OS-600 (10-08)

pennsylvania
DEPARTMENT OF TRANSPORTATION
www.dot.state.pa.us

September 3, 2019

Berks County
Tilden Township
SR 0078, SECTION 13B
DOT # 592 503 B
PUC No. A-2018-3003018
ECMS # 93494

Rosemary Chiavetta , Secretary
Pennsylvania Public Utility Commission
PO Box 3265
Harrisburg, PA 17105-3265

Dear Secretary Chiavetta :

In accordance with ordering paragraph number 3 of PUC Docket No. A-2018-3003018 entered on June 3, 2019, please find attached for your approval one half-size copy of the final signed Drawings for Construction of State Route 0078, Section 13B in Berks County, consisting of 13 sheets; and one copy of half-size final signed Structure Plans for SR 0078, Section 13B (S- 38014) consisting of 275sheets, Signing and Pavement marking plan consisting of 2 sheets, and the Erosion and Sediment Pollution Control Plan consisting of 30 sheets

The Department of Transportation hereby avers that a partial set of the aforesaid final Drawings for Construction plans and complete set of Structure Plans (S- 38014) are being sent to the following parties of record for examination simultaneously with this submission to the Public Utility Commission:

Matthew Johnson
Reading, Blue Mountain & Northern
Railroad
P.O. Box 218
Port Clinton, PA 19549

Christian Y. Leinbach, Chairperson
Berks County Commissioners
County Services Center
633 Court Street - 13th Floor
Reading, PA 19601

Gene Schappell, Chairman
Tilden, Township Supervisors
874 Hex Highway
Hamburg, PA 19526

Peter Kalabisko, Mayor
Borough of Hamburg
61 North Third Street
Hamburg, PA 19526

Al Nerino
Metropolitan Edison Co.
2800 Pottsville Pike
Reading, PA 19605

Mike Lengel
Comcast Cable Communications
400 Riverfront Drive
Reading, PA 19602

Keith L. Brobst
Hamburg Municipal Authority
61 North 3rd Street
Hamburg, PA 19526

Mike Leshko
UGI Central Penn Gas, Inc.
225 Morgantown Road
Reading, PA 19611

Matt Cochran
Panther Creek Power Operating, LLC
4 Dennison Road
Nesquehoning, PA 18240

Cheryl Haus
Tilden Township
874 Hex Highway
Hamburg, PA 19526

David Gettle
Blue Mountain Water Cooperative
P.O. Box 373
Myerstown, PA 17067

Jeffrey Kramer
Verizon Pennsylvania LLC
409 Washington Street
Reading, PA 19601

We respectfully request the approval of these plans and the subsequent issuance of a PUC Order. Should you have any questions or concerns, please feel free to contact me at (610) 871 - 4562.

Sincerely,

Rodney O. Rehnert
District Grade Crossing Administrator
Engineering District 5-0
Department of Transportation

Attachments

cc: Parties of Record
M. J. Chappell, PE, Chief, Utilities and ROW Section, 7th Floor, Keystone Building
G. M. D'Alfonso, Office of Chief Counsel, 9th Floor, Keystone Building
R. Hull, PE, PUC, Rail Safety Division, PUC, 3rd Floor, Keystone Building

| DISTRICT | COUNTY | TOWNSHIP | BOROUGH | ROUTE | SECTION | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| 5-0 | BERKS | TILDEN | HAMBURG | 0078 | 13B | 134 |

SR 0078 PREVIOUSLY KNOWN AS LR 285 AND LR 141
SR 0061 PREVIOUSLY KNOWN AS LR 160 AND LR 141

MPMS/ECMS No. 93494

SR 0078 ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 3002+90.00 TO STATION 3033+47.41 BY PLAN OF ROUTE NO. 141, APPROVED OCTOBER 25, 1954 AND FROM 3033+47.41 TO STATION 3065+58.23 BY PLAN OF ROUTE NO. 285, APPROVED NOVEMBER 1, 1954.

SR 0061 ESTABLISHED AS LIMITED ACCESS HIGHWAY FROM STA 2001+95.00 NB (1002+30.00 SB) TO STA 2014+34.45 NB (1020+20.39 SB) BY PLAN OF ROUTE NO. 160 APPROVED ON APRIL 2, 1952 AND FROM STA 2014+35.45 NB (1020+20.39 SB) TO STA 2041+76.18 NB (1041+76.79 SB) BY PLAN OF LR 141 SECTION E APPROVED ON APRIL 2, 1952

ALSO INCLUDED:

| | |
|---|---|
| TRAFFIC CONTROL PLAN | 252 SHEETS |
| SIGNING AND PAVEMENT MARKING PLAN | 31 SHEETS |
| SANITARY SEWER RELOCATION PLAN | 4 SHEETS |
| ELECTRIC TRANSMISSION RELOCATION PLAN | 15 SHEETS |
| EROSION AND SEDIMENT POLLUTION CONTROL PLAN | 170 SHEETS |
| POST CONSTRUCTION STORMWATER MANAGEMENT PLAN | 54 SHEETS |
| CONTOUR GRADING AND DRAINAGE PLAN | 34 SHEETS |
| HIGHWAY LIGHTING PLAN | 17 SHEETS |
| ITS PLAN | 15 SHEETS |
| TRAFFIC SIGNAL PLANS | 7 SHEETS |
| STRUCTURE PLANS | |
| S-37378 (PORT CLINTON AVENUE BRIDGE) | 62 SHEETS |
| S-37562 (SR 0061 OVER I-78 BRIDGE) | 47 SHEETS |
| S-38014 (I-78 OVER SCHUYLKILL RIVER BRIDGE) | 264 SHEETS |
| S-38839 (RETAINING WALL 1) | 11 SHEETS |
| S-38840 (RETAINING WALL 2) | 15 SHEETS |
| S-38841 (SOUND BARRIER SB-01) | 10 SHEETS |
| S-38842 (SOUND BARRIER SB-02) | 13 SHEETS |
| S-38843 (SOUND BARRIER SB-03) | 10 SHEETS |
| CROSS SECTIONS | 138 SHEETS |
| EXISTING STRUCTURE PLANS | |
| S-01841 | 6 SHEETS |
| S-01875 | 35 SHEETS |
| S-01876 | 6 SHEETS |
| S-15089 | 5 SHEETS |
| S-18384 | 2 SHEETS |
| S-19082 | 7 SHEETS |
| S-23732A | 3 SHEETS |
| S-23732B | 86 SHEETS |
| S-23759 | 3 SHEETS |
| S-24022 | 9 SHEETS |

# COMMONWEALTH OF PENNSYLVANIA

# DEPARTMENT OF TRANSPORTATION

## DRAWINGS
## FOR
## CONSTRUCTION
## OF

STATE ROUTE 0078 SECTION 13B

IN BERKS COUNTY

FROM STA 2991+00.00 TO STA 3084+50.00 LENGTH 9133.00 FT 1.730 MI

EB FROM SEG 0284 OFFSET 1363 TO SEG 0304 OFFSET 0036

WB FROM SEG 0285 OFFSET 1396 TO SEG 0305 OFFSET 0054

ALSO

STATE ROUTE 0061

NB FROM STA 2000+00.00 TO STA 2041+50.00

SB FROM STA 1000+00.00 TO STA 1044+19.50

ALSO

STATE ROUTE 8014

ALSO

STATE ROUTE 8016

### DESIGN DESIGNATION, SR 0078

HIGHWAY CLASSIFICATION - INTERSTATE, URBAN
DESIGN SPEED - 70 M.P.H.
PAVEMENT WIDTH - 2-24' ROADWAYS DIVIDED
SHOULDER WIDTH - 12' RT, 4' TO 9' LT
MEDIAN WIDTH, MAXIMUM - 20'
MINIMUM - 10'

### TRAFFIC DATA, SR 0078

CURRENT A.D.T. - 47,395 (2016)
DESIGN YEAR A.D.T. - 84,910 (2039)
D.H.V. (2013) - 5,270
D - 55%
T - 36%

### DESIGN DESIGNATION, SR 0061

HIGHWAY CLASSIFICATION - PRINCIPAL ARTERIAL, URBAN
DESIGN SPEED - 55 M.P.H.
PAVEMENT WIDTH - 2-24' ROADWAYS DIVIDED
SHOULDER WIDTH - 8' RT, NONE LT
MEDIAN WIDTH, MAXIMUM - 16'
MINIMUM - 4'

### TRAFFIC DATA, SR 0061

CURRENT A.D.T. - 22,510 (2016)
DESIGN YEAR A.D.T. - 26,860 (2039)
D.H.V. (2013) - 2,502
D - 55%
T - 15%

SCALE

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

P.U.C. APPLICATION DOCKET NO. A-2018-3003018

PREPARED BY:

AECOM

AECOM TECHNICAL SERVICES, INC.
1700 MARKET STREET
SUITE 1600
PHILADELPHIA, PA 19103

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL KYLE J. OSZEYCZIK ENGINEER PE057503

Kyle J. Oszeyczik, Project Manager

AUGUST 14, 2019
Date

RECOMMENDED DATE: 8/14/19
DISTRICT EXECUTIVE

RECOMMENDED DATE:
DEPUTY SECRETARY

APPROVED DATE:
SECRETARY OF TRANSPORTATION
(ON BEHALF OF THE GOVERNOR
AS WELL AS THE SECRETARY)

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 2 OF 134 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
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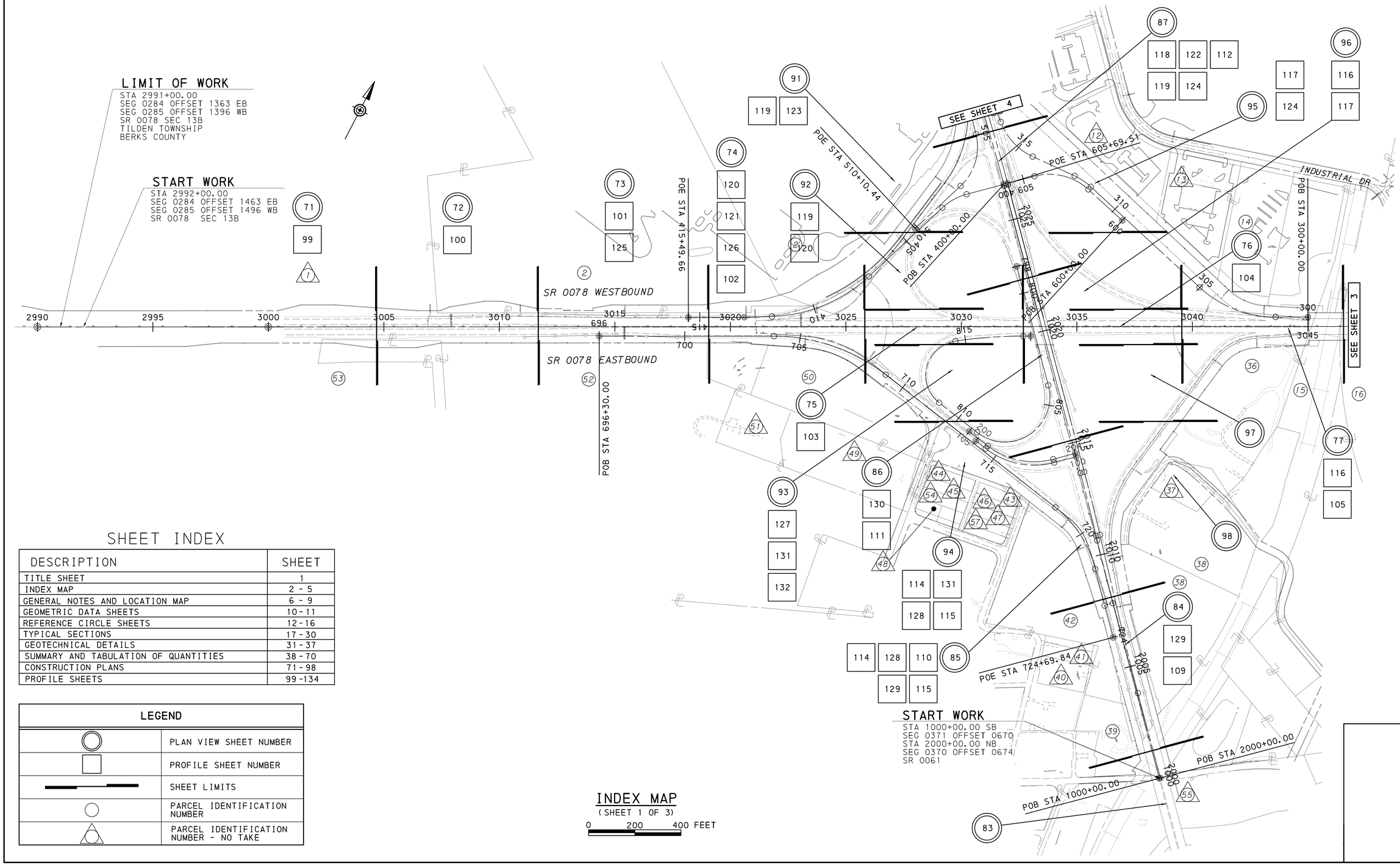
| | | | |




## SHEET INDEX



| DESCRIPTION | SHEET |
|---|---|
| TITLE SHEET | 1 |
| INDEX MAP | 2 - 5 |
| GENERAL NOTES AND LOCATION MAP | 6 - 9 |
| GEOMETRIC DATA SHEETS | 10 - 11 |
| REFERENCE CIRCLE SHEETS | 12 - 16 |
| TYPICAL SECTIONS | 17 - 30 |
| GEOTECHNICAL DETAILS | 31 - 37 |
| SUMMARY AND TABULATION OF QUANTITIES | 38 - 70 |
| CONSTRUCTION PLANS | 71 - 98 |
| PROFILE SHEETS | 99 -134 |



| LEGEND | |
|---|---|
| ◯ | PLAN VIEW SHEET NUMBER |
| □ | PROFILE SHEET NUMBER |
| ▬ | SHEET LIMITS |
| ◯ | PARCEL IDENTIFICATION NUMBER |
| △◯ | PARCEL IDENTIFICATION NUMBER - NO TAKE |

INDEX MAP
(SHEET 1 OF 3)
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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 3 OF 134 |
| TILDEN TOWNSHIP / HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
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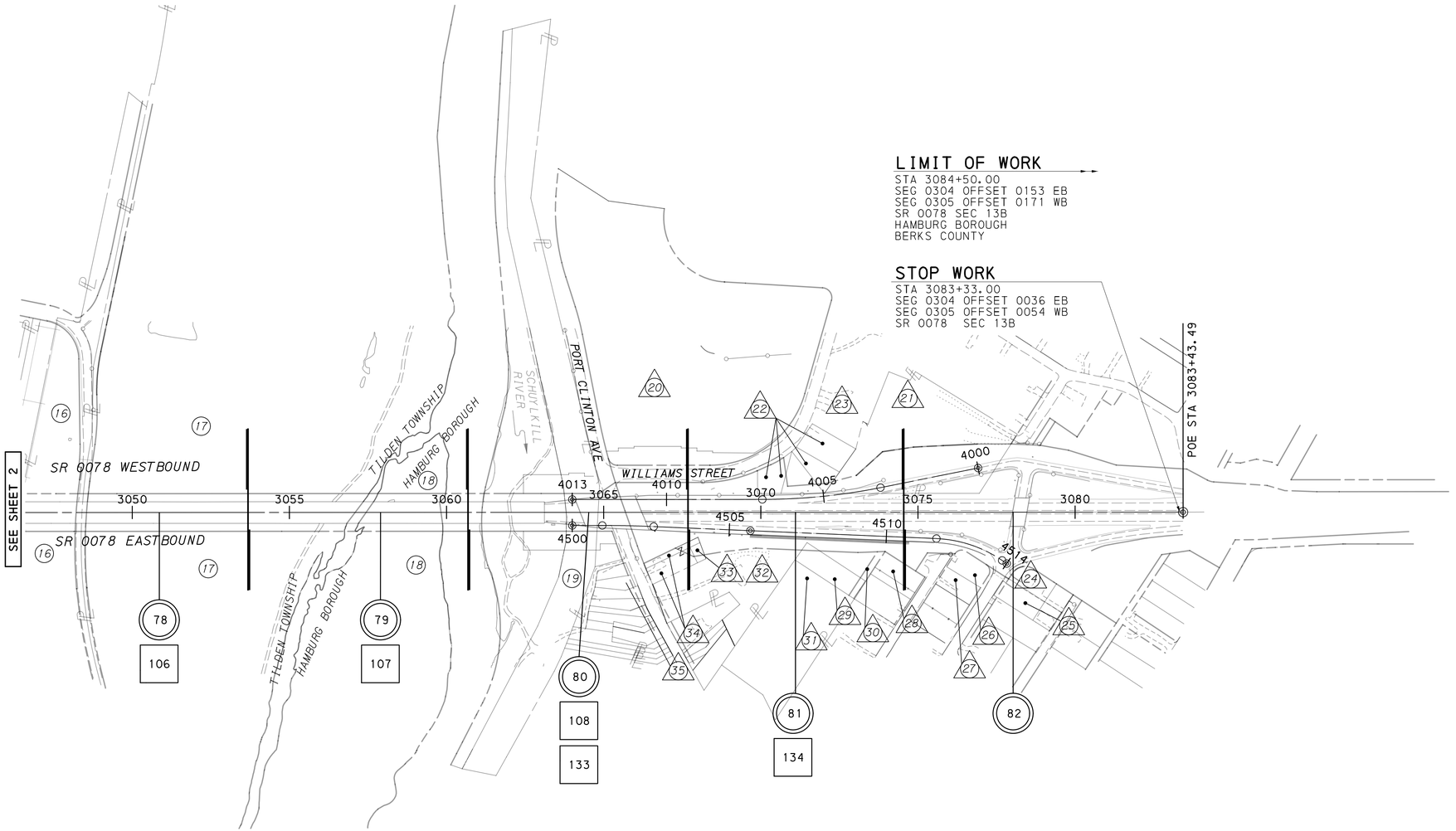


| LEGEND | |
|---|---|
| ◎ | PLAN VIEW SHEET NUMBER |
| □ | PROFILE SHEET NUMBER |
| ——— | SHEET LIMITS |
| ○ | PARCEL IDENTIFICATION NUMBER |
| △ | PARCEL IDENTIFICATION NUMBER - NO TAKE |

## INDEX MAP

(SHEET 2 OF 3)

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 9 OF 134 |
| TILDEN TOWNSHIP / HAMBURG BOROUGH | | | | |

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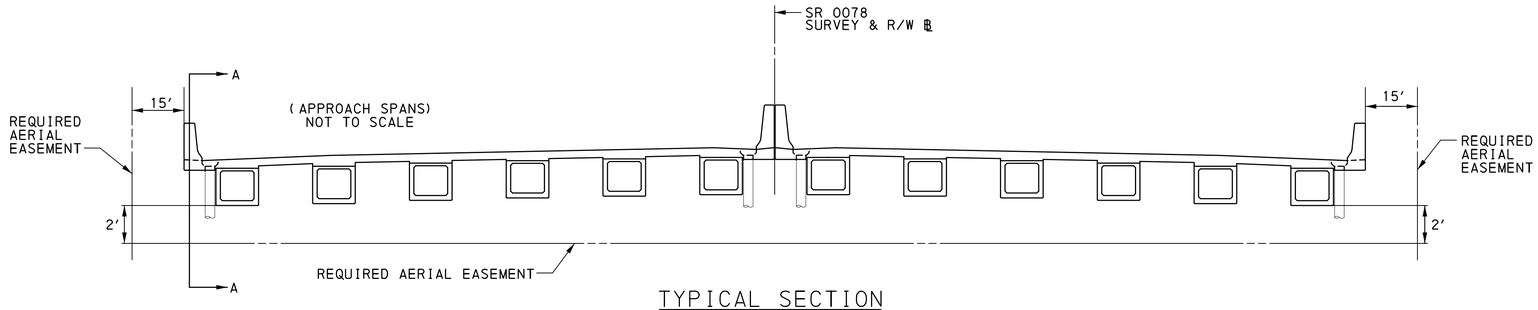
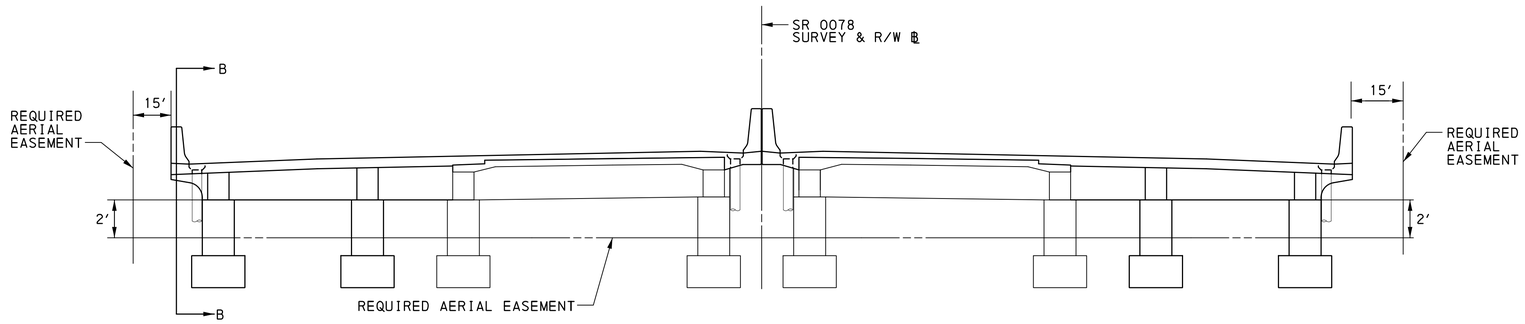


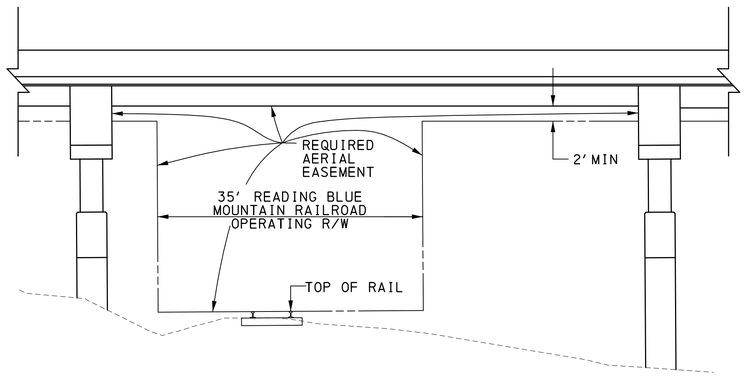

## TYPICAL SECTION
## SR 0078 OVER SCHUYLKILL RIVER, RBMN R/R & INDUSTRIAL DRIVE

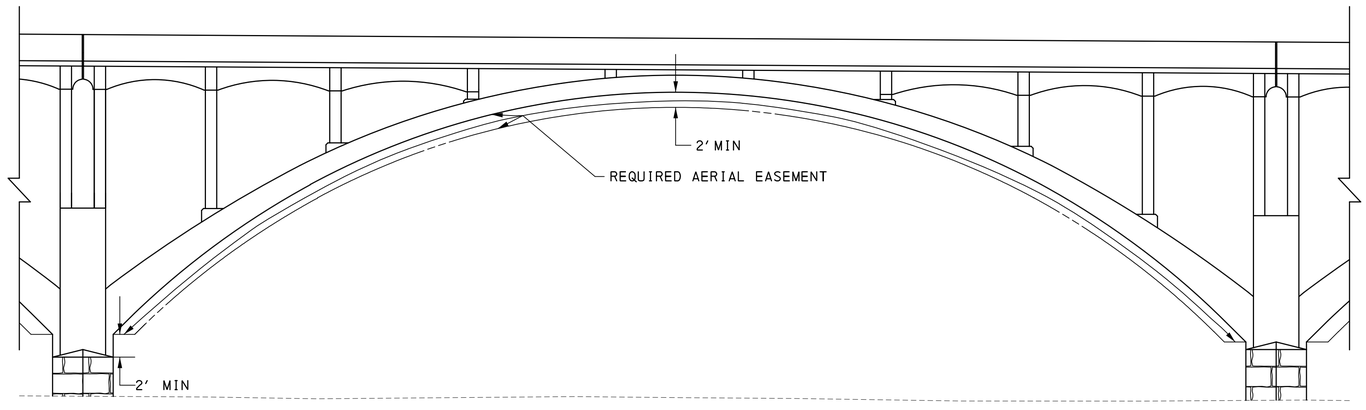
STA 3045+03.69 TO STA 3048+79.66
STA 3061+58.06 TO STA 3063+11.89
(APPROACH SPANS)
NOT TO SCALE




## TYPICAL SECTION
## SR 0078 OVER SCHUYLKILL RIVER, RBMN R/R & INDUSTRIAL DR.

STA 3048+79.66 TO STA 3061+58.06
(ARCH SPANS)
NOT TO SCALE




## ELEVATION A-A
(APPROACH SPANS)
NOT TO SCALE

## ELEVATION B-B
(ARCH SPANS)
NOT TO SCALE

SKETCHES SHOWING ESTATE TO BE ACQUIRED FOR A LIMITED AERIAL EASEMENT FROM STA. 3045+47.00 TO STA. 3062+45.00.

USE OF AIRSPACE BENEATH THE ESTABLISHED GRADELINE OF THE HIGHWAY SHALL PROVIDE SUFFICIENT VERTICAL AND HORIZONTAL CLEARANCES FOR THE CONSTRUCTION OPERATION, MAINTENANCE, VENTILATION AND SAFETY OF THE HIGHWAY FACILITY. THE ESTATE ACQUIRED ABOVE THE AERIAL EASEMENT LINE MAY BE ENTERED ON BY MOVING VEHICLES SUCH AS TRUCKS OR RAILROAD ROLLING STOCK.

## SCALE
0 25 50 FEET

AERIAL EASEMENT NOTES.

1) WHERE AN AERIAL EASEMENT IS ACQUIRED, IT SHALL INCLUDE AN EASEMENT IN THE AIR FOR THE ACCOMMODATION OF THE ELEVATED HIGHWAY STRUCTURE UNLIMITED IN VERTICAL DIMENSION ABOVE THE STRUCTURE, A SURFACE EASEMENT UNLIMITED IN VERTICAL DIMENSION FOR THE ACCOMMODATION OF PIERS AND OTHER APPURTENANCES AND A TEMPORARY EASEMENT FOR CONSTRUCTION PURPOSES INCLUDING THE STORAGE OF MATERIALS DURING CONSTRUCTION FOR THE ENTIRE AREA. THE FOLLOWING LIMITATIONS SHALL BE IMPOSED ON THE PROPERTY BENEATH THE AREA AFFECTED BY THE AERIAL EASEMENT.

2) NO USE SHALL BE MADE OF THE PROPERTY WHICH SHALL ENDANGER THE STRUCTURE OR THE HEALTH, SAFETY OR WELFARE OF THE TRAVELING PUBLIC.

3) NO FLAMMABLE, EXPLOSIVE, DANGEROUS OR HAZARDOUS MATERIAL SHALL BE USED, PLACED OR STORED ON THE PROPERTY.

4) NO BUILDING OR OTHER FACILITY SHALL BE CONSTRUCTED ON THE PROPERTY WITHOUT PRIOR AUTHORITY OF THE DEPARTMENT OF TRANSPORTATION. IF AND WHEN SUCH AUTHORITY IS GRANTED, THE PLANS FOR THE BUILDING OR FACILITY AND CONSTRUCTION METHODS SHALL BE SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION.

5) NO INTERFERENCE SHALL BE MADE WITH THE RIGHT OF THE DEPARTMENT OF TRANSPORTATION TO ENTER UPON THE PROPERTY FOR THE PURPOSES OF INSPECTION, MAINTENANCE, REPAIR, PAINTING, RECONSTRUCTION OR ALTERATION OF THE STRUCTURE OR APPURTENANCES. MOVEABLE ITEMS MAY HAVE TO BE REMOVED BY THE OWNER DURING SOME OR ALL OF THE ABOVE OPERATIONS.

6) ANY SUBSTANTIAL CHANGE IN PROPERTY USE TO BE MADE SUBSEQUENT TO THE ACQUISITION OF THE EASEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE DEPARTMENT OF TRANSPORTATION.

7) THE NOTES ON THESE DRAWINGS SHALL NOT BE CONSTRUED AS LIMITING OR INTERFERING IN ANY WAY WITH THE PRESENT AND FUTURE OPERATION, USE, MAINTENANCE, REPAIR, RENEWAL, CHANGE, ADDITION, BETTERMENT OR ALTERATION OF THE RAILROAD AND ITS SUPPORTING FACILITIES.

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 18 OF 134 |
| TILDEN TOWNSHIP /HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
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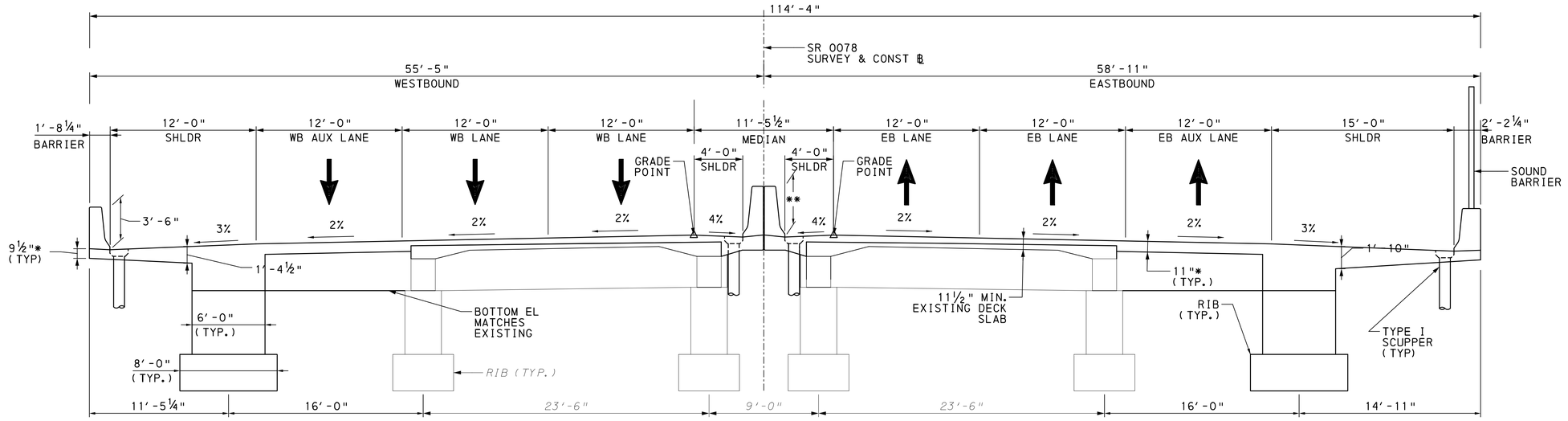
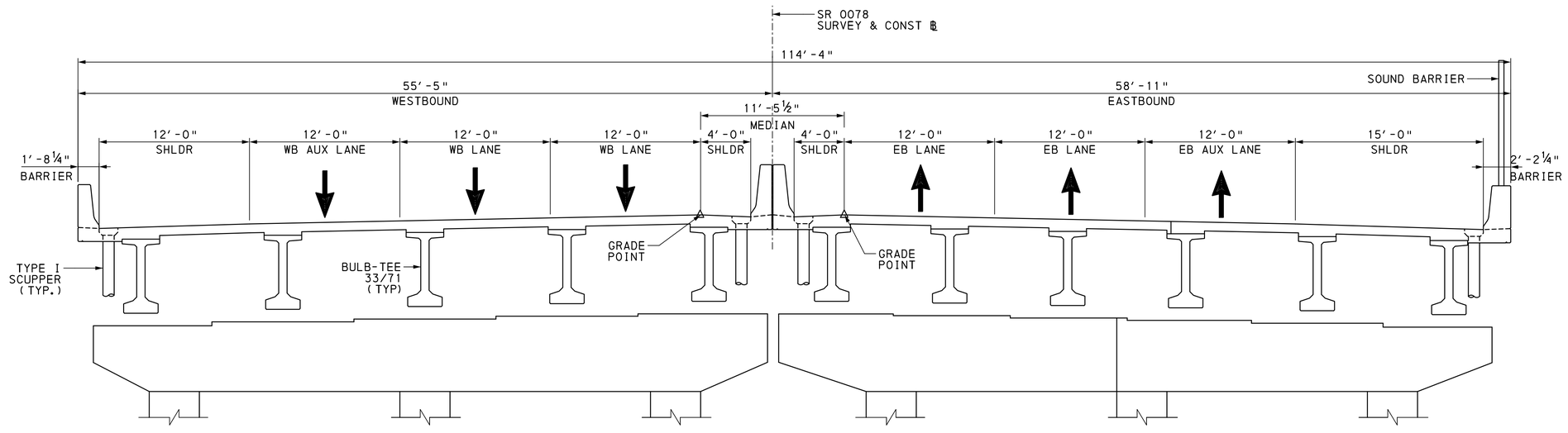



## TYPICAL SECTION

## SR 0078 OVER SCHUYLKILL RIVER, RBMN R/R & INDUSTRIAL DR.

STA 3048+83.16 TO STA 3061+54.49
( ARCH SPANS)
NOT TO SCALE




## SR 0078 OVER SCHUYLKILL RIVER, RBMN R/R & INDUSTRIAL DRIVE

STA 3044+99.66 TO STA 3048+83.16
STA 3061+54.49 TO STA 3063+06.99
( APPROACH SPANS)
NOT TO SCALE

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 77 OF 134 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 76

SEE SHEET 78

## RAMP C

PI STA 303+29.31
Δ = 42°46'46" RT
Dc = 11°48'49"
Rc = 485.00'
Lc = 362.12'
Ts = 189.97'
Es = 35.88'
SE = 6.00%
PC STA 301+39.34
PT STA 305+01.46
Curve C-1

SEE SHEET 96

SEE SHEET 97

SR 0078 WESTBOUND

SR 0078 EASTBOUND

RAMP C SURVEY & CONSTRUCTION ℄

EXISTING RAMP C (TO BE REMOVED)

EXISTING RAMP A (TO BE REMOVED)

RAMP C

SR 0078 SURVEY & CONSTRUCTION ℄

11-FES72

11-IN72

6-IN63

6-IN62

18" PIPE

ROCK EMBANKMENT

RIGHT-OF-WAY FENCE

REQUIRED SLOPE EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

DRAINAGE GALLERY

POB STA 300+00.00

OVERHEAD SIGN STRUCTURE

CONCRETE GLARE SCREEN

REMOVE GUIDERAIL

REQUIRED AERIAL EASEMENT

MET-ED 48756-45091 TO REMAIN

READING BLUE MOUNTAIN & NORTHERN RAILROAD COMPANY, A CORPORATION OF THE COMMONWEALTH OF PENNSYLVANIA

UNT W6 TO SCHUYLKILL RIVER

DENSE BRUSH AND TREES

RIPRAP

SCALE
0 25 50 FEET

SEE REFERENCE CIRCLES, SHEET 12, 14
SEE PROFILE SHEET 105,116
SURVEY BOOK NO. 24935, 24936, & 24937

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 78 OF 134 |
| TILDEN TOWNSHIP | | | | |

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|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 77

SEE SHEET 79

SSMH 7

10" PVC

LOW SHOULDER/NO PARKING 42'

LEGAL RIGHT-OF-WAY LINE FOR TOWNSHIP

LEGAL RIGHT-OF-WAY LINE FOR TOWNSHIP

WETLAND C

LEGAL TURN WITH SIDE ROAD RIGHT 200' NO PARKING

+70 135'

+30 145'

+38 144'

(17) COMMONWEALTH OF PENNSYLVANIA, ACTING BY AND THROUGH THE DEPARTMENT OF ENVIRONMENTAL RESOURCES

TEMPORARY CONSTRUCTION EASEMENT

△ TL12-67-103 366.410

(16) CARAC, INC. A PENNSYLVANIA CORPORATION

DENSE BRUSH AND TREES

△ TL12-67-101 392.380

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

DENSE BRUSH AND TREES

RIPRAP

SR 0078 WESTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

3047 3048 3049 3050 3051 3052 3053

12'

36'

4'

4'

36'

15'

UNDERGROUND UTILITIES

SR 0078 EASTBOUND

△ TL12-67-102 374.290

RIPRAP

WETLAND D

DBT

TRANSMISSION LINE TO BE RELOCATED BY OTHERS

NO PARKING THIS SIDE/NO PARKING

+51 75'

SPEED LIMIT 40 NO PARKING THIS SIDE/NO PARKING

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

(16) CARAC, INC. A PENNSYLVANIA CORPORATION

+47 135' +89 135' +47 150'

REQUIRED AERIAL EASEMENT

10" PVC

+75 135'

+51 135'

REQUIRED AERIAL EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

△ TL12-67-104 361.800

(17) COMMONWEALTH OF PENNSYLVANIA, ACTING BY AND THROUGH THE DEPARTMENT OF ENVIRONMENTAL RESOURCES

100-YR FLOODPLAIN BOUNDARY

33

SSMH

NG-WAY FOR OF TOWNSHIP

OF-WAY TOWNSHIP ROAD

OF-WAY WNSHIP

SEE PROFILE SHEET 106

SURVEY BOOK NO. 24935, 24936, & 24937

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 79 OF 134 |
| TILDEN TOWNSHIP /HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 78

SEE SHEET 80

(17) COMMONWEALTH OF PENNSYLVANIA, ACTING BY AND THROUGH THE DEPARTMENT OF ENVIRONMENTAL RESOURCES

(18) COMMONWEALTH OF PENNSYLVANIA

T-OF-WAY LINE
D ACCESS

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED AERIAL EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED AERIAL EASEMENT

+02 135′

+94 135′

+87 113′

+79 95′

+02 135′

SR 0078 WESTBOUND

SR 0078 EASTBOUND

12′

36′

4′

4′

36′

15′

3054 3055 3056 3057 3058 3059 3060

TELEGRAPH
374.710

TELEGRAPH
375.110

WETLAND A

SCHUYLKILL RIVER

+74 82′

+70 87′

+61 91′

+49 99′

+45 117′

+38 130′

+38 135′

+06 125′

+95 135′

+04 135′

+99 135′

+08 109′

+84 102′

+80 113′

+78 135′

TEMPORARY CONSTRUCTION EASEMENT

(17) COMMONWEALTH OF PENNSYLVANIA, ACTING BY AND THROUGH THE DEPARTMENT OF ENVIRONMENTAL RESOURCES

100-YR FLOODPLAIN BOUNDARY

REQUIRED AERIAL EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

(18) COMMONWEALTH OF PENNSYLVANIA

SEE PROFILE SHEET 107

SURVEY BOOK NO. 24935, 24936, & 24937

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 80 OF 134 |
| HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

TEMPORARY CONSTRUCTION EASEMENT
REQUIRED DRAINAGE EASEMENT
REQUIRED SLOPE EASEMENT
100-YR FLOODPLAIN BOUNDARY
GUY WIRE TO BE RELOCATED BY OTHERS
REQUIRED AERIAL EASMENT
REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS
REMOVE
30-IES200
TO REMAIN
INSTALL 30" LINER
POE STA 4013+00.00
CONCRETE GLARE SCREEN
END FULL DEPTH RECONSTRUCTION
STA 3067+00.00
SR 0078
WILLIAMS STREET
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
REMOVE EXISTING INLET. CONNECT PROPOSED PIPE TO EXSITING PIPE
SR 0078 WESTBOUND
SR 0078 SURVEY & CONSTRUCTION ℄
SR 0078 EASTBOUND
FILL AND ABANDON
31-IN209
31-IN211
31-IN213
31-IN206
31-IN207
31-IN208
31-IN205
31-IN204
31-IN203
31-IN210
31-IN212
31-IN202
32-IN216
32-IN218
32-IN217
32-IN215
REMOVE FENCE
TO BE RELOCATED
REMOVE ENDWALL
30-OES200
31-MH220
31-MH221
31-FES201
ROCK EMBANKMENT
ROCK APRON
MOMENT SLAB WITH TYPICAL CAST-IN-PLACE BARRIER WITH SOUND BARRIER
32-FES219
OVERHEAD SIGN STRUCTURE
BEGIN SHOULDER RECONSTRUCTION
STA 4503+00.00
SR 0078
REMOVE EXISTING INLET. CONNECT PROPOSED PIPE TO EXISTING PIPE.
RIPRAP
WETLAND
LEGAL SLOPE EASEMENT
SCHUYLKILL RIVER
WYNNEWOOD ASSOCIATES, A PENNSYLVANIA LIMITED PARTNERSHIP
THE BOROUGH OF HAMBURG
JAMES A. ADAM
DAVID L. KETNER

RAMP D
(N. 4TH ST. INTERCHANGE)

PI STA 4501+77.40
Δ = 2°29′24" RT
Dc = 1°31′11"
Rc = 3770.00′
Lc = 161.83′
Ts = 81.93′
Es = 0.89′
SE = NC
PC STA 4500+95.47
PT STA 4502+59.30
Curve D-1(4TH ST.)

SEE REFERENCE CIRCLES, SHEET 12
SEE PROFILE SHEET 108 & 133
SURVEY BOOK NO. 24935, 24936, & 24937

7/23/2019 1:58:19 PM
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User:Amanda.Dube
AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 105 OF 134 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 104

SEE SHEET 106

OVERHEAD ELECTRIC
SAG ELEV = 437.76'

OVERHEAD ELECTRIC
SAG ELEV = 436.19'
(NOT TO SCALE)

PVI STA 3043+00.00
ELEV 415.06
VC 300.00'
MO -0.43'
SSD 1083'
K 259.39

HIGH POINT STA 3042+88.75
ELEV 414.63

PVC

PVT

0.53%

-0.62%

18"

413.4
G-413.46

413.7
G-413.73

413.9
G-413.99

414.1
G-414.26

414.3
G-414.48

414.6
G-414.60

414.7
G-414.63

414.6
G-414.56

414.3
G-414.40

414.1
G-414.13

413.9
G-413.82

383.2
G-413.51

379.1
G-413.20

373.1
G-412.89

371.1
G-412.58

DATUM: 360

3040 +50 3041 +50 3042 +50 3043 +50 3044 +50 3045 +50 3046 +50 3047

PROFILE SR 0078

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

FOR PLAN, SEE SHEET 77

7/23/2019 2:01:08 PM
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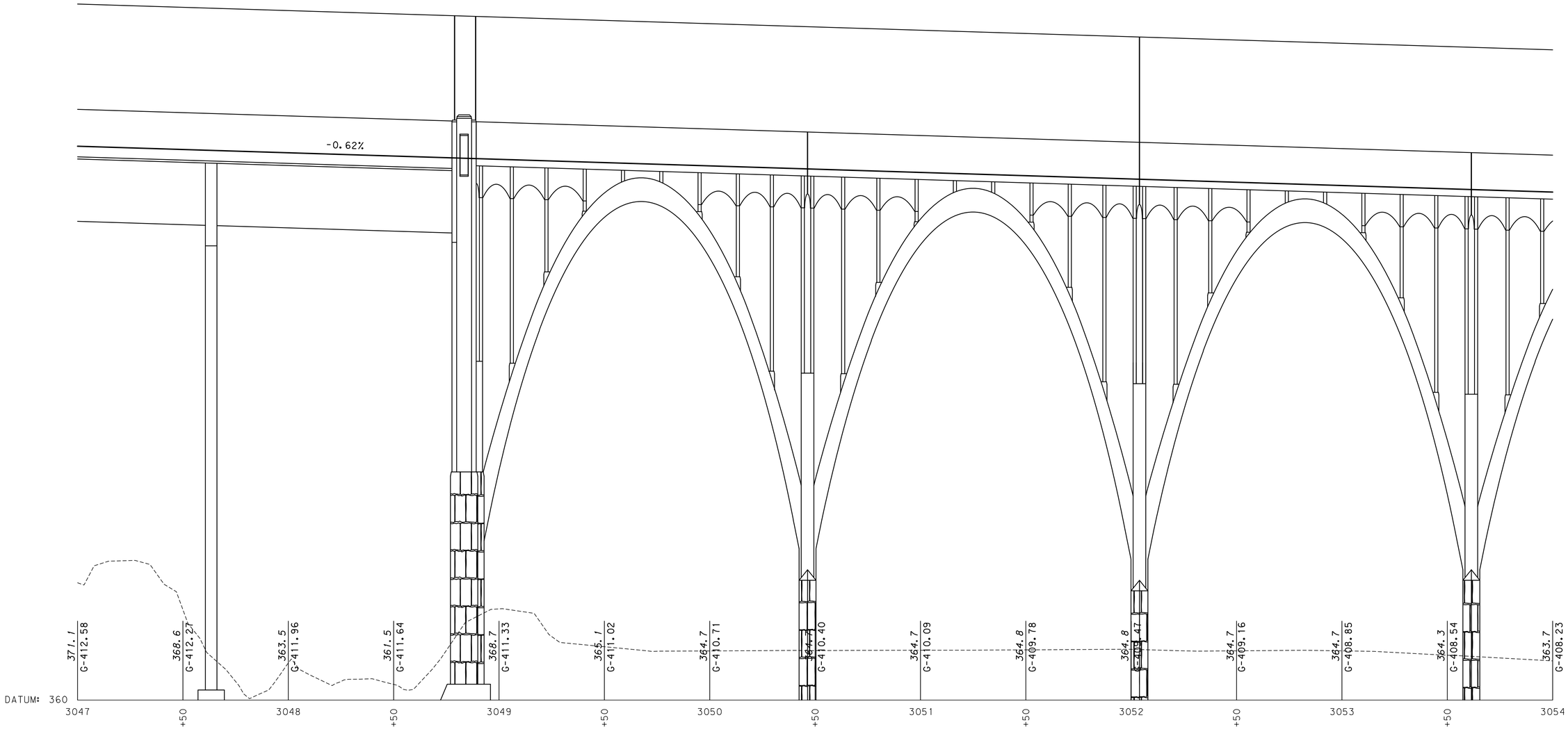
AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 106 OF 134 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 105

SEE SHEET 107




PROFILE SR 0078

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

FOR PLAN, SEE SHEET 78

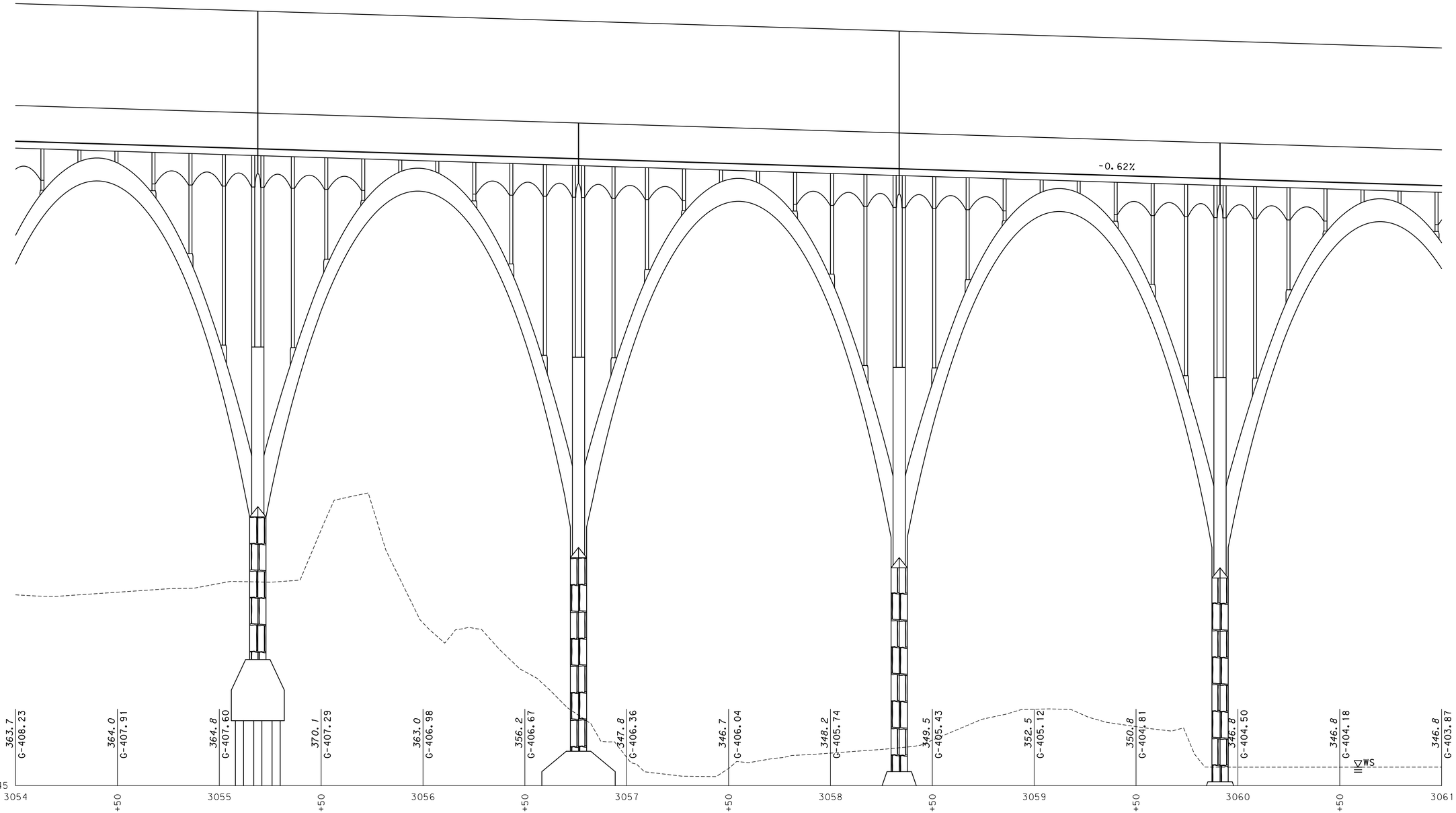
AECOM User:Amanda.Dube \\usphlfsp002\data\Projects\60284095 178-SR61\900 CADD\006_Civil\Sheets\RD-PPL-034.dgn 7/23/2019 2:01:09 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 107 OF 134 |
| TILDEN TOWNSHIP /HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 106

SEE SHEET 108




PROFILE SR 0078

HORIZONTAL 0 25 50 FEET

VERTICAL 0 5 10 FEET

FOR PLAN, SEE SHEET 79

7/23/2019 2:01:10 PM
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User:Amanda.Dube
AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 108 OF 134 |
| HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 107

PVI STA 3063+80.00
ELEV 402.13
VC 150.00'
MO 0.15'
HLSD 760'
K 188.86

**STOP WORK**
STA 3083+33.00
SEG 0304 OFFSET 0036 EB
SEG 0305 OFFSET 0054 WB
SR 0078 SEC 13B

**LIMIT OF WORK**
STA 3084+50.00
SEG 0304 OFFSET 0153 EB
SEG 0305 OFFSET 0171 WB
SR 0078 SEC 13B
HAMBURG BOROUGH
BERKS COUNTY

LOW POINT STA 3064+22.40
ELEV 402.23

I-78 EB AND WB
GRAPHIC GRADE

-0.62%
-0.62%
0.17%
PVC
PVT

18" RCP
18" RCP
18"
18" RCP

14'-6" MIN REQ'D
16'-5" PROVIDED
16'-8" EXISTING

PORT CLINTON AVENUE

FIBER OPTIC CABLE
(APPROXIMATE LOCATION)
ELECTRIC LINE
(APPROXIMATE LOCATION)
ABANDONED WATER MAIN
(APPROXIMATE LOCATION)
SANITARY SEWER LINE
(APPROXIMATE LOCATION)
TELEPHONE CABLES
(APPROXIMATE LOCATION)
8" DIP WATER MAIN
(APPROXIMATE LOCATION)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 346.8 | 349.3 | 356.0 | 357.5 | 391.0 | 395.1 | 402.2 | 402.1 | 394.7 | 393.4 | 388.3 | 379.6 | 374.4 | 374.6 | 377.6 | 388.0 | 402.7 | 402.8 | 402.9 | 403.0 | 403.4 | 404.0 |
| G-403.87 | G-403.56 | G-403.25 | G-402.94 | G-402.63 | G-402.60 | G-402.37 | G-402.25 | G-402.25 | G-402.26 | WB GG-402.33 EB GG-402.32 | WB GG-402.42 EB GG-402.40 | WB GG-402.47 EB GG-402.53 | WB GG-402.59 EB GG-402.63 | WB GG-402.72 EB GG-402.69 | WB GG-402.81 EB GG-402.73 | WB GG-402.90 EB GG-402.86 | WB GG-402.98 EB GG-403.04 | WB GG-403.12 EB GG-403.22 | WB GG-403.27 EB GG-403.33 | | |

DATUM: 350

3061 +50 3062 +50 3063 +50 3064 +50 3065 +50 3066 +50 3067 +50 3068

## PROFILE SR 0078

HORIZONTAL 0 25 50 FEET
VERTICAL 0 5 10 FEET

FOR PLAN, SEE SHEET 80

7/23/2019 2:01:11 PM \\uspnlfp0002\data\Projects\60284095 I78-SR61\900 CADD\006_Civil\Sheets\RD-PPI-036.dgn User:Amanda.Dube AECOM

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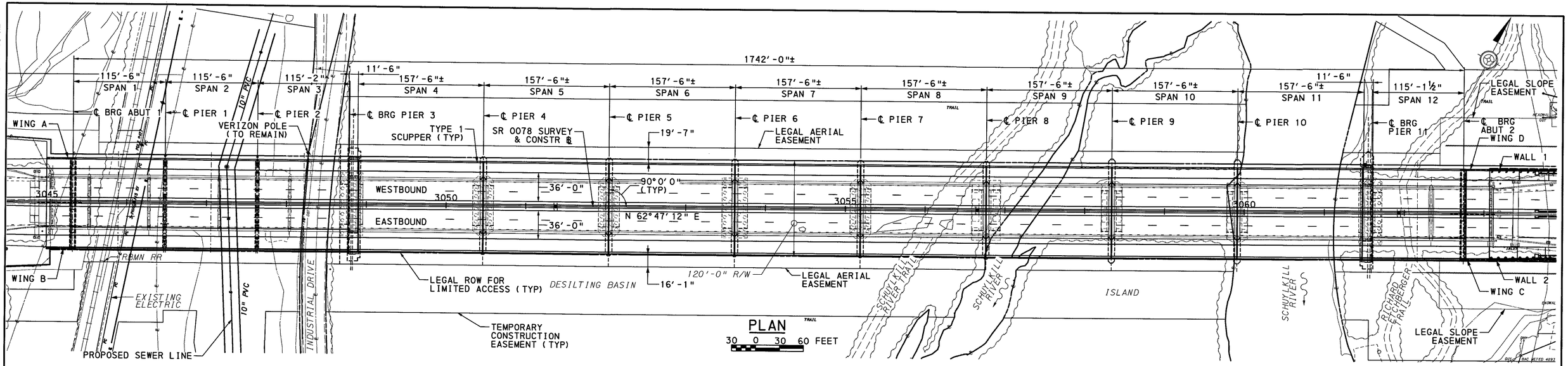
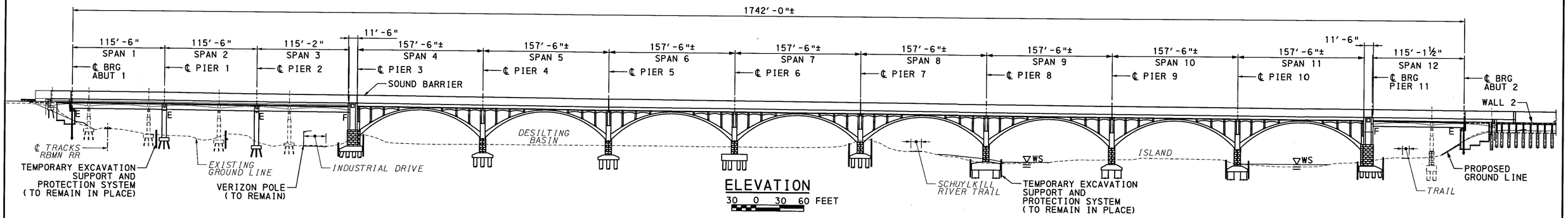



## PLAN

30 0 30 60 FEET




## ELEVATION

30 0 30 60 FEET

## NOTES:

1. FOR INDEX DRAWINGS, SEE SHEETS 7 AND 8.
2. FOR GENERAL NOTES, SEE SHEETS 13 THROUGH 16.

## HYDRAULIC DESIGN DATA

| | EXISTING | PROPOSED |
|---|---|---|
| LOW CHORD ELEV: | 396.47' | 396.47' |
| | | |
| DESIGN STORM: | 50 YEAR | 50 YEAR |
| DESIGN STORM DISCHARGE: | 36,807 CFS | 36,807 CFS |
| DESIGN STORM WSE: | 362.86 | 362.82 |
| DESIGN STORM VELOCITY: | 6.15 FPS | 6.14 FPS |
| | | |
| REGULATORY STORE: | 100 YEAR | 100 YEAR |
| REGULATORY DISCHARGE: | 43,395 CFS | 43,395 CFS |
| REGULATORY WSE: | 364.36 | 364.32 |
| REGULATORY VELOCITY: | 6.45 FPS | 6.43 FPS |
| | | |

DESIGN REVIEWED BY:
PENNONI ASSOCIATES INC.
672 SOUTH RIVER STREET, SUITE 313
PLAINS, PA 18705

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ROBERT LLOYD NAUGLE, JR. ENGINEER 047169-E

SIGNATURE & DATE 6/26/19

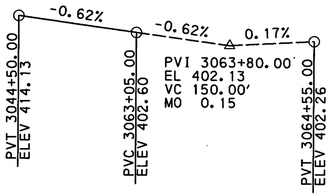
THE DESIGN REVIEW IS FOR GENERAL CONFORMANCE WITH THE DEPARTMENT'S DESIGN AND CONSTRUCTION CRITERIA AND STANDARDS AND IS NOT INTENDED TO RELIEVE THE DESIGNER OF FULL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF THE PLANS.

DES: AKS | DWN: SIB | CKD: KRC

## HORIZONTAL CURVE DATA

ON TANGENT
N 62° 47' 12"E

## VERTICAL CURVE DATA




## LEGEND:

- BORING LOCATION
- -200- EXISTING CONTOURS
- 200 PROPOSED CONTOURS
- DIRECTION OF TRAFFIC

FOR SUPPLEMENTAL DRAWINGS SEE SHEET 7

PREPARED BY:
T·Y LIN INTERNATIONAL
1 EDGEVIEW DRIVE
HACKETTSTOWN, NJ 07840

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ASIM K SENGUPTA Professional Engineer PE065336

08/26/2019
DATE:

PREPARED BY:
T·Y LIN INTERNATIONAL
100 DEERFIELD LANE
SUITE 260
MALVERN, PA 19355

COMMONWEALTH OF PENNSYLVANIA STEVEN R. MOCK ENGINEER

26 AUGUST 2019
DATE:

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
## DEPARTMENT OF TRANSPORTATION
## BERKS COUNTY
## S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

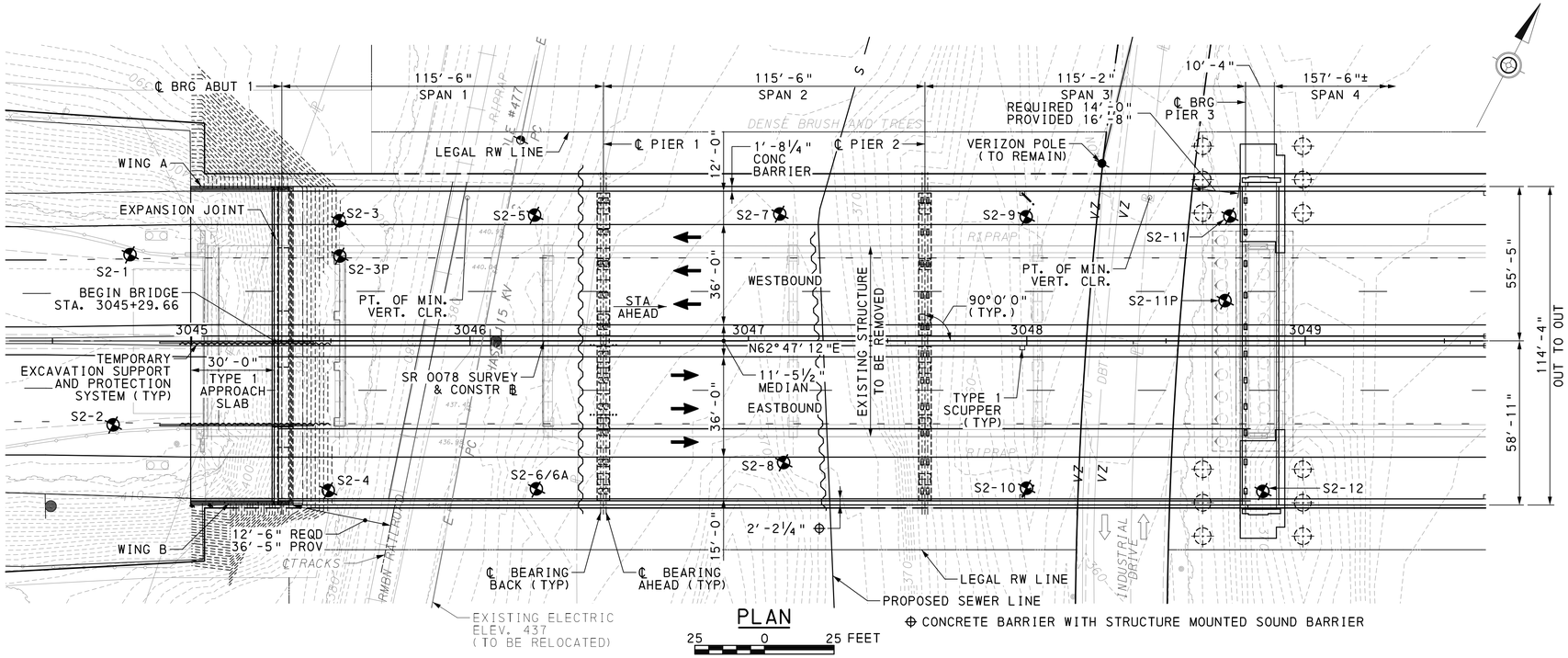
## GENERAL PLAN AND ELEVATION - 1

RECOMMENDED 08/30/2019
James J. Ruggi
ACTING CHIEF BRIDGE ENGINEER

SHEET 1 OF 295 & SUPPLEMENTAL DWGS.
S-38014

FILENAME: E02657-S38014-BR-GP-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:00:55 AM

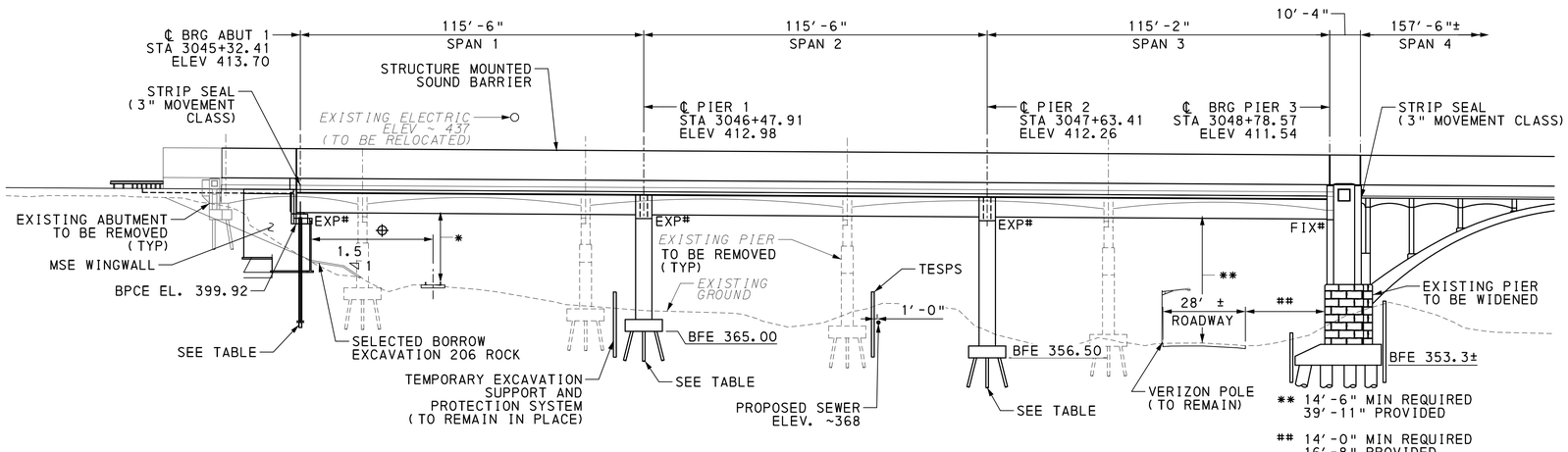



PLAN
25 0 25 FEET

| TEST BORING SCHEDULE | | | | | |
|---|---|---|---|---|---|
| NO. | STATION | OFFSET | NO. | STATION | OFFSET |
| S2-1 | 3044+78 | 31 L | S2-2 | 3044+72 | 30 R |
| S2-3 | 3045+58 | 42 L | S2-4 | 3045+51 | 55 R |
| S2-3P | 3045+58 | 29 L | S2-6 | 3046+29 | 55 R |
| S2-5 | 3046+28 | 44 L | S2-6A | 3046+29 | 52 R |
| S2-7 | 3047+16 | 44 L | S2-8 | 3047+22 | 45 R |
| S2-9 | 3048+05 | 43 L | S2-10 | 3048+05 | 54 R |
| S2-11 | 3048+78 | 43 L | S2-12 | 3048+99 | 56 R |
| S2-11P | 3048+78 | 13 L | S2-14 | 3050+47 | 54 R |
| S2-13 | 3050+47 | 42 L | S2-14A | 3050+47 | 52 R |
| S2-15 | 3052+04 | 42 L | S2-16 | 3052+05 | 54 R |
| S2-17 | 3053+62 | 41 L | S2-18 | 3053+62 | 54 R |
| S2-19 | 3055+19 | 42 L | S2-20 | 3055+25 | 54 R |
| S2-21 | 3056+70 | 59 L | S2-22 | 3056+77 | 54 R |
| S2-21P | 3056+70 | 57 L | S2-24 | 3058+39 | 54 R |
| S2-23 | 3058+39 | 50 L | S2-26 | 3059+79 | 58 R |
| S2-25 | 3059+87 | 44 L | S2-28 | 3061+54 | 55 R |
| S2-27 | 3061+54 | 47 L | S2-30 | 3062+35 | 55 R |
| S2-29 | 3062+35 | 43 L | S2-32 | 3063+47 | 30 R |
| S2-29P | 3062+33 | 39 L | | | |
| S2-29PA | 3062+30 | 32 L | | | |
| S2-31 | 3063+32 | 28 L | | | |

## NOTES:

1. FOR TOP OF ROCK ELEVATIONS, SEE STRUCTURE BORING LOGS ON SHEET XX.
2. SEE ARCH SHEETS FOR GENERAL PLAN & ELEVATION AND OTHER INFORMATION FOR SPANS 4 THROUGH 11, INCLUDING TEMPORARY SHEETING LOCATIONS.
3. REMOVE A MINIMUM OF 2′ OF EXISTING STRUCTURE BELOW EXISTING GRADE. SEE SPECIAL PROVISION 1018-0003.
4. FOR SELECTED BORROW EXCAVATION 206 ROCK SEE SPECIAL PROVISION 4205-0200.
5. FOR GENERAL NOTES, SEE SHEETS 13 THROUGH 16.




ELEVATION
25 0 25 FEET

\# BEARING TYPE - LAMINATED ELASTOMERIC BEARING

* 23′-0" MIN REQUIRED
23-10" PROVIDED

⊕ 12′-6" MIN REQUIRED
36′-5" PROVIDED

| EPTE TABLE | |
|---|---|
| SUBSTRUCTURE | EPTE (FT) |
| ABUTMENT 1 | 353.7 - 341.6 |
| PIER 1 | 341.9 - 342.9 |
| PIER 2 | 340.2 - 339.3 |
| ABUTMENT 2 | 333.1 - 342.0 |

EPTE = ESTIMATED PILE TIP ELEVATION

## LEGEND:

- BORING LOCATION
- 200 EXISTING CONTOURS
- 200 PROPOSED CONTOURS
- DIRECTION OF TRAFFIC
- TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM (FOR INFORMATION ONLY)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# GENERAL PLAN AND ELEVATION - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 2 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: KRC

FILENAME: E02657-S38014-BR-GP-02.dgn
OPERATOR: ASengupta

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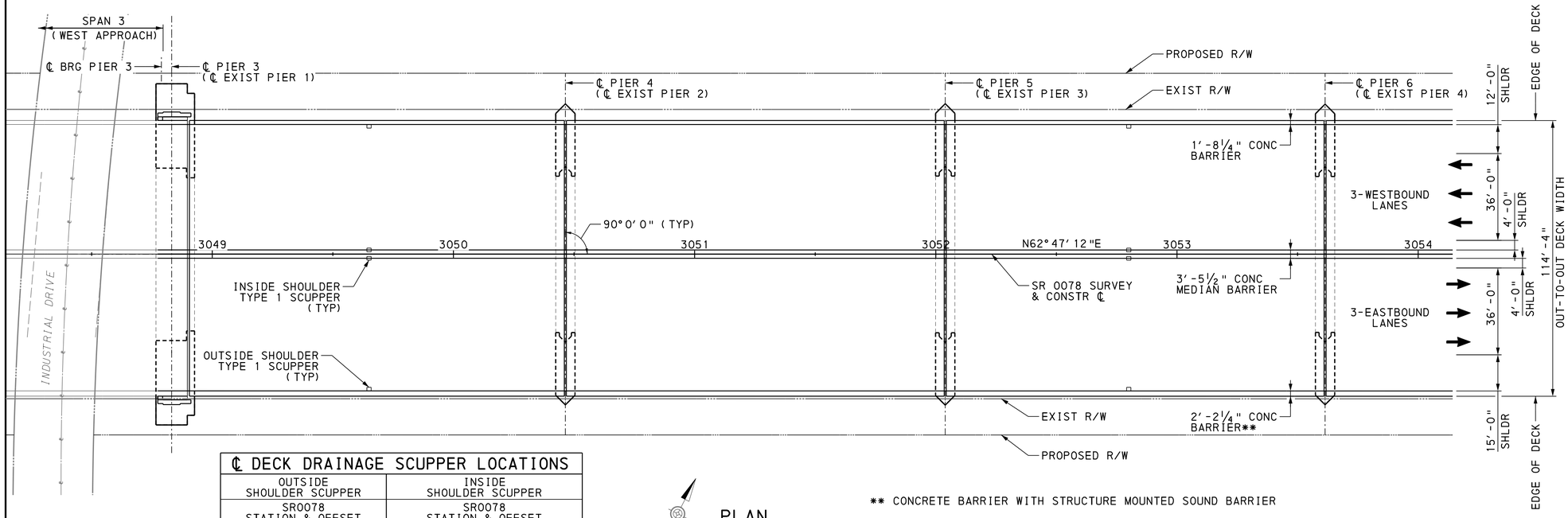
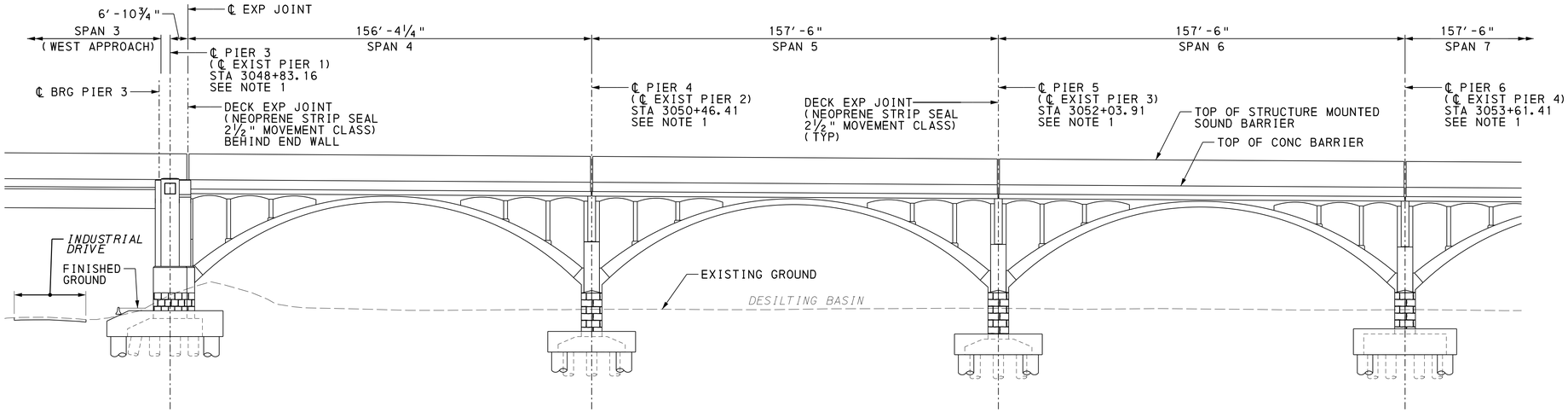



| ℄ DECK DRAINAGE SCUPPER LOCATIONS | |
|---|---|
| OUTSIDE SHOULDER SCUPPER | INSIDE SHOULDER SCUPPER |
| SR0078 STATION & OFFSET | SR0078 STATION & OFFSET |
| 3049+65, 53′LT & 56′RT | 3049+65, 1.75′LT & 1.75′RT |
| 3052+80, 53′LT & 56′RT | 3052+80, 1.75′LT & 1.75′RT |
| 3055+78, 53′LT & 56′RT | 3055+95, 1.75′LT & 1.75′RT |
| 3058+92, 53′LT & 56′RT | 3059+09, 1.75′LT & 1.75′RT |

SEE NOTES 2 & 3

PLAN

** CONCRETE BARRIER WITH STRUCTURE MOUNTED SOUND BARRIER




ELEVATION

## NOTES:

1. STATIONING SHOWN IS BASED ON PROJECT SURVEY. CONTRACTOR TO VERIFY AND CONFIRM STATIONING PRIOR TO CONSTRUCTION.
2. INSIDE SHOULDER SCUPPER STATIONING MAY BE ADJUSTED TO ALLOW SUFFICIENT INSTALLATION CLEARANCE BETWEEN SCUPPER DOWNSPOUT AND THE ARCH RIB BELOW DECK, SEE TYPICAL SECTION SHEETS.
3. MAX LONGITUDINAL SPACING BETWEEN ADJACENT SCUPPERS NOT TO EXCEED 315 FEET.

LEGEND:

➔ DIRECTION OF TRAFFIC

25 0 25 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
STRUCTURAL PLAN & ELEVATION - 1

RECOMMENDED 08/30/2019

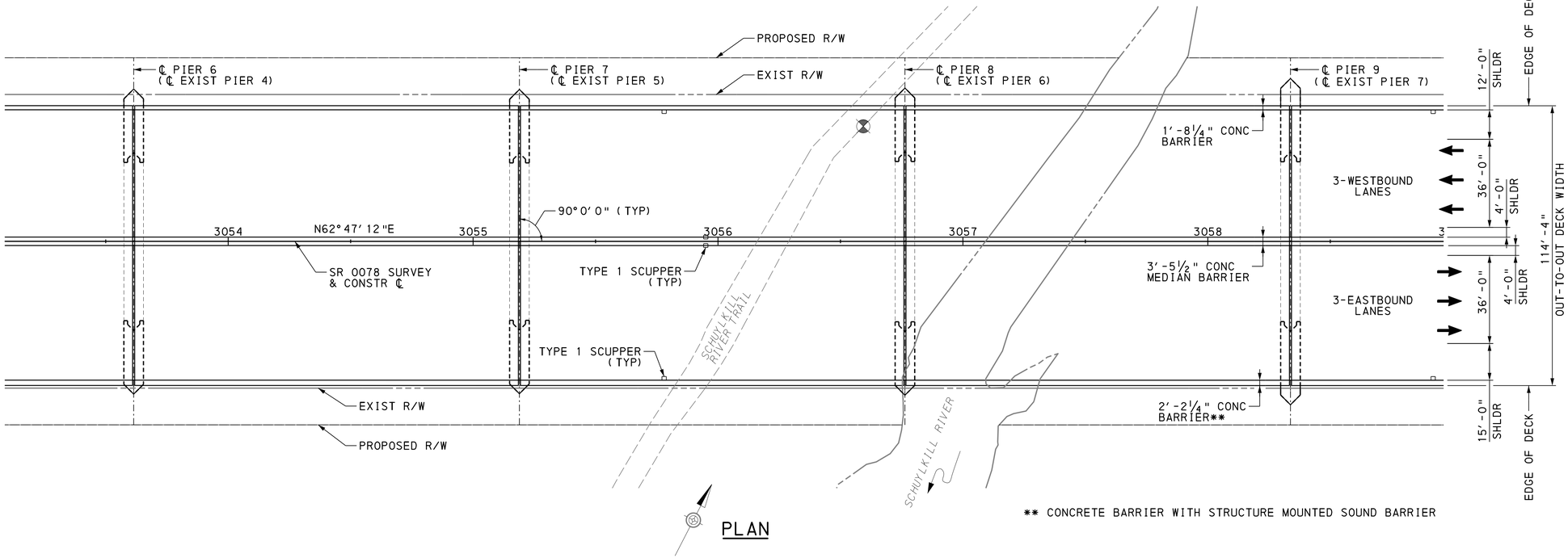
SHEET 3 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-ST-001.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:51:24 PM



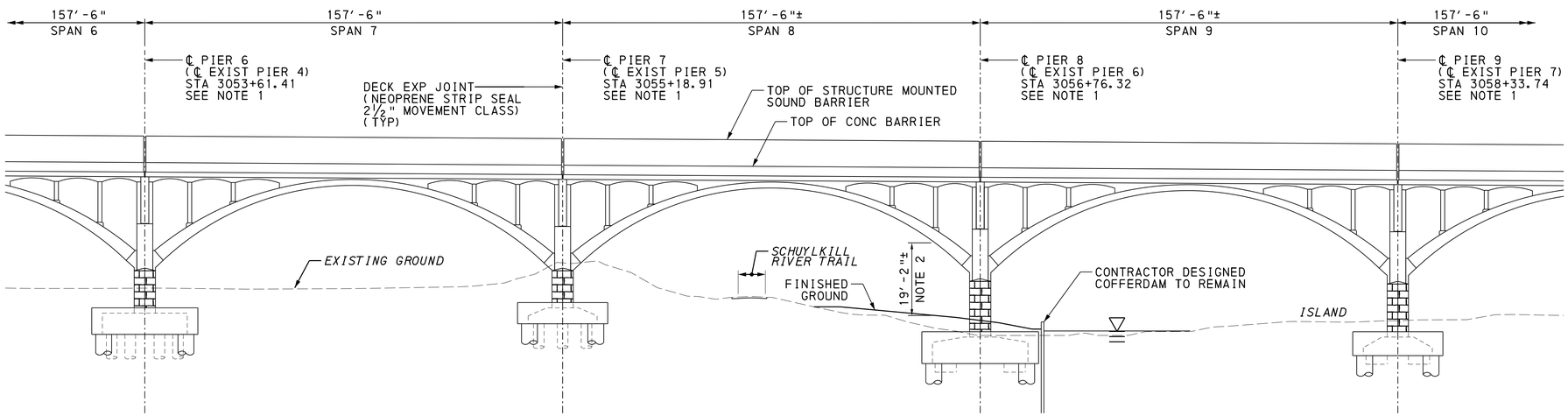

PLAN

** CONCRETE BARRIER WITH STRUCTURE MOUNTED SOUND BARRIER

LEGEND:

→ DIRECTION OF TRAFFIC

⊗ MINIMUM VERTICAL CLEARANCE LOCATION




25 0 25 FEET

ELEVATION

## NOTES:

1. STATIONING SHOWN IS BASED ON PROJECT SURVEY. CONTRACTOR SHALL VERIFY AND CONFIRM STATIONING PRIOR TO CONSTRUCTION.
2. APPROXIMATE MINIMUM VERTICAL CLEARANCE TO SCHUYLKILL RIVER TRAIL.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
STRUCTURAL PLAN & ELEVATION - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

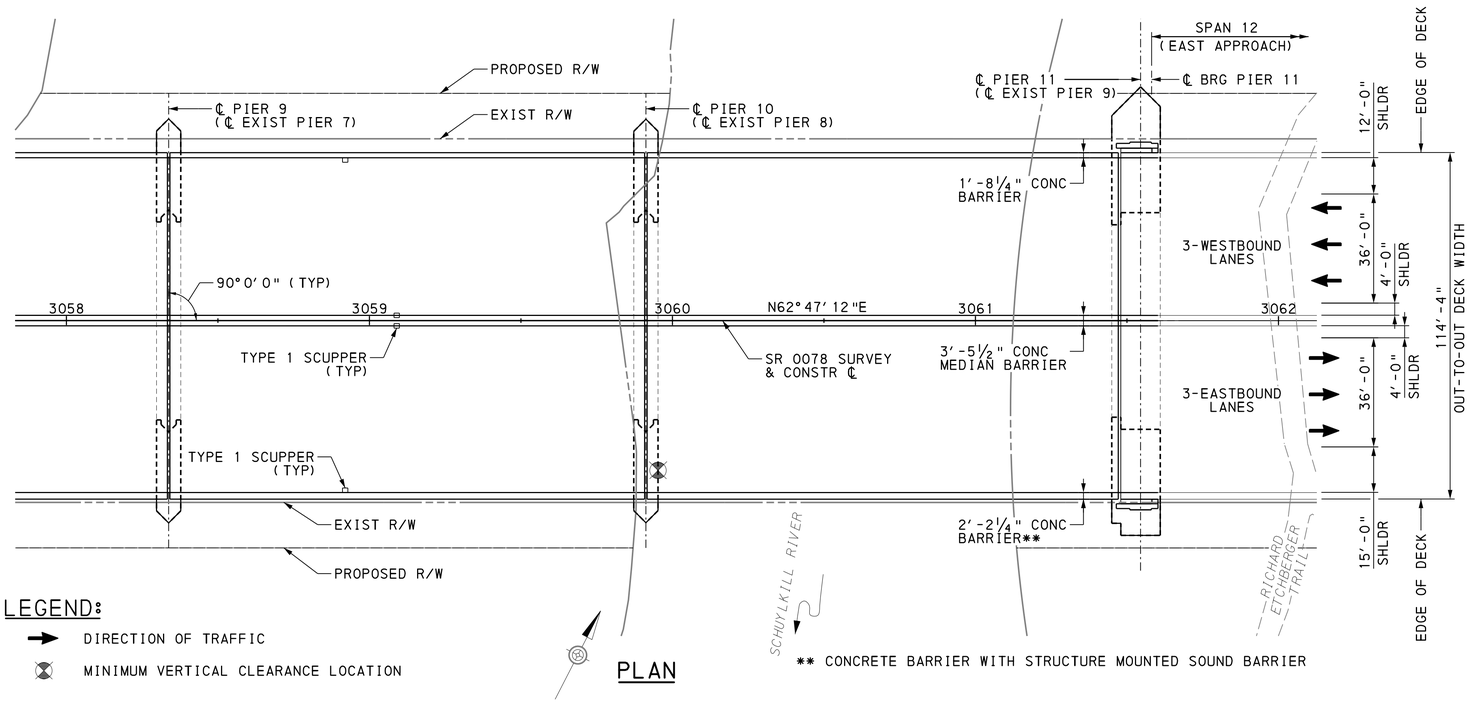
SHEET 4 OF 295

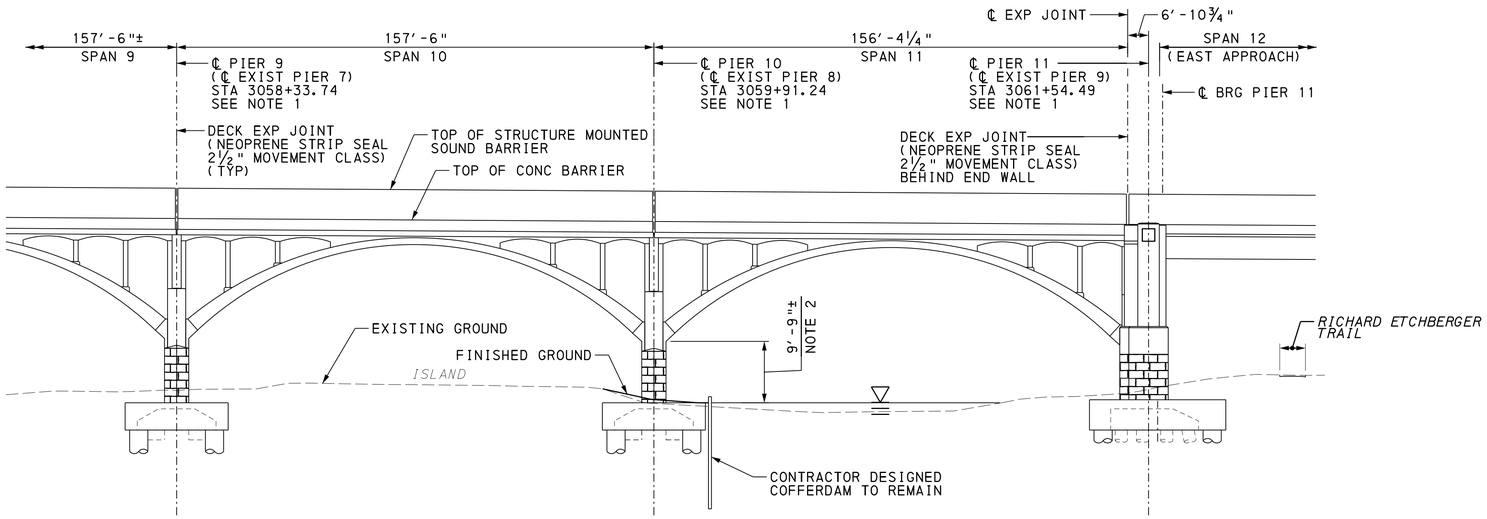
S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-ST-002.dgn
OPERATOR: TYLIPWO1ICSO1

PLOTTED: 8/26/2019 4:54:19 PM




## NOTES:

1. STATIONING SHOWN IS BASED ON PROJECT SURVEY. CONTRACTOR SHALL VERIFY AND CONFIRM STATIONING PRIOR TO CONSTRUCTION.
2. APPROXIMATE MINIMUM VERTICAL CLEARANCE TO ESTIMATED WATER LEVEL DURING CONSTRUCTION.

