN. ALSO INCLUDED IS FURNISHING AND INSTALLING APPURTENANT MATERIALS REQUIRED FOR CONSTRUCTION OF THE COMPLETE SYSTEM.

- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY. THE ARCHITECT/ENGINEER AND OWNER SHALL NOT BE RESPONSIBLE FOR MEANS OR METHODS OF CONSTRUCTION OR FOR SAFETY OF WORKERS OR OF THE PUBLIC.

- ALLOWABLE DIFFERENTIAL SETTLEMENT  
LONGITUDINAL DIFFERENTIAL SETTLEMENT = 1/4"  
TRANSVERSE DIFFERENTIAL SETTLEMENT = 1/4"

REFERENCES

- ASTM C39 - STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS.
- ASTM C136 - STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATE.
- ASTM D4318 - STANDARD TEST METHOD FOR LIQUID LIMIT, PLASTIC LIMIT, AND PLASTICITY INDEX OF SOILS.
- ASTM D698 - STANDARD TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT.
- ASTM D4595 - STANDARD TEST METHOD FOR TENSILE PROPERTIES OF GEOTEXTILES BY THE WIDE-WIDTH STRIP METHOD.
- ASTM D5262 - STANDARD TEST METHOD FOR EVALUATING THE UNCONFINED CREEP BEHAVIOR OF GEOSYNTHETICS.
- ASTM D4632 - STANDARD TEST METHOD FOR GRAB BREAKING LOAD AND ELONGATION OF GEOTEXTILES.
- ASTM D6638 - STANDARD TEST METHOD FOR DETERMINING CONNECTION STRENGTH BETWEEN GEOSYNTHETIC REINFORCEMENT AND SEGMENTAL CONCRETE UNITS (MODULAR CONCRETE BLOCKS).
- ASTM D6916 - STANDARD TEST METHOD FOR DETERMINING THE SHEAR STRENGTH BETWEEN SEGMENTAL CONCRETE UNITS.
- AASHTO - STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
- NCMA - DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS.

MATERIALS

- WALL UNITS
- PRECAST MODULAR BLOCKS SHALL BE STONE STRONG UNITS MANUFACTURED UNDER LICENSE FROM STONE STRONG, LLC.
- DIMENSION TOLERANCES FOR PRECAST MODULAR BLOCKS SHALL BE +/- 1/8 INCH FOR HORIZONTAL DIMENSIONS AND +/- 1/16 INCH FOR VERTICAL DIMENSIONS.
- CONCRETE FOR PRECAST MODULAR BLOCKS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. ENTRAINED AIR CONTENT SHALL BE BETWEEN 5 AND 7%.
- REINFORCING STEEL (IF USED) SHALL BE GRADE 60. MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE 1 1/2 INCHES.
- THE FACE PATTERN SHALL BE CHISELED GRANITE. THE COLOR OF THE UNITS SHALL BE NATURAL GRAY.
- WELDED WIRE REINFORCING SHALL CONFORM TO ASTM A185.
- EPOXY COAT REINFORCING BARS OR WELDED WIRE FABRIC

UNIT FILL

- ALL UNITS IN EACH COURSE SHALL BE FILLED BEFORE AN ADDITIONAL COURSE IS SET. UNIT FILL, BACKFILL MATERIAL IN AREAS THAT REQUIRE FREE DRAINING AND FOUNDATION DRAIN MATERIAL SHALL CONSIST OF A CLEAN COARSE GRANULAR MATERIAL. THE UNIT FILL SHALL BE CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. ENTRAINED AIR CONTENT SHALL BE BETWEEN 5 AND 7%.

- ENSURE EACH COURSE IS COMPLETELY FILLED AND BACKFILL IS PLACED TO THE SAME LEVEL PRIOR TO PROCEEDING TO THE NEXT COURSE. ENSURE ADJACENT UNITS ARE IN CONTACT SO THAT FILL MAY NOT ESCAPE THROUGH THE JOINT BETWEEN UNITS.
- GAPS GREATER THAN 1/4" BETWEEN UNITS SHALL NOT BE ALLOWED. PLACE SUBSEQUENT COURSES IN RUNNING BOND WITH THE PREVIOUS COURSE AND LINE UP THE WEB NOTCH OVER THE ALIGNMENT HOOP PROTRUDING FROM THE UNITS BELOW. PULL EACH UNIT FORWARD TO ENGAGE THE ALIGNMENT HOOP. CUT AND/OR COPE UNITS AS NECESSARY.

DELIVERY, STORAGE, AND HANDLING

- CONTRACTOR SHALL CHECK THE MATERIALS UPON DELIVERY TO ASSURE THAT PROPER MATERIALS HAVE BEEN RECEIVED.
- CONTRACTOR SHALL PROTECT THE MATERIALS FROM DAMAGE, DAMAGED MATERIAL SHALL NOT BE INCORPORATED INTO THE WALL OR THE REINFORCED SOIL EMBANKMENTS.
- CONTRACTOR SHALL PREVENT EXCESSIVE MUD, CONCRETE, ADHESIVES AND OTHER SUBSTANCES THAT MAY ADHERE FROM COMING IN CONTACT WITH THE MATERIALS.
- EXPOSED FACES OF SEGMENTAL UNITS SHALL BE REASONABLY FREE OF CHIPS, CRACKS, OR STAINS.

