



AMERICAN SOCIETY OF HIGHWAY ENGINEERS

National Project of the Year Award

OFFICIAL ENTRY FORM

AWARD CATEGORY (Check One): Under \$20 Million Over \$20 Million

SPONSORING REGION (Check One):

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> Northeast | <input type="checkbox"/> Great Lakes | <input type="checkbox"/> Northwest |
| <input type="checkbox"/> Mid-Atlantic | <input type="checkbox"/> North Central | <input type="checkbox"/> Rocky Mountain |
| <input type="checkbox"/> Southeast | <input type="checkbox"/> South Central | <input type="checkbox"/> Southwest |

CONTACT INFORMATION FOR SUBMITTING REGION:

Contact Name: _____ ASHE Region Position: _____
Phone (Office): _____ Phone (Mobile): _____ E-Mail Address: _____

PROJECT INFORMATION:

ENTERING AGENCY/COMPANY'S NAME: _____
PROJECT NAME: _____ TYPE: _____
PROJECT LOCATION: _____
CITY: _____ COUNTY: _____ STATE: _____
FINAL CONSTRUCTION COST: _____ BUDGETED CONSTRUCTION COST: _____
PROJECT COMPLETION DATE: _____
PROJECT ASHE SECTION: _____ ASHE SECTION CONTACT NAME: _____
PHONE (OFFICE): _____ PHONE (MOBILE): _____ E-MAIL: _____

PROJECT TEAM:

PROJECT OWNER: _____
STREET ADDRESS: _____
CITY: _____ STATE: _____ ZIP: _____
CONTACT PERSON: _____ PHONE: _____
E-MAIL ADDRESS: _____

PROJECT DESIGN FIRM: _____
STREET ADDRESS: _____
CITY: _____ STATE: _____ ZIP: _____
CONTACT PERSON: _____ PHONE: _____
E-MAIL ADDRESS: _____

PRIME CONTRACTOR: _____
STREET ADDRESS: _____
CITY: _____ STATE: _____ ZIP: _____
CONTACT PERSON: _____ PHONE: _____
E-MAIL ADDRESS: _____

Entry Form Completed By: _____ **Date:** _____

Project Overview

The Interstate 83 East Shore Section 1 project extends from the I-81 junction to south of the Union Deposit Interchange near Peiffers Lane. Problems with this roadway included deteriorating pavement, high traffic volumes and operational safety concerns with the existing mainline and interchange configurations. The project includes reconstruction and widening of I-83, with three lanes in each direction throughout the project limits, plus a fourth continuous auxiliary lane in each direction between interchanges. The project also included reconstruction of the US 22/ I-83 Interchange, widening and resurfacing of US 22 between South Franklin Street and Colonial Road, and the replacement and widening of the US 22, Elmerton Avenue, and Union Deposit Road bridges over I-83. Work also included reconstruction and reconfiguration of Union Deposit Interchange, retaining walls and sound barriers. This project was identified in the 2003 I-83 Master Plan as one of four I-83 sections between I-81 (Exit 15) and the New Cumberland Interchange (Exit 40), and was the first to be studied, designed, and constructed.

Complexity

The I-83 and the greater Harrisburg area is a massive hub for warehouses and intermodal transport and is within an eight-hour drive of 50% of the population of the United States. High traffic volumes (currently exceeding 90,000 vehicles per day (VPD)) made maintaining traffic complex during construction and phased construction was necessary. Traffic control plans for the first construction contract included 201 plan sheets with three main stages, each having three sub-stages. The second contract contained 124 plan sheets with three main stages with several smaller shifts.

As part of the early design coordination, one of the main design issues with the mainline was the need to move the low-point north beyond the US 22 bridge limits to accommodate increased clearances over three local roads and drainage needs for the project. This shift and attention to mainline elevations during construction were early design complexities.

The project had 113 parcels requiring right-of-way (ROW) acquisition, including 99 residential (28 displacements) and 14 commercial properties (4 displacements). In addition to the magnitude of the ROW acquisition, there were several areas that presented unique challenges to minimize ROW impacts. Very large retaining walls, some more than 30 feet tall, were constructed to support the mainline widening, minimize impacts to adjacent residential and business properties, and maintain emergency access points.

Given the nature of the impacts, complexity, and interstate nature of the project, close coordination with FHWA and environmental resource agencies were necessary. A CLOMR was completed as part of the project and several stormwater and E&S details were developed through close coordination with DEP and Dauphin County Conservation District.

The structure design, development, and staged construction was very complicated given the number of mainline structures carrying I-83 over local roads, including twin structures over Valley Road. Additionally, two overhead structures carrying Union Deposit and US 22 over the mainline presented their own challenges with each of those roadways carrying more than 20,000 VPD, and the Elmerton Avenue structure adding pedestrian connections. There was an extension of the box

culvert carrying Slotznick Run, seven retaining walls, six structure-mounted sound barriers, 11 design-build ground-mounted sound barriers, and nine overhead sign structures.

New Application of Existing Techniques / Originality / Innovation

Project developed special provisions for a variable speed limit were implemented because of safety concerns and speeding encountered during SR 0081-070 project, which only had static speed reduction signs. Several variable speed limit signs were deployed as part of this project in coordination with the Traffic Management Center and were adjusted based on traffic volumes and time of day congestion.

The US 22/ I-83 Interchange was particularly innovative and original in how it was constructed and phased as well as constraints that were handled. Shoop's cemetery with a signalized intersection around 1,000 feet to the east created operational challenges. A unique off-ramp with three lanes and center choice lane accommodated through traffic on eastbound 22 as well as traffic that wanted to go north on Colonial Road.

The project had 12,434 linear feet of sound barrier with some using a design build delivery mechanism.

Construction of the overhead bridges incorporated Accelerated Bridge Construction techniques to minimize overall construction duration of these bridges. Prefabricated superstructure units comprised of prestressed concrete beam and concrete deck were fabricated and set, and Ultra-High Performance Concrete was utilized for the longitudinal and transverse closure pours. The bridges were then overlaid with a rapid set modified concrete wearing surface.

Social / Economic Considerations

A thorough Public Involvement Program was completed, starting with the Master Plan meetings in 2002 and was ongoing throughout the design and construction of the project.

The overall footprint of the project was kept as narrow as possible and retaining walls were used to minimize disturbance to the surrounding communities. Noise abatement was added along the interstate where noise analysis had determined that it was feasible and reasonable. Crossroads and interchanges were enhanced, so traffic circulation would improve in and adjacent to the project area. The project design not only considers vehicular traffic, but bicycle and pedestrian traffic which utilize the adjacent roadway system's continuous sidewalks near the shopping centers. Sidewalks were added to the Union Deposit bridge, improving safety and access for numerous pedestrians in the area. The project team obtained input by meeting regularly with the community throughout the design process, including local municipalities, residents, interest groups, public officials, and businesses. Meetings were also held with neighborhoods obtaining sound barriers to allow voting on the type of barrier that their community would receive.

An Environmental Justice (EJ) analysis was conducted to identify any disproportionately high and adverse impacts on minority or low-income populations that could result from the proposed project. Although there were several EJ areas identified along the project area, the proposed improvements (widening) have been developed symmetrically about the centerline of the existing highway resulting in relatively equal impacts on both sides of the highway. No known minority or

low-income populations were identified that would be disproportionately adversely affected by this project.

Positive feedback from surrounding communities is being received now that construction is nearing completion. In November 2021, a comment received in a community group, the Nextdoor platform, noted: *“The intersection of US 22 and I83 has gone from being one of the worst in the state to possibly the best. The design is excellent. A job this well done should be recognized.”*

Safety

The goal of the project was to provide a safe and efficient interstate facility which meets the high traffic and mobility demands as part of the Capital Beltway System.

- The US 22/ I-83 Interchange was completed in 2011 to address a congestion and safety issue with the existing interchange ramps as an early action project. This project resulted in a 70% reduction in crashes in advance of the mainline improvement. A modified point of access study process was completed for this project to gain efficient FHWA buy-in and approval.
- Auxiliary lane connections between Union Deposit and US 22 created an area for lane changes and lower speed maneuver to stay out of the mainline travel lanes.
- Inside and outside shoulders improved safety and incident response significantly over the existing conditions.
- Pedestrian safety and connections were greatly improved along US 22 and Union Deposit.

Aesthetics and Sustainable Features

Several sustainable and aesthetic features were developed as part of this project, including:

- In 2013, the Master Plan was part of the Advancing the Application of Context Sensitive Solutions (CSS): The CSS National Dialog 2 at the national level.
- New fencing along Shoop’s Cemetery in consideration of visitors.
- Architectural treatments and the development of a Capital Beltway branding of all projects in and around the beltway, including the Keystone symbol on the bridges.

Meeting and Exceeding Owner’s/ Client’s Needs

As the first widening project to be constructed as part of the Master Plan, this project set several standards and methods for the remainder of the Capital Beltway widening program. In early stages of project development, funding constraints required the evaluation of construction sections and potential programming changes to keep the project moving and ultimately led to the early action contract to address the immediate safety and congestion concern at the I-83 southbound to US 22 eastbound ramp. Further development and deployment in concert with the Master Plan recommendations led to the funding of the full widening and ultimately the link to East Shore Sections 2 and 3 all as independent projects with logical termini and independent utility. The project was also delivered on schedule and within budget.