25 0 25 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
STRUCTURAL PLAN & ELEVATION - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

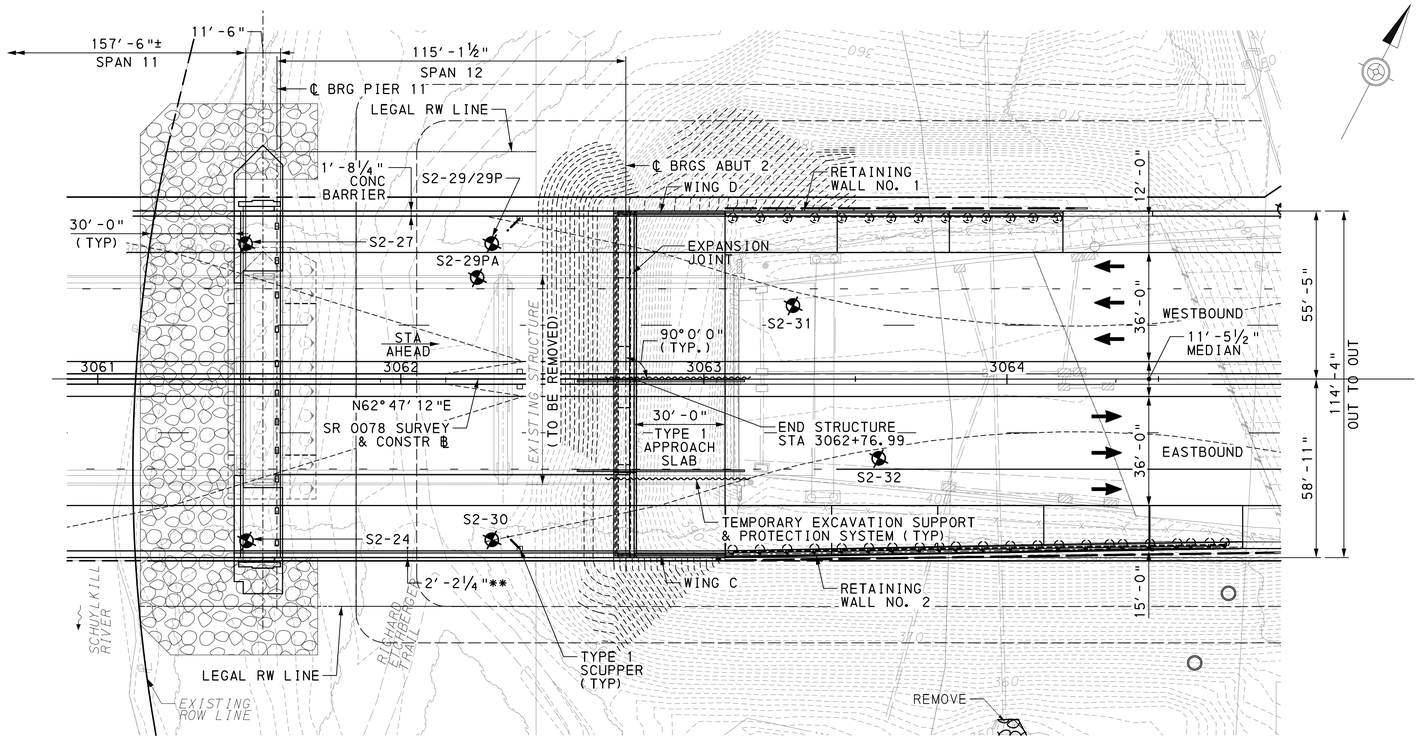
RECOMMENDED 08/30/2019

SHEET 5 OF 295

S-38014

FILENAME: E02657-S38014-BR-ST-003.dgn
OPERATOR: TYLIPW01ICS01$

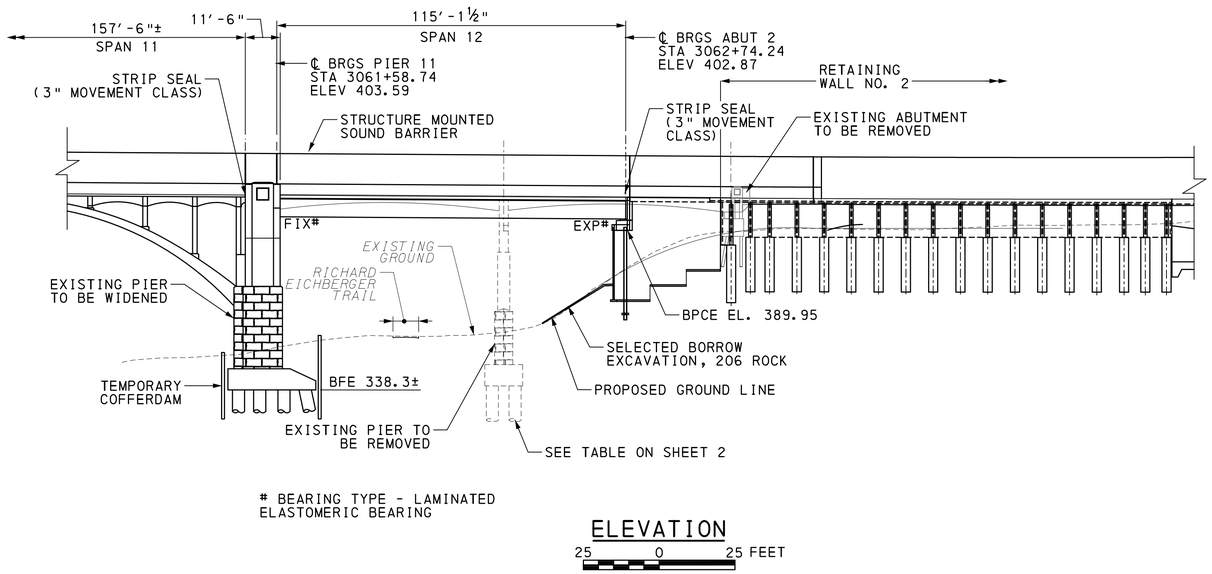
PLOTTED: 8/27/2019 9:01:04 AM




** CONCRETE BARRIER WITH STRUCTURE MOUNTED SOUND BARRIER

PLAN

25 0 25 FEET




# BEARING TYPE - LAMINATED ELASTOMERIC BEARING

ELEVATION

25 0 25 FEET

## NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 13 THROUGH 16.
2. FOR TOP OF ROCK ELEVATIONS SEE STRUCTURE BORING LOGS ON SHEET XX.

## LEGEND:

- BORING LOCATION
- 200 EXISTING CONTOURS
- 200 PROPOSED CONTOURS
- DIRECTION OF TRAFFIC
- TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM (FOR INFORMATION ONLY)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
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12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

GENERAL PLAN AND ELEVATION - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 6 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: KRC

FILENAME: E02657-S38014-BR-GP-05.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:01:12 AM

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## SUPPLEMENTAL DRAWINGS

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|---|---|---|
| CLASSIFICATION OF EARTHWORK FOR STRUCTURES | RC-11M | JUNE 1, 2010 |
| TEMPORARY CONCRETE BARRIER, STRUCTURE MOUNTED | BC-719M | JAN. 31, 2019 |
| ELECTRICAL DETAILS | BC-721M | SEPT. 30, 2016 |
| LIGHTING POLE ANCHORAGE | BC-722M | SEPT. 30, 2016 |
| PERMANENT METAL DECK FORMS | BC-732M | JAN. 31, 2019 |
| ANCHOR SYSTEMS | BC-734M | JAN. 31, 2019 |
| WALL CONSTR. & EXP. JOINT DETAILS | BC-735M | SEPT. 30, 2016 |
| REINFORCEMENT BAR FABRICATION DETAILS | BC-736M | JAN. 31, 2019 |
| BRIDGE BARRIER TO GUIDE RAIL TRANSITION | BC-739M | JAN. 31, 2019 |
| BRIDGE DRAINAGE | BC-751M | JAN. 31, 2019 |
| CONCRETE DECK SLAB DETAILS | BC-752M | SEPT. 30, 2016 |
| BEARINGS | BC-755M | JAN. 31, 2019 |
| STEEL PILE TIP REINFORCEMENTS & SPLICES | BC-757M | SEPT. 30, 2016 |
| PREFORMED NEOPRENE COMPRESSION SEAL JOINT FOR APPROACH SLABS | BC-766M | JAN. 31, 2019 |
| NEOPRENE STRIP SEAL DAM FOR PRESTRESSED CONCRETE & STEEL I-BEAM BRIDGES | BC-767M | JAN. 31, 2019 |
| PRESTRESSED CONCRETE BEAM BRACING | BC-772M | SEPT. 30, 2016 |
| MISCELLANEOUS PRESTRESSED DETAILS | BC-775M | SEPT. 30, 2016 |
| STRUCTURE MOUNTED SOUND BARRIER WALLS | BC-779M | JAN. 31, 2019 |
| REINFORCED CONCRETE REPAIR | BC-783M | JAN. 31, 2019 |
| TYPICAL WATERPROOFING AND EXPANSION DETAILS | BC-788M | JAN. 31, 2019 |
| MECHANICALLY STABILIZED EARTH RETAINING WALLS | BC-799M | JAN. 31, 2019 |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

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APPROACH SPANS 1-3 AND 12

INDEX OF DRAWINGS - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 7 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-S38014-ID-01.dgn
OPERATOR: ASengupta

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| 218 | ARCH SPANS REHAB & WIDENING - SUPERSTRUCTURE DETAILS - 1 |
| 219 | ARCH SPANS REHAB & WIDENING - SUPERSTRUCTURE DETAILS - 2 |
| 220 | ARCH SPANS REHAB & WIDENING - SUPERSTRUCTURE DETAILS - 3 |
| 221 | ARCH SPANS REHAB & WIDENING - FLOORBEAM DETAILS |
| 222 | ARCH SPANS REHAB & WIDENING - NEW SPANDREL BEAM LAYOUT |
| 223 | ARCH SPANS REHAB & WIDENING - NEW SPANDREL BEAM DETAILS |
| 224 | ARCH SPANS REHAB & WIDENING - RECONSTRUCTED SPANDREL BEAM DETAILS |
| 225 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 1 |
| 226 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 2 |
| 227 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 3 |
| 228 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 4 |
| 229 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 5 |
| 230 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 6 |
| 231 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 7 |
| 232 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 8 |
| 233 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 9 |
| 234 | ARCH SPANS REHAB & WIDENING - DECK DETAILS - 10 |
| 235 | ARCH SPANS REHAB & WIDENING - BAR SCHEDULE 15 |
| 236 | ARCH SPANS REHAB & WIDENING - BAR SCHEDULE 16 |
| 237 | ARCH SPANS REHAB & WIDENING - BAR SCHEDULE 17 |
| | |
| 238 | ARCH SPANS REHAB & WIDENING - THICKENED OVERHANG DECK DETAILS - 1 |
| 239 | ARCH SPANS REHAB & WIDENING - THICKENED OVERHANG DECK DETAILS - 2 |
| | |
| 240 | ARCH SPANS REHAB & WIDENING - REHAB LAYOUT PLAN & ELEVATION |
| 241 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 1 |
| 242 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 2 |
| 243 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 3 |
| 244 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 4 |
| 245 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 5 |
| 246 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 6 |
| 247 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 7 |
| 248 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 8 |
| 249 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 9 |
| 250 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 10 |
| 251 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 11 |
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| SHEET NO. | DESCRIPTION |
|---|---|
| 252 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 12 |
| 253 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 13 |
| 254 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 14 |
| 255 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 15 |
| 256 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 16 |
| 257 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 17 |
| 258 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 18 |
| 259 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 19 |
| 260 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 20 |
| 261 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 21 |
| 262 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 22 |
| 263 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 23 |
| 264 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 24 |
| 265 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 25 |
| 266 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 26 |
| 267 | ARCH SPANS REHAB & WIDENING - REHAB SCHEDULE - 27 |
| 268 | ARCH SPANS REHAB & WIDENING - TYPE R1 & R2 TEMP SUPPORT |
| 269 | ARCH SPANS REHAB & WIDENING - TYPE R1 REPAIR DETAILS |
| 270 | ARCH SPANS REHAB & WIDENING - TYPE R2 REPLACEMENT DETAILS |
| | |
| 271 | ARCH SPANS REHAB & WIDENING - EXPANSION JOINT DETAILS - 1 |
| 272 | ARCH SPANS REHAB & WIDENING - EXPANSION JOINT DETAILS - 2 |
| | |
| 273 | ARCH SPANS REHAB & WIDENING - BARRIER DETAILS |
| | |
| 274 | ARCH SPANS REHAB & WIDENING - CIP FALSEWORK SCHEMATIC - 1 |
| 275 | ARCH SPANS REHAB & WIDENING - CIP FALSEWORK SCHEMATIC - 2 |
| | |
| 276 | STRUCTURAL BORING SHEET - 1 |
| 277 | STRUCTURAL BORING SHEET - 2 |
| 278 | STRUCTURAL BORING SHEET - 3 |
| 279 | STRUCTURAL BORING SHEET - 4 |
| 280 | STRUCTURAL BORING SHEET - 5 |
| 281 | STRUCTURAL BORING SHEET - 6 |
| 282 | STRUCTURAL BORING SHEET - 7 |
| 283 | STRUCTURAL BORING SHEET - 8 |
| 284 | STRUCTURAL BORING SHEET - 9 |
| 285 | STRUCTURAL BORING SHEET - 10 |
| 286 | STRUCTURAL BORING SHEET - 11 |
| 287 | STRUCTURAL BORING SHEET - 12 |
| 288 | STRUCTURAL BORING SHEET - 13 |
| 289 | STRUCTURAL BORING SHEET - 14 |
| 290 | STRUCTURAL BORING SHEET - 15 |
| 291 | STRUCTURAL BORING SHEET - 16 |
| 292 | STRUCTURAL BORING SHEET - 17 |
| 293 | STRUCTURAL BORING SHEET - 18 |
| | |
| | |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING
INDEX OF DRAWINGS - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 8 OF

S-38014

DES: CL | DWN: TK | CKD: SC

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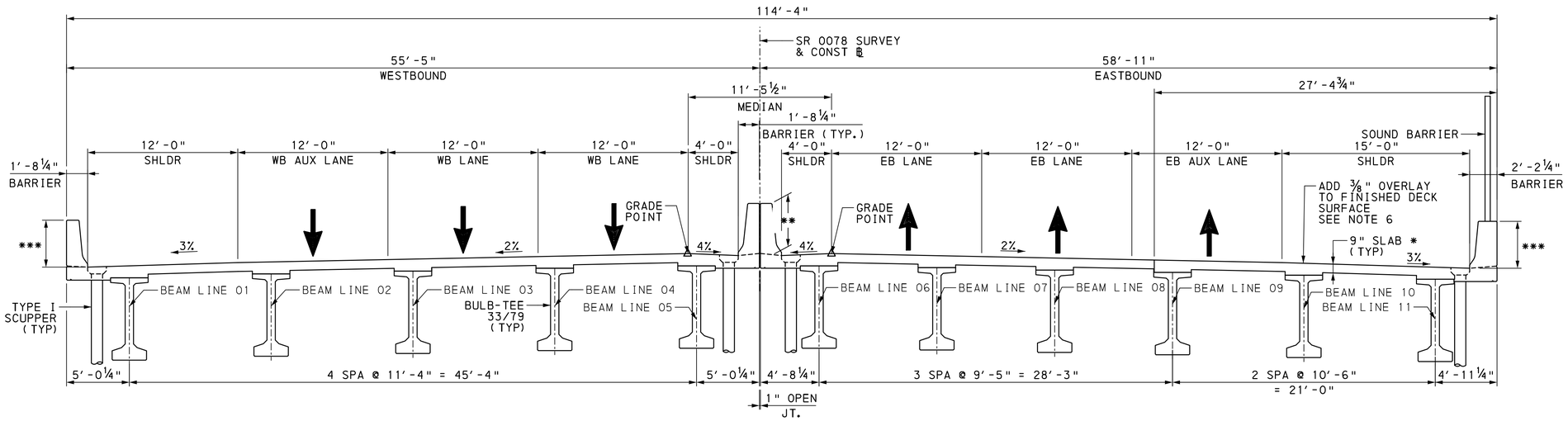


## TYPICAL SECTION (WEST APPROACH SPANS)

2.5 0 2.5 5 FEET

* INCLUDES ½" INTEGRAL WEARING SURFACE
** 4′-2" GLARE SCREEN MEDIAN BARRIER
*** 3′-9" CONCRETE FASCIA BARRIER

## TABLE 1 - WEST APPROACH SPANS W/ FWS

CURRENT ADTT = 6052 (ONE-DIRECTIONAL)
DESIGN YEAR ADTT = 16812 (ONE-DIRECTIONAL)

| | | H20 | HS20 | ML-80 | TK-527 | PHL-93 | P-82 |
|---|---|---|---|---|---|---|---|
| INVENTORY RATING (IR) | DIST. FACTOR | 1.251 | 1.251 | 1.251 | 1.251 | 1.251 | - |
| | LOCATION | 57.25 (1) | 57.25 (1) | 57.25 (1) | 57.25 (1) | 57.25 (1) | - |
| | ELEMENT | B05 | B05 | B05 | B05 | B05 | - |
| | LIMIT STATE | SERV-III | SERV-III | SERV-III | SERV-III | SERV-III | - |
| | RATING FACTOR | 1.40 (M) | 1.24 (M) | 1.11 (M) | 1.08 (M) | 1.07 (M) | - |
| OPERATING RATING (OR) | DIST. FACTOR | 1.023 | 1.023 | 1.023 | 1.023 | 1.094 | 1.023 |
| | LOCATION | 0.00 (2) | 76.50 (1) | 76.50 (1) | 76.50 (1) | 0.00 (2) | 76.50 (1) |
| | ELEMENT | B05 | B05 | B05 | B05 | B05 | B05 |
| | LIMIT STATE | STR-II | STR-II | STR-II | STR-II | STR-IA | STR-II |
| | RATING FACTOR | 2.25 (S) | 2.18 (S) | 1.99 (S) | 1.91 (S) | 1.40 (M) | 1.04 (S) |

## TABLE 2 - WEST APPROACH SPANS W/O FWS

CURRENT ADTT = 6052 (ONE-DIRECTIONAL)
DESIGN YEAR ADTT = 16812 (ONE-DIRECTIONAL)

| | | H20 | HS20 | ML-80 | TK-527 | PHL-93 | P-82 |
|---|---|---|---|---|---|---|---|
| INVENTORY RATING (IR) | DIST. FACTOR | 1.098 | 1.098 | 1.098 | 1.098 | 1.098 | - |
| | LOCATION | 57.25 (1) | 57.25 (1) | 57.25 (1) | 57.25 (1) | 57.25 (1) | - |
| | ELEMENT | B04 | B04 | B04 | B04 | B04 | - |
| | LIMIT STATE | SERV-III | SERV-III | SERV-III | SERV-III | SERV-III | - |
| | RATING FACTOR | 1.46 (M) | 1.29 (M) | 1.16 (M) | 1.13 (M) | 1.11 (M) | - |
| OPERATING RATING (OR) | DIST. FACTOR | 1.039 | 1.039 | 1.039 | 1.039 | 1.039 | 1.039 |
| | LOCATION | 76.50 (1) | 76.50 (1) | 76.50 (1) | 76.50 (1) | 76.50 (1) | 76.50 (1) |
| | ELEMENT | B04 | B04 | B04 | B04 | B04 | B04 |
| | LIMIT STATE | STR-II | STR-II | STR-II | STR-II | STR-IA | STR-II |
| | RATING FACTOR | 2.54 (S) | 2.22 (S) | 2.03 (S) | 1.94 (S) | 1.59 (S) | 1.05 (S) |

| | |
|---|---|
| CRITICAL MEMBER: | INTERIOR |
| MAXIMUM FACTORED FLEXURAL RESISTANCE | 18,798 KIP-FT |
| LOCATION | 33.10 FT OF SPAN 1 |
| MAXIMUM FACTORED SHEAR RESISTANCE | 643 KIP |
| LOCATION | 92.40 FT OF SPAN 2 |

## RATING NOTES:

1. THE CRITICAL MEMBER IS CONTROLLED BY INVENTORY RATINGS.
2. THE ABOVE LOAD RATINGS ARE BASED ON THE LOAD AND RESISTANCE FACTOR DESIGN METHOD.
3. FUTURE WEARING SURFACE IS INCLUDED IN THE RATINGS.

## NOTES:

1. DATA IS TAKEN FROM PENNDOT'S LRFD PRESTRESSED CONCRETE GIRDER DESIGN AND RATING VERSION 2.12.0.0.
2. (M), (S), AND (SM) DENOTE THAT MOMENT, SHEAR, AND SHEAR/MOMENT INTERACTION CONTROL THE RATING FACTOR, RESPECTIVELY.
3. (1) OR (2) REPRESENTS GOVERNING SPAN FOR LOCATION OF CRITICAL SECTION.
4. BEAM PROPERTIES ARE PROVIDED ON SHEET 69.
5. FOR FRAMING PLAN, SEE SHEETS 63 TO 66.
6. FOR DECK OVERLAY SEE SPECIAL PROVISION 9000-0122.

## LEGEND:

B XX: BEAM DESIGNATION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# WEST APPROACH SPANS TYPICAL SECTION AND LOAD RATING TABLES

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 9 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

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OPERATOR: ASengupta

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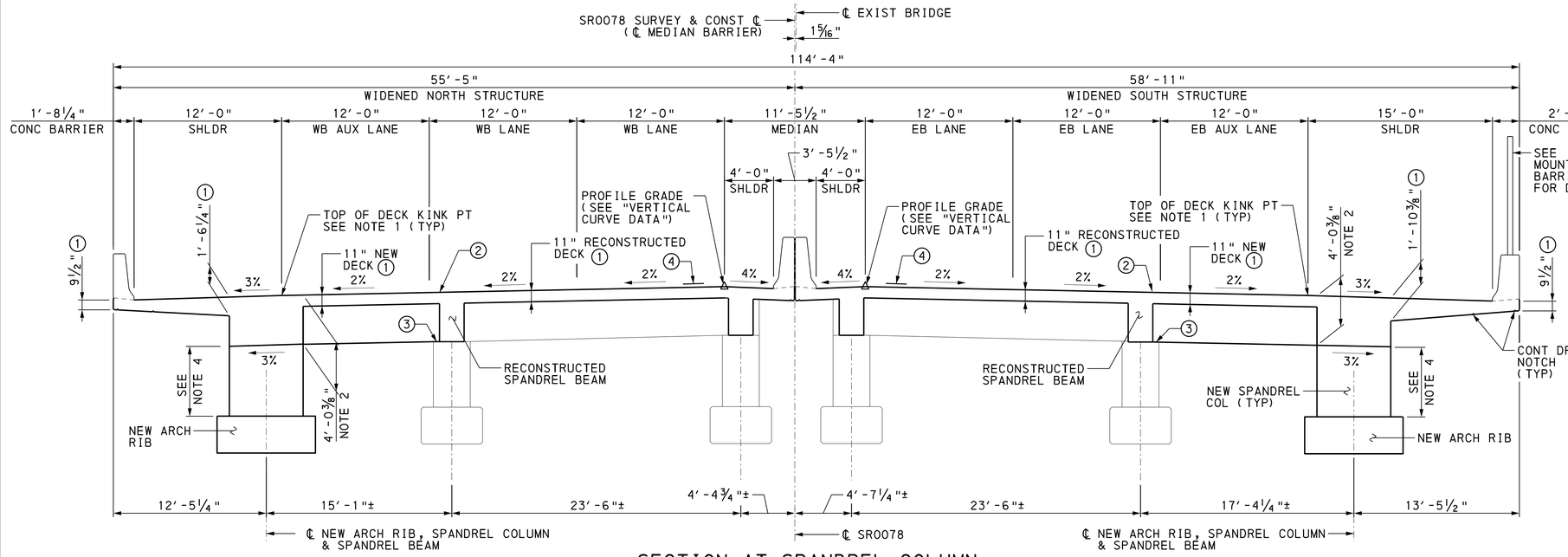
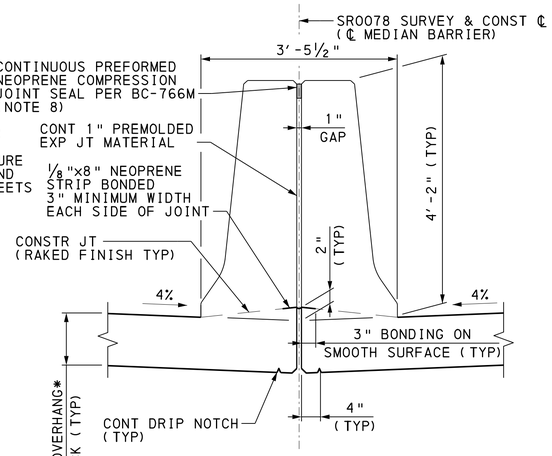



## SECTION AT SPANDREL COLUMN FINAL CONDITION

2 0 2 4 6 FEET




## SPLIT CONCRETE GLARE SCREEN MEDIAN BARRIER

(SEE "ARCH SPANS BARRIER DETAILS" SHEET FOR BARRIER DETAILS NOT SHOWN)

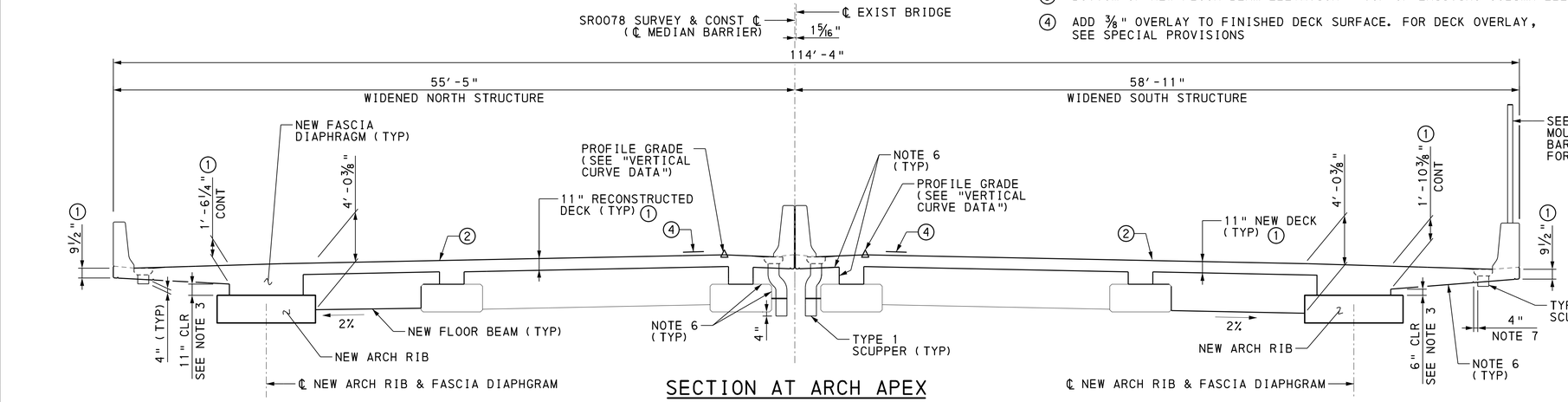
12 0 12 INCHES

① INCLUDES ½" INTEGRAL CONC WEARING SURFACE

② TOP OF DECK CONSTRUCTION TIE-IN INTERFACE, SEE "DECK CONSTRUCTION TIE-IN" SHEETS FOR ELEV

③ BOTTOM OF NEW FLOOR BEAM ELEVATION = TOP OF EXISTING COLUMN ELEVATION

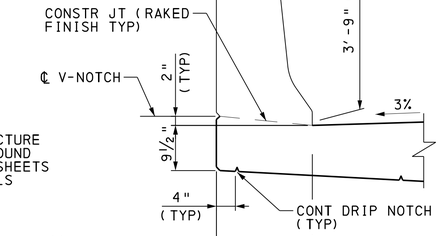
④ ADD ⅜" OVERLAY TO FINISHED DECK SURFACE. FOR DECK OVERLAY, SEE SPECIAL PROVISIONS




## SECTION AT ARCH APEX FINAL CONDITION

(SEE "SECTION AT SPANDREL COLUMN - FINAL CONDITION" FOR DETAILS NOT SHOWN)

2 0 2 4 6 FEET




## CONCRETE BARRIER AT EDGE OF DECK

(SEE "ARCH SPANS BARRIER DETAILS" SHEET FOR BARRIER DETAILS NOT SHOWN AND STANDARD PLAN BC-751M FOR TYPE 1 SCUPPER DETAILS NOT SHOWN)

NTS

## NOTES:

1. CHANGE IN TRANSVERSE DECK CROSS SLOPE OCCURS AT LANE LINE, TYP.
2. LONGITUDINAL SPANDREL BEAM VERTICAL DIMENSION VARIES IN THE LONGITUDINAL DIRECTION (MAX AT FACE OF SPANDREL COLUMN).
3. CLEARANCE SHOWN TO TOP OF ARCH RIB OCCURS AT ARCH APEX ONLY. VERTICAL CLEARANCE INCREASES AS ARCH RIB DESCENDS FROM ARCH APEX TOWARDS ARCH SPRINGING.
4. SPANDREL COLUMN HEIGHT VARIES, TYP.
5. FOR TYPE I SCUPPER DETAILS, SEE STANDARD PLAN BC-751M.
6. APPLY 2-COAT CLEAR PROTECTIVE COATING TO ALL EXPOSED CONCRETE SURFACES WITHIN 10 FEET ALL AROUND DOWNSPOUT LOCATION, TYP. SEE "SUPPLEMENTAL NOTES" SHEET FOR ADDITIONAL SURFACES TO BE COATED.
7. DISTANCE FROM SCUPPER TO 3/4" CONTINUOUS LONGITUDINAL DRIP NOTCH, TYP.
8. ANTICIPATED JOINT OPENING AND CLOSING = 0"

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

DES: CL | DWN: TK | CKD: SC

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
TYPICAL SECTIONS - 1

RECOMMENDED 08/30/2019

SHEET 10 OF 295

S-38014

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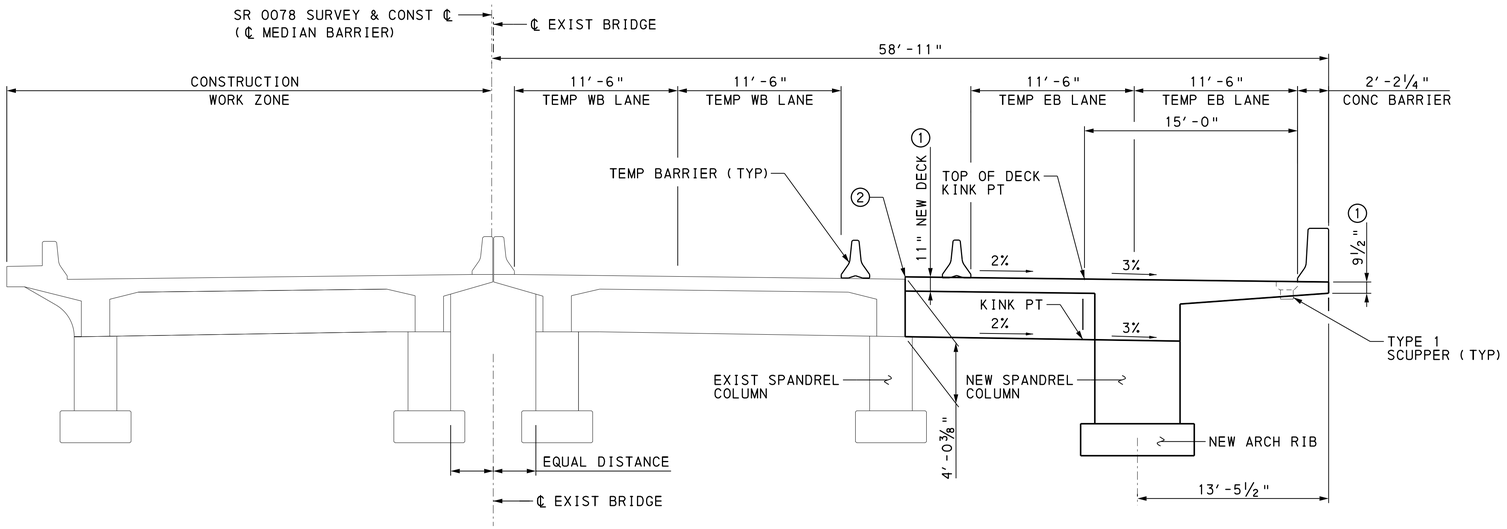
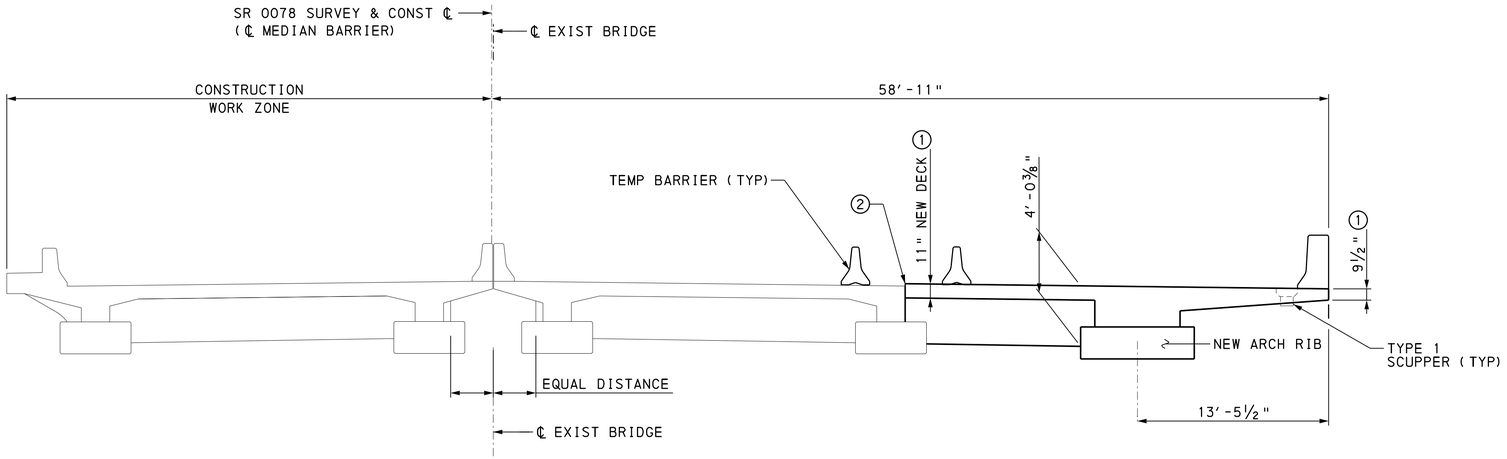



## SECTION AT SPANDREL COLUMN
## TEMPORARY CONDITION

(FOR DETAILS NOT SHOWN, SEE "FINAL CONDITION")

① INCLUDES ½" INTEGRAL CONC WEARING SURFACE

② TOP OF DECK CONSTRUCTION TIE-IN INTERFACE SHOWN SCHEMATIC, SEE "DECK CONSTRUCTION TIE-IN" SHEETS FOR ACTUAL ELEV DIFFERENCE BETWEEN EXISTING AND NEW TOP OF DECK ALONG STATIONING




## SECTION AT ARCH APEX
## TEMPORARY CONDITION

(FOR DETAILS NOT SHOWN, SEE "FINAL CONDITION")

2 0 2 4 6 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| | | | | | |

REVISIONS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
TYPICAL SECTIONS - 2

RECOMMENDED 08/30/2019

SHEET 11 OF 295

S-38014

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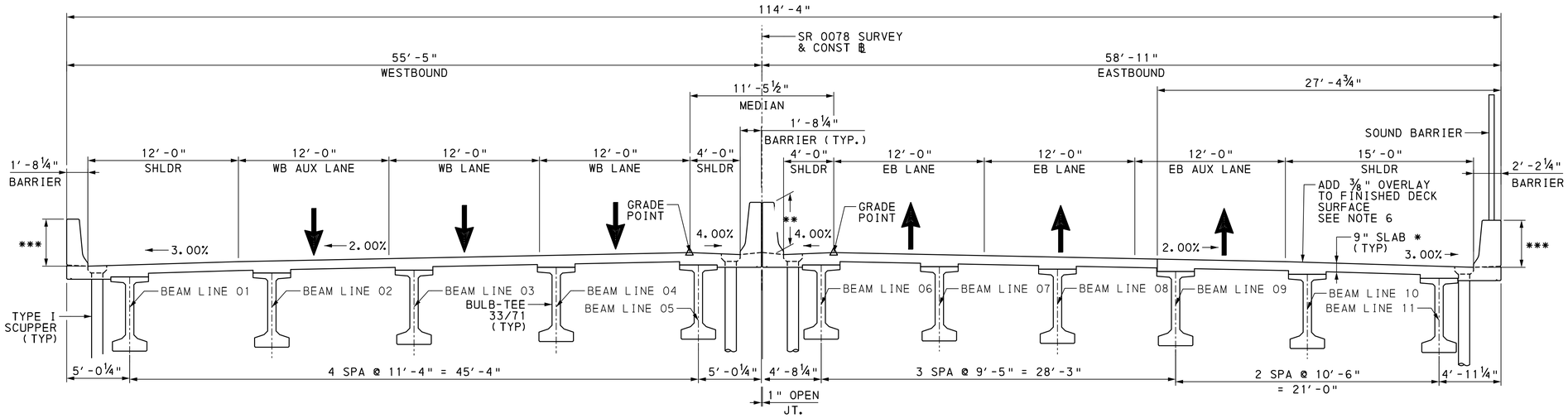


## TYPICAL SECTION (EAST APPROACH SPAN 12)

2.5 0 2.5 5 FEET

* INCLUDES ½" INTEGRAL WEARING SURFACE
** 4′-2" GLARE SCREEN MEDIAN BARRIER
*** 3′-9" CONCRETE BARRIER

### TABLE 1 - EAST APPROACH SPANS W/ FWS

CURRENT ADTT = 6052 (ONE-DIRECTIONAL)
DESIGN YEAR ADTT = 16812 (ONE-DIRECTIONAL)

| | | H20 | HS20 | ML-80 | TK-527 | PHL-93 | P-82 |
|---|---|---|---|---|---|---|---|
| INVENTORY RATING (IR) | DIST. FACTOR | 1.221 | 1.221 | 1.221 | 1.221 | 1.221 | - |
| | LOCATION | 57.56 (1) | 57.56 (1) | 57.56 (1) | 57.56 (1) | 57.56 (1) | - |
| | ELEMENT | B05 | B05 | B05 | B05 | B05 | - |
| | LIMIT STATE | SERV-III | SERV-III | SERV-III | SERV-III | SERV-III | - |
| | RATING FACTOR | 1.42 (M) | 1.25 (M) | 1.12 (M) | 1.10 (M) | 1.08 (M) | - |
| OPERATING RATING (OR) | DIST. FACTOR | 1.039 | 1.039 | 1.039 | 1.039 | 1.039 | 1.039 |
| | LOCATION | 12.22 (1) | 12.22 (1) | 12.22 (1) | 12.22 (1) | 12.22 (1) | 12.22 (1) |
| | ELEMENT | B04 | B04 | B04 | B04 | B04 | B04 |
| | LIMIT STATE | STR-II | STR-II | STR-II | STR-II | STR-IA | STR-II |
| | RATING FACTOR | 2.51 (S) | 2.25 (S) | 2.08 (S) | 1.98 (S) | 1.63 (S) | 1.03 (S) |

### TABLE 2 - EAST APPROACH SPANS W/O FWS

CURRENT ADTT = 6052 (ONE-DIRECTIONAL)
DESIGN YEAR ADTT = 16812 (ONE-DIRECTIONAL)

| | | H20 | HS20 | ML-80 | TK-527 | PHL-93 | P-82 |
|---|---|---|---|---|---|---|---|
| INVENTORY RATING (IR) | DIST. FACTOR | 1.074 | 1.074 | 1.074 | 1.074 | 1.074 | - |
| | LOCATION | 57.56 (1) | 57.56 (1) | 57.56 (1) | 57.56 (1) | 57.56 (1) | - |
| | ELEMENT | B04 | B04 | B04 | B04 | B04 | - |
| | LIMIT STATE | SERV-III | SERV-III | SERV-III | SERV-III | SERV-III | - |
| | RATING FACTOR | 1.49 (M) | 1.31 (M) | 1.18 (M) | 1.15 (M) | 1.14 (M) | - |
| OPERATING RATING (OR) | DIST. FACTOR | 1.039 | 1.039 | 1.039 | 1.039 | 1.039 | 1.039 |
| | LOCATION | 13.50 (1) | 12.22 (1) | 12.22 (1) | 12.22 (1) | 12.22 (1) | 12.22 (1) |
| | ELEMENT | B04 | B04 | B04 | B04 | B04 | B04 |
| | LIMIT STATE | STR-II | STR-II | STR-II | STR-II | STR-IA | STR-II |
| | RATING FACTOR | 2.55 (S) | 2.28 (S) | 2.12 (S) | 2.01 (S) | 1.65 (S) | 1.05 (S) |

| | |
|---|---|
| CRITICAL MEMBER: | INTERIOR |
| MAXIMUM FACTORED FLEXURAL RESISTANCE | 19,085 KIP-FT |
| LOCATION | 34.54 FT OF SPAN 1 |
| MAXIMUM FACTORED SHEAR RESISTANCE | 772 KIP |
| LOCATION | 7.38 FT OF SPAN 1 |

## RATING NOTES:

1. THE CRITICAL MEMBER IS CONTROLLED BY INVENTORY RATINGS.
2. THE ABOVE LOAD RATINGS ARE BASED ON THE LOAD AND RESISTANCE FACTOR DESIGN METHOD.
3. FUTURE WEARING SURFACE IS INCLUDED IN THE RATINGS.

## NOTES:

1. DATA IS TAKEN FROM PENNDOT'S LRFD PRESTRESSED CONCRETE GIRDER DESIGN AND RATING VERSION 2.12.0.0.
2. (M), (S), AND (SM) DENOTE THAT MOMENT, SHEAR, AND SHEAR/MOMENT INTERACTION CONTROL THE RATING FACTOR, RESPECTIVELY.
3. BEAM PROPERTIES ARE PROVIDED ON SHEET 69.
4. FOR FRAMING PLAN, SEE SHEETS 63 TO 66.
5. FOR DECK OVERLAY SEE SPECIAL PROVISION 9000-0122.

## LEGEND:

B XX: BEAM DESIGNATION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# EAST APPROACH SPANS TYPICAL SECTION AND LOAD RATING TABLES

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 12 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: ERT

FILENAME: E02657-S38014-TS-TA-EAST-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:01:20 AM

# GENERAL NOTES:

## DESIGNS SPECIFICATIONS:

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION 2014, AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4 (DM-4), APRIL 2015 (INCLUDING REVISIONS).
2. LIVE LOAD DISTRIBUTION TO GIRDERS IS BASED ON THE FOLLOWING:
   SPANS 1 THRU 3 AND 12: DM-4 DISTRIBUTION FACTOR METHOD
   SPANS 4 THRU 11: FINITE ELEMENT METHOD
3. DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

## DESIGN LIVE LOADS:

1. PHL-93 OR P-82 (204 KIP PERMIT LOAD).
2. FATIGUE DESIGN IS BASED ON THE FOLLOWING: ADDTT 16,812 (2039) (ONE-DIRECTIONAL).
3. MAXIMUM ALLOWABLE TENSILE STRESS IN PRECOMPRESSED TENSILE ZONE: 0.0948*SQUARE ROOT (f'c).

## DEAD LOADS:

1. INCLUDES A SURFACE AREA DENSITY OF 0.030 KSF FOR FUTURE WEARING SURFACE ON THE DECK SLAB. THE ¾" OVERLAY ITEM 9000-0122 IS INCLUDED AS A PART OF THIS LOAD.
2. INCLUDES A SURFACE AREA DENSITY OF 0.015 KSF FOR PERMANENT METAL DECK FORMS WHICH TAKES INTO ACCOUNT THE WEIGHT OF THE FORM, PLUS THE WEIGHT OF THE CONCRETE IN THE VALLEYS OF THE FORMS FOR APPROACH SPANS 1 THRU 3 AND 12.
3. INCLUDES 0.8375 KIP/FT FOR SOUND BARRIER.

## GENERAL:

1. STATIONS AND ELEVATIONS ARE IN FEET. ALL OTHER DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
2. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2016, INCLUDING CURRENT CHANGES, AASHTO/AWS D1.5M/D1.5 BRIDGE WELDING CODE 2008, AS MODIFIED BY PUBLICATION 408 1105.03(M) AND CONTRACT SPECIAL PROVISIONS.
3. SITE CLASS IS NOT CLASS E.
4. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
5. SUPERSTRUCTURE DIMENSIONS SHOWN ARE FOR A NORMAL TEMPERATURE OF 68 DEGREES F.
6. VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
7. NOTIFY THE REGIONAL HEADQUARTERS OF THE FISH COMMISSION PRIOR TO CONSTRUCTION AND COOPERATE WITH THE FISH COMMISSION DURING CONSTRUCTION. THE WATERWAY CONSERVATION OFFICER FOR THIS PROJECT IS:
   NAME: PFBC SOUTHEAST REGION OFFICE
   ADDRESS: 255 WEST BRUBAKER VALLEY ROAD
   LITITZ, PA 17543
   MAILING: P.O.BOX 9, ELM, PA 17521
   TEL: (717)626-0228
8. PERMIT: PERMIT TYPE:
   RESTRICTIONS: NONE
9. THE EXISTING BRIDGE IS NOT WEIGHT RESTRICTED. SEE PUBLICATION 408 SECTION 105.17 FOR CONSTRUCTION LOADING LIMITS.
10. ALL ELEVATION SHOWN ON THIS PLAN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
11. USE NO. 1 COARSE AGGREGATE AS BACKFILL MATERIAL BEHIND ABUTMENTS AND WINGWALLS FOR SELECTED BORROW EXCAVATION, STRUCTURE BACKFILL.
12. FOR ALL STRUCTURE FOUNDATION DRAINS, PROVIDE PERFORATED SCHEDULE 40 PVC PIPE IN ACCORDANCE WITH SECTION 610.2(a)1.1c.
13. PROVIDE 6" SCHEDULE 40 PVC PIPE IN ACCORDANCE WITH SECTION 615.
14. VEHICLES LONGER THAN 160 FEET TOTAL LENGTH OR IN EXCESS OF 201,000 POUNDS GROSS WEIGHT ARE DEFINED AS SUPERLOADS IN DEPARTMENT REGULATIONS (TITLE 67 PENNSYLVANIA CODE, CHAPTER 179). APPROVAL FOR SUCH MOVEMENT MAY BE SECURED ONLY BY SUBMITTING A PRELIMINARY APPLICATION TO THE CENTRAL PERMIT OFFICE FOR PRELIMINARY APPROVAL IN ACCORDANCE WITH TITLE 67 PENNSYLVANIA CODE, CHAPTER 179.8(4)(iii).
15. PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270 (ASTM A709) GRADE 50 DESIGNATION, EXCEPT WHEN NOTED OTHERWISE.
16. POSITIVE SURFACE DRAINAGE SHOULD BE MAINTAINED DURING CONSTRUCTION SO THAT THE STORM WATER IS DRAINED AWAY FROM THE SITE.

## GENERAL (CONT'D):

17. CONTRACTOR IS PERMITTED TO PROVIDE A PRECAST BARRIER IN PLACE OF A CAST-IN-PLACE BARRIER FOR MOMENT SLABS. CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR REVIEW AND ACCEPTANCE IN ACCORDANCE WITH PUBLICATION 408. THE SHOP DRAWINGS ARE TO COMPLETELY DETAIL THE ENTIRE MOMENT SLAB BARRIER ALONG THE REQUIRED LENGTH. DETAIL INFORMATION IN ACCORDANCE WITH BC-799M.
18. REMOVE THE EXISTING STRUCTURE AS SHOWN IN THE CONTRACT DRAWINGS AND IN ACCORDANCE WITH SPECIAL PROVISION 1018-0003.
19. SOUND BARRIER ON THE BRIDGE TO BE BUILT/ INSTALLED AFTER STAGE 3 CONSTRUCTION.
20. THE EXISTING BRIDGE STRUCTURAL MEMBERS CONTAIN LEAD PAINT AND ASBESTOS BASED ON LABORATORY TESTING.

## CONCRETE NOTES

1. PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.
2. USE CLASS AAAP CEMENT CONCRETE IN DECK SLAB AND DRAIN THROUGH STEM. USE CLASS AA CEMENT CONCRETE FOR DIAPHRAGMS.
3. USE CLASS AA CEMENT CONCRETE IN BARRIERS.
4. USE CLASS AA CEMENT CONCRETE IN BACKWALL, CHEEKWALLS, ABUTMENTS, PEDESTALS ABOVE BEAM SEAT CONSTRUCTIONS JOINT, DRAIN THROUGH, APPROACH SLABS AND SLEEPER SLABS. PROVIDE A 7 DAY CURE FOR CLASS AA CEMENT CONCRETE APPROACH SLABS.
5. USE CLASS A CEMENT CONCRETE IN PIER CAPS, COLUMNS, ABUTMENT BELOW BRIDGE SEAT, AND FOOTINGS.
6. USE NO. 8 COARSE AGGREGATE IN CONCRETE FOR BARRIERS.
7. 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.
8. RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS INDICATED.
9. CHAMFER EXPOSED CONCRETE EDGES 1 IN BY 1 IN, EXCEPT AS NOTED.
10. USE EITHER PERMANENT METAL FORMS OR REMOVABLE FORMS TO CONSTRUCT THE DECK SLAB.
11. DECK SLAB THICKNESS INCLUDES A ½" INTEGRAL WEARING SURFACE.
12. CONSTRUCT DECK SLAB TRANSVERSE CONSTRUCTION JOINTS PARALLEL TO BRIDGE CENTERLINE OF BEARINGS.
13. PRECAST BARRIERS AND SLIPFORMED BARRIERS ARE PROHIBITED.
14. ALONG THE GUTTER LINES, DO NOT ATTACH BARRIER FORMS TO THE NEWLY PLACED CONCRETE DECK WITHIN THE WATER TABLE AREA.
15. PREPARE BEARING AREAS AS SPECIFIED IN PUBLICATION 408, SECTION 1001.3(K)9.
16. APPLY A MEMBRANE WATERPROOFING OVER ALL CONSTRUCTION AND EXPANSION JOINTS IN ABUTMENT AND WINGWALL STEMS.
17. A CONSTRUCTION JOINT IS PERMITTED FOR THE ABUTMENT BACKWALL BELOW THE LEVEL OF THE BOTTOM OF DECK SLAB PRIOR TO CONSTRUCTION OF THE DECK.
18. APPLY PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALER, BRIDGE SUPERSTRUCTURE) IN ACCORDANCE WITH SECTION 1019, TO THE EXPOSED CONCRETE ROADWAY SURFACES OF THE DECK, APPROACH SLAB AND BARRIER ON DECK APPROACH SLABS (FRONT FACE, TOP, REAR FACES, AND UNDERSIDE OF DECK TO THE DRIP NOTCH).
19. PROVIDE 10-FOOT MAXIMUM SPACING OF MODIFIED DEFLECTION JOINTS IN BRIDGE BARRIERS.
20. PROVIDE EPOXY JOINT SEALING ALONG TRANSVERSE AND LONGITUDINAL DECK CONSTRUCTION JOINTS; SEE STANDARD DRAWING BC-752M FOR ADDITIONAL NOTES AND DETAILS.
21. MECHANICALLY GROOVE BRIDGE DECK AND APPROACH SLABS (SEE SPECIAL PROVISIONS).
22. PLACE CHEEKWALLS AND BACKWALL CONCRETE AFTER BEAMS ARE SET IN POSITION.
23. DO NOT PLACE DECK CONCRETE WHEN WIND SPEEDS EXCEEDING 35MPH ARE POSSIBLE IN A PERIOD OF 24 HOURS FROM COMPLETION OF DECK POUR.
24. DO NOT START TO CAST THE CONTINUITY DIAPHRAGM PRIOR TO NINETY (90) DAYS FROM THE TIME OF BEAM CASTING.

## REINFORCEMENT NOTES:

1. PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A 615, A 996, OR A 706. 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 A 966 REINFORCEMENT BARS IN BRIDGE PIERS, ABUTMENTS, FOOTINGS, PILES, BARRIERS OR WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.
2. EPOXY COAT ALL REINFORCEMENT BARS.
3. GALVANIZED REINFORCING STEEL BARS MAY BE SUBSTITUTED FOR EPOXY COATED REINFORCING STEEL BARS AT NO ADDITIONAL COST TO THE DEPARTMENT.
4. WELDING OF REINFORCEMENT BARS DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.
5. PROVIDE MINIMUM EMBEDMENT AND SPLICE LENGTHS IN ACCORDANCE WITH STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.
6. DO NOT USE FORM SUPPORT SYSTEMS THAT WILL CAUSE UNACCEPTABLE OVERSTRESS OR DEFORMATION TO PERMANENT BRIDGE MEMBERS.

## UTILITY NOTES:

1. COORDINATE, LOCATE, AND CONDUCT AL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH PUBLICATION 408, SECTIONS 105.06 AND 107.12.
2. PRIOR TO ANY EXCAVATION OR DEMOLITION WORK, CONTACT THE PA ONE CALL SYSTEM INC. AT 1-800-242-1776 AND COMPLY WITH THE PROVISIONS OF ACT 287 OF 1994 AS AMENDED BY ACT 187 OF 1996. IDENTIFY ALL LINES OVER AND UNDER THE STRUCTURE. NOTIFY AND COMPLY WITH THE APPLICABLE UTILITIES COMPANY'S CLEARANCE REQUIREMENTS.
3. COORDINATE THE REQUIREMENTS FOR PROTECTION AND/OR RELOCATION OF UTILITIES WITH THE UTILITY OWNER PRIOR TO STARTING WORK. VERIFY AND LOCATE ALL EXISTING UTILITIES PRIOR TO STARTING WORK. CONDUCT OPERATIONS IN A MANNER WHICH ENSURES THAT THE UTILITIES WILL NOT BE DISTURBED OR ENDANGERED AND ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO UTILITIES DURING CONSTRUCTION. THE DEPARTMENT DOES NOT ASSUME RESPONSIBILITY FOR REIMBURSEMENT, PARTICIPATION IN DESIGN AND/OR REVISIONS OR LIABILITY FOR ACCURACY OF TYPE, SIZE, AND LOCATION OF ANY UTILITY.
4. CONTRACTOR IS ALERTED TO THE PRESENCE OF AN OVERHEAD ELECTRIC LINE ON SPAN 1 WEST APPROACH. ALL CONSTRUCTION AND REMOVAL ACTIVITIES SHOULD BE DONE TAKING THE OVERHEAD LINE INTO CONSIDERATION.

## FOUNDATION NOTES:

1. DO NOT BLAST TO EXCAVATE ROCK.
2. CLASS 3 EXCAVATION MATERIAL IS UNSUITABLE FOR USE AS EMBANKMENT MATERIAL.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL EXCAVATED SLOPES. DIRECT SURFACE RUNOFF AWAY FROM THE EXCAVATION. PERFORM ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REQUIREMENTS.
4. MAXIMUM ALLOWABLE VERTICAL SETTLEMENT IS ONE (1) INCH.
5. FOUNDATION SUBGRADE MUST BE INSPECTED AND APPROVED BY THE DISTRICT STRUCTURE CONTROL ENGINEER (DSCE) OR DSCE REPRESENTATIVE. NOTIFY THE REPRESENTATIVE OF A TENTATIVE SCHEDULE FOR THE INSPECTION OF A FOUNDATION EXCAVATION AT LEAST 7 CALENDAR DAYS BEFORE THE NEED FOR THE INSPECTION IS ANTICIPATED. NOTIFY THE REPRESENTATIVE OF A FIRM DATE AND TIME AT LEAST 48 HOURS BEFORE THE REQUESTED DATE AND TIME OF THE INSPECTION OF AN EXCAVATION, BUT GIVE THE NOTICE BETWEEN START OF WORK ON MONDAY AND NOON OF THE FOLLOWING FRIDAY. DO NOT SCHEDULE AN INSPECTION OF A FOUNDATION ON SATURDAYS, SUNDAYS, OR HOLIDAYS WITHOUT THE PRIOR APPROVAL OF THE REPRESENTATIVE.

## WELDING NOTES FOR NEOPRENE STRIP SEAL DAM RETAINERS:

1. WELDING SPECIFICATIONS: AASHTO/AWS D1.5M/D1.5 - 2008 BRIDGE WELDING CODE AND THE CONTRACT SPECIAL PROVISIONS. DO NOT FIELD WELD ON ANY PART OF THE EXISTING BRIDGE, EXCEPT WHERE SHOWN ON THE DRAWINGS, WITHOUT PRIOR APPROVAL OF THE ENGINEER.
2. WELDING OF EXISTING STRUCTURAL STEEL: USE THE SHIELDED METAL ARC PROCESS AND LOW HYDROGEN ELECTRODES WHICH ARE COMPATIBLE WITH BASE METAL AS SPECIFIED, AND IN ACCORDANCE WITH AN APPROVED WELD PROCEDURE SPECIFICATION.
3. MAKE TACK WELDS WITH THE SAME TYPE OF ELECTRODE AND INCORPORATE IN THE FINAL WELD. NO OTHER TACK WELDING WILL BE PERMITTED.
4. DO NOT WELD WHEN SURFACES TO BE WELDED ARE MOIST OR EXPOSED TO RAIN, SNOW, OR WIND, OR WHEN WELDERS ARE EXPOSED TO INCLEMENT CONDITIONS THAT WILL ADVERSELY AFFECT THE QUALITY OF THE WORK.
5. DO NOT WELD OR BURN WHEN THE TEMPERATURE IS BELOW 0°F. PREHEAT AND MAINTAIN THE TEMPERATURE OF THE METAL TO AT LEAST 70°F WHEN THE TEMPERATURE OF THE METAL IS BETWEEN 0°AND 32°F DURING WELDING OR BURNING.
6. PREHEAT THE STEEL TO THE SPECIFIED MINIMUM TEMPERATURE FOR A DISTANCE EQUAL TO THE THICKNESS OF THE PART BEING WELDED, BUT NOT LESS THAN 3IN. IN ALL DIRECTIONS FROM THE POINT OF WELDING.
7. REMOVE BY APPLICATION OF HEAT ANY MOISTURE PRESENT AT POINT OF WELD. PROVIDE WINDBREAKS FOR PROTECTION FROM DIRECT WIND.

## 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 REPRESENTATIVES OF ANY OF THE CONDITIONS THAT YOU WILL ENCOUNTER IN THE FIELD.
2. THE INFORMATION SHOWN ON THE PLANS FOR THE EXISTING BRIDGE IS NOT PART OF THE PLANS, PROPOSAL, OR CONTRACT AND IS NOT 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 OR WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED. EXISTING BRIDGE PLANS: ORIGINAL (1911), REHABILITATION (1948), AND APPROACH ALTERATIONS (1958) ARE AVAILABLE FROM PENNDOT.

| DWG NO | DATE | DESCRIPTION |
|---|---|---|
| S-01875 | 1954 | ORGINAL PLANS |
| S-15089 | 1983 | REHABILITATION. WEST ABUTMENT, COMPRESSION/EXPANSION DAM AND APPROACH SLAB |
| S-18384 | 1990 | EXPANSION DAM REPLACEMENT |
| S-23759 | 2004 | EXPANSION DAM AND CONNECTING SLAB |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

GENERAL NOTES - 1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 13 OF 295

S-38014

DES: AKS | DWN: ERT | CKD: XIH

OPERATOR: ASengupta FILENAME: E02657-S38014-GN-01.dgn

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## PILE NOTES

1. SUBMIT PILE HAMMER INFORMATION TO THE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO STARTING THE PILE DRIVING OPERATION.
2. BEFORE DRIVING PILES, PLACE AND COMPACT SUBGRADE TO FOOTING ELEVATION, SPECIFICALLY SELECTED MATERIAL WHICH CONTAINS NO ROCK TO INTERFERE WITH PILE DRIVING.
3. PROVIDE PILE TIP REINFORCEMENT FOR PILES IN ACCORDANCE WITH PUBLICATION 408, SECTION 1005.2(c). NORMAL DUTY PILE TIP REINFORCEMENT IS RECOMMENDED.
4. DO NOT CUT PILE WEB, FLANGES OR FOOTING REINFORCEMENT BARS TO ACCOMMODATE REINFORCEMENT BAR PLACEMENT, UNLESS DIRECTED BY THE REPRESENTATIVE.
5. USE STEEL BEAM PILES CONFORMING TO AASHTO M270 GRADE 50.
6. DRIVE PILES TO METHOD A CASE 2 ABSOLUTE REFUSAL IN ACCORDANCE WITH SECTION 1005.3(B)4.
7. THE ESTIMATED PILE TIP ELEVATIONS ASSUME FIVE FOOT OF PILE PENETRATION BELOW TOP OF ROCK.
8. DRIVE PILES IN ACCORDANCE WITH PUBLICATION 408 SECTION 1005.3(b)4 TO CASE 2 ABSOLUTE REFUSAL AND WITH DM-4 PP1.7.5.1 TO TIP ELEVATIONS PREDETERMINED BY THE ENGINEER FROM TEST PILES. A MINIMUM OF TWO (2) TEST PILES AT EACH ABUTMENT AND PIERS 1 AND 2 ARE RECOMMENDED. PILES MAY ACHIEVE ABSOLUTE REFUSAL IN SOFT OR COMPLETELY DECOMPOSED SILTSTONE / SANDSTONE BEDROCK. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE BEARING PILES WHICH ATTAIN ABSOLUTE REFUSAL ABOVE THE PREDETERMINED TIP ELEVATION.
9. DO NOT DRIVE BEARING PILES UNTIL THE ASSOCIATED TEST PILES ARE COMPLETED AND EVALUATED BY THE STRUCTURE CONTROL ENGINEER.
10. PERFORM DYNAMIC PILE LOAD TEST IN ACCORDANCE WITH SPECIAL PROVISIONS.
11. PILE NOMINAL AXIAL CAPACITY WAS EVALUATED ASSUMING A SACRIFICIAL LAYER OF 1/16 INCH NEGLECTED FROM THE SURFACE OF THE PILE.
12. PRE-DRILL AND DRIVE ALL BEARING PILES PRIOR TO MSE INSTALLATION AT THE ABUTMENTS. PLACE OVER EACH PILE, A SMOOTH WALL GALVANIZED STEEL (SWGS) OR POLYETHYLENE PIPE OF SUFFICIENT THICKNESS OR AS SPECIFIED, TO PREVENT BUCKLING OR DISTORTION DURING THE PLACEMENT AND COMPACTION OF THE MSE BACKFILL.
13. IN THE EVENT SOME PILES CANNOT BE ADVANCED TO NEAR THE ESTIMATED PILE TIP ELEVATION, PROVISION SHALL BE MADE FOR PREDRILLING FOR UNFORESEEN CONDITIONS.
14. THE FOLLOWING TABLE IS TO BE COMPLETED ON THE "AS-BUILT" PLANS AFTER TEST PILE INSTALLATION.
15. MANDATORY PRE-DRILLING OF THE PILES TO PILE TIP ELEVATIONS IS RECOMMENDED DUE TO BOULDERS PRESENT IN BORINGS AT ABUTMENTS NO. 1 AND NO. 2.
16. BACKFILL ANNULAR SPACE IN PILE SLEEVED WITH LOOSE SAND, CONCRETE SAND TYPE A; OR PEA GRAVEL PRIOR TO CONSTRUCTION OF THE ABUTMENT PILE CAP.
17. FOR TEST PILE PARAMETERS TABLE, SEE SHEET 60, COLUMN REINFORCEMENT DETAILS.

## MSE WALL NOTES:

1. REMOVE ALL UNSUITABLE MATERIALS FROM THE FOUNDATION SUBGRADE PRIOR TO CONSTRUCTION. OVER EXCAVATE SOFT/LOOSE MATERIAL TO COMPETENT MATERIAL, PROOF-ROLL, AND BACKFILL WITH COMPACTED STRUCTURAL FILL EQUAL TO THAT OF NO. 2A COARSE AGGREGATE.
2. PERFORM ALL OVER-EXCAVATION AND BACKFILLING UNDER THE DIRECTION OF A DEPARTMENT REPRESENTATIVE.
3. WHEN BFE IS LOCATED ABOVE EXISTING GROUND, PLACE STRUCTURAL FILL EQUIVALENT TO THE STRENGTH OF MSE FILL FROM THE EXISTING GROUND TO THE BFE IN ACCORDANCE WITH THE 'TYPICAL FILL SECTION' OF BC-799M. THE MINIMUM THICKNESS OF THE STRUCTURAL FILL SHALL BE 3 FEET.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL TEMPORARY SHEETING AND SHORING SYSTEMS. THE SOIL PARAMETERS ARE PROVIDED IN THE TABLES FOR THE DESIGN OF TEMPORARY SHEETING AND SHORING SYSTEM.
5. THE CONTRACTOR MUST VERIFY THAT THE PARAMETERS ARE APPROPRIATE FOR THE SPECIFIC SHEETING AND SHORING SYSTEM TO BE USED. EFFECTS OF SURCHARGE AND RETAINED SLOPING EARTH CONDITION MUST BE CONSIDERED IN BRACING DESIGN. TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEMS MUST BE DESIGNED IN ACCORDANCE WITH THE STANDARD SPECIAL PROVISION
6. CONSTRUCTION SHOULD BE COMPLETED USING PENNDOT PUB 408 AND IN ACCORDANCE WITH STANDARD DRAWING BC-799M.

### RECOMMENDED FOUNDATION DESIGN PARAMETERS FOR MSE ABUTMENTS ON SOIL

| | APPROXIMATE PROPOSED SR 0078 OFFSET | | FRICTION ANGLE (°) | MOIST UNIT WEIGHT Ym (PCF) | SATURATED UNIT WEIGHT Ys (PCF) | ELASTIC MODULUS (KSI) | POISSON'S RATIO, V | BEARING RESISTANCE FACTOR, $\Phi_B$ | SLIDING RESISTANCE FACTOR, $\Phi_T$ |
|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | |
| ABUTMENT 1 | 54.83' LT | 58.33' RT | 33 | 120 | 125 | 4.2 | 0.30 | 0.45 | 1.0 |
| ABUTMENT 2 | 54.83' LT | 58.33' RT | 33 | 120 | 125 | 4.2 | 0.30 | 0.45 | 1.0 |

### RECOMMENDED FOUNDATION DESIGN PARAMETERS FOR MSE ABUTMENTS ON SOIL

| | APPROXIMATE PROPOSED SR 0078 STATION | | FRICTION ANGLE (°) | MOIST UNIT WEIGHT Ym (PCF) | SATURATED UNIT WEIGHT Ys (PCF) | ELASTIC MODULUS (KSI) | POISSON'S RATIO, V | BEARING RESISTANCE FACTOR, $\Phi_B$ | SLIDING RESISTANCE FACTOR, $\Phi_T$ |
|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | |
| WINGWALL A | 3044+99.66 | 3045+35.91 | 33 | 120 | 125 | 4.2 | 0.30 | 0.45 | 1.0 |
| WINGWALL B | 3045+13.41 | 3045+35.91 | 33 | 120 | 125 | 4.2 | 0.30 | 0.45 | 1.0 |
| WINGWALL C | 3062+70.74 | 3063+06.99 | 33 | 120 | 125 | 4.2 | 0.30 | 0.45 | 1.0 |
| WINGWALL D | 3062+70.74 | 3063+06.99 | 33 | 120 | 125 | 4.2 | 0.30 | 0.45 | 1.0 |

### TABLE 1 - FOUNDATION DESIGN SUMMARY FOR MSE ABUTMENT 1 ON SOIL

| SEGMENT NO. | APPROXIMATE PROPOSED SR 0078 OFFSET | | SLIDING COEFFICIENT OF FRICTION | TOP OF LEVELING PAD ELEVATION (FT) | MINIMUM REQUIRED EMBEDMENT (FT) | DESIGN WALL HEIGHT (FT) | APPROXIMATE BASE WIDTH (FT) | $\sigma_{A\text{-}STRN}$ (KSF) | $q_{R\text{-}STRN}$ (KSF) | APPROXIMATE SETTLEMENT (IN) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | | |
| 1 | 54.83' LT | 58.33' RT | 0.55 | 387.00 | 4.0 | 15.5 | 22 | 3.1 | 9.3 | >1.0 |

### TABLE 2 - FOUNDATION DESIGN SUMMARY FOR MSE ABUTMENT 2 ON SOIL

| SEGMENT NO. | APPROXIMATE PROPOSED SR 0078 OFFSET | | SLIDING COEFFICIENT OF FRICTION | TOP OF LEVELING PAD ELEVATION (FT) | MINIMUM REQUIRED EMBEDMENT (FT) | DESIGN WALL HEIGHT (FT) | APPROXIMATE BASE WIDTH (FT) | $\sigma_{A\text{-}STRN}$ (KSF) | $q_{R\text{-}STRN}$ (KSF) | APPROXIMATE SETTLEMENT (IN) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | | |
| 1 | 54.83' LT | 58.33' RT | 0.35 | 367.00 | 4.0 | 25.5 | 33 | 4.9 | 12.8 | >1.0 |

### TABLE 3 - FOUNDATION DESIGN SUMMARY FOR MSE WINGWALL A ON SOIL

| SEGMENT NO. | APPROXIMATE PROPOSED SR 0078 STATION | | SLIDING COEFFICIENT OF FRICTION | TOP OF LEVELING PAD ELEVATION (FT) | MINIMUM REQUIRED EMBEDMENT (FT) | DESIGN WALL HEIGHT (FT) | APPROXIMATE BASE WIDTH (FT) | $\sigma_{A\text{-}STRN}$ (KSF) | $q_{R\text{-}STRN}$ (KSF) | APPROXIMATE SETTLEMENT (IN) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | | |
| 1 | 3044+99.66 | 3045+11.91 | 0.55 | 397.00 | 4.0 | 25.55 | 21 | 3.1 | 6.1 | <1.0 |
| 2 | 3045+11.91 | 3045+23.91 | 0.55 | 392.00 | 4.0 | 20.64 | 21 | 4.3 | 6.4 | <1.0 |
| 3 | 3045+23.91 | 3045+35.91 | 0.55 | 387.00 | 4.0 | 15.74 | 21 | 5.8 | 3.9 | <1.0 |

### TABLE 4 - FOUNDATION DESIGN SUMMARY FOR MSE WINGWALL B ON SOIL

| SEGMENT NO. | APPROXIMATE PROPOSED SR 0078 STATION | | SLIDING COEFFICIENT OF FRICTION | TOP OF LEVELING PAD ELEVATION (FT) | MINIMUM REQUIRED EMBEDMENT (FT) | DESIGN WALL HEIGHT (FT) | APPROXIMATE BASE WIDTH (FT) | $\sigma_{A\text{-}STRN}$ (KSF) | $q_{R\text{-}STRN}$ (KSF) | APPROXIMATE SETTLEMENT (IN) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | | |
| 1 | 3045+13.41 | 3045+22.91 | 0.55 | 392.00 | 4.0 | 25.46 | 21 | 4.3 | 6.1 | <1.0 |
| 2 | 3045+22.91 | 3045+35.91 | 0.55 | 387.00 | 4.0 | 20.57 | 21 | 5.8 | 6.4 | <1.0 |

### TABLE 5 - FOUNDATION DESIGN SUMMARY FOR MSE WINGWALL C ON SOIL

| SEGMENT NO. | APPROXIMATE PROPOSED SR 0078 STATION | | SLIDING COEFFICIENT OF FRICTION | TOP OF LEVELING PAD ELEVATION (FT) | MINIMUM REQUIRED EMBEDMENT (FT) | DESIGN WALL HEIGHT (FT) | APPROXIMATE BASE WIDTH (FT) | $\sigma_{A\text{-}STRN}$ (KSF) | $q_{R\text{-}STRN}$ (KSF) | APPROXIMATE SETTLEMENT (IN) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | | |
| 1 | 3062+70.74 | 3062+82.74 | 0.35 | 367.00 | 4.0 | 34.60 | 27 | 3.9 | 9.2 | >1.0 |
| 2 | 3062+82.74 | 3062+94.74 | 0.35 | 372.00 | 4.0 | 34.50 | 27 | 6.3 | 9.7 | >1.0 |
| 3 | 3062+94.74 | 3063+06.99 | 0.35 | 377.00 | 4.0 | 34.40 | 27 | 6.2 | 9.4 | >1.0 |

### TABLE 6 - FOUNDATION DESIGN SUMMARY FOR MSE WINGWALL D ON SOIL

| SEGMENT NO. | APPROXIMATE PROPOSED SR 0078 STATION | | SLIDING COEFFICIENT OF FRICTION | TOP OF LEVELING PAD ELEVATION (FT) | MINIMUM REQUIRED EMBEDMENT (FT) | DESIGN WALL HEIGHT (FT) | APPROXIMATE BASE WIDTH (FT) | $\sigma_{A\text{-}STRN}$ (KSF) | $q_{R\text{-}STRN}$ (KSF) | APPROXIMATE SETTLEMENT (IN) |
|---|---|---|---|---|---|---|---|---|---|---|
| | BEGIN | END | | | | | | | | |
| 1 | 3062+70.74 | 3062+82.74 | 0.35 | 367.00 | 4.0 | 34.70 | 27 | 3.9 | 8.1 | >1.0 |
| 2 | 3062+82.74 | 3062+94.74 | 0.35 | 372.00 | 4.0 | 34.60 | 27 | 6.3 | 8.3 | >1.0 |
| 3 | 3062+94.74 | 3063+06.99 | 0.35 | 377.00 | 4.0 | 34.50 | 27 | 4.9 | 8.3 | >1.0 |

## LEGEND ABBREVIATIONS:

| | | | |
|---|---|---|---|
| ABUT | ABUTMENT | MAX(.) | MAXIMUM |
| ALT | ALTERNATIVE | MED | MEDIAN |
| APPROX | APPROXIMATE | MID | MIDDLE |
| & | AND | MIN(.) | MINIMUM |
| APP | APPROVED | MSE | MECHANICALLY STABILIZED EARTH |
| AUX | AUXILIARY | | |
| BARR | BARRIER | N | NORTH |
| ℄ | BASELINE | NB | NORTHBOUND |
| BCCE | BOTTOM OF CLASS C CEMENT | NO. | NUMBER |
| | | NTS | NOT TO SCALE |
| BFE | BOTTOM OF FOOTING ELEVATION | PA | PENNSYLVANIA |
| | | ± | PLUS OR MINUS |
| BL | BEAM LINE | PCP | PREFORMED CELLULAR POLYSTYRENE |
| BOT | BOTTOM | | |
| BPCE | BOTTOM OF PILE CAP ELEVATION | P/S | PRESTRESSED |
| | | PG | PROFILE GRADE |
| BRG(S) | BEARING | POB | POINT OF BEGINING |
| BTWN | BETWEEN | POE | POINT OF ENDING |
| CIP | CAST IN PLACE | POT | POINT OF TANGENCY |
| CJ | CONSTRUCTION JOINT | PROP(.) | PROPOSED |
| ℄ | CENTERLINE | PROV'D | PROVIDED |
| CLEAR OR CLR | CLEARANCE | PT | POINT |
| CCNS | CLOSED CELL NEOPRENE SPONGE | PVI | POINT OF VERTICAL INTERSECTION |
| CONC | CONCRETE | RAD | RADIUS |
| CONSTR | CONSTRUCTION | RCP | REINFORCED CONCRETE PIPE |
| CONT | CONTINUED | | |
| DIA | DIAMETER | REQ'D | REQUIRED |
| DWG. | DRAWING | REF | REFERENCE |
| E | EAST | RF | REAR FACE |
| EA | EACH | RDWY | ROADWAY |
| EB | EASTBOUND | RT | RIGHT |
| EL OR ELEV | ELEVATION | S | SOUTH |
| EF | EACH FACE | SHLDR | SHOULDER |
| EPTE | ESTIMATED PILE TIP ELEVATION | SB | SOUTHBOUND |
| | | SPA | SPACES |
| EQ | EQUAL | SQ | SQUARE |
| EST | ESTIMATED | SR | STATE ROUTE |
| EXIST | EXISTING | STA(.) | STATION |
| EXP | EXPANSION | TEMP | TEMPORARY |
| FIX | FIXED | TESPS | TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM |
| FF | FRONT FACE | | |
| HORIZ | HORIZONTAL | | |
| HP | HIGH POINT | (TYP) | TYPICAL |
| INCL. | INCLUDE | UNO | UNLESS NOTED OTHERWISE |
| JT | JOINT | VC | VERTICAL CLEARANCE |
| KIP | 1000 POUNDS/FORCE | VERT | VERTICAL |
| KSF | KIPS PER SQUARE FOOT | W | WEST |
| | | WB | WESTBOUND |
| LT | LEFT | WP | WORKING POINT |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

GENERAL NOTES - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 14 OF 295

S-38014

DES: AKS | DWN: ERT | CKD: XIH

FILENAME: E02657-S38014-GN-02.dgn
OPERATOR: Asengupta

PLOTTED: 8/26/2019 4:45:59 PM

# DESIGN NOTES:

## DESIGN SPECIFICATIONS

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, 2014, AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4 (DM-4), APRIL 2015 (INCLUDING REVISIONS).
2. LIVE LOAD DISTRIBUTION TO DECK SLAB AND DECK BEAMS IS BASED ON 3-D FINITE ELEMENT ANALYSIS METHOD.
3. TIME-DEPENDENT STRUCTURAL BEHAVIOR ANALYSIS IS BASED ON ACI 209 CREEP AND SHRINKAGE MODEL.
4. STRUCTURE-FOUNDATION INTERACTION ANALYSIS IS BASED ON 3-D FINITE ELEMENT METHOD WITH FOUNDATION SOIL SPRING MODELING PER GEOTECHNICAL DATA PROVIDED IN THE "SOIL FOUNDATION REPORT" DATED APRIL, 2019.
5. DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

## DESIGN LIVE LOADS

1. PHL-93 OR P-82 (204 KIP PERMIT LOAD)
2. FATIGUE DESIGN IS BASED ON THE FOLLOWING:
   ADTT 16,812 (2039) (ONE DIRECTIONAL).

## DEAD LOADS

1. INCLUDES SURFACE AREA DENSITY OF 0.030 KSF FOR FUTURE WEARING SURFACE ON THE DECK SLAB.
2. INCLUDES 0.8375 KIP/FT FOR SOUND BARRIER.
3. DECK FORMS SHALL NOT BE LEFT IN PLACE, EXCEPT INTERNAL FORMS SUPPORTING PIER DECK SLAB CONCRETE PLACEMENT.

# MATERIALS:

## REINFORCED CONCRETE

1. 28-DAY CONCRETE COMPRESSION STRENGTH (f'c) SHALL BE 4.5 KSI MINIMUM, EXCEPT DRILLED SHAFT AND ROCK SOCKET CONCRETE f'c SHALL BE 4 KSI MINIMUM.

## REINFORCEMENT

1. REINFORCEMENT FOR NEW REINFORCED CONCRETE SHALL BE GRADE 60 EPOXY COATED REINFORCING STEEL BARS.

## MISCELLANEOUS BRIDGE METAL

1. MISCELLANEOUS BRIDGE METALS SHALL CONSIST OF TEMPORARY DECK EXPANSION JOINT BLOCKOUT STEEL COVER PLATE AND CONTINUOUS STEEL PLATE SUPPORTING THE SECONDARY SEAL.
2. ALL MISCELLANEOUS BRIDGE METALS LISTED ABOVE SHALL BE GALVANIZED AND PAINTED, GRADE 50 STEEL.
3. STRUCTURAL BOLTS SHALL BE AASHTO M160 (ASTM 325) UNLESS OTHERWISE NOTED

# GENERAL:

## OPTIONAL LAP SPLICE (NOT SHOWN ON PLANS)

1. TO PROVIDE REINFORCEMENT CONTINUITY, LONGITUDINAL REINFORCING STEEL BAR IN ARCH RIB, SPANDREL BEAM AND DECK SLAB LONGER THAN 60' MAY BE LAP SPLICED IN ACCORDANCE WITH STANDARD DRAWING BC-736M AND ADDITIONAL REQUIREMENTS AS SHOWN ON PLANS.
2. REINFORCEMENT QUANTITY SHOWN ON PLANS INCLUDES ALLOWANCE FOR OPTIONAL LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT IN ARCH RIB, SPANDREL BEAM AND DECK SLAB.

## DRILL (CORE) AND BOND DOWELS

1. CORED HOLE DIAMETER SHALL BE ½" LARGER THAN DIAMETER OF DOWEL, UNLESS RECOMMENDED OTHERWISE BY PROPRIETARY BONDING SYSTEM MANUFACTURER.
2. BONDING SYSTEM COMPOUND SHALL BE MAGNESIUM PHOSPHATE CONCRETE EXCEPT FOR OVERHEAD AND HORIZONTAL BONDING APPLICATIONS. FOR OVERHEAD AND HORIZONTAL BONDING APPLICATIONS, APPROVED PROPRIETARY CHEMICAL ADHESIVE OR APPROVED CHEMICAL RESIN CAPSULE SYSTEM SHALL BE USED PER MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.