QUALITY ASSURANCE

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR QUALITY CONTROL DURING EXCAVATION, INSTALLATION, AND BACKFILL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COMPACTION TESTING BY THE NUCLEAR DENSITY METHOD DURING FILL PLACEMENT AS REQUIRED.

EXECUTION

EXCAVATION

- EXCAVATE AS REQUIRED OF THE RETAINING WALL SYSTEM AND IN ACCORDANCE WITH RC-11M. EXCAVATE TO THE BASE LEVEL FOR A SUFFICIENT DISTANCE BEHIND THE FACE TO PERMIT INSTALLATION OF THE BASE AND GEOGRID REINFORCEMENT (IF ANY)
- SLOPE OR SHORE EXCAVATION AS NECESSARY FOR SAFETY AND FOR CONFORMANCE WITH APPLICABLE OSHA REQUIREMENTS.

WALL BASE

- FOUNDATION SOILS SHALL BE EXCAVATED TO THE DIMENSIONS SHOWN ON THE PLANS. FOUNDATION SOIL SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER TO CONFIRM THAT THE BEARING SOILS ARE SIMILAR TO THE DESIGN CONDITIONS.
- CONSTRUCT THE WALL BASE TO THE LINES AND GRADES SHOWN ON THE PLANS. PLACE GRANULAR BASE MATERIAL TO THE MINIMUM DIMENSIONS SHOWN. OVEREXCAVATED AREAS SHALL BE FILLED WITH ADDITIONAL GRANULAR BASE MATERIAL COMPACT THE BASE TO PROVIDE A HARD AND LEVEL SURFACE TO SUPPORT THE WALL UNITS. BASE MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY (ASTM D698 STANDARD PROCTOR).
- PREPARE AND SMOOTH THE GRANULAR MATERIAL TO ENSURE COMPLETE CONTACT OF THE FIRST COURSE WITH THE BASE. THE SURFACE OF GRANULAR BASE MAY BE DRESSED WITH FINER AGGREGATE TO AID LEVELING, PROVIDED THAT THE THICKNESS OF DRESSING LAYER SHOULD NOT EXCEED 3 TIMES THE MAXIMUM PARTICLE SIZE USED.

UNIT INSTALLATION

- PLACE THE FIRST COURSE OF UNITS DIRECTLY ON THE WALL BASE, CHECK UNITS FOR LEVEL AND ALIGNMENT. ADJACENT UNITS SHOULD BE IN CONTACT. IF POSSIBLE BEGIN PLACING UNITS AT THE LOWEST SECTION OF THE WALL.
- FILL ALL VOIDS BETWEEN AND WITHIN THE BLOCKS WITH SPECIFIED UNIT FILL. ADDITIONAL UNIT FILL IS NOT REQUIRED BEHIND THE UNITS, BUT MAY BE PLACED FOR THE CONVENIENCE OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT.
- PLACE STRUCTURAL BACKFILL BEHIND THE UNITS IN ACCORDANCE WITH RC-12M AND IN MAXIMUM LOOSE LIFTS OF 8 INCHES AND COMPACT. IF SELECT GRANULAR FILL IS REQUIRED, IT SHOULD EXTEND THE FULL LENGTH OF THE GEOGRID REINFORCEMENT. COMPACT ALL BACKFILL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY (ASTM D698, STANDARD PROCTOR). FOR COHESIVE SOILS, THE MOISTURE CONTENT AT THE TIME OF COMPACTION SHOULD BE ADJUSTED TO WITHIN -3 AND +4 PERCENT OF OPTIMUM. PLACE BACKFILL IN SUCCESSIVE LIFTS UNTIL LEVEL WITH THE TOP OF THE FACING UNIT.
- REMOVE ALL EXCESS AGGREGATE AND OTHER MATERIALS FROM THE TOP OF THE UNITS BEFORE LAYING UP THE NEXT COURSE.
- PLACE THE NEXT COURSE OF SEGMENTAL UNITS IN RUNNING BOND WITH THE PREVIOUS COURSE. PLACE THE WEB NOTCH OVER THE ALIGNMENT HOOP PROTRUDING FROM THE UNIT BELOW, AND PULL THE UNIT FORWARD TO CONTACT THE HOOP.
- CONTINUE PLACING SUCCESSIVE COURSES TO THE ELEVATIONS SHOWN ON THE PLANS. CONSTRUCT WALL IN LEVEL STAGES, PLACING THE UNITS AT EACH COURSE FOR THE ENTIRE LENGTH OF THE WALL, IF POSSIBLE. UNIT FILL AND BACKFILL SHOULD BE PLACED TO THE LEVEL OF THE TOP OF THE FACING UNIT BEFORE PLACING THE NEXT COURSE.
- PROVIDE TEMPORARY SWALES TO DIVERT RUNOFF AWAY FROM THE WALL EXCAVATION AND AWAY FROM FACE.
- FINAL GRADE ABOVE AND BELOW THE RETAINING WALL SHALL PROVIDE FOR POSITIVE DRAINAGE AND PREVENT PONDING. PROTECT COMPLETED WALL FROM OTHER CONSTRUCTION. DO NOT OPERATE LARGE EQUIPMENT OR STONE MATERIALS ABOVE THE WALL THAT EXCEED THE DESIGN SURCHARGE LOADS.
- REBAR SPECIFIED BETWEEN UNITS SHALL BE INSTALLED PRIOR TO UNIT INFILL.