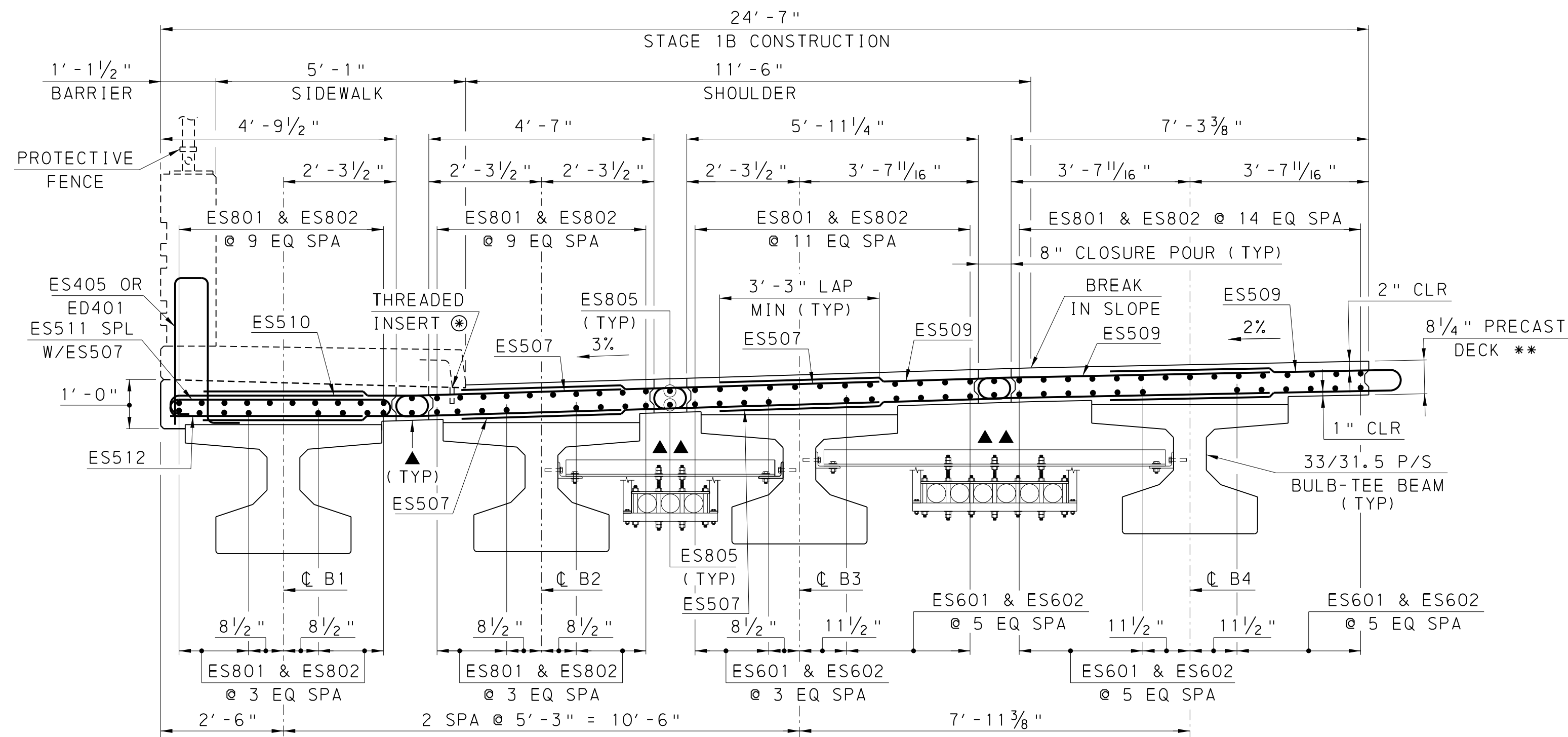
McCormick Taylor is proud to submit this project for consideration of ASHE Harrisburg Section’s 2023 National Project of the Year on behalf of the project team: Client: PennDOT District 8-0, Design Team: McCormick Taylor, Inc., Gannett Fleming, Inc., Navarro & Wright Consulting

McCormick Taylor, Inc.
Interstate 83 East Shore Section 1 Project

Over \$20M

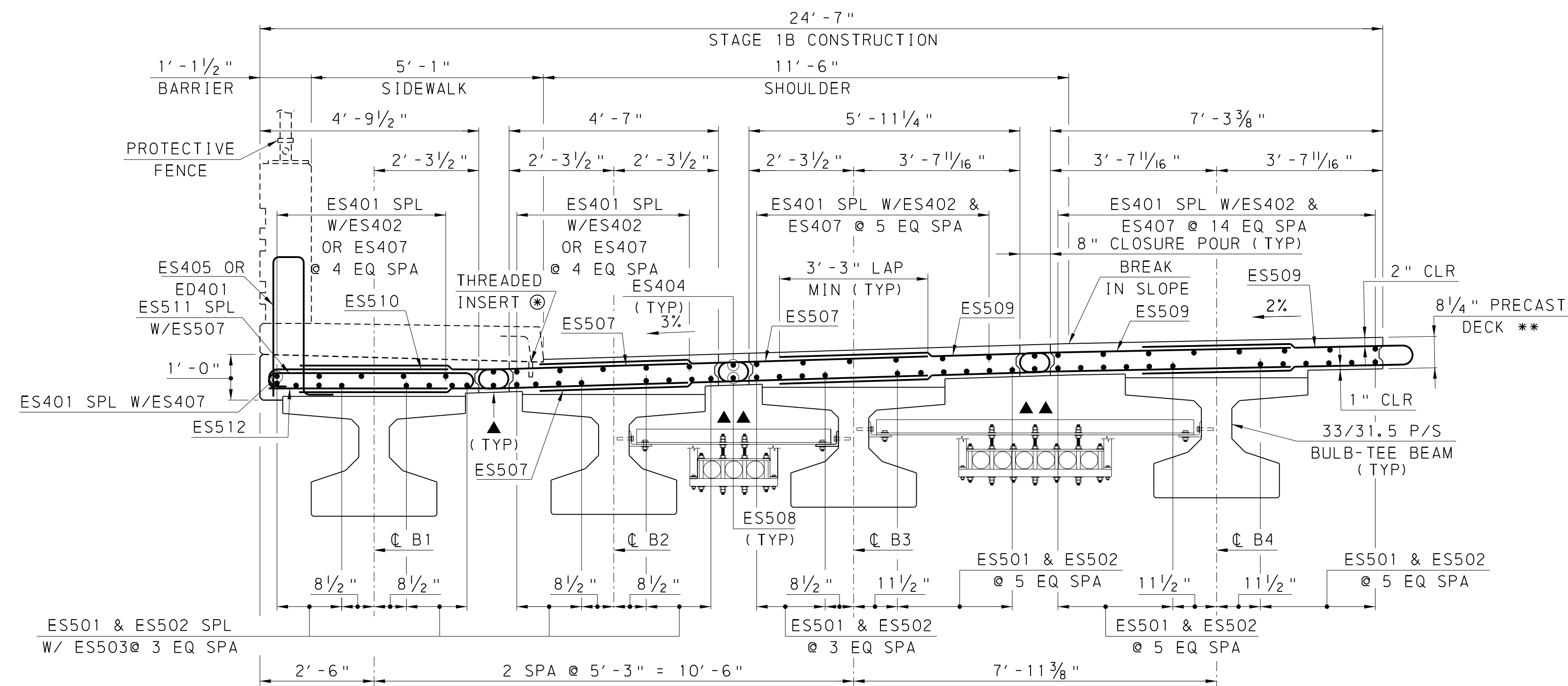
Engineers, Inc., Advanced Technology Solutions, Inc., H.W. Lochner, Inc., Surveying and Mapping, LLC, and Construction Team: J.D. Eckman, Inc., New Enterprise Stone & Lime Co., Inc. (plus numerous Subcontractors), and Michael Baker International, Inc. Please contact Brian St. John at 717-775-5807 with any questions.