## CONSTRUCTION JOINT SURFACE ROUGHENING

1. AT CONSTRUCTION JOINT INTERFACE, HARDENED CONCRETE SURFACE SHALL BE INTENTIONALLY ROUGHENED TO ¼" MIN AMPLITUDE PRIOR TO PLACING NEW CONCRETE AGAINST HARDENED SURFACE.

## PROTECTIVE COATING FOR EXISTING REINFORCEMENT TO REMAIN

1. EXISTING REINFORCEMENT SHOWN ON PLANS TO REMAIN SHALL BE PRESERVED AND NOT TO BE DAMAGED DURING CONRETE REMOVAL WORK. EXPOSED EXISTING REINFORCEMENT EXTENSIONS SHOWN ON PLANS TO REMAIN SHALL BE CLEANED WITH A STEEL WIRE BRUSH OR SANDBLASTED, STRAIGHTENED AS NEEDED AND THEN COATED WITH AN APPROVED EPOXY PAINT PRIOR TO SPLICING WITH NEW REINFORCEMENT AND CASTING INTO NEW CONCRETE.
2. END OF EXISTING REINFORCEMENT PERMANENTLY EXPOSED ON FINISHED SURFACE AFTER CONCRETE REMOVAL SHALL BE CLEANED AND SURFACE ROUGHENED PRIOR TO TOUCH-UP PAINTING WITH AN APPROVED EPOXY PAINT. EPOXY PAINT COLOR SHALL MATCH APPROXIMATELY THE EXISTING CONCRETE SURFACE.

## FINAL CONCRETE SURFACE PROTECTIVE COATING (BELOW TOP OF DECK)

1. EXPOSED FINAL CONCRETE SURFACES BELOW TOP OF DECK ELEVATION, AS DEFINED BELOW, SHALL BE PAINTED WITH AN APPROVED 2-COAT CLEAR PROTECTIVE COATING, SEE SPECIAL PROVISIONS.
2. FINAL EXPOSED CONCRETE SURFACES TO BE PAINTED WITH 2-COAT CLEAR PROTECTIVE COATING ARE AS FOLLOWS:

CONTINUOUS SURFACE COATING

- VERTICAL SURFACES OF EXTERIOR EDGE OF DECKS
- UNDERSIDE OF EXTERIOR DECK OVERHANGS
- UNDERSIDE OF INTERIOR DECK OVERHANGS
- TOP OF THE TWO EXISTING ARCH RIBS ADJACENT TO ℄ SR0078

LOCALIZED SURFACE COATING

- EXPOSED SURFACES OF ALL ELEMENTS LOCATED AT OR NEAR PIER WITHIN THE VERTICAL LIMITS FROM 3' BELOW FINAL GROUND ELEVATION UP TO BOTTOM OF DECK AND WITHIN 10' UPSTATION AND 10' DOWNSTATION OF ℄ DECK EXPANSION JOINT.
- EXPOSED SURFACES WITHIN 10' ALL AROUND INTERIOR OVERHANG DECK DRAINAGE SCUPPER DOWNSPOUT.

## EXISTING BRIDGE HAZARDOUS MATERIALS

1. EXISTING BRIDGE PIERS CONTAIN ASBESTOS AND/OR LEAD PAINT, SEE SPECIAL PROVISIONS AND PROJECT REPORTS PROVIDED TO CONTRACTORS AS MATERIAL HANDOUTS DURING CONSTRUCTION CONTRACT BIDDING.

## MINIMUM CONCRETE COVER

1. MINIMUM CONCRETE COVER BETWEEN REINFORCEMENT AND EXPOSED CONCRETE SURFACE SHALL BE AS FOLLOWS, UNLESS SHOWN OTHERWISE:
   - BOTTOM OF DECK 1½"
   - ALL OTHER SURFACES 2½" MIN.

## BRIDGE LOAD RATING TABLE (AFTER CONSTRUCTION)

CURRENT ADTT = 19,730 DESIGN YEAR ADTT = 30,568

ANALYSIS METHOD: 3D FINITE ELEMENT ANALYSIS

DESIGN METHOD: AASHTO LOAD & RESISTANCE FACTOR DESIGN (LRFD)

| | | H20 | HS20 | ML-80 | TK-527 | PHL-93 | P-82 |
|---|---|---|---|---|---|---|---|
| INVENTORY RATING (IR) | CRITICAL MEMBER | SPANDREL BEAM | SPANDREL BEAM | SPANDREL BEAM | SPANDREL BEAM | SPANDREL BEAM | -- |
| | LOCATION * | 0.2L | 0.2L | 0.2L | 0.2L | 0.2L | -- |
| | LIMIT STATE | STRENGTH I | STRENGTH I | STRENGTH I | STRENGTH I | STRENGTH I | -- |
| | RATING FACTOR | 1.96 ** | 1.48 ** | 1.18 ** | 1.26 ** | 1.06 ** | -- |
| OPERATING RATING (OR) | CRITICAL MEMBER | SPANDREL BEAM | SPANDREL BEAM | SPANDREL BEAM | SPANDREL BEAM | SPANDREL BEAM | SPANDREL BEAM |
| | LOCATION * | 0.2L | 0.2L | 0.2L | 0.2L | 0.2L | 0.2L |
| | LIMIT STATE | STRENGTH II | STRENGTH II | STRENGTH II | STRENGTH II | STRENGTH II | STRENGTH II |
| | RATING FACTOR | 2.55 ** | 1.92 ** | 1.53 ** | 1.63 ** | 1.37 ** | 1.06 ** |

* LOCATION/DISTANCE FROM SUPPORT FACE IS EXPRESSED AS A DECIMAL OF CLEAR SPAN LENGTH (L) IN THE DIRECTION OF LOADS.

** RATING FACTOR CONTROLS BY SHEAR NEAR SUPPORT
FACTORED SHEAR RESISTANCE=145 KIPS

## SUPPLEMENTAL ABBREVIATIONS

| | |
|---|---|
| & | AND |
| ADTT | AVERAGE DAILY TRUCK TRAFFIC |
| BTWN | BETWEEN |
| C-C | CENTER TO CENTER |
| CG | CENTER OF GRAVITY |
| CIP | CAST IN PLACE |
| CLR | CLEARANCE/CLEAR |
| DIFF | DIFFERENCE |
| EL OR ELEV | ELEVATION |
| FF | FRONT FACE |
| FIX | FIXED |
| FS | FAR SIDE |
| HORIZ | HORIZONTAL |
| INCL | INCLUDED OR INCLUDING |
| KIP/KIPS | 1000 POUND FORCE |
| KSF | KIPS PER SQUARE FOOT |
| KSI | KIPS PER SQUARE INCH |
| N/A | NOT-APPLICABLE |
| NO. | NUMBER |
| NS | NEAR SIDE |
| NTS | NOT TO SCALE |
| PA | PENNSYLVANIA |
| PGL | PROFILE GRADE LINE |
| REHAB | REHABILITATION |
| RF | REAR FACE |
| SPA | SPACES |
| STR | STRAIGHT |
| T&B | TOP & BOTTOM |
| T.O. | TOP OF |
| UNO | UNLESS NOTED OTHERWISE |
| VAR | VARIES/VARIABLE |
| WP | WORKING POINT |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
GENERAL NOTES

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 15 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-CN-001.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/27/2019 9:01:51 AM
FILENAME: E02657-S38014-QT-WEST.dgn
OPERATOR: ASengupta

# TABULATION OF BRIDGE BID ITEMS & APPROXIMATE QUANITITES

| QUANTITY | ITEM NUMBER UNIT | INFORMAL QUANTITY & UNIT | DESCRIPTION | ABUT 1 | PIER 1 | PIER 2 | SPANS 1-3 |
|---|---|---|---|---|---|---|---|
| X | 8030-0002 LS | BRIDGE STRUCTURE, AS DESIGNED, WESTERN APPROACH S-38014 (OR 2 SPAN) (3) | | - | - | - | - |
| | (1) | 1248 SY | WATERPROOFING - OTHER SURFACES | 428 | - | - | 820 |
| | (1) | 557 CY | CLASS AA CEMENT CONCRETE (5)(10)(22) | - | - | - | 557 |
| | (1) | 935 CY | CLASS A CEMENT CONCRETE (22) | 121 | 407 | 407 | - |
| | (1) | 772 CY | CLASS AAAP CEMENT CONCRETE (4)(22) | - | - | - | 772 |
| | (1) | 6 EA | STEEL BEAM TEST PILES, HP12X74 (15) | 2 | 2 | 2 | - |
| | (1) | 4459 SY | PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) (6) | - | - | - | 4459 |
| | (1) | 3823 LF | PRESTRESSED CONCRETE PA BULB-TEE BEAMS, 33" X 79" (16) | - | - | - | 3823 |
| | (1) | 12 EACH | SCUPPER (TYPE 1) | - | - | - | 12 |
| | (1) | 130 LF | NEOPRENE STRIP SEAL DAM, (3" MOVEMENT) | 130 | - | - | - |
| | (1) | 77 EACH | LAMINATED NEOPRENE BEARING PAD | 33 (17) | 22 | 22 | - |
| | (1) | 2021 CY | CLASS 3 EXCAVATION | - | 937 | 1084 | - |
| | (1) | 365 SY | BRIDGE APPROACH SLAB | - | - | - | 365 |
| | (1) | 6 CY | NO. 57 COARSE AGGREGATE | 6 | - | - | - |
| | (1) | 1 EA | JUNCTION BOXES | - | - | - | 1 |
| | (1) | 351 LF | 2" CONDUIT IN STRUCTURE (21) | - | - | - | 351 |
| AND 725010 | 1002-0053 LB | REINFORCEMENT BARS, EPOXY COATED (11)(18) | | 32120 | 77110 | 82720 | 533060 |
| AND 3695 | 1005-1104 LF | STEEL BEAM BEARING PILES, HP12X74 | | 1192 | 1479 | 1024 | - |
| AND 150 | 1005-1211 EACH | STEEL BEAM TIP REINFORCEMENT HP12X74 (NORMAL DUTY) | | 22 | 64 | 64 | - |
| AND 49 | 1086-0200 EACH | STRUCTURE MOUNTED SOUND BARRIER WALL POST, STEEL H-BEAM | | - | - | - | 49 |
| AND 3745 | 1086-0350 SF | STRUCTURE MOUNTED SOUND BARRIER WALL PANELS, PRECAST REINFORCED CONCRETE (19)(20) | | - | - | - | 3745 |
| 1551 | 9000-0122 SY | EPOXY TREATMENT FOR DECK AND APPROACH SLAB (3) | | - | - | - | 1551 |
| 4 | 9000-0123 EACH | DYNAMIC PILE LOAD TESTING (3) | | - | 2 | 2 | - |
| X | 9000-0127 LS | TEMPORARY SHIELDING - READING BLUE MOUNTAIN RAILROAD (3) | | - | - | - | - |
| 1551 | 9000-0129 SY | TEXTURING CONCRETE DECK SURFACE WITH LONGITUDINAL SAWED GROOVES (3) | | - | - | - | 1551 |
| X | 9000-0154 LS | OVERHEAD DEBRIS SHIELD (3) | | - | - | - | 1551 |
| 1842 | 9005-0500 LF | MANDATORY PRE-DRILLING FOR DRIVEN PILES (3) | | 594 | 736 | 512 | - |
| 162 | 9005-0600 LF | PREDRILLING FOR UNFORESEEN OBSTRUCTIONS, EARTH DRILLING (3) | | - | 162 | - | - |
| 58 | 9005-0610 LF | PREDRILLING FOR UNFORESEEN OBSTRUCTIONS, OBSTRUCTION DRILLING (3) | | - | 58 | - | - |
| 28800 | 9005-0620 DOLLAR | PREDRILLING FOR UNFORESEEN OBSTRUCTIONS, PILE EXTRACTION AND RE-DRIVING (3) | | - | - | - | - |
| 8000 | 9005-2700 DOLLAR | MOBILIZATION FOR PREDRILLING FOR UNFORESEEN OBSTRUCTIONS (3) | | - | - | - | - |
| X | 9203-0130 LS | TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, WESTERN APPROACH S-38014 (3) | | - | - | - | - |

## BID ITEM NOTES:

(1) ITEMS IN BRIDGE STRUCTURE LUMP SUM ITEM 8030-0002 GIVEN FOR INFORMATION ONLY.

(2) CONTRACTOR DESIGN ALTERNATE.

(3) SEE SPECIAL PROVISIONS.

(4) INCLUDES CLASS AAAP CEMENT CONCRETE IN THE DECK SLAB AND APPROXIMATELY 20 YARDS OF CLASS AAAP CEMENT CONCRETE TO ACCOUNT FOR STAY-IN-PLACE FORM TROUGHS.

(5) INCLUDES CLASS AA CONCRETE IN THE BARRIER, APPROACH SLABS, SLEEPER SLABS, DIAPHRAGMS, SHEAR BLOCKS, AND CHEEK WALLS.

(6) PROVIDE PROTECTIVE COATING IN ACCORDANCE WITHIN SECTION 1001.3(K)6 IF DECK IS POURED BETWEEN SEPTEMBER 1 AND MARCH 1.

(7) ITEMS IN ABUTMENT AND WINGWALL LUMP SUM FOR MSE WALL (8641-0001) GIVEN FOR INFORMATION ONLY.

| DES: AB | DWN: AB | CKD: AKS |
|---|---|---|

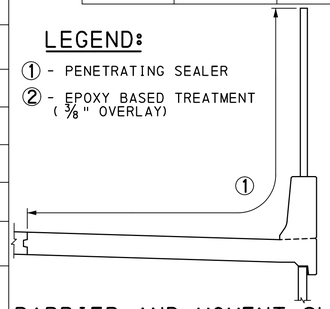
# TABULATION OF MSE ABUTMENT AND WINGWALL BID ITEMS AND APPROXIMATE QUANTITIES

| QUANTITY | ITEM NUMBER UNIT | INFORMAL QUANTITY & UNIT | DESCRIPTION | ABUT 1 | WING A | WING B |
|---|---|---|---|---|---|---|
| X | 8641-0001 LS | MECHANICALLY STABILIZED EARTH RETAINING WALLS (8)(9) | | - | - | - |
| | (7) | 1239 CY | CLASS 3 EXCAVATION (14) | 1239 | - | - |
| | (7) | 4 TON | SELECT GRANULAR MATERIAL (2RC) | 2 | 2 | - |
| | (7) | 1152 CY | SPECIFIED BACKFILL (8) | 596 | 315 | 241 |
| | (7) | 53 CY | CLASS AA CEMENT CONCRETE (10) | 31 | 13 | 9 |
| | (7) | 124 SY | PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES) | - | 74 | 50 |
| AND 1500 | 1002-0053 LB | REINFORCEMENT BARS, EPOXY COATED (13) | | 900 | 300 | 300 |
| AND 720 | 4205-0200 CY | SELECT BORROW EXCAVATION, 206 ROCK | | 433 | 171 | 116 |
| AND 76 | 9000-0128 CY | OVEREXCAVATION AND BACKFILL WITH NO. 2A COARSE AGGREGATE (3) | | 29 | 27 | 20 |

LEGEND:

① - PENETRATING SEALER

② - EPOXY BASED TREATMENT (⅜" OVERLAY)




BARRIER AND MOMENT SLAB

NOT TO SCALE

(8) SEE SPECIAL PROVISION ENTITLED "MECHANICALLY STABILIZED RETAINING WALL SYSTEMS".

(9) INCLUDE THE FOLLOWING IN THE MECHANICALLY STABILIZED ABUTMENT AND WINGWALL, AS DESIGNED: NO 57 COARSE AGGREGATE (WEEP HOLES), CLASS A CEMENT CONCRETE (LEVELING PAD), 30 MIL IMPERVIOUS MEMBRANE (HDPE), ANY OTHER MATERIALS REQUIRED FOR CONSTRUCTION.

(10) COATED DOWEL BARS AT TRANSVERSE MOMENT SLAB JOINTS ARE INCIDENTAL TO CLASS AA CEMENT CONCRETE.

(11) FOR AS-DESIGN STRUCTURE, INCLUDED IN BRIDGE/MSE ABUTMENT AND WINGWALL BID ITEMS. ALTERNATE DESIGNS, INCLUDE IN BRIDGE/MSE ABUTMENT AND WINGWALL LUMP SUM BID ITEMS.

(12) SEE SPECIAL PROVISION "PRECAST MODULAR RETAINING WALL SYSTEM".

(13) QUANTITY INCLUDES ALL REINFORCEMENT WITHIN THE BARRIER MOMENT SLABS.

(14) QUANTITY INCLUDES ALL EXCAVATION AT THE ABUTMENT, INCLUDING WINGS.

(15) INCLUDES 4 STEEL BEAM (NORMAL DUTY) PILE TIP REINFORCEMENT, HP12X74.

(16) BEARING PADS ARE INCIDENTAL TO PRESTRESSED CONCRETE BEAMS.

(17) VALUE FOR LAMINATED NEOPRENE BEARING PAD INCLUDES THE QUANITITY FOR ABUTMENT 1 AND PIER 3.

(18) PAYMENT FOR MECHANICAL SPLICE SYSTEMS, EPOXY COATED IS INCIDENTAL TO REINFORCEMENT BARS, EPOXY COATED, 1002-0053.

(19) INCLUDES ALL JOINT SEALING MATERIALS AND ALL ASSOCIATED HARDWARE.

(20) INCLUDES ARCHITECTURAL TREATMENT.

(21) FOR ITS AND LIGHTING. EXPANSION/DEFLECTION FITTINGS, GROUNDS, AND APPURTENANCES ARE INCIDENTAL TO CONDUIT.

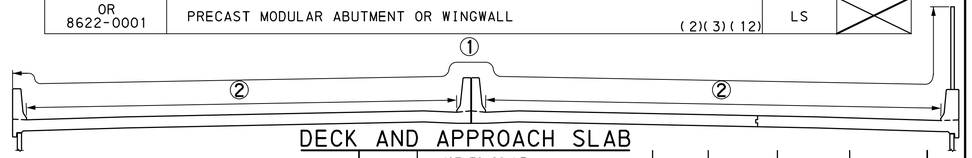
(22) EXPANSION JOINT MATERIAL, CLOSED CELL NEOPRENE SPONGE, ETC. IS CONSIDERED INCIDENTAL TO THE CLASS OF CONCRETE FOR WHICH IT APPLIES.

# ALTERNATE STRUCTURE ITEMS

| ITEM NO. | DESCRIPTION | UNIT | TOTAL |
|---|---|---|---|
| EITHER 8030-0002 | BRIDGE STRUCTURE, AS DESIGNED, WESTERN APPROACH S-38014 (OR 2 SPAN) (3) | LS | X |
| OR 8000-0002 | PRESTRESSED CONCRETE BRIDGE STRUCTURE (2)(3) | LS | X |
| OR 8100-0002 | STEEL BRIDGE STRUCTURE (2)(3) | LS | X |

# ALTERNATE MSE ABUTMENT AND WINGWALL ITEMS

| ITEM NO. | DESCRIPTION | UNIT | TOTAL |
|---|---|---|---|
| EITHER 8641-0001 | MECHANICALLY STABILIZED ABUTMENT AND WINGWALL, AS DESIGNED (3) | LS | X |
| OR 8610-0001 | CONCRETE RETAINING WALL (2)(3) | LS | X |
| OR 8622-0001 | PRECAST MODULAR ABUTMENT OR WINGWALL (2)(3)(12) | LS | X |




DECK AND APPROACH SLAB

NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
WEST APPROACH SPANS
QUANTITIES

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 16 OF 295

S-38014

PLOTTED: 8/27/2019 7:08:40 PM

# TABULATION OF BRIDGE BID ITEMS & APPROXIMATE QUANTITIES

| ITEM NUMBER | QUANTITY & UNIT | DESCRIPTION | SUBSTR | SUPERSTR | PIER 3 | SPAN 4 | PIER 4 | SPAN 5 | PIER 5 | SPAN 6 | PIER 6 | SPAN 7 | PIER 7 | SPAN 8 | PIER 8 | SPAN 9 | PIER 9 | SPAN 10 | PIER 10 | SPAN 11 | PIER 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0204-0100 | CY | CLASS 3 EXCAVATION | 20,025 | | 2,446 | | 2,160 | | 2,308 | | 2,622 | | 2,086 | | 3,129 | | 1,465 | | 1,306 | | 2,503 |
| 0850-0022 | CY | ROCK, CLASS R-4 | 375 | | | | | | | | | | | | 101 | | 76 | | 76 | | 123 |
| 0850-0026 | CY | ROCK, CLASS R-8 | 3,376 | | | | | | | | | | | | 905 | | 683 | | 683 | | 1,105 |
| 0910-0005 | EA | JUNCTION BOXES | 4 | | | 1 | | | | 1 | | | | 1 | | | | 1 | | | |
| 0910-5255 | LF | 2" CONDUIT IN STRUCTURE | | 1,258 | | 156 | | 158 | | 158 | | 158 | | 158 | | 158 | | 158 | | 156 | |
| 1002-0053 | LB | REINFORCEMENT BARS, EPOXY COATED* | 3,043,893 | 2,587,686 | | | | | | | | | | | | | | | | | |
| 1018-0052 | LS | REMOVAL OF PORTION OF EXISTING BRIDGE, S-38014 | 2,799 | | | | | | | | | | | | | | | | | | |
| 1019-0040 | SY | PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUBSTRUCTURE) | 2,689 | | | | | | | | | | | | | | | | | | |
| 1019-0050 | SY | PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) | | 19,757 | | 2,456 | | 2,474 | | 2,474 | | 2,474 | | 2,474 | | 2,474 | | 2,474 | | 2,456 | |
| 1056-0556 | EA | SCUPPER (TYPE 1) | 16 | | | 4 | | | | 4 | | | | 4 | | | | 4 | | | |
| 1086-0200 | EA | STRUCTURE MOUNTED SOUND BARRIER WALL POST, STEEL H-BEAM | | 161 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 21 | |
| 1086-0350 | SF | STRUCTURE MOUNTED SOUND BARRIER WALL PANELS, PRECAST REINFORCED CONCRETE | | 466 | | 57 | | 58 | | 58 | | 58 | | 58 | | 58 | | 58 | | 61 | |
| 1091-0331 | LF | EPOXY INJECTION CRACK SEAL | | | | | | | | | | | | | | | | | | | |
| 5001-0001 | CY | CLASS AA CEMENT CONCRETE, HIGH STRENGTH | 16,835 | | | | | | | | | | | | | | | | | | |
| 5001-0010 | CY | CLASS A CEMENT CONCRETE, HIGH STRENGTH | 1,896 | | | | | | | | | | | | | | | | | | |

* ADDITIONAL WEIGHT FOR MEANS-AND-METHODS LAP SPLICE IS INCLUDED IN CONTINUOUS REINFORCING BAR EXCEEDING 60' IN LENGTH. CONTRACTOR MAY OPT TO USE MECHANICAL SPLICE, IN LIEU OF LAP SPLICE, IN ORDER TO ACHIEVE CONTINUITY IN REINFORCING BAR AT NO ADDITONAL COST TO THE STATE

## NOTES:

1. REFER TO APPROACH PLANS - "JUNCTION BOX PLANS" FOR THE JUNCTION BOX QUANTITES
2. REFER TO APPROACH PLANS - "STRUCTURE MOUNTED SOUND BARRIER ELEVATION" AND "SOUND BARRIER DETAILS" FOR THE QUANTITIES OF SOUND BARRIER WALL POST & PANELS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
QUANTITIES -1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 17 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-QT-101.dgn

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# TABULATION OF BRIDGE BID ITEMS & APPROXIMATE QUANTITIES

| ITEM NUMBER | QUANTITY & UNIT | DESCRIPTION | SUBSTR | SUPERSTR | PIER 3 | SPAN 4 | PIER 4 | SPAN 5 | PIER 5 | SPAN 6 | PIER 6 | SPAN 7 | PIER 7 | SPAN 8 | PIER 8 | SPAN 9 | PIER 9 | SPAN 10 | PIER 10 | SPAN 11 | PIER 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5001-0960 | CY | CLASS AAAP CEMENT CONCRETE, HIGH STRENGTH | | 5,268 | | | | | | | | | | | | | | | | | |
| 9000-0122 | SY | EPOXY TREATMENT FOR DECK AND APPROACH SLAB | | 14,953 | | 1,858 | | 1,873 | | 1,873 | | 1,873 | | 1,873 | | 1,873 | | 1,873 | | 1,858 | |
| 9000-0126 | LF | NEOPRENE STRIP SEAL DAM, (2.5" MOVEMENT) | 1,035 | | 115 | | 115 | | 115 | | 115 | | 115 | | 115 | | 115 | | 115 | | 115 |
| 9000-0129 | SY | TEXTURING CONCRETE DECK SURFACE WITH LONGITUDINAL SAWED GROOVES | | 14,953 | | 1,858 | | 1,873 | | 1,873 | | 1,873 | | 1,873 | | 1,873 | | 1,873 | | 1,858 | |
| 9000-0130 | EA | CAISSON CROSS-HOLE SONIC LOGGING | | | 72 | | 48 | | 48 | | 48 | | 48 | | 48 | | 48 | | 48 | | 72 |
| 9000-0131 | LS | FALSEWORK SUPPORT SYSTEM FOR NEW AND EXISTING STRUCTURE | 75 | | | 14 | | 10 | | 7 | | 7 | | 11 | | 9 | | 9 | | 7 | |
| 9000-0138 | LF | 72" DIAMETER DRILL CAISSONS, SHAFT SECTION | 9,648 | | 1,720 | | 1,000 | | 1,032 | | 1,944 | | 2,216 | | 536 | | 400 | | 400 | | 400 |
| 9000-0139 | LF | 66" DIAMETER DRILL CAISSONS, ROCK SOCKET | 1,760 | | 264 | | 176 | | 176 | | 176 | | 176 | | 176 | | 176 | | 176 | | 264 |
| 9000-0141 | EA | TIP TESTING | 80 | | 12 | | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | | 12 |
| 9000-0142 | LF | HQ CONCRETE CORING | 1,800 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 |
| 9000-0143 | SF | TYPE 1 REPAIR | 2,757 | | 34 | 360 | 42 | 317 | 6 | 325 | 3 | 196 | 8 | 235 | 6 | 506 | 3 | 306 | 3 | 344 | 63 |
| 9000-0144 | SF | TYPE 1 REPAIR, OVERHEAD | 608 | | | 68 | | 27 | | 199 | | 42 | | 73 | | 56 | | 70 | | 72 | |
| 9000-0145 | SF | TYPE 2 REPAIR | 1,712 | | | 234 | 10 | 82 | 28 | 164 | 39 | 238 | 38 | 74 | 75 | 84 | 19 | 366 | 7 | 206 | 48 |
| 9000-0146 | SF | TYPE 2 REPAIR, OVERHEAD | 650 | | | 27 | | 44 | | 36 | | 29 | | 79 | | 80 | | 128 | | 226 | |
| 9000-0147 | EA | TYPE R1 - SCENARIO - PARTIAL REPLACEMENT | 28 | | | 8 | | 5 | | 2 | | | | 4 | | 2 | | 3 | | 3 | |

* ADDITIONAL WEIGHT FOR MEANS-AND-METHODS LAP SPLICE IS INCLUDED IN CONTINUOUS REINFORCING BAR EXCEEDING 60' IN LENGTH. CONTRACTOR MAY OPT TO USE MECHANICAL SPLICE, IN LIEU OF LAP SPLICE, IN ORDER TO ACHIEVE CONTINUITY IN REINFORCING BAR AT NO ADDITONAL COST TO THE STATE

## NOTES:

1. REFER TO APPROACH PLANS - "JUNCTION BOX PLANS" FOR THE JUNCTION BOX QUANTITES
2. REFER TO APPROACH PLANS - "STRUCTURE MOUNTED SOUND BARRIER ELEVATION" AND "SOUND BARRIER DETAILS" FOR THE QUANTITIES OF SOUND BARRIER WALL POST & PANELS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
QUANTITIES - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 18 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-QT-102.dgn

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# TABULATION OF BRIDGE BID ITEMS & APPROXIMATE QUANTITIES

| ITEM NUMBER | QUANTITY & UNIT | DESCRIPTION | SUBSTR | SUPERSTR | PIER 3 | SPAN 4 | PIER 4 | SPAN 5 | PIER 5 | SPAN 6 | PIER 6 | SPAN 7 | PIER 7 | SPAN 8 | PIER 8 | SPAN 9 | PIER 9 | SPAN 10 | PIER 10 | SPAN 11 | PIER 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9000-0148 | EA | TYPE R2 - SCENARIO - FULL REPLACEMENT DUE TO DAMAGE AND STRENGTH | 47 | | | 6 | | 5 | | 5 | | 7 | | 7 | | 7 | | 6 | | 4 | |
| 9000-0151 | LS | UNDERDECK COMBINATION WORK PLATFORM AND PROTECTION SYSTEM | 47 | | | 6 | | 5 | | 5 | | 7 | | 7 | | 7 | | 6 | | 4 | |
| 9000-0153 | LS | CONTROL OF HEAT OF HYDRATION FOR STRUCTURAL MASS CONCRETE | 10,493 | | | | | | | | | | | | | | | | | | |
| 9000-0157 | EA | DRILL AND BOND DOWELS (OVERHEAD AND HORIZONTAL HOLE) rebar #11, 3'-6" embedment | 846 | | | 108 | | 90 | | 90 | | 126 | | 126 | | 126 | | 108 | | 72 | |
| 9000-0158 | EA | DRILL AND BOND DOWELS (OVERHEAD AND HORIZONTAL HOLE) rebar #5, 1'-0" embedment | 552 | | 264 | | | | | | | | | | | | | | | | 288 |
| 9000-0159 | EA | DRILL AND BOND DOWELS (VERTICAL & DIAGONAL) rebar #11, 1'-9" embedment | 846 | | | 108 | | 90 | | 90 | | 126 | | 126 | | 126 | | 108 | | 72 | |
| 9000-0162 | EA | DRILL AND BOND DOWELS (VERTICAL & DIAGONAL) rebar #5, 1'-0" embedment | 2,607 | | 342 | | 220 | | 220 | | 380 | | 204 | | 468 | | 252 | | 252 | | 269 |
| 9000-0163 | LF | REPAIR EXISTING COURSED ASHLAR MASONRY | 5,235 | | 339 | | 618 | | 630 | | 617 | | 546 | | 774 | | 762 | | 701 | | 338 |
| 9000-0164 | CY | ULTRA HIGH PERFORMANCE CLOSURE CONCRETE | 2,287 | 239 | 358 | 36 | 186 | 36 | 187 | 36 | 198 | 36 | 182 | 36 | 265 | 36 | 202 | 36 | 201 | 36 | 457 |
| 9203-0135 | LS | TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM | | | | | | | | | | | | | | | | | | | |

* ADDITIONAL WEIGHT FOR MEANS-AND-METHODS LAP SPLICE IS INCLUDED IN CONTINUOUS REINFORCING BAR EXCEEDING 60' IN LENGTH. CONTRACTOR MAY OPT TO USE MECHANICAL SPLICE, IN LIEU OF LAP SPLICE, IN ORDER TO ACHIEVE CONTINUITY IN REINFORCING BAR AT NO ADDITONAL COST TO THE STATE

## NOTES:

1. REFER TO APPROACH PLANS - "JUNCTION BOX PLANS" FOR THE JUNCTION BOX QUANTITES
2. REFER TO APPROACH PLANS - "STRUCTURE MOUNTED SOUND BARRIER ELEVATION" AND "SOUND BARRIER DETAILS" FOR THE QUANTITIES OF SOUND BARRIER WALL POST & PANELS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
QUANTITIES - 3

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 19 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-QT-103.dgn

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# TABULATION OF BRIDGE BID ITEMS & APPROXIMATE QUANITITES

| QUANTITY | ITEM NUMBER UNIT | INFORMAL QUANTITY & UNIT | DESCRIPTION | ABUT 2 | SPAN 12 |
|---|---|---|---|---|---|
| X | 8030-0010 LS | BRIDGE STRUCTURE, AS DESIGNED, EASTERN APPROACH, S-38014 (OR 1 SPAN) (3) | | - | - |
| | (1) | 697 SY | WATERPROOFING - OTHER SURFACES | 697 | - |
| | (1) | 294 CY | CLASS AA CEMENT CONCRETE (5)(10)(18) | - | 294 |
| | (1) | 121 CY | CLASS A CEMENT CONCRETE (18) | 121 | - |
| | (1) | 254 CY | CLASS AAAP CEMENT CONCRETE (4)(18) | - | 254 |
| | (1) | 1467 SY | PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) (6) | - | 1467 |
| | (1) | 1286 LF | PRESTRESSED CONCRETE PA BULB-TEE BEAMS, 33" X 71" (16) | - | 1286 |
| | (1) | 12 EACH | SCUPPER (TYPE 1) | - | 12 |
| | (1) | 130 LF | NEOPRENE STRIP SEAL DAM, (3" MOVEMENT) | 130 | - |
| | (1) | 22 EACH | LAMINATED NEOPRENE BEARING PAD | 22 (17) | - |
| | (1) | 365 SY | BRIDGE APPROACH SLAB | - | 365 |
| | (1) | 6 CY | NO. 57 COARSE AGGREGATE | 6 | - |
| | (1) | 1 EA | JUNCTION BOXES | - | 1 |
| | (1) | 116 LF | 2" CONDUIT IN STRUCTURE (19) | - | 116 |
| AND 216000 | 1002-0053 LB | REINFORCEMENT BARS, EPOXY COATED (11) | | 32565 | 183435 |
| AND 1166 | 1005-1104 LF | STEEL BEAM BEARING PILES, HP12X74 | | 1166 | - |
| AND 22 | 1005-1211 EACH | STEEL BEAM TIP REINFORCEMENT HP12X74 (NORMAL DUTY) | | 22 | - |
| AND 20 | 1086-0200 EACH | STRUCTURE MOUNTED SOUND BARRIER WALL POST, STEEL H-BEAM | | 20 | - |
| AND 1419 | 1086-0350 SF | STRUCTURE MOUNTED SOUND BARRIER WALL PANELS, PRECAST REINFORCED CONCRETE (20)(21) | | 1419 | - |
| 554 | 9000-0122 SY | EPOXY TREATMENT FOR DECK AND APPROACH SLAB (3) | | - | 554 |
| 2 | 9000-0124 EACH | DYNAMIC PILE LOAD TESTING (3) | | 2 | - |
| X | 9000-0127 LS | TEMPORARY SHIELDING - READING BLUE MOUNTAIN RAILROAD (3) | | - | - |
| 554 | 9000-0129 SY | TEXTURING CONCRETE DECK SURFACE WITH LONGITUDINAL SAWED GROOVES (3) | | - | 554 |
| X | 9000-0152 LS | OVERHEAD DEBRIS SHIELD (3) | | - | - |
| 583 | 9005-0500 LF | MANDATORY PRE-DRILLING FOR DRIVEN PILES (3) | | 583 | - |
| X | 9203-0131 LS | TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, EASTERN APPROACH S-38014 (3) | | - | - |

## BID ITEM NOTES:

(1) ITEMS IN BRIDGE STRUCTURE LUMP SUM ITEM 8030-0010 GIVEN FOR INFORMATION ONLY.

(2) CONTRACTOR DESIGN ALTERNATE.

(3) SEE SPECIAL PROVISIONS.

(4) INCLUDES CLASS AAAP CEMENT CONCRETE IN THE DECK SLAB AND APPROXIMATELY 16 YARDS OF CLASS AAAP CEMENT CONCRETE TO ACCOUNT FOR STAY-IN-PLACE FORM TROUGHS.

(5) INCLUDES CLASS AA CONCRETE IN THE BARRIER, APPROACH SLABS, SLEEPER SLABS, DIAPHRAGMS, SHEAR BLOCKS, AND CHEEK WALLS.

(6) PROVIDE PROTECTIVE COATING IN ACCORDANCE WITHIN SECTION 1001.3(k)6 IF DECK IS POURED BETWEEN SEPTEMBER 1 AND MARCH 1.

(7) ITEMS IN ABUTMENT AND WINGWALL LUMP SUM FOR MSE WALL (8641-0010) GIVEN FOR INFORMATION ONLY.

(8) SEE SPECIAL PROVISION ENTITLED "MECHANICALLY STABILIZED RETAINING WALL SYSTEMS".

(9) INCLUDE THE FOLLOWING IN THE MECHANICALLY STABILIZED ABUTMENT AND WINGWALL, AS DESIGNED: NO 57 COARSE AGGREGATE (WEEP HOLES), CLASS A CEMENT CONCRETE (LEVELING PAD), 30 MIL IMPERVIOUS MEMBRANE (HDPE), ANY OTHER MATERIALS REQUIRED FOR CONSTRUCTION.

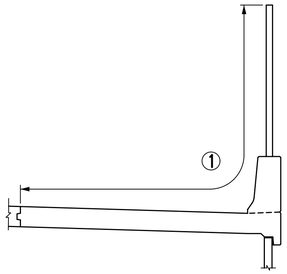
(10) COATED DOWEL BARS AT TRANSVERSE MOMENT SLAB JOINTS ARE INCIDENTAL TO CLASS AA CEMENT CONCRETE.

(11) FOR AS-DESIGN STRUCTURE, INCLUDED IN BRIDGE/MSE ABUTMENT AND WINGWALL BID ITEMS. ALTERNATE DESIGNS, INCLUDE IN BRIDGE/MSE ABUTMENT AND WINGWALL LUMP SUM BID ITEMS.

(12) SEE SPECIAL PROVISION ENTITLED "PRECAST MODULAR RETAINING WALL SYSTEM".

# TABULATION OF MSE ABUTMENT AND WINGWALL BID ITEMS AND APPROXIMATE QUANTITIES

| QUANTITY | ITEM NUMBER UNIT | INFORMAL QUANTITY & UNIT | DESCRIPTION | ABUT 2 | WING C | WING D |
|---|---|---|---|---|---|---|
| X | 8641-0010 LS | MECHANICALLY STABILIZED EARTH RETAINING WALLS (8)(9) | | - | - | - |
| | (7) | 2254 CY | CLASS 3 EXCAVATION (14) | 2254 | - | - |
| | (7) | 25 TON | SELECT GRANULAR MATERIAL (2RC) | 17 | - | 8 |
| | (7) | 3300 CY | SPECIFIED BACKFILL (8) | 1886 | 705 | 709 |
| | (7) | 66 CY | CLASS AA CEMENT CONCRETE (10) | 34 | 16 | 16 |
| | (7) | 188 SY | PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES) | - | 94 | 94 |
| AND 1500 | 1002-0053 LB | REINFORCEMENT BARS, EPOXY COATED (13) | | 900 | 300 | 300 |
| AND 914 | 4205-0200 CY | SELECT BORROW EXCAVATION, 206 ROCK | | 477 | 218 | 219 |
| AND 106 | 9000-0128 CY | OVEREXCAVATION AND BACKFILL WITH NO. 2A COARSE AGGREGATE (3) | | 30 | 38 | 38 |



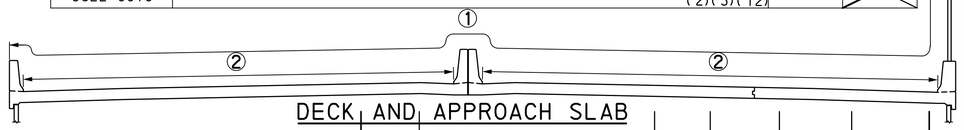

BARRIER AND MOMENT SLAB
NOT TO SCALE

## ALTERNATE STRUCTURE ITEMS

| ITEM NO. | DESCRIPTION | UNIT | TOTAL |
|---|---|---|---|
| EITHER 8030-0010 | BRIDGE STRUCTURE, AS DESIGNED, EASTERN APPROACH S-38014 (OR 1 SPAN) (3) | LS | X |
| OR 8000-0010 | PRESTRESSED CONCRETE BRIDGE STRUCTURE (2)(3) | LS | X |
| OR 8100-0010 | STEEL BRIDGE STRUCTURE (2)(3) | LS | X |

## ALTERNATE MSE ABUTMENT AND WINGWALL ITEMS

| ITEM NO. | DESCRIPTION | UNIT | TOTAL |
|---|---|---|---|
| EITHER 8641-0010 | MECHANICALLY STABILIZED ABUTMENT AND WINGWALL, AS DESIGNED (3) | LS | X |
| OR 8610-0010 | CONCRETE RETAINING WALL (2)(3) | LS | X |
| OR 8622-0010 | PRECAST MODULAR ABUTMENT OR WINGWALL (2)(3)(12) | LS | X |




DECK AND APPROACH SLAB
NOT TO SCALE

## LEGEND:

① - PENETRATING SEALER

② - EPOXY BASED TREATMENT (⅜" OVERLAY)

(13) QUANTITY INCLUDES ALL REINFORCEMENT WITHIN THE BARRIER MOMENT SLABS.

(14) QUANTITY INCLUDES ALL EXCAVATION AT THE ABUTMENT, INCLUDING WINGS.

(15) INCLUDES 4 STEEL BEAM (NORMAL DUTY) PILE TIP REINFORCEMENT, HP12X74.

(16) ELASTOMERIC BEARING PADS ARE INCIDENTAL TO THE PRESTRESSED CONCRETE BEAMS.

(17) VALUE FOR LAMINATED NEOPRENE BEARING PAD INCLUDES THE QUANTITY FOR ABUTMENT 1 AND PIER 11.

(18) EXPANSION JOINT MATERIAL, CLOSED CELL NEOPRENE SPONGE, ETC. IS CONSIDERED INCIDENTAL TO THE CLASS OF CONCRETE FOR WHICH IT APPLIES.

(19) FOR ITS AND LIGHTING, EXPANSION/DEFLECTION FITTINGS, GROUNDS, AND APPURTENANCES ARE INCIDENTAL TO CONDUIT.

(20) INCLUDES ALL JOINT SEALING MATERIALS AND ALL ASSOCIATED HARDWARE.

(21) INCLUDES ARCHITECTURAL SURFACE TREATMENT.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

## EAST APPROACH SPANS QUANTITIES

RECOMMENDED 08/30/2019

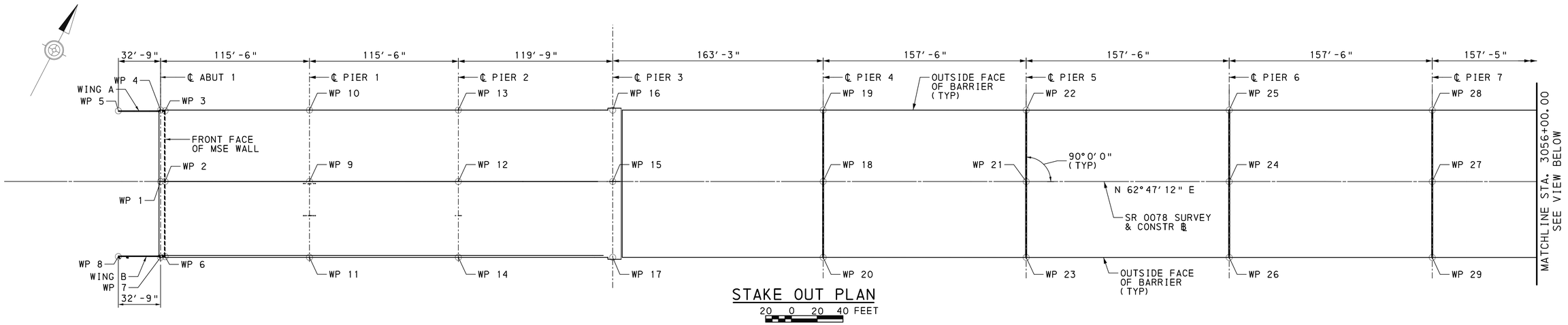
SHEET 20 OF 295

S-38014

DES: AB | DWN: AB | CKD: AKS

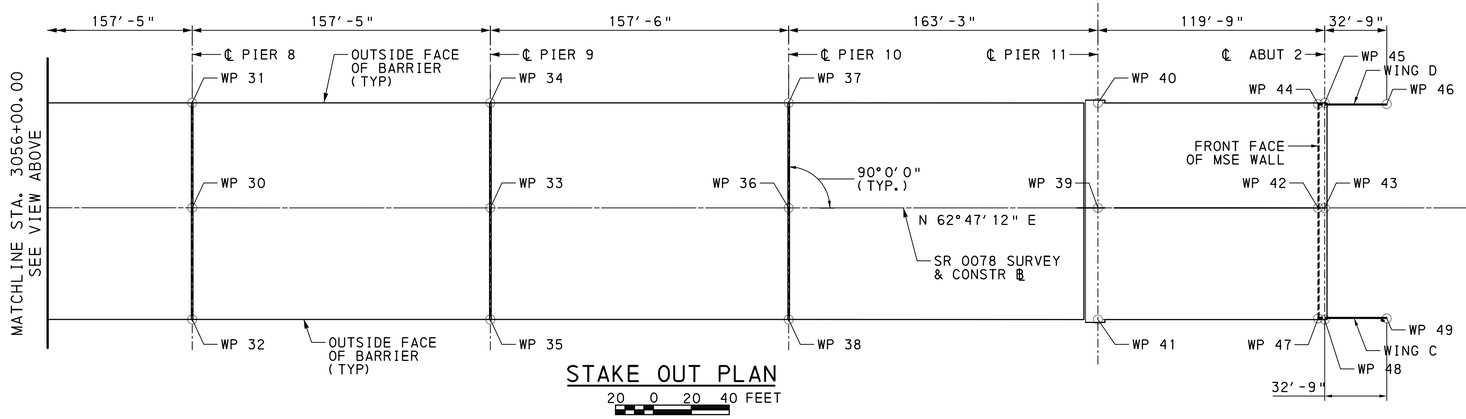
FILENAME: E02657-S38014-QT-EAST.dgn
OPERATOR: ASengupta

PLOTTED: $DATE$ $TIME$




STAKE OUT PLAN

20 0 20 40 FEET




STAKE OUT PLAN

20 0 20 40 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## WORKING POINT COORDINATES

| WP | NORTHING | EASTING | STATION | OFFSET |
|---|---|---|---|---|
| 1 | 451136.52329 | 2456321.38785 | 3045+32.41 | 0.00′ |
| 2 | 451138.12388 | 2456324.50046 | 3045+35.91 | 0.00′ |
| 3 | 451186.88755 | 2456299.42481 | 3045+35.91 | 54.83′ LT |
| 4 | 451185.80573 | 2456296.04547 | 3045+32.41 | 55.42′ LT |
| 5 | 451170.31017 | 2456267.18737 | 3044+99.66 | 54.83′ LT |
| 6 | 451086.24741 | 2456351.17671 | 3045+35.91 | 58.33′ RT |
| 7 | 451084.12808 | 2456348.33089 | 3045+32.41 | 58.92′ RT |
| 8 | 451069.67004 | 2456318.93926 | 3044+99.96 | 58.33′ RT |
| 9 | 451189.34214 | 2456424.10308 | 3046+47.91 | 0.00′ |
| 10 | 451238.62468 | 2456398.76066 | 3046+47.91 | 55.42′ LT |
| 11 | 451136.94702 | 2456451.04608 | 3046+47.91 | 58.92′ RT |
| 12 | 451242.16108 | 2456526.81827 | 3047+63.41 | 0.00′ |
| 13 | 451291.44362 | 2456501.47584 | 3047+63.41 | 55.42′ LT |
| 14 | 451189.76596 | 2456553.76126 | 3047+63.41 | 58.92′ RT |
| 15 | 451296.92408 | 2456633.31399 | 3048+83.16 | 0.00′ |
| 16 | 451346.20719 | 2456607.97127 | 3048+83.16 | 55.42′ LT |

## WORKING POINT COORDINATES

| WP | NORTHING | EASTING | STATION | OFFSET |
|---|---|---|---|---|
| 17 | 451244.52880 | 2456660.25707 | 3048+83.16 | 58.92′ RT |
| 18 | 451371.57894 | 2456778.49273 | 3050+46.41 | 0.00′ |
| 19 | 451420.86128 | 2456753.15037 | 3050+46.41 | 55.42′ LT |
| 20 | 451319.18364 | 2456805.43578 | 3050+46.41 | 58.92′ RT |
| 21 | 451443.60475 | 2456918.55886 | 3052+03.91 | 0.00′ |
| 22 | 451492.88711 | 2456893.21653 | 3052+03.91 | 55.42′ LT |
| 23 | 451391.20947 | 2456945.50194 | 3052+03.91 | 58.92′ RT |
| 24 | 451515.63058 | 2457058.62503 | 3053+61.41 | 0.00′ |
| 25 | 451564.91295 | 2457033.28270 | 3053+61.41 | 55.42′ LT |
| 26 | 451463.23530 | 2457085.56810 | 3053+61.41 | 58.92′ RT |
| 27 | 451587.65641 | 2457198.69119 | 3055+18.91 | 0.00′ |
| 28 | 451636.93878 | 2457173.34886 | 3055+18.91 | 55.42′ LT |
| 29 | 451535.26113 | 2457225.63427 | 3055+18.91 | 58.92′ RT |
| 30 | 451659.64414 | 2457338.68324 | 3056+76.32 | 0.00′ |
| 31 | 451708.92650 | 2457313.34091 | 3056+76.32 | 55.42′ LT |
| 32 | 451607.24886 | 2457365.62632 | 3056+76.32 | 58.92′ RT |

## WORKING POINT COORDINATES

| WP | NORTHING | EASTING | STATION | OFFSET |
|---|---|---|---|---|
| 33 | 451731.63186 | 2457478.67529 | 3058+33.74 | 0.00′ |
| 34 | 451780.91422 | 2457453.33296 | 3058+33.74 | 55.42′ LT |
| 35 | 451679.23658 | 2457505.61837 | 3058+33.74 | 58.92′ RT |
| 36 | 451803.65769 | 2457618.74146 | 3059+91.24 | 0.00′ |
| 37 | 451852.94005 | 2457593.39913 | 3059+91.24 | 55.42′ LT |
| 38 | 451751.26241 | 2457645.68453 | 3059+91.24 | 58.92′ RT |
| 39 | 451878.31234 | 2457763.91979 | 3061+54.49 | 0.00′ |
| 40 | 451927.59383 | 2457738.57790 | 3061+54.49 | 55.42′ LT |
| 41 | 451825.91722 | 2457790.86279 | 3061+54.49 | 58.92′ RT |
| 42 | 451931.47506 | 2457867.30327 | 3062+70.74 | 0.00′ |
| 43 | 451933.07391 | 2457870.41250 | 3062+74.24 | 0.00′ |
| 44 | 451980.23874 | 2457842.22766 | 3062+70.74 | 54.83′ LT |
| 45 | 451982.35635 | 2457845.07013 | 3062+74.24 | 55.42′ LT |
| 46 | 451996.81611 | 2457874.46510 | 3063+06.99 | 54.83′ LT |
| 47 | 451879.59860 | 2457893.97955 | 3062+70.74 | 58.33′ RT |
| 48 | 451880.67869 | 2457897.35554 | 3062+74.24 | 58.92′ RT |
| 49 | 451896.17597 | 2457926.21699 | 3063+06.99 | 58.33′ RT |

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

# COMMONWEALTH OF PENNSYLVANIA
## DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE

APPROACH SPANS 1-3 AND 12

## STAKE-OUT PLAN

RECOMMENDED 08/30/2019

SHEET 21 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

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OPERATOR: $USER$

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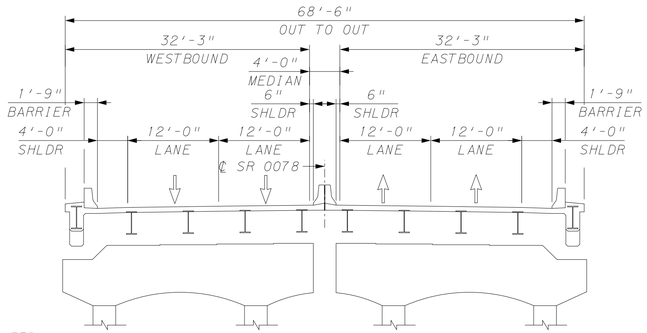
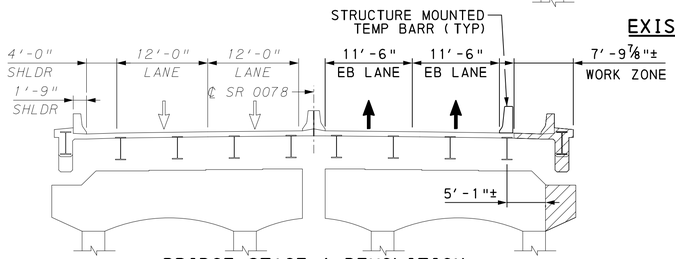
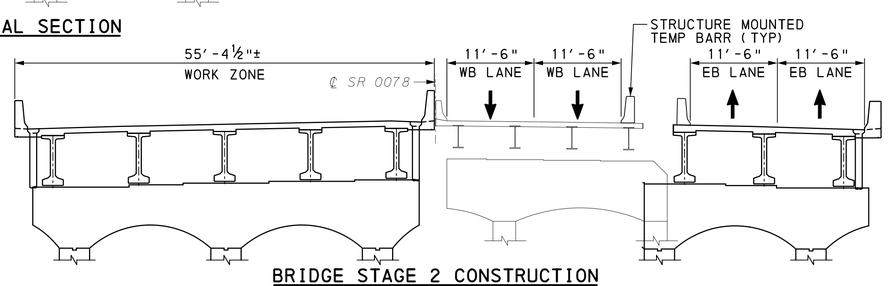


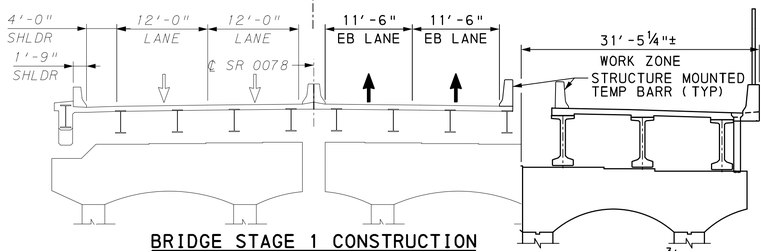

EXISTING TYPICAL SECTION



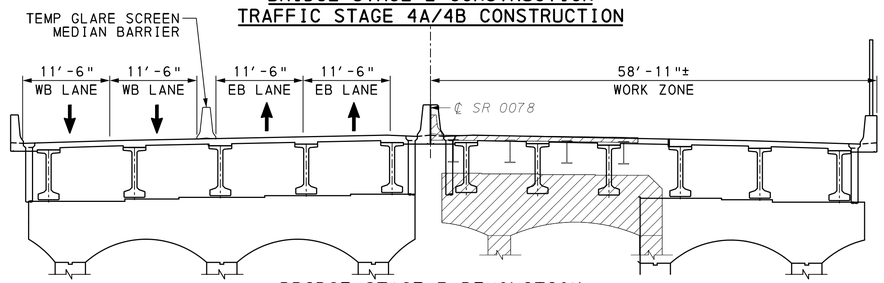

BRIDGE STAGE 1 DEMOLITION
TRAFFIC STAGE 3A/3B DEMOLITION



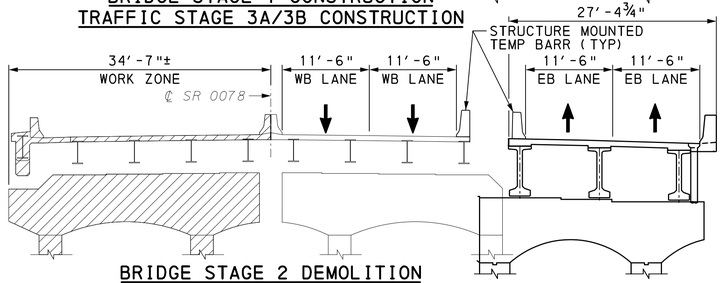

BRIDGE STAGE 2 CONSTRUCTION
TRAFFIC STAGE 4A/4B CONSTRUCTION



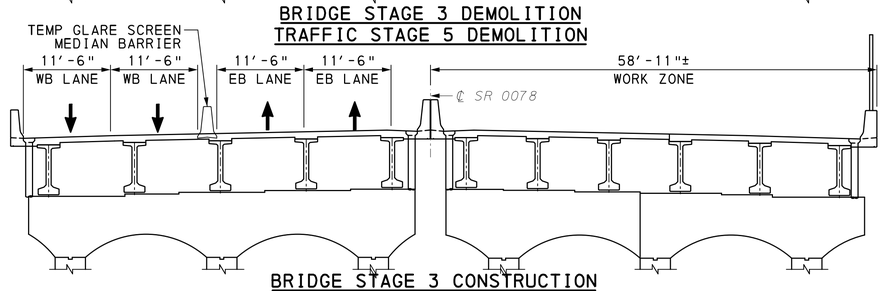

BRIDGE STAGE 1 CONSTRUCTION
TRAFFIC STAGE 3A/3B CONSTRUCTION



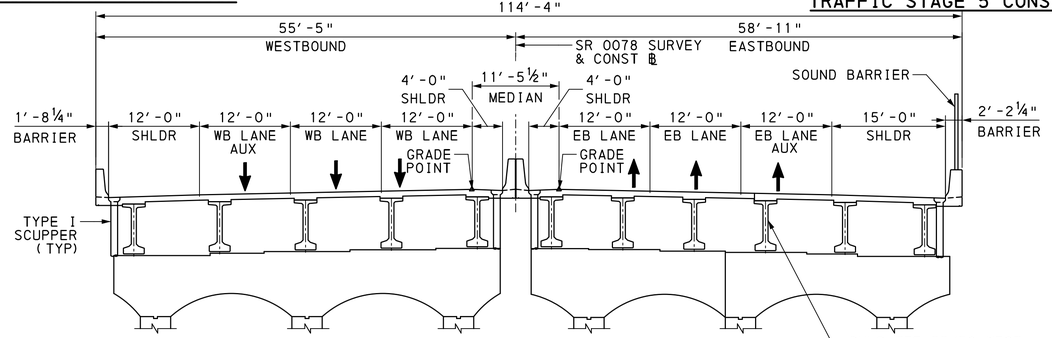

BRIDGE STAGE 3 DEMOLITION
TRAFFIC STAGE 5 DEMOLITION




BRIDGE STAGE 2 DEMOLITION
TRAFFIC STAGE 4A/4B DEMOLITION




BRIDGE STAGE 3 CONSTRUCTION
TRAFFIC STAGE 5 CONSTRUCTION




PROPOSED TYPICAL SECTION

5 0 5 10 FEET

## STAGING NOTES:

STAGE 3A/3B DEMOLITION AND CONSTRUCTION

REDUCE EASTBOUND TRAFFIC TO 11'-6" BY USING TRAFFIC CONTROL BARRIERS. DEMO PORTION OF THE EASTBOUND BRIDGE AS SHOWN IN THE LIMITS ON THE CONTRACT PLANS. CONSTRUCT PORTION OF SUBSTRUCTURE AND SUPERSTRUCTURE FOR THE PROPOSED BRIDGE AS SHOWN IN THE CONTRACT PLANS.

STAGE 4A/4B DEMOLITION AND CONSTRUCTION

MOVE EASTBOUND TRAFFIC TO THE PORTION OF PROPOSED BRIDGE CONSTRUCTED IN STAGE 3A/3B AND CROSS-OVER WESTBOUND TRAFFIC TO THE EXISTING EASTBOUND BRIDGE AND MAINTAIN 2 LANES OF TRAFFIC EACH DIRECTION AT ALL TIMES. DEMO EXISTING WESTBOUND STRUCTURE AND CONSTRUCT PROPOSED WESTBOUND STRUCTURE.

STAGE 5 DEMOLITION AND CONSTRUCTION

MOVE ALL TRAFFIC TO BRIDGE CONSTRUCTED IN STAGE 4A/4B AND MAINTAIN 2 LANES OF TRAFFIC EACH DIRECTION AT ALL TIMES. DEMO REMAINING PORTION OF EXISTING EASTBOUND BRIDGE AND CONSTRUCT REMAINING PORTION OF PROPOSED EASTBOUND STRUCTURE.

LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
STAGING SECTIONS
(APPROACH SPANS)

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 22 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: KRC

FILENAME: E02657-S38014-BR-SG-01.dgn
OPERATOR: ASengupta

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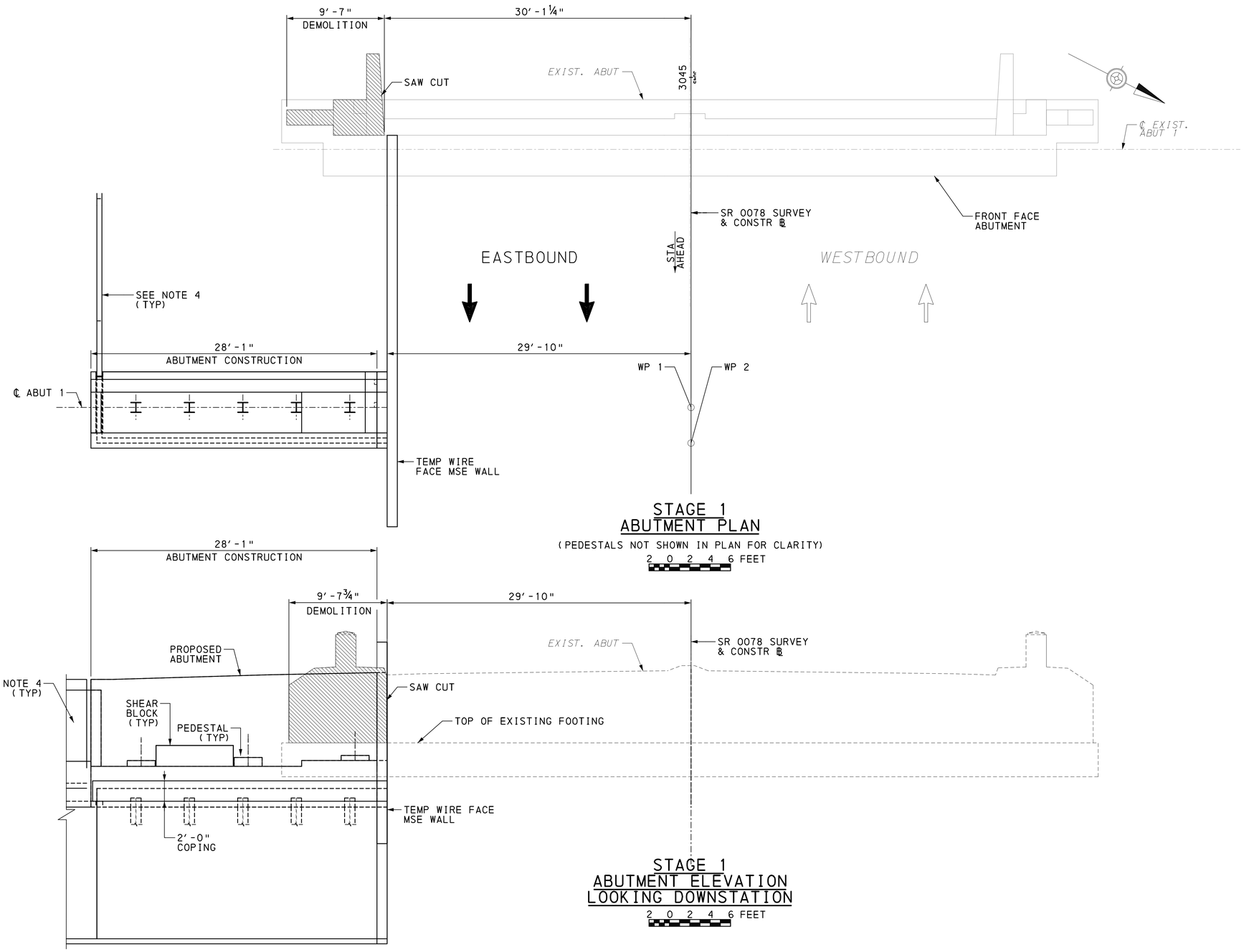



## STAGE 1 ABUTMENT PLAN

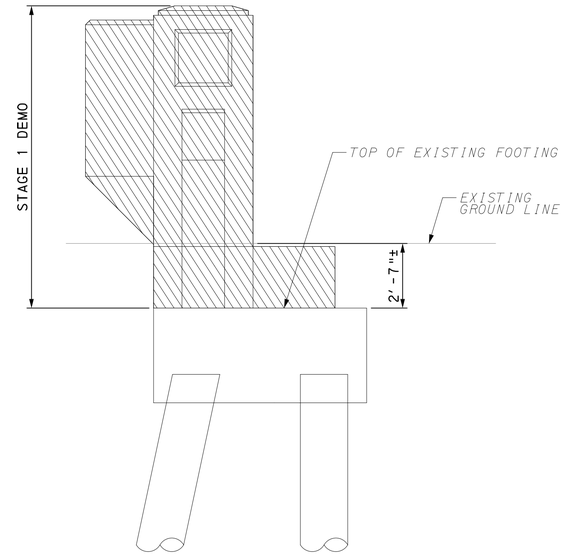
(PEDESTALS NOT SHOWN IN PLAN FOR CLARITY)

2 0 2 4 6 FEET




## STAGE 1 ABUTMENT ELEVATION LOOKING DOWNSTATION

2 0 2 4 6 FEET




## TYPICAL EXISTING ABUTMENT DEMOLITION

1 0 1 2 3 FEET

## STAGING NOTES:

1. FOR CONSTRUCTION STAGING SECTIONS, SEE SHEET 22.
2. FOR SUBSTRUCTURE DEMOLITION DETAILS, SEE SHEET 22.
3. FOR ABUTMENT 1 ELEVATIONS, SEE SHEETS 40 AND 41, FOR ABUTMENT 2 ELEVATIONS, SEE SHEETS 47 AND 48
4. FOR MSE WALL 1 ELEVATIONS, SEE SHEET 38, AND FOR MSE WALL 2 ELEVATIONS, SEE SHEET 45.
5. ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR, OPPOSITE HAND.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# TYPICAL ABUTMENT STAGED CONSTRUCTION - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 23 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-AB-SG-CS-01.dgn
OPERATOR: ASengupta

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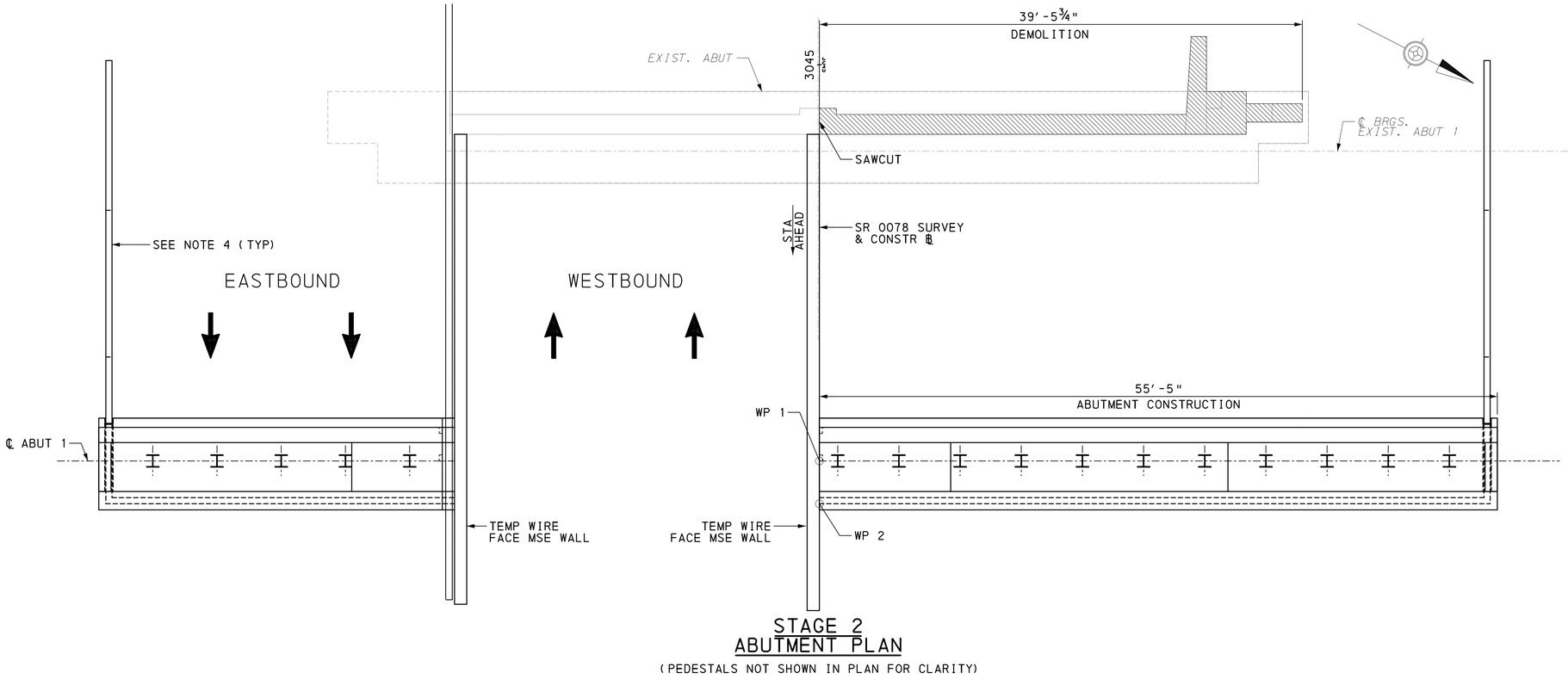
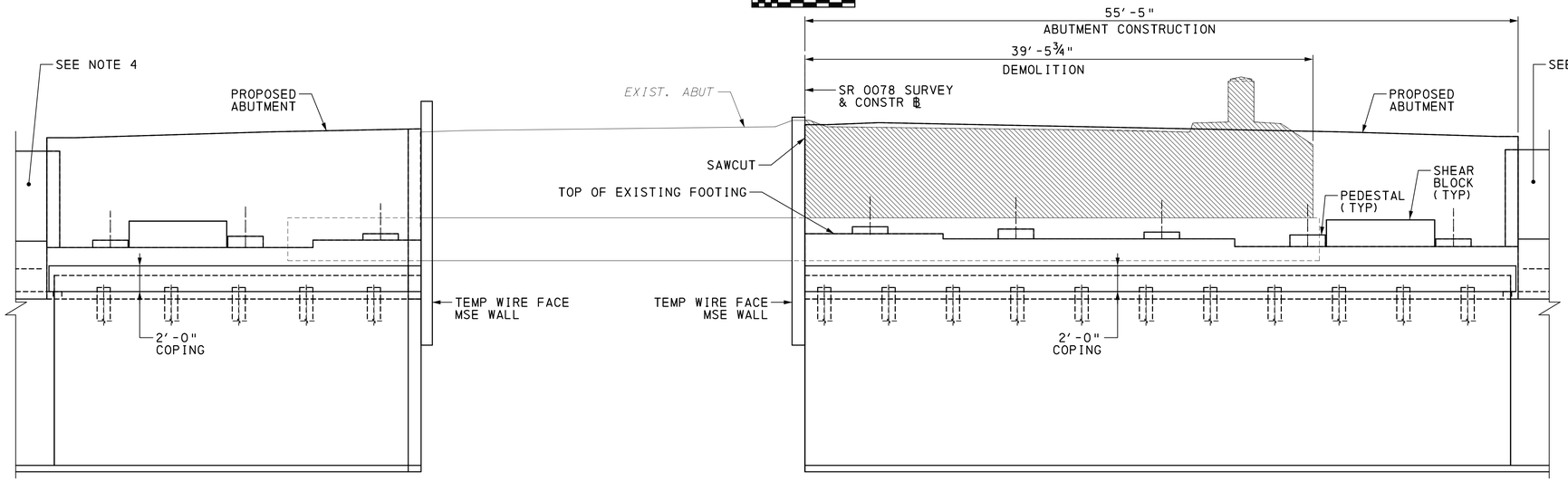



## STAGE 2
## ABUTMENT PLAN

(PEDESTALS NOT SHOWN IN PLAN FOR CLARITY)

2 0 2 4 6 FEET




## STAGE 2
## ABUTMENT ELEVATION
## LOOKING DOWNSTATION

2 0 2 4 6 FEET

## NOTES:

1. SEE SHEET 23 FOR STAGING NOTES.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
TYPICAL ABUTMENT
STAGED CONSTRUCTION - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 24 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

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OPERATOR: ASengupta

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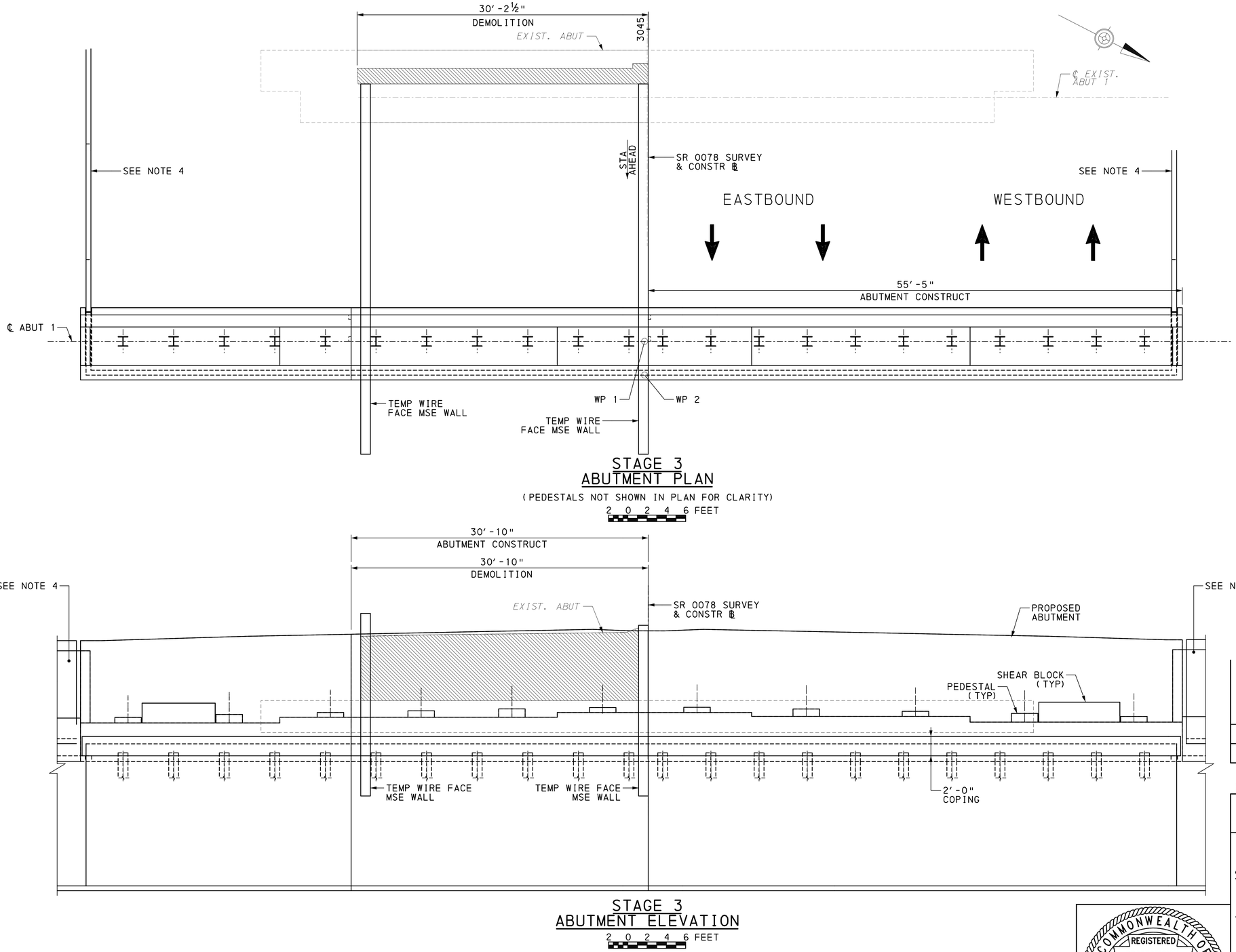


## STAGE 3
## ABUTMENT PLAN

(PEDESTALS NOT SHOWN IN PLAN FOR CLARITY)

2 0 2 4 6 FEET




## STAGE 3
## ABUTMENT ELEVATION

2 0 2 4 6 FEET

NOTES:

1. SEE SHEET 23 FOR STAGING NOTES.

LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
TYPICAL ABUTMENT
STAGED CONSTRUCTION - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 25 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

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OPERATOR: ASengupta

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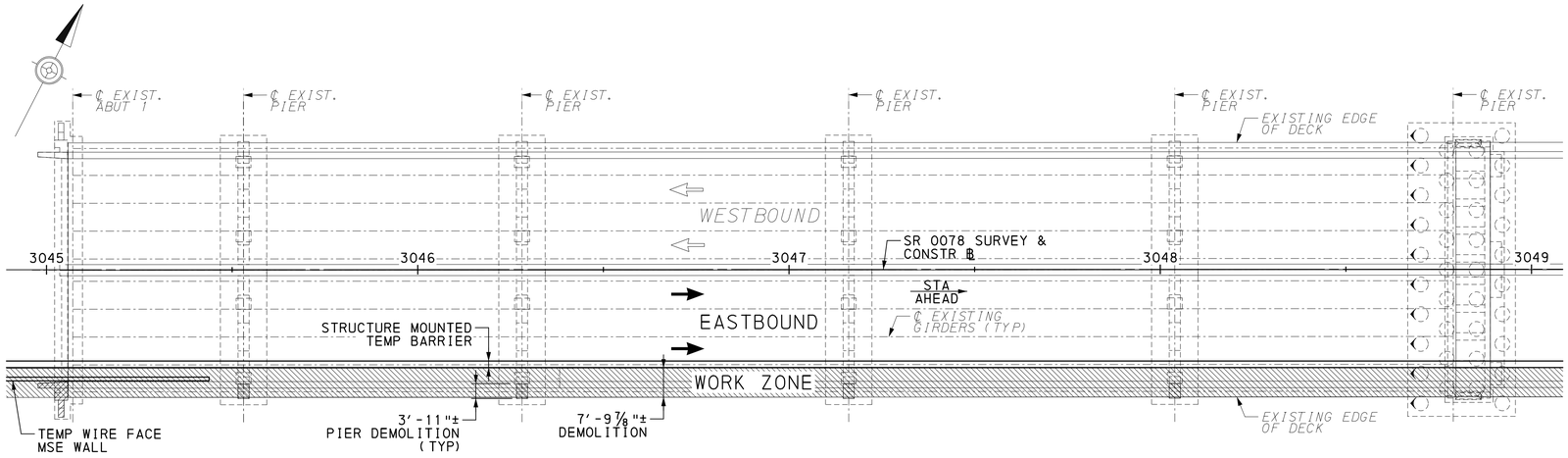



## STAGE 1 DEMOLITION

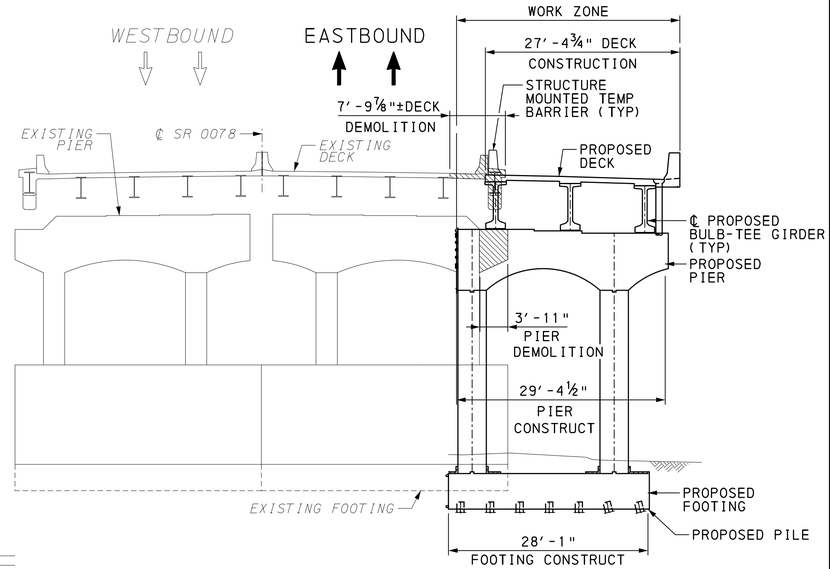
10 0 10 20 FEET

## STAGING NOTES:

1. FOR CONSTRUCTION STAGING SECTIONS, SEE SHEET 22.
2. FOR SUBSTRUCTURE DEMOLITION DETAILS, SEE SHEET 22.
3. FOR ABUTMENT STAGED CONSTRUCTION, SEE SHEETS 23 THROUGH 25.
4. FOR WIDENING OF SPANS 4 THROUGH 11 INCLUDING SUBSTRUCTURES SEE ARCH SHEETS.
5. FOR PIER 3 STAGED CONSTRUCTION DETAILS, SEE SHEETS 29 THROUGH 31.