FOUNDATION NOTES

- ALL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE DISTRICT GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ANY BACKFILL MATERIAL OR STRUCTURE UNITS.
- NOTIFY THE GEOTECHNICAL ENGINEER FIVE (5) DAYS PRIOR TO EXCAVATION.
- PREPARE THE FOUNDATIONS IN ACCORDANCE WITH PUBLICATION 408, SECTION 204.3(a).
- UNSUITABLE MATERIAL SHALL BE OVEREXCAVATED AND BACKFILLED WITH AASHTO NO. 1 AS DIRECTED BY THE ENGINEER.
- ALLOWABLE SETTLEMENT FOR WALL SYSTEM IS 1".
- EXISTING SOIL PROPERTIES
- EFFECTIVE FRICTION ANGLE = 32 DEG.
- TOTAL UNIT WEIGHT OF SOIL = 120 PCF
- COEFFICIENT OF SLIDING FRICTION = 0.58.

ADDITIONAL NOTES

- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION SITE SAFETY, ALBER AND RICE INC, SHALL NOT BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION OR FOR SAFETY OF WORKERS OR THE PUBLIC.

-THIS DESIGN IS FOR INTERNAL STABILITY OF THE SEGMENTAL RETAINING WALL STRUCTURE ONLY. EXTERNAL SITE STABILITY INCLUDING GLOBAL STABILITY AND STABILITY OF ANY EXISTING STRUCTURES INCLUDING EXISTING BRIDGE ABUTMENTS IS NOT INCLUDED IN THIS DESIGN. ALL GEOMETRY AND GRADE ELEVATIONS ABOVE AND BELOW THE WALL GENERALLY CONFORM WITH DESIGN PLANS. ALBER AND RICE MAKES NO REPRESENTATION REGARDING SETBACKS, EASEMENTS, OR SUITABILITY OF THE GEOMETRY AND ELEVATION FOR THE INTENDED USE. ALBER AND RICE IS NOT RESPONSIBLE FOR SITE DRAINAGE.

- LAYOUT DIMENSIONS ARE MEASURED ALONG THE FACE OF WALL AT THE BOTTOM COURSE

TABULATION OF RETAINING WALL BID ITEMS  
& APPROXIMATE QUANTITIES

QUANTITY	ITEM NO. UNIT	(INFORM.) QUANTITY AND UNIT	DESCRIPTION
		1 UNIT	PRECAST MODULAR RETAINING WALL UNIT 24A WITH 6" MASS EXTENDER
		1 UNIT	PRECAST MODULAR RETAINING WALL UNIT 24C WITH 6" MASS EXTENDER
		1 UNIT	PRECAST MODULAR RETAINING WALL UNIT 24D WITH 6" MASS EXTENDER
		8 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24A REINFORCED
		8 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24B REINFORCED
		7 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24C REINFORCED
		10 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24D REINFORCED
		9 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24A REINFORCED TOP BLOCK
		8 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24B REINFORCED TOP BLOCK
		8 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24C REINFORCED TOP BLOCK
		8 UNITS	PRECAST MODULAR RETAINING WALL UNIT 24D REINFORCED TOP BLOCK
		6 UNITS	PRECAST MODULAR RETAINING WALL UNIT 6A REINFORCED
		8 UNITS	PRECAST MODULAR RETAINING WALL UNIT 6B REINFORCED
		6 UNITS	PRECAST MODULAR RETAINING WALL UNIT 6A REINFORCED TOP BLOCK
		3 UNITS	PRECAST MODULAR RETAINING WALL UNIT 6B REINFORCED TOP BLOCK
		3 UNITS	PRECAST MODULAR RETAINING WALL UNIT 3
		1 UNITS	PRECAST MODULAR RETAINING WALL UNIT 3 TOP BLOCK
		2 UNITS	PRECAST MODULAR RETAINING WALL UNIT 9E TOP LEFT BLOCK
		2 UNITS	PRECAST MODULAR RETAINING WALL UNIT 9E TOP RIGHT BLOCK
		1 UNIT	PRECAST MODULAR RETAINING WALL UNIT 6A WITH 6" MASS EXTENDER
		1 UNIT	PRECAST MODULAR RETAINING WALL UNIT 6B WITH 6" MASS EXTENDER

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

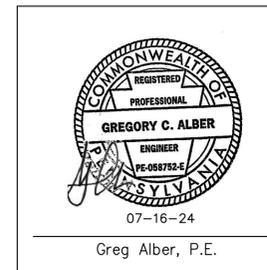
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DEPARTMENT OF TRANSPORTATION