\\engdot1\comon2\Projects\SR 0083-PREL\IM\STRUCTURES\Final\22 over 1-83\CADD\40 - Typ Sect - Stage 1B (Span 1).dgn
 11/17/2015



**TYPICAL SLAB REINFORCEMENT
NEGATIVE MOMENT REGION - SPAN 1**

(END DIAP. CLOSURE POUR REINFORCEMENT NOT SHOWN FOR CLARITY)

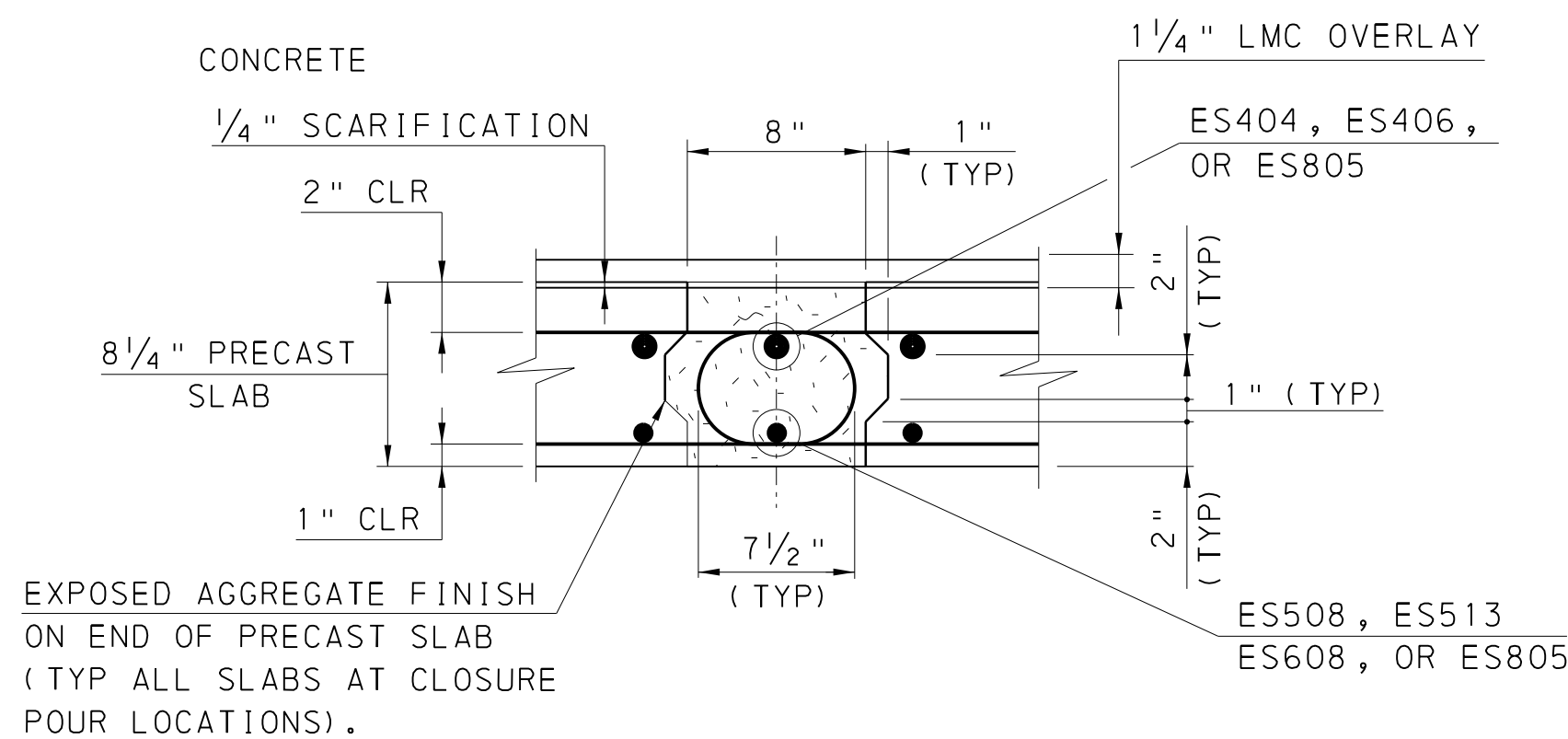


**TYPICAL SLAB REINFORCEMENT
POSITIVE MOMENT REGION - SPAN 1**

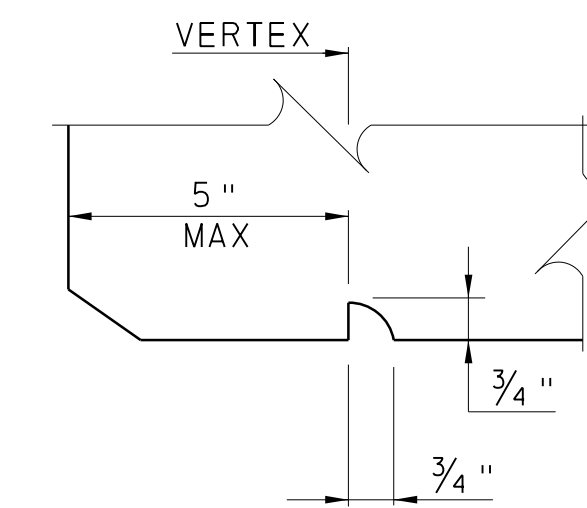


NOTE:
 BEAM HAUNCH REINFORCEMENT WAS NOT DETERMINED TO BE REQUIRED FOR THE COMPUTED BEAM CAMBERS ASSUMING SIP FORMS ARE PRESENT. HOWEVER, PROVIDE HAUNCH REINFORCEMENT IN ACCORDANCE WITH BC-752M WHERE IRREGULAR BEAM CAMBERS, USE OF REMOVABLE FORMS, OR OTHER CONSTRUCTION CONDITIONS PROVIDE ACTUAL HAUNCHES THAT EXCEED THE THICKNESS SPECIFIED IN BC-752M AT NO COST TO THE DEPARTMENT.

- ▲ SEE LONGITUDINAL JOINT DETAIL, THIS SHEET.
- ▲ VERIZON FACILITIES SUPPORT BRACKETS. SEE ALSO PLAN "UTILITY RELOCATION PLAN VERIZON TELECOMMUNICATIONS" AND ITEM 8800-1001.
- ◎ INCIDENTAL TO P/S BULB TEE BEAMS. SEE BARRIER AND SIDEWALK DETAILS SHEET 51. PLUG INSERTS WITH COUNTERSUNK SCREWS TO PREVENT WATER AND DEBRIS ACCUMULATION PRIOR TO SIDEWALK CONSTRUCTION.
- ** TEMPORARY CONDITION DURING STAGED CONSTRUCTION. SEE TYPICAL SECTION FOR FINAL DECK SLAB THICKNESS. SCARIFICATION AND LMC PLACEMENT TO OCCUR AS PER CONSTRUCTION SEQUENCE NOTES.



LONGITUDINAL JOINT DETAIL



**SLAB DRIP NOTCH
AT OVERHANG**

NOT TO SCALE

NOTES:

- FOR GENERAL NOTES, SEE SHEETS 6 & 7.
- FOR FRAMING PLAN, SEE SHEET 34.
- FOR BEAM DETAILS, SEE SHEETS 35-38.
- FOR SLAB TYPICAL SECTIONS, SEE SHEET 40-42.
- FOR SLAB PLANS, SEE SHEET 39, 43-50.
- FOR DIAPHRAGM DETAILS, SEE SHEETS 52-55.