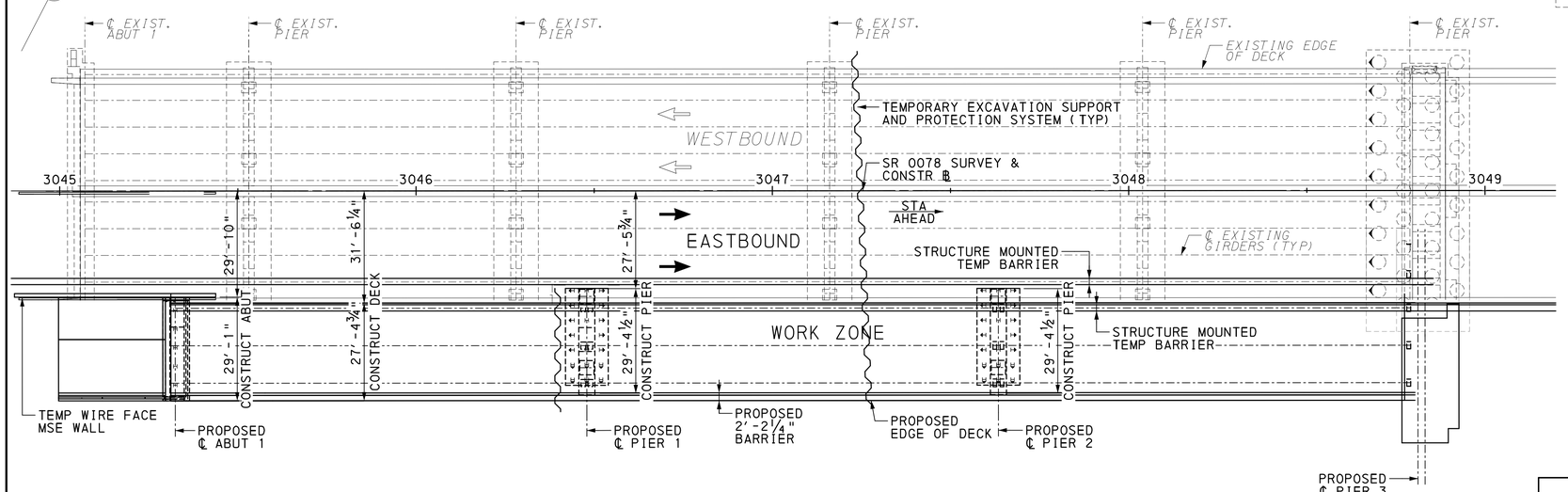
## LEGEND:

DEMOLITION




## STAGE 1 TYPICAL PIER CONSTRUCTION DETAIL

2 0 4 8 12 FEET




## STAGE 1 CONSTRUCTION

10 0 10 20 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# WEST APPROACH SPANS
# STAGED CONSTRUCTION - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

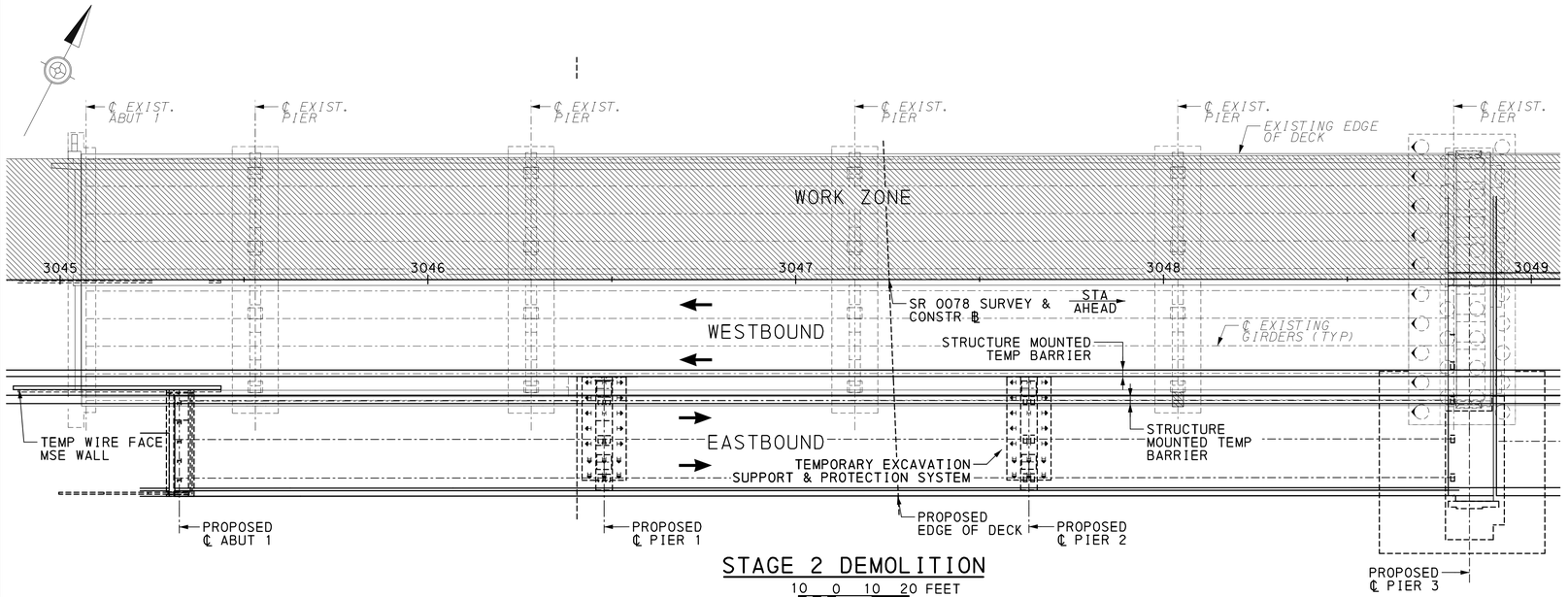
SHEET 26 OF 295

S-38014

| DES: AKS | DWN: SIB | CKD: DG |
|---|---|---|

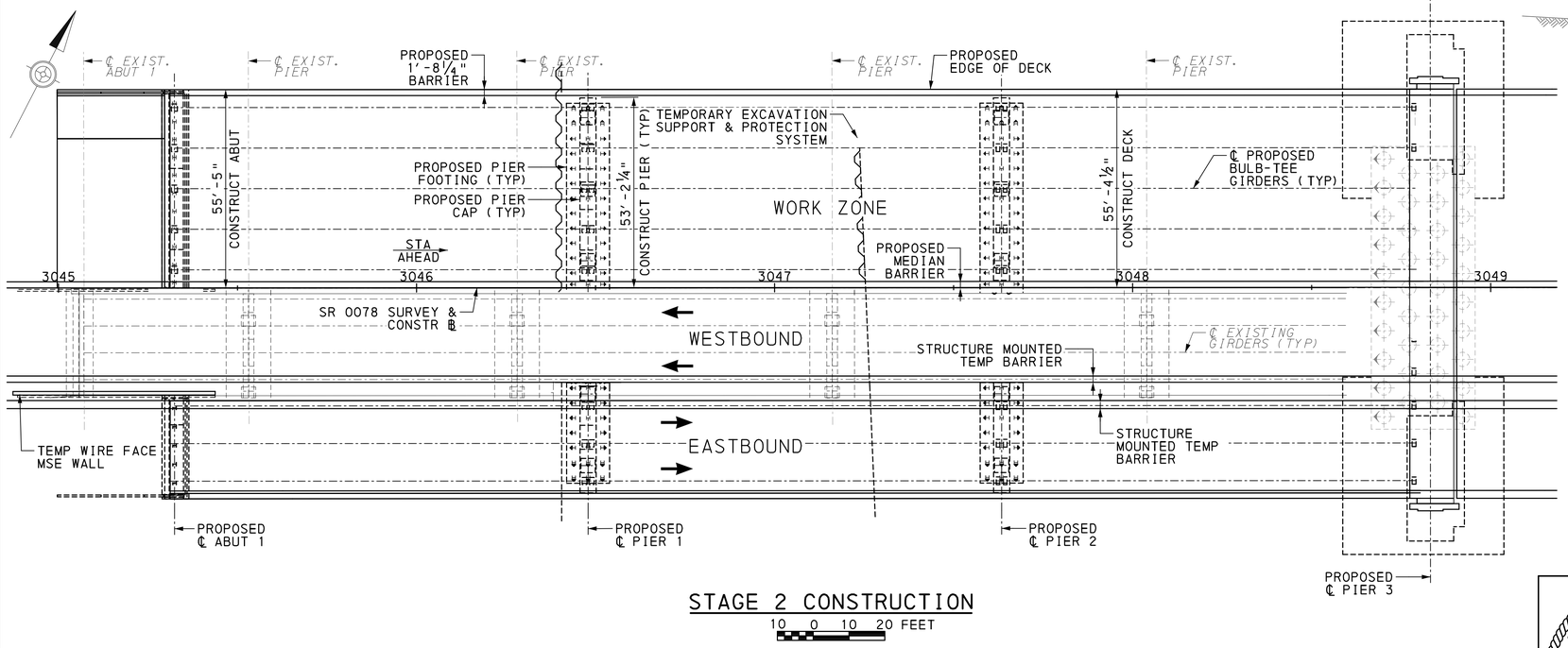
FILENAME: E02657-S38014-WEST-SG-CS-01.dgn
OPERATOR: Asengupta

PLOTTED: 8/27/2019 9:02:58 AM




## STAGE 2 DEMOLITION

10 0 10 20 FEET




## STAGE 2 CONSTRUCTION

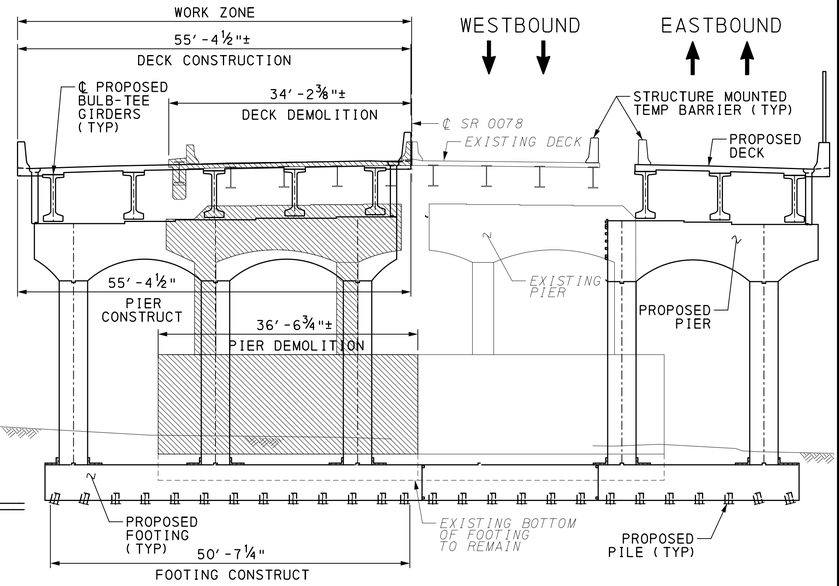
10 0 10 20 FEET

## NOTES:

1. SEE SHEET 26 FOR STAGING NOTES.

## LEGEND:

DEMOLITION




## STAGE 2 TYPICAL PIER CONSTRUCTION DETAIL

2 0 4 8 12 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE

APPROACH SPANS 1-3 AND 12

WEST APPROACH SPANS

STAGED CONSTRUCTION - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

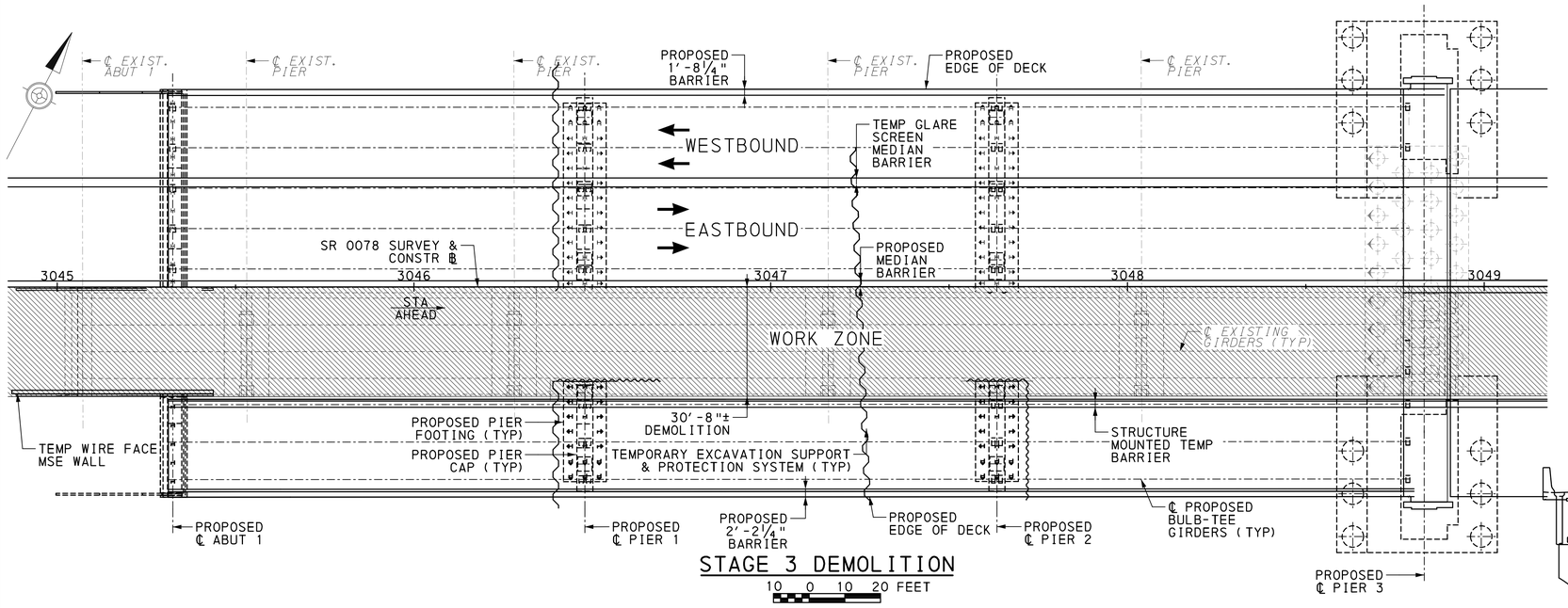
SHEET 27 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

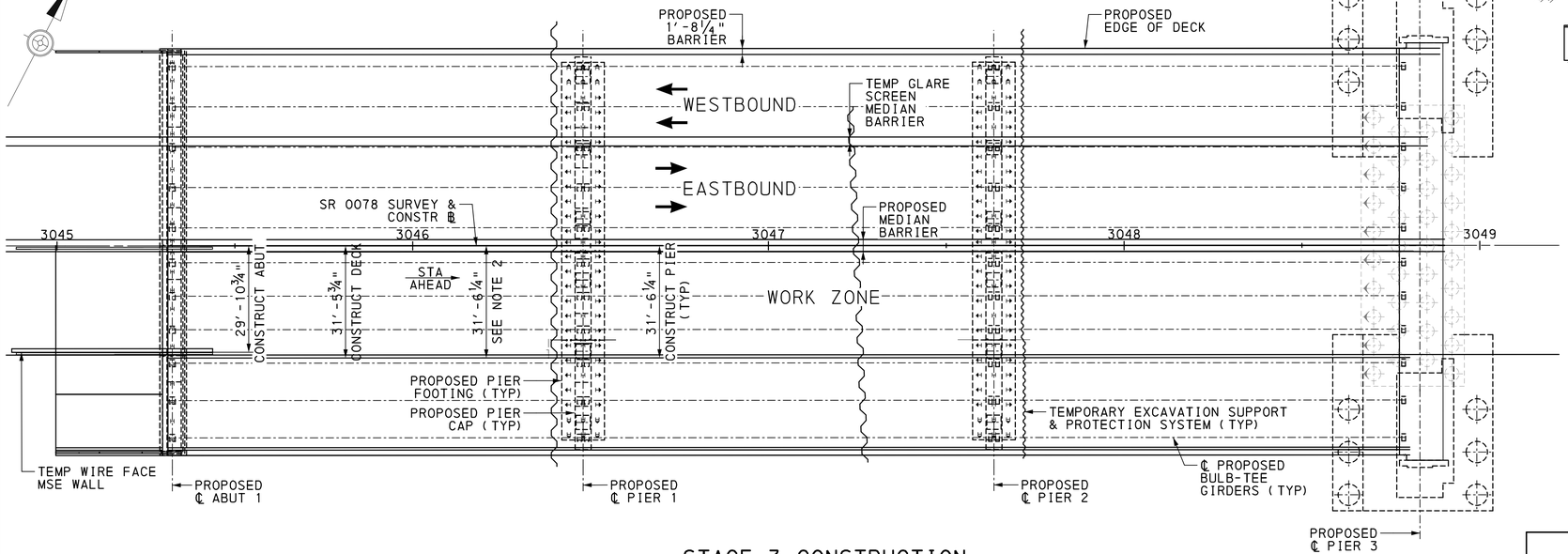
FILENAME: E02657-538014-WEST-SG-CS-02.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:03:07 AM




## STAGE 3 DEMOLITION

10 0 10 20 FEET




## STAGE 3 CONSTRUCTION

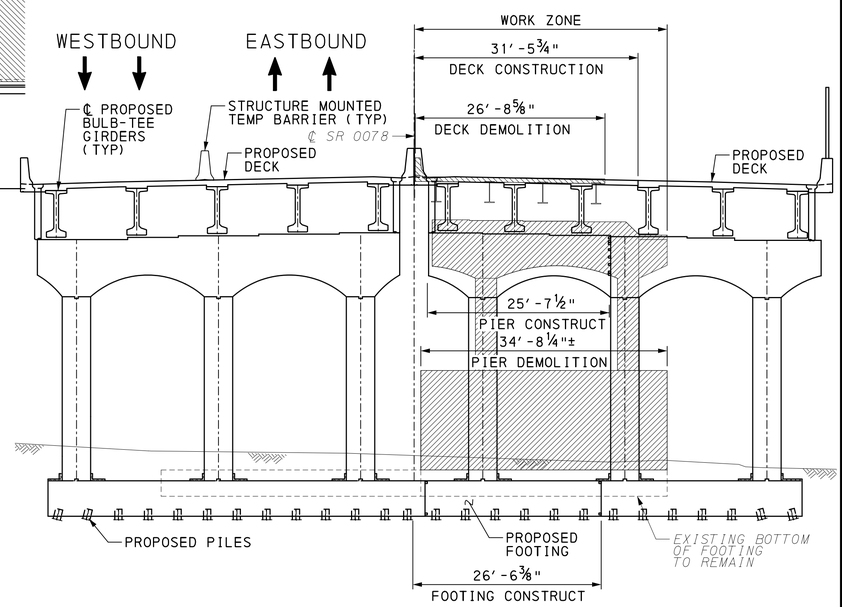
10 0 10 20 FEET

## NOTES:

1. SEE SHEET 26 FOR STAGING NOTES.
2. MEASUREMENT GIVEN IS FROM CONSTRUCTION ℄ TO EDGE OF DECK.

## LEGEND:

DEMOLITION




## STAGE 3 TYPICAL PIER CONSTRUCTION DETAIL

2 0 4 8 12 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE

APPROACH SPANS 1-3 AND 12

WEST APPROACH SPANS

STAGED CONSTRUCTION - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

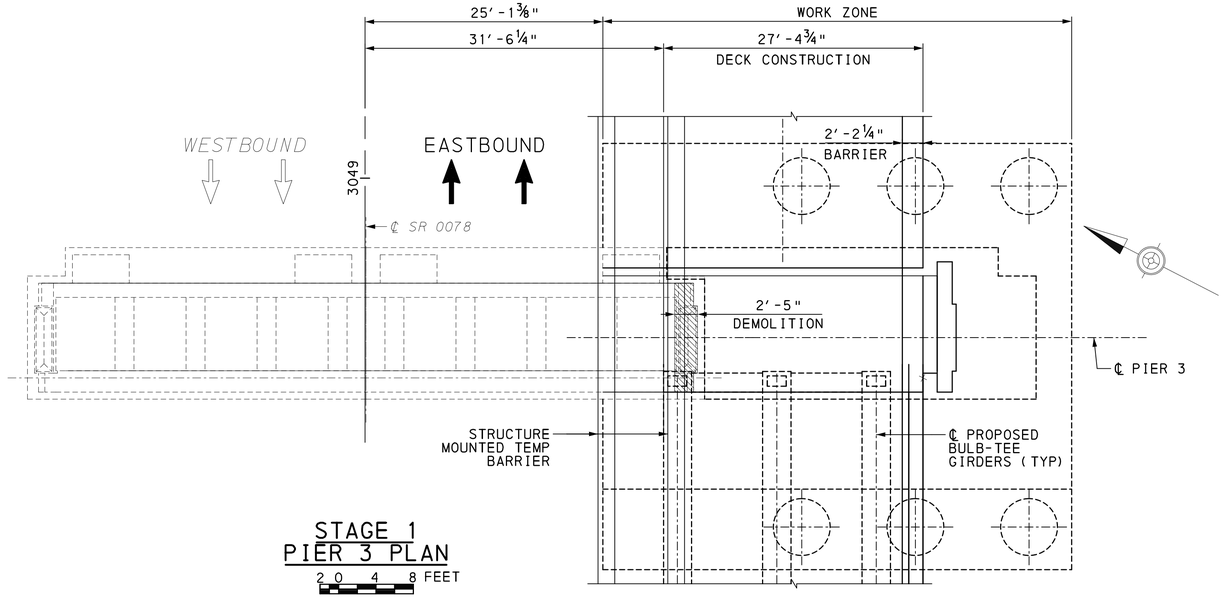
SHEET 28 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-WEST-SG-CS-03.dgn
OPERATOR: ASengupta

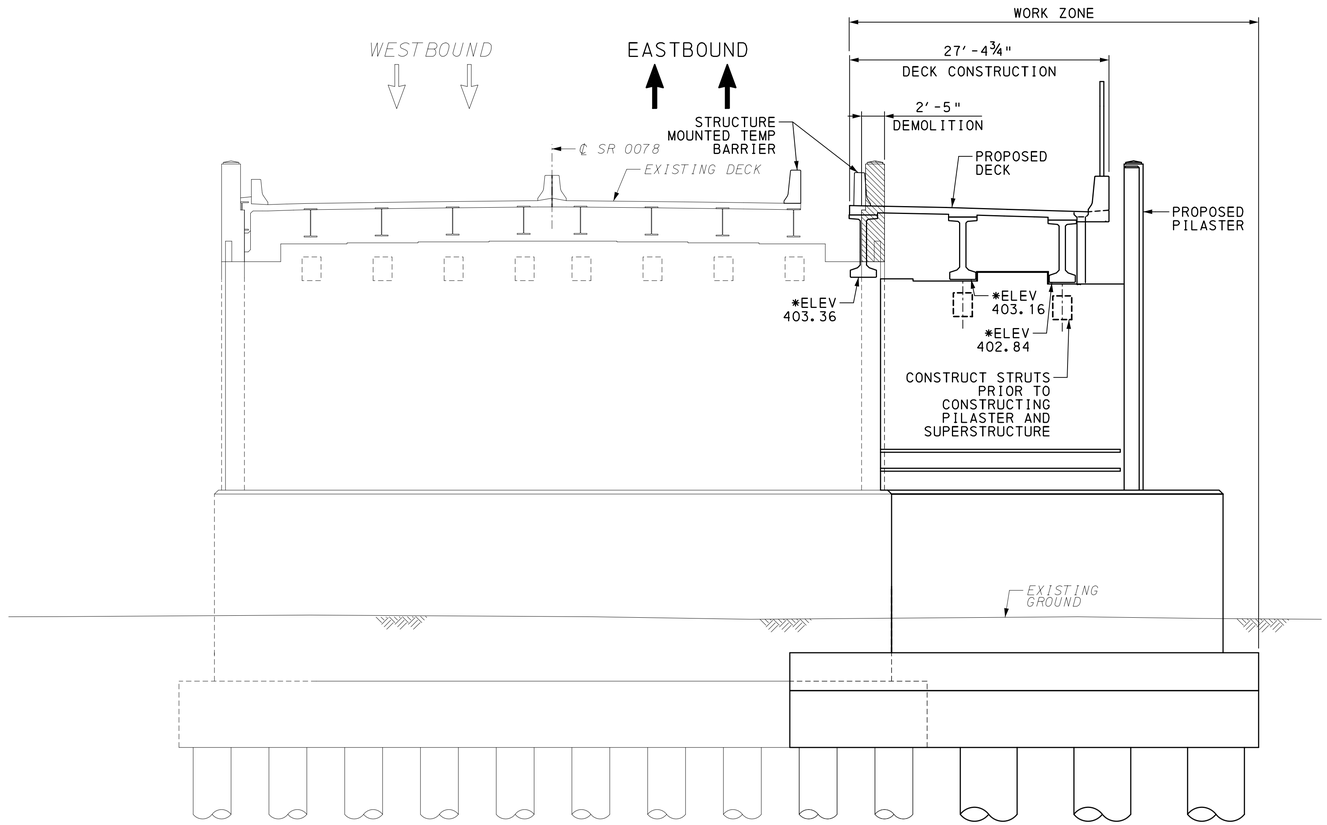
PLOTTED: 8/27/2019@3:03:17 AM




## STAGE 1 PIER 3 PLAN

2 0 4 8 FEET

| BEAM SEAT ELEVATION TABLE | |
|---|---|
| PIER 3 | |
| ℄ BEARING STA. 3048+78.91 | |
| BEAM NO. | ELEVATION |
| 1 | 402.69 |
| 2 | 403.00 |
| 3 | 403.22 |
| 4 | 403.45 |
| 5 | 403.64 |
| 6 | 403.61 |
| 7 | 403.48 |
| 8 | 403.28 |
| 9 | 403.10 |
| 10 | 402.90 |
| 11 | 402.58 |




## STAGE 1 - PIER 3 ELEVATION LOOKING UPSTATION

2 0 4 8 FEET

* BOTTOM OF FLANGE ELEVATION

## STAGING NOTES:

1. FOR CONSTRUCTION STAGING SECTIONS, SEE SHEET 22.
2. FOR SUBSTRUCTURE DEMOLITION DETAILS, SEE SHEET 22.
3. FOR ABUTMENT 1 ELEVATIONS, SEE SHEETS 40 AND 41, AND FOR ABUTMENT 2 ELEVATIONS, SEE SHEETS 47 AND 48.
4. THIS DRAWING SHOWS A STAGING CONCEPT FOR PIER 3. SEE ARCH DRAWING SHEETS FOR DETAILS OF PIER CONSTRUCTION.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 3
STAGED CONSTRUCTION - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

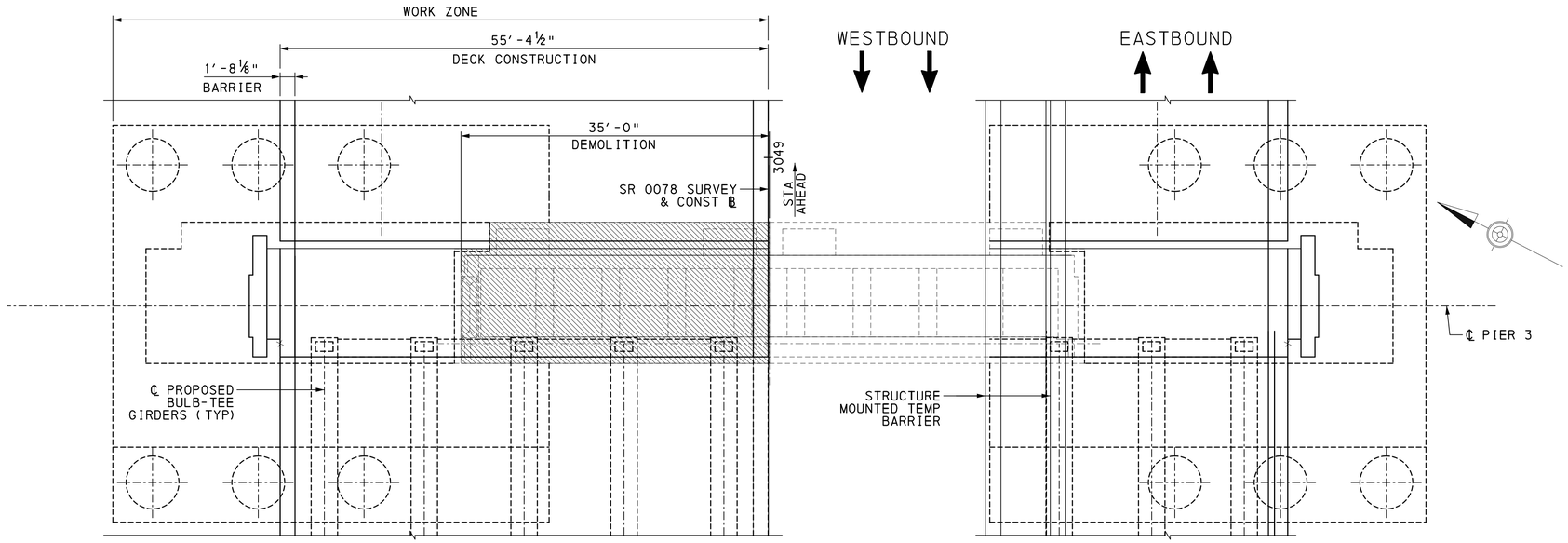
SHEET 29 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-PR03-SG-CS-01.dgn
OPERATOR: Asengupta

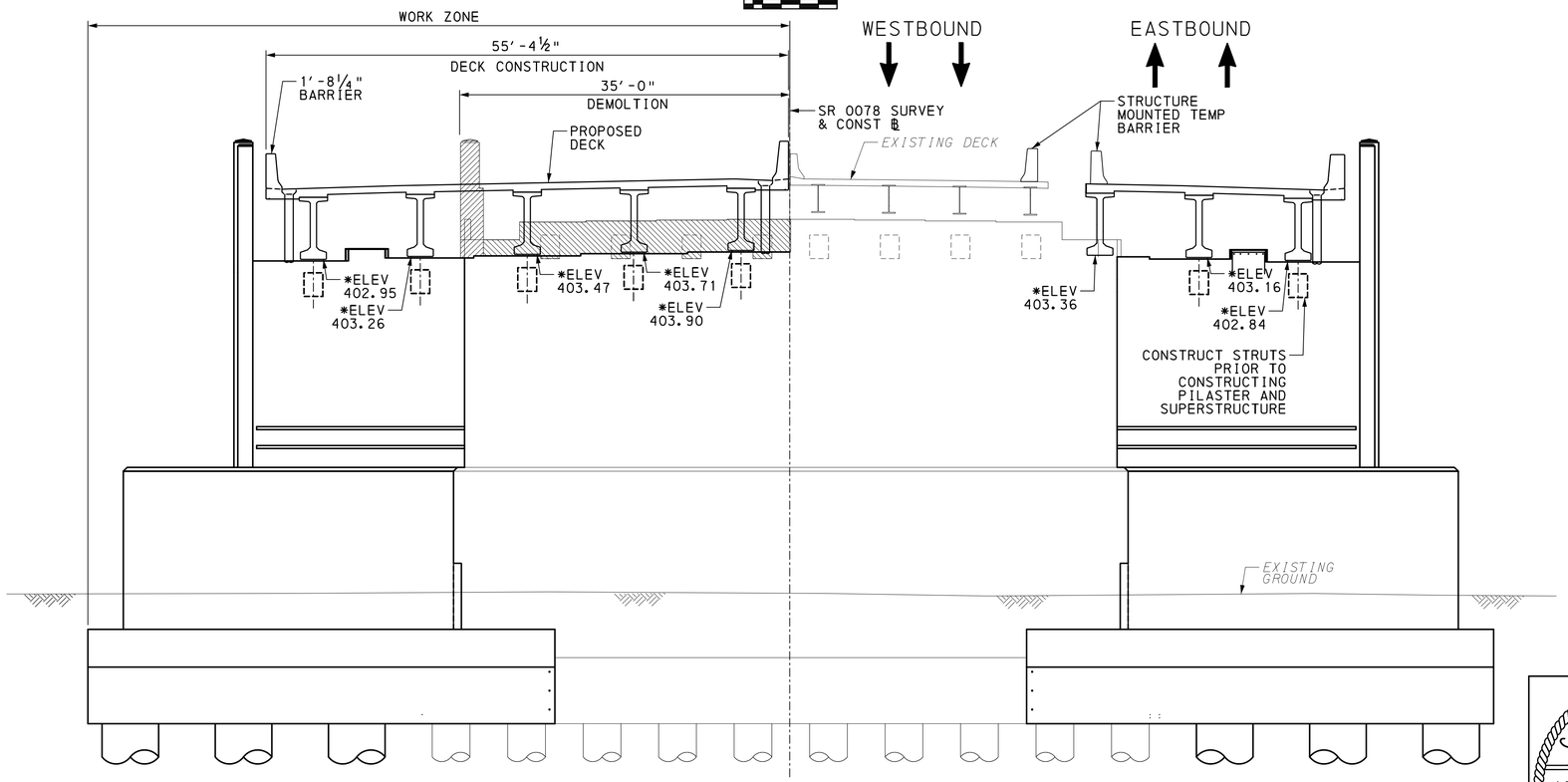
PLOTTED: 8/27/2019 9:03:24 AM




| BEAM SEAT ELEVATION TABLE | |
|---|---|
| PIER 3 | |
| ℄ BEARING STA. 3048+78.91 | |
| BEAM NO. | ELEVATION |
| 1 | 402.69 |
| 2 | 403.00 |
| 3 | 403.22 |
| 4 | 403.45 |
| 5 | 403.64 |
| 6 | 403.61 |
| 7 | 403.48 |
| 8 | 403.28 |
| 9 | 403.10 |
| 10 | 402.90 |
| 11 | 402.58 |

## STAGE 2
## PIER 3 PLAN

2 0 4 8 FEET




## STAGE 2 - PIER 3 ELEVATION
## LOOKING UPSTATION

2 0 4 8 FEET

* BOTTOM OF FLANGE ELEVATION

## STAGING NOTES:

1. FOR CONSTRUCTION STAGING SECTIONS, SEE SHEET 22.
2. FOR SUBSTRUCTURE DEMOLITION DETAILS, SEE SHEET 22.
3. FOR ABUTMENT 1 ELEVATIONS, SEE SHEETS 40 & 41, AND FOR ABUTMENT 2 ELEVATIONS, SEE SHEETS 47 & 48.
4. THIS DRAWING SHOWS A STAGING CONCEPT FOR PIER 3. SEE ARCH DRAWING SHEETS FOR DETAILS OF PIER CONSTRUCTION.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 3
STAGED CONSTRUCTION - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

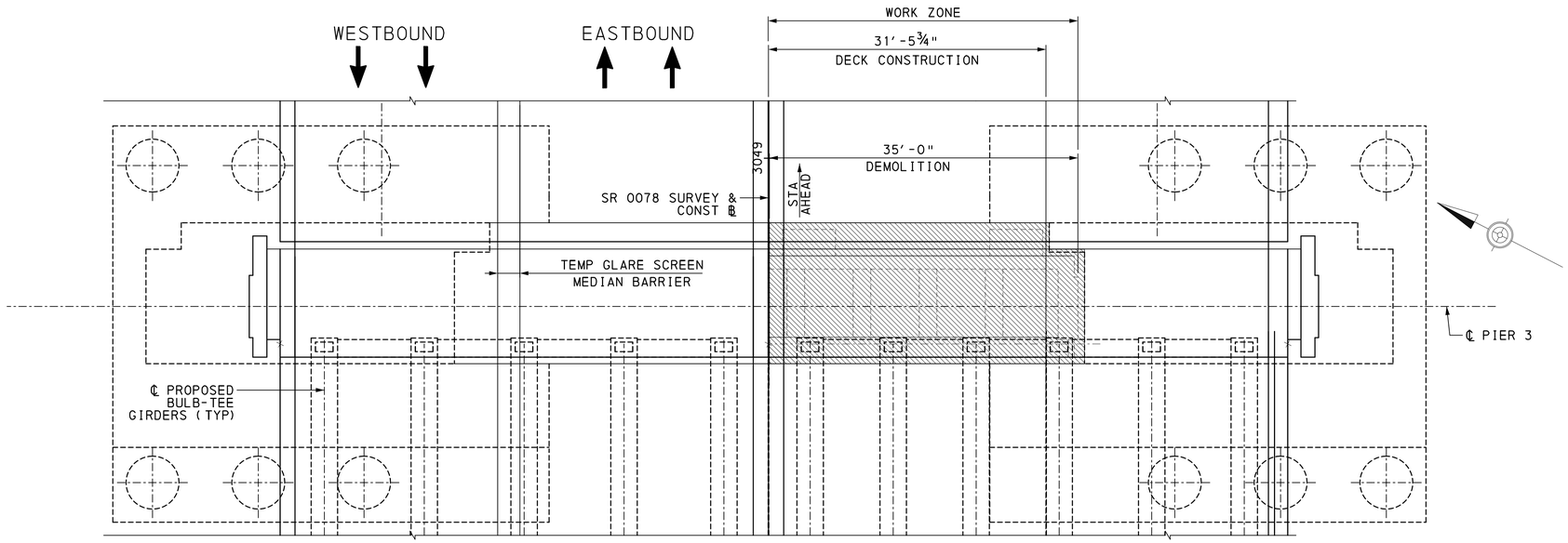
SHEET 30 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-PR03-SG-CS-02.dgn
OPERATOR: ASengupta

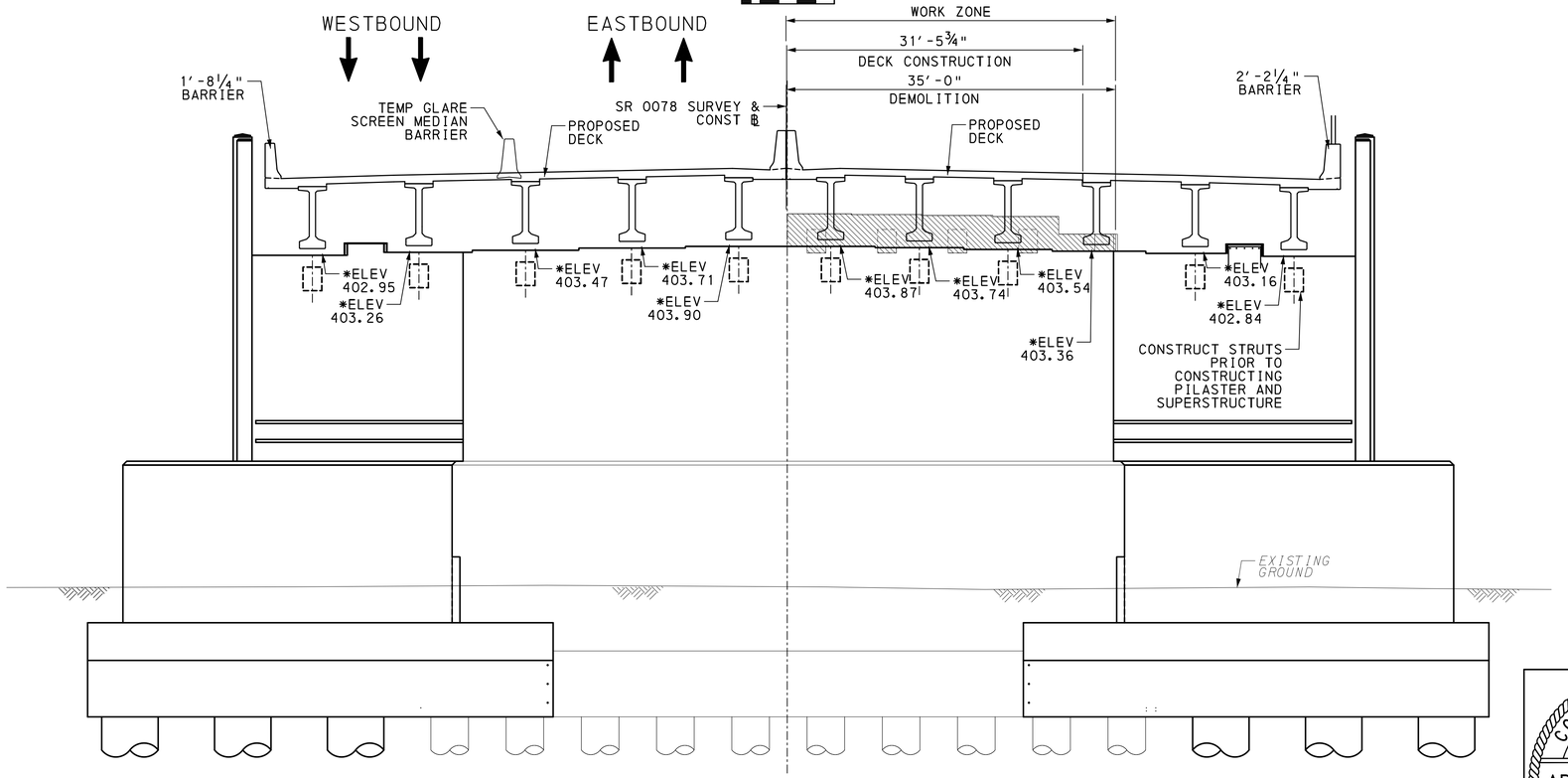
PLOTTED: 8/27/2019 9:03:35 AM




## STAGE 3
## PIER 3 PLAN

2 0 4 8 FEET

| BEAM SEAT ELEVATION TABLE | |
|---|---|
| PIER 3 | |
| ℄ BEARING STA. 3048+78.91 | |
| BEAM NO. | ELEVATION |
| 1 | 402.69 |
| 2 | 403.00 |
| 3 | 403.22 |
| 4 | 403.45 |
| 5 | 403.64 |
| 6 | 403.61 |
| 7 | 403.48 |
| 8 | 403.28 |
| 9 | 403.10 |
| 10 | 402.90 |
| 11 | 402.58 |




## STAGE 3 - PIER 3 ELEVATION
## LOOKING UPSTATION

2 0 4 8 FEET

* BOTTOM OF FLANGE ELEVATION

## STAGING NOTES:

1. FOR CONSTRUCTION STAGING SECTIONS, SEE SHEET 22.
2. FOR SUBSTRUCTURE DEMOLITION DETAILS, SEE SHEET 22.
3. FOR ABUTMENT 1 ELEVATIONS, SEE SHEET 40 & 41, AND FOR ABUTMENT 2 ELEVATIONS, SEE SHEETS 47 & 48.
4. THIS DRAWING SHOWS A STAGING CONCEPT FOR PIER 3. SEE ARCH DRAWING SHEETS FOR DETAILS OF PIER CONSTRUCTION.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 3
STAGED CONSTRUCTION - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

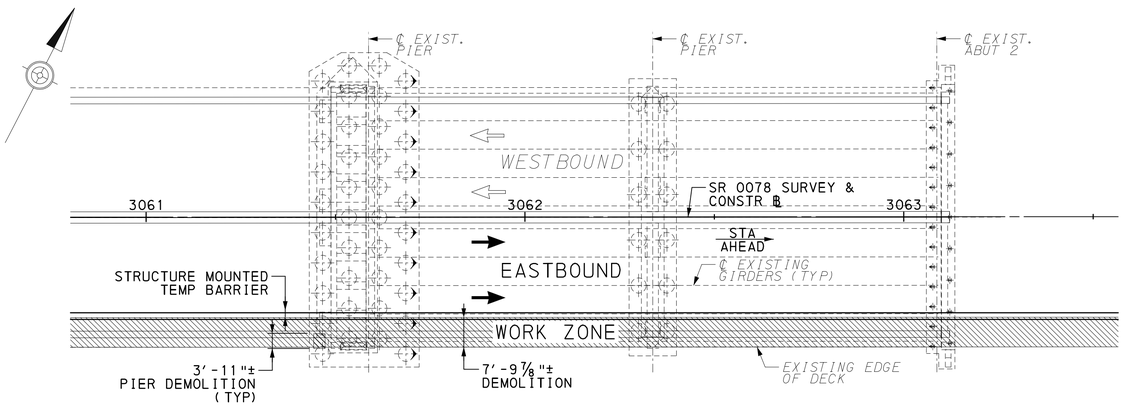
SHEET 31 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

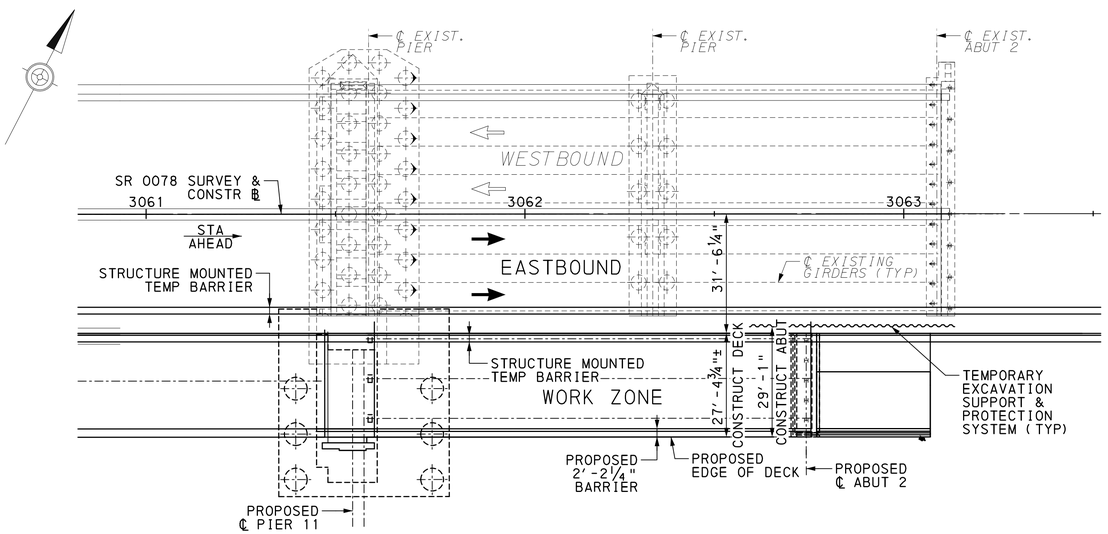
FILENAME: E02657-S38014-PR03-SG-CS-03.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:03:44 AM




## STAGE 1 DEMOLITION

10 0 10 20 FEET




## STAGE 1 CONSTRUCTION

10 0 10 20 FEET

## STAGING NOTES:

1. FOR CONSTRUCTION STAGING SECTIONS, SEE SHEET 22.
2. FOR SUBSTRUCTURE DEMOLITION DETAILS, SEE SHEET 22.
3. FOR ABUTMENT 1 ELEVATIONS, SEE SHEETS 40 & 41, AND FOR ABUTMENT 2 ELEVATIONS, SEE SHEETS 47 & 48.
4. FOR WIDENING OF SPANS 4 THROUGH 11, INCLUDING SUBSTRUCUTRES, SEE ARCH SHEETS.
5. FOR PIER 11 STAGED CONSTRUCTION DETAILS, SEE SHEETS 35 THROUGH 37.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
EAST APPROACH SPANS
STAGED CONSTRUCTION - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

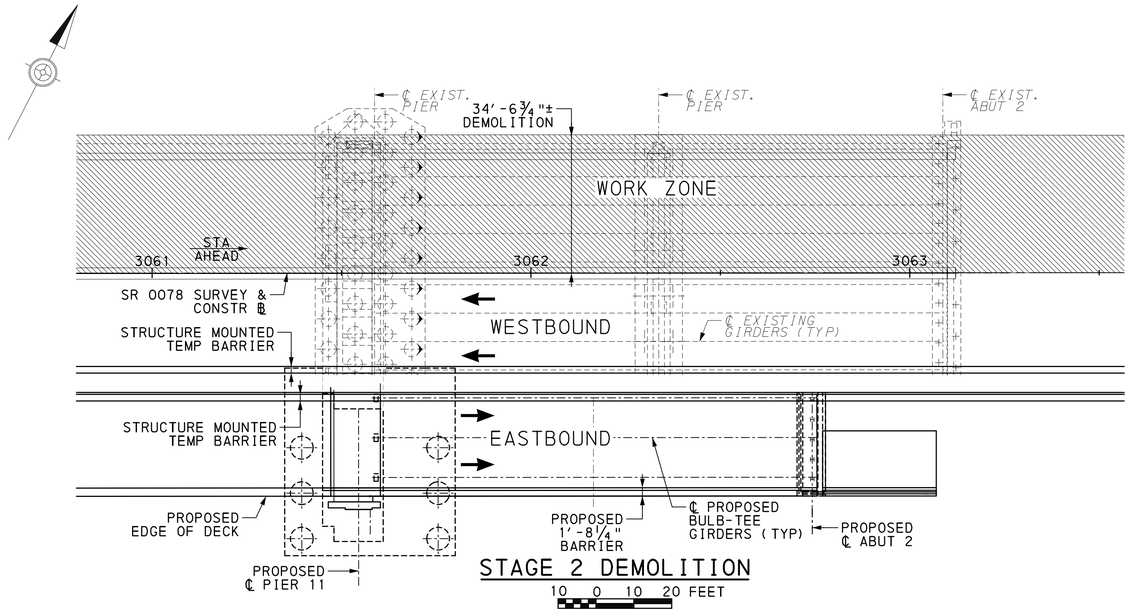
SHEET 32 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

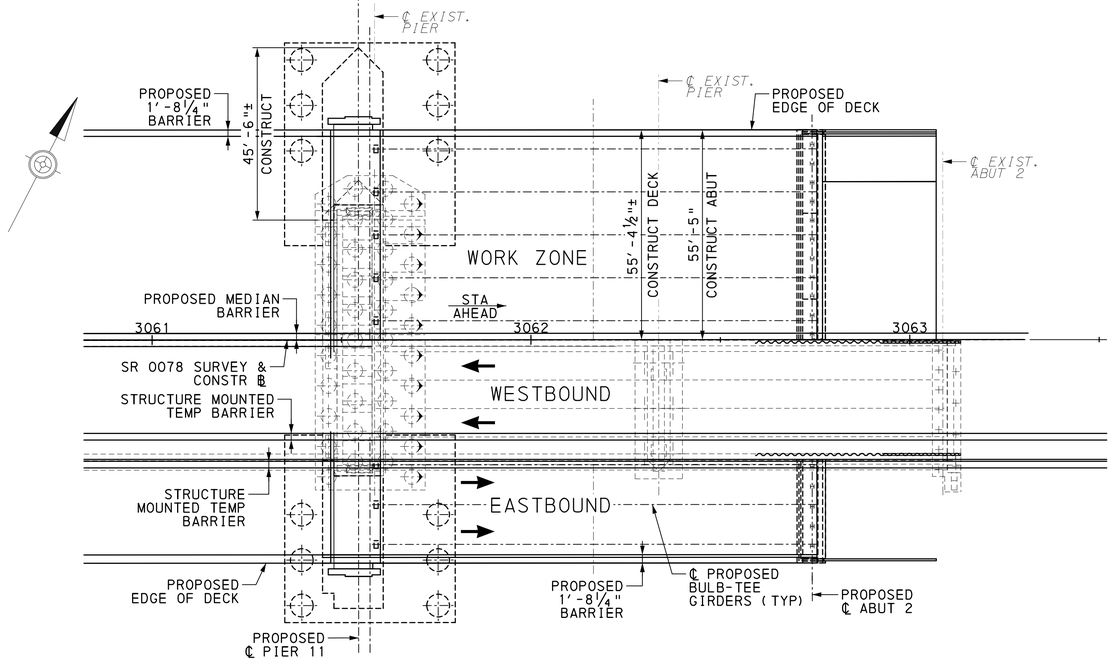
OPERATOR: ASengupta
FILENAME: E02657-S38014-EAST-SG-CS-01.dgn

PLOTTED: 8/27/2019@3:03:52 AM




STAGE 2 DEMOLITION

10 0 10 20 FEET




STAGE 2 CONSTRUCTION

10 0 10 20 FEET

## NOTES:

1. FOR STAGING NOTES, SEE SHEET 32.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
EAST APPROACH SPANS
STAGED CONSTRUCTION - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

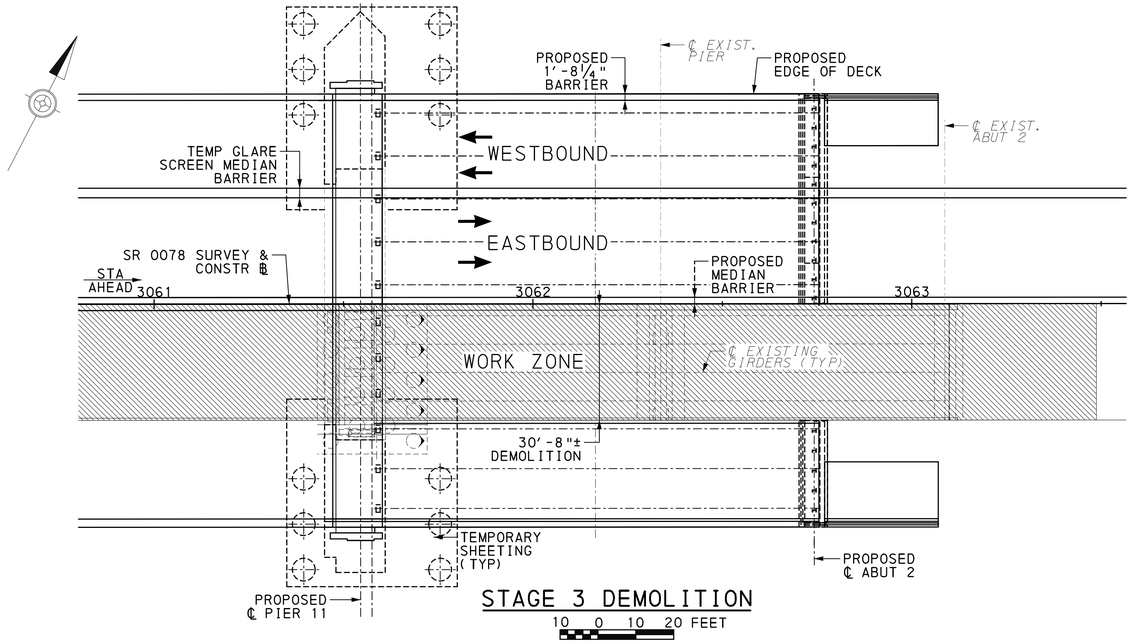
SHEET 33 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

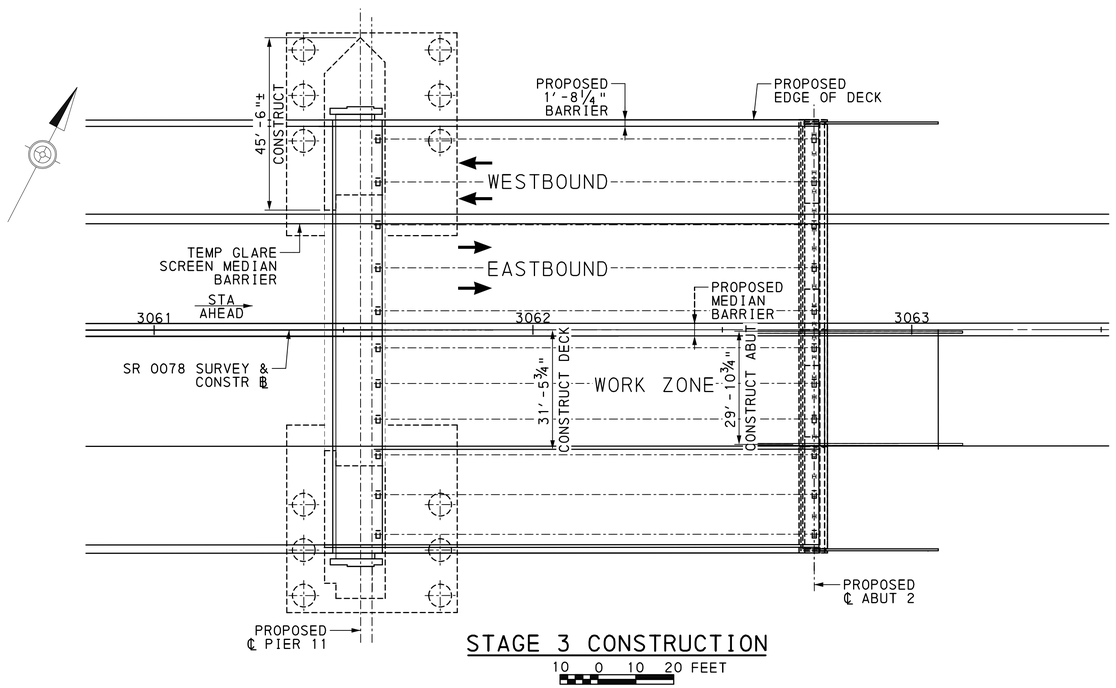
FILENAME: E02657-S38014-EAST-SG-CS-02.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:04:02 AM




## STAGE 3 DEMOLITION

10 0 10 20 FEET




## STAGE 3 CONSTRUCTION

10 0 10 20 FEET

## NOTES:

1. FOR STAGING NOTES, SEE SHEET 32.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
EAST APPROACH SPANS
STAGED CONSTRUCTION - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

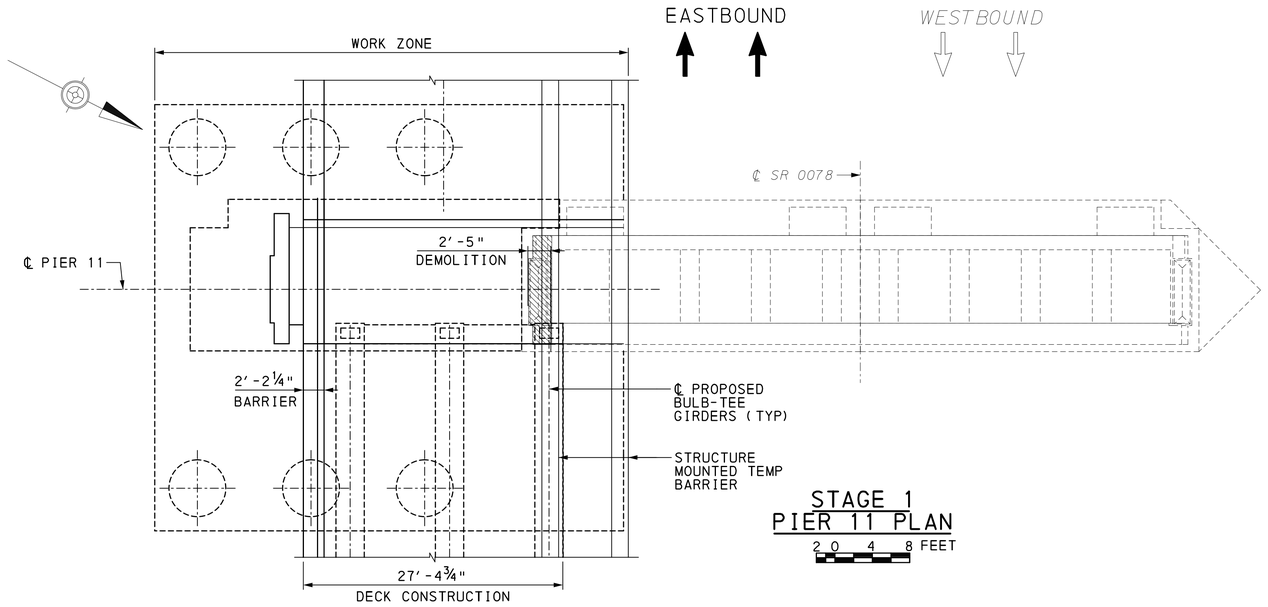
SHEET 34 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

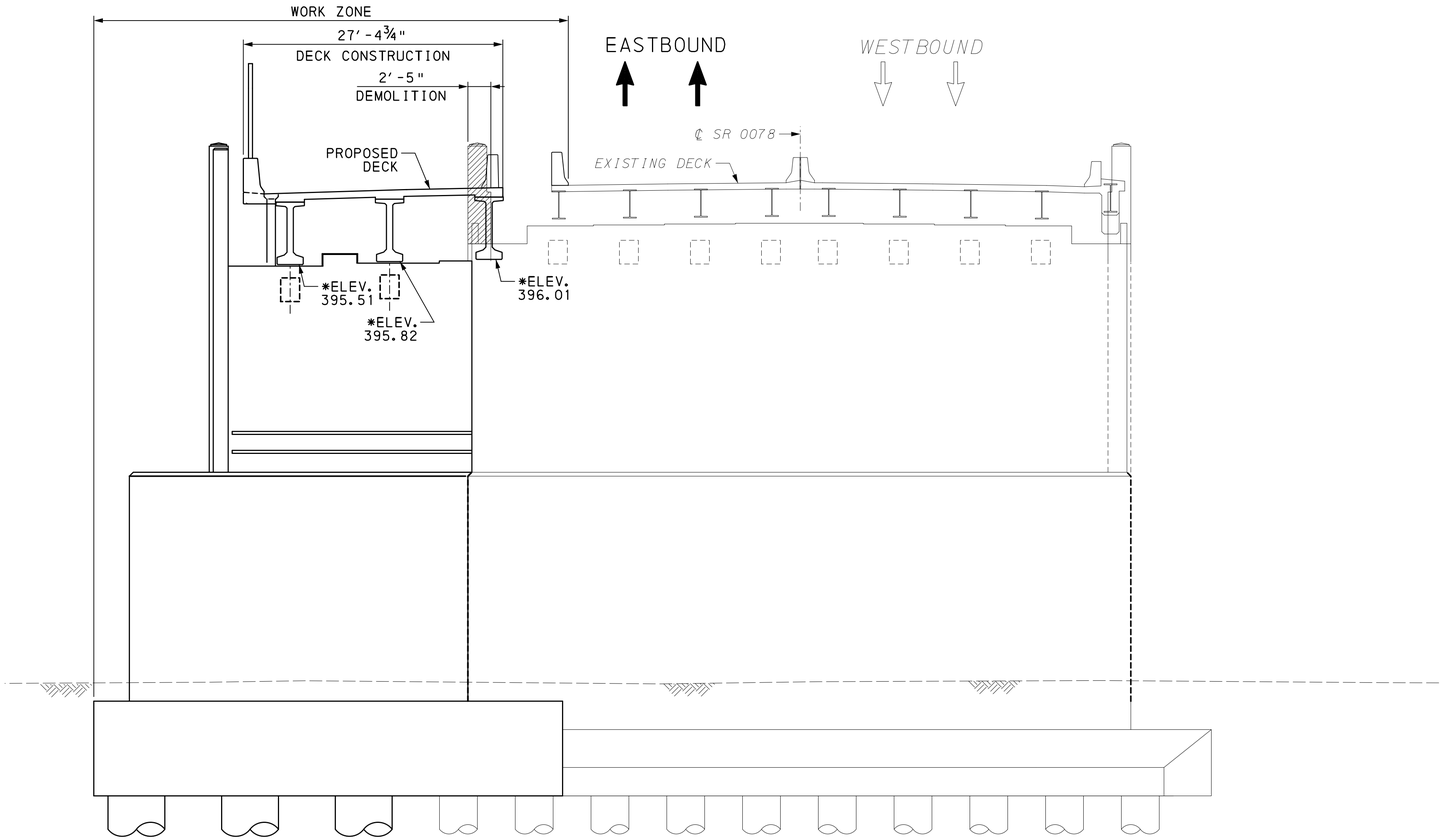
FILENAME: E02657-S38014-EAST-SG-CS-03.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:04:10 AM




## STAGE 1
## PIER 11 PLAN

2 0 4 8 FEET




## STAGE 1 - PIER 11 ELEVATION
## LOOKING DOWNSTATION

2 0 4 8 FEET

* BOTTOM OF FLANGE ELEVATION

| BEAM SEAT ELEVATION TABLE | |
|---|---|
| PIER 11 | |
| STA. 3061+59.11 | |
| BEAM NO. | ELEVATION |
| 1 | 395.31 |
| 2 | 395.66 |
| 3 | 395.85 |
| 4 | 396.11 |
| 5 | 396.27 |
| 6 | 396.28 |
| 7 | 396.14 |
| 8 | 395.94 |
| 9 | 395.76 |
| 10 | 395.57 |
| 11 | 395.25 |

## STAGING NOTES:

1. FOR CONSTRUCTION STAGING SECTIONS, SEE SHEET 22.
2. FOR SUBSTRUCTURE DEMOLITION DETAILS, SEE SHEET 22.
3. FOR ABUTMENT 1 ELEVATIONS, SEE SHEETS 40 & 41, AND FOR ABUTMENT 2 ELEVATIONS, SEE SHEETS 47 & 48.
4. THIS DRAWING SHOWS A STAGING CONCEPT FOR PIER 11. SEE ARCH DRAWING SHEETS FOR DETAILS OF PIER CONSTRUCTION.

## LEGEND:

DEMOLITION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 11
STAGED CONSTRUCTION - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 35 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-PR11-SG-CS-01.dgn
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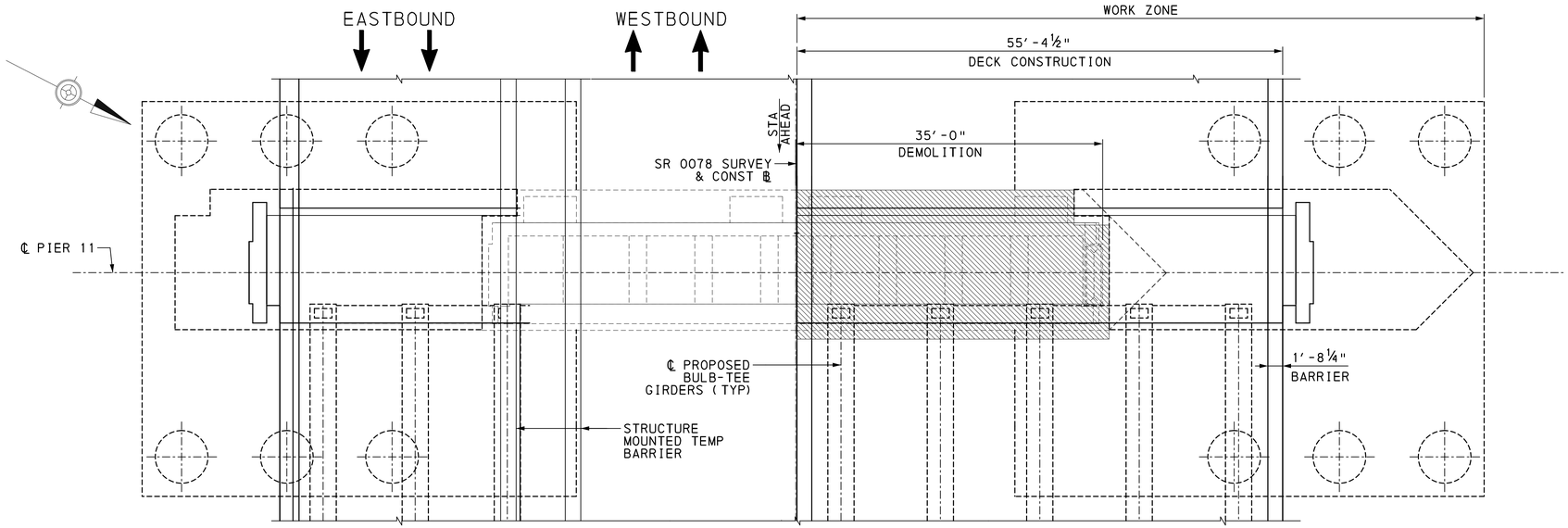
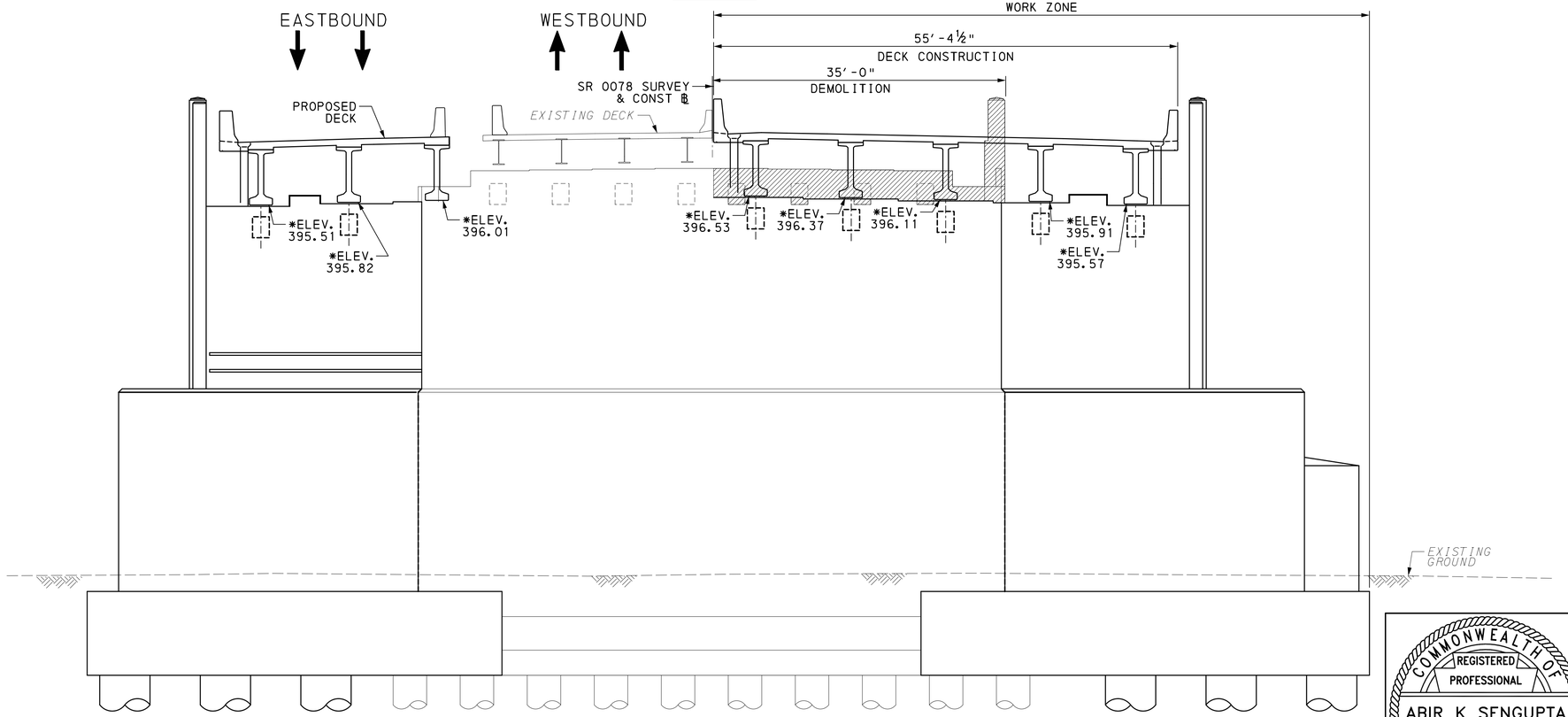



## STAGE 2
## PIER 11 PLAN

2 0 4 8 FEET




## STAGE 2 - PIER 11 ELEVATION
## LOOKING DOWNSTATION

2 0 4 8 FEET

* BOTTOM OF FLANGE ELEVATION

## NOTES:

1. FOR PIER 11 STAGING NOTES, SEE SHEET 35.

## LEGEND:

DEMOLTION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 11
STAGED CONSTRUCTION - 2

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ENGINEER PE085336

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SHEET 36 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-PR11-SG-CS-02.dgn
OPERATOR: ASengupta

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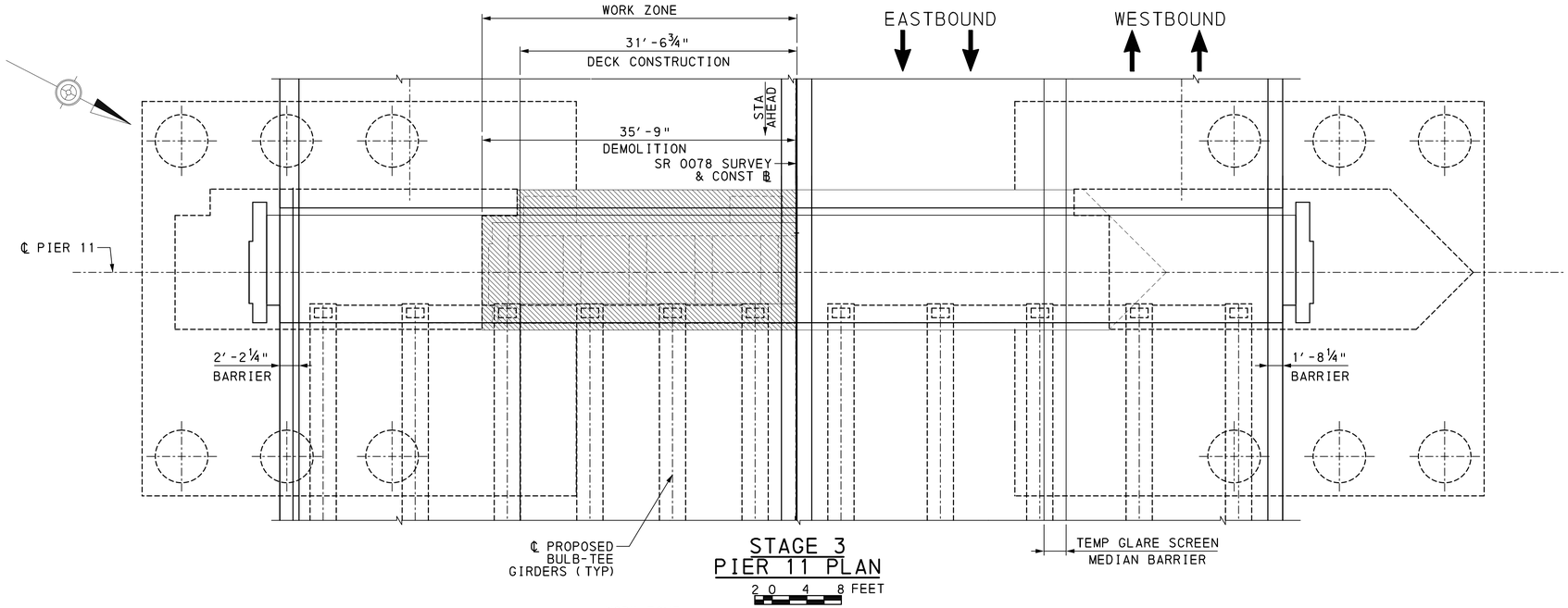
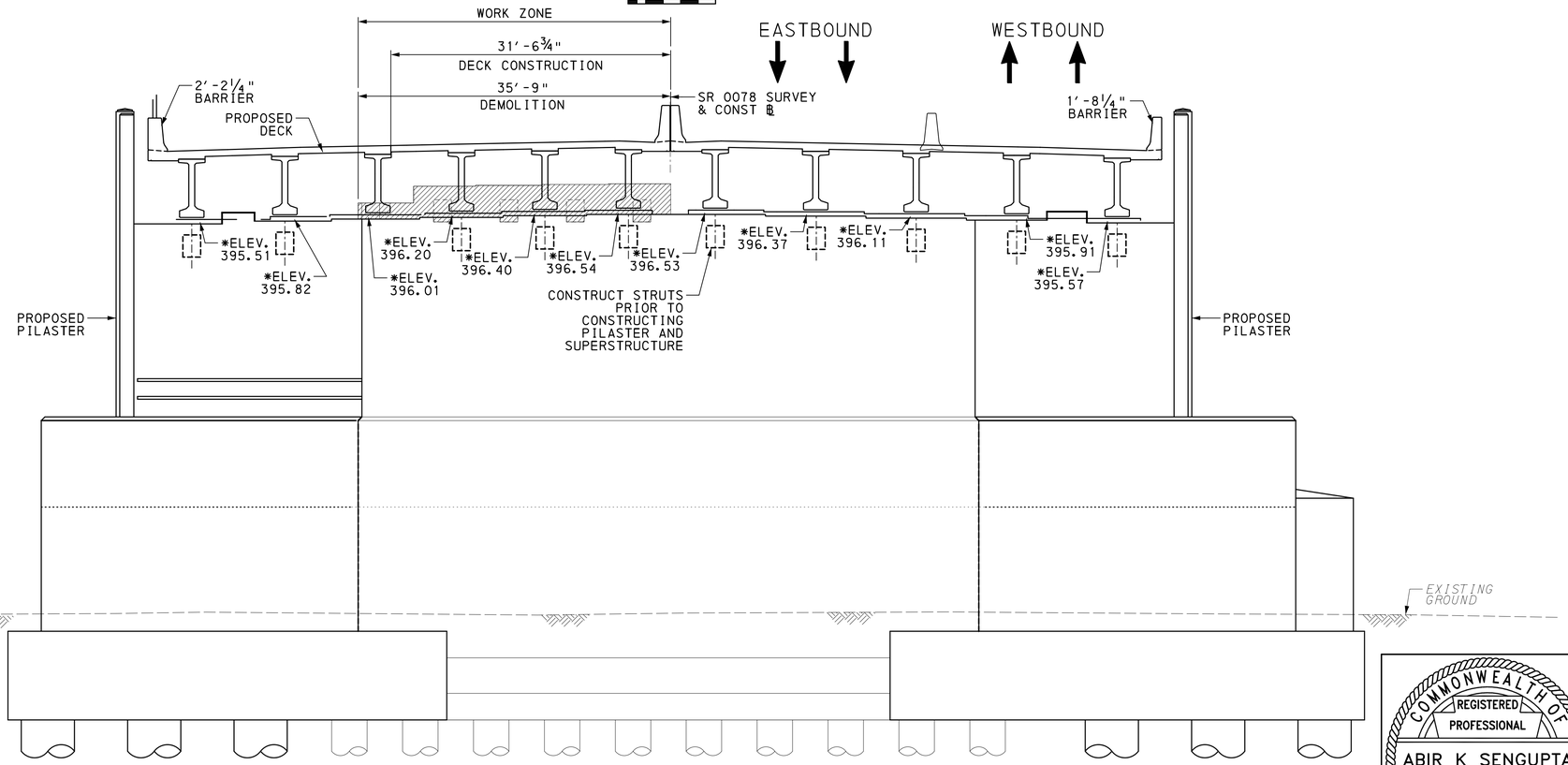



## STAGE 3
## PIER 11 PLAN

2 0 4 8 FEET




## STAGE 3 - PIER 11 ELEVATION
## LOOKING DOWNSTATION

2 0 4 8 FEET

* BOTTOM OF FLANGE ELEVATION

## NOTES:

1. FOR PIER 11 STAGING NOTES, SEE SHEET 35.

## LEGEND:

DEMOLTION

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 11
STAGED CONSTRUCTION - 3

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SHEET 37 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-538014-PR11-SG-CS-03.dgn
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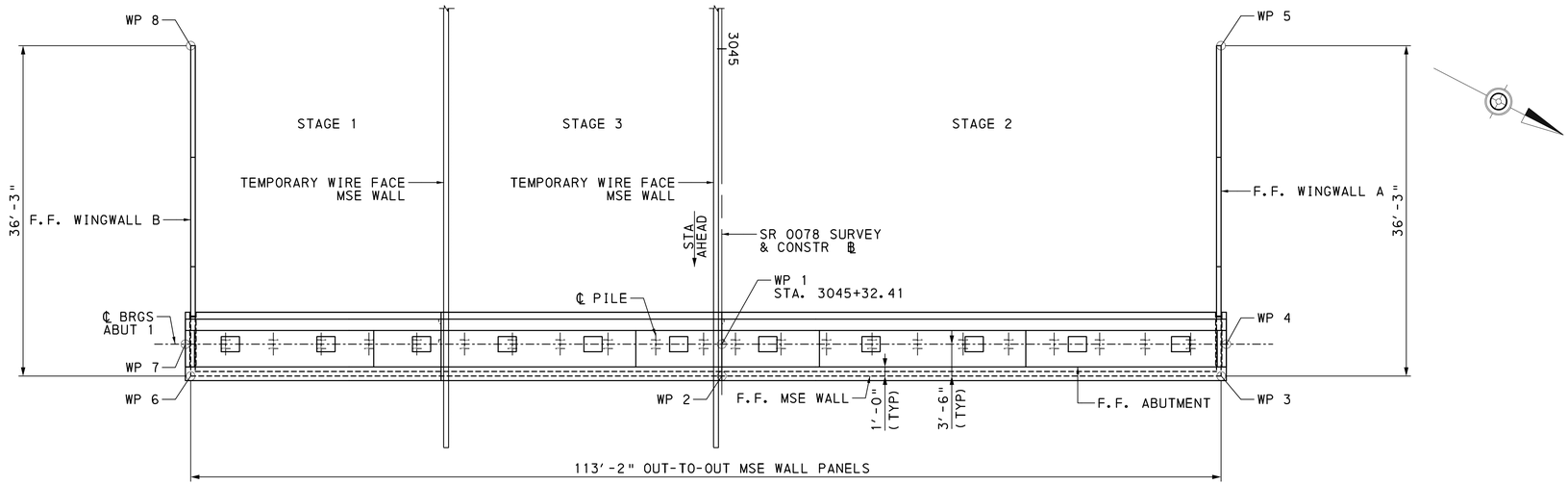
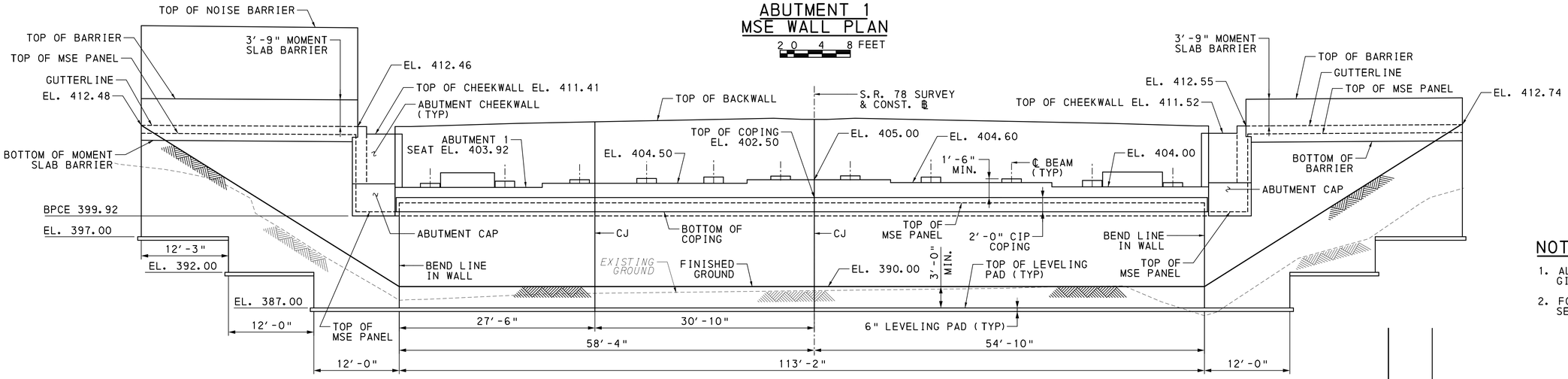



## ABUTMENT 1
## MSE WALL PLAN
2 0 4 8 FEET




## ABUTMENT 1
## MSE WALL ELEVATION
(DEVELOPED ALONG FRONT FACE OF WALL)
2 0 4 8 FEET

### NOTES:

1. ALL LEVELING PAD ELEVATIONS ARE GIVEN AT TOP OF LEVELING PAD.
2. FOR MOMENT SLAB BARRIER DETAIL, SEE BC-799M, SHEET 4 OF 13.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
MSE WALL 1
PLAN AND ELEVATION

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ENGINEER PE085336

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SHEET 38 OF 295

S-38014

DES: SAT | DWN: SAT | CKD: AKS

FILENAME: E02657-S38014-MW-WEST.dgn
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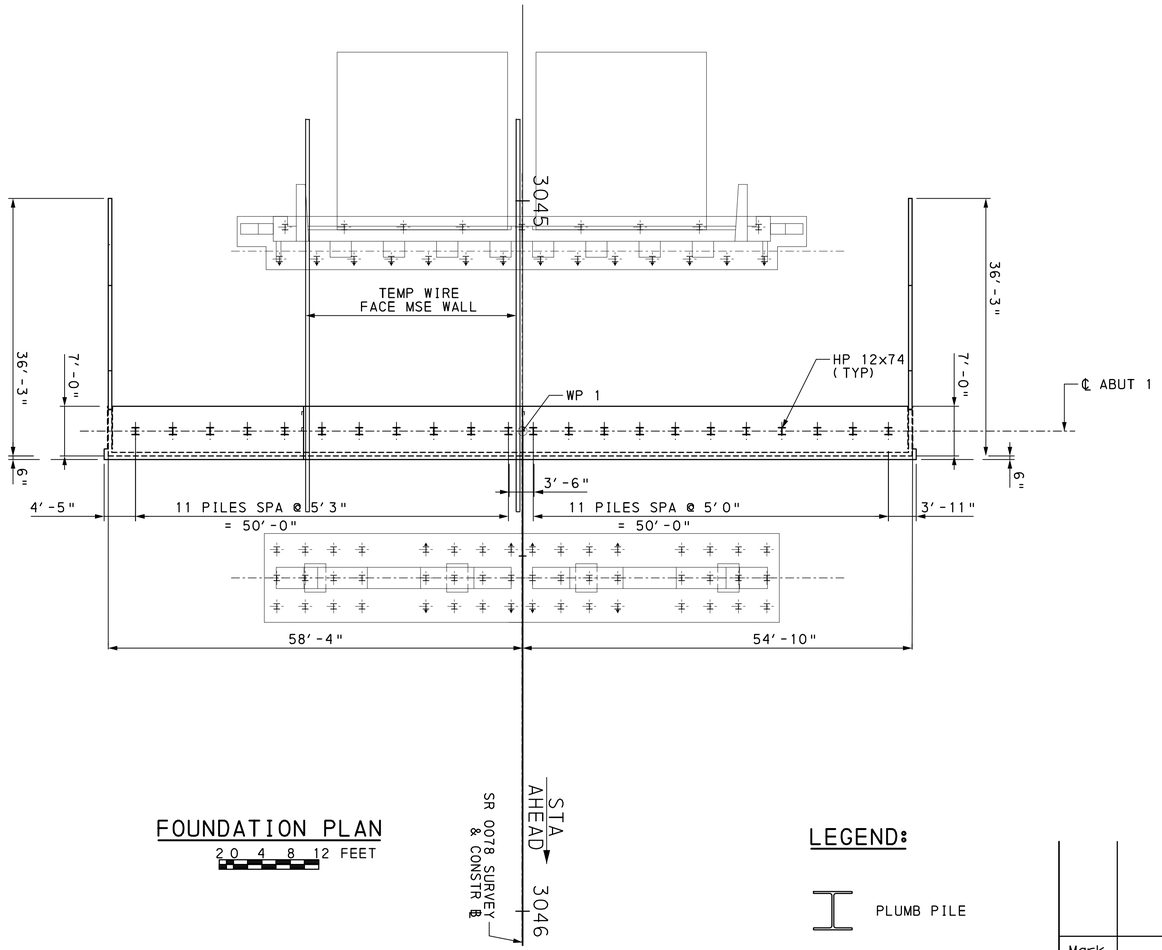