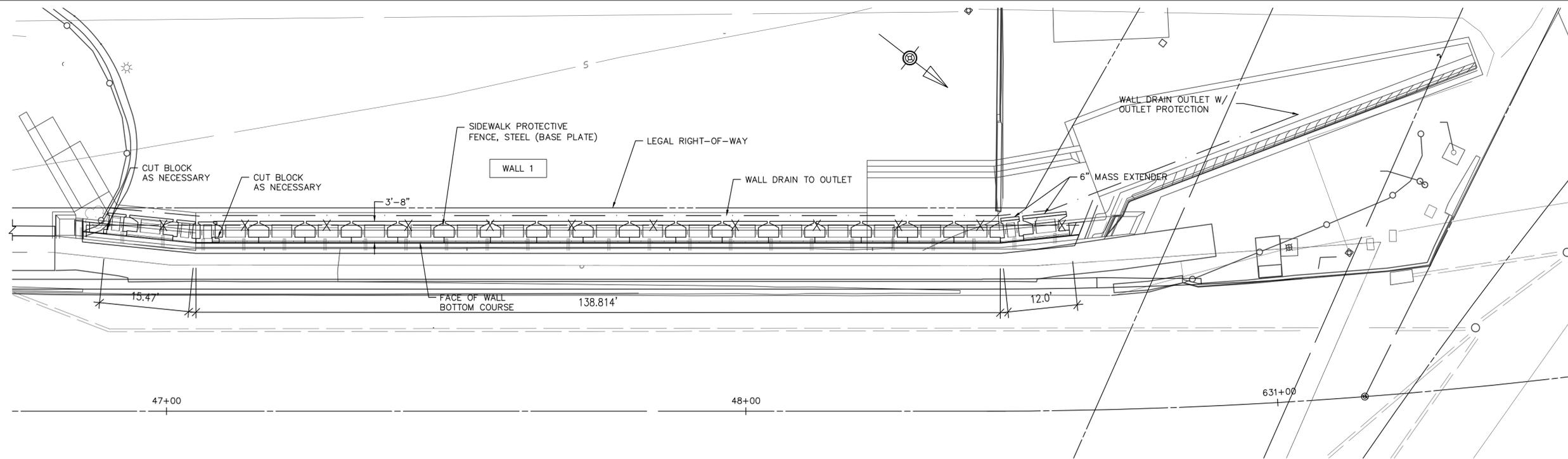
ALLEGHENY COUNTY  
SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL  
STONE STRONG RETAINING WALLS  
GENERAL NOTES AND QUANTITIES