Mark	Description	By	Chk'd	Recm'd	Date
REVISIONS					

SR 0022 PREVIOUSLY KNOWN AS LR 140

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION**

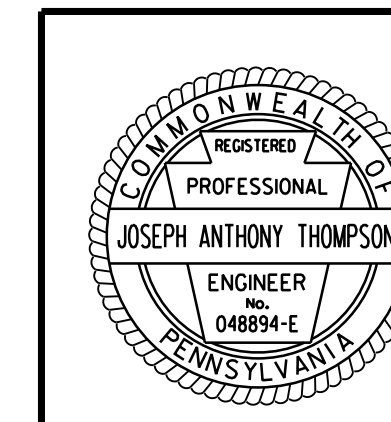
**DAUPHIN COUNTY
SR 0022, SECTION 143**

SEG 0420 OFFSET 0000
 SR 0022 (JONESTOWN ROAD) STA 609+17.75 OVER SR 0083
 2 SPAN PRESTRESSED BULB TEE BEAM BRIDGE

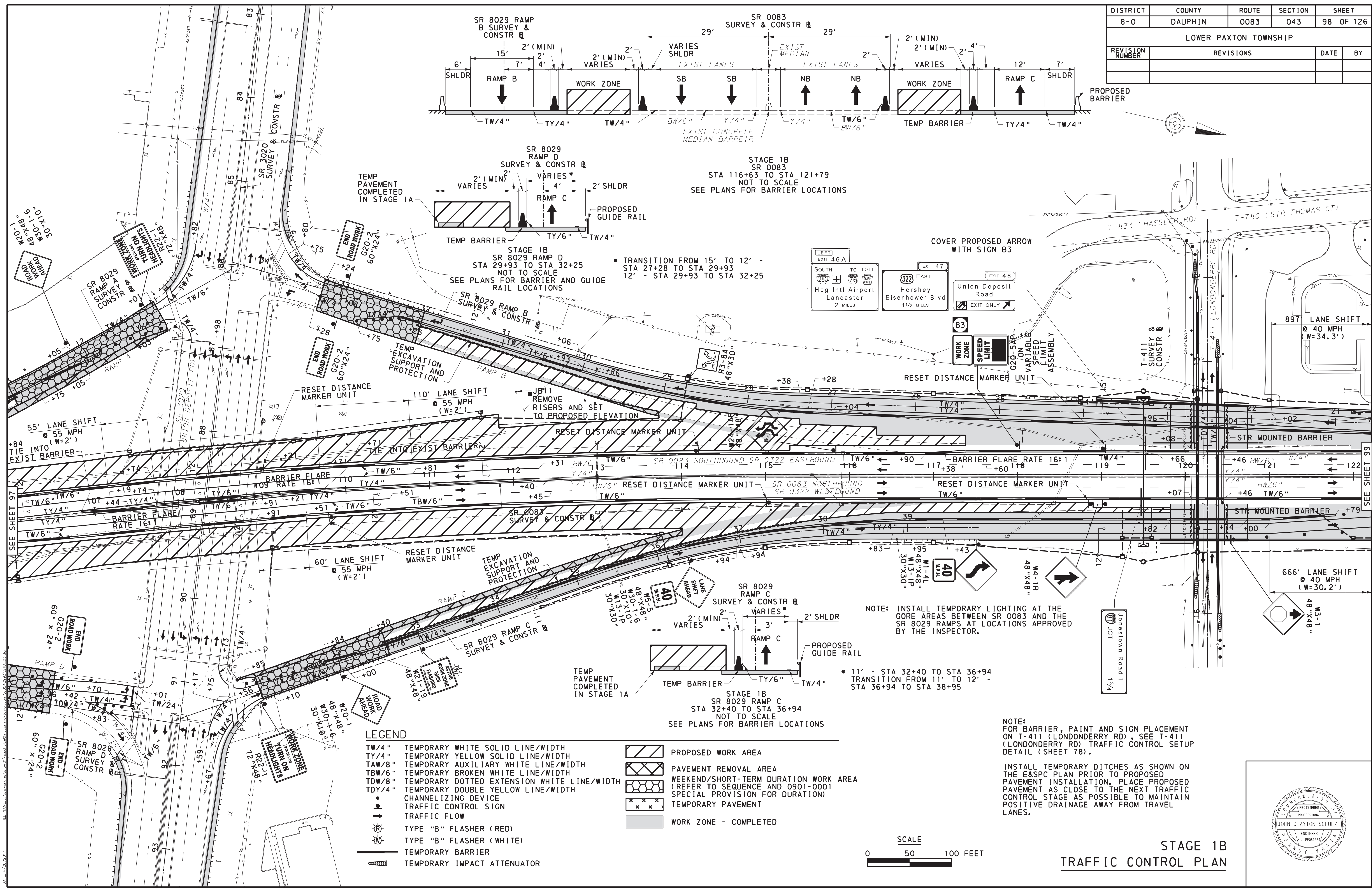
SLAB TYPICAL SECTION SPAN 1 - STAGE 1B

Recommended November 18, 2015

SHEET 40 OF 65



DISTRICT	COUNTY	ROUTE	SECTION	SHEET	
8-0	DAUPHIN	0083	043	98 OF 126	
LOWER PAXTON TOWNSHIP					
REVISION NUMBER	REVISIONS			DATE	BY



- LEGEND**
- TW/4" TEMPORARY WHITE SOLID LINE/WIDTH
 - TY/4" TEMPORARY YELLOW SOLID LINE/WIDTH
 - TAW/8" TEMPORARY AUXILIARY WHITE LINE/WIDTH
 - TBW/6" TEMPORARY BROKEN WHITE LINE/WIDTH
 - TDW/8" TEMPORARY DOTTED EXTENSION WHITE LINE/WIDTH
 - TDY/4" TEMPORARY DOUBLE YELLOW LINE/WIDTH
 - CHANNELIZING DEVICE
 - TRAFFIC CONTROL SIGN
 - TRAFFIC FLOW
 - TYPE "B" FLASHER (RED)
 - TYPE "B" FLASHER (WHITE)
 - TEMPORARY BARRIER
 - TEMPORARY IMPACT ATTENUATOR

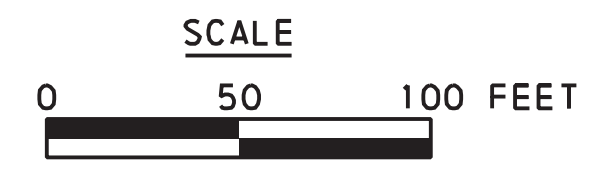
- PROPOSED WORK AREA
- PAVEMENT REMOVAL AREA
- WEEKEND/SHORT-TERM DURATION WORK AREA (REFER TO SEQUENCE AND 0901-0001 SPECIAL PROVISION FOR DURATION)
- TEMPORARY PAVEMENT
- WORK ZONE - COMPLETED

NOTE: INSTALL TEMPORARY LIGHTING AT THE GORE AREAS BETWEEN SR 0083 AND THE SR 8029 RAMPS AT LOCATIONS APPROVED BY THE INSPECTOR.

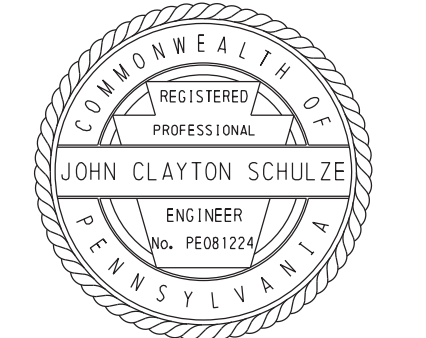
* 11' - STA 32+40 TO STA 36+94
TRANSITION FROM 11' TO 12' -
STA 36+94 TO STA 38+95

NOTE: FOR BARRIER, PAINT AND SIGN PLACEMENT ON T-411 (LONDONDERRY RD), SEE T-411 (LONDONDERRY RD) TRAFFIC CONTROL SETUP DETAIL (SHEET 78).

INSTALL TEMPORARY DITCHES AS SHOWN ON THE E&SPC PLAN PRIOR TO PROPOSED PAVEMENT INSTALLATION. PLACE PROPOSED PAVEMENT AS CLOSE TO THE NEXT TRAFFIC CONTROL STAGE AS POSSIBLE TO MAINTAIN POSITIVE DRAINAGE AWAY FROM TRAVEL LANES.



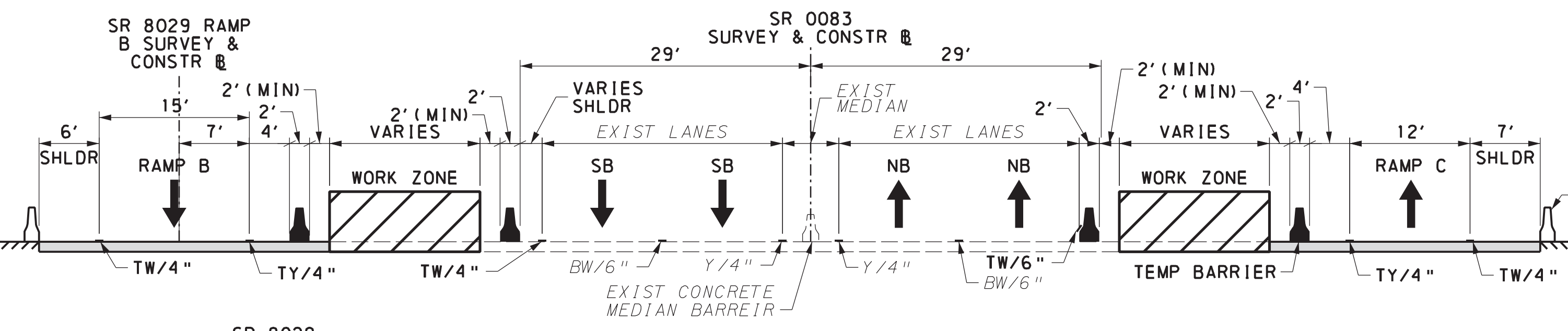
**STAGE 1B
TRAFFIC CONTROL PLAN**



DATE: 4/26/2017

SEE SHEET 99

SR 8029 RAMP A SURVEY & CONSTR



STAGE 1B
SR 0083
STA 116+63 TO STA 121+79
NOT TO SCALE
SEE PLANS FOR BARRIER LOCATIONS

STAGE 1B
SR 8029 RAMP D
STA 29+93 TO STA 32+25
NOT TO SCALE
SEE PLANS FOR BARRIER AND GUIDE RAIL LOCATIONS

* TRANSITION FROM 15' TO 12' -
STA 27+28 TO STA 29+93
12' - STA 29+93 TO STA 32+25

STAGE 1B
SR 8029 RAMP C
STA 32+40 TO STA 36+94
NOT TO SCALE
SEE PLANS FOR BARRIER LOCATIONS

COVER PROPOSED ARROW WITH SIGN B3

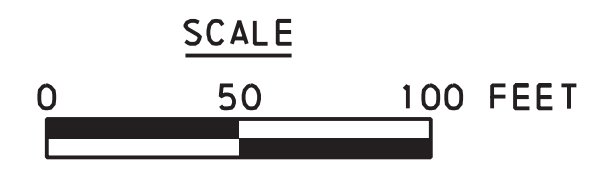
RESET DISTANCE MARKER UNIT

NOTE: INSTALL TEMPORARY LIGHTING AT THE GORE AREAS BETWEEN SR 0083 AND THE SR 8029 RAMPS AT LOCATIONS APPROVED BY THE INSPECTOR.

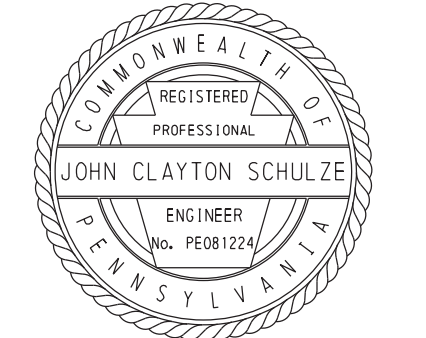
* 11' - STA 32+40 TO STA 36+94
TRANSITION FROM 11' TO 12' -
STA 36+94 TO STA 38+95

NOTE: FOR BARRIER, PAINT AND SIGN PLACEMENT ON T-411 (LONDONDERRY RD), SEE T-411 (LONDONDERRY RD) TRAFFIC CONTROL SETUP DETAIL (SHEET 78).