## FOUNDATION PLAN

2 0 4 8 12 FEET

## LEGEND:

PLUMB PILE

BATTERED PILE

## NOTES:

1. FOR STAGED CONSTRUCTION DETAILS, SEE SHEET 22.
2. FOR MSE WALL 1 PLAN AND ELEVATIONS, SEE SHEET 38.
3. FOR PAY ITEM "TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM" SEE SPECIAL PROVISION 9203-0130.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

ABUTMENT 1
FOUNDATION PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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SHEET 39 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-FD-PL-AB1.dgn
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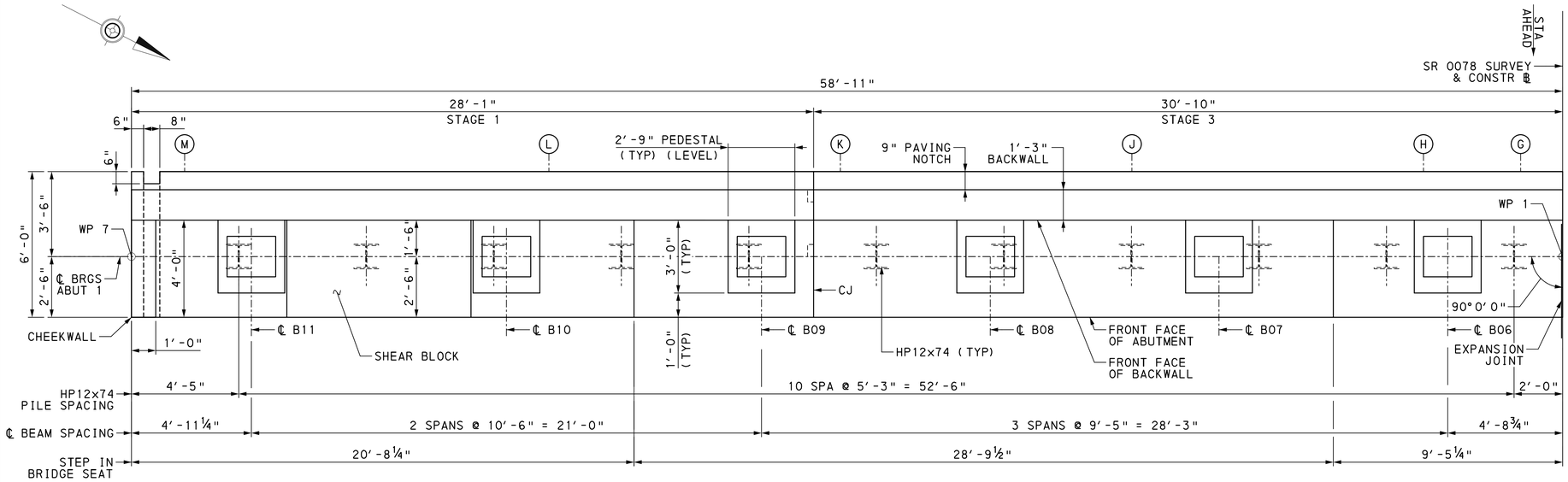
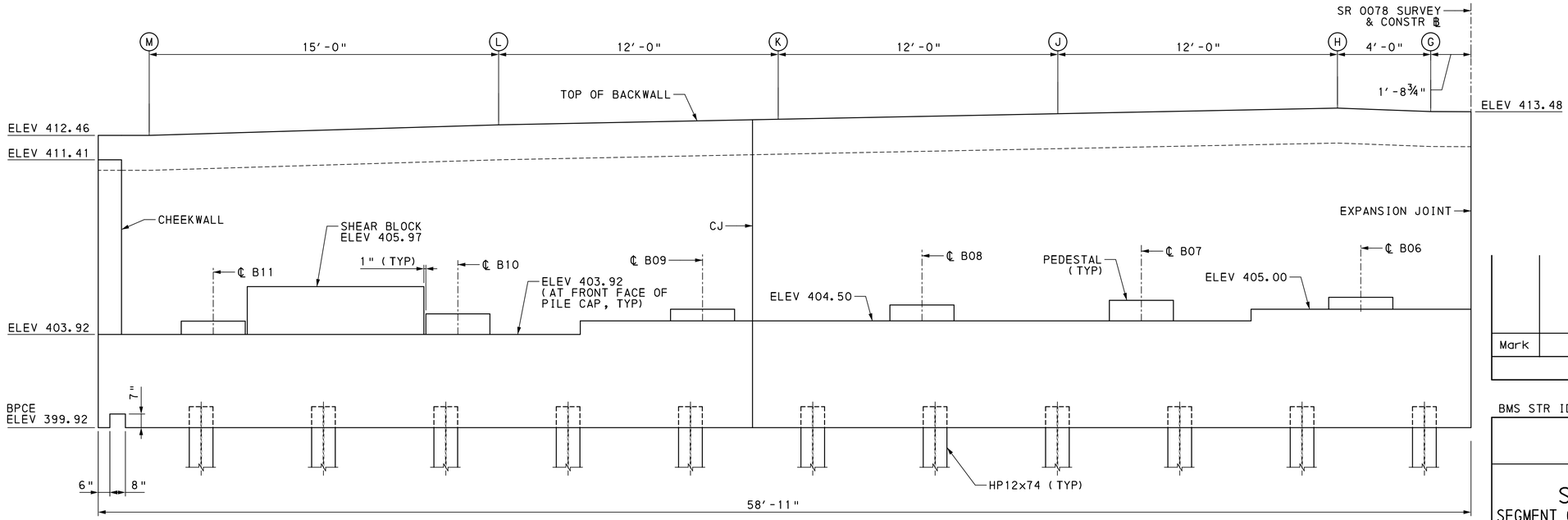



## ABUTMENT 1 PLAN
## EASTBOUND

1 0 1 2 3 FEET




## ABUTMENT 1 ELEVATION
## EASTBOUND

1 0 1 2 3 FEET

| PEDESTAL ELEVATIONS (FT) | | | | | |
|---|---|---|---|---|---|
| ℄ BRG ABUT 1 (EB) | | | | | |
| B06 | B07 | B08 | B09 | B10 | B11 |
| 405.51 | 405.38 | 405.18 | 405.00 | 404.80 | 404.49 |

| BACKWALL ELEVATIONS | | | |
|---|---|---|---|
| LOCATION | TOP OF BACKWALL ALONG FRONT FACE | | |
| | STATION | OFFSET | ELEV |
| G | 3045+30.91 | 1.73 FT | 413.48 |
| H | 3045+30.91 | 5.73 FT | 413.63 |
| J | 3045+30.91 | 17.73 FT | 413.39 |
| K | 3045+30.91 | 29.73 FT | 413.15 |
| L | 3045+30.91 | 41.73 FT | 412.91 |
| M | 3045+30.91 | 56.73 FT | 412.46 |

## NOTES:

1. FOR ADDITIONAL FOUNDATION DRAIN DETAILS, SEE BC-751M.
2. FOR STAKE-OUT PLAN, SEE SHEET 21.
3. FOR REINFORCING BAR SCHEDULE, SEE SHEET 52.
4. MINIMUM BAR LAPS FOR ABUTMENT: USE THE LARGER BAR SIZE AT SPLICE
   #5 BAR VERTICAL MIN LAP = 2′-7"
   #5 BAR HORIZONTAL MIN LAP = 3′-4"
   #6 BAR MIN LAP = 3′-1"
   #8 BAR MIN LAP = 5′-3"

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# ABUTMENT 1 PLAN AND ELEVATION - EB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 40 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-AB-WEST-GP-01.dgn
OPERATOR: ASengupta

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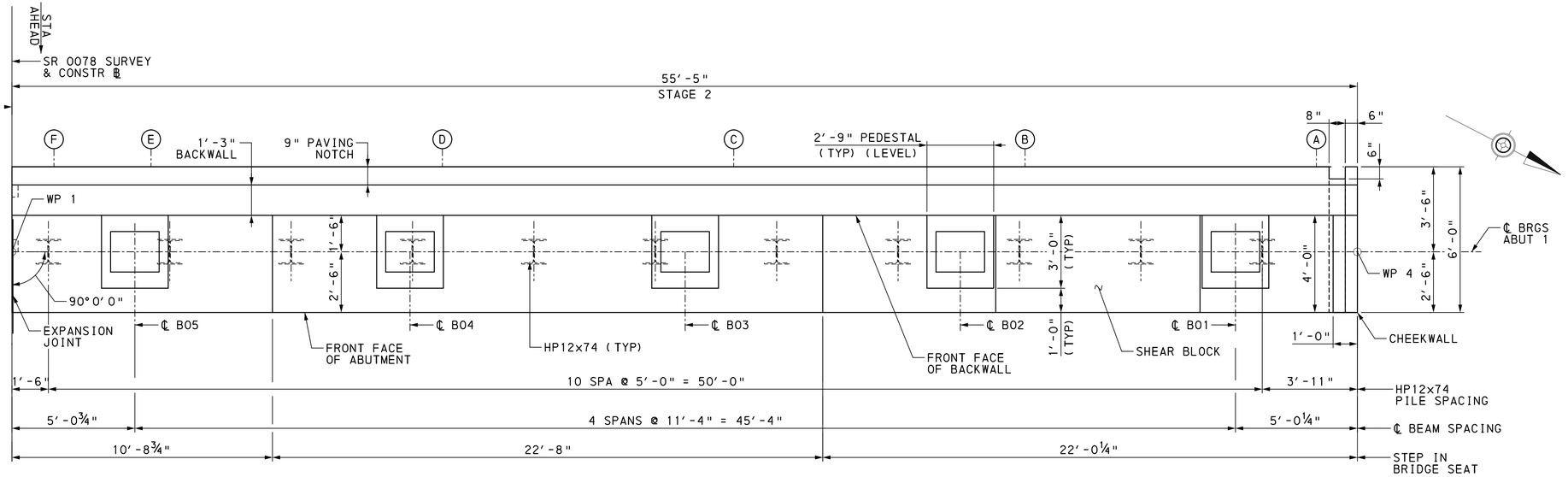
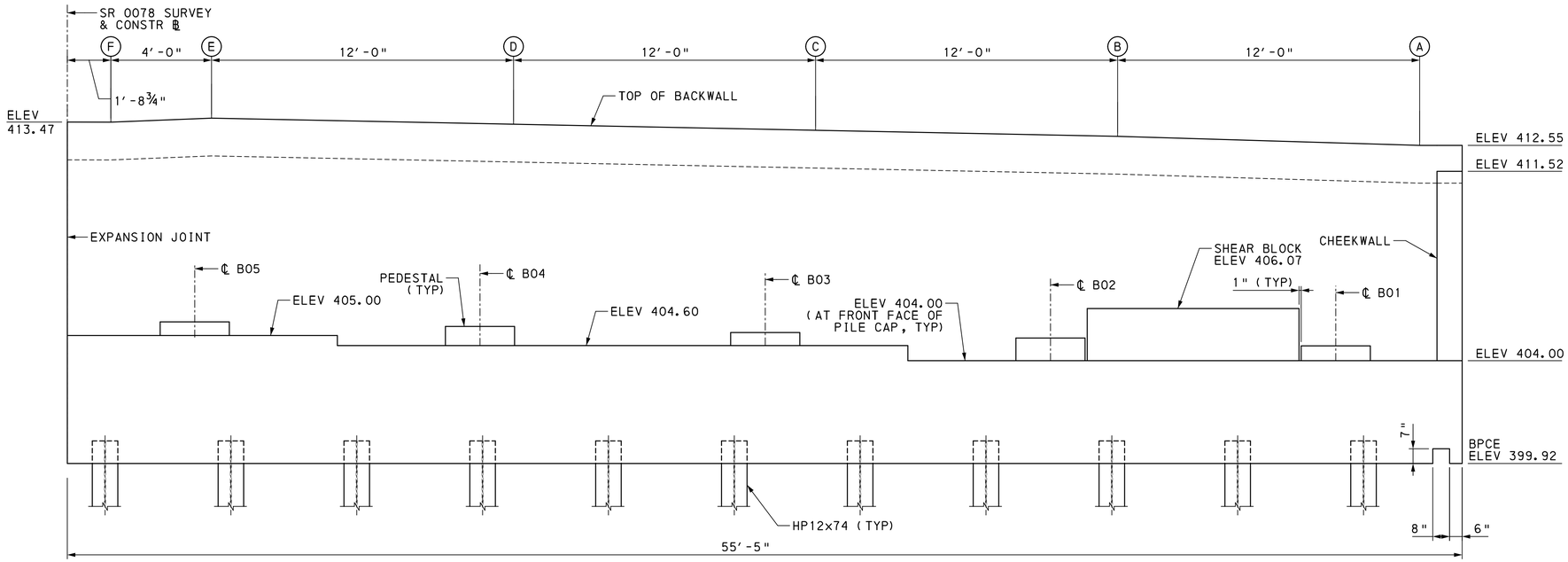



ABUTMENT 1 PLAN
WESTBOUND
1 0 1 2 3 FEET




ABUTMENT 1 ELEVATION
WESTBOUND
1 0 1 2 3 FEET

## PEDESTAL ELEVATIONS (FT)

| ℄ BRG ABUT 1 (WB) | | | | |
|---|---|---|---|---|
| B01 | B02 | B03 | B04 | B05 |
| 404.59 | 404.90 | 405.12 | 405.36 | 405.54 |

## BACKWALL ELEVATIONS

| LOCATION | TOP OF BACKWALL ALONG FRONT FACE | | |
|---|---|---|---|
| | STATION | OFFSET | ELEV |
| A | 3045+30.91 | -53.73 FT | 412.55 |
| B | 3045+30.91 | -41.73 FT | 412.91 |
| C | 3045+30.91 | -29.73 FT | 413.15 |
| D | 3045+30.91 | -17.73 FT | 413.39 |
| E | 3045+30.91 | -5.73 FT | 413.63 |
| F | 3045+30.91 | -1.73 FT | 413.47 |

## NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

ABUTMENT 1 PLAN AND ELEVATION - WB

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REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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SHEET 41 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

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OPERATOR: ASengupta

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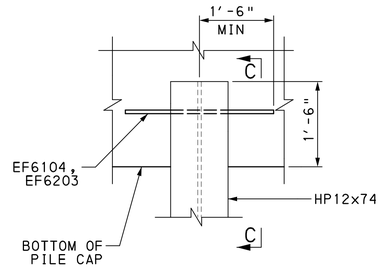
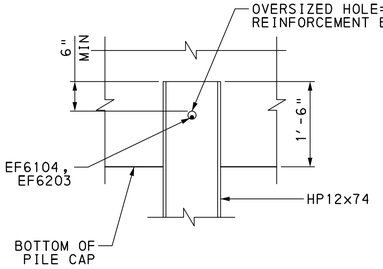
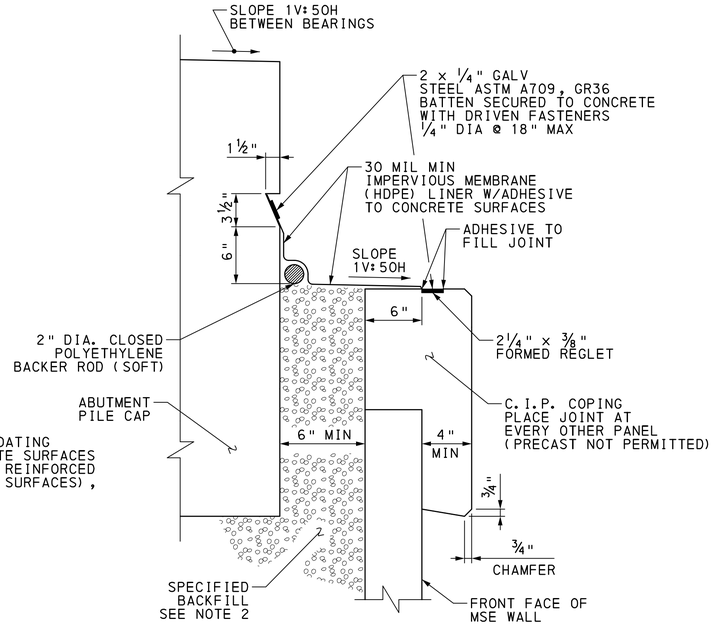


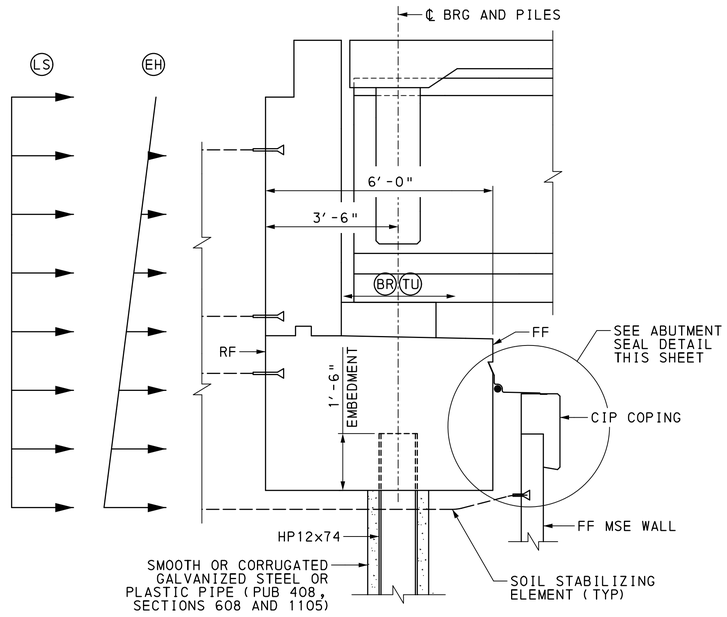

PILE ANCHORAGE DETAIL
NTS




SECTION C-C
NTS




ABUTMENT SEAL DETAIL
NTS

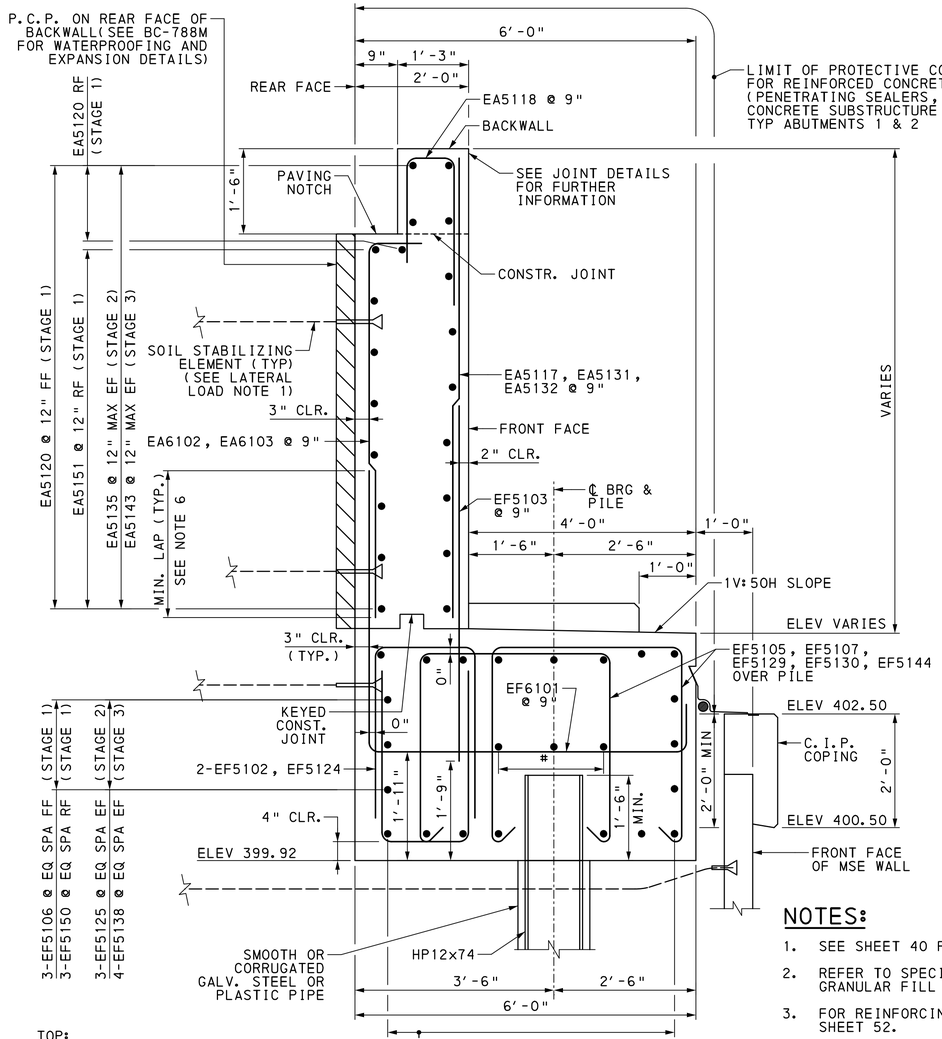



LATERAL LOADING DIAGRAM
NOT TO SCALE

| ABUTMENT 1 LATERAL LOADS | |
|---|---|
| TYPE | SERVICE LOAD (KIPS/FT) |
| BR | 0.8 |
| TU | 1.3 |
| LS | 1.5 |
| EH | 3.4 |

## LATERAL LOAD NOTES

1. CONTRACTOR SHALL DESIGN THE REINFORCING STRAPS IN THE PILE CAP TO RESIST LATERAL LOADS "EH", "BR", "TU" AND "LS".
2. LOAD "EH" IS THE HORIZONTAL EARTH PRESSURE EXERTED ON THE ABUTMENT.
3. LOAD "BR" IS THE HORIZONTAL LOAD DUE TO BRAKING FORCE ON THE APPROACH SLAB/SUPERSTRUCTURE.
4. LOAD "LS" IS THE ADDITIONAL HORIZONTAL SOIL PRESSURE DUE TO 3 FEET OF SOIL SURCHARGE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING MSE DESIGNER WITH OTHER CONSTRUCTION LOADS WHICH WILL BE IN EXCESS OF SOIL SURCHARGE.
5. LOAD "TU" IS THE HORIZONTAL LOAD DUE TO UNIFORM TEMPERATURE FORCE ON THE SUPERSTRUCTURE.
6. FOR LAP LENGTHS SEE SHEET 88.




TOP:
1-EF8114 & 7-EF8101, 8-EF8104 (STAGE 1)
8-EF8108, EF8109, EF8110 (STAGE 2)
8-EF8111, EF8112 (STAGE 3)

BOTT:
7-EF8114 (STAGE 1)
7-EF8105, EF8107 (STAGE 2)
7-EF8113 (STAGE 3)

ABUTMENT 1
SECTION A-A
6 0 6 12 INCHES

## NOTES:

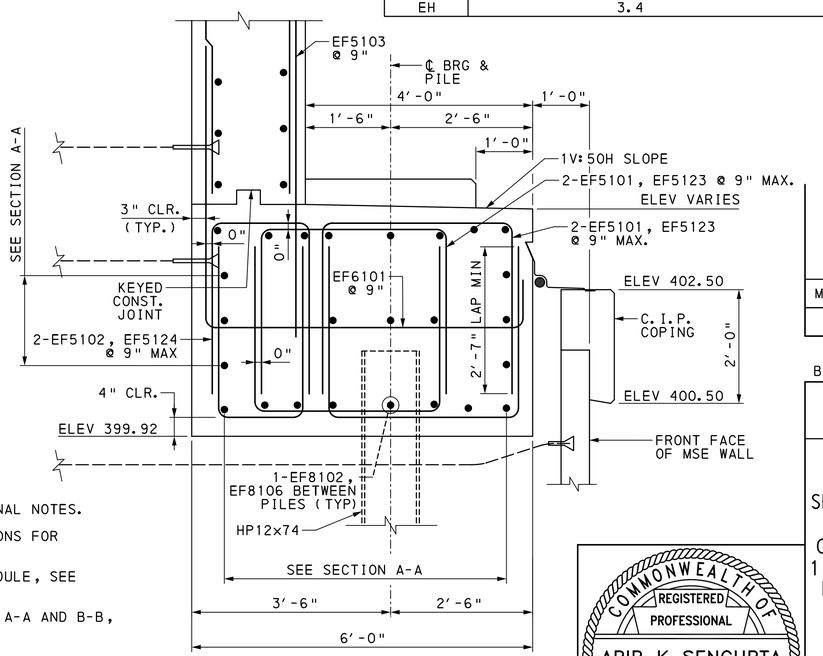
1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. REFER TO SPECIAL PROVISIONS FOR GRANULAR FILL MATERIALS.
3. FOR REINFORCING BAR SCHEDULE, SEE SHEET 52.
4. FOR LOCATION OF SECTIONS A-A AND B-B, SEE SHEETS 43 & 44.

# BARS NEED TO BE

3-EF8101 - STAGE 1

3-EF8113 - STAGE 3

3-EF8115 - STAGE 2




ABUTMENT 1
SECTION B-B
6 0 6 12 INCHES

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

ABUTMENT 1
TYPICAL SECTION AND DETAILS

RECOMMENDED 08/30/2019

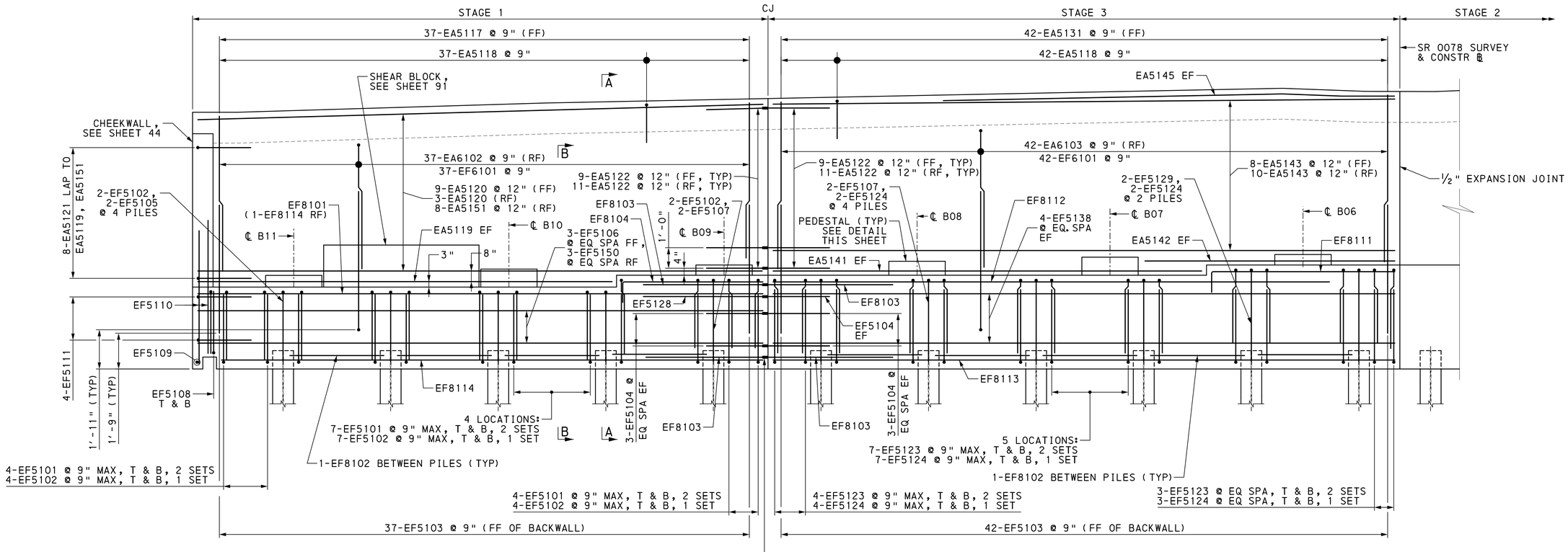
SHEET 42 OF 295

S-38014

DES: MDM | DWN: LCP | CKD: AKS

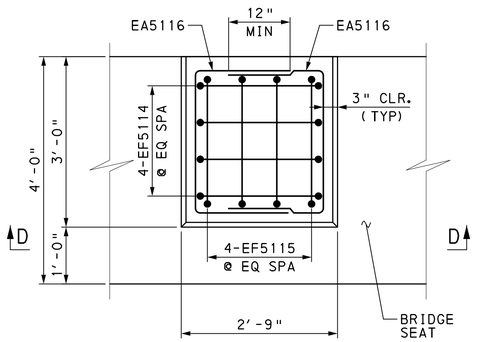
FILENAME: E02657-S38014-AB-WEST-SN-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:05:17 AM



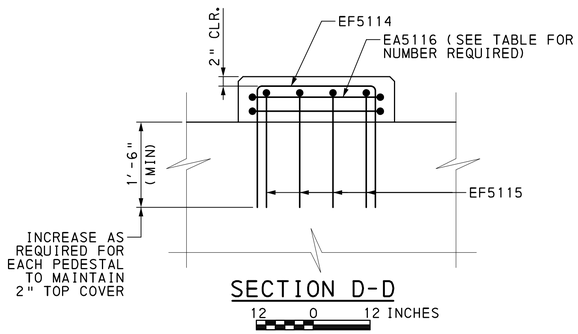

## ABUTMENT 1 - STAGE 1 & 3 REINFORCEMENT ELEVATION EASTBOUND

1 0 1 2 3 FEET




## PEDESTAL PLAN

12 0 12 INCHES




## SECTION D-D

12 0 12 INCHES

| PEDESTAL HEIGHT | NUMBER OF HOOPS |
|---|---|
| 6" TO 8" | 1 |
| 8" TO 11" | 2 |
| 11" TO 14" | 3 |
| 14" TO 17" | 4 |
| 17" TO 20" | 5 |

## NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. FOR SECTIONS A-A & B-B, SEE SHEET 42.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
ABUTMENT 1
REINFORCING - EB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019 9

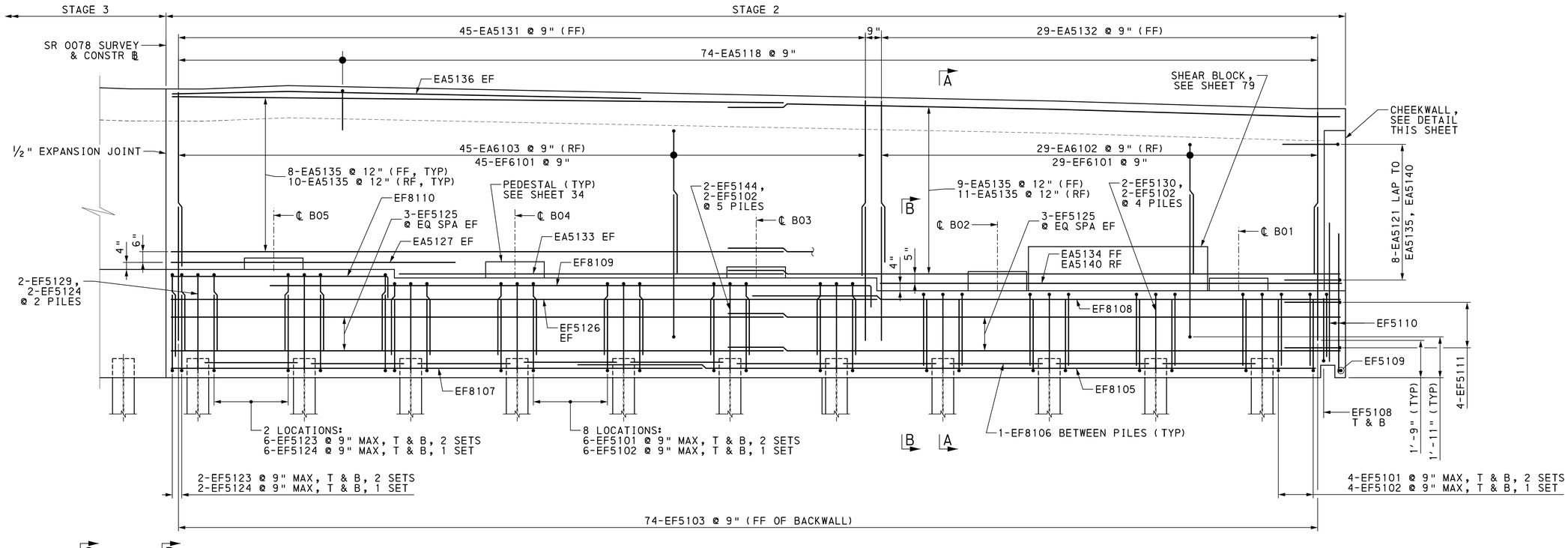
SHEET 43 OF 295

S-38014

DES: MDM | DWN: LCP | CKD: AKS

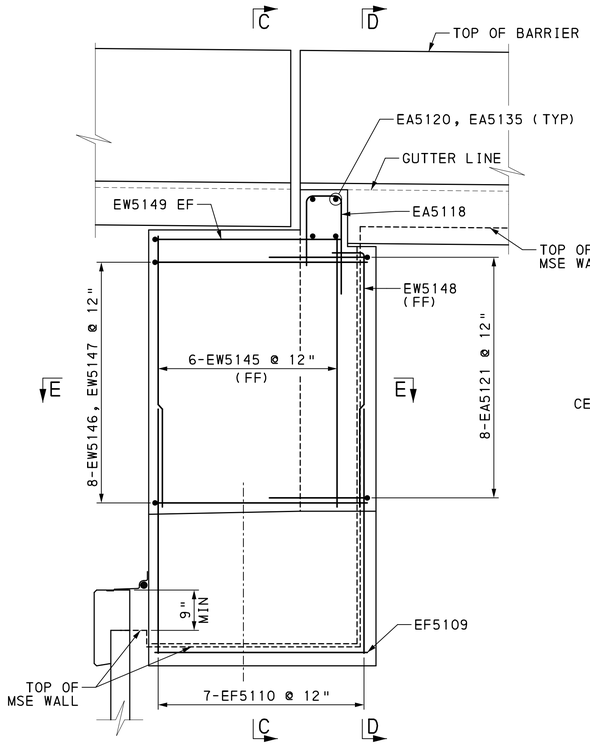
FILENAME: E02657-S38014-AB-01-RB-EB.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:05:26 AM



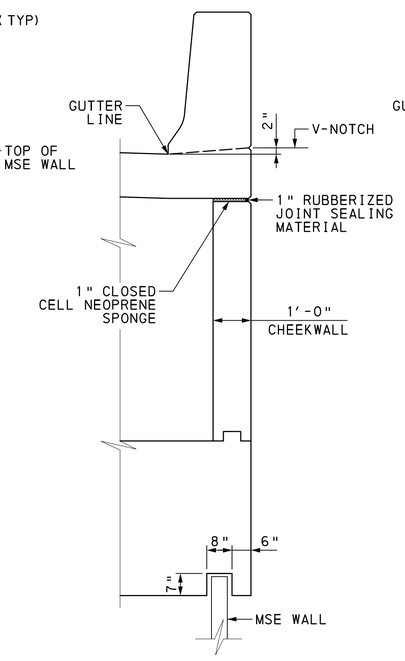

## ABUTMENT 1 - STAGE 2 REINFORCEMENT ELEVATION
## WESTBOUND

1 0 1 2 3 FEET



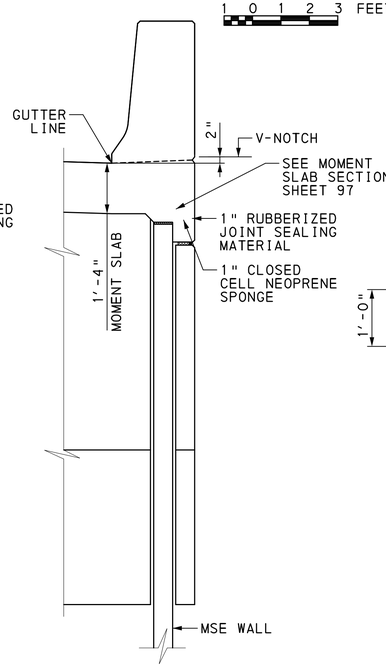

ABUTMENT 1 - CHEEKWALL ELEVATION

6 0 6 INCHES



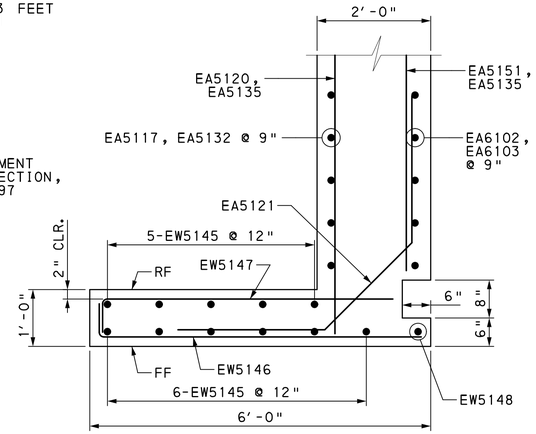

SECTION C-C

6 0 6 INCHES




SECTION D-D

6 0 6 INCHES




SECTION E-E

12 0 12 INCHES

### NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. FOR SECTIONS A-A & B-B SEE SHEET 42.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
ABUTMENT 1
REINFORCING - WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

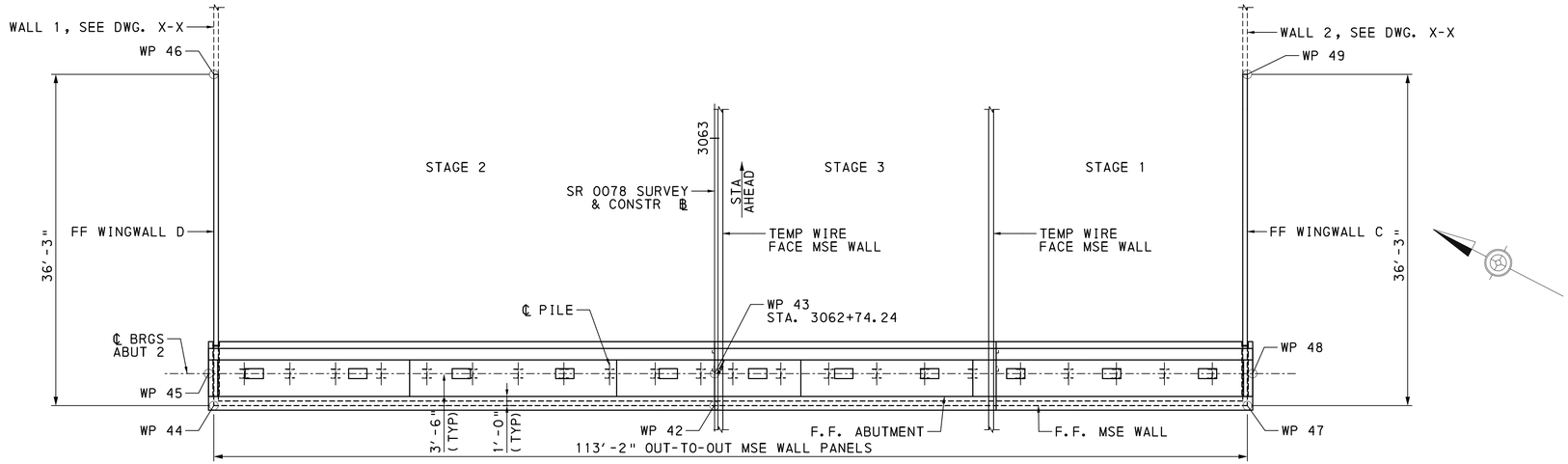
SHEET 44 OF 295

S-38014

DES: MDM | DWN: LCP | CKD: AKS

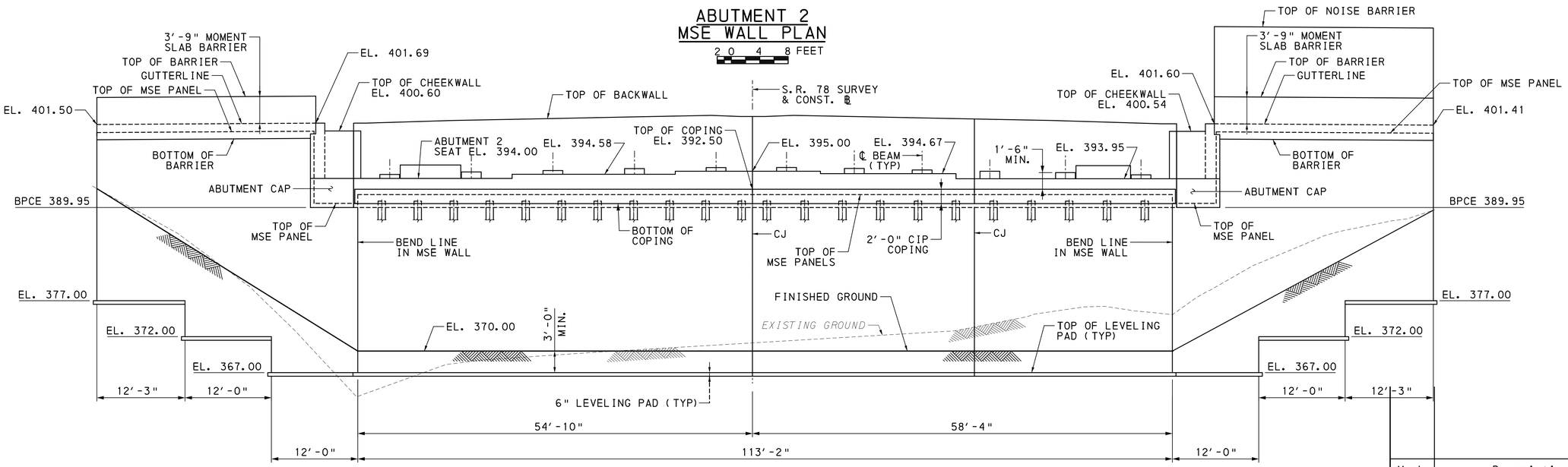
FILENAME: E02657-S38014-AB-01-RB-WB.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:05:35 AM




## ABUTMENT 2
## MSE WALL PLAN

2 0 4 8 FEET




## ABUTMENT 2
## MSE WALL ELEVATION

(DEVELOPED ALONG FRONT FACE OF WALL)
(LOOKING UPSTATION)
2 0 4 8 FEET

### NOTES:

1. ALL LEVELING PAD ELEVATIONS ARE GIVEN AT TOP OF LEVELING PAD.
2. FOR MOMENT SLAB BARRIER DETAIL, SEE BC-799M, SHEET 4 OF 13.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# MSE WALL 2
# PLAN AND ELEVATION

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

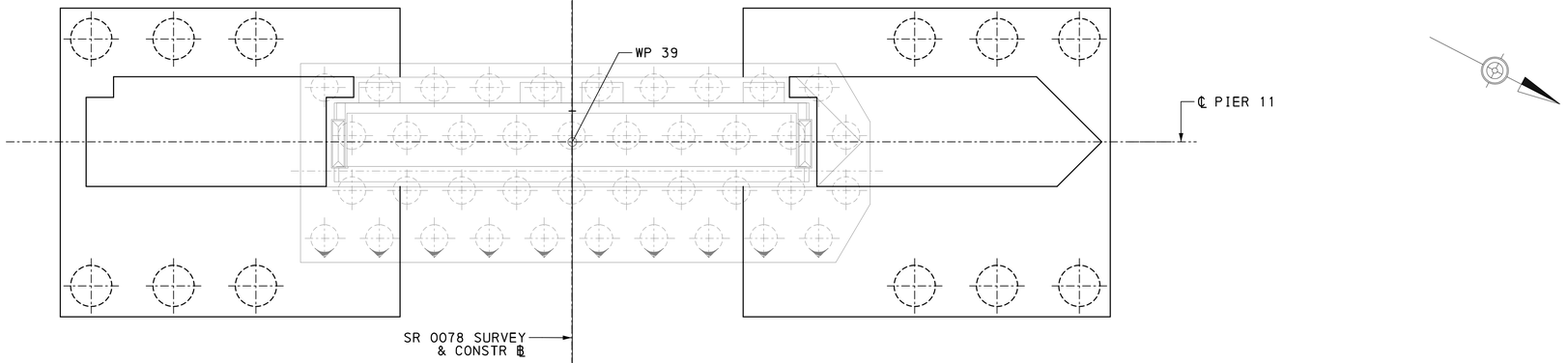
SHEET 45 OF 295

S-38014

DES: MDM | DWN: LCP | CKD: AKS

FILENAME: E02657-S38014-MW-EAST.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 5:05:44 AM




FOUNDATION PLAN

2 0 4 8 12 FEET

## NOTES:

1. FOR STAGED CONSTRUCTION DETAILS, SEE SHEET 22.
2. FOR MSE WALL 2 PLAN AND ELEVATIONS, SEE SHEET 45.
3. FOR PAY ITEM "TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM" SEE SPECIAL PROVISION 9203-0130.

| DES: AKS | DWN: SIB | CKD: DG |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
ABUTMENT 2
FOUNDATION PLAN

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

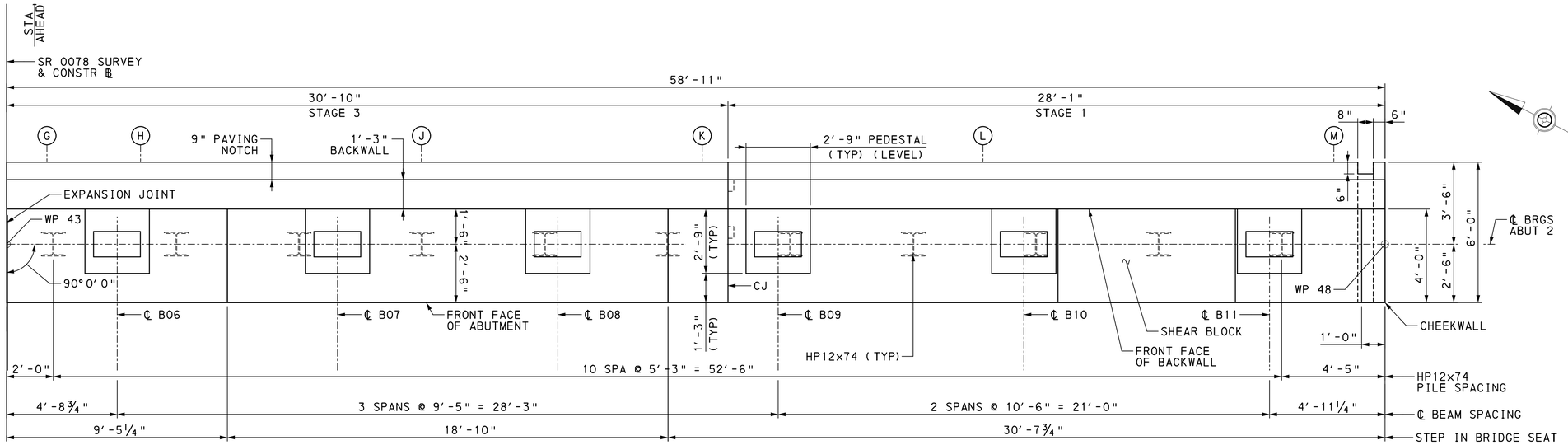
RECOMMENDED 08/30/2019

SHEET 46 OF 295

S-38014

FILENAME: E02657-S38014-FD-PL-AB2.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:06:00 AM

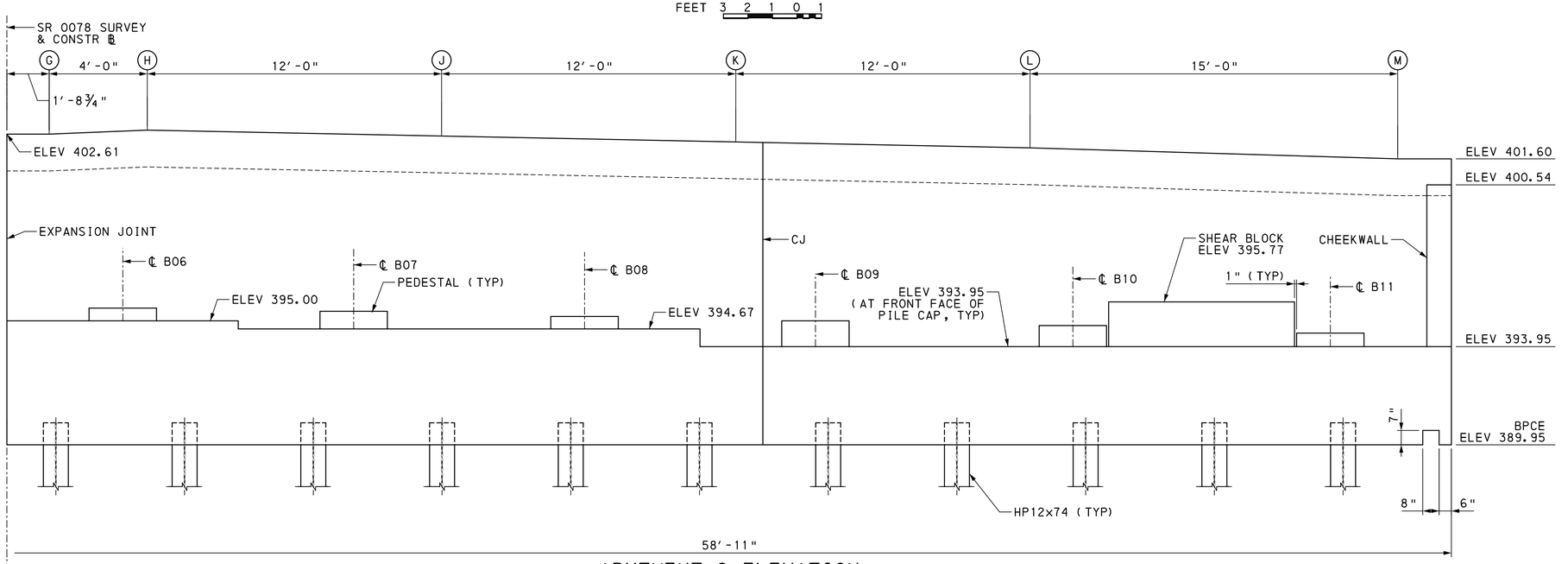



## ABUTMENT 2 PLAN
## EASTBOUND

FEET 3 2 1 0 1

| PEDESTAL ELEVATIONS (FT) | | | | | |
|---|---|---|---|---|---|
| ℄ BRG ABUT 2 (EB) | | | | | |
| B06 | B07 | B08 | B09 | B10 | B11 |
| 395.52 | 395.39 | 395.18 | 395.00 | 394.81 | 394.50 |

| BACKWALL ELEVATIONS | | | |
|---|---|---|---|
| LOCATION | TOP OF BACKWALL ALONG FRONT FACE | | |
| | STATION | OFFSET | ELEV |
| G | 3062+75.74 | 1.73 FT | 402.61 |
| H | 3062+75.74 | 5.73 FT | 402.77 |
| J | 3062+75.74 | 17.73 FT | 402.53 |
| K | 3062+75.74 | 29.73 FT | 402.29 |
| L | 3062+75.74 | 41.73 FT | 402.05 |
| M | 3062+75.74 | 56.73 FT | 401.60 |




## ABUTMENT 2 ELEVATION
## EASTBOUND

1 0 1 2 3 FEET

## NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. FOR REINFORCING BAR SCHEDULE, SEE SHEET 53.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# ABUTMENT 2 PLAN AND ELEVATION - EB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

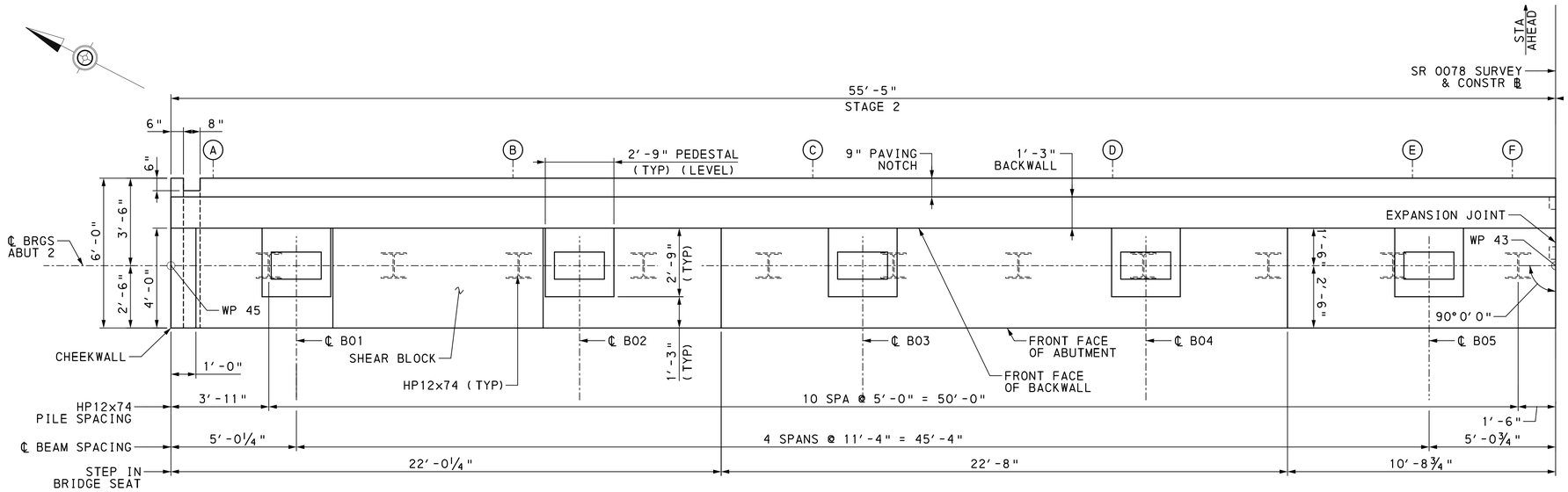
SHEET 47 OF 295

S-38014

DES: MDM | DWN: ERT | CKD: AKS

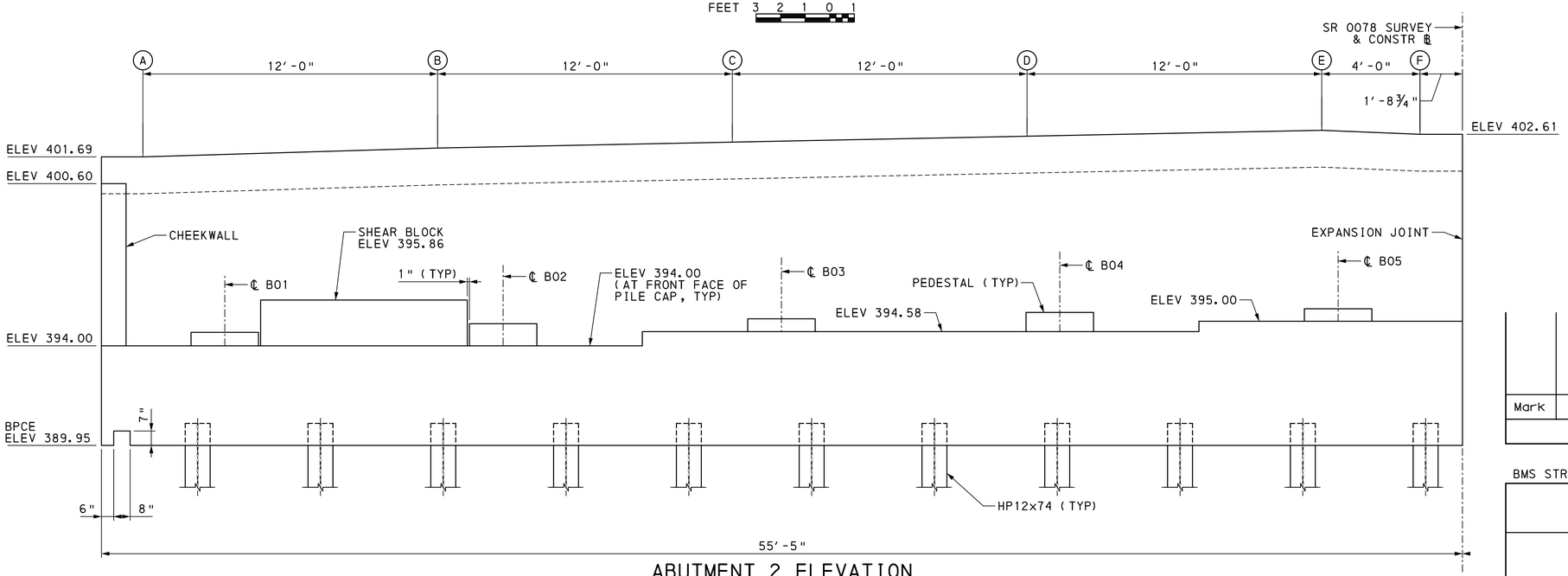
FILENAME: E02657-S38014-AB-EAST-GP-02.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:05:52 AM




## ABUTMENT 2 PLAN
## WESTBOUND

FEET 3 2 1 0 1




## ABUTMENT 2 ELEVATION
## WESTBOUND

1 0 1 2 3 FEET

### PEDESTAL ELEVATIONS (FT)

| ℄ BRG ABUT 2 (WB) | | | | |
|---|---|---|---|---|
| B01 | B02 | B03 | B04 | B05 |
| 394.55 | 394.90 | 395.10 | 395.36 | 395.51 |

### BACKWALL ELEVATIONS

| LOCATION | TOP OF BACKWALL ALONG FRONT FACE | | |
|---|---|---|---|
| | STATION | OFFSET | ELEV |
| A | 3062+75.74 | -53.73 FT | 401.69 |
| B | 3062+75.74 | -41.73 FT | 402.05 |
| C | 3062+75.74 | -29.73 FT | 402.29 |
| D | 3062+75.74 | -17.73 FT | 402.53 |
| E | 3062+75.74 | -5.73 FT | 402.77 |
| F | 3062+75.74 | -1.73 FT | 402.61 |

## NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. FOR REINFORCING BAR SCHEDULE, SEE SHEET 53.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

ABUTMENT 2 PLAN AND ELEVATION - WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

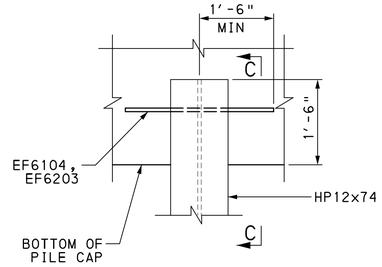
SHEET 48 OF 295

S-38014

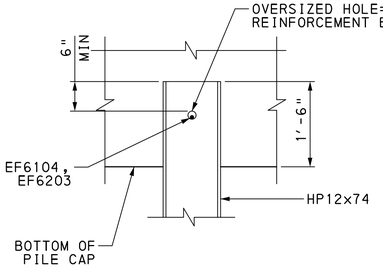
DES: MDM | DWN: ERT | CKD: AKS

FILENAME: E02657-S38014-AB-EAST-GP-01.dgn
OPERATOR: ASengupta

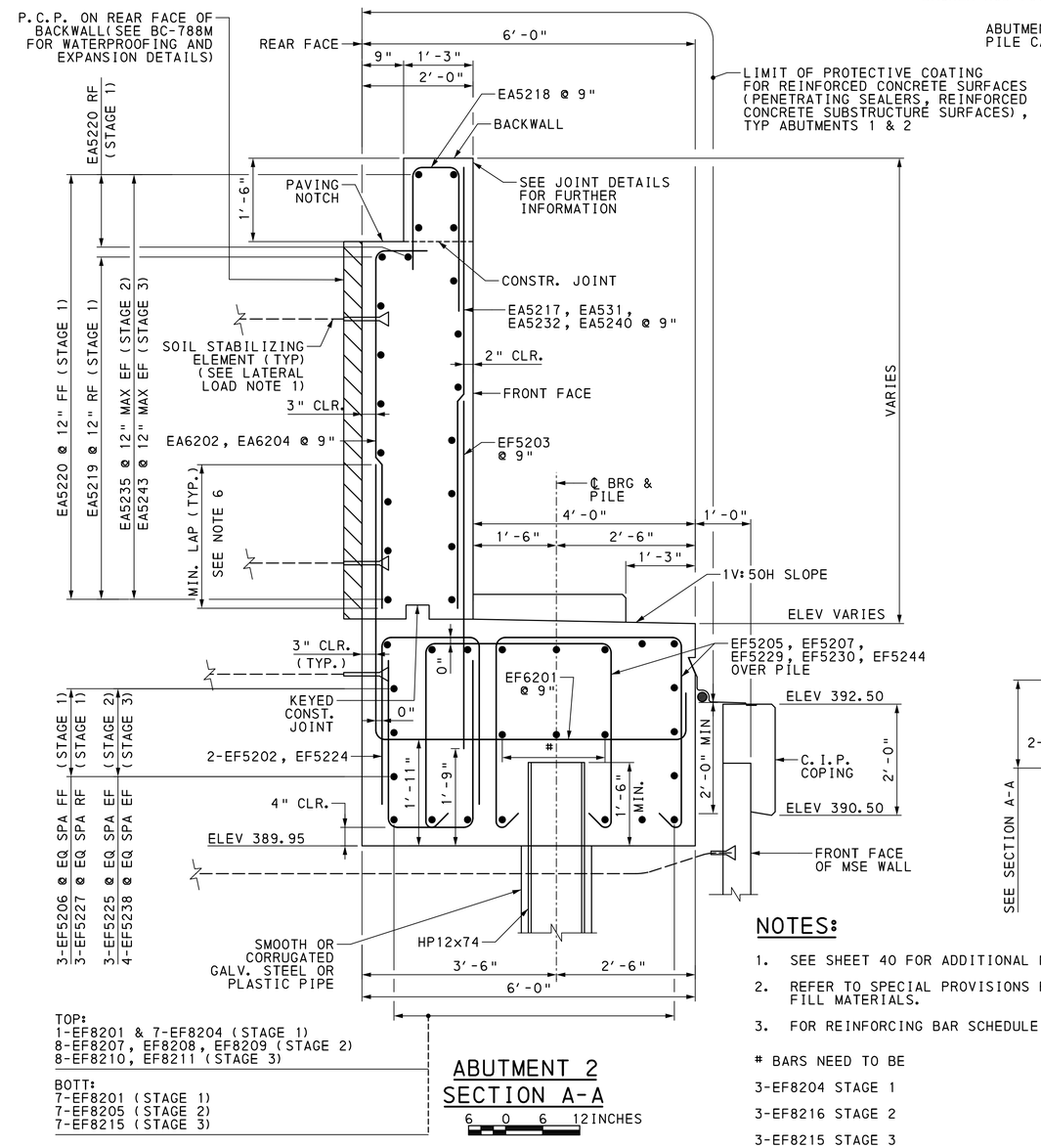
PLOTTED: 8/27/2019 9:37:23 AM




## PILE ANCHORAGE DETAIL
NTS




## SECTION C-C
NTS




TOP:
1-EF8201 & 7-EF8204 (STAGE 1)
8-EF8207, EF8208, EF8209 (STAGE 2)
8-EF8210, EF8211 (STAGE 3)

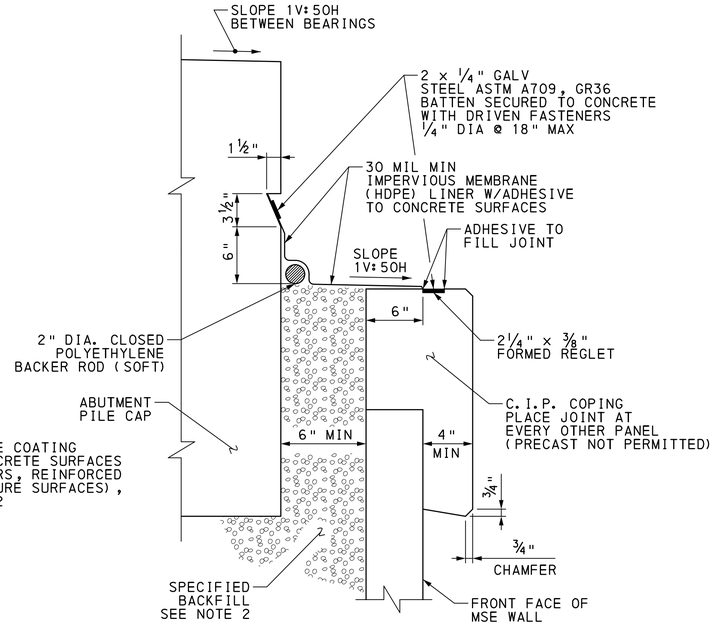
BOTT:
7-EF8201 (STAGE 1)
7-EF8205 (STAGE 2)
7-EF8215 (STAGE 3)

## ABUTMENT 2 SECTION A-A
6 0 6 12 INCHES

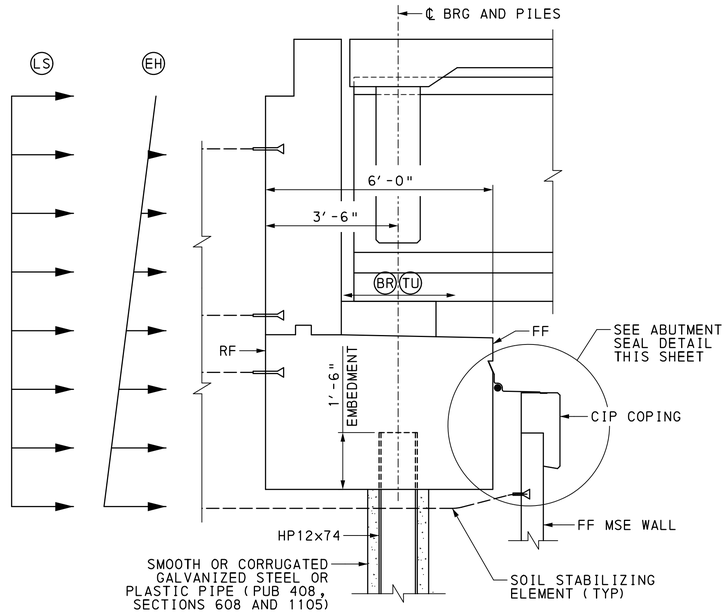
## NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. REFER TO SPECIAL PROVISIONS FOR GRANULAR FILL MATERIALS.
3. FOR REINFORCING BAR SCHEDULE, SEE SHEET 53.

# BARS NEED TO BE
3-EF8204 STAGE 1
3-EF8216 STAGE 2
3-EF8215 STAGE 3




## ABUTMENT SEAL DETAIL
NTS

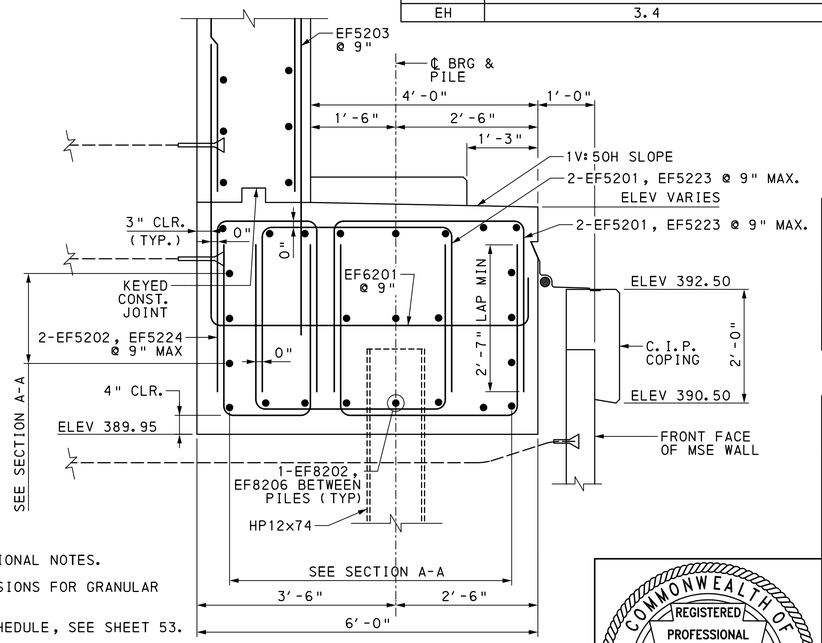



## LATERAL LOADING DIAGRAM
NOT TO SCALE

| ABUTMENT 2 LATERAL LOADS | |
|---|---|
| TYPE | SERVICE LOAD (KIPS/FT) |
| BR | 0.8 |
| TU | 0.5 |
| LS | 1.5 |
| EH | 3.4 |

## LATERAL LOAD NOTES

1. CONTRACTOR SHALL DESIGN THE REINFORCING STRAPS IN THE PILE CAP TO RESIST LATERAL LOADS "EH", "BR", "TU" AND "LS".
2. LOAD "EH" IS THE HORIZONTAL EARTH PRESSURE EXERTED ON THE ABUTMENT.
3. LOAD "BR" IS THE HORIZONTAL LOAD DUE TO BRAKING FORCE ON THE APPROACH SLAB/SUPERSTRUCTURE.
4. LOAD "LS" IS THE ADDITIONAL HORIZONTAL SOIL PRESSURE DUE TO 3 FEET OF SOIL SURCHARGE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING MSE DESIGNER WITH OTHER CONSTRUCTION LOADS WHICH WILL BE IN EXCESS OF SOIL SURCHARGE.
5. LOAD "TU" IS THE HORIZONTAL LOAD DUE TO UNIFORM TEMPERATURE FORCE ON THE SUPERSTRUCTURE.
6. FOR LAP LENGTHS SEE SHEET 89.




## ABUTMENT 2 SECTION B-B
6 0 6 12 INCHES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# ABUTMENT 2
# TYPICAL SECTION AND DETAILS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

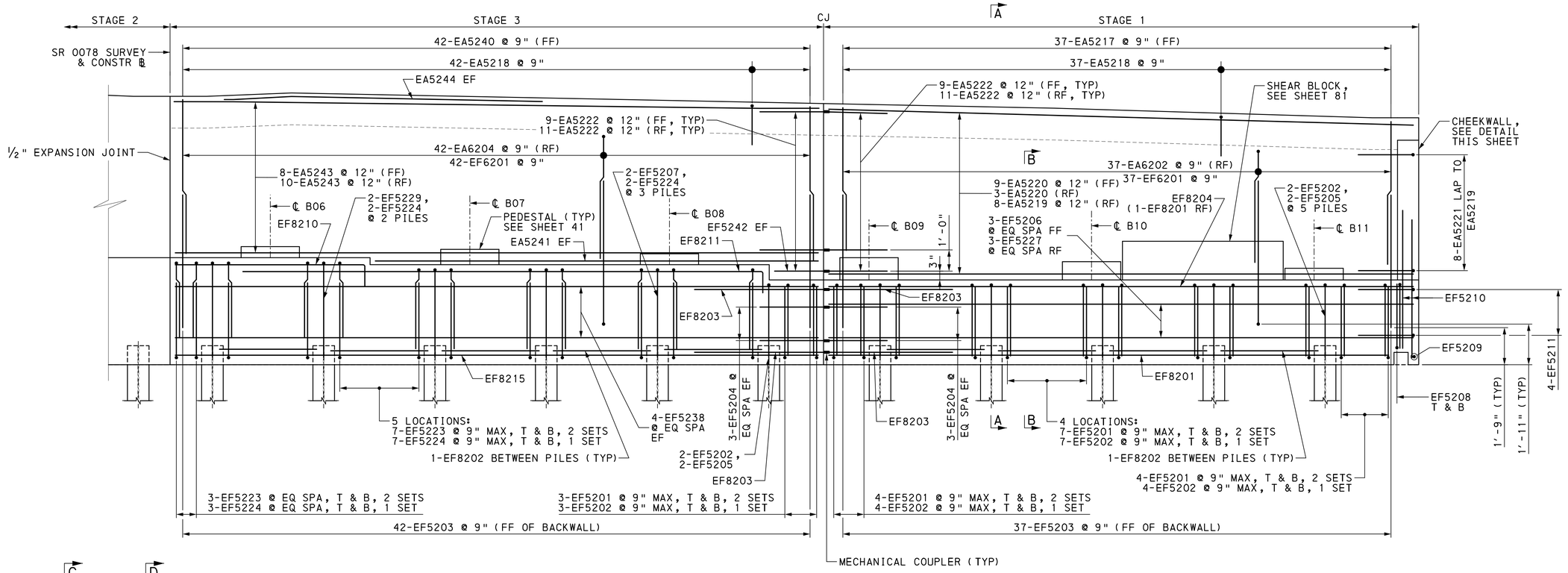
SHEET 49 OF 295

S-38014

DES: MDM | DWN: SIB | CKD: AKS

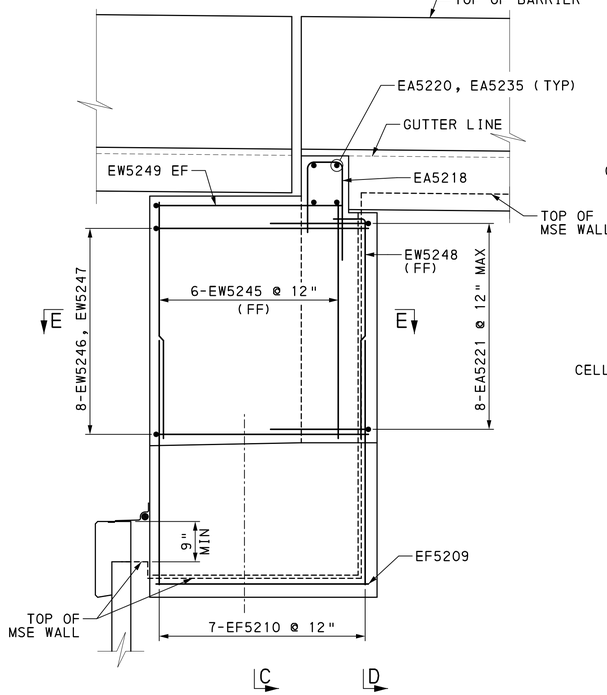
FILENAME: E02657-S38014-AB-EAST-SN-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:06:17 AM



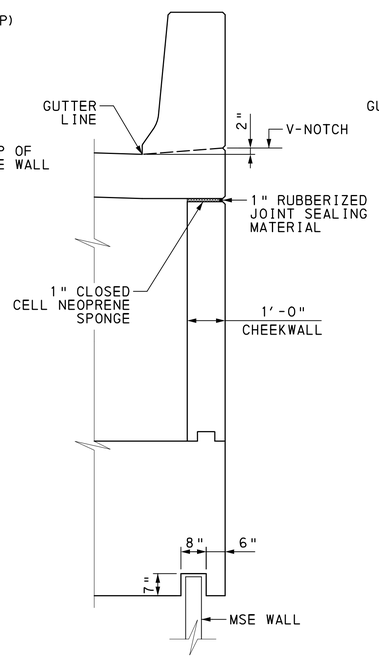

## ABUTMENT 2 - STAGE 1 & 3 REINFORCEMENT ELEVATION EASTBOUND

1 0 1 2 3 FEET



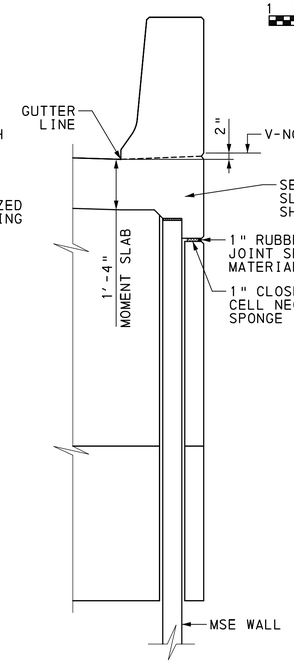

## ABUTMENT 2 - CHEEKWALL ELEVATION

6 0 6 INCHES



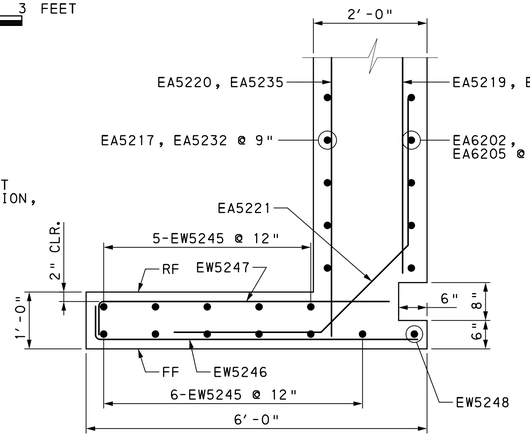

## SECTION C-C

6 0 6 INCHES




## SECTION D-D

6 0 6 INCHES




## SECTION E-E

12 0 12 INCHES

## NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. FOR SECTIONS A-A & B-B SEE SHEET 49.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
ABUTMENT 2
REINFORCING - EB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

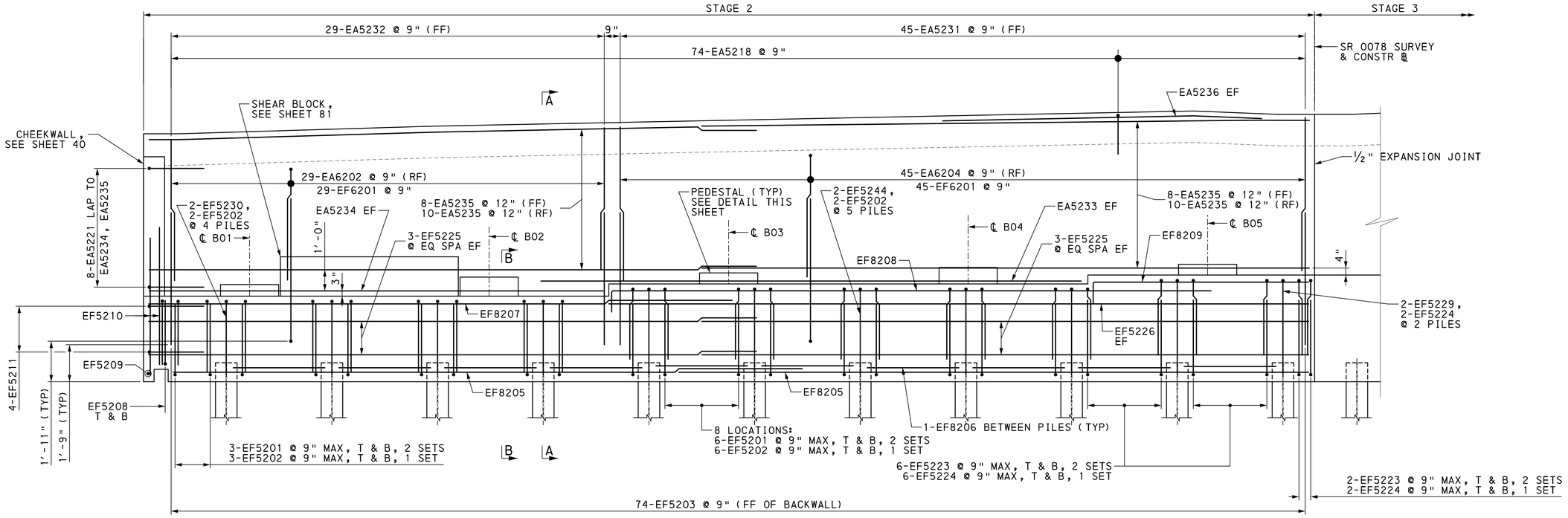
SHEET 50 OF 295

S-38014

DES: MDM | DWN: LCP | CKD: AKS

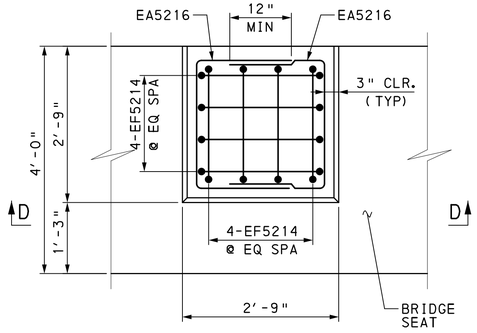
FILENAME: E02657-S38014-AB-02-RB-EB.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:06:28 AM



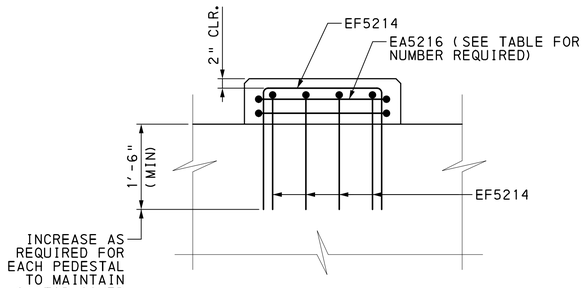

## ABUTMENT 2 - STAGE 2 REINFORCEMENT
## WESTBOUND

1 0 1 2 3 FEET




## PEDESTAL PLAN

12 0 12 INCHES




## SECTION D-D

12 0 12 INCHES

| PEDESTAL HEIGHT | NUMBER OF HOOPS |
|---|---|
| 6" TO 8" | 1 |
| 8" TO 11" | 2 |
| 11" TO 14" | 3 |
| 14" TO 17" | 4 |
| 17" TO 20" | 5 |

## NOTES:

1. SEE SHEET 40 FOR ADDITIONAL NOTES.
2. FOR SECTIONS A-A & B-B SEE SHEET 49.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

ABUTMENT 2
REINFORCING - WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 51 OF 295

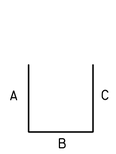
S-38014

DES: MDM | DWN: LCP | CKD: AKS

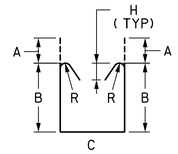
FILENAME: E02657-S38014-AB-02-RB-WB.dgn
OPERATOR: ASengupta