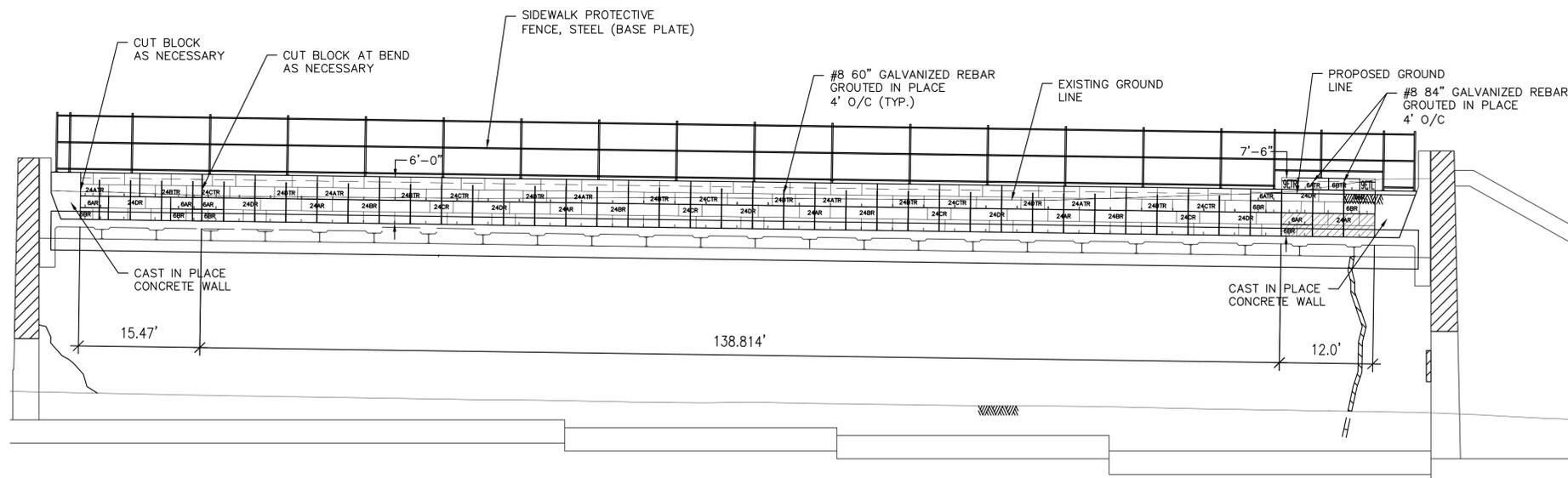
SHEET 3 OF 7

L-560





PLAN - WALL 1



LEGEND

BLOCK W/ 6\"/>



ELEVATION - WALL 1

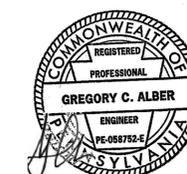


Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
SR 7301 SEC LOC

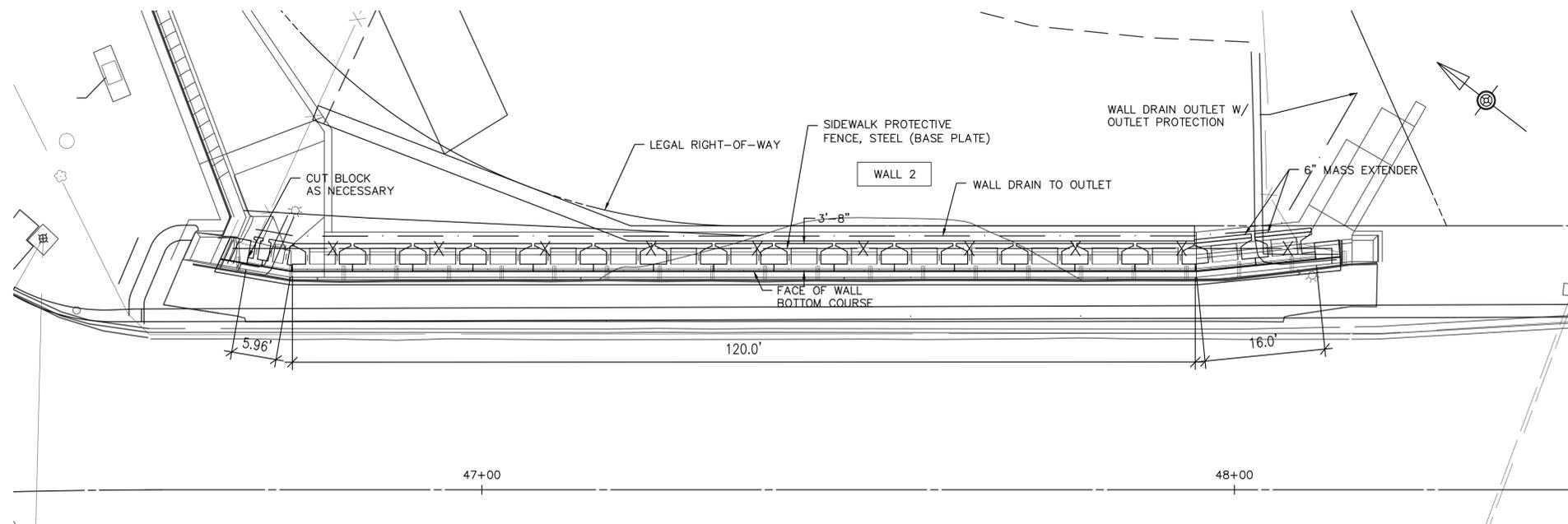
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BRIDGE DEMOLITION AND BLOCK WALL  
STONE STRONG RETAINING WALLS  
RETAINING WALL ELEVATIONS 1



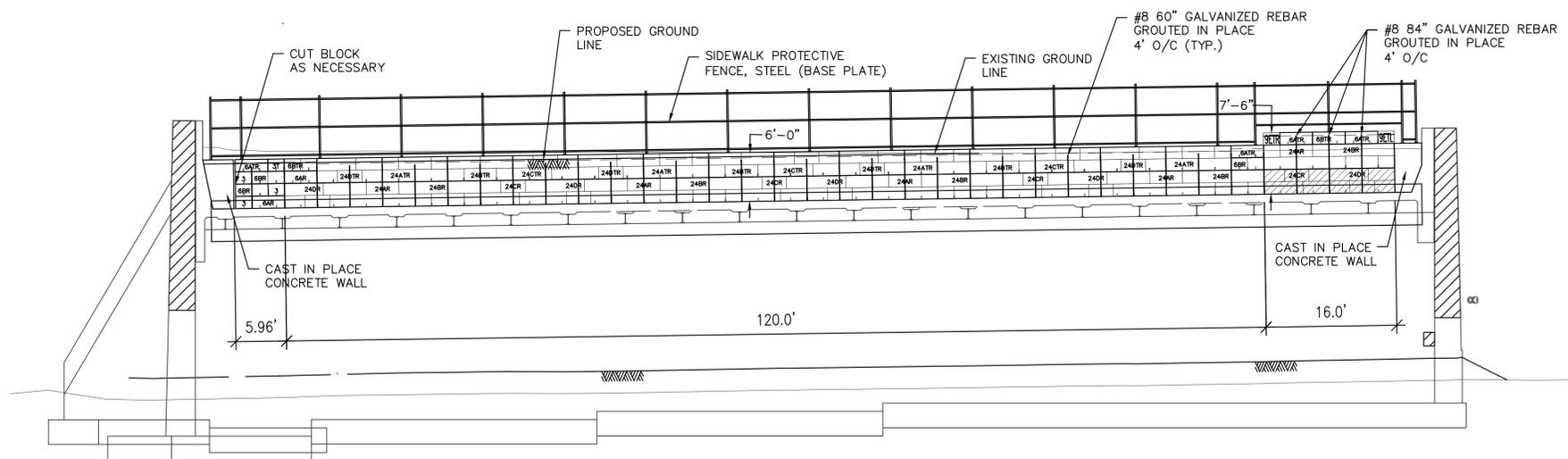
07-16-24  
Greg Alber, P.E.