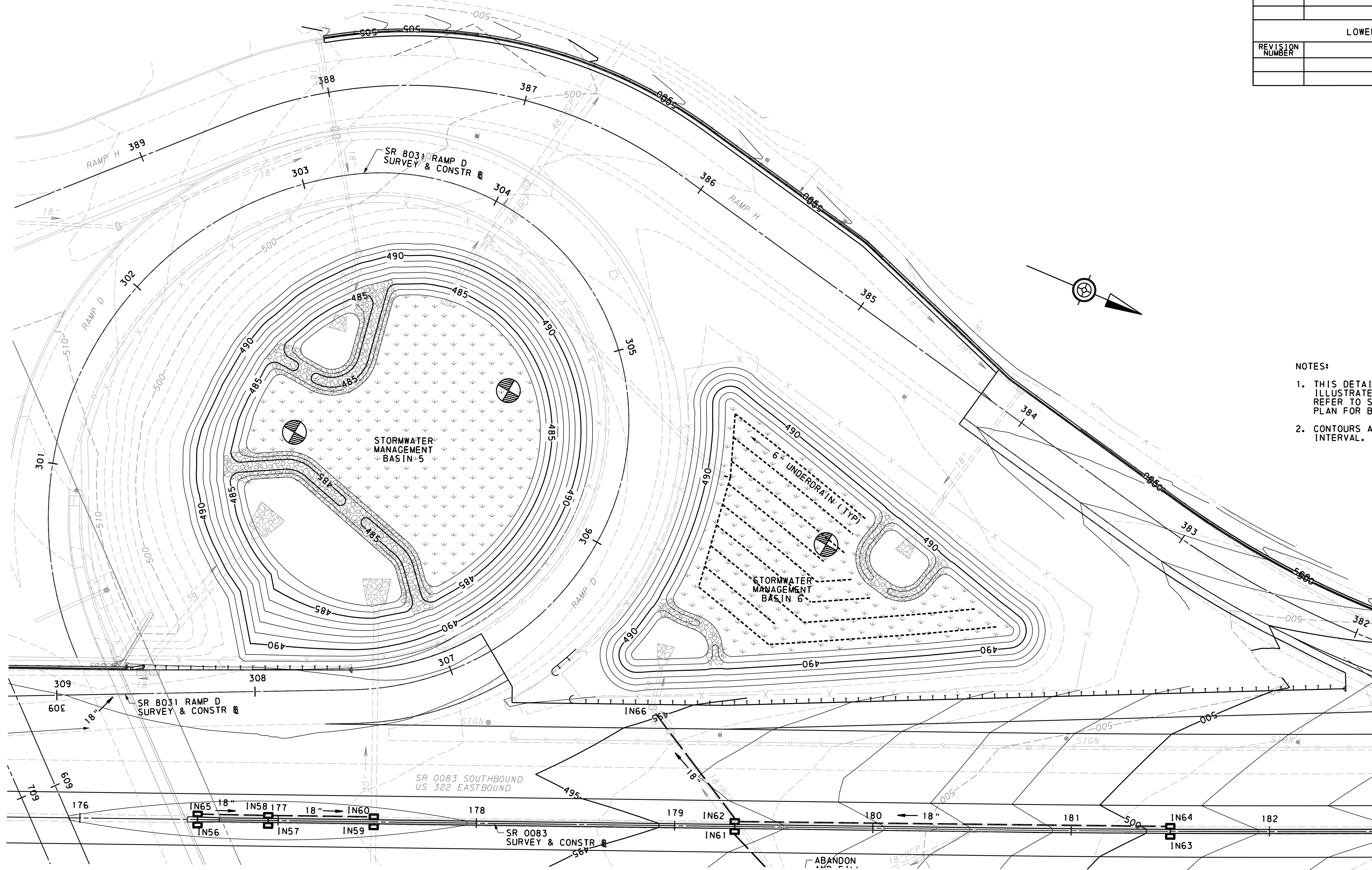
INSTALL TEMPORARY DITCHES AS SHOWN ON THE E&SPC PLAN PRIOR TO PROPOSED PAVEMENT INSTALLATION. PLACE PROPOSED PAVEMENT AS CLOSE TO THE NEXT TRAFFIC CONTROL STAGE AS POSSIBLE TO MAINTAIN POSITIVE DRAINAGE AWAY FROM TRAVEL LANES.



**STAGE 1B
TRAFFIC CONTROL PLAN**

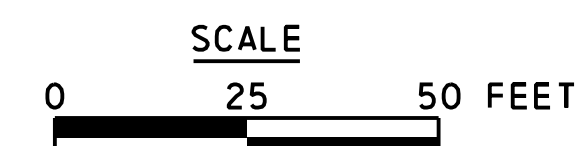


DISTRICT	COUNTY	ROUTE	SECTION	SHEET
8-0	DAUPHIN	0083	043	17 OF 61
LOWER PAXTON TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	

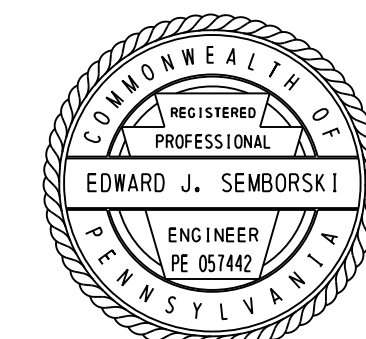


- NOTES:
1. THIS DETAIL IS INTENDED TO ILLUSTRATE FINAL BASIN CONTOURING. REFER TO SEPARATE DETAIL ON THIS PLAN FOR BASIN SECTION INFORMATION.
 2. CONTOURS ARE ILLUSTRATED AT A 1' INTERVAL.

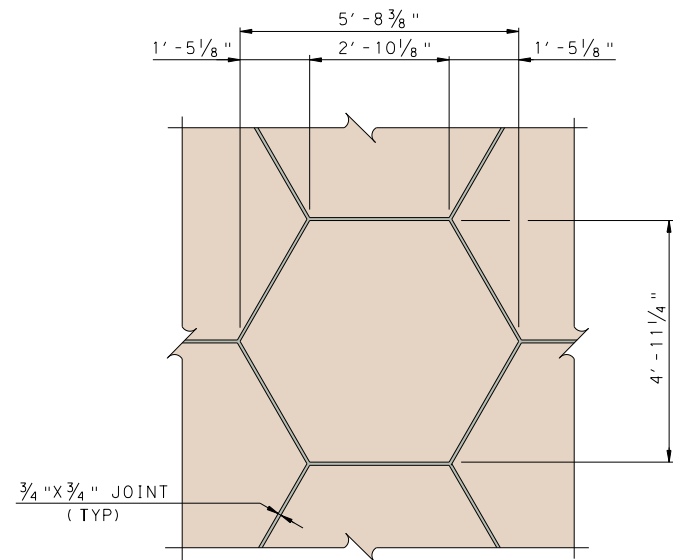
SWM BASIN 5 & 6 FINAL GRADING DETAIL



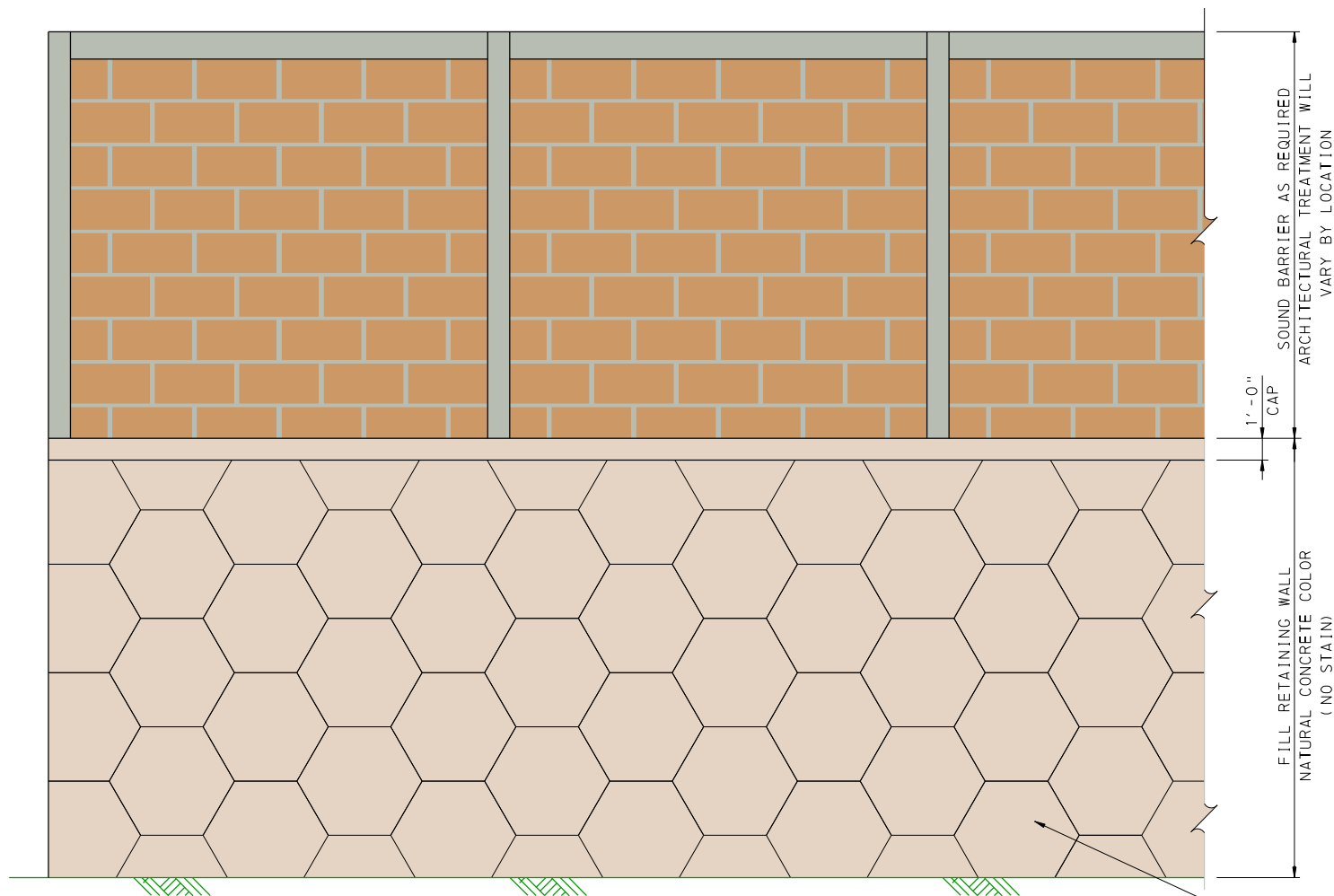
PHASE 2
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN



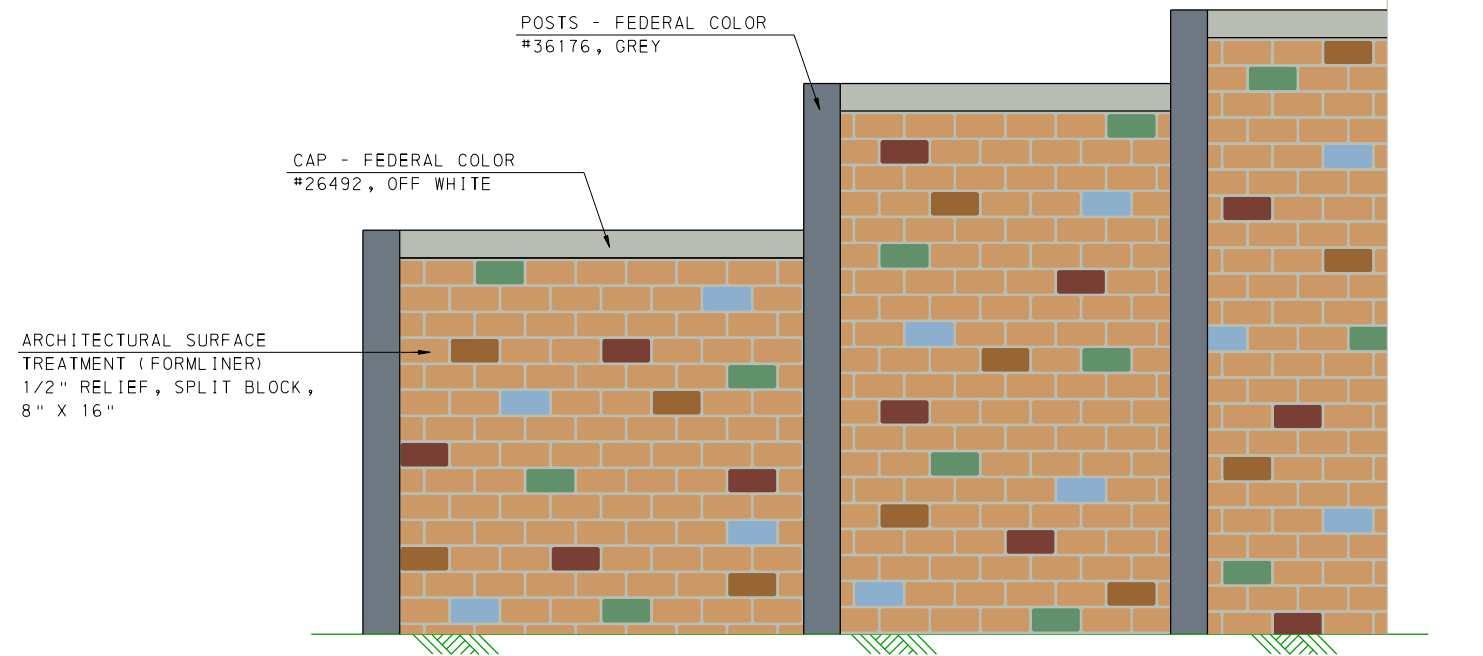
DATE: 12/18/2017 FILE: NAME: ppa_\\paxton02\corporate\spatial\township.com\GIS\0083\Documents\Projects\47728\Contractor - 2\McCormick - Topog\WATER_RESOURCES\CONTRACTOR\ASSETS\0083\BASIN05.DWG USER: md



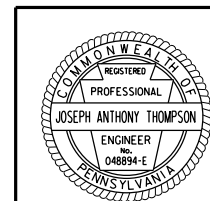
FILL RETAINING WALL HEXAGON FORM LINER PATTERN
N. T. S.



RESIDENTIAL SIDE ELEVATION - FILL RETAINING WALL
(VIEW FROM RESIDENTIAL SIDE)
N. T. S.

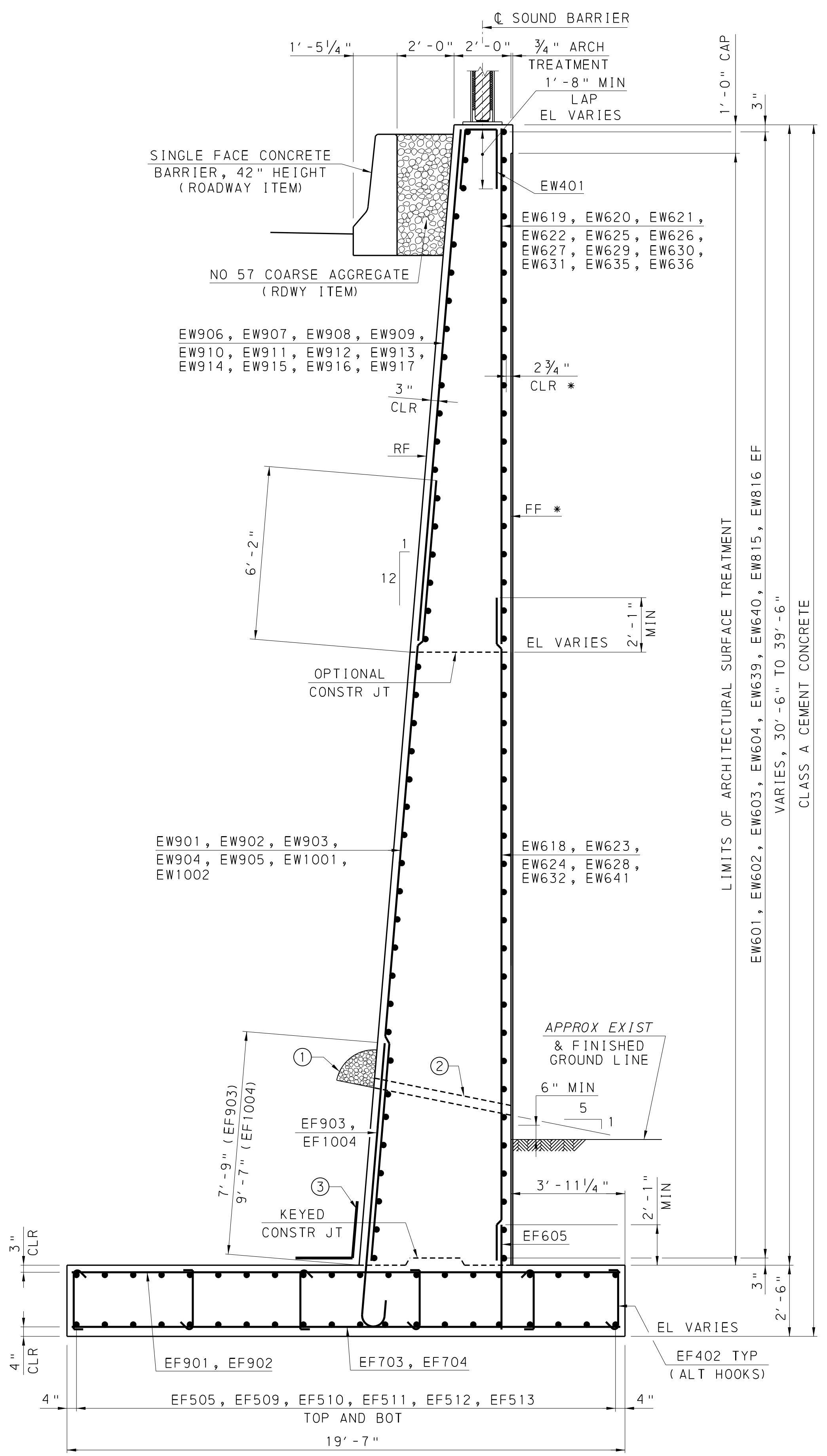


ROADSIDE ELEVATION - CUT RETAINING WALLS & SOUND BARRIER WALLS
(VIEW FROM I-83)
N. T. S.