# ABUTMENT 1 REINFORCING BAR SCHEDULE

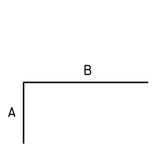
| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EA 3101 | 3 | 6 | 6 | ---- | 12'-9" | 4 | 4'-6 1/2" | 3'-8" | 4'-6 1/2" | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| EF 5101 | 5 | 144 | 208 | ---- | 10'-0" | 4 | 3'-4" | 3'-4" | 3'-4" | | | | | | | | | |
| EF 5102 | 5 | 82 | 122 | ---- | 8'-4" | 4 | 3'-4" | 1'-8" | 3'-4" | | | | | | | | | |
| EF 5103 | 5 | 37 | 74 | 42 | 6'-3" | STR | 6'-3" | | | | | | | | | | | |
| EF 5104 | 5 | 6 | ---- | 8 | 3'-7" | STR | 3'-7" | | | | | | | | | | | MECHANICAL COUPLER, SEE NOTE |
| EF 5105 | 5 | 8 | ---- | ---- | 7'-2 1/2" | 6 | 0'-5 1/2" | 3'-5" | 3'-4" | | | | | | | | | |
| EF 5106 | 5 | 3 | ---- | ---- | 27'-7" | STR | 27'-7" | | | | | | | | | | | |
| EF 5107 | 5 | 2 | ---- | 8 | 7'-9 1/2" | 6 | 0'-5 1/2" | 4'-0" | 3'-4" | | | | | | | | | |
| EF 5108 | 5 | 2 | 2 | ---- | 10'-8" | 4 | 2'-10" | 5'-0" | 2'-10" | | | | | | | | | |
| EF 5109 | 5 | 1 | 1 | ---- | 5'-6" | STR | 5'-6" | | | | | | | | | | | |
| EF 5110 | 5 | 12 | 12 | ---- | 6'-6" | STR | 6'-6" | | | | | | | | | | | |
| EF 5111 | 5 | 4 | 4 | ---- | 12'-8 3/8" | 44 | 0'-0" | 3'-4" | 2'-2" | 1'-6 3/8" | 3'-10 3/8" | 3'-4" | 0'-0" | | | | | |
| EF 5112 | 5 | 5 | ---- | ---- | 13'-11" | 4 | 3'-4 3/8" | 7'-2 1/4" | 3'-4 3/8" | | | | | | | | | |
| EF 5113 | 5 | 9 | 10 | ---- | 10'-5 1/4" | 4 | 3'-5" | 3'-7 1/4" | 3'-5" | | | | | | | | | |
| EF 5114 | 5 | 12 | 20 | 12 | 6'-7 1/4" | 4 | 2'-2 3/4" | 2'-1 3/4" | 2'-2 3/4" | | | | | | | | | |
| EF 5115 | 5 | 12 | 20 | 12 | 6'-10 1/4" | 4 | 2'-2 3/4" | 2'-4 3/4" | 2'-2 3/4" | | | | | | | | | |
| EA 5116 | 5 | 8 | 14 | 10 | 5'-9" | 4 | 1'-7 1/2" | 2'-6" | 1'-7 1/2" | | | | | | | | | |
| EA 5117 | 5 | 37 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EA 5118 | 5 | 38 | 75 | 42 | 5'-4" | 4 | 2'-7" | 0'-11" | 1'-10" | | | | | | | | | |
| EA 5119 | 5 | 2 | ---- | ---- | 20'-4" | STR | 20'-4" | | | | | | | | | | | |
| EA 5120 | 5 | 12 | ---- | ---- | 27'-9" | STR | 27'-9" | | | | | | | | | | | |
| EA 5121 | 5 | 8 | 8 | ---- | 8'-10" | 44 | 0'-0" | 3'-4" | 2'-2" | 1'-6 3/8" | 3'-4" | 0'-0" | 0'-0" | | | | | |
| EA 5122 | 5 | 20 | ---- | 20 | 3'-7" | STR | 3'-7" | | | | | | | | | | | MECHANICAL COUPLER, SEE NOTE |
| EF 5123 | 5 | ---- | 56 | 168 | 10'-5" | 4 | 3'-6 1/2" | 3'-4" | 3'-6 1/2" | | | | | | | | | |
| EF 5124 | 5 | ---- | 32 | 96 | 8'-9" | 4 | 3'-6 1/2" | 1'-8" | 3'-6 1/2" | | | | | | | | | |
| EF 5125 | 5 | ---- | 12 | ---- | 29'-2" | STR | 29'-2" | | | | | | | | | | | |
| EF 5126 | 5 | ---- | 2 | ---- | 33'-2" | STR | 33'-2" | | | | | | | | | | | |
| EF 5127 | 5 | ---- | 2 | ---- | 13'-4" | STR | 13'-4" | | | | | | | | | | | |
| EF 5128 | 5 | 8 | ---- | ---- | 6'-1" | STR | 6'-1" | | | | | | | | | | | MECHANICAL COUPLER, SEE NOTE |
| EF 5129 | 5 | ---- | 4 | 4 | 8'-3 1/2" | 6 | 0'-5 1/2" | 4'-6" | 3'-4" | | | | | 0'-3 3/4" | | | 0'-1 1/4" | |
| EF 5130 | 5 | ---- | 8 | ---- | 7'-3 1/2" | 6 | 0'-5 1/2" | 3'-6" | 3'-4" | | | | | 0'-3 3/4" | | | 0'-1 1/4" | |
| EA 5131 | 5 | ---- | 45 | 42 | 8'-1 1/2" | STR | 8'-1 1/2" | | | | | | | | | | | |
| EA 5132 | 5 | ---- | 29 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EA 5133 | 5 | ---- | 2 | ---- | 18'-5" | STR | 18'-5" | | | | | | | | | | | |
| EA 5134 | 5 | ---- | 2 | ---- | 21'-8" | STR | 21'-8" | | | | | | | | | | | |
| EA 5135 | 5 | ---- | 38 | ---- | 29'-5" | STR | 29'-5" | | | | | | | | | | | |
| EA 5136 | 5 | ---- | 2 | ---- | 22'-0" | STR | 22'-0" | | | | | | | | | | | |
| EF 5137 | 5 | ---- | 5 | ---- | 14'-8 3/4" | 4 | 3'-4 3/8" | 8'-0" | 3'-4 3/8" | | | | | | | | | |
| EF 5138 | 5 | ---- | ---- | 8 | 30'-4" | STR | 30'-4" | | | | | | | | | | | |
| EA 5140 | 5 | ---- | 1 | ---- | 20'-6" | STR | 20'-6" | | | | | | | | | | | |
| EF 5141 | 5 | ---- | ---- | 2 | 21'-0" | STR | 21'-0" | | | | | | | | | | | |
| EF 5142 | 5 | ---- | ---- | 2 | 13'-0" | STR | 13'-0" | | | | | | | | | | | |
| EA 5143 | 5 | ---- | ---- | 18 | 30'-6" | STR | 30'-6" | | | | | | | | | | | |
| EF 5144 | 5 | ---- | 10 | ---- | 7'-10 1/2" | 6 | 0'-5 1/2" | 4'-1" | 3'-4" | | | | | 0'-3 3/4" | | | 0'-1 1/4" | |
| EW 5145 | 5 | 11 | 11 | ---- | 7'-3" | STR | 7'-3" | | | | | | | | | | | |
| EW 5146 | 5 | 8 | 8 | ---- | 6'-4" | 10 | 0'-8" | 5'-8" | | | | | | | | | | |
| EW 5147 | 5 | 8 | 8 | ---- | 5'-10" | 10 | 0'-8" | 5'-2" | | | | | | | | | | |
| EW 5148 | 5 | 1 | 1 | ---- | 7'-8" | 10 | 0'-10" | 6'-10" | | | | | | | | | | |
| EW 5149 | 5 | 2 | 2 | ---- | 5'-7" | 10 | 0'-8" | 4'-11" | | | | | | | | | | |
| EF 5150 | 5 | 3 | ---- | ---- | 26'-5" | STR | 26'-5" | | | | | | | | | | | |
| EA5151 | 5 | 8 | ---- | ---- | 26'-7" | STR | 26'-7" | | | | | | | | | | | |
| EF 5152 | 5 | ---- | ---- | 2 | 22'-0" | STR | 22'-0" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| EF 6101 | 6 | 37 | 74 | 42 | 13'-3" | 4 | 6'-9" | 5'-6" | 1'-0" | | | | | | | | | |
| EA 6102 | 6 | 37 | 29 | ---- | 7'-0" | 10 | 1'-0" | 6'-0" | | | | | | | | | | |
| EA 6103 | 6 | ---- | 45 | 42 | 7'-8" | 10 | 1'-0" | 6'-8" | | | | | | | | | | |
| EF 6104 | 6 | 5 | 11 | 6 | 3'-0" | STR | 3'-0" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| EF 8101 | 8 | 10 | ---- | ---- | 27'-7" | STR | 27'-7" | | | | | | | | | | | |
| EF 8102 | 8 | 4 | ---- | 5 | 4'-8" | STR | 4'-8" | | | | | | | | | | | |
| EF 8103 | 8 | 18 | ---- | 18 | 5'-6" | STR | 5'-6" | | | | | | | | | | | MECHANICAL COUPLER, SEE NOTE |
| EF 8104 | 8 | 8 | ---- | ---- | 8'-3" | 10 | 1'-4" | 6'-11" | | | | | | | | | | |
| EF 8105 | 8 | ---- | 7 | ---- | 34'-8" | STR | 34'-8" | | | | | | | | | | | |
| EF 8106 | 8 | ---- | 10 | ---- | 4'-5 1/2" | STR | 4'-5 1/2" | | | | | | | | | | | |
| EF 8107 | 8 | ---- | 7 | ---- | 25'-0" | STR | 25'-0" | | | | | | | | | | | |
| EF 8108 | 8 | ---- | 8 | ---- | 27'-10" | STR | 27'-10" | | | | | | | | | | | |
| EF 8109 | 8 | ---- | 8 | ---- | 29'-10" | 10 | 1'-4" | 28'-6" | | | | | | | | | | |
| EF 8110 | 8 | ---- | 8 | ---- | 11'-6 3/4" | 10 | 1'-4" | 10'-2 3/4" | | | | | | | | | | |
| EF 8111 | 8 | ---- | ---- | 8 | 10'-3" | 10 | 1'-4" | 8'-11" | | | | | | | | | | |
| EF 8112 | 8 | ---- | ---- | 8 | 27'-2" | STR | 27'-2" | | | | | | | | | | | |
| EF 8113 | 8 | ---- | ---- | 10 | 30'-4" | STR | 30'-4" | | | | | | | | | | | |
| EF 8114 | 8 | 8 | ---- | ---- | 26'-5" | STR | 26'-5" | | | | | | | | | | | |
| EF8115 | 8 | ---- | 3 | ---- | '-0" | STR | 54'-11" | | | | | | | | | | | |



(4)



(6)



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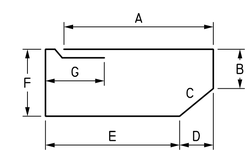

(44)

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

MECHANICAL COUPLER NOTE:

FOR STAGE 3 BARS: BAR LENGTH SHOWN DOES NOT INCLUDE ADDITIONAL THREADED PORTION NEEDED TO CONNECT TO COUPLERS IN THE ADJOINING STAGES.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
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ABUTMENT 1 BAR SCHEDULE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 52 OF 295

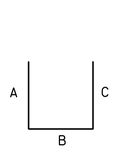
S-38014

DES: MDM | DWN: SIB | CKD: AKS

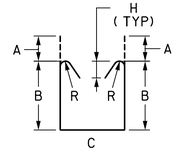
PLOTTED: 8/27/2019 9:06:36 AM
FILENAME: E02657-S38014-AB-WEST-REBR-01.dgn
OPERATOR: ASengupta

# ABUTMENT 2 REINFORCING BAR SCHEDULE

| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EA 3201 | 3 | 6 | 6 | ---- | 12'-9" | 4 | 4'-6 1/2" | 3'-8" | 4'-6 1/2" | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| EF 5201 | 5 | 144 | 204 | 12 | 10'-0" | 4 | 3'-4" | 3'-4" | 3'-4" | | | | | | | | | |
| EF 5202 | 5 | 82 | 120 | 8 | 8'-4" | 4 | 3'-4" | 1'-8" | 3'-4" | | | | | | | | | |
| EF 5203 | 5 | 37 | 74 | 42 | 6'-3" | STR | 6'-3" | | | | | | | | | | | |
| EF 5204 | 5 | 6 | ---- | 14 | 3'-7" | STR | 3'-7" | | | | | | | | | | | MECHANICAL COUPLER, SEE NOTE |
| EF 5205 | 5 | 10 | ---- | 2 | 7'-2 1/2" | 6 | 0'-5 1/2" | 3'-5" | 3'-4" | | | | | | | | | |
| EF 5206 | 5 | 3 | ---- | ---- | 27'-7" | STR | 27'-7" | | | | | | | | | | | |
| EF 5207 | 5 | ---- | ---- | 6 | 7'-11 1/8" | 6 | 0'-5 1/2" | 4'-1 5/8" | 3'-4" | | | | | | | | | |
| EF 5208 | 5 | 2 | 2 | ---- | 10'-8" | 4 | 2'-10" | 5'-0" | 2'-10" | | | | | | | | | |
| EF 5209 | 5 | 1 | 1 | ---- | 5'-6" | STR | 5'-6" | | | | | | | | | | | |
| EF 5210 | 5 | 12 | 12 | ---- | 6'-6" | STR | 6'-6" | | | | | | | | | | | |
| EF 5211 | 5 | 4 | 4 | ---- | 12'-8 3/8" | 44 | 0'-0" | 3'-4" | 2'-2" | 1'-6 3/8" | 3'-10 3/8" | 3'-4" | 0'-0" | | | | | |
| EF 5212 | 5 | 5 | ---- | ---- | 13'-6 3/4" | 4 | 3'-1 3/4" | 7'-3 1/4" | 3'-1 3/4" | | | | | | | | | |
| EF 5213 | 5 | 9 | 10 | ---- | 10'-5 1/4" | 4 | 3'-5" | 3'-7 1/4" | 3'-5" | | | | | | | | | |
| EF 5214 | 5 | 24 | 40 | 24 | 6'-11" | 4 | 2'-4 5/8" | 2'-1 3/4" | 2'-4 5/8" | | | | | | | | | |
| EF 5215 | 5 | ---- | 5 | ---- | 14'-3 3/4" | 4 | 3'-1 3/4" | 8'-1/4" | 3'-1 3/4" | | | | | | | | | |
| EA 5216 | 5 | 12 | 14 | 8 | 5'-6" | 4 | 1'-7 1/2" | 2'-3" | 1'-7 1/2" | | | | | | | | | |
| EA 5217 | 5 | 37 | ---- | ---- | 6'-8 3/4" | STR | 6'-8 3/4" | | | | | | | | | | | |
| EA 5218 | 5 | 38 | 75 | 42 | 5'-4" | 4 | 2'-7" | 0'-11" | 1'-10" | | | | | | | | | |
| EA 5219 | 5 | 8 | ---- | ---- | 26'-7" | STR | 26'-7" | | | | | | | | | | | |
| EA 5220 | 5 | 12 | ---- | ---- | 27'-9" | STR | 27'-9" | | | | | | | | | | | |
| EA 5221 | 5 | 8 | 8 | ---- | 8'-10" | 44 | 0'-0" | 3'-4" | 2'-2" | 1'-6 3/8" | 3'-4" | 0'-0" | 0'-0" | | | | | |
| EA 5222 | 5 | 20 | ---- | 20 | 3'-7" | STR | 3'-7" | | | | | | | | | | | MECHANICAL COUPLER, SEE NOTE |
| EF 5223 | 5 | ---- | 56 | 152 | 10'-5" | 4 | 3'-6 1/2" | 3'-4" | 3'-6 1/2" | | | | | | | | | |
| EF 5224 | 5 | ---- | 32 | 86 | 8'-9" | 4 | 3'-6 1/2" | 1'-8" | 3'-6 1/2" | | | | | | | | | |
| EF 5225 | 5 | ---- | 12 | ---- | 29'-2" | STR | 29'-2" | | | | | | | | | | | |
| EF 5226 | 5 | ---- | 2 | ---- | 33'-2" | STR | 33'-2" | | | | | | | | | | | |
| EF 5227 | 5 | 3 | ---- | ---- | 26'-5" | STR | 26'-5" | | | | | | | | | | | |
| EF 5229 | 5 | ---- | 4 | 4 | 8'-3 1/8" | 6 | 0'-5 1/2" | 4'-5 5/8" | 3'-4" | | | | | 0'-3 3/4" | | | 0'-1 1/4" | |
| EF 5230 | 5 | ---- | 8 | ---- | 7'-3 1/8" | 6 | 0'-5 1/2" | 3'-5 5/8" | 3'-4" | | | | | 0'-3 3/4" | | | 0'-1 1/4" | |
| EA 5231 | 5 | ---- | 45 | ---- | 7'-3" | STR | 7'-3" | | | | | | | | | | | |
| EA 5232 | 5 | ---- | 29 | ---- | 6'-8" | STR | 6'-8" | | | | | | | | | | | |
| EA 5233 | 5 | ---- | 2 | ---- | 25'-3" | STR | 25'-3" | | | | | | | | | | | |
| EA 5234 | 5 | ---- | 2 | ---- | 21'-8" | STR | 21'-8" | | | | | | | | | | | |
| EA 5235 | 5 | ---- | 36 | ---- | 29'-5" | STR | 29'-5" | | | | | | | | | | | |
| EA 5236 | 5 | ---- | 2 | ---- | 15'-0" | STR | 15'-0" | | | | | | | | | | | |
| EF 5238 | 5 | ---- | ---- | 8 | 30'-4" | STR | 30'-4" | | | | | | | | | | | |
| EA 5240 | 5 | ---- | ---- | 45 | 7'-3" | STR | 7'-3" | | | | | | | | | | | |
| EA 5241 | 5 | ---- | ---- | 2 | 21'-0" | STR | 21'-0" | | | | | | | | | | | |
| EA 5242 | 5 | ---- | ---- | 2 | 2'-4 3/4" | STR | 2'-4 3/4" | | | | | | | | | | | |
| EA 5243 | 5 | ---- | ---- | 18 | 30'-6" | STR | 30'-6" | | | | | | | | | | | |
| EA 5244 | 5 | ---- | ---- | 2 | 15'-0" | STR | 15'-0" | | | | | | | | | | | |
| EW 5245 | 5 | 11 | 11 | ---- | 6'-3" | STR | 6'-3" | | | | | | | | | | | |
| EW 5246 | 5 | 7 | 8 | ---- | 6'-4" | 10 | 0'-8" | 5'-8" | | | | | | | | | | |
| EW 5247 | 5 | 7 | 8 | ---- | 6'-2" | 10 | 0'-8" | 5'-6" | | | | | | | | | | |
| EW 5248 | 5 | 1 | 1 | ---- | 6'-8" | 10 | 0'-10" | 5'-10" | | | | | | | | | | |
| EW 5249 | 5 | 2 | 2 | ---- | 5'-7" | 10 | 0'-8" | 4'-11" | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| EF 6201 | 6 | 37 | 74 | 42 | 13'-3" | 4 | 6'-9" | 5'-6" | 1'-0" | | | | | | | | | |
| EA 6202 | 6 | 37 | 29 | ---- | 6'-3" | 10 | 1'-0" | 5'-3" | | | | | | | | | | |
| EF 6203 | 6 | 5 | 11 | 6 | 3'-0" | STR | 3'-0" | | | | | | | | | | | |
| EA 6204 | 6 | ---- | 45 | 42 | 6'-9" | 10 | 1'-0" | 5'-9" | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| EF 8201 | 8 | 8 | ---- | ---- | 26'-5" | STR | 26'-5" | | | | | | | | | | | |
| EF 8202 | 8 | 4 | ---- | 5 | 4'-8" | STR | 4'-8" | | | | | | | | | | | |
| EF 8203 | 8 | 18 | ---- | 18 | 6'-1" | STR | 6'-1" | | | | | | | | | | | MECHANICAL COUPLER, SEE NOTE |
| EF 8204 | 8 | 10 | ---- | ---- | 27'-7" | STR | 27'-7" | | | | | | | | | | | |
| EF 8205 | 8 | ---- | 30 | ---- | 30'-0" | STR | 30'-0" | | | | | | | | | | | |
| EF 8206 | 8 | ---- | 10 | ---- | 4'-5" | STR | 4'-5" | | | | | | | | | | | |
| EF 8207 | 8 | ---- | 8 | ---- | 27'-7" | STR | 27'-7" | | | | | | | | | | | |
| EF 8208 | 8 | ---- | 8 | ---- | 29'-10" | 10 | 1'-4" | 28'-6" | | | | | | | | | | |
| EF 8209 | 8 | ---- | 8 | ---- | 11'-6 3/4" | 10 | 1'-4" | 10'-2 3/4" | | | | | | | | | | |
| EF 8210 | 8 | ---- | ---- | 8 | 10'-3" | 10 | 1'-4" | 8'-11" | | | | | | | | | | |
| EF 8211 | 8 | ---- | ---- | 8 | 26'-0" | 10 | 1'-4" | 24'-8" | | | | | | | | | | |
| EF 8215 | 8 | ---- | ---- | 10 | 30'-4" | STR | 30'-4" | | | | | | | | | | | |
| EF8216 | 8 | ---- | 3 | ---- | 54'-11" | STR | 54'-11" | | | | | | | | | | | |



(4)



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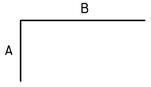

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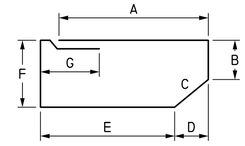

(44)

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

MECHANICAL COUPLER NOTE:

FOR STAGE 3 BARS: BAR LENGTH SHOWN DOES NOT INCLUDE ADDITIONAL THREADED PORTION NEEDED TO CONNECT TO COUPLERS IN THE ADJOINING STAGES.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

ABUTMENT 2 BAR SCHEDULE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 53 OF 295

S-38014

DES: MDM | DWN: LCP | CKD: AKS

PLOTTED: 8/27/2019 9:07:13 AM
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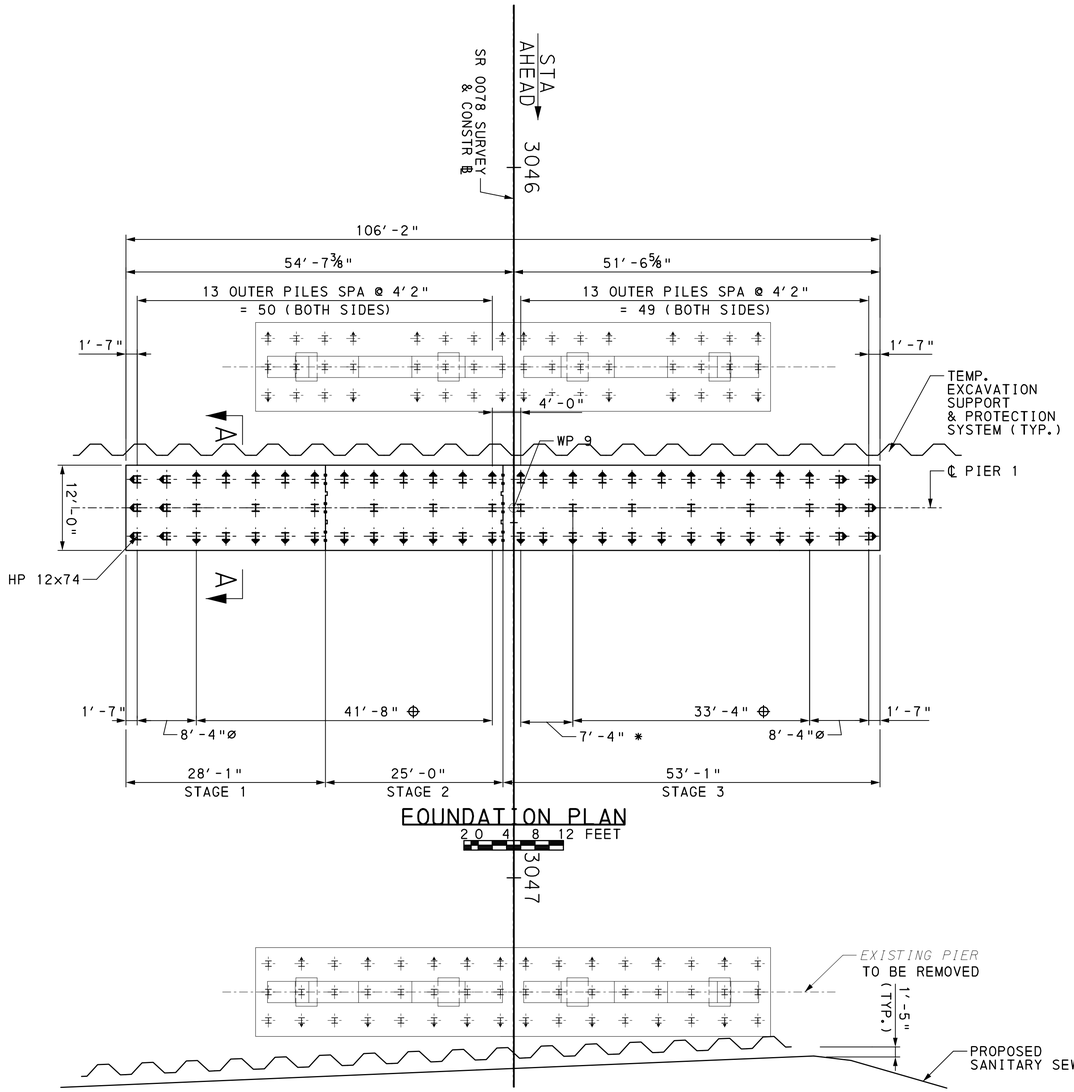
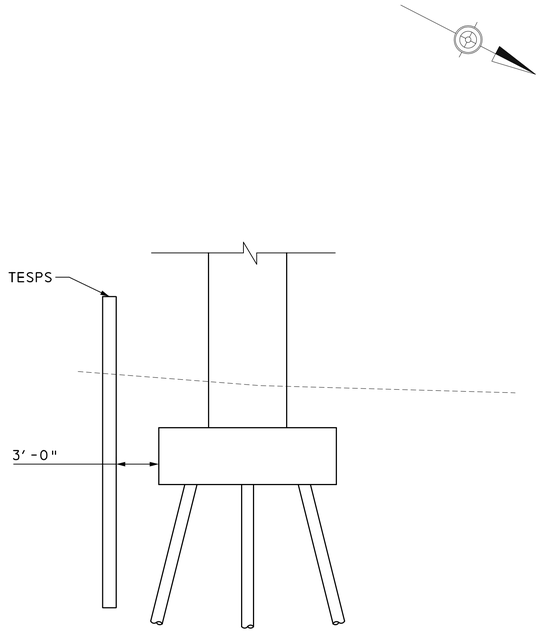
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:07:46 AM




## FOUNDATION PLAN

2 0 4 8 12 FEET




## SECTION A-A

6 0 6 INCHES

ø : 4′-2" INNER PILE SPACING

⊕ : 8′-4" INNER PILE SPACING

✱ : 7′-4" INNER PILE SPACING

## LEGEND:

PLUMB PILE

BATTERED PILE

## NOTES:

1. FOR STAGED CONSTRUCTION DETAILS, SEE SHEET 22.
3. FOR PIER 3 THRU 11 FOUNDATION DETAILS SEE ARCH SHEETS.
4. FOR PAY ITEM "TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM" SEE SPECIAL PROVISION 9203-0130.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 1
FOUNDATION PLAN

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

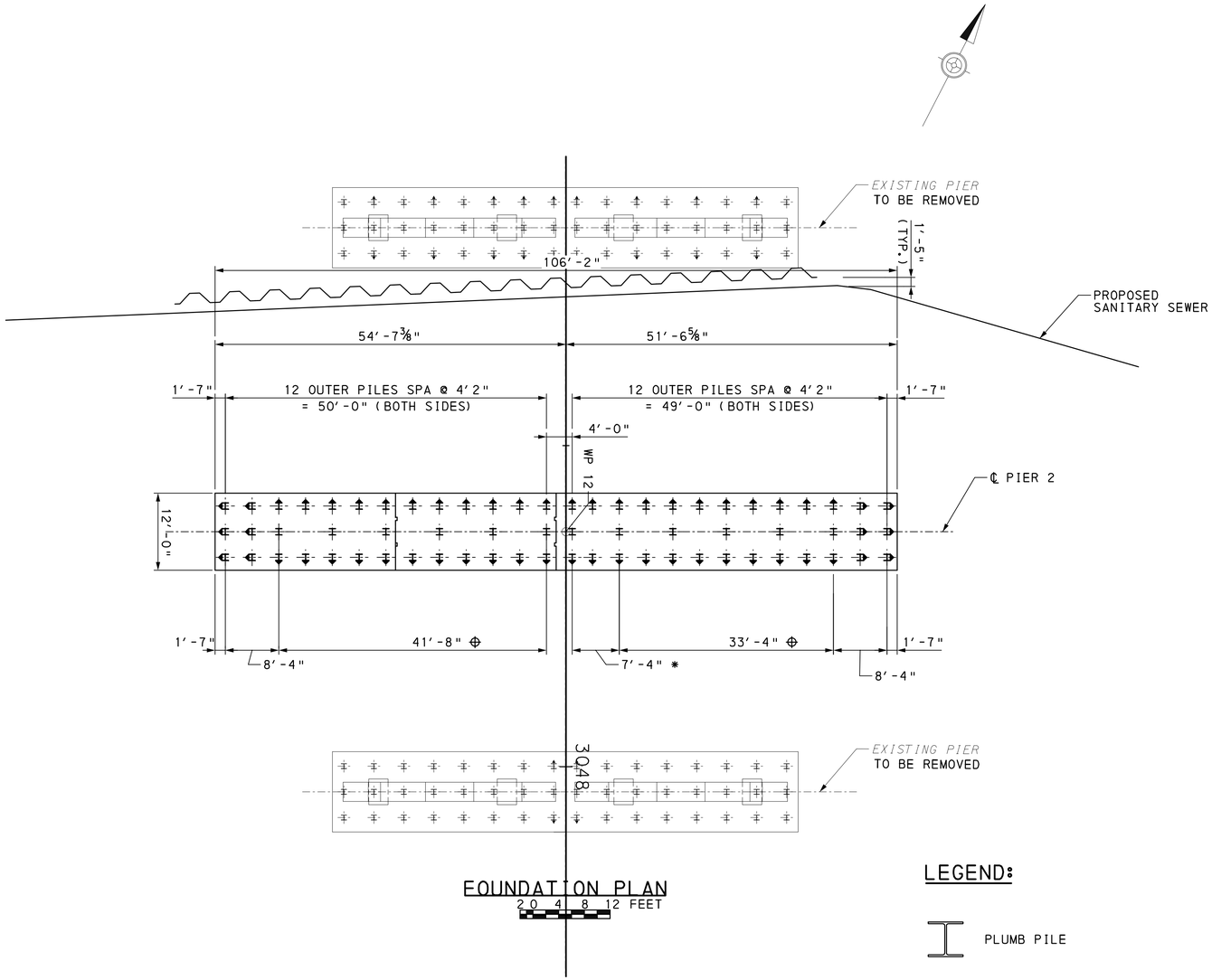
SHEET 54 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

FILENAME: E02657-S38014-FD-PL-P11.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:07:54 AM




FOUNDATION PLAN

2 0 4 8 12 FEET

LEGEND:

PLUMB PILE

BATTERED PILE

NOTES:

1. FOR STAGED CONSTRUCTION DETAILS, SEE SHEET 22.
2. FOR PIER 3 THRU 11 FOUNDATION DETAILS SEE ARCH SHEETS.
3. FOR PAY ITEM "TEMPORARY EXCAVATION SUPPORT & PROTECTION SYSTEM" SEE SPECIAL PROVISION 9203-0130.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER 2
FOUNDATION PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

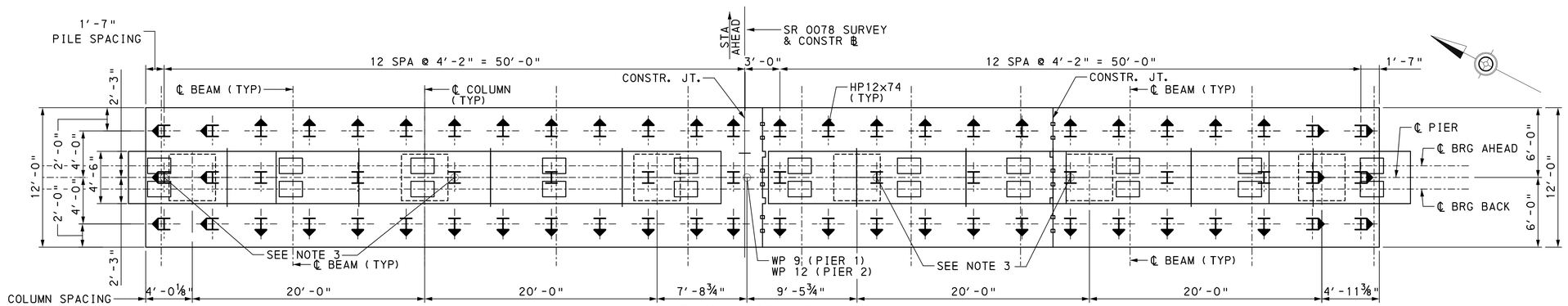
SHEET 55 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: DG

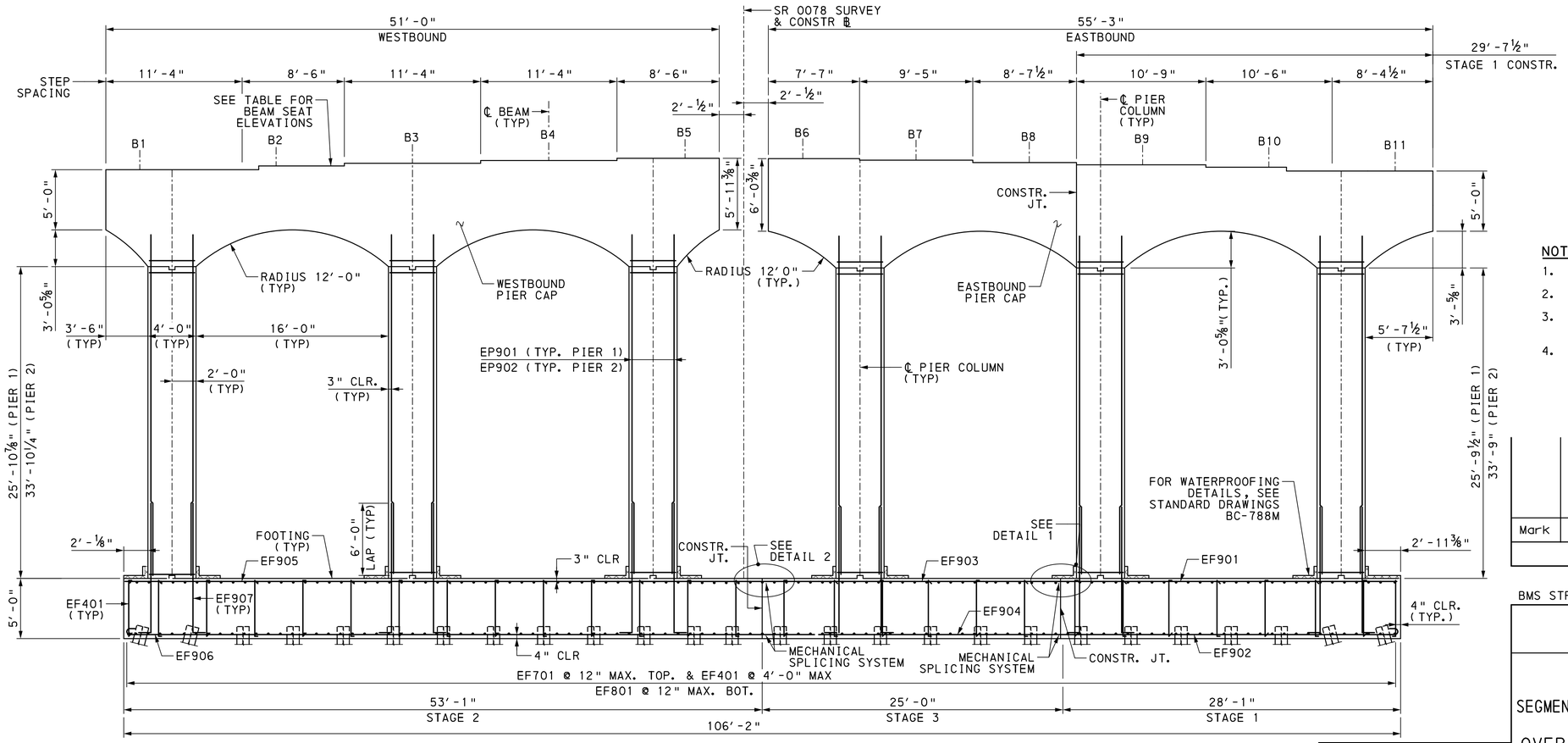
FILENAME: E02657-S38014-FD-PL-P12.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:08:01 AM




## PIERS 1 AND 2 PLAN

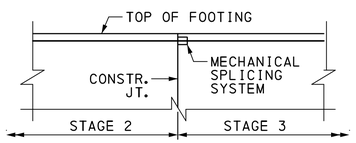
2 0 2 4 6 FEET




## PIERS 1 AND 2 ELEVATION

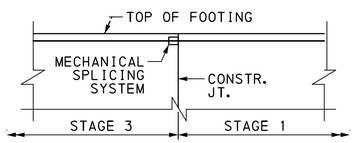
(LOOKING UPSTATION)

2 0 2 4 6 FEET




## DETAIL 2

NOT TO SCALE




## DETAIL 1

NOT TO SCALE

## WESTBOUND PIER ELEVATIONS

| | PIER 1 (EXP) | PIER 2 (EXP) |
|---|---|---|
| | STA 3046+47.91 | STA 3047+63.41 |
| BEAM SEAT | ELEV | ELEV |
| BEAM LINE 01 | 403.96 | 403.35 |
| BEAM LINE 02 | 404.27 | 403.67 |
| BEAM LINE 03 | 404.49 | 403.88 |
| BEAM LINE 04 | 404.72 | 404.12 |
| BEAM LINE 05 | 404.91 | 404.31 |
| PIER CAP | | |
| TOP OF ARCH | 398.96 | 398.35 |
| CAP BOTTOM | 395.90 | 395.29 |
| FOOTING | | |
| TFE | 370.00 | 361.50 |
| BFE | 365.00 | 356.50 |

## EASTBOUND PIER ELEVATIONS

| | PIER 1 (EXP) | PIER 2 (EXP) |
|---|---|---|
| | STA 3046+47.91 | STA 3047+63.41 |
| BEAM SEAT | ELEV | ELEV |
| BEAM LINE 06 | 404.88 | 404.28 |
| BEAM LINE 07 | 404.75 | 404.15 |
| BEAM LINE 08 | 404.55 | 403.95 |
| BEAM LINE 09 | 404.37 | 403.77 |
| BEAM LINE 10 | 404.17 | 403.57 |
| BEAM LINE 11 | 403.85 | 403.25 |
| PIER CAP | | |
| TOP OF ARCH | 398.85 | 398.25 |
| CAP BOTTOM | 395.79 | 395.19 |
| FOOTING | | |
| TFE | 370.00 | 361.50 |
| BFE | 365.00 | 356.50 |

**NOTES:**

1. FOR BEARING DETAILS, SEE SHEET 70.
2. FOR PIER REINFORCING BAR SCHEDULE, SEE SHEETS 61 & 62.
3. FOR DETAIL 1 & 2 OF COLUMN REINFORCING REBAR INTO FOOTING, SEE SHEET 60.
4. BXX: BEAM DESIGNATION.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# PIER
# PLAN AND ELEVATION

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

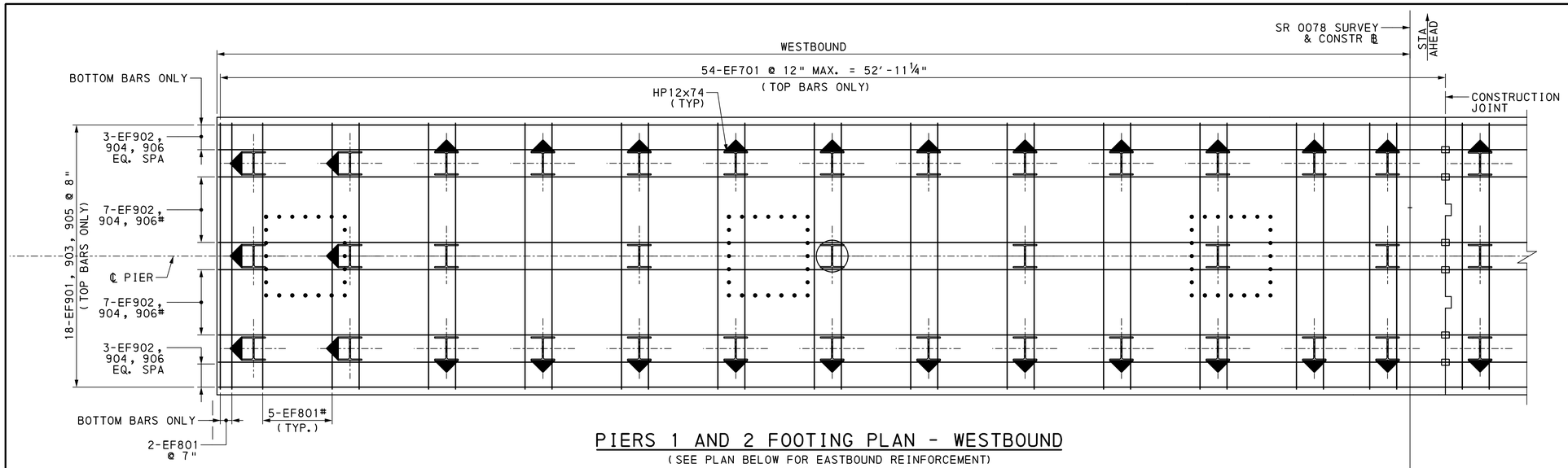
SHEET 56 OF 295

S-38014

DES: XIH | DWN: ERT | CKD: MDM

FILENAME: E02657-S38014-PR-GP.dgn
OPERATOR: Asengupta

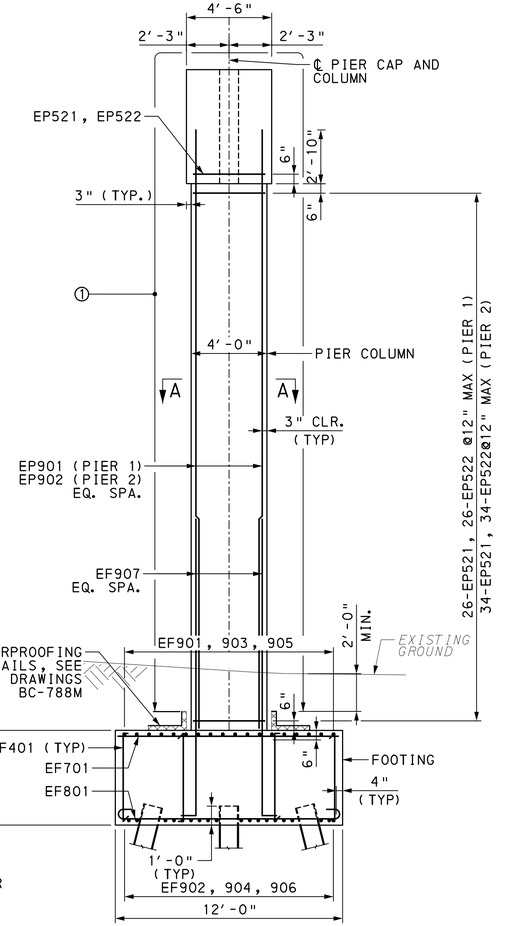
PLOTTED: 8/27/2019@8:11 AM




## PIERS 1 AND 2 FOOTING PLAN - WESTBOUND

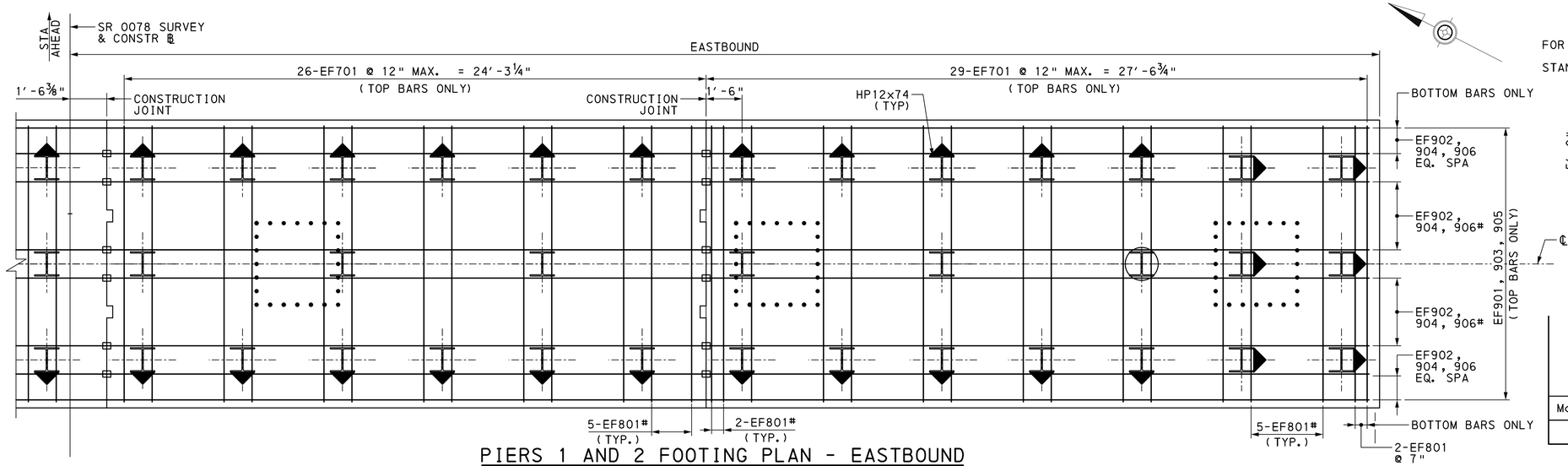
(SEE PLAN BELOW FOR EASTBOUND REINFORCEMENT)

1 0 1 2 3 FEET




## PIERS 1 AND 2 SIDE ELEVATION

2 0 2 4 FEET



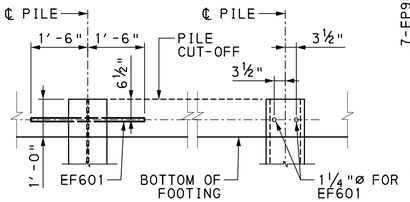

## PIERS 1 AND 2 FOOTING PLAN - EASTBOUND

(SEE PLAN ABOVE FOR WESTBOUND REINFORCEMENT)

1 0 1 2 3 FEET

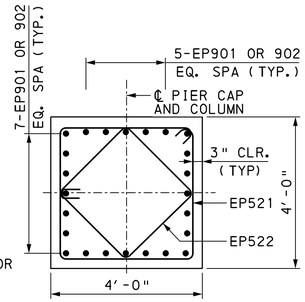
## LEGEND:

- HP12x74 TEST PILE WITH NORMAL DUTY PILE TIPS
- HP12x74 PILE WITH NORMAL DUTY PILE TIPS
- HP12x74 BATTERED PILES AT 3 TO 12 BATTER




## PILE ANCHORAGE DETAIL

1 0 1 2 FEET




## SECTION A-A

1 0 1 2 FEET

## NOTES:

1. FOR TABLE OF PIER DIMENSIONS AND BEAM SEAT ELEVATION, SEE SHEET 56.
2. FOR SHEAR BLOCK DETAILS, SEE SHEET 91.
3. FOR PIER REINFORCING BAR SCHEDULE, SEE SHEETS 61 & 62.

① LIMIT OF PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCRE SURFACES)

\# EQ. SPA BETWEEN PILES WITH 1" CLR. FROM PILES

| DES: XIH | DWN: SIB | CKD: MDM |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER
FOOTING PLAN AND SIDE VIEW

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

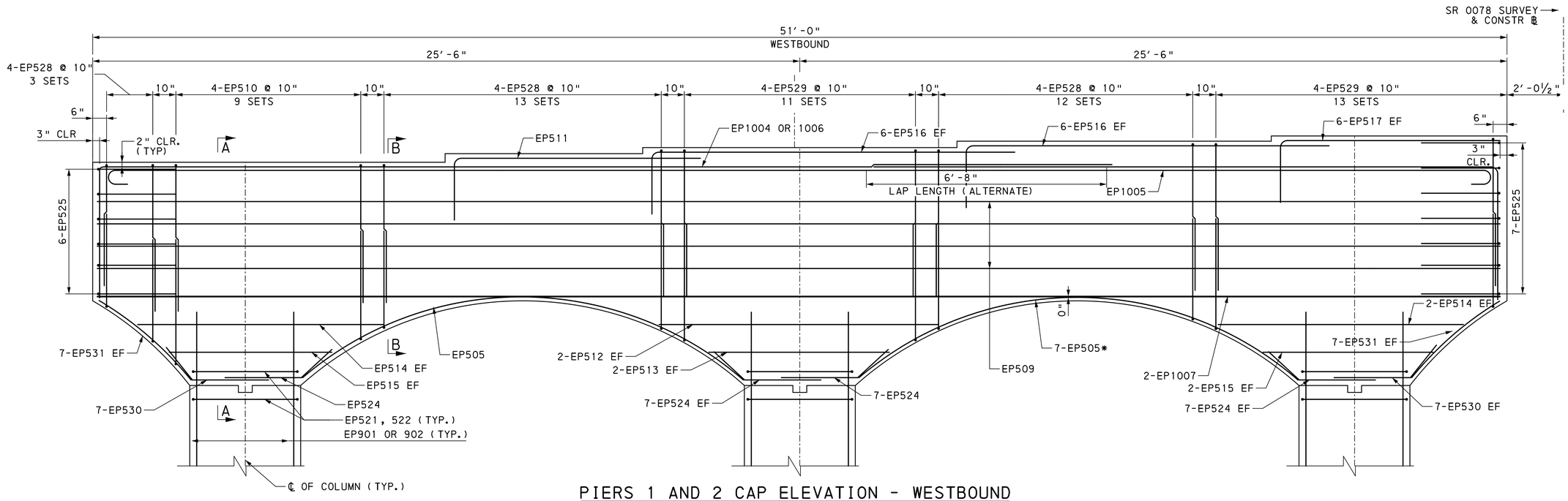
RECOMMENDED 08/30/2019

SHEET 57 OF 295

S-38014

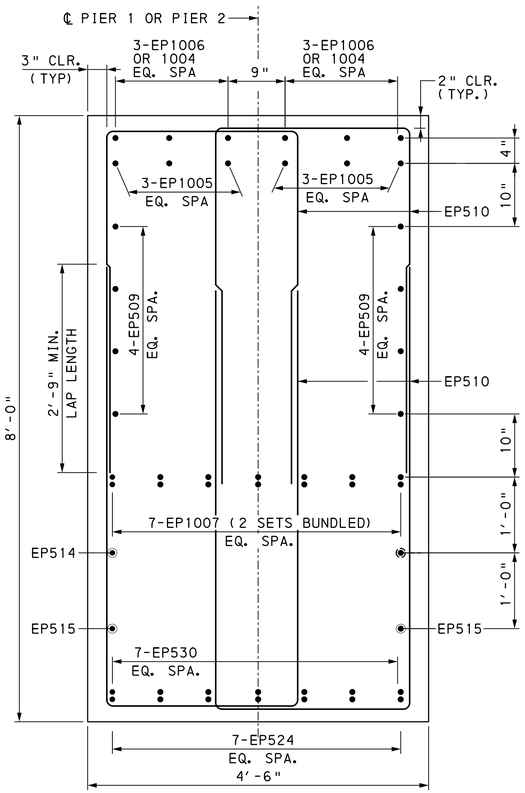
FILENAME: E02657-S38014-PR-FP.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:08:18 AM



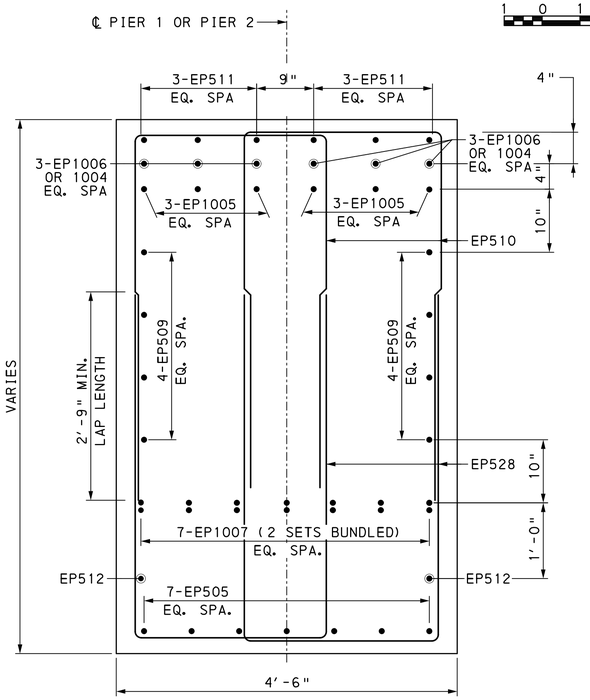

## PIERS 1 AND 2 CAP ELEVATION - WESTBOUND

1 0 1 2 FEET




## SECTION A-A

6 0 6 12 INCHES




## SECTION B-B

6 0 6 12 INCHES

NOTES:

1. FOR TABLE OF PIER DIMENSIONS AND ELEVATIONS, SEE SHEET 56.
2. FOR PIER REINFORCING BAR SCHEDULE, SEE SHEETS 61 & 62.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER
CAP DETAILS - WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 58 OF 295

S-38014

DES: XIH | DWN: SIB | CKD: MDM

FILENAME: E02657-S38014-PR-WEST-DT.dgn
OPERATOR: ASengupta

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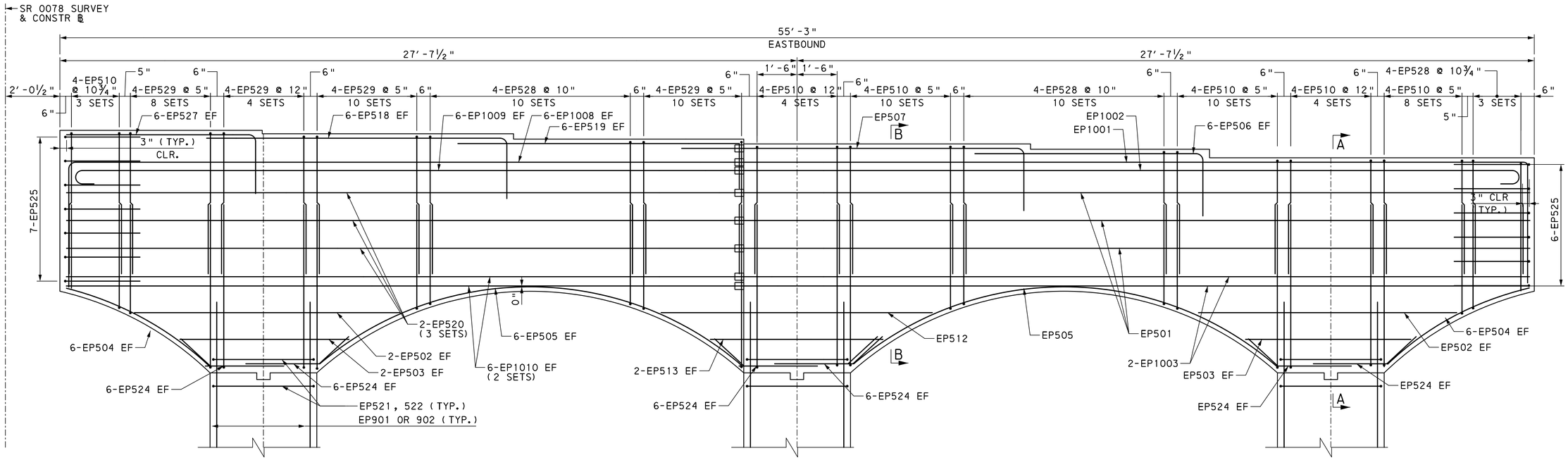
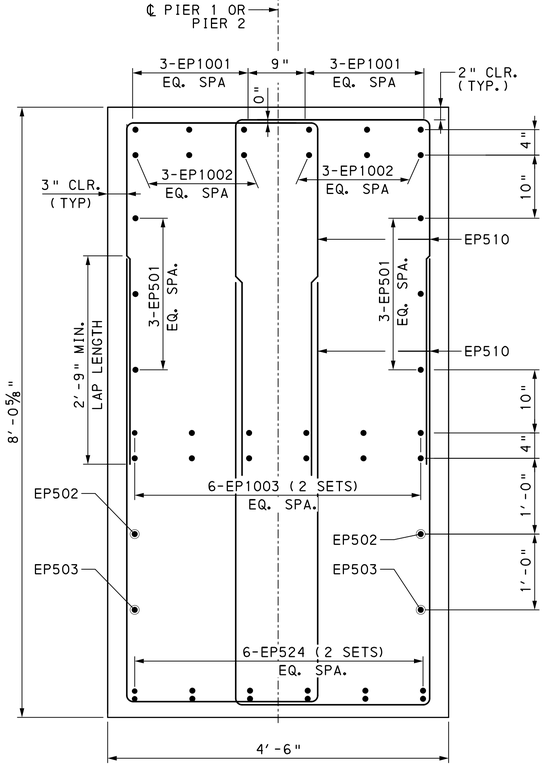


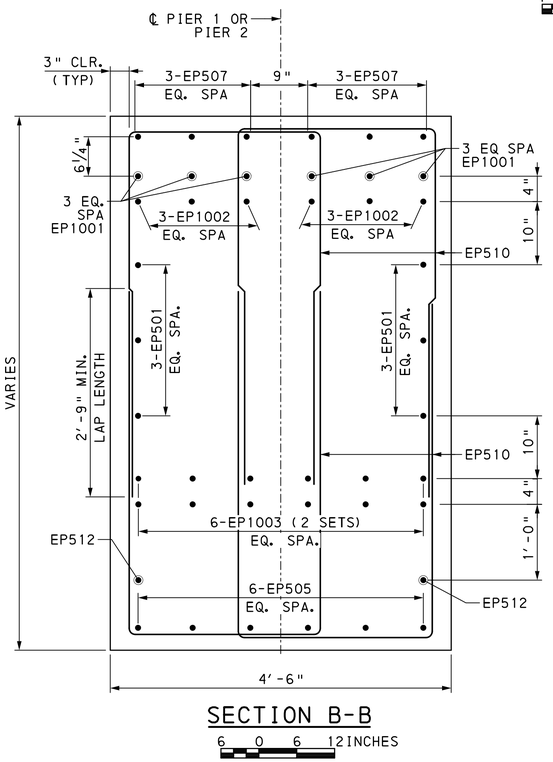

## PIERS 1 AND 2 CAP ELEVATION - EASTBOUND

1 0 1 2 FEET




## SECTION A-A

6 0 6 12 INCHES




## SECTION B-B

6 0 6 12 INCHES

NOTES:

1. FOR TABLE OF PIER DIMENSIONS AND ELEVATIONS, SEE SHEET 56.
2. FOR PIER REINFORCING BAR SCHEDULE, SEE SHEETS 61 & 62.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
PIER
CAP DETAILS - EB

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

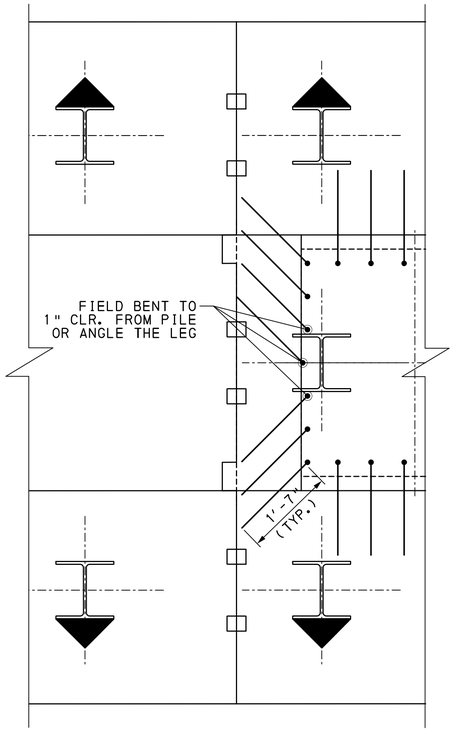
SHEET 59 OF 295

S-38014

DES: XIH | DWN: SIB | CKD: MDM

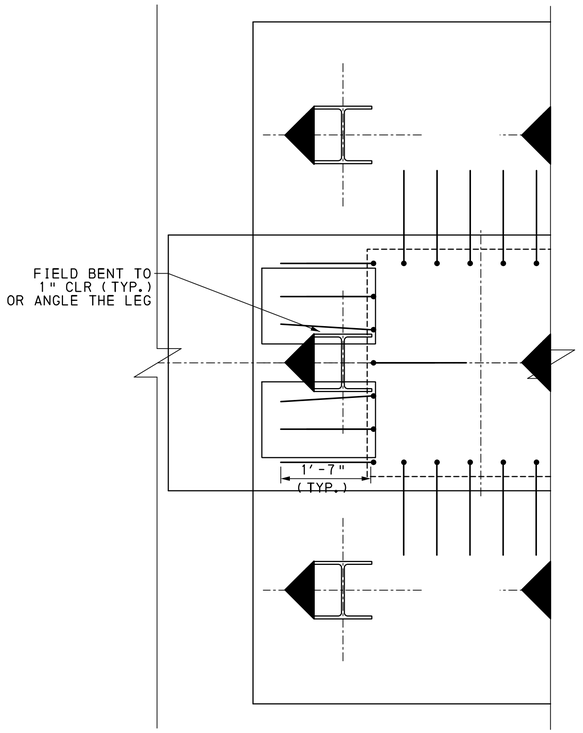
FILENAME: E02657-S38014-PR-EAST-DT.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019@8:31 AM




COLUMN REBAR INTO FOOTING DETAIL 1

12 0 12 INCHES




COLUMN REBAR INTO FOOTING DETAIL 2

12 0 12 INCHES

TEST PILE PARAMETERS*

| SUBSTRUCTURE | PILE TYPE | PILE TIP (Y OR N) | PILE TIP ELEVATION | FACTORED DESIGN LOAD (KIP) | ULTIMATE PILE CAPACITY AT END OF DRIVING (KIP) | WEAP OR PDA |
|---|---|---|---|---|---|---|
| ABUTMENT 1 TEST PILE 1 | HP 12X74 | | | 273.9 | | |
| ABUTMENT 1 TEST PILE 2 | HP 12X74 | | | 273.9 | | |
| PIER 1 TEST PILE 1 | HP 12X74 | | | 260.1 | | |
| PIER 1 TEST PILE 2 | HP 12X74 | | | 260.1 | | |
| PIER 2 TEST PILE 1 | HP 12X74 | | | 268.3 | | |
| PIER 2 TEST PILE 2 | HP 12X74 | | | 268.3 | | |
| ABUTMENT 2 TEST PILE 1 | HP 12X74 | | | 273.9 | | |
| ABUTMENT 2 TEST PILE 2 | HP 12X74 | | | 273.9 | | |

* TABLE IS TO BE COMPLETED ON THE AS-BUILT PLANS FOR THE TEST PILES AFTER INSTALLATION

NOTES:

1. FOR PIER FOUNDATION PLANS SEE SHEETS 54 AND 55.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

COLUMN REINFORCEMENT DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 60 OF 295

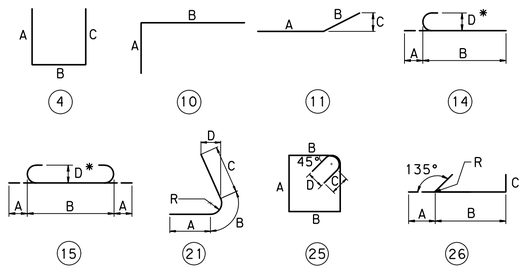
S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-FD-SU.dgn
OPERATOR: ASengupta

# PIER 1 REINFORCING BAR SCHEDULE

| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PIER 1** | | | | | | | | | | | | | | | | | | |
| CAP BEAM | | | | | | | | | | | | | | | | | | |
| EP1001 | 10 | 6 | ---- | ---- | 33'-10" | 10 | 4'-6" | 29'-4" | | | | | | | | | | |
| EP1002 | 10 | 6 | ---- | ---- | 30'-5" | 14 | 1'-5" | 29'-0" | | 0'-10 3/4" | | | | | | | | |
| EP1003 | 10 | 12 | ---- | ---- | 29'-4" | STR | 29'-4" | | | | | | | | | | | |
| EP1004 | 10 | ---- | 6 | ---- | 27'-8" | 10 | 4'-6" | 23'-2" | | | | | | | | | | |
| EP1005 | 10 | ---- | 6 | ---- | 52'-10" | 15 | 1'-5" | 50'-0" | 0'-10 3/4" | | | | | | | | | |
| EP1006 | 10 | ---- | 6 | ---- | 38'-5" | 10 | 4'-6" | 33'-11" | | | | | | | | | | |
| EP1007 | 10 | ---- | 14 | ---- | 50'-6" | STR | 50'-6" | | | | | | | | | | | |
| EP1008 | 10 | ---- | ---- | 12 | 29'-10" | 10 | 4'-6" | 25'-4" | | | | | | | | | | |
| EP1009 | 10 | ---- | ---- | 6 | 26'-5" | 14 | 1'-5" | 25'-0" | | | | | | | | | | |
| EP1010 | 10 | ---- | ---- | 12 | 25'-4" | STR | 25'-4" | | | | | | | | | | | |
| EP501 | 5 | 6 | ---- | ---- | 29'-4" | STR | 29'-4" | | | | | | | | | | | |
| EP502 | 5 | 2 | ---- | 2 | 10'-2" | STR | 10'-2" | | | | | | | | | | | |
| EP503 | 5 | 2 | ---- | 2 | 6'-8" | STR | 6'-8" | | | | | | | | | | | |
| EP504 | 5 | 6 | ---- | 6 | 6'-3" | 21 | 0'-0" | 6'-3" | 0'-0" | 0'-0" | | | | | | | 12'-4" | |
| EP505 | 5 | 6 | 14 | 6 | 17'-7" | 21 | 0'-0" | 17'-7" | 0'-0" | 0'-0" | | | | | | | 12'-4" | |
| EP506 | 5 | 6 | ---- | ---- | 10'-4" | 10 | 0'-10" | 9'-6" | | | | | | | | | | |
| EP507 | 5 | 6 | ---- | ---- | 14'-1" | 10 | 0'-10" | 13'-3" | | | | | | | | | | |
| EP509 | 5 | ---- | 8 | ---- | 50'-6" | STR | 50'-6" | | | | | | | | | | | |
| EP510 | 5 | 144 | 36 | 12 | 13'-2" | 4 | 5'-5" | 2'-4" | 5'-5" | | | | | | | | | |
| EP511 | 5 | ---- | 6 | ---- | 0'-0" | STR | | | | | | | | | | | | |
| EP512 | 5 | 2 | 2 | ---- | 10'-6" | STR | 10'-6" | | | | | | | | | | | |
| EP513 | 5 | 2 | 2 | ---- | 6'-9" | STR | 6'-9" | | | | | | | | | | | |
| EP514 | 5 | ---- | 4 | ---- | 9'-2" | STR | 9'-2" | | | | | | | | | | | |
| EP515 | 5 | ---- | 4 | ---- | 6'-2" | STR | 6'-2" | | | | | | | | | | | |
| EP516 | 5 | ---- | 12 | ---- | 14'-11" | 10 | 0'-10" | 14'-1" | | | | | | | | | | |
| EP517 | 5 | ---- | 6 | ---- | 8'-10" | 10 | 0'-10" | 8'-0" | | | | | | | | | | |
| EP518 | 5 | ---- | ---- | 6 | 12'-9" | 10 | 0'-10" | 11'-11" | | | | | | | | | | |
| EP519 | 5 | ---- | ---- | 6 | 12'-0" | 10 | 0'-10" | 11'-2" | | | | | | | | | | |
| EP520 | 5 | ---- | ---- | 6 | 25'-4" | STR | 25'-4" | | | | | | | | | | | |
| EP524 | 5 | 24 | 28 | 12 | 4'-10" | 11 | 2'-1" | 2'-9" | 1'-10 1/2" | | | | | | | | | |
| EP525 | 5 | 6 | 13 | 6 | 9'-6" | 4 | 2'-9" | 4'-0" | 2'-9" | | | | | | | | | |
| EP527 | 5 | ---- | ---- | 6 | 7'-11" | 10 | 0'-10" | 7'-1" | | | | | | | | | | |
| EP528 | 5 | 52 | 112 | 40 | 11'-4" | 4 | 4'-6" | 2'-4" | 4'-6" | | | | | | | | | |
| EP529 | 5 | ---- | 96 | 128 | 13'-8" | 4 | 5'-8" | 2'-4" | 5'-8" | | | | | | | | | |
| EP530 | 5 | ---- | 14 | ---- | 4'-10" | 11 | 2'-1" | 2'-9" | 2'-2" | | | | | | | | | |
| EP531 | 5 | ---- | 14 | ---- | 4'-4" | 21 | 0'-0" | 4'-4" | 0'-0" | 0'-0" | | | | | | | 12'-4" | |
| EP532 | 5 | 9 | ---- | 9 | 9'-5" | 4 | 2'-9" | 3'-11" | 2'-9" | | | | | | | | | |
| EP533 | 5 | 5 | ---- | ---- | 12'-7" | 4 | 2'-9" | 7'-1" | 2'-9" | | | | | | | | | |
| EP534 | 5 | ---- | ---- | 5 | 13'-5" | 4 | 2'-9" | 7'-11" | 2'-9" | | | | | | | | | |
| EP301 | 3 | 4 | ---- | 4 | 15'-6" | 4 | 5'-9" | 4'-0" | 5'-9" | | | | | | | | | |
| COLUMN | | | | | | | | | | | | | | | | | | |
| EP901 | 9 | 48 | 72 | 24 | 28'-10" | STR | 28'-10" | | | | | | | | | | | |
| EP521 | 5 | 54 | 81 | 27 | 14'-11" | 25 | 3'-6" | 3'-6" | 0'-5 1/2" | 0'-2 1/2" | | | | | | | | |
| EP522 | 5 | 54 | 81 | 27 | 10'-6" | 25 | 2'-4 3/4" | 2'-4 3/4" | 0'-5 1/2" | 0'-2 1/2" | | | | | | | | |
| FOOTING | | | | | | | | | | | | | | | | | | |
| EF901 | 9 | 18 | ---- | ---- | 27'-9" | STR | 27'-9" | | | | | | | | | | | |
| EF902 | 9 | 20 | ---- | ---- | 29'-0" | 14 | 1'-3" | 27'-9" | | 0'-9 1/2" | | | | | | | | |
| EF903 | 9 | ---- | ---- | 18 | 25'-0" | STR | 25'-0" | | | | | | | | | | | |
| EF904 | 9 | ---- | ---- | 20 | 25'-0" | STR | 25'-0" | | | | | | | | | | | |
| EF905 | 9 | ---- | 18 | ---- | 52'-9" | STR | 52'-9" | | | | | | | | | | | |
| EF906 | 9 | ---- | 20 | ---- | 54'-4" | 10 | 1'-7" | 52'-9" | | | | | | | | | | |
| EF907 | 9 | 48 | 72 | 24 | 11'-8" | 10 | 1'-7" | 10'-1" | | | | | | | | | | |
| EF701 | 7 | 29 | 54 | 24 | 11'-4" | STR | 11'-4" | | | | | | | | | | | |
| EF801 | 8 | 34 | 61 | 30 | 13'-2" | 15 | 0'-11" | 11'-4" | | 0'-6" | | | | | | | | |
| EF401 | 4 | 69 | 119 | 52 | 5'-2" | 26 | 0'-4 1/2" | 4'-5" | 0'-4 1/2" | | | | | | | | 0'-1" | |




- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

PIER 1 BAR SCHEUDLE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 61 OF 295

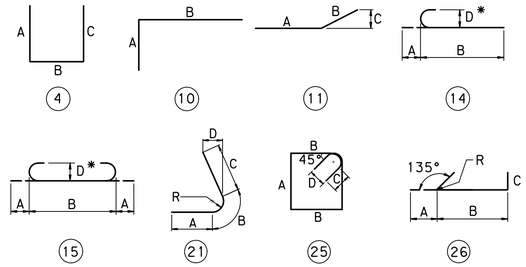
S-38014

DES: XH | DWN: SIB | CKD: MDM

PLOTTED: 8/27/2019 8:08:39 AM
FILENAME: E02657-S38014-PROJ-WEST-REBR-01.dgn
OPERATOR: ASengupta

# PIER 2 REINFORCING BAR SCHEDULE

| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PIER 2** | | | | | | | | | | | | | | | | | | |
| CAP BEAM | | | | | | | | | | | | | | | | | | |
| EP1001 | 10 | 6 | ---- | ---- | 33'-10" | 10 | 4'-6" | 29'-4" | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EP1002 | 10 | 6 | ---- | ---- | 30'-5" | 14 | 1'-5" | 29'-0" | | 0'-10 3/4" | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EP1003 | 10 | 12 | ---- | ---- | 29'-4" | STR | 29'-4" | | | | | | | | | | | |
| EP1004 | 10 | ---- | 6 | ---- | 27'-8" | 10 | 4'-6" | 23'-2" | | | | | | | | | | |
| EP1005 | 10 | ---- | 6 | ---- | 52'-10" | 15 | 1'-5" | 50'-0" | 0'-10 3/4" | | | | | | | | | |
| EP1006 | 10 | ---- | 6 | ---- | 38'-5" | 10 | 4'-6" | 33'-11" | | | | | | | | | | |
| EP1007 | 10 | ---- | 14 | ---- | 50'-6" | STR | 50'-6" | | | | | | | | | | | |
| EP1008 | 10 | ---- | ---- | 12 | 29'-10" | 10 | 4'-6" | 25'-4" | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EP1009 | 10 | ---- | ---- | 6 | 26'-5" | 14 | 1'-5" | 25'-0" | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EP1010 | 10 | ---- | ---- | 12 | 25'-4" | STR | 25'-4" | | | | | | | | | | | |
| EP501 | 5 | 6 | ---- | ---- | 29'-4" | STR | 29'-4" | | | | | | | | | | | |
| EP502 | 5 | 2 | ---- | 2 | 10'-2" | STR | 10'-2" | | | | | | | | | | | |
| EP503 | 5 | 2 | ---- | 2 | 6'-8" | STR | 6'-8" | | | | | | | | | | | |
| EP504 | 5 | 6 | ---- | 6 | 6'-3" | 21 | 0'-0" | 6'-3" | 0'-0" | 0'-0" | | | | | | | 12'-4" | |
| EP505 | 5 | 6 | 14 | 6 | 17'-7" | 21 | 0'-0" | 17'-7" | 0'-0" | 0'-0" | | | | | | | 12'-4" | |
| EP506 | 5 | 6 | ---- | ---- | 10'-4" | 10 | 0'-10" | 9'-6" | | | | | | | | | | |
| EP507 | 5 | 6 | ---- | ---- | 14'-1" | 10 | 0'-10" | 13'-3" | | | | | | | | | | |
| EP509 | 5 | ---- | 8 | ---- | 50'-6" | STR | 50'-6" | | | | | | | | | | | |
| EP510 | 5 | 144 | 36 | 12 | 13'-2" | 4 | 5'-5" | 2'-4" | 5'-5" | | | | | | | | | |
| EP511 | 5 | ---- | 6 | ---- | 0'-0" | STR | | | | | | | | | | | | |
| EP512 | 5 | 2 | 2 | ---- | 10'-6" | STR | 10'-6" | | | | | | | | | | | |
| EP513 | 5 | 2 | 2 | ---- | 6'-9" | STR | 6'-9" | | | | | | | | | | | |
| EP514 | 5 | ---- | 4 | ---- | 9'-2" | STR | 9'-2" | | | | | | | | | | | |
| EP515 | 5 | ---- | 4 | ---- | 6'-2" | STR | 6'-2" | | | | | | | | | | | |
| EP516 | 5 | ---- | 12 | ---- | 14'-11" | 10 | 0'-10" | 14'-1" | | | | | | | | | | |
| EP517 | 5 | ---- | 6 | ---- | 8'-10" | 10 | 0'-10" | 8'-0" | | | | | | | | | | |
| EP518 | 5 | ---- | ---- | 6 | 12'-9" | 10 | 0'-10" | 11'-11" | | | | | | | | | | |
| EP519 | 5 | ---- | ---- | 6 | 12'-0" | 10 | 0'-10" | 11'-2" | | | | | | | | | | |
| EP520 | 5 | ---- | ---- | 6 | 25'-4" | STR | 25'-4" | | | | | | | | | | | |
| EP524 | 5 | 24 | 28 | 12 | 4'-10" | 11 | 2'-1" | 2'-9" | 1'-10 1/2" | | | | | | | | | |
| EP525 | 5 | 6 | 13 | 6 | 9'-6" | 4 | 2'-9" | 4'-0" | 2'-9" | | | | | | | | | |
| EP527 | 5 | ---- | ---- | 6 | 7'-11" | 10 | 0'-10" | 7'-1" | | | | | | | | | | |
| EP528 | 5 | 52 | 112 | 40 | 11'-4" | 4 | 4'-6" | 2'-4" | 4'-6" | | | | | | | | | |
| EP529 | 5 | ---- | 96 | 128 | 13'-8" | 4 | 5'-8" | 2'-4" | 5'-8" | | | | | | | | | |
| EP530 | 5 | ---- | 14 | ---- | 4'-10" | 11 | 2'-1" | 2'-9" | 2'-2" | | | | | | | | | |
| EP531 | 5 | ---- | 14 | ---- | 4'-4" | 21 | 0'-0" | 4'-4" | 0'-0" | 0'-0" | | | | | | | 12'-4" | |
| EP532 | 5 | 9 | ---- | 9 | 9'-5" | 4 | 2'-9" | 3'-11" | 2'-9" | | | | | | | | | |
| EP533 | 5 | 5 | ---- | ---- | 12'-7" | 4 | 2'-9" | 7'-1" | 2'-9" | | | | | | | | | |
| EP534 | 5 | ---- | ---- | 5 | 13'-5" | 4 | 2'-9" | 7'-11" | 2'-9" | | | | | | | | | |
| EP301 | 3 | 4 | ---- | 4 | 15'-6" | 4 | 5'-9" | 4'-0" | 5'-9" | | | | | | | | | |
| COLUMN | | | | | | | | | | | | | | | | | | |
| EP902 | 9 | 48 | 72 | 24 | 36'-9" | STR | 36'-9" | | | | | | | | | | | |
| EP521 | 5 | 70 | 105 | 35 | 14'-11" | 25 | 3'-6" | 3'-6" | 0'-5 1/2" | 0'-2 1/2" | | | | | | | | |
| EP522 | 5 | 70 | 105 | 35 | 10'-6" | 25 | 2'-4 3/4" | 2'-4 3/4" | 0'-5 1/2" | 0'-2 1/2" | | | | | | | | |
| FOOTING | | | | | | | | | | | | | | | | | | |
| EF901 | 9 | 18 | ---- | ---- | 27'-9" | STR | 27'-9" | | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EF902 | 9 | 20 | ---- | ---- | 29'-0" | 14 | 1'-3" | 27'-9" | | 0'-9 1/2" | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EF903 | 9 | ---- | ---- | 18 | 25'-0" | STR | 25'-0" | | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EF904 | 9 | ---- | ---- | 20 | 25'-0" | STR | 25'-0" | | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EF905 | 9 | ---- | 18 | ---- | 52'-9" | STR | 52'-9" | | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EF906 | 9 | ---- | 20 | ---- | 54'-4" | 10 | 1'-7" | 52'-9" | | | | | | | | | | MECHANICAL SPLICING SYSTEM |
| EF907 | 9 | 48 | 72 | 24 | 11'-8" | 10 | 1'-7" | 10'-1" | | | | | | | | | | |
| EF701 | 7 | 29 | 54 | 24 | 11'-4" | STR | 11'-4" | | | | | | | | | | | |
| EF801 | 8 | 34 | 61 | 30 | 13'-2" | 15 | 0'-11" | 11'-4" | | 0'-6" | | | | | | | | |
| EF401 | 4 | 69 | 119 | 52 | 5'-2" | 26 | 0'-4 1/2" | 4'-5" | 0'-4 1/2" | | | | | | | | 0'-1" | |




- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
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BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

PIER 2 BAR SCHEDULE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 62 OF 295

S-38014

DES: XH | DWN: SIB | CKD: MDM

PLOTTED: 8/27/2019 9:09:07 AM
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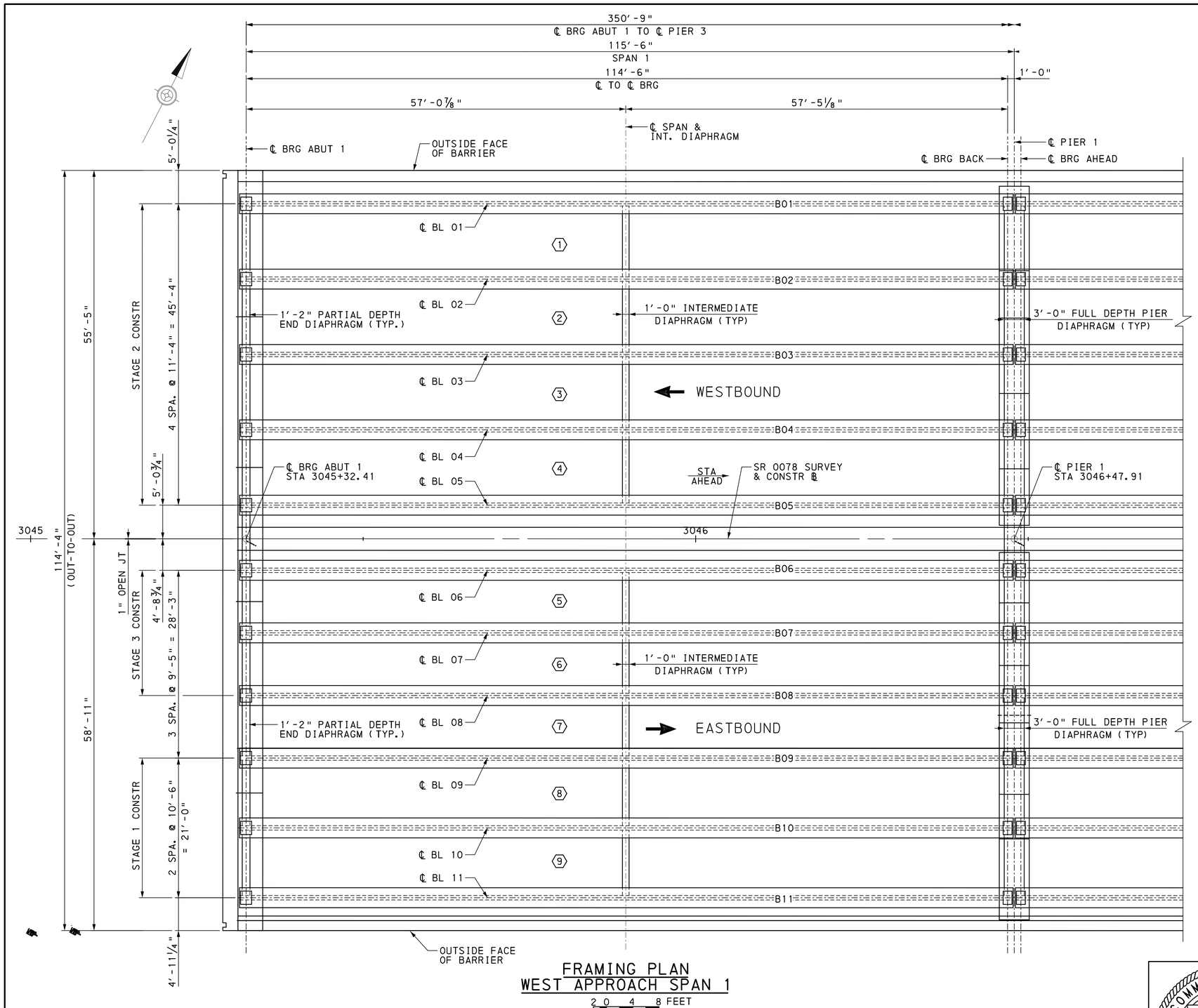
OPERATOR: ASengupta

PLOTTED: 8/27/2019@9:09:36 AM




## FRAMING PLAN
## WEST APPROACH SPAN 1

2 0 4 8 FEET

## NOTES:

1. FOR GENERAL NOTES, SEE SHEET 13 THROUGH 16.
2. FOR DIAPHRAGM DETAILS, SEE SHEETS 88 TO 95.
3. FOR BEAM DETAILS, SEE SHEET 69.
4. FOR DECK PLANS AND HAUNCH REINFORCEMENT, SEE SHEETS 74 TO 87.