SHEET 4 OF 7

L-560



PLAN - WALL 2



ELEVATION - WALL 2



48+34.72  
TOW EL 834.70

48+25.64  
TOW EL 834.78

48+00.00  
TOW EL 835.35

47+50.00  
TOW EL 836.16

47+05.09  
TOW EL 836.73

47+00.00  
TOW EL 836.81

46+85.94  
TOW EL 836.99

LEGEND

BLOCK W/ 6\"/>

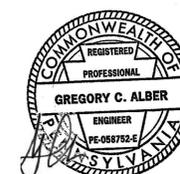


Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
SR 7301 SEC LOC

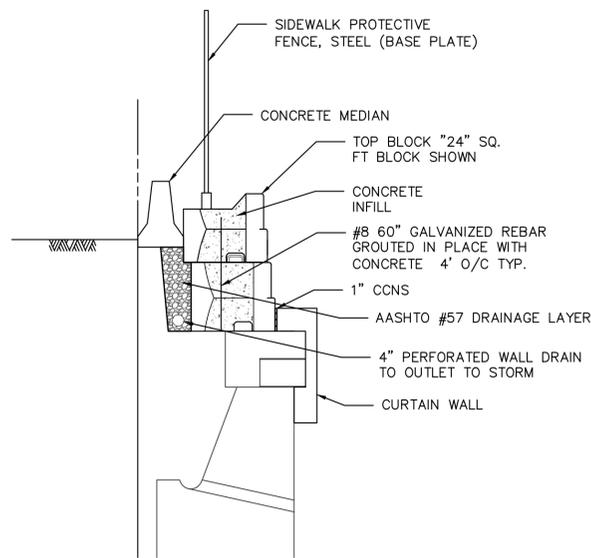
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BRIDGE DEMOLITION AND BLOCK WALL  
STONE STRONG RETAINING WALLS  
RETAINING WALL ELEVATIONS 2



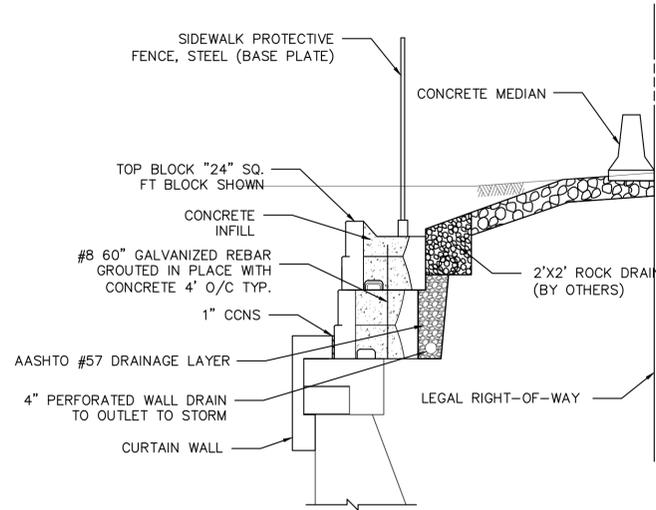
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Greg Alber, P.E.

SHEET 5 OF 7

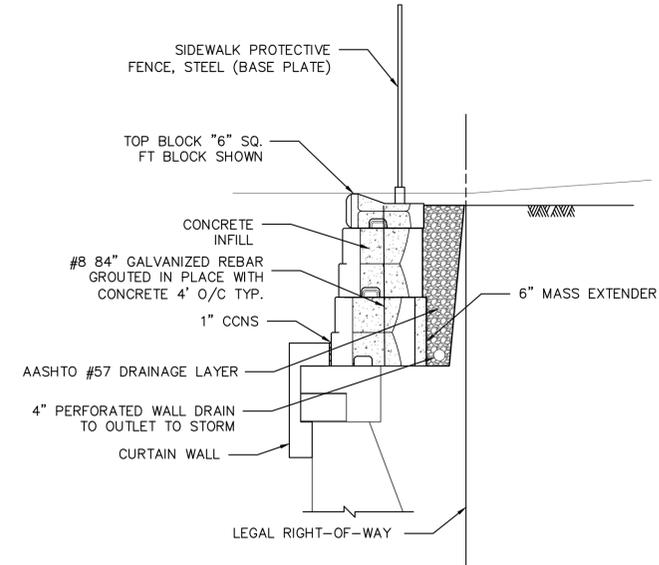
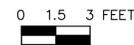
L-560