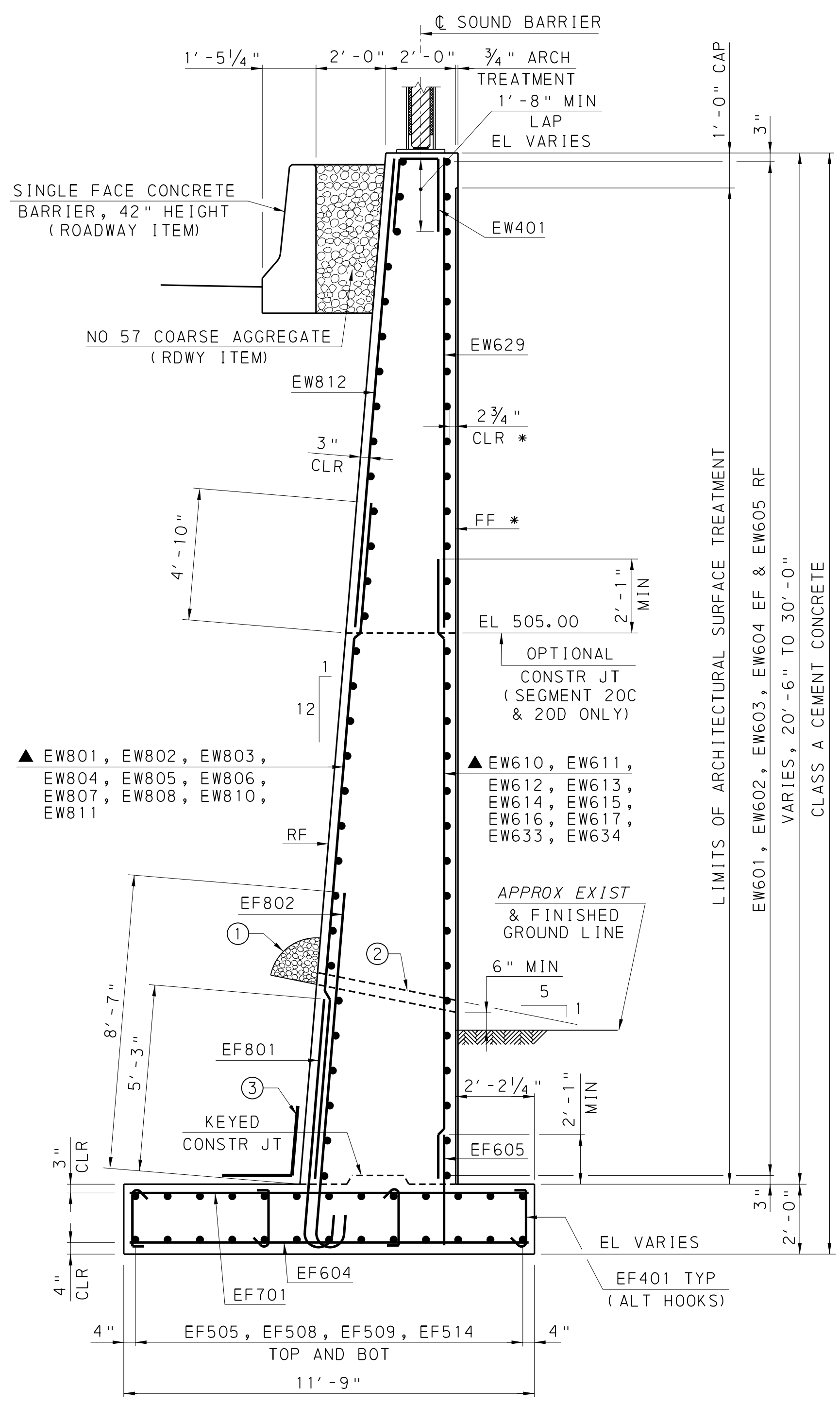
**ARCHITECTURAL
DETAIL PLAN**

FILE NAME: p:\p\p\ind02_corporate_game\11\emg.com\GFPW02\Documents\Projects\47278\Contract 2\McCormick Toy\or\STRUCTURES\Retaining Walls\6 Wall 1 2\CADD\34 - 183ES-SECTIONS 1 OF 2.dgn
 PLOTTED: 9/1/2017 10:49:49 AM



SECTION C-C & F-F

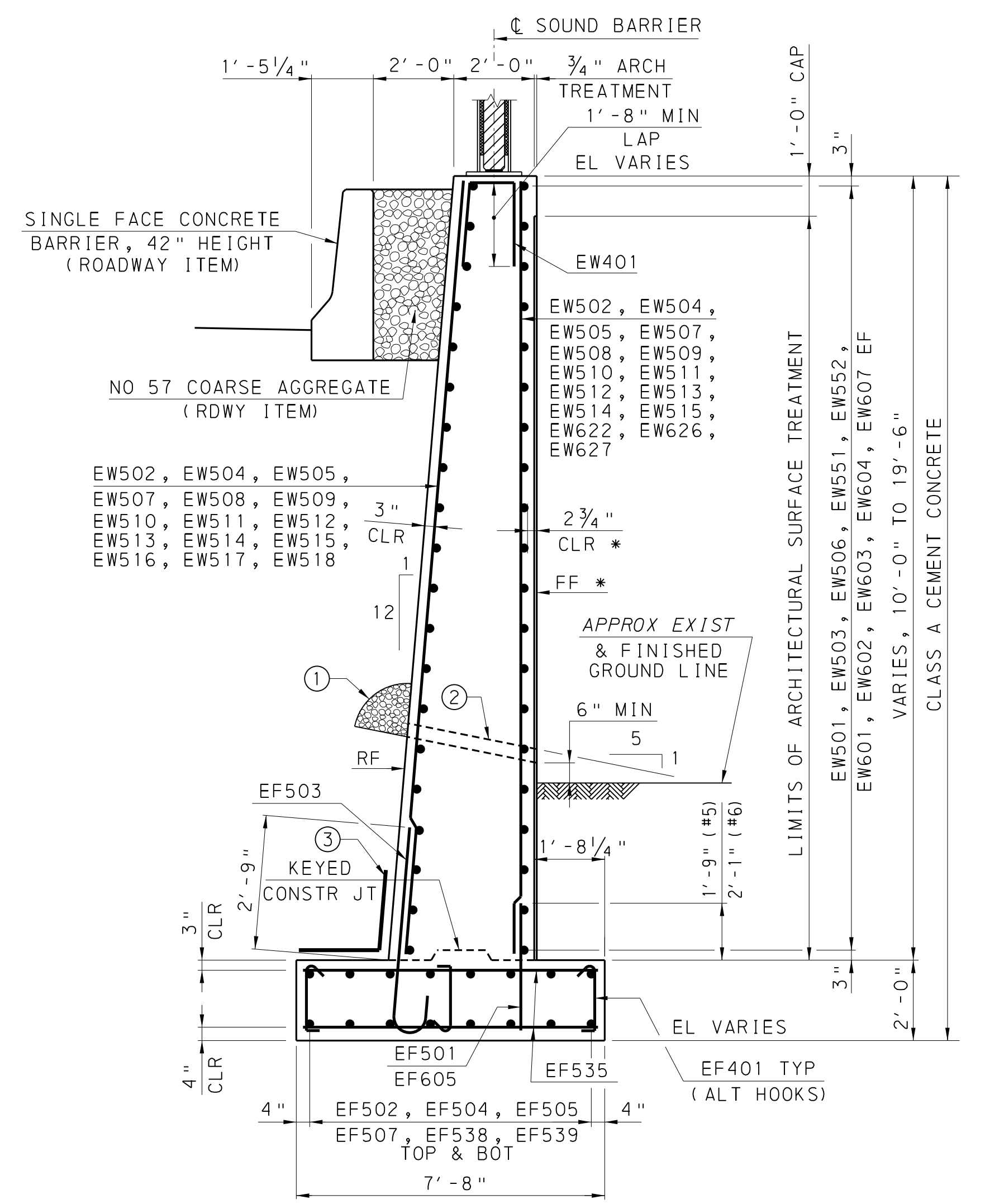
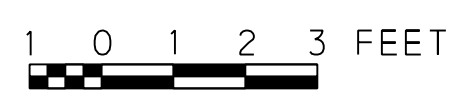
NOTE:
 A PORTION OF SECTION F-F AT 42" Ø RCP (ROADWAY ITEM) DOES NOT HAVE A FOOTING.