## LEGEND:

⟨1⟩ = BAY DESIGNATION

BL01 = BEAM LINE NUMBER

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

WEST APPROACH SPAN 1 - FRAMING PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

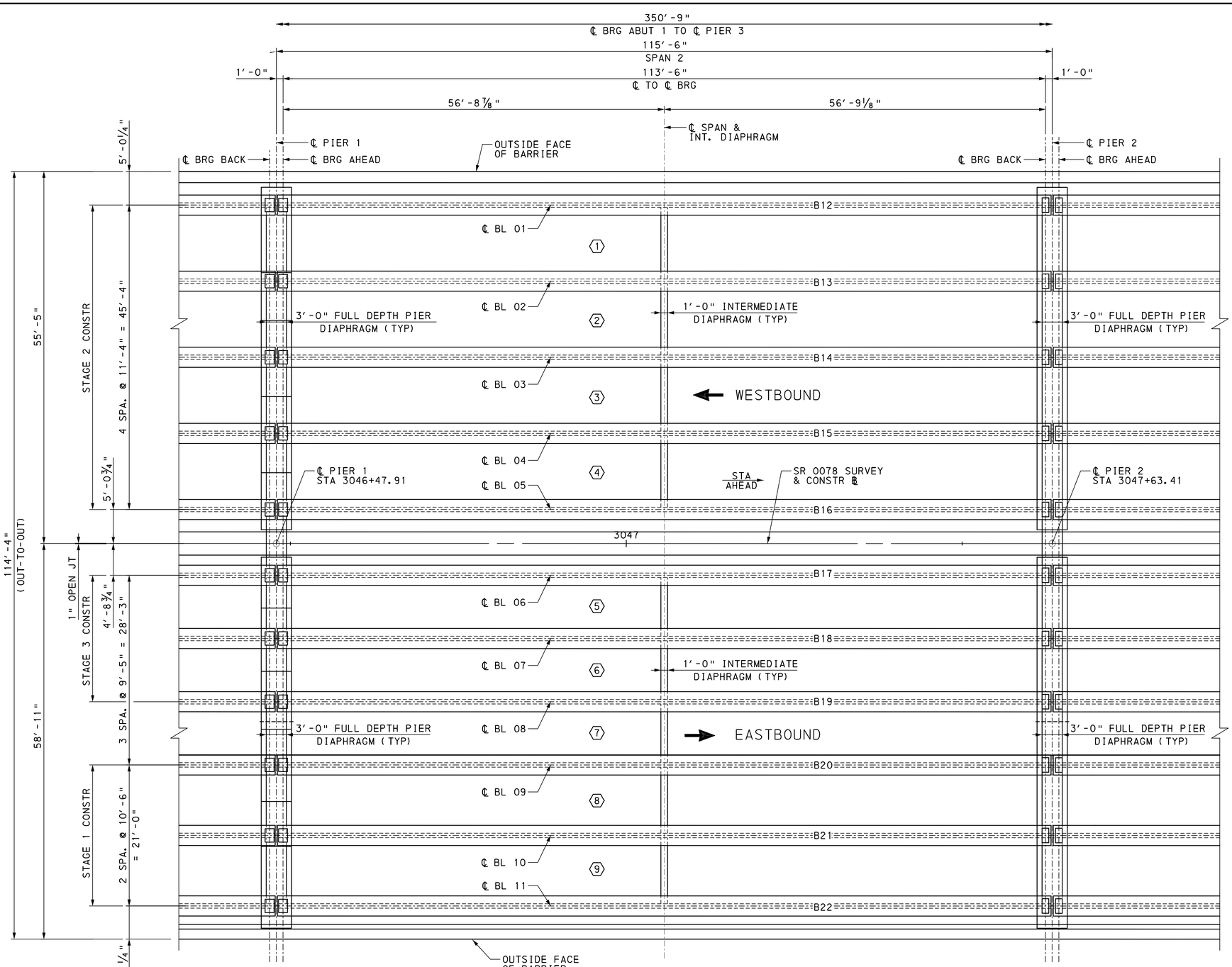
SHEET 63 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-538014-FM-PL-WEST-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019@9:09:43 AM




FRAMING PLAN
WEST APPROACH SPAN 2
2 0 4 8 FEET

## NOTES:

1. SEE SHEET 63 FOR FRAMING PLAN NOTES.

## LEGEND:

(1) = BAY DESIGNATION

BL01 = BEAM LINE NUMBER

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
WEST APPROACH SPAN 2 - FRAMING PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

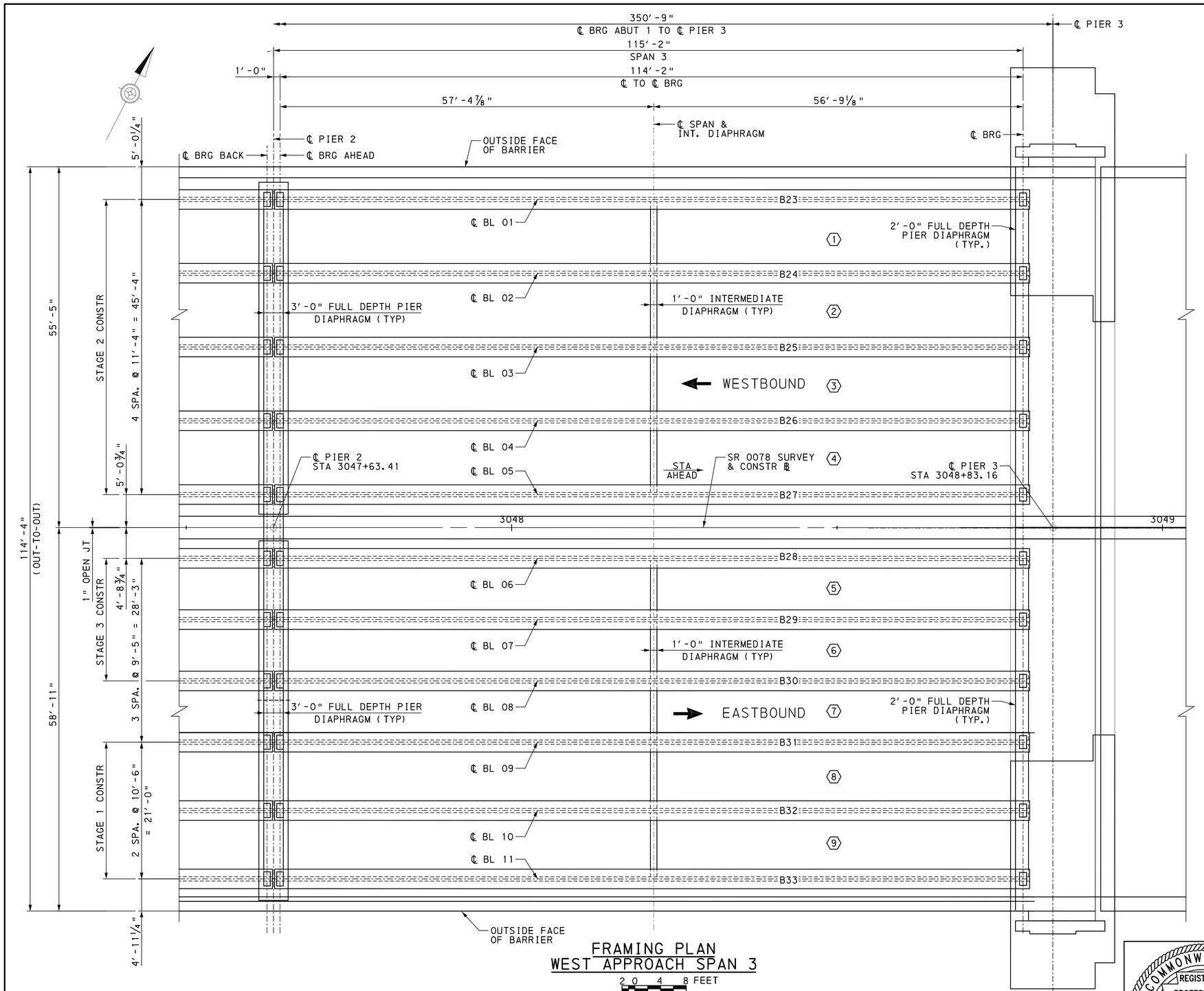
SHEET 64 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-S38014-FM-PL-WEST-02.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:09:50 AM




## FRAMING PLAN
## WEST APPROACH SPAN 3

2 0 4 8 FEET

## NOTES:

1. SEE SHEET 63 FOR FRAMING PLAN NOTES.

## LEGEND:

(1) = BAY DESIGNATION

B01 = BEAM LINE NUMBER

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

WEST APPROACH SPAN 3 - FRAMING PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

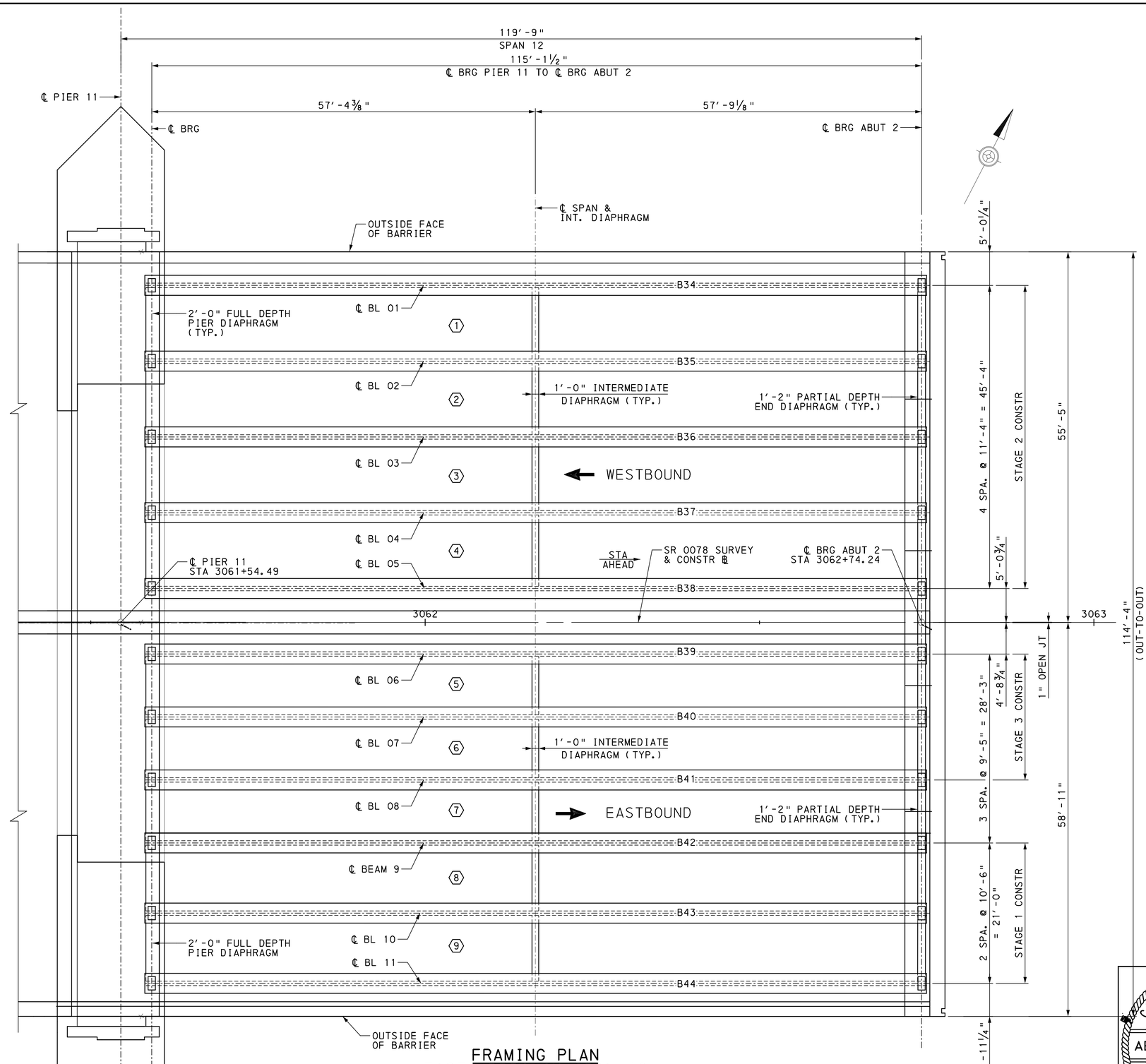
SHEET 65 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-538014-FM-PL-WEST-03.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:09:57 AM




FRAMING PLAN
EAST APPROACH SPAN 12

2 0 4 8 FEET

## NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 13 THROUGH 16.
2. FOR DIAPHRAGM DETAILS, SEE SHEETS 88 TO 95.
3. FOR BEAM DETAILS, SEE SHEET 69.
4. FOR DECK PLANS AND HAUNCH REINFORCEMENT, SEE SHEETS 74 TO 87.

## LEGEND:

① = BAY DESIGNATION

BL01 = BEAM LINE NUMBER

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

EAST APPROACH SPAN 12 - FRAMING PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

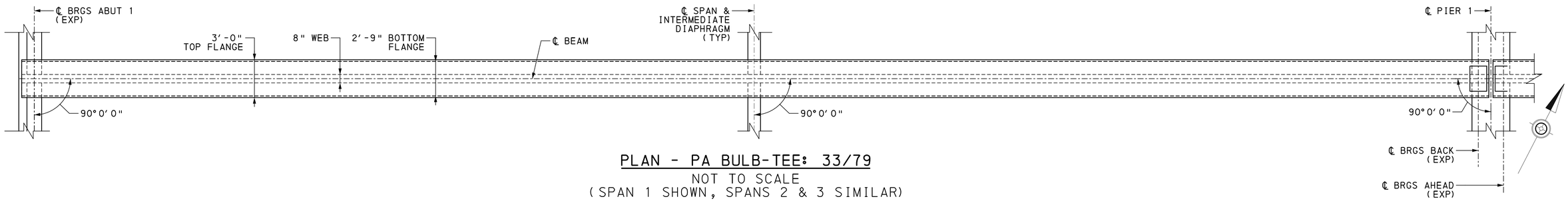
RECOMMENDED 08/30/2019

SHEET 66 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

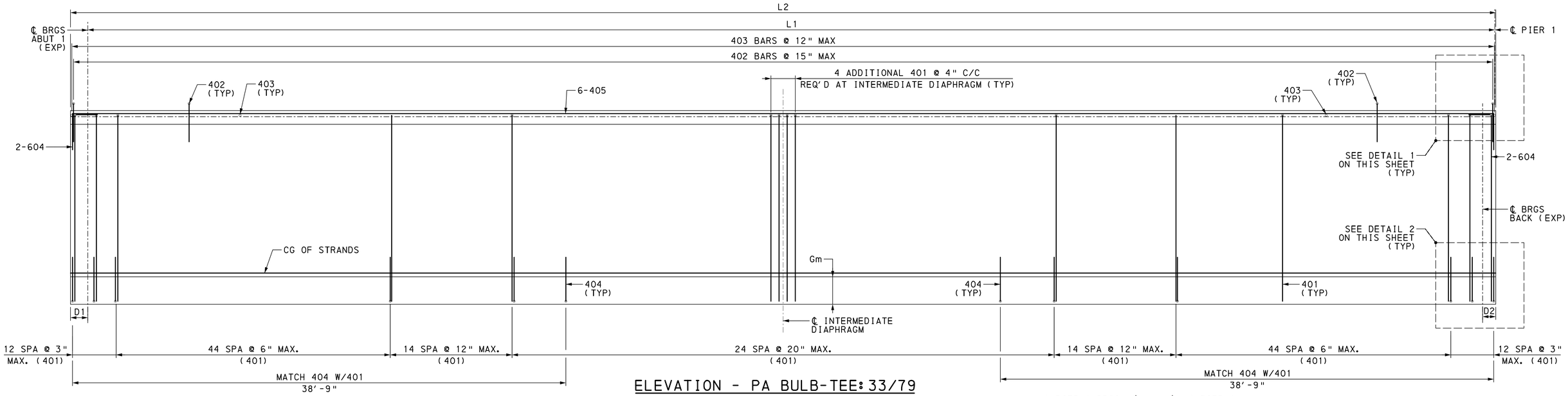
FILENAME: E02657-S38014-FM-PL-EAST-01.dgn
OPERATOR: ASengupta




## PLAN - PA BULB-TEE: 33/79

NOT TO SCALE

(SPAN 1 SHOWN, SPANS 2 & 3 SIMILAR)




## BEAM END DIMENSIONS

| | | BEAM DIMENSION NEAR END TO BRG, D1 (FT) | | | BEAM DIMENSION FAR END TO BRG, D2 (FT) | | |
|---|---|---|---|---|---|---|---|
| | | SPAN 1 | SPAN 2 | SPAN 3 | SPAN 1 | SPAN 2 | SPAN 3 |
| WESTBOUND | BEAM LINE 01 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 02 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 03 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 04 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 05 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| EASTBOUND | BEAM LINE 06 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 07 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 08 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 09 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 10 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |
| | BEAM LINE 11 | 1'-0" | 10" | 10" | 10" | 10" | 1'-0" |

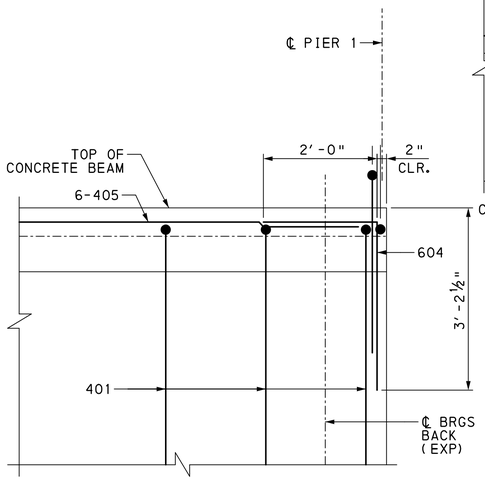
## BEAM LENGTH DIMENSIONS

| | | BEAM LENGTH BRG TO BRG, L1 (FT) | | | BEAM LENGTH END TO END, L2 (FT) | | |
|---|---|---|---|---|---|---|---|
| | | SPAN 1 | SPAN 2 | SPAN 3 | SPAN 1 | SPAN 2 | SPAN 3 |
| WESTBOUND | BEAM LINE 01 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 02 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 03 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 04 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 05 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| EASTBOUND | BEAM LINE 06 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 07 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 08 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 09 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 10 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |
| | BEAM LINE 11 | 114'-6" | 113'-6" | 114'-2" | 116'-4" | 115'-2" | 116'-0" |

* HORIZONTAL DIMENSION MEASURED ALONG ℄ OF BEAM

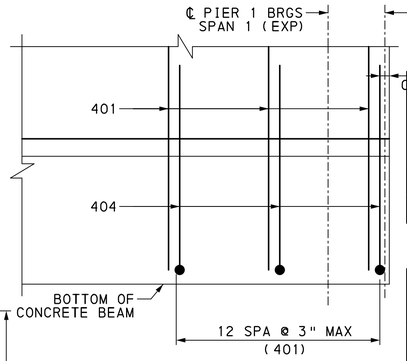
## ELEVATION - PA BULB-TEE: 33/79

NOT TO SCALE




DETAIL 1

12 0 12 INCHES




DETAIL 2

12 0 12 INCHES

## NOTES:

1. FOR FRAMING PLAN AND LOCATION OF INTERMEDIATE DIAPHRAGMS, SEE SHEETS 63 TO 65.
2. FOR BEAM DETAILS AND ADDITIONAL NOTES, SEE SHEET 68.
3. FOR THREADED INSERT LOCATION, SEE END DIAPHRAGM ELEVATION AND SECTIONS ON SHEET 88.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE

APPROACH SPANS 1-3 AND 12

WEST APPROACH SPANS

BEAM PLAN AND ELEVATION

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 67 OF 295

S-38014

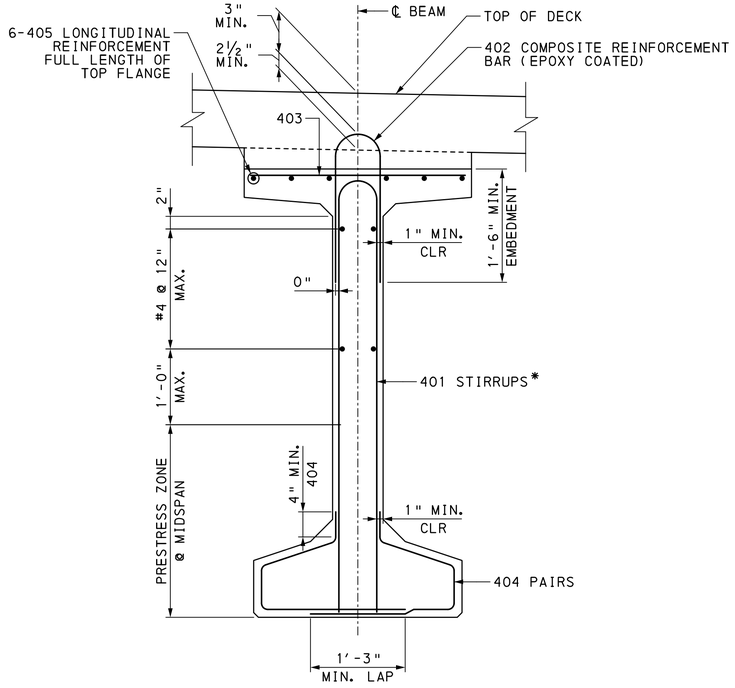
DES: AKS | DWN: SAT | CKD: XIH

PLOTTED: 8/27/2019 10:05 AM

FILENAME: E02657-S38014-BM-WEST-GP-01.dgn

OPERATOR: ASengupta

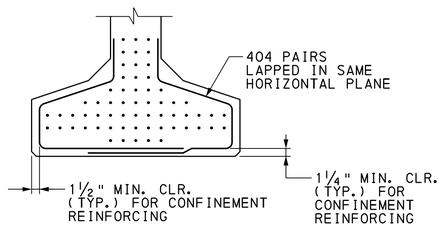
PLOTTED: 8/27/2019 10:11 AM




## PA BULB-TEE TYPICAL SECTION 33/79

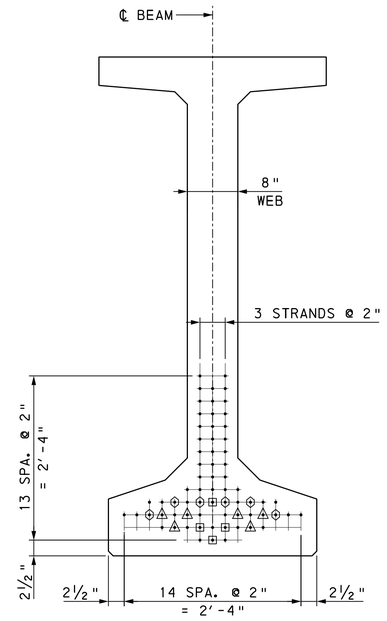
6 0 6 12 INCHES

* 401 MAY BE UTILIZED BY FABRICATOR TO REPLACE 402 COMPOSITE REINFORCEMENT. ALL 401 REINFORCEMENT BARS PROJECTING INTO DECK SLAB MUST BE EPOXY COATED FOR ENTIRE LENGTH.




## TYPICAL STRAND CONFINEMENT 33/79

6 0 6 12 INCHES




## TYPICAL STRAND PATTERN 33/79

6 0 6 12 INCHES

| PRESTRESSING DATA | |
|---|---|
| PA BULB-TEE BEAM DESIGNATION | B1-B33 |
| PRESTRESSING BEAM SIZE | 33/79 |
| INITIAL PRESTRESSING FORCE PER BEAM (KIPS) (0.52" DIA LOW RELAXATION STRANDS, fpu = 270 KIS) (STRAND AREA = 0.167 SQ IN) | 2107.3 |
| TOTAL JACKING FORCE PER BEAM (KIPS) | 2299.6 |
| CONCRETE STRENGTH AT STRAND RELEASE, f'ci (PSI) | 6800 |
| CONCRETE STRENGTH AT 28 DAYS, f'ci (PSI) | 8000 |
| TOTAL NUMBER OF DRAPED STRANDS | 0 |
| CG OF STRANDS FROM BOT OF BEAM (BEAM END), Ge (IN) | 13.62 |
| CG OF STRANDS FROM BOT OF BEAM (MID-SPAN), Gm (IN) | 11.91 |

## NOTES:

1. PROVIDE GRADE 60 MILD REINFORCING BARS THAT MEET THE REQUIREMENT OF ASTM A615, A996 OR A706.
2. EPOXY COAT ALL REBARS FOR A DISTANCE OF 9'-0" FROM BEAM ENDS AT ABUTMENTS.
3. EPOXY COAT ALL REINFORCEMENT WHICH PROTRUDES INTO BRIDGE DECK FROM TOP OF BEAMS.
4. SHOW DESIGN LENGTH AND CASTING LENGTH ON SHOP DRAWINGS.
5. SHOW PLAN, ELEVATION, SECTIONS, AND ALL REINFORCEMENT DETAILS ON SHOP DRAWINGS.
6. SHOW ANY MODIFICATIONS TO REINFORCEMENT SPLICE AND BENDING DETAILS ON SHOP DRAWINGS.
7. SHOW THE FOLLOWING DATA ON THE SHOP DRAWINGS:
   - THE SIZE AND LOCATION OF THE TEMPORARY STORAGE SUPPORTS.
   - THE TYPE AND LOCATION OF THE BRACING AND TEMPORARY SUPPORTS USED FOR THE TRANSPORTATION AND ERECTION OF THE BEAMS.
8. END ZONE REINFORCEMENT MAY BE INCREASED BY FABRICATOR TO REFLECT FABRICATOR'S EXPERIENCE AND/OR TO CONTROL CRACKING.
9. FABRICATOR TO CHECK STABILITY FOR HANDLING AND TRANSPORTING OF THE MEMBERS.
10. TEMPERATURE REINFORCEMENT IN WEB MAY BE OMITTED, BUT ONLY IN THE AREA WHERE IT INTERFERS WITH DRAPED PRESTRESSING STRANDS.
11. MIN COVER: STIRRUPS - 1" MIN. ALL OTHERS - 1½" MIN.
12. PRESTRESS ZONE IS DEFINED AS THE DISTANCE FROM THE BOTTOM OF THE BEAM TO THE TOP ROW OF STRANDS.
13. PROVIDE TOP FLANGE OF BEAMS WITH A HEAVY SCORE FINISH.
14. SHOW SUPPLEMENTAL WEB REINFORCEMENT ON SHOP DRAWINGS AT THE ENDS OF THE BEAMS ADJACENT TO THE CONTINUITY DIAPHRAGMS.
15. FOR ADDITIONAL NOTES AND BEAM DETAILS, SEE BC-755M.
16. FABRICATOR AND CONTRACTOR SHALL NOT CHANGE OR ALTER THE BEAM GROUPINGS ACCORDING TO THE NUMBER OF STRANDS OR THE CENTER OF GRAVITY OF THE DRAPED STRANDS AT THE MIDDLE AND ENDS UNLESS APPROVED BY THE ENGINEER.

## LEGEND:

- ⊡ STRANDS DEBONDED FOR 8'-0" FROM CENTER LINE OF BEARING
- ◬ STRANDS DEBONDED FOR 5'-6" FROM CENTER LINE OF BEARING
- ⊙ STRANDS DEBONDED FOR 2'-0" FROM CENTER LINE OF BEARING
- • STRANDS BONDED FOR ENTIRE LENGTH OF BEAM

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
WEST APPROACH SPANS
BEAM TYPICAL SECTIONS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

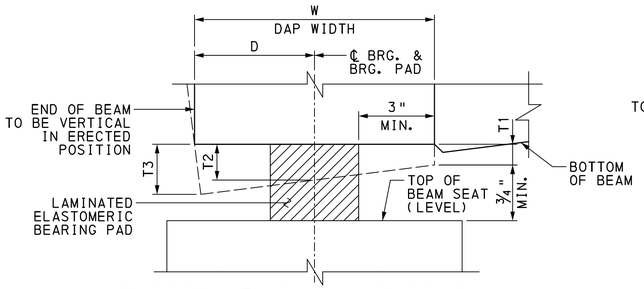
SHEET 68 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

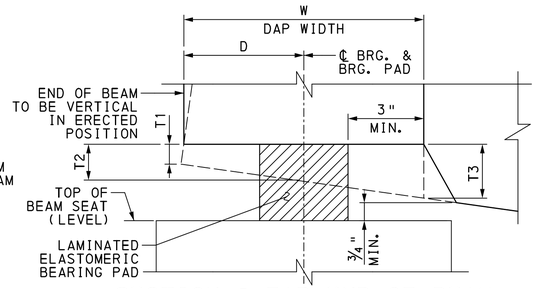
FILENAME: E02657-S38014-BM-WEST-TS-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:10:17 AM



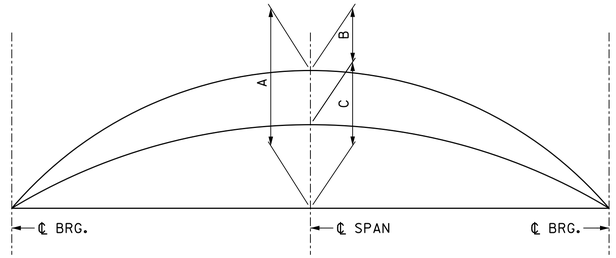

## SECTION ℄ NEAR END OF BEAM

NOT TO SCALE




## SECTION ℄ FAR END OF BEAM

NOT TO SCALE




## BEAM CAMBER DIAGRAM

NOT TO SCALE

## P/S CONCRETE PA BULB-TEE BEAM PROPERTIES - EAST APPROACH

| | BEAM DESIGNATION | BEAM SIZE | BASIC BEAM AREA (IN°2) | NONCOMPOSITE | | | | COMPOSITE - GROSS SECTION | | | | COMPOSITE - TRANSFORMED SECTION | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | MOMENT OF INERTIA (IN°4) | DISTANCE TO NEUTRAL AXIS (IN) | | | MOMENT OF INERTIA (IN°4) | DISTANCE TO NEUTRAL AXIS (IN) | | | MOMENT OF INERTIA (IN°4) | DISTANCE TO NEUTRAL AXIS (IN) | | |
| | | | | | Yb | Yt | Ys | | Yb | Yt | Ys | | Yb | Yt | Ys |
| WESTBOUND | BEAM LINE 01 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1635851.88 | 53.24 | 17.76 | 29.76 | 1743358.00 | 51.84 | 19.16 | 31.16 |
| | BEAM LINE 02 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1665621.62 | 53.87 | 17.13 | 29.13 | 1776478.62 | 52.48 | 18.52 | 30.52 |
| | BEAM LINE 03 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1665621.62 | 53.87 | 17.13 | 29.13 | 1776478.62 | 52.48 | 18.52 | 30.52 |
| | BEAM LINE 04 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1665621.62 | 53.87 | 17.13 | 29.13 | 1776478.62 | 52.48 | 18.52 | 30.52 |
| | BEAM LINE 05 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1635851.88 | 53.24 | 17.76 | 29.76 | 1743358.00 | 51.84 | 19.16 | 31.16 |
| EASTBOUND | BEAM LINE 06 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1571573.62 | 51.9 | 19.1 | 31.1 | 1672024.12 | 50.48 | 20.52 | 32.52 |
| | BEAM LINE 07 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1572668.50 | 51.92 | 19.08 | 31.08 | 1673237.12 | 50.50 | 20.5 | 32.5 |
| | BEAM LINE 08 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1572668.50 | 51.92 | 19.08 | 31.08 | 1673237.12 | 50.50 | 20.5 | 32.5 |
| | BEAM LINE 09 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1626989.88 | 53.06 | 17.94 | 29.94 | 1733508.50 | 51.66 | 19.34 | 31.34 |
| | BEAM LINE 10 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1626989.88 | 53.06 | 17.94 | 29.94 | 1733508.50 | 51.66 | 19.34 | 31.34 |
| | BEAM LINE 11 | 33/71 | 999.25 | 637669.81 | 31.83 | 39.17 | N/A | 1611793.38 | 52.74 | 18.26 | 30.26 | 1716629.88 | 51.33 | 19.67 | 31.67 |

## P/S CONCRETE PA BULB-TEE BEAM PROPERTIES - WEST APPROACH

| | BEAM DESIGNATION | BEAM SIZE | BASIC BEAM AREA (IN°2) | NONCOMPOSITE | | | | COMPOSITE - GROSS SECTION | | | | COMPOSITE - TRANSFORMED SECTION | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | MOMENT OF INERTIA (IN°4) | DISTANCE TO NEUTRAL AXIS (IN) | | | MOMENT OF INERTIA (IN°4) | DISTANCE TO NEUTRAL AXIS (IN) | | | MOMENT OF INERTIA (IN°4) | DISTANCE TO NEUTRAL AXIS (IN) | | |
| | | | | | Yb | Yt | Ys | | Yb | Yt | Ys | | Yb | Yt | Ys |
| WESTBOUND | BEAM LINE 01 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2047393.12 | 57.97 | 21.03 | 32.78 | 2164384.50 | 56.65 | 22.35 | 34.1 |
| | BEAM LINE 02 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2084593.75 | 58.65 | 20.35 | 32.1 | 2205122.25 | 57.33 | 21.67 | 33.42 |
| | BEAM LINE 03 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2084593.75 | 58.65 | 20.35 | 32.1 | 2205122.25 | 57.33 | 21.67 | 33.42 |
| | BEAM LINE 04 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2084593.75 | 58.65 | 20.35 | 32.1 | 2205122.25 | 57.33 | 21.67 | 33.42 |
| | BEAM LINE 05 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2047393.12 | 57.97 | 21.03 | 32.78 | 2164384.50 | 56.65 | 22.35 | 34.1 |
| EASTBOUND | BEAM LINE 06 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 1967247.12 | 56.52 | 22.48 | 34.23 | 2076800.62 | 55.17 | 23.83 | 35.58 |
| | BEAM LINE 07 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 1968607.12 | 56.54 | 22.46 | 34.21 | 2078284.75 | 55.19 | 23.81 | 35.56 |
| | BEAM LINE 08 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 1968607.12 | 56.54 | 22.46 | 34.21 | 2078284.75 | 55.19 | 23.81 | 35.56 |
| | BEAM LINE 09 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2036328.88 | 57.77 | 21.23 | 32.98 | 2152278.50 | 56.44 | 22.56 | 34.31 |
| | BEAM LINE 10 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2036328.88 | 57.77 | 21.23 | 32.98 | 2152278.50 | 56.44 | 22.56 | 34.31 |
| | BEAM LINE 11 | 33/79 | 1063.25 | 837433.75 | 35.53 | 43.47 | N/A | 2017366.62 | 57.43 | 21.57 | 33.32 | 2131542.00 | 56.09 | 22.91 | 34.66 |

## BEAM DAP (IN)

| | BEAM DESIGNATION | SPAN 1 | | | | | | | | | | SPAN 2 | | | | | | | | | | SPAN 3 | | | | | | | | | | SPAN 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ABUTMENT 1 | | | | | PIER 1 | | | | | PIER 1 | | | | | PIER 2 | | | | | PIER 2 | | | | | PIER 3 | | | | | PIER 11 | | | | | ABUTMENT 2 | | | | |
| | | W | D | T1 | T2 | T3 | W | D | T1 | T2 | T3 | W | D | T1 | T2 | T3 | W | D | T1 | T2 | T3 | W | D | T1 | T2 | T3 | W | D | T1 | T2 | T3 | W | D | T1 | T2 | T3 | W | D | T1 | T2 | T3 |
| WESTBOUND | BEAM LINE 01 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 02 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 03 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 04 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 05 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| EASTBOUND | BEAM LINE 06 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 07 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 08 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 09 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 10 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |
| | BEAM LINE 11 | 25 | 12 | 0 | 0 | 0 | 21 | 10 | 1/4 | 3/8 | 1/2 | 21 | 10 | 0 | 0 | 0 | 19 | 10 | 1/4 | 3/8 | 1/2 | 19 | 9 | 0 | 0 | 0 | 19 | 12.5 | 1/4 | 3/8 | 1/2 | 22 | 12.5 | 1/4 | 3/8 | 1/2 | 18.5 | 9 | 0 | 0 | 0 |

## BEAM CAMBER (IN)

| | BEAM DESIGNATION | SPAN 1 | | | SPAN 2 | | | SPAN 3 | | | SPAN 12 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | A | B | C | A | B | C | A | B | C |
| WESTBOUND | BEAM LINE 01 | 3.04 | 1.6 | 1.44 | 3.02 | 1.55 | 1.47 | 3.03 | 1.58 | 1.45 | 3.92 | 2.14 | 1.78 |
| | BEAM LINE 02 | 3.04 | 1.6 | 1.44 | 3.02 | 1.55 | 1.47 | 3.03 | 1.58 | 1.45 | 3.92 | 2.12 | 1.80 |
| | BEAM LINE 03 | 3.04 | 1.46 | 1.58 | 3.02 | 1.41 | 1.61 | 3.03 | 1.44 | 1.59 | 3.92 | 1.95 | 1.97 |
| | BEAM LINE 04 | 3.04 | 1.6 | 1.44 | 3.02 | 1.55 | 1.47 | 3.03 | 1.58 | 1.45 | 3.92 | 2.12 | 1.80 |
| | BEAM LINE 05 | 3.04 | 1.6 | 1.44 | 3.02 | 1.55 | 1.47 | 3.03 | 1.58 | 1.45 | 3.92 | 2.14 | 1.78 |
| EASTBOUND | BEAM LINE 06 | 3.04 | 1.39 | 1.65 | 3.02 | 1.35 | 1.67 | 3.03 | 1.38 | 1.65 | 3.92 | 1.85 | 2.07 |
| | BEAM LINE 07 | 3.04 | 1.37 | 1.67 | 3.02 | 1.41 | 1.61 | 3.03 | 1.28 | 1.75 | 3.92 | 1.82 | 2.1 |
| | BEAM LINE 08 | 3.02 | 1.22 | 1.65 | 3.02 | 1.26 | 1.76 | 3.03 | 1.13 | 1.90 | 3.92 | 1.64 | 2.28 |
| | BEAM LINE 09 | 3.02 | 1.18 | 1.84 | 3.02 | 1.18 | 1.84 | 3.03 | 1.18 | 1.85 | 3.92 | 1.5 | 2.42 |
| | BEAM LINE 10 | 3.04 | 1.65 | 1.39 | 3.02 | 1.6 | 1.42 | 3.03 | 1.63 | 1.4 | 3.92 | 2.17 | 1.75 |
| | BEAM LINE 11 | 3.04 | 1.63 | 1.41 | 3.02 | 1.59 | 1.43 | 3.03 | 1.62 | 1.41 | 3.92 | 2.17 | 1.75 |

DES: XIH | DWN: SIB | CKD: AKS

## LEGEND:

Yb: BOTTOM OF BEAM

Yt: TOP OF BEAM

Ys: TOP OF SLAB

## BEAM CAMBER NOTES:

A = ESTIMATED PRESTRESS CAMBER LESS DEFLECTION DUE TO DEAD LOAD OF BEAM TIMES CREEP FACTOR. (CAMBER TO BE CHECKED IN THE FIELD)

B = DEFLECTION DUE TO ALL DEAD LOAD EXCEPT BEAM WEIGHT AND FUTURE WEARING SURFACE.

C = A - B = NET FINAL CAMBER.

- BEAM SEAT ELEVATIONS AND SLAB THICKNESS HAVE BEEN CALCULATED CONSIDERING A VALUE OF "C".
- THE THICKNESS OF THE HAUNCH ON THE BEAMS SHALL BE VARIED TO COMPENSATE FOR ANY INACCURACIES IN THE CAMBER OF THE BEAMS.
- A, B, C, ARE THEORETICAL VALUES AND MAY VARY WITH ACTUAL CONCRETE STRENGTH (AGE), VARIOUS PRESTRESSING CONDITIONS, CREEP FACTOR, AND PRESTRESS LOSSES.

## BEAM DAP NOTES:

1. T1 IS DAP THICKNESS AT END OF BEAM FOR HIGHER END OF BEAM AND DAP THICKNESS AT BEGINNING OF DAP FOR LOWER END OF BEAM. T1 MINIMUM IS ¼".
2. T2 IS DAP THICKNESS AT CENTERLINE OF BEARING.
3. T3 IS DEFINED AS THE DAP THICKNESS BASED ON THE SLOPE OF THE BEAM DUE TO THE GRADE AND CAMBER.
4. INCREASE IN DISTANCE TO FIRST ROW OF STRANDS COULD RESULT IN STRAND PATTERNS DIFFERENT FROM WHAT IS SHOWN.
5. BEAM SEAT AND BOTTOM OF BEAM BEARING AREA REQUIREMENTS AS PER DESIGN MANUAL PART 4, SECTION 14.7.6.3.9 dP.
6. MAXIMUM GRADE FOR USE OF DAPPING IS BASED ON LIMITING THE MAXIMUM DAP THICKNESS TO 1 ½" AND MAINTAINING 1" MINIMUM CONCRETE COVER ON CONFINEMENT REINFORCEMENT IN THE PROPOSED BEAM DAPPING AREA.
7. FOR BEAM DAPPING, A MINIMUM CLEARANCE OF ¾" MUST BE PROVIDED BETWEEN THE BOTTOM OF THE BEAM (WITHOUT CONSIDERATION OF THE DAP) AND THE TOP OF BEAM SEAT TO ENSURE INSPECTABILITY OF BEARING PAD.
8. PARTIAL - WIDTH BEAM DAPS ARE NOT PERMITTED.
9. THE MAXIMUM DAP THICKNESS IS 1 ½".
10. ENSURE THAT ALL CONCRETE COVER REQUIREMENTS ON STEEL CONFINEMENT REINFORCEMENT AND PRESTRESSING STRANDS ARE SATISFIED WHEN USING BEAM DAPS TO MODIFY THE BOTTOM OF BEAM AREA.

## NOTES:

1. THE PA BULB-TEE SECTION PROPERTIES VARY. THE VALUES LISTED IN THE TABLE CONSERVATIVELY REFLECT THE MINIMUM VALUES.
2. FOR FRAMING PLAN, SEE SHEETS 63 TO 66.
3. FOR ADDITIONAL BEAM NOTES AND DETAILS, SEE SHEET 68.
4. FOR ADDITIONAL PRESTRESSED DETAILS, SEE BC-775M.
5. FOR BEARING PAD LENGTH DIMENSIONS, SEE SHEET 70.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# APPROACH SPANS
# BEAM DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 69 OF 295

S-38014

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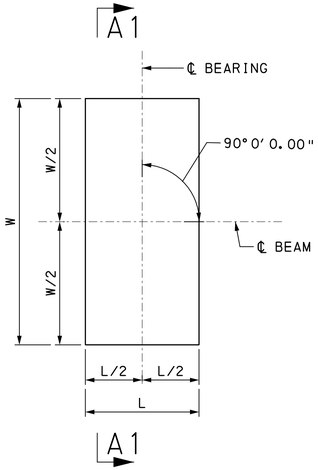
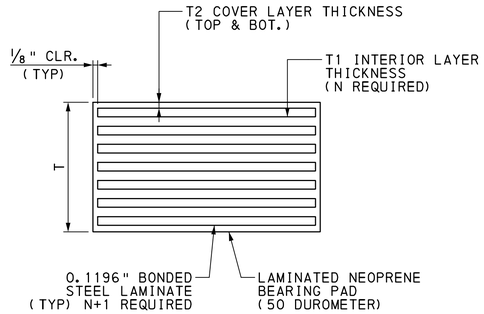
OPERATOR: ASengupta

PLOTTED: 8/27/2019 10:24 AM




BEARING PAD PLAN
NOT TO SCALE




SECTION A1 - A1
NOT TO SCALE

## BEARING TABLE

| BEARING DESIGNATION | | | | | | | | | LAMINATED ELASTOMERIC PAD | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARK | LOCATION | HARDNESS (DUROMETER) | NO. REQ'D | SERVICE I CAPACITY/PAD | | | DESIGN ROTATION | | DIMENSIONS | | | | INTERIOR LAYERS NO. | T (IN) | T1 (IN) | T2 (IN) |
| | | | | DL (K) | LL (K) | TOTAL (K) | TRANS (RAD) | LONG (RAD) | L (IN) | W (IN) | SHAPE FACTOR | NET AREA (IN²) | | | | |
| EXP 1R WB | ABUTMENT 1 WESTBOUND | 50+/-5 | 5 | 215.8 | 107.2 | 323 | 0.006069 | 0.005 | 20 | 24 | 7.3 | 480 | 6 | 6.1250 | 0.75 | 0.375 |
| EXP 1R EB | ABUTMENT 1 EASTBOUND | 50+/-5 | 6 | 216.5 | 101.6 | 318.1 | 0.006014 | 0.005 | 20 | 24 | 7.3 | 480 | 6 | 6.1250 | 0.75 | 0.375 |
| EXP 2L WB | PIER 1 (BACK) WESTBOUND | 50+/-5 | 5 | 223.7 | 96.9 | 320.6 | 0.006069 | 0.005 | 16 | 24 | 9.6 | 384 | 7 | 5.0000 | 0.5 | 0.25 |
| EXP 2L EB | PIER 1 (BACK) EASTBOUND | 50+/-5 | 6 | 225 | 91.8 | 316.8 | 0.006014 | 0.005 | 16 | 24 | 9.6 | 384 | 7 | 5.0000 | 0.5 | 0.25 |
| EXP 2R WB | PIER 1 (AHEAD) WESTBOUND | 50+/-5 | 5 | 223.7 | 96.9 | 320.6 | 0.006069 | 0.005 | 16 | 24 | 9.6 | 384 | 7 | 5.0000 | 0.5 | 0.25 |
| EXP 2R EB | PIER 1 (AHEAD) EASTBOUND | 50+/-5 | 6 | 225 | 91.8 | 316.8 | 0.006014 | 0.005 | 16 | 24 | 9.6 | 384 | 7 | 5.0000 | 0.5 | 0.25 |
| EXP 3L WB | PIER 2 (BACK) WESTBOUND | 50+/-5 | 5 | 223.2 | 96.8 | 320 | 0.006069 | 0.005 | 12 | 26 | 10.9 | 312 | 6 | 3.6250 | 0.375 | 0.25 |
| EXP 3L EB | PIER 2 (BACK) EASTBOUND | 50+/-5 | 6 | 224.4 | 91.7 | 316.1 | 0.006014 | 0.005 | 12 | 26 | 10.9 | 312 | 6 | 3.6250 | 0.375 | 0.25 |
| EXP 3R WB | PIER 2 (AHEAD) WESTBOUND | 50+/-5 | 5 | 223.2 | 96.8 | 320 | 0.006069 | 0.005 | 12 | 26 | 10.9 | 312 | 6 | 3.6250 | 0.375 | 0.25 |
| EXP 3R EB | PIER 2 (AHEAD) EASTBOUND | 50+/-5 | 6 | 224.4 | 91.7 | 316.1 | 0.006014 | 0.005 | 12 | 26 | 10.9 | 312 | 6 | 3.6250 | 0.375 | 0.25 |
| FIX 4L WB | PIER 3 WESTBOUND | 50+/-5 | 5 | 221.6 | 107.1 | 328.7 | 0.006069 | 0.005 | 13 | 24 | 11.2 | 312 | 5 | 3.6250 | 0.375 | 0.25 |
| FIX 4L EB | PIER 3 EASTBOUND | 50+/-5 | 6 | 221.8 | 101.5 | 323.3 | 0.006014 | 0.005 | 13 | 24 | 11.2 | 312 | 5 | 3.6250 | 0.375 | 0.25 |
| FIX 5R WB | PIER 11 WESTBOUND | 50+/-5 | 5 | 216.91 | 107.1 | 324.01 | 0.006485 | 0.005 | 13 | 24 | 11.2 | 312 | 5 | 3.6250 | 0.375 | 0.25 |
| FIX 5R EB | PIER 11 EASTBOUND | 50+/-5 | 6 | 217.3 | 101.5 | 318.8 | 0.006526 | 0.005 | 13 | 24 | 11.2 | 312 | 5 | 3.6250 | 0.375 | 0.25 |
| EXP 6L WB | ABUTMENT 2 WESTBOUND | 50+/-5 | 5 | 216.9 | 107.1 | 324 | 0.006485 | 0.005 | 13 | 24 | 11.2 | 312 | 6 | 3.6250 | 0.375 | 0.25 |
| EXP 6L EB | ABUTMENT 2 EASTBOUND | 50+/-5 | 6 | 217.3 | 101.5 | 318.8 | 0.006526 | 0.005 | 13 | 24 | 11.2 | 312 | 6 | 3.6250 | 0.375 | 0.25 |

## NOTES:

1. FABRICATOR MAY USE CONTRACT DRAWINGS TO FABRICATE ELASTOMERIC BEARING PADS.
2. FOR ADDITIONAL BEARING DETAILS AND NOTES, SEE STANDARD DRAWING BC-755M, SHEET 1 OF 4.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

APPROACH SPANS
BEARING DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 70 OF 295

S-38014

DES: SAT | DWN: SAT | CKD: XIH

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OPERATOR: ASengupta

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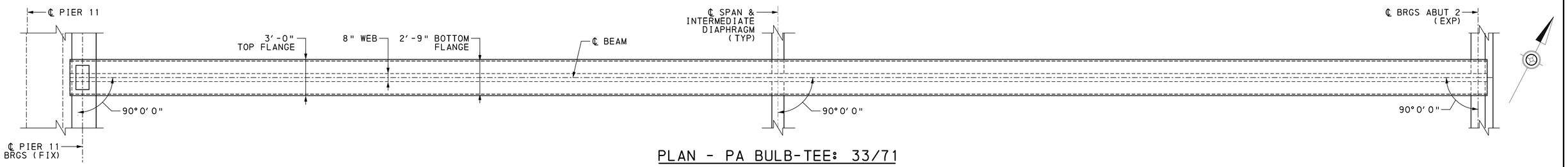
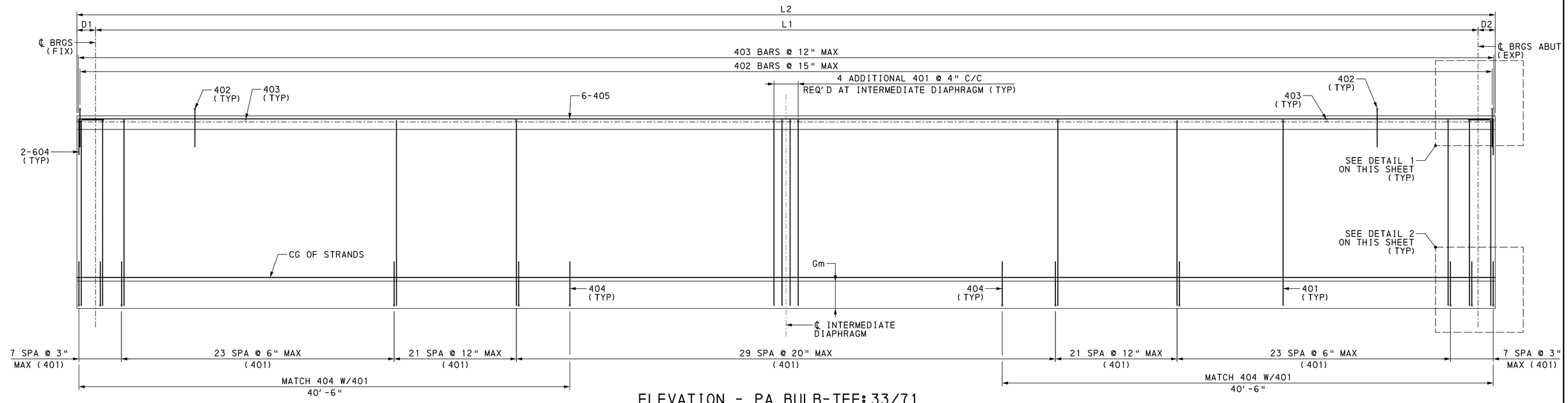
OPERATOR: ASengupta




## PLAN - PA BULB-TEE: 33/71

6 0 6 12 INCHES



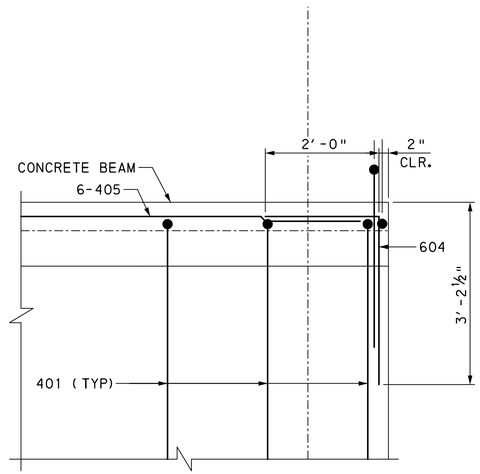

## ELEVATION - PA BULB-TEE: 33/71

6 0 6 12 INCHES

| BEAM END DIMENSIONS | | | |
|---|---|---|---|
| | | BEAM DIMENSION FIX END TO BRG D1 (FT) | BEAM DIMENSION EXP END TO BRG D2 (FT) |
| WESTBOUND | BEAM LINE 01 | 1′-0⅜" | 9" |
| | BEAM LINE 02 | 1′-0⅜" | 9" |
| | BEAM LINE 03 | 1′-0⅜" | 9" |
| | BEAM LINE 04 | 1′-0⅜" | 9" |
| | BEAM LINE 05 | 1′-0⅜" | 9" |
| EASTBOUND | BEAM LINE 06 | 1′-0⅜" | 9" |
| | BEAM LINE 07 | 1′-0⅜" | 9" |
| | BEAM LINE 08 | 1′-0⅜" | 9" |
| | BEAM LINE 09 | 1′-0⅜" | 9" |
| | BEAM LINE 10 | 1′-0⅜" | 9" |
| | BEAM LINE 11 | 1′-0⅜" | 9" |

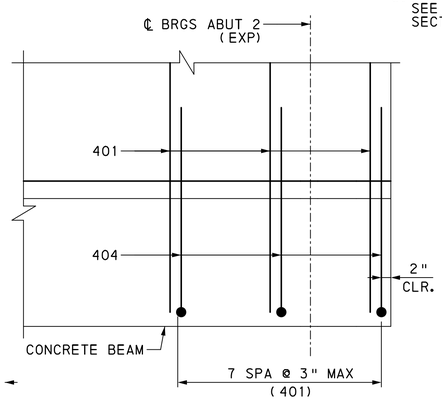
| BEAM LENGTH DIMENSIONS | | | |
|---|---|---|---|
| | | BEAM LENGTH BRG TO BRG, L1 (FT) | BEAM LENGTH END TO END, L2 (FT) |
| WESTBOUND | BEAM LINE 01 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 02 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 03 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 04 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 05 | 115′-1½" | 116′-10⅞" |
| EASTBOUND | BEAM LINE 06 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 07 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 08 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 09 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 10 | 115′-1½" | 116′-10⅞" |
| | BEAM LINE 11 | 115′-1½" | 116′-10⅞" |

* HORIZONTAL DIMENSION MEASURED ALONG ℄ OF BEAM




DETAIL 1

12 0 12 INCHES




DETAIL 2

12 0 12 INCHES

## NOTES:

1. FOR FRAMING PLAN AND LOCATION OF INTERMEDIATE DIAPHRAGMS, SEE SHEET 66.
2. FOR BEAM DETAILS AND ADDITIONAL NOTES, SEE SHEET 69.
3. FOR THREADED INSERT LOCATION, SEE END DIAPHRAGM ELEVATION AND SECTIONS ON SHEET 89.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
EAST APPROACH SPANS
BEAM PLAN AND ELEVATION

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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SHEET 71 OF 295

S-38014

DES: SAT | DWN: SIB | CKD: AKS

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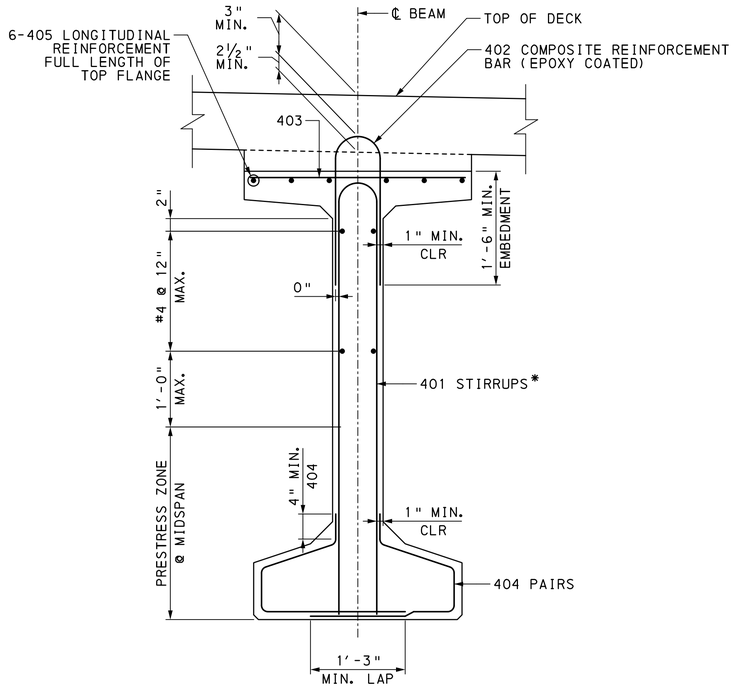
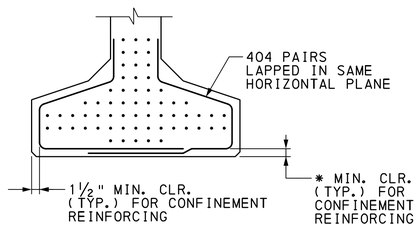



## PA BULB-TEE TYPICAL SECTION 33/71

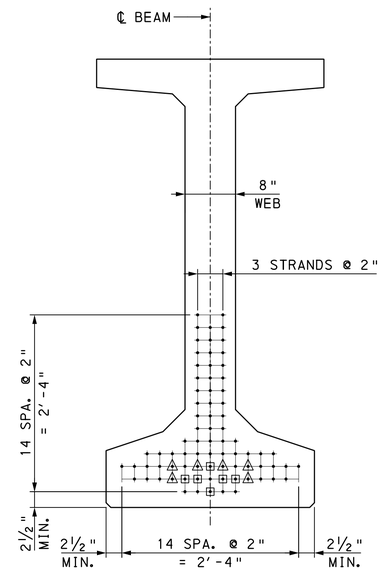
6 0 6 12 INCHES

* 401 MAY BE UTILIZED BY FABRICATOR TO REPLACE 402 COMPOSITE REINFORCEMENT. ALL 401 REINFORCEMENT BARS PROJECTING INTO DECK SLAB MUST BE EPOXY COATED FOR ENTIRE LENGTH.




## TYPICAL STRAND CONFINEMENT 33/71

6 0 6 12 INCHES




## TYPICAL STRAND PATTERN 33/71

6 0 6 12 INCHES

| PRESTRESSING DATA | |
|---|---|
| PA BULB-TEE BEAM DESIGNATION | B34-B44 |
| PRESTRESSING BEAM SIZE | 33/71 |
| INITIAL PRESTRESSING FORCE PER BEAM (KIPS) (0.52" DIA LOW RELAXATION STRANDS, fpu = 270 KIS) (STRAND AREA = 0.167 SQ IN) | 2380.9 |
| TOTAL JACKING FORCE PER BEAM (KIPS) | 2637.8 |
| CONCRETE STRENGTH AT STRAND RELEASE, f'ci (PSI) | 6800 |
| CONCRETE STRENGTH AT 28 DAYS, f'ci (PSI) | 8000 |
| TOTAL NUMBER OF DRAPED STRANDS | 0 |
| CG OF STRANDS FROM BOT OF BEAM (BEAM END), Ge (IN) | 13.14 |
| CG OF STRANDS FROM BOT OF BEAM (MID-SPAN), Gm (IN) | 11.91 |

## NOTES:

1. SEE NOTES ON SHEET 71.

## LEGEND:

- ⊡ STRANDS DEBONDED FOR 20'-0" FROM CENTER LINE OF BEARING
- ◬ STRANDS DEBONDED FOR 4'-0" FROM CENTER LINE OF BEARING
- • STRANDS BONDED FOR ENTIRE LENGTH OF BEAM

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# EAST APPROACH SPANS
# BEAM TYPICAL SECTIONS

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ABIR K SENGUPTA
ENGINEER PE085336

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SHEET 72 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-S38014-BM-EAST-TS-01.dgn
OPERATOR: ASengupta

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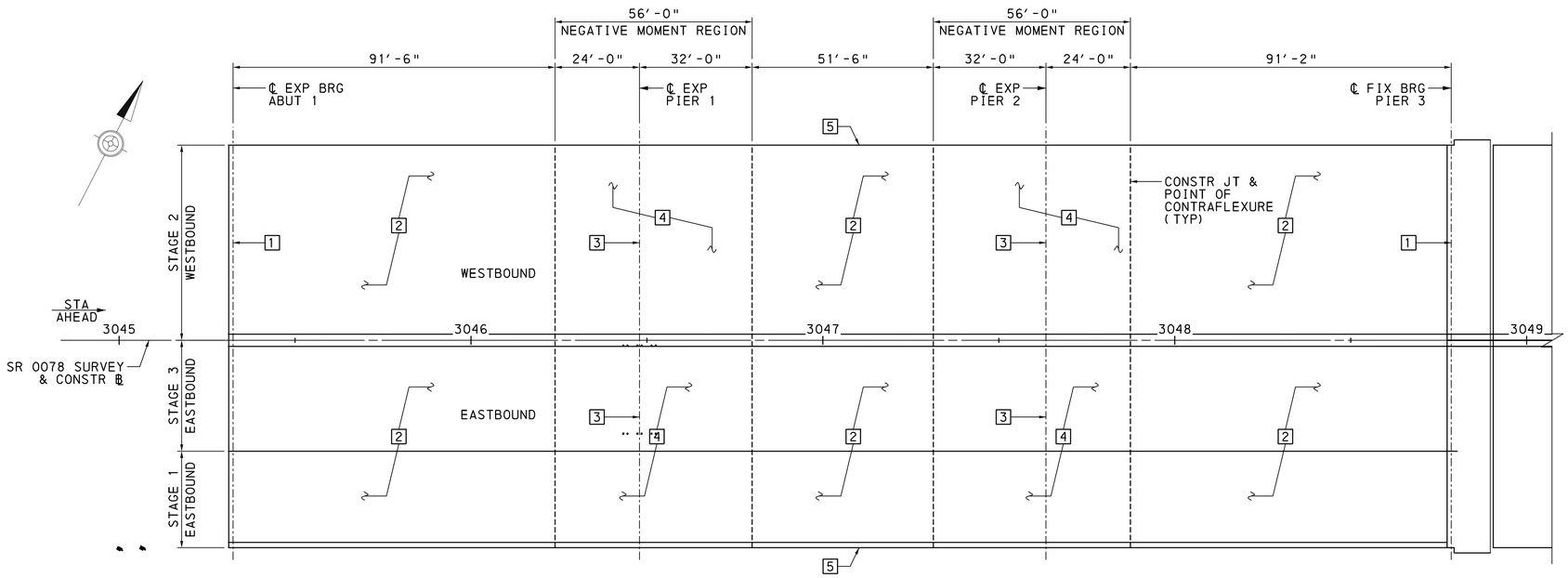


## DECK PLACEMENT SEQUENCE SCHEME

10 0 10 20 FEET

## PLACEMENT SEQUENCE NOTES:

1. PLACE INTERMEDIATE DIAPHRAGMS, SHEAR BLOCKS BETWEEN BEAMS AND END DIAPHRAGMS AT ABUTMENTS.
2. PLACE SLAB IN POSITIVE MOMENT REGIONS: MINIMUM OF TWO CURING DAYS BETWEEN PLACEMENT OF POSITIVE MOMENT REGIONS OF ADJACENT SPANS.
3. PLACE CONTINUITY DIAPHRAGMS AT PIER.
4. PLACE SLAB IN NEGATIVE MOMENT REGIONS: MINIMUM OF TWO HOURS AFTER PLACEMENT OF CONTINUITY DIAPHRAGMS.
5. PLACE BARRIER IN POSITIVE MOMENT REGIONS, THEN NEGATIVE MOMENT REGION, UNLESS CONTINOUS PLACEMENT CAN BE MAINTAINED.
6. A MINIMUM OF 48 HOURS MUST ELAPSE BETWEEN DECK SLAB PLACEMENTS WITHIN THE SAME SPAN AND/OR IN ADJACENT CONTINOUS SPANS. THE SPECIFIFED LIMITATIONS BETWEEN PLACEMENTS ALSO APPLIES TO MOVE OF EQUIPMENT IN SPANS OF FRESHLY PLACED CONCRETE.

## NOTES:

1. FOR TYPICAL DECK SECTION, SEE SHEETS 82 AND 83 FOR WEST APPROACH AND SHEET 86 FOR EAST APPROACH.
2. FOR REINFORCEMENT BAR SCHEDULE, SEE SHEETS 117 THROUGH 120.

## LEGEND:

[1] PLACEMENT NUMBER

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

SLAB POUR SEQUENCE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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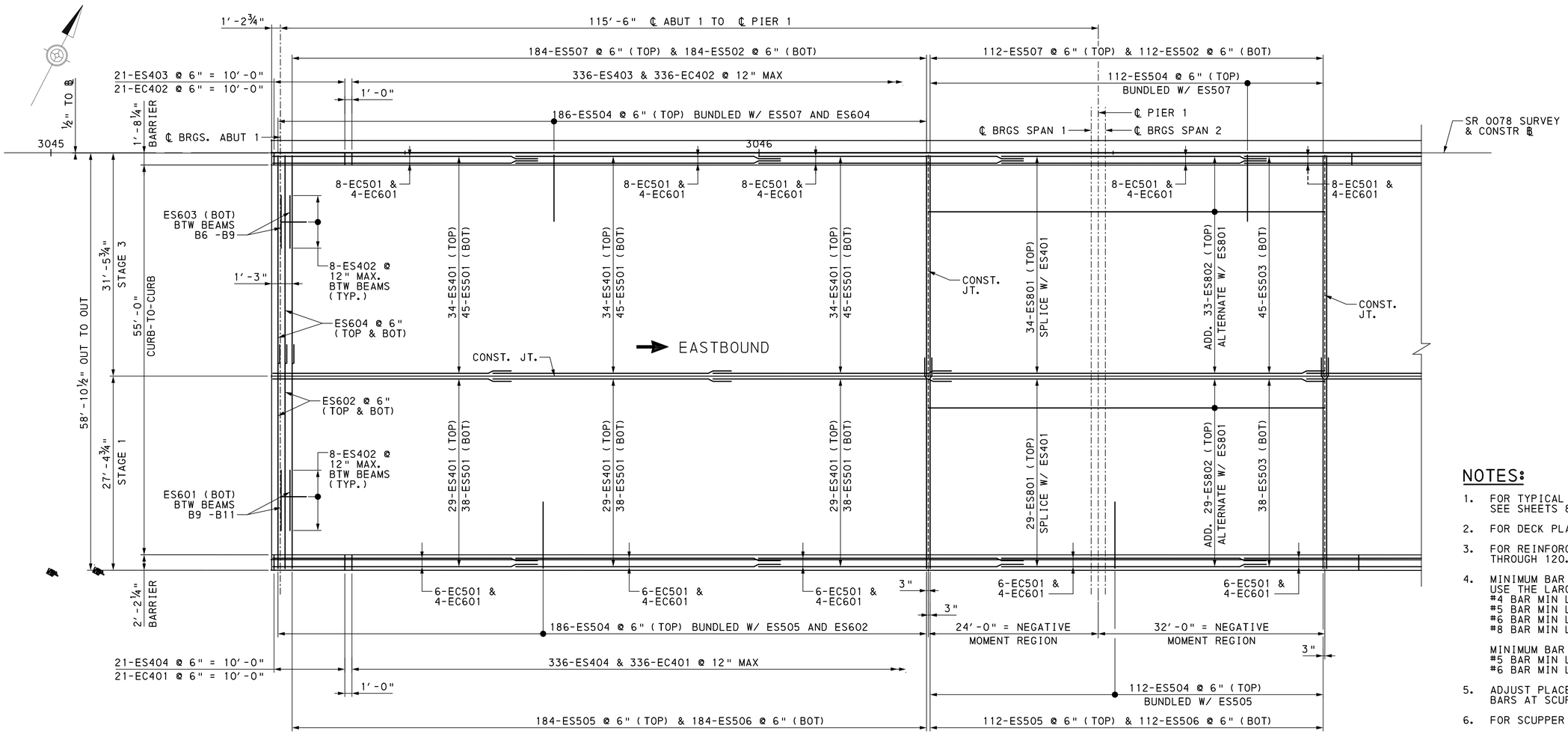
SHEET 73 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: MDM

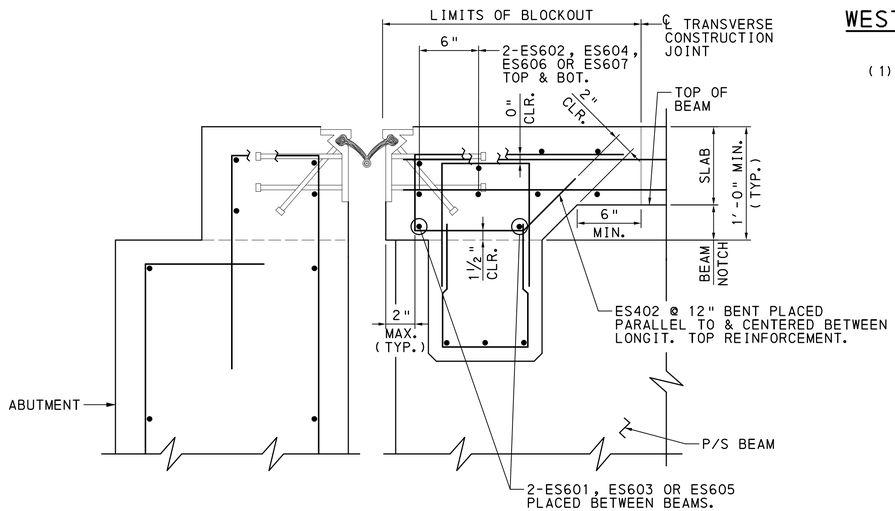
FILENAME: E02657-S38014-SP-SQ.dgn
OPERATOR: ASengupta




## WEST APPROACH DECK SLAB PLAN
## SPAN 1 EB

(1) MEASURED ALONG OUTSIDE FACE OF BARRIER

2 0 4 8 FEET




## TYPICAL SECTION AT ABUTMENT

## NOTES:

1. FOR TYPICAL DECK SECTIONS AND BARRIER DETAILS, SEE SHEETS 82-83 AND 103
2. FOR DECK PLACEMENT SEQUENCE, SEE SHEET 73.
3. FOR REINFORCING BAR SCHEDULE, SEE SHEETS 117 THROUGH 120.
4. MINIMUM BAR LAPS FOR DECK:
   USE THE LARGER BAR SIZE AT SPLICE
   #4 BAR MIN LAP = 2′ - 5"
   #5 BAR MIN LAP = 3′ - 0"
   #6 BAR MIN LAP = 3′ - 7"
   #8 BAR MIN LAP = 4′ - 9"

   MINIMUM BAR LAPS FOR BARRIER:
   #5 BAR MIN LAP = 3′ - 10"
   #6 BAR MIN LAP = 4′ - 7"
5. ADJUST PLACEMENT OF LONGITUDINAL, TRANSVERSE BARS AT SCUPPER LOCATIONS.
6. FOR SCUPPER DETAILS, SEE SHEET 116.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

DECK SLAB - WEST APPROACH
SPAN 1 EB

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PE085336

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SHEET 74 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

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OPERATOR: Asengupta

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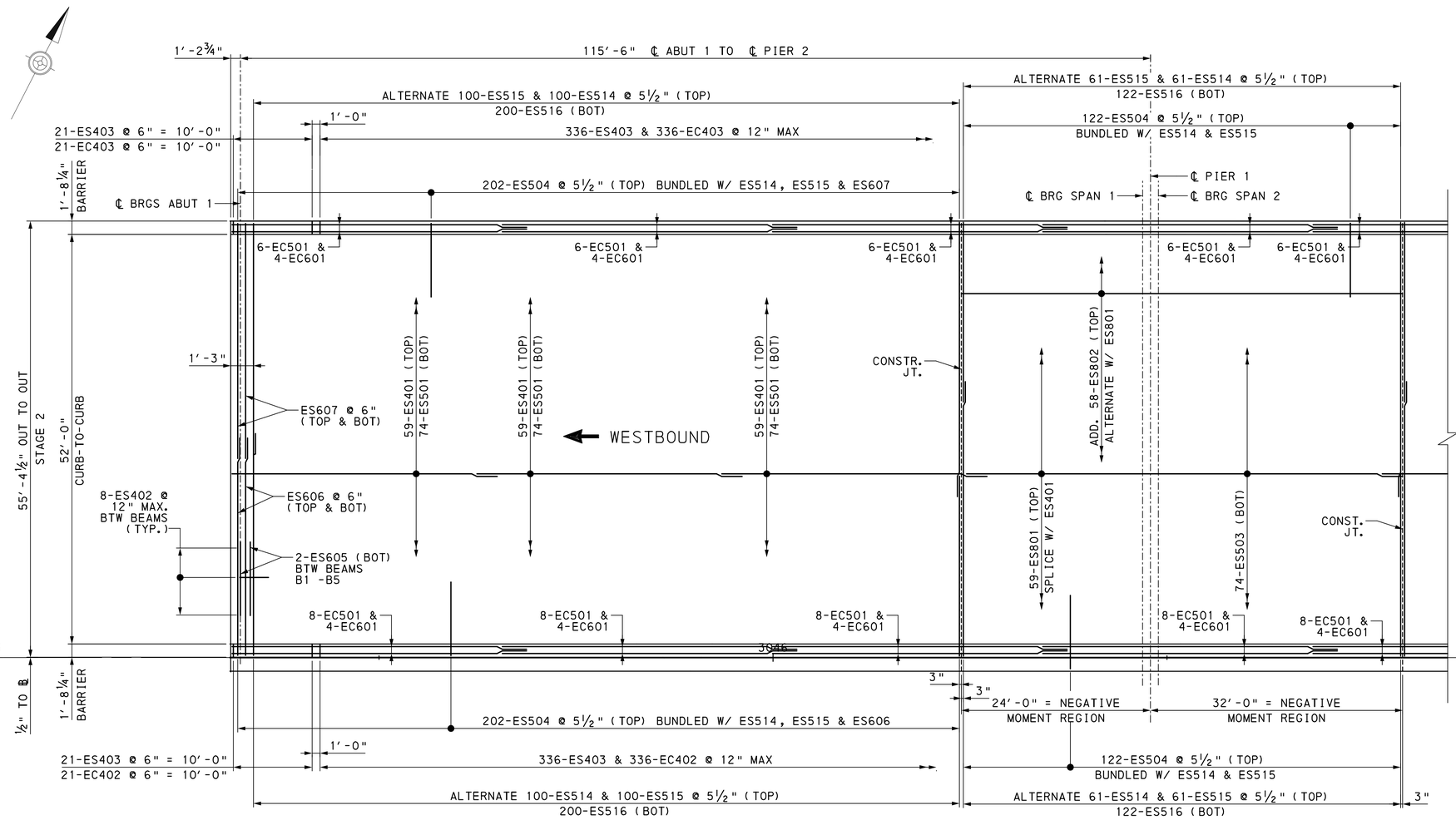


## WEST APPROACH DECK SLAB PLAN
## SPAN 1 WB

MEASURED ALONG OUTSIDE FACE OF BARRIER
2 0 4 8 FEET

## NOTES:

1. SEE SHEET 74 FOR ADDITIONAL NOTES
2. SEE SHEET 74 FOR SECTION AT ABUTMENT

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
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APPROACH SPANS 1-3 AND 12
DECK SLAB - WEST APPROACH
SPAN 1 WB

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SHEET 75 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

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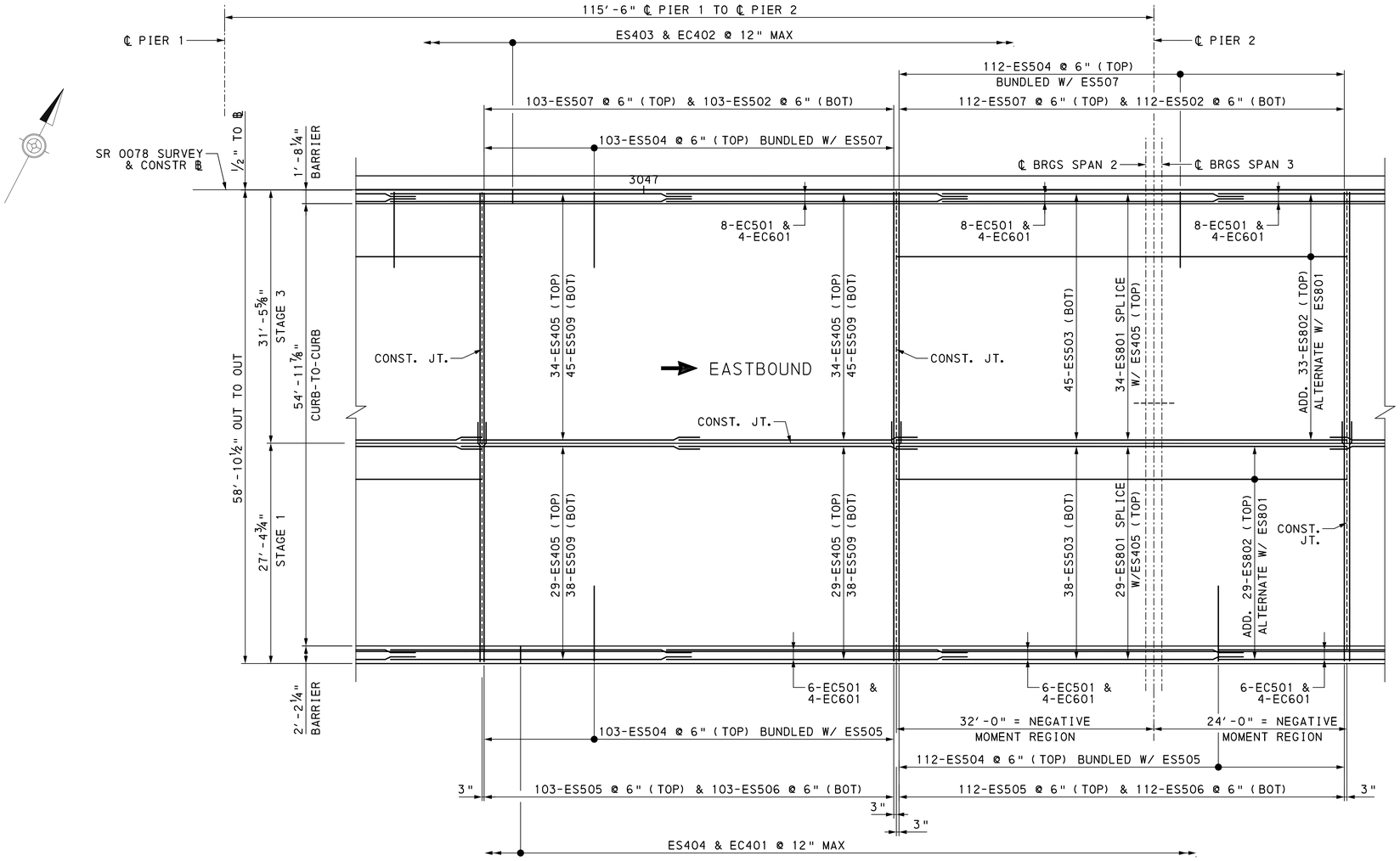


## WEST APPROACH DECK SLAB PLAN
## SPAN 2 EB

2 0 4 8 FEET

**NOTES:**

1. SEE SHEET 74 FOR ADDITIONAL NOTES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
DECK SLAB - WEST APPROACH
SPAN 2 EB

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ENGINEER
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SHEET 76 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

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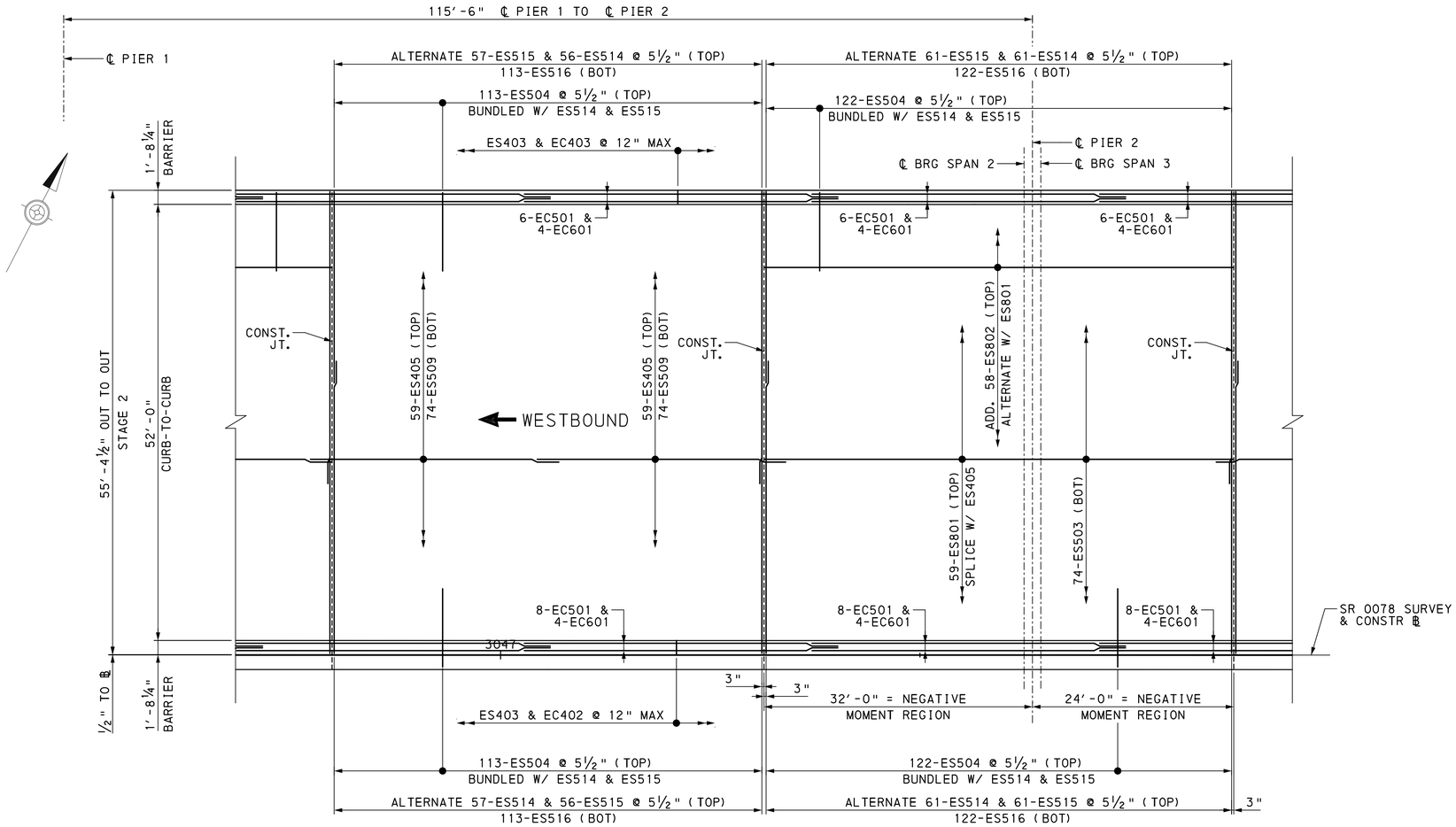


## WEST APPROACH DECK SLAB PLAN
## SPAN 2 WB

2 0 4 8 FEET

## NOTES:

1. SEE SHEET 74 FOR ADDITIONAL NOTES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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APPROACH SPANS 1-3 AND 12
DECK SLAB - WEST APPROACH
SPAN 2 WB

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REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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SHEET 77 OF 295

S-38014

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FILENAME: E02657-S38014-DK-PL-WB-02.dgn
OPERATOR: ASengupta

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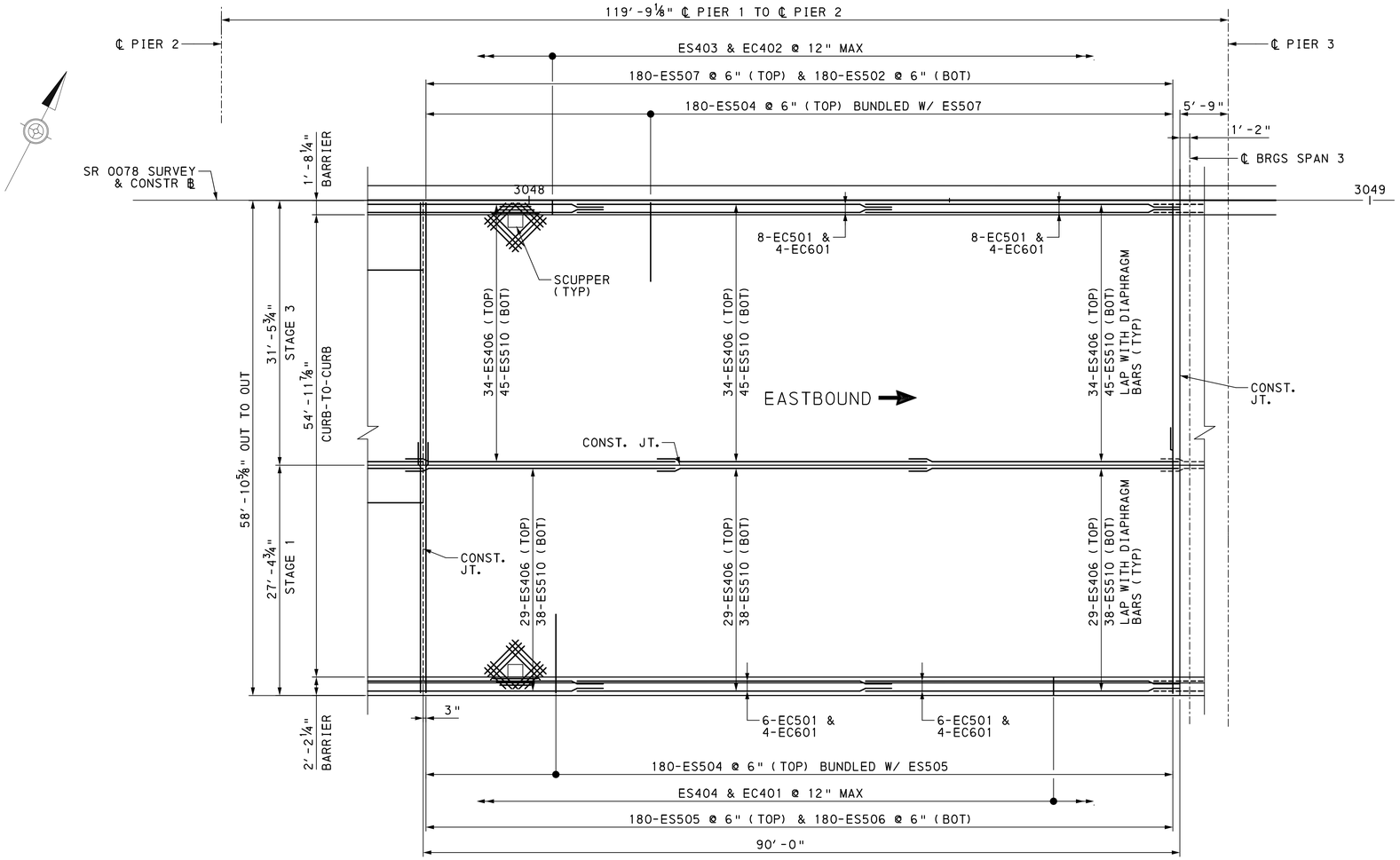
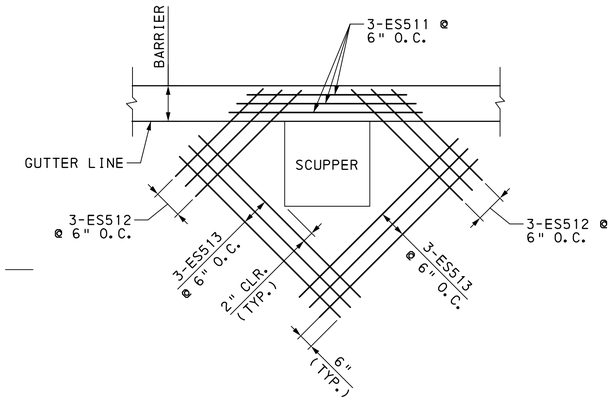



## WEST APPROACH DECK SLAB PLAN
## SPAN 3 EB

(1) MEASURED ALONG OUTSIDE FACE OF BARRIER

2 0 4 8 FEET




## ADDITIONAL DECK REINFORCEMENT AT SCUPPER

CUT AND/OR REPOSITION DECK REINFORCEMENT TO ACCOMMODATE SCUPPERS OR DRAINS

## NOTES:

1. SEE SHEET 74 FOR ADDITIONAL NOTES

| Mark | Description | By | Chk'd. | Recm'd. | Date |
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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
DECK SLAB - WEST APPROACH
SPAN 3 EB

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SHEET 78 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

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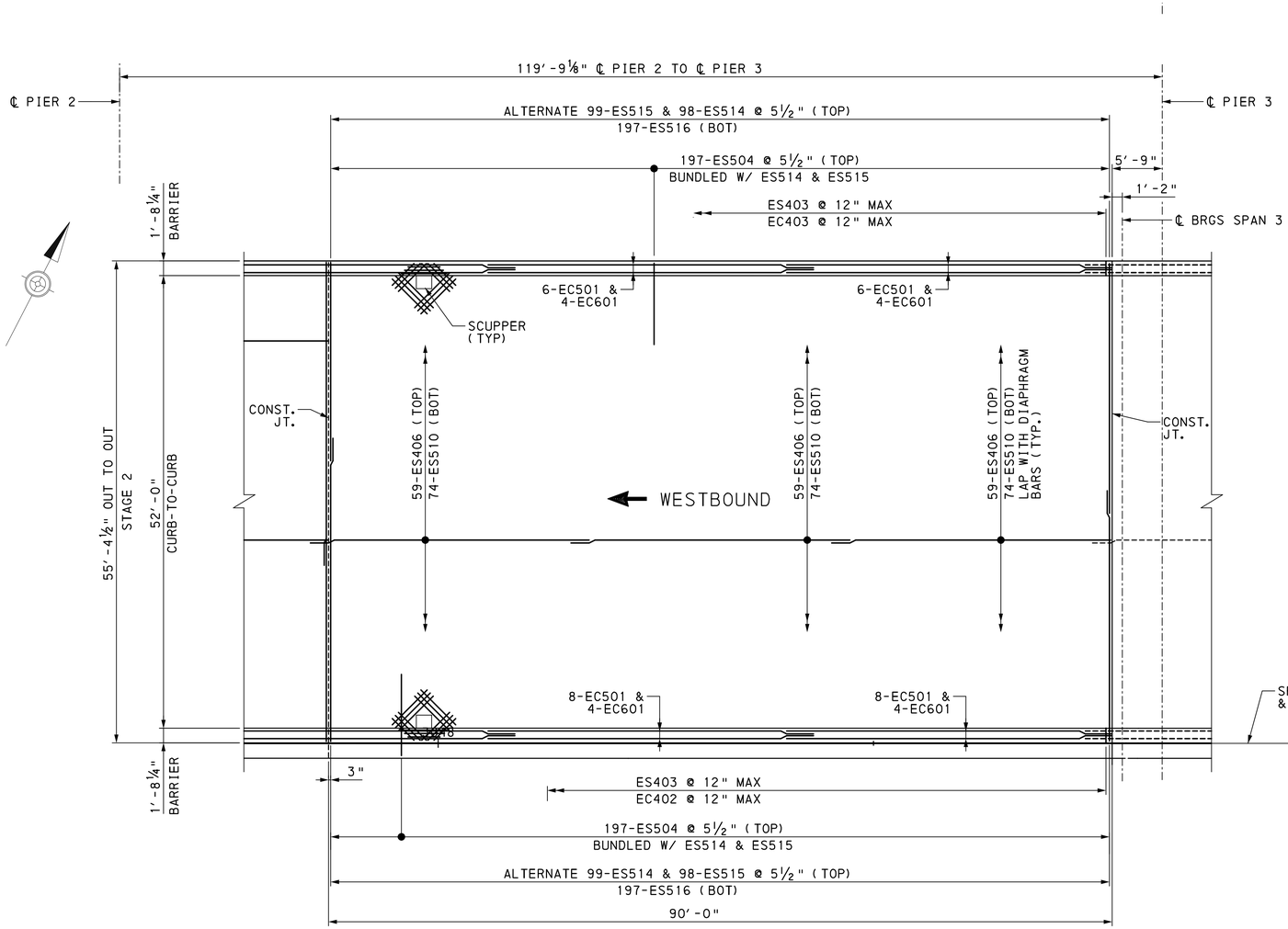
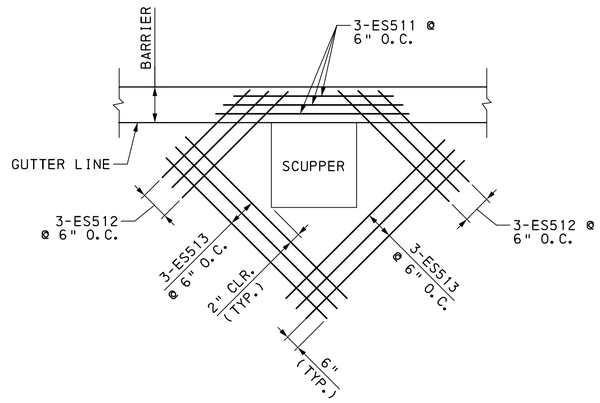
OPERATOR: ASengupta




## WEST APPROACH DECK SLAB PLAN
## SPAN 3 WB

(1) MEASURED ALONG OUTSIDE FACE OF BARRIER

2 0 4 8 FEET




## ADDITIONAL DECK REINFORCEMENT AT SCUPPER

CUT AND/OR REPOSITION DECK REINFORCEMENT TO ACCOMMODATE SCUPPERS OR DRAINS

## NOTES:

1. SEE SHEET 74 FOR ADDITIONAL NOTES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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APPROACH SPANS 1-3 AND 12
DECK SLAB - WEST APPROACH
SPAN 3 WB

COMMONWEALTH OF PENNSYLVANIA
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ENGINEER
PE085336

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SHEET 79 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

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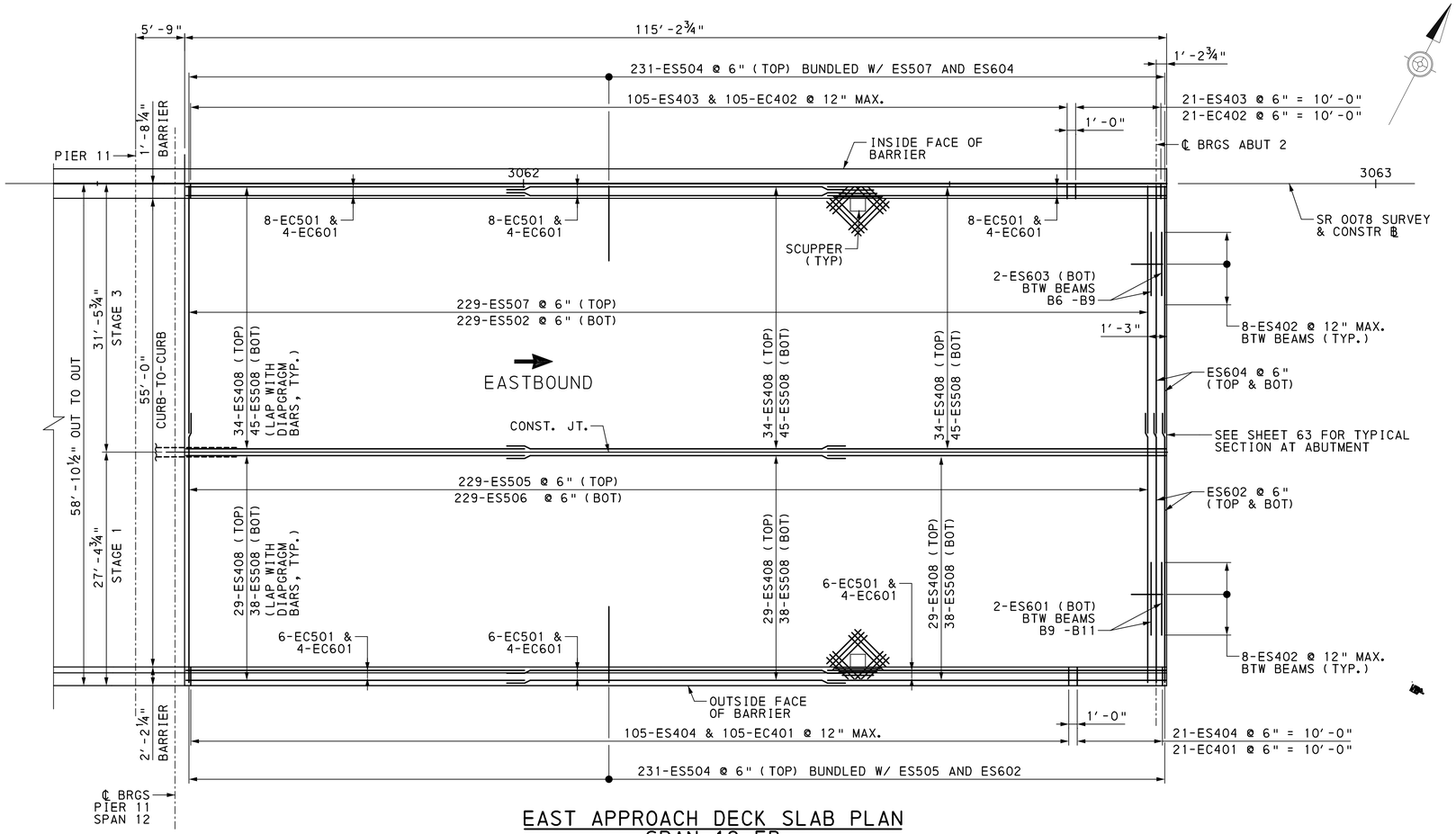
FILENAME: E02657-S38014-DK-PL-WB-03.dgn

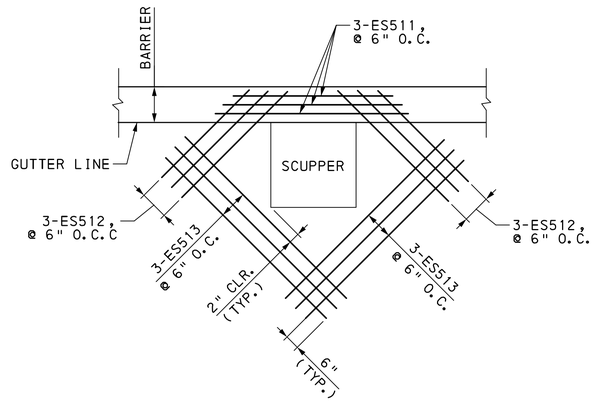
OPERATOR: ASengupta




## EAST APPROACH DECK SLAB PLAN
## SPAN 12 EB

(1) MEASURED ALONG OUTSIDE FACE OF BARRIER

2 0 4 8 FEET




## ADDITIONAL DECK REINFORCEMENT AT SCUPPER

CUT AND/OR REPOSITION DECK REINFORCEMENT TO ACCOMMODATE SCUPPERS OR DRAINS

## NOTES:

1. FOR TYPICAL DECK SECTIONS AND BARRIER DETAILS, SEE SHEETS 86 AND 103.
2. FOR DECK PLACEMENT SEQUENCE, SEE SHEET 73
3. FOR REINFORCING BAR SCHEDULE, SEE SHEETS 117 THROUGH 120
4. MINIMUM BAR LAPS FOR DECK:
   USE THE LARGER BAR SIZE AT SPLICE
   #4 BAR MIN LAP = 2′ - 5"
   #5 BAR MIN LAP = 3′ - 0"
   #6 BAR MIN LAP = 3′ - 7"
   #8 BAR MIN LAP = 4′ - 9"

   MINIMUM BAR LAPS FOR BARRIER:
   #5 BAR MN LAP = 3′ - 10"
   #6 BAR MIN LAP = 4′ - 7"
5. FOR SCUPPER DETAILS, SEE SHEET 116.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
DECK SLAB - EAST APPROACH
SPAN 12 EB

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ENGINEER
PE085336

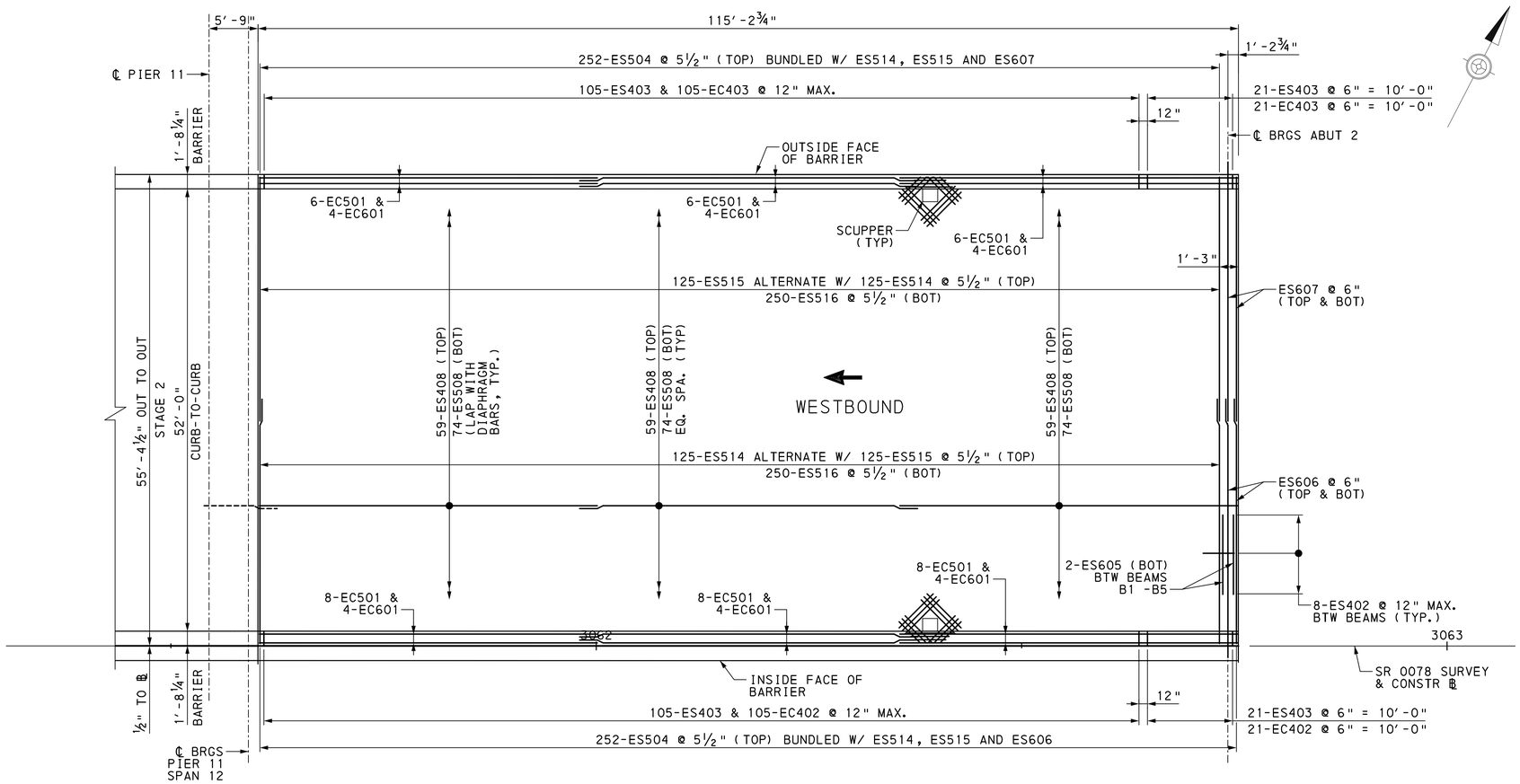
RECOMMENDED 08/30/2019

SHEET 80 OF 295

S-38014

DES: SAT | DWN: ERT | CKD: XIH

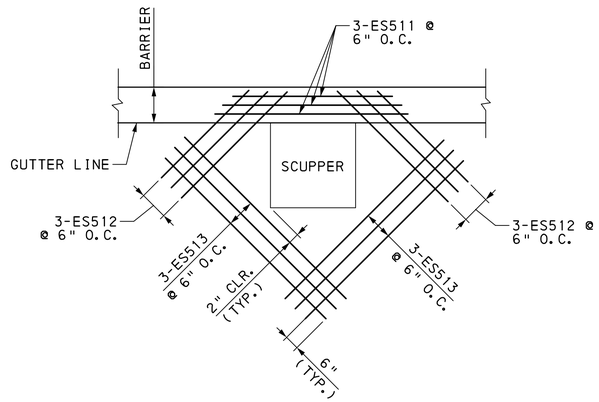
PLOTTED: 8/27/2019 11:39 AM
FILENAME: E02657-S38014-DK-PL-EB-04.dgn
OPERATOR: ASengupta




## EAST APPROACH DECK SLAB PLAN
## SPAN 12 WB

(1) MEASURED ALONG OUTSIDE FACE OF BARRIER

2 0 4 8 FEET




## ADDITIONAL DECK REINFORCEMENT AT SCUPPER

CUT AND/OR REPOSITION DECK REINFORCEMENT TO ACCOMMODATE SCUPPERS OR DRAINS

## NOTES:

1. SEE SHEET 80 FOR ADDITIONAL NOTES
2. SEE SHEET 74 FOR SECTION AT ABUTMENT

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# DECK SLAB - EAST APPROACH
# SPAN 12 WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

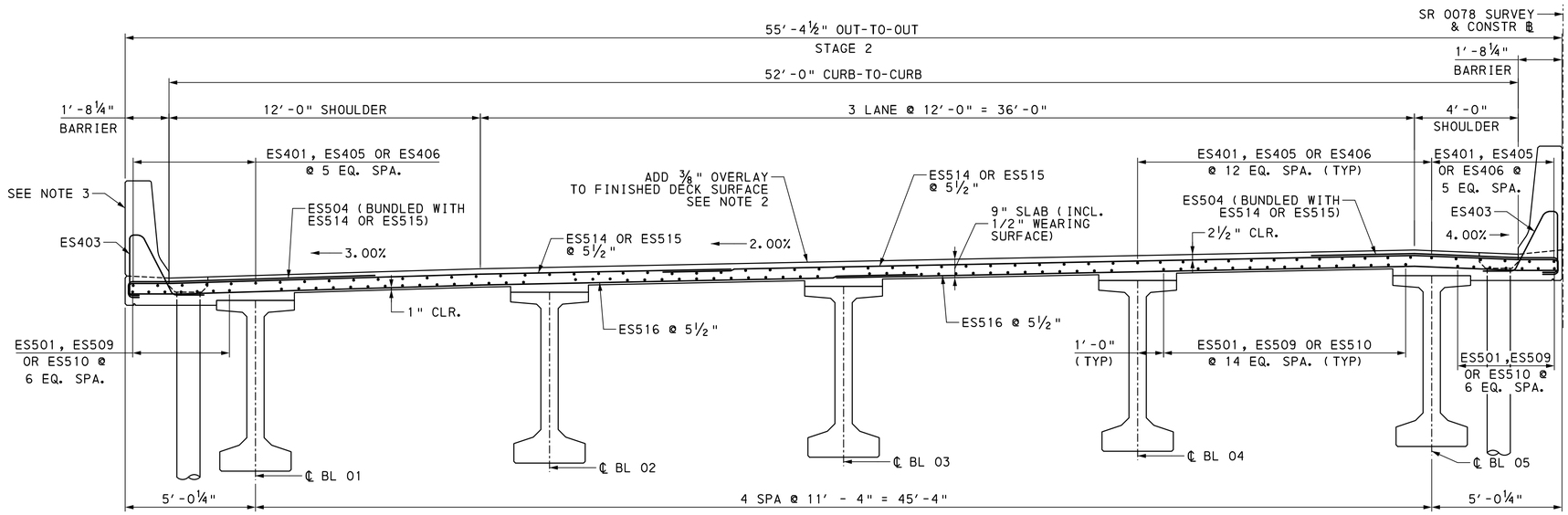
SHEET 81 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

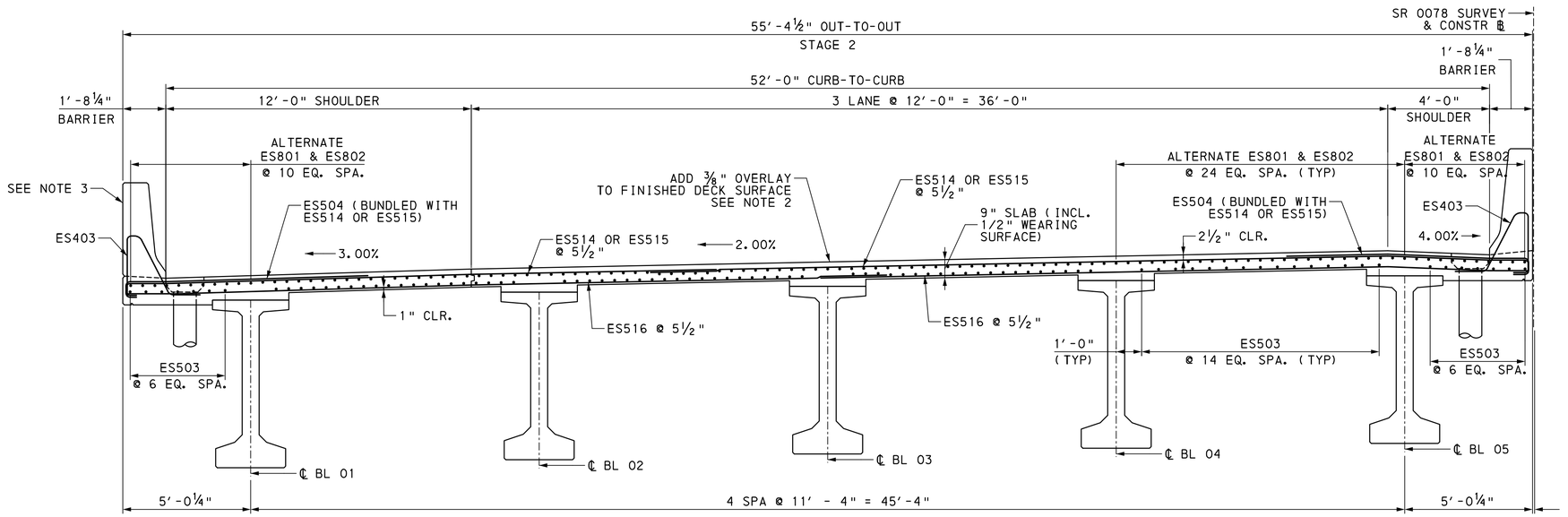
PLOTTED: 8/27/2019 11:47 AM
FILENAME: E02657-S38014-DK-PL-WB-04.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 11:53 AM




## TYPICAL CROSS SECTION (POSITIVE MOMENT REGION)

2 0 2 4 FEET




## TYPICAL CROSS SECTION (NEGATIVE MOMENT REGION)

2 0 2 4 FEET

## NOTES:

1. FOR DECK REINFORCING BAR SCHEDULE, SEE SHEETS 104 AND 105.
2. FOR DECK OVERLAY SEE SPECIAL PROVISION 9000-0122.
3. FOR BARRIER REINFORCEMENT SEE SHEET 103.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# WEST APPROACH SPANS
# TYPICAL DECK SECTIONS - WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

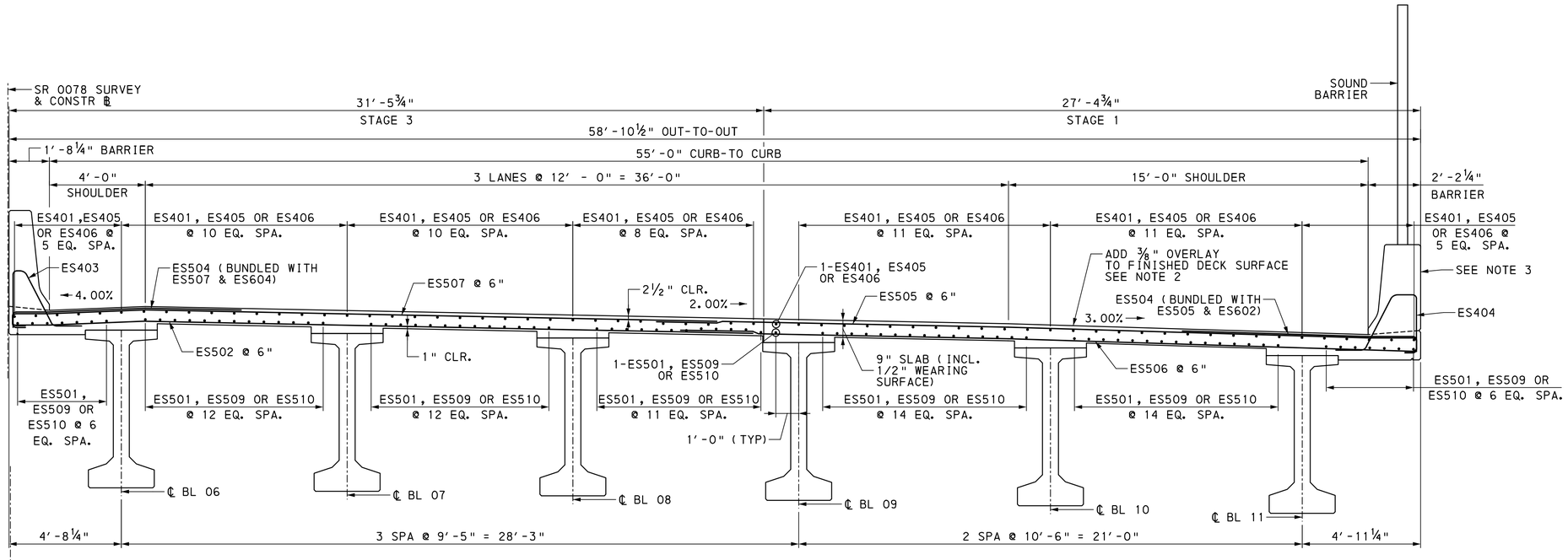
SHEET 82 OF 295

S-38014

| DES: AKS | DWN: ERT | CKD: XIH |
|---|---|---|

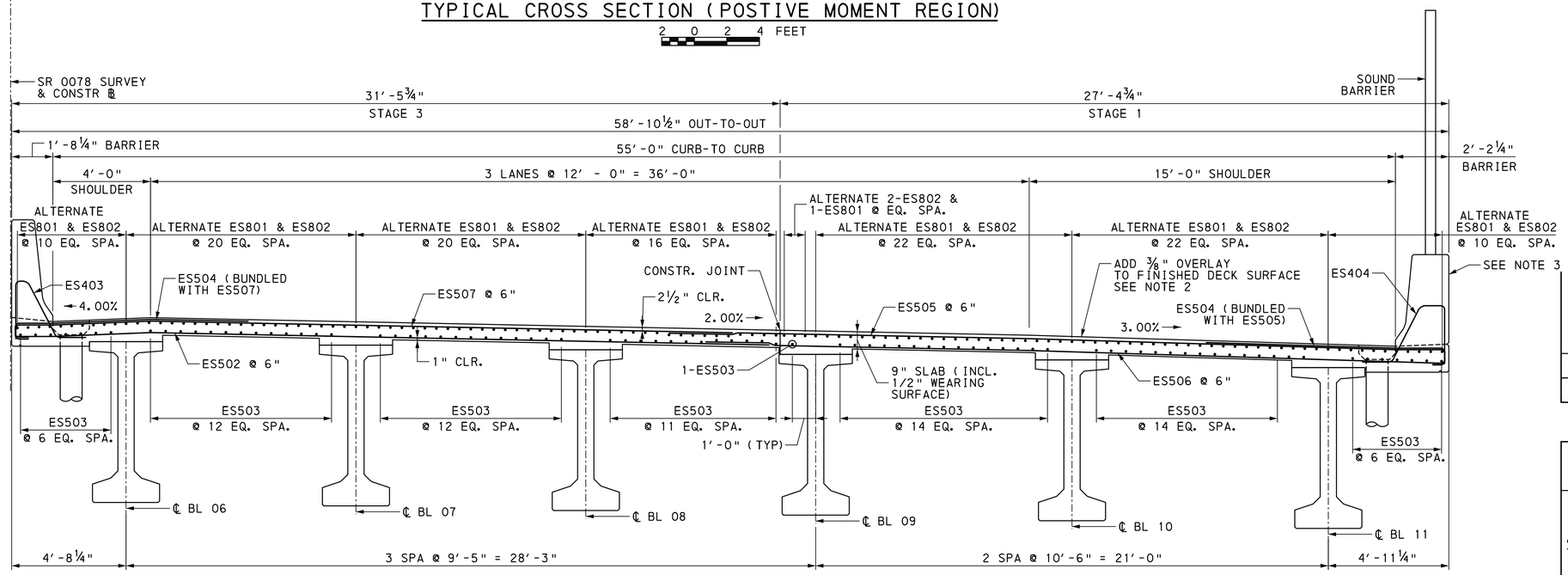
FILENAME: E02657-S38014-DK-WEST-SN-02.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 12:00 AM




## TYPICAL CROSS SECTION ( POSTIVE MOMENT REGION)

2 0 2 4 FEET




## TYPICAL CROSS SECTION ( NEGATIVE MOMENT REGION)

2 0 2 4 FEET

## NOTES:

1. FOR DECK DECK REINFORCING BAR SCHEDULE, SEE SHEETS 117 THROUGH 120.
2. FOR DECK OVERLAY SEE SPECIAL PROVISION 9000-0122.
3. FOR BARRIER REINFORCEMENT SEE SHEET 103.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# WEST APPROACH SPANS
# TYPICAL DECK SECTIONS - EB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

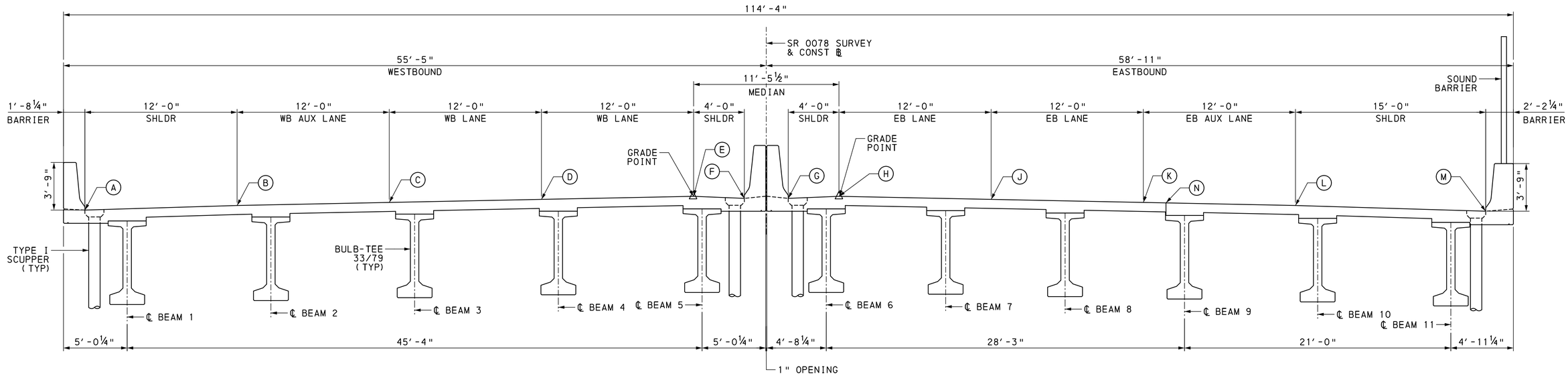
SHEET 83 OF 295

S-38014

DES: AKS | DWN: ERT | CKD: XIH

FILENAME: E02657-S38014-DK-WEST-SN-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:12:07 AM

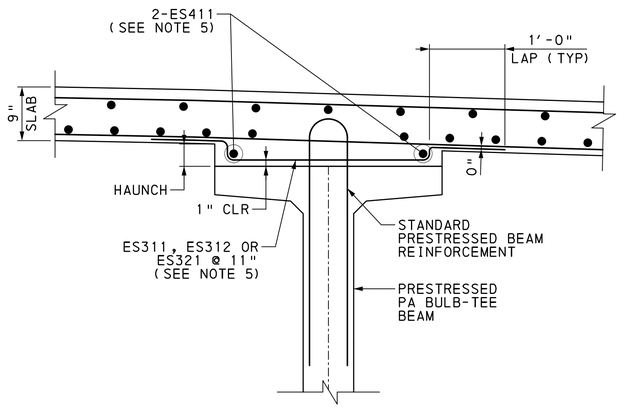



## PROPOSED TYPICAL SECTION - WEST APPROACH

2 0 4 8 FEET

### FINISHED DECK ELEVATIONS

| STATION | WESTBOUND | | | | | | EASTBOUND | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | M | N |
| 3045+43.86 | 412.47 | 412.83 | 413.07 | 413.31 | 413.55 | 413.39 | 413.39 | 413.55 | 413.31 | 413.07 | 412.83 | 412.38 | 413.03 |
| 3045+55.31 | 412.40 | 412.76 | 413.00 | 413.24 | 413.48 | 413.32 | 413.32 | 413.48 | 413.24 | 413.00 | 412.76 | 412.31 | 412.96 |
| 3045+66.76 | 412.32 | 412.68 | 412.92 | 413.16 | 413.40 | 413.24 | 413.24 | 413.40 | 413.16 | 412.92 | 412.68 | 412.23 | 412.89 |
| 3045+78.21 | 412.25 | 412.61 | 412.85 | 413.09 | 413.33 | 413.17 | 413.17 | 413.33 | 413.09 | 412.85 | 412.61 | 412.16 | 412.82 |
| 3045+89.66 | 412.18 | 412.54 | 412.78 | 413.02 | 413.26 | 413.10 | 413.10 | 413.26 | 413.02 | 412.78 | 412.54 | 412.09 | 412.75 |
| 3046+01.11 | 412.11 | 412.47 | 412.71 | 412.95 | 413.19 | 413.03 | 413.03 | 413.19 | 412.95 | 412.71 | 412.47 | 412.02 | 412.67 |
| 3046+12.56 | 412.04 | 412.40 | 412.64 | 412.88 | 413.12 | 412.96 | 412.96 | 413.12 | 412.88 | 412.64 | 412.40 | 411.95 | 412.60 |
| 3046+24.01 | 411.97 | 412.33 | 412.57 | 412.81 | 413.05 | 412.89 | 412.89 | 413.05 | 412.81 | 412.57 | 412.33 | 411.88 | 412.53 |
| 3046+35.46 | 411.90 | 412.26 | 412.50 | 412.74 | 412.98 | 412.82 | 412.82 | 412.98 | 412.74 | 412.50 | 412.26 | 411.81 | 412.46 |
| 3046+46.91 | 411.83 | 412.19 | 412.43 | 412.67 | 412.91 | 412.75 | 412.75 | 412.91 | 412.67 | 412.43 | 412.19 | 411.74 | 412.39 |
| 3046+48.91 | 411.81 | 412.17 | 412.41 | 412.65 | 412.89 | 412.73 | 412.73 | 412.89 | 412.65 | 412.41 | 412.17 | 411.72 | 412.38 |
| 3046+60.26 | 411.74 | 412.10 | 412.34 | 412.58 | 412.82 | 412.66 | 412.66 | 412.82 | 412.58 | 412.34 | 412.10 | 411.65 | 412.31 |
| 3046+71.61 | 411.67 | 412.03 | 412.27 | 412.51 | 412.75 | 412.59 | 412.59 | 412.75 | 412.51 | 412.27 | 412.03 | 411.58 | 412.24 |
| 3046+82.96 | 411.60 | 411.96 | 412.20 | 412.44 | 412.68 | 412.52 | 412.52 | 412.68 | 412.44 | 412.20 | 411.96 | 411.51 | 412.17 |
| 3046+94.31 | 411.53 | 411.89 | 412.13 | 412.37 | 412.61 | 412.45 | 412.45 | 412.61 | 412.37 | 412.13 | 411.89 | 411.44 | 412.10 |
| 3047+05.66 | 411.46 | 411.82 | 412.06 | 412.30 | 412.54 | 412.38 | 412.38 | 412.54 | 412.30 | 412.06 | 411.82 | 411.37 | 412.02 |
| 3047+17.01 | 411.39 | 411.75 | 411.99 | 412.23 | 412.47 | 412.31 | 412.31 | 412.47 | 412.23 | 411.99 | 411.75 | 411.30 | 411.95 |
| 3047+28.36 | 411.32 | 411.68 | 411.92 | 412.16 | 412.40 | 412.24 | 412.24 | 412.40 | 412.16 | 411.92 | 411.68 | 411.23 | 411.88 |
| 3047+39.71 | 411.25 | 411.61 | 411.85 | 412.09 | 412.33 | 412.17 | 412.17 | 412.33 | 412.09 | 411.85 | 411.61 | 411.16 | 411.81 |
| 3047+51.06 | 411.18 | 411.54 | 411.78 | 412.02 | 412.26 | 412.10 | 412.10 | 412.26 | 412.02 | 411.78 | 411.54 | 411.09 | 411.74 |
| 3047+62.41 | 411.11 | 411.47 | 411.71 | 411.95 | 412.19 | 412.03 | 412.03 | 412.19 | 411.95 | 411.71 | 411.47 | 411.02 | 411.67 |
| 3047+64.41 | 411.10 | 411.46 | 411.70 | 411.94 | 412.18 | 412.02 | 412.02 | 412.18 | 411.94 | 411.70 | 411.45 | 411.00 | 411.66 |
| 3047+75.83 | 411.02 | 411.38 | 411.62 | 411.86 | 412.10 | 411.94 | 411.94 | 412.10 | 411.86 | 411.62 | 411.38 | 410.93 | 411.59 |
| 3047+87.24 | 410.95 | 411.31 | 411.55 | 411.79 | 412.03 | 411.87 | 411.87 | 412.03 | 411.79 | 411.55 | 411.31 | 410.86 | 411.52 |
| 3047+98.66 | 410.88 | 411.24 | 411.48 | 411.72 | 411.96 | 411.80 | 411.80 | 411.96 | 411.72 | 411.48 | 411.24 | 410.79 | 411.45 |
| 3048+10.08 | 410.81 | 411.17 | 411.41 | 411.65 | 411.89 | 411.73 | 411.73 | 411.89 | 411.65 | 411.41 | 411.17 | 410.72 | 411.38 |
| 3048+21.49 | 410.74 | 411.10 | 411.34 | 411.58 | 411.82 | 411.66 | 411.66 | 411.82 | 411.58 | 411.34 | 411.10 | 410.65 | 411.30 |
| 3048+32.91 | 410.67 | 411.03 | 411.27 | 411.51 | 411.75 | 411.59 | 411.59 | 411.75 | 411.51 | 411.27 | 411.03 | 410.58 | 411.23 |
| 3048+44.33 | 410.60 | 410.96 | 411.20 | 411.44 | 411.68 | 411.52 | 411.52 | 411.68 | 411.44 | 411.20 | 410.96 | 410.51 | 411.16 |
| 3048+55.74 | 410.53 | 410.89 | 411.13 | 411.37 | 411.61 | 411.45 | 411.45 | 411.61 | 411.37 | 411.13 | 410.89 | 410.44 | 411.09 |
| 3048+67.16 | 410.46 | 410.82 | 411.06 | 411.30 | 411.54 | 411.38 | 411.38 | 411.54 | 411.30 | 411.06 | 410.82 | 410.37 | 411.02 |




## HAUNCH REINFORCEMENT DETAIL

6 0 6 12 INCHES

### FINISHED DECK ELEVATIONS

| LOCATION | STATION | WESTBOUND | | | | | | EASTBOUND | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | J | K | L | M | N |
| | | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. |
| CL BRG. ABUT 1 | 3045+32.41 | 412.54 | 412.90 | 413.14 | 413.38 | 413.62 | 413.46 | 413.46 | 413.62 | 413.38 | 413.14 | 412.90 | 412.45 | 413.10 |
| CL BRG. PIER 1 | 3046+47.91 | 411.82 | 412.18 | 412.42 | 412.66 | 412.90 | 412.74 | 412.74 | 412.90 | 412.66 | 412.42 | 412.18 | 411.73 | 412.38 |
| CL BRG. PIER 2 | 3047+63.41 | 411.10 | 411.46 | 411.70 | 411.94 | 412.18 | 412.02 | 412.02 | 412.18 | 411.94 | 411.70 | 411.46 | 411.01 | 411.67 |
| CL BRG. PIER 3 | 3048+78.58 | 410.39 | 410.75 | 410.99 | 411.23 | 411.47 | 411.31 | 411.31 | 411.47 | 411.23 | 410.99 | 410.75 | 410.29 | 410.95 |

## NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEETS 1-6.
2. FOR GENERAL NOTES, SEE SHEETS 13-16.
3. FOR VERTICAL CURVE DATA, SEE SHEET 1.
4. DECK ELEVATIONS PROVIDED ON THIS SHEET REPRESENT THE DECK FINISHED CONDITION.
5. PROVIDE WHEN HAUNCH THICKNESS IS 5" OR GREATER ANYWHERE ACROSS WIDTH OF HAUNCH WITH SIP FORMS FOR INTERIOR BAYS. PROVIDE WHEN 3" OR GREATER ANYWHERE ACROSS WIDTH OF HAUNCH WITH REMOVABLE FORMS FOR INTERIOR BAYS.
6. FINISHED DECK ELEVATIONS PUBLISHED ON THIS SHEET DO NOT INCLUDE THE ⅜" OVERLAY. OVERLAY WILL BE ON TOP OF THE FINISHED DECK AND ACCORDING TO SPECIAL PROVISION 9000-0122.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
WEST APPROACH SPANS TYPICAL SECTION & DECK ELEVATION TABLES-1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 84 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-S38014-BR-TS-WEST-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:12:14 AM

## FINISHED DECK ELEVATIONS OVER ℄ BEAMS

| LOCATION | BEAM NUMBER | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| ℄ BRG ABUT 1 | 412.64 | 412.95 | 413.18 | 413.40 | 413.59 | 413.58 | 413.45 | 413.26 | 413.07 | 412.85 | 412.53 |
| 0.1L | 412.57 | 412.88 | 413.11 | 413.33 | 413.52 | 413.51 | 413.38 | 413.19 | 413.00 | 412.77 | 412.46 |
| 0.2L | 412.50 | 412.81 | 413.04 | 413.26 | 413.45 | 413.44 | 413.31 | 413.12 | 412.93 | 412.70 | 412.39 |
| 0.3L | 412.42 | 412.74 | 412.96 | 413.19 | 413.38 | 413.36 | 413.24 | 413.05 | 412.86 | 412.63 | 412.32 |
| 0.4L | 412.35 | 412.67 | 412.89 | 413.12 | 413.31 | 413.29 | 413.17 | 412.98 | 412.79 | 412.56 | 412.25 |
| 0.5L | 412.28 | 412.60 | 412.82 | 413.05 | 413.24 | 413.22 | 413.09 | 412.91 | 412.72 | 412.49 | 412.17 |
| 0.6L | 412.21 | 412.52 | 412.75 | 412.98 | 413.16 | 413.15 | 413.02 | 412.83 | 412.65 | 412.42 | 412.10 |
| 0.7L | 412.14 | 412.45 | 412.68 | 412.91 | 413.09 | 413.08 | 412.95 | 412.76 | 412.57 | 412.35 | 412.03 |
| 0.8L | 412.07 | 412.38 | 412.61 | 412.84 | 413.02 | 413.01 | 412.88 | 412.69 | 412.50 | 412.28 | 411.96 |
| 0.9L | 412.00 | 412.31 | 412.54 | 412.76 | 412.95 | 412.94 | 412.81 | 412.62 | 412.43 | 412.20 | 411.89 |
| ℄ BRG SPAN 1 | 411.93 | 412.24 | 412.47 | 412.69 | 412.88 | 412.87 | 412.74 | 412.55 | 412.36 | 412.13 | 411.82 |
| ℄ BRG PIER 1 | 411.92 | 412.23 | 412.46 | 412.69 | 412.87 | 412.86 | 412.73 | 412.54 | 412.35 | 412.13 | 411.81 |
| ℄ BRG SPAN 2 | 411.91 | 412.23 | 412.45 | 412.68 | 412.87 | 412.85 | 412.73 | 412.54 | 412.35 | 412.12 | 411.81 |
| 0.1L | 411.84 | 412.16 | 412.38 | 412.61 | 412.80 | 412.78 | 412.66 | 412.47 | 412.28 | 412.05 | 411.74 |
| 0.2L | 411.77 | 412.09 | 412.31 | 412.54 | 412.73 | 412.71 | 412.58 | 412.40 | 412.21 | 411.98 | 411.66 |
| 0.3L | 411.70 | 412.02 | 412.24 | 412.47 | 412.66 | 412.64 | 412.51 | 412.33 | 412.14 | 411.91 | 411.59 |
| 0.4L | 411.63 | 411.94 | 412.17 | 412.40 | 412.58 | 412.57 | 412.44 | 412.25 | 412.07 | 411.84 | 411.52 |
| 0.5L | 411.56 | 411.87 | 412.10 | 412.33 | 412.51 | 412.50 | 412.37 | 412.18 | 412.00 | 411.77 | 411.45 |
| 0.6L | 411.49 | 411.80 | 412.03 | 412.26 | 412.44 | 412.43 | 412.30 | 412.11 | 411.92 | 411.70 | 411.38 |
| 0.7L | 411.42 | 411.73 | 411.96 | 412.19 | 412.37 | 412.36 | 412.23 | 412.04 | 411.85 | 411.63 | 411.31 |
| 0.8L | 411.35 | 411.66 | 411.89 | 412.12 | 412.30 | 412.29 | 412.16 | 411.97 | 411.78 | 411.56 | 411.24 |
| 0.9L | 411.28 | 411.59 | 411.82 | 412.05 | 412.23 | 412.22 | 412.09 | 411.90 | 411.71 | 411.49 | 411.17 |
| ℄ BRG SPAN 2 | 411.21 | 411.52 | 411.75 | 411.97 | 412.16 | 412.15 | 412.02 | 411.83 | 411.64 | 411.42 | 411.10 |
| ℄ BRG PIER 2 | 411.20 | 411.51 | 411.74 | 411.97 | 412.16 | 412.14 | 412.01 | 411.82 | 411.64 | 411.41 | 411.09 |
| ℄ BRG SPAN 3 | 411.20 | 411.51 | 411.74 | 411.96 | 412.15 | 412.14 | 412.01 | 411.82 | 411.63 | 411.40 | 411.09 |
| 0.1L | 411.12 | 411.44 | 411.66 | 411.89 | 412.08 | 412.06 | 411.94 | 411.75 | 411.56 | 411.33 | 411.02 |
| 0.2L | 411.05 | 411.37 | 411.59 | 411.82 | 412.01 | 411.99 | 411.87 | 411.68 | 411.49 | 411.26 | 410.95 |
| 0.3L | 410.98 | 411.29 | 411.52 | 411.75 | 411.94 | 411.92 | 411.79 | 411.61 | 411.42 | 411.19 | 410.87 |
| 0.4L | 410.91 | 411.22 | 411.45 | 411.68 | 411.86 | 411.85 | 411.72 | 411.53 | 411.35 | 411.12 | 410.80 |
| 0.5L | 410.84 | 411.15 | 411.38 | 411.61 | 411.79 | 411.78 | 411.65 | 411.46 | 411.27 | 411.05 | 410.73 |
| 0.6L | 410.77 | 411.08 | 411.31 | 411.54 | 411.72 | 411.71 | 411.58 | 411.39 | 411.20 | 410.98 | 410.66 |
| 0.7L | 410.70 | 411.01 | 411.24 | 411.46 | 411.65 | 411.64 | 411.51 | 411.32 | 411.13 | 410.90 | 410.59 |
| 0.8L | 410.63 | 410.94 | 411.17 | 411.39 | 411.58 | 411.57 | 411.44 | 411.25 | 411.06 | 410.83 | 410.52 |
| 0.9L | 410.55 | 410.87 | 411.09 | 411.32 | 411.51 | 411.50 | 411.37 | 411.18 | 410.99 | 410.76 | 410.45 |
| ℄ BRG PIER 3 | 410.48 | 410.80 | 411.02 | 411.25 | 411.44 | 411.42 | 411.30 | 411.11 | 410.92 | 410.69 | 410.38 |

## NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEETS 1-6.
2. FOR GENERAL NOTES, SEE SHEETS 13-16.
3. FOR VERTICAL CURVE DATA, SEE SHEET 1.
4. DECK ELEVATIONS PROVIDED ON THIS SHEET REPRESENT THE DECK FINISHED CONDITION.
5. FINISHED DECK ELEVATIONS PUBLISHED ON THIS SHEET DO NOT INCLUDE ⅜" OVERLAY. OVERLAY WILL BE ON TOP OF THE FINISHED DECK AND ACCORDING TO SPECIAL PROVISION 9000-0122.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# WEST APPROACH SPANS TYPICAL SECTION & DECK ELEVATION TABLES-2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019 9

SHEET 85 OF 295

S-38014

DES: SAT | DWN: SAT | CKD: XIH

FILENAME: E02657-S38014-BR-TS-WEST-02.dgn
OPERATOR: ASengupta

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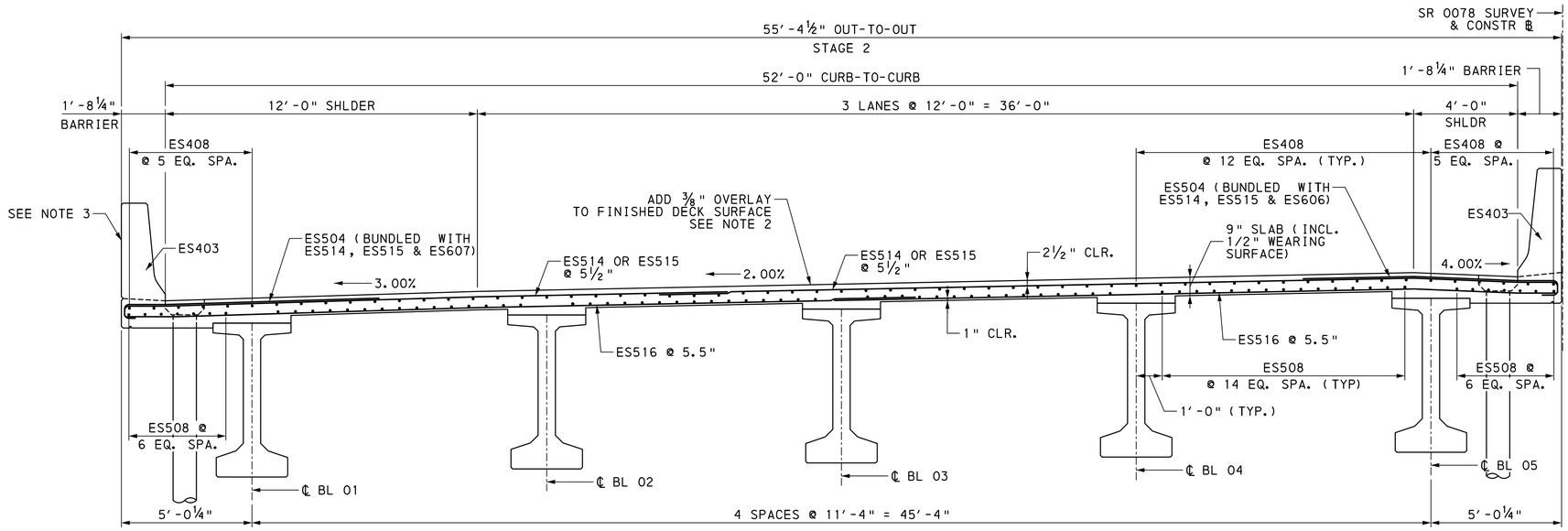
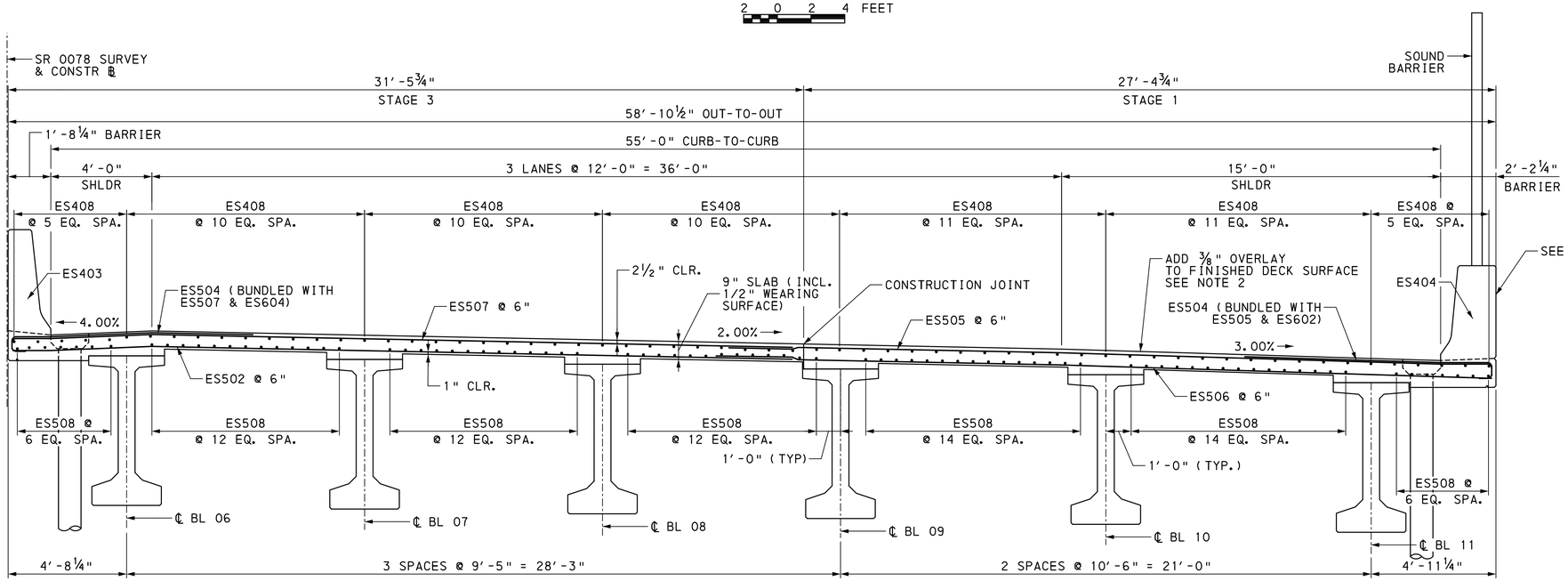



## DECK REINFORCING (WESTBOUND)

2 0 2 4 FEET




## DECK REINFORCING (EASTBOUND)

2 0 2 4 FEET

### NOTES:

1. FOR DECK REINFORCING BAR SCHEDULE, SEE SHEETS 117 THROUGH 120.
2. FOR DECK OVERLAY SEE SPECIAL PROVISION 9000-0122.
3. FOR BARRIER REINFORCEMENT SEE SHEET 103.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

EAST APPROACH SPANS
TYPICAL DECK SECTION

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019 )19

SHEET 86 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-S38014-DK-EAST-SN-01.dgn
OPERATOR: ASengupta

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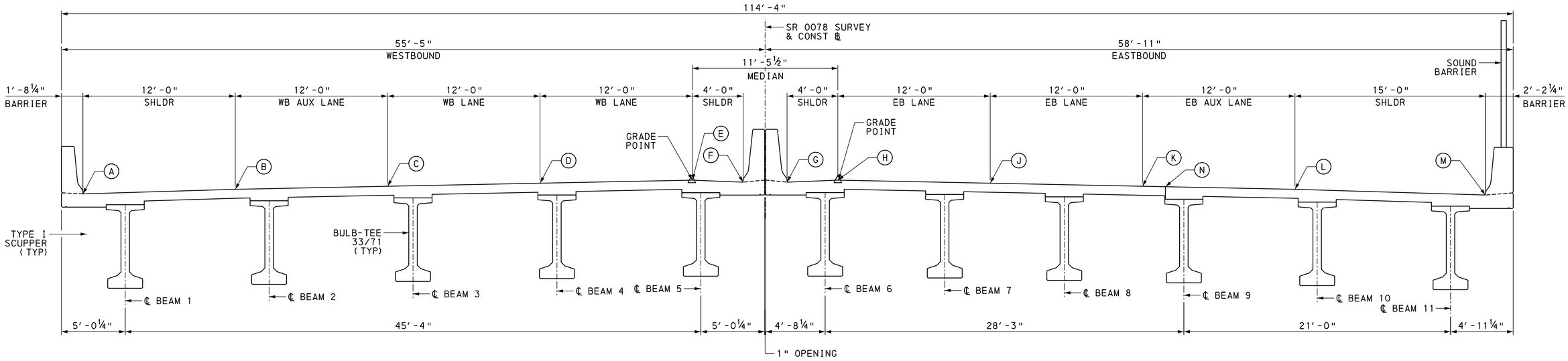



## PROPOSED TYPICAL SECTION - EAST APPROACH

2 0 4 8 FEET

## FINISHED DECK ELEVATIONS OVER ℄ BEAMS

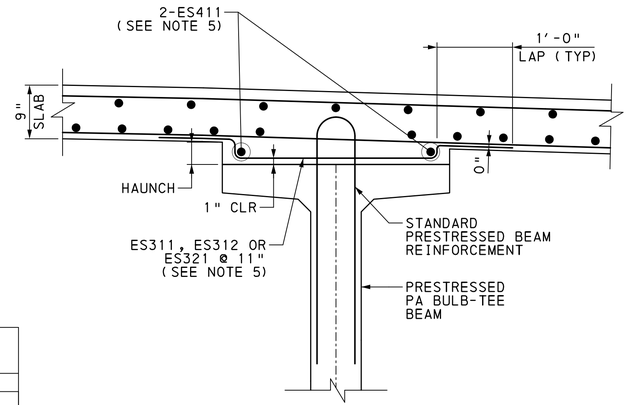
| LOCATION | BEAM NUMBER | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| ℄ BRG PIER 11 | 402.52 | 402.84 | 403.06 | 403.29 | 403.48 | 403.47 | 403.34 | 403.15 | 402.96 | 402.73 | 402.42 |
| 0.1L | 402.45 | 402.76 | 402.99 | 403.22 | 403.41 | 403.40 | 403.27 | 403.08 | 402.89 | 402.66 | 402.34 |
| 0.2L | 402.38 | 402.69 | 402.92 | 403.15 | 403.34 | 403.32 | 403.19 | 403.00 | 402.82 | 402.59 | 402.27 |
| 0.3L | 402.31 | 402.62 | 402.85 | 403.08 | 403.27 | 403.25 | 403.12 | 402.93 | 402.74 | 402.52 | 402.20 |
| 0.4L | 402.24 | 402.55 | 402.78 | 403.01 | 403.19 | 403.18 | 403.05 | 402.86 | 402.67 | 402.45 | 402.13 |
| 0.5L | 402.17 | 402.48 | 402.71 | 402.93 | 403.12 | 403.11 | 402.98 | 402.79 | 402.60 | 402.37 | 402.06 |
| 0.6L | 402.09 | 402.41 | 402.63 | 402.86 | 403.05 | 403.04 | 402.91 | 402.72 | 402.53 | 402.30 | 401.99 |
| 0.7L | 402.02 | 402.34 | 402.56 | 402.79 | 402.98 | 402.97 | 402.84 | 402.65 | 402.46 | 402.23 | 401.91 |
| 0.8L | 401.95 | 402.26 | 402.49 | 402.72 | 402.91 | 402.89 | 402.77 | 402.58 | 402.39 | 402.16 | 401.84 |
| 0.9L | 401.88 | 402.19 | 402.42 | 402.65 | 402.84 | 402.82 | 402.69 | 402.50 | 402.31 | 402.09 | 401.77 |
| ℄ BRG ABUT 2 | 401.81 | 402.12 | 402.35 | 402.58 | 402.76 | 402.75 | 402.62 | 402.43 | 402.24 | 402.02 | 401.70 |

## FINISHED DECK ELEVATIONS

| STATION | WESTBOUND | | | | | | EASTBOUND | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | M | N |
| 3061+70.62 | 402.35 | 402.71 | 402.95 | 403.19 | 403.44 | 403.27 | 403.27 | 403.44 | 403.19 | 402.95 | 402.71 | 402.26 | 402.92 |
| 3061+82.14 | 402.28 | 402.64 | 402.88 | 403.12 | 403.36 | 403.20 | 403.20 | 403.36 | 403.12 | 402.88 | 402.64 | 402.19 | 402.84 |
| 3061+93.65 | 402.21 | 402.57 | 402.81 | 403.05 | 403.29 | 403.13 | 403.13 | 403.29 | 403.05 | 402.81 | 402.57 | 402.12 | 402.77 |
| 3062+05.16 | 402.14 | 402.50 | 402.74 | 402.98 | 403.22 | 403.06 | 403.06 | 403.22 | 402.98 | 402.74 | 402.50 | 402.05 | 402.70 |
| 3062+16.67 | 402.07 | 402.43 | 402.67 | 402.91 | 403.15 | 402.99 | 402.99 | 403.15 | 402.91 | 402.67 | 402.42 | 401.97 | 402.63 |
| 3062+28.19 | 401.99 | 402.35 | 402.60 | 402.84 | 403.08 | 402.92 | 402.92 | 403.08 | 402.84 | 402.59 | 402.35 | 401.90 | 402.56 |
| 3062+39.70 | 401.92 | 402.28 | 402.52 | 402.76 | 403.01 | 402.84 | 402.84 | 403.01 | 402.76 | 402.52 | 402.28 | 401.83 | 402.49 |
| 3062+51.21 | 401.85 | 402.21 | 402.45 | 402.69 | 402.93 | 402.77 | 402.77 | 402.93 | 402.69 | 402.45 | 402.21 | 401.76 | 402.42 |
| 3062+62.72 | 401.78 | 402.14 | 402.38 | 402.62 | 402.86 | 402.70 | 402.70 | 402.86 | 402.62 | 402.38 | 402.14 | 401.69 | 402.34 |

## FINISHED DECK ELEVATIONS

| LOCATION | STATION | WESTBOUND | | | | | | EASTBOUND | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | F | G | H | J | K | L | M | N |
| | | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. | ELEV. |
| CL BRG. PIER 11 | 3061+59.11 | 402.42 | 402.78 | 403.02 | 403.27 | 403.51 | 403.35 | 403.35 | 403.51 | 403.27 | 403.02 | 402.78 | 402.33 | 402.99 |
| CL BRG. ABUT 2 | 3062+74.24 | 401.71 | 402.07 | 402.31 | 402.55 | 402.79 | 402.63 | 402.63 | 402.79 | 402.55 | 402.31 | 402.07 | 401.62 | 402.27 |




## HAUNCH REINFORCEMENT DETAIL

6 0 6 12 INCHES

## NOTES:

1. FOR GENERAL PLAN AND ELEVATION, SEE SHEETS 1-6.
2. FOR GENERAL NOTES, SEE SHEETS 13-16.
3. FOR VERTICAL CURVE DATA, SEE SHEET 1.
4. DECK ELEVATIONS PROVIDED ON THIS SHEET REPRESENT THE DECK FINISHED CONDITION.
5. PROVIDE WHEN HAUNCH THICKNESS IS 5" OR GREATER ANYWHERE ACROSS WIDTH OF HAUNCH WITH SIP FORMS FOR INTERIOR BAYS. PROVIDE WHEN 3" OR GREATER ANYWHERE ACROSS WIDTH OF HAUNCH WITH REMOVABLE FORMS FOR INTERIOR BAYS.
6. FINISHED DECK ELEVATIONS PUBLISHED ON THIS SHEET DO NOT INCLUDE THE ⅜" OVERLAY. OVERLAY WILL BE ON TOP OF THE FINISHED DECK AND ACCORDING TO SPECIAL PROVISION 9000-0122.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# EAST APPROACH SPANS TYPICAL SECTION AND DECK ELEVATION TABLES

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 87 OF 295

S-38014

DES: AKS | DWN: SIB | CKD: XIH

FILENAME: E02657-S38014-BR-TS-EAST-01.dgn
OPERATOR: ASengupta

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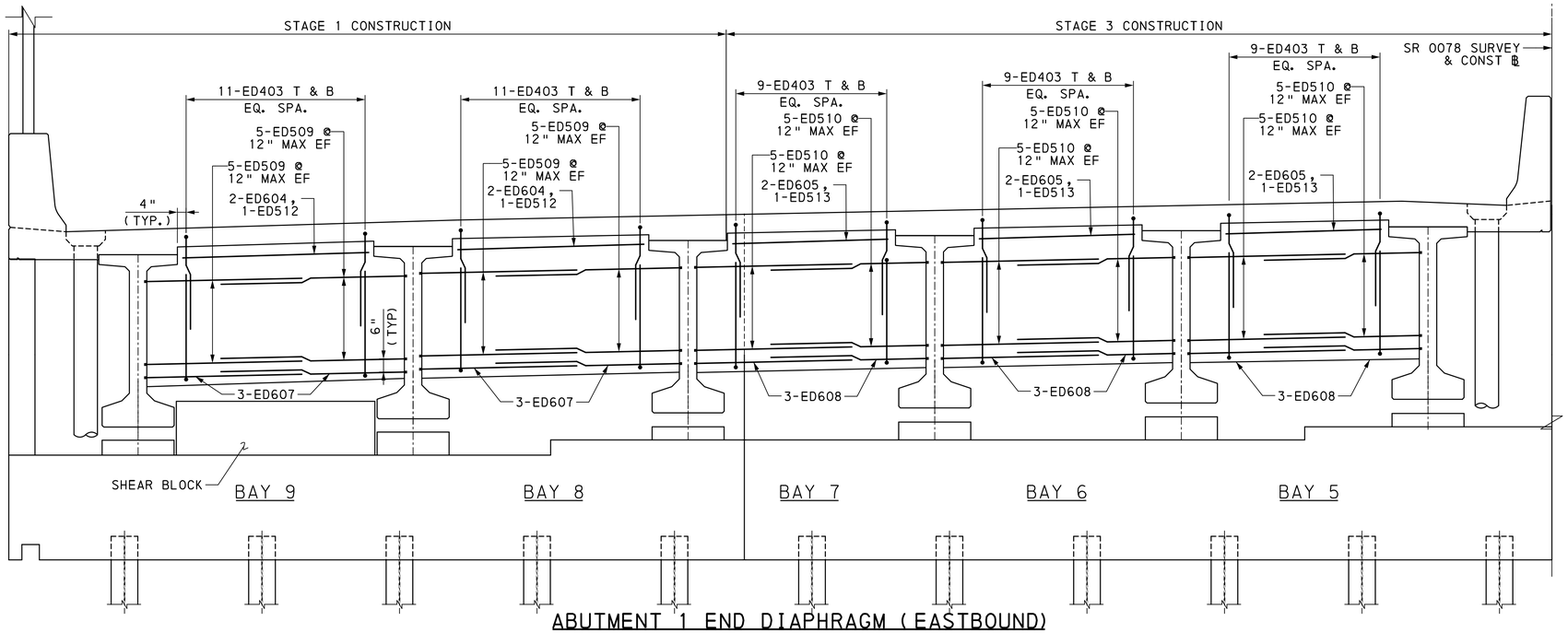
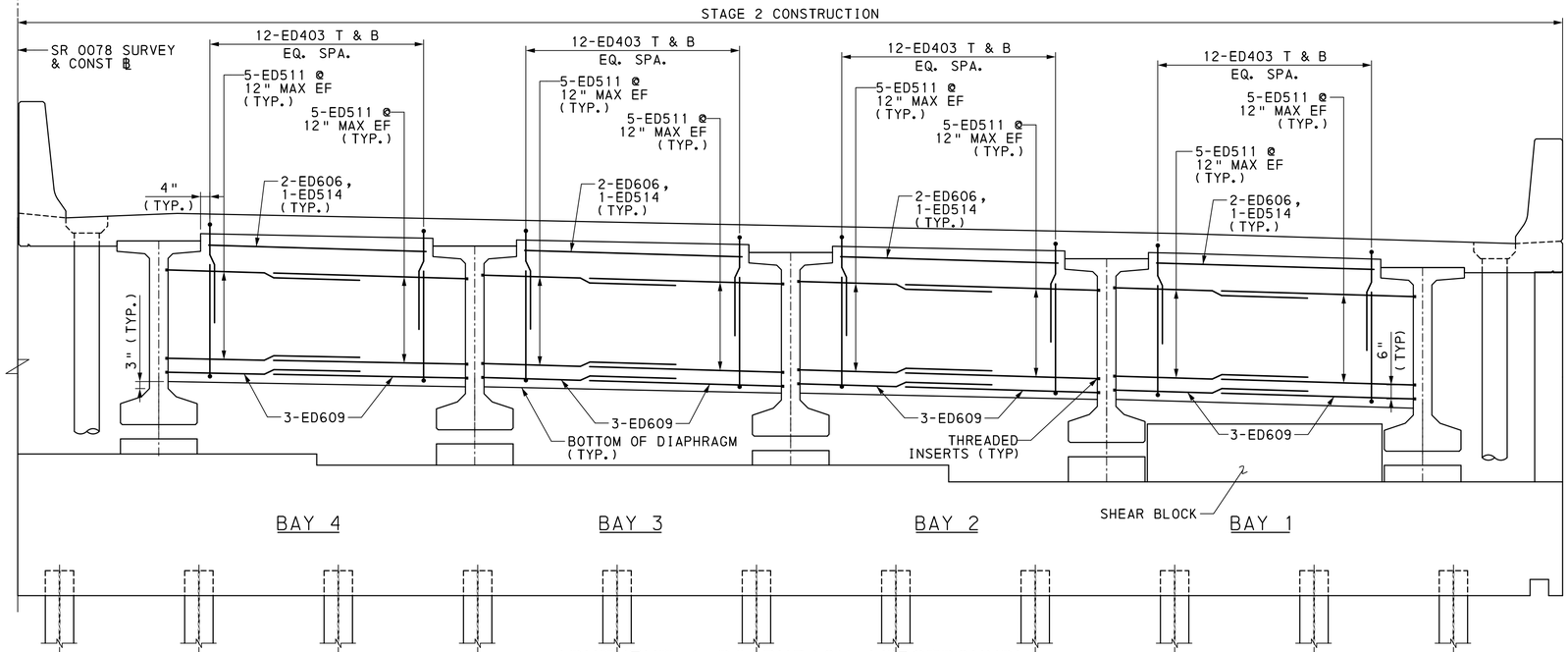



## ABUTMENT 1 END DIAPHRAGM (EASTBOUND)

(LOOKING STA. BEHIND)

2 0 2 4 FEET




## ABUTMENT 1 DIAPHRAGM (WESTBOUND)

(LOOKING STA. BEHIND)

2 0 2 4 FEET

| BAR | LAP LENGTH |
|---|---|
| #4 | 2′-1" |
| #5 | 3′-4" |
| #6 | 3′-11" |

## NOTES:

1. PLACE BAY 7 DIAPHRAGMS DURING STAGE 3 CONSTRUCTION.
2. FOR LOCATION OF LONGITUDINAL DECK SLAB BARS WITH RESPECT TO EXPANSION DAM, SEE BC-762M AND BC-767M.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
WEST APPROACH SPANS
ABUTMENT 1 DIAPHRAGM DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019 9

SHEET 88 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

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OPERATOR: ASengupta

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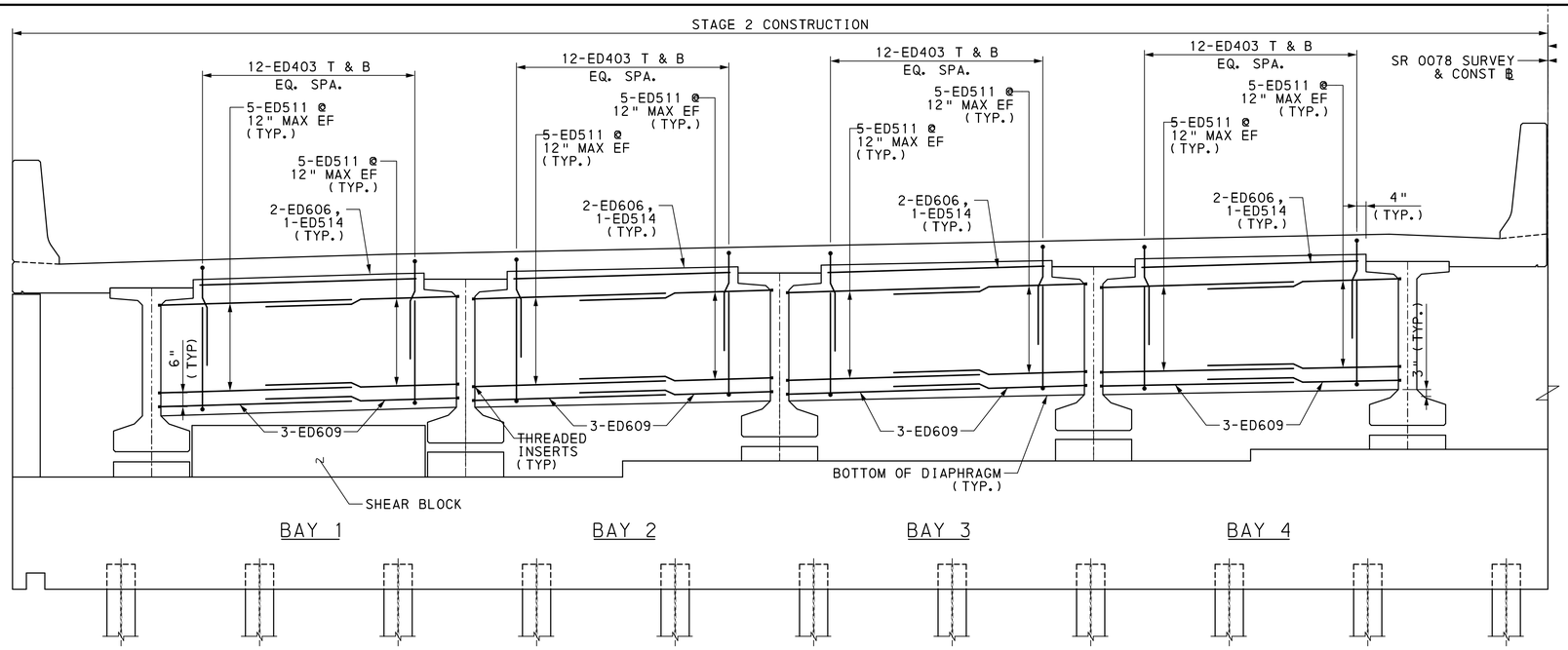
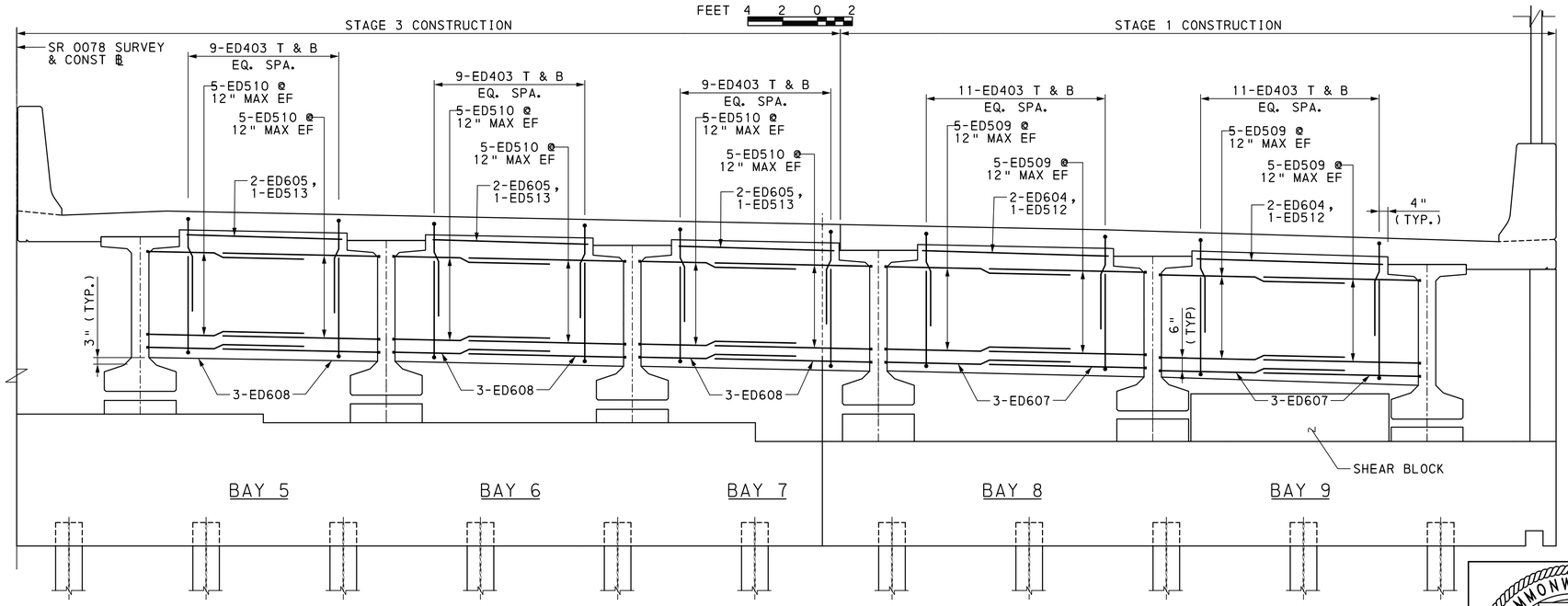



## ABUTMENT 2 END DIAPHRAGM (WESTBOUND)

(LOOKING STA. AHEAD)

FEET 4 2 0 2




## ABUTMENT 2 END DIAPHRAGM (EASTBOUND)

(LOOKING STA. AHEAD)

FEET 4 2 0 2

| BAR | LAP LENGTH |
|---|---|
| #4 | 2'-1" |
| #5 | 3'-4" |
| #6 | 3'-11" |

## NOTES:

1. SEE NOTES IN SHEET 88.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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APPROACH SPANS 1-3 AND 12
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ABUTMENT 2 DIAPHRAGM DETAILS

COMMONWEALTH OF PENNSYLVANIA
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ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 89 OF 295

S-38014

DES: SAT | DWN: SAT | CKD: AKS

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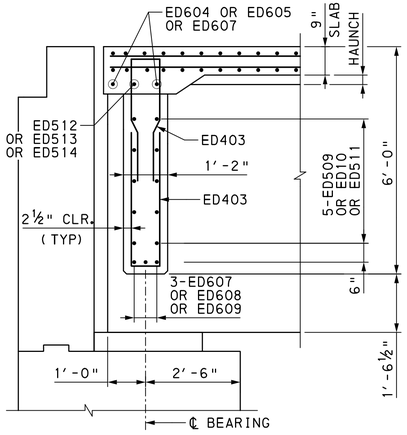