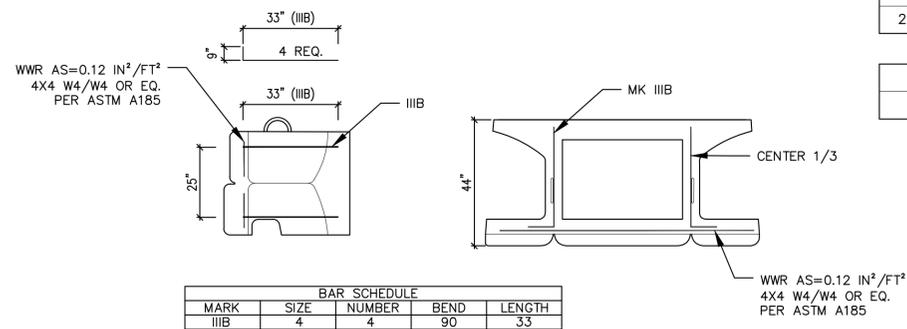
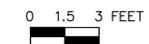
TYPICAL WALL CROSS SECTION



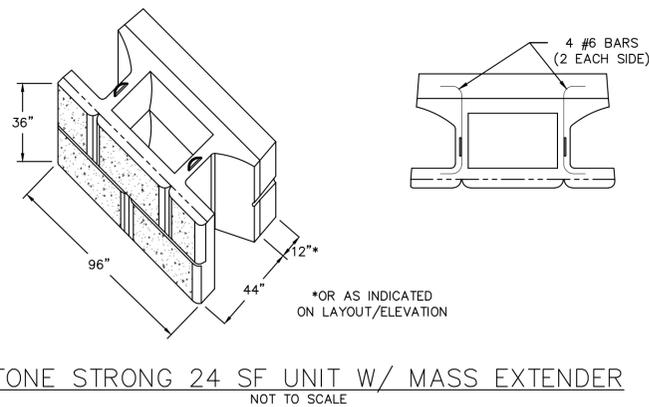
BLOCK WALL 2 CROSS SECTION STA. 46+89.17 TO STA. 47+80.25



7.5' BLOCK WALL CROSS SECTION



TYPICAL 24SF REINFORCING DETAIL  
NOT TO SCALE

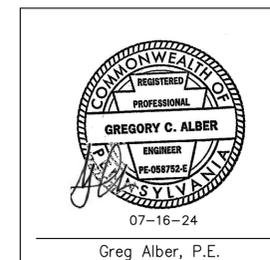


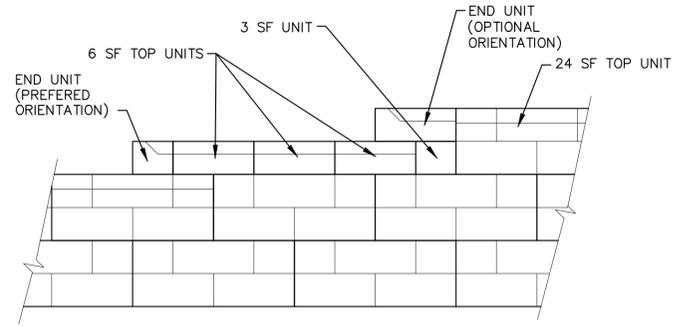
STONE STRONG 24 SF UNIT W/ MASS EXTENDER  
NOT TO SCALE

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

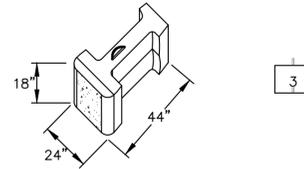
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
ALLEGHENY COUNTY  
SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL  
STONE STRONG RETAINING WALLS  
RETAINING WALL CROSS SECTION AND DETAILS

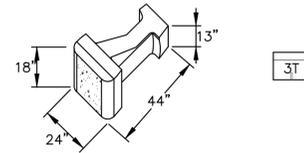




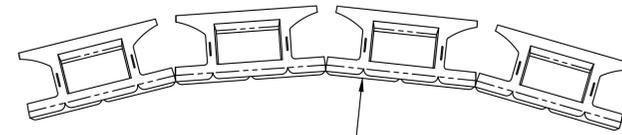
TOP OF WALL STEPS  
NOT TO SCALE



STONE STRONG 3 SF UNIT  
NOT TO SCALE



STONE STRONG 3 SF TOP UNIT  
NOT TO SCALE

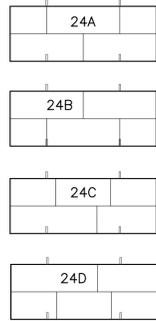
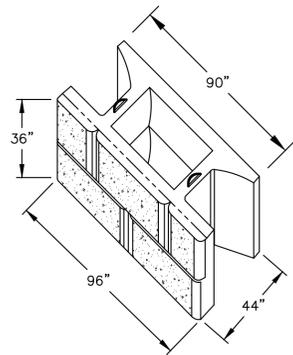


NOTE: MINIMUM RADIUS OCCURS AT LOWEST COURSE  
RADIUS INCREASES 4" PER COURSE  
ABOVE, AS SHOWN ON TABLE.

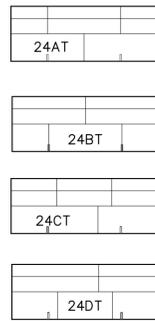
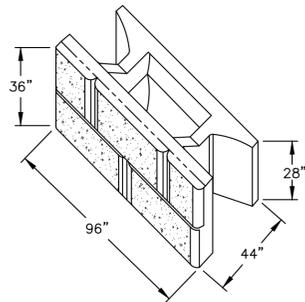
MINIMUM CONCAVE RADIUS		
WALL HEIGHT (FT)	TOTAL # OF COURSES	REQ'D RADIUS AT TOP COURSE
6	2	46' 4"
9	3	46' 8"
12	4	47' 0"
15	5	47' 4"
18	6	47' 8"
21	7	48' 0"
24	8	48' 4"

MINIMUM CONCAVE RADIUS-24 SF UNITS  
NOT TO SCALE

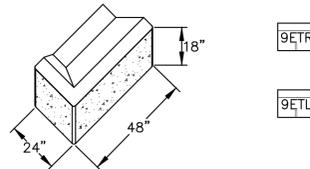
NOTES:  
-USE REINFORCED 24SF UNITS BELOW TOP 12' IN GEOGRID REINFORCED WALLS.  
-SEE TYPICAL 24SF REINFORCING DETAIL, SHEET 6.  
-CHISELLED GRANITE STYLE HAS 4 DIFFERENT FACE PATTERNS ON 24 SF BLOCKS.  
-INSTALL A,B,C,&D PATTERNS AT RANDOM IN WALL.  
-REINFORCED 24 SF UNITS ARE DESIGNATED BY AN "R" AT THE END OF THE BLOCK TYPE DESCRIPTION.



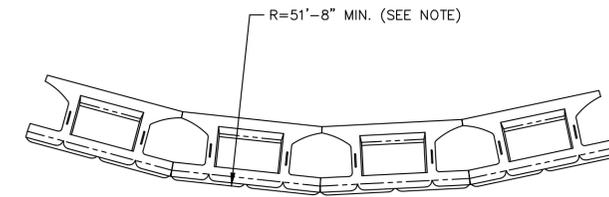
STONE STRONG 24 SF UNIT  
NOT TO SCALE



STONE STRONG 24 SF TOP UNIT  
NOT TO SCALE



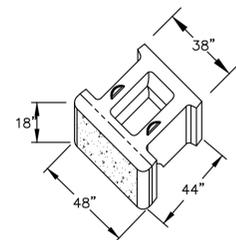
STONE STRONG END UNIT  
NOT TO SCALE



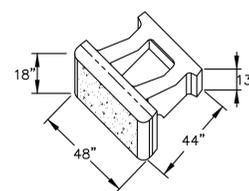
NOTE: MINIMUM RADIUS OCCURS AT LOWEST COURSE  
RADIUS INCREASES 4" PER COURSE  
ABOVE, AS SHOWN ON TABLE.

MINIMUM CONVEX RADIUS		
WALL HEIGHT (FT)	TOTAL # OF COURSES	REQ'D RADIUS AT TOP COURSE
6	2	52' 0"
9	3	52' 4"
12	4	52' 8"
15	5	53' 0"
18	6	53' 4"
21	7	53' 8"
24	8	54' 0"

MINIMUM CONVEX RADIUS-24 SF UNITS  
NOT TO SCALE



STONE STRONG 6 SF UNIT  
NOT TO SCALE



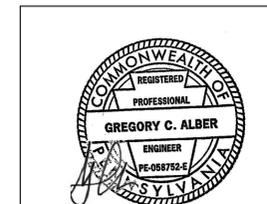
STONE STRONG 6 SF TOP UNIT  
NOT TO SCALE

Mark	Description	By	Chk'd.	Recm'd.	Date
REVISIONS					

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION

ALLEGHENY COUNTY  
SR 7301 SEC LOC

PARKING LOT BRIDGE OVER S.R. 0051  
BRIDGE DEMOLITION AND BLOCK WALL  
STONE STRONG RETAINING WALLS  
STONE STRONG DETAILS 1



07-16-24  
Greg Alber, P.E.

SHEET 7 OF 7

L-560



REBAR & MESH INSTALLED PER RC STANDARDS FOR BARRIER END TRANSITIONS.



REBAR & MESH INSTALLED PER RC STANDARDS FOR BARRIER END TRANSITIONS.



REBAR & MESH INSTALLED PER RC STANDARDS FOR BARRIER END TRANSITIONS.

## **ATTACHMENT 2**

## Northern and Southern Abutments



Northern and Southern Abutments



Northern Abutment (BRKEY 70368)



Northern Abutment (BRKEY 70368)



Southern Abutment (BRKEY 70369)



Southern Abutment (BRKEY 70369)



Southern Abutment - Southeast Wingwall and Temporary Barrier