SECTION B-B

▲ BARS EW801, EW802, EW803, EW804, EW805, EW806, EW807, EW808, EW610, EW611, EW612, EW613, EW614, EW615, EW616, & EW617 ARE FULL HEIGHT.
 * INCLUDES 3/4" ARCHITECTURAL TREATMENT

RETAINING WALL SECTION NOTES:
 ① 1/2 CU YD N. 57 COARSE AGGREGATE ENCASED IN GEOTEXTILE MATERIAL, CLASS 1. (TYP AT WEEPHOLES)
 ② 4" FORMED WEEPHOLE, SEE ELEVATION FOR LOCATIONS.
 ③ FOR WATERPROOFING DETAIL, SEE BC-788M.



SECTION A-A

NOTES:

- FOR GENERAL PLAN & ELEVATION, SEE SHEETS 1 THRU 4.
- FOR GENERAL NOTES, SEE SHEET 5.
- FOR ELEVATIONS, SEE SHEETS 20 THRU 33.
- FOR FOOTING STEP DETAILS, SEE SHEET 19.
- FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS 52 & 53.
- FOR LOCATIONS OF SECTIONS A-A, B-B, C-C & F-F, SEE SHEETS 20 TO 33.

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

RETAINING WALL 24

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

DAUPHIN COUNTY
 S. R. 0083 SECTION 043

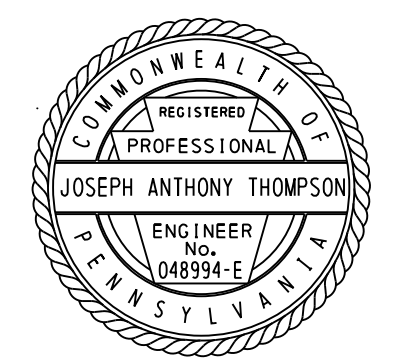
SEGMENT 0485 OFFSET 0488
 S. R. 0083 STA. 139+47.02 TO STA. 154+69.00 SB
 REINFORCED CONCRETE RETAINING WALL W/SOUND BARRIER

SECTIONS - 1 OF 2

RECOMMENDED SEPTEMBER 1, 2017

SHEET 34 OF 56

S-35578

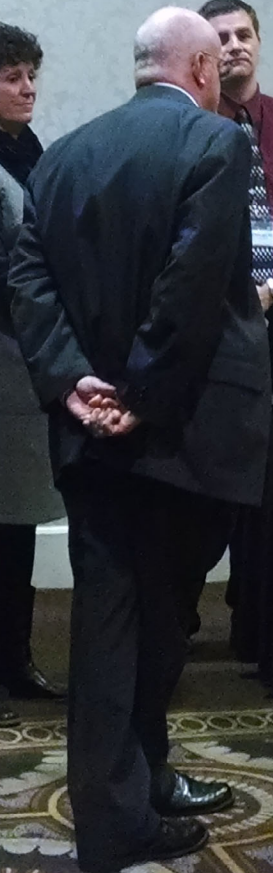
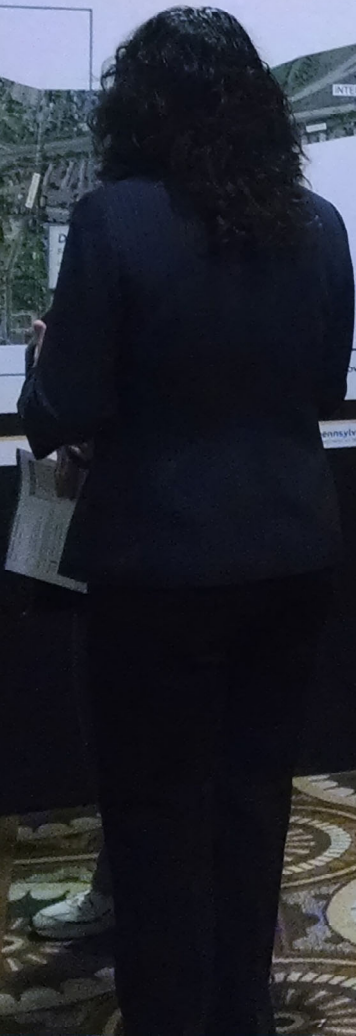
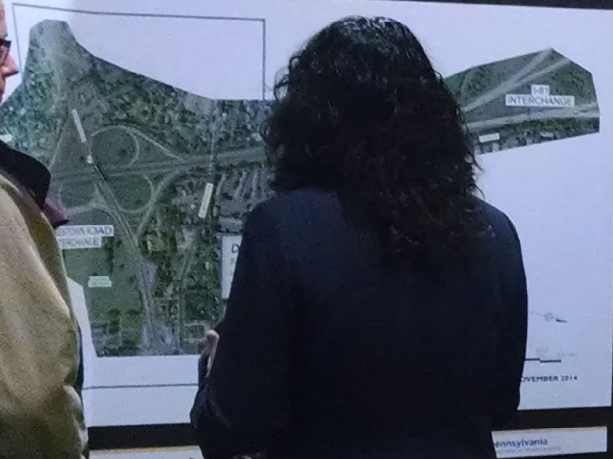






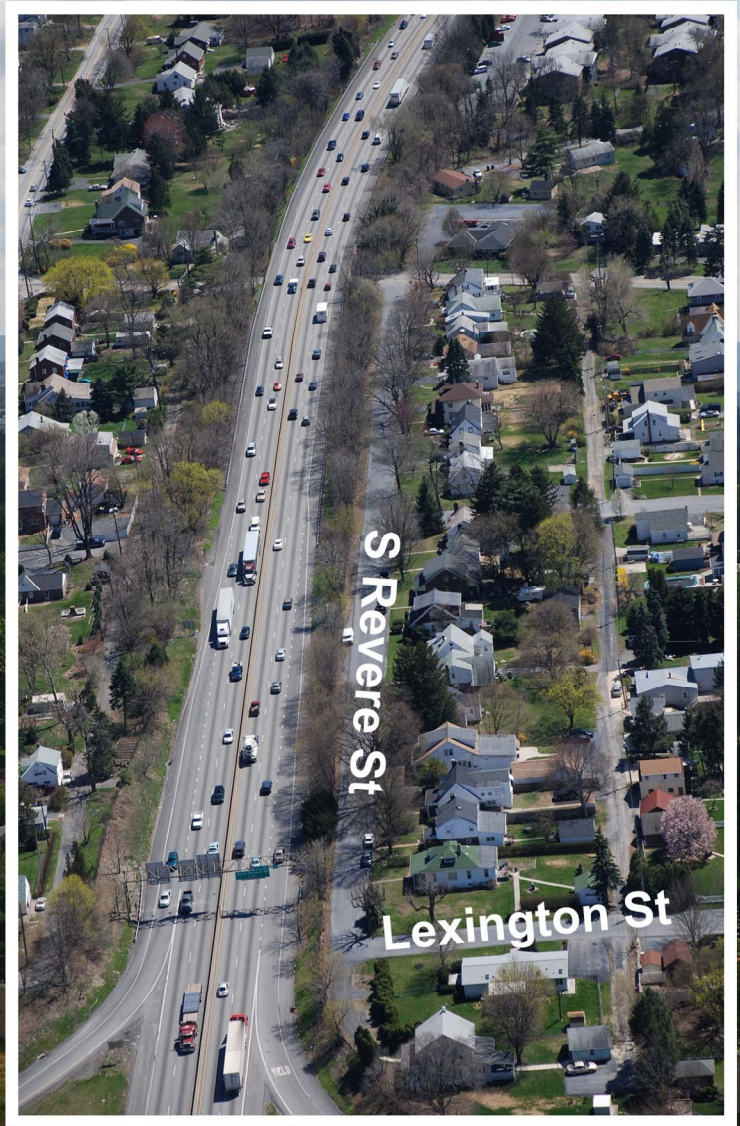


Potential Right-of-Way Impacts



EXIT







February 2, 2023

Brian St. John, P.E., PTOE
McCormick Taylor, Inc.
5 Capital Drive, Suite 400
Harrisburg, PA 17110

SR 0083, Section 043 (I-83 East Shore Section 1)
MPMS 70024 Dauphin County
2023 ASHE National Project of the Year Award Application

Dear Mr. St. John:

We hereby grant permission to McCormick Taylor to submit an application to enter the SR 0083, Section 043 (I-83 East Shore Section 1) project for the 2023 ASHE National Project of the Year. We are pleased with the work of project team and enthusiastically support the nomination of this important project. Construction of this project is substantially complete and open to the public as of December 2021.

If you have any questions please contact John Bachman, Senior Project Manager, PennDOT District 8-0 at 717.783.4519.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Kufro".

For Christopher Kufro, P.E.
District Executive

McCormick Taylor, Inc.
Interstate 83 East Shore Section 1 Project

Over \$20M

McCormick Taylor is proud to submit this project for consideration of ASHE Harrisburg Section's 2023 National Project of the Year on behalf of the project team: Client: PennDOT District 8-0, Design Team: McCormick Taylor, Inc., Gannett Fleming, Inc., Navarro & Wright Consulting Engineers, Inc., Advanced Technology Solutions, Inc., H.W. Lochner, Inc., Surveying and Mapping, LLC, and Construction Team: J.D. Eckman, Inc., New Enterprise Stone & Lime Co., Inc. (plus numerous Subcontractors), and Michael Baker International, Inc.

McCormick Taylor, Inc. commits that at least one representative from the project team will attend the awards luncheon. Please contact Brian St. John at 717-775-5807 with any questions.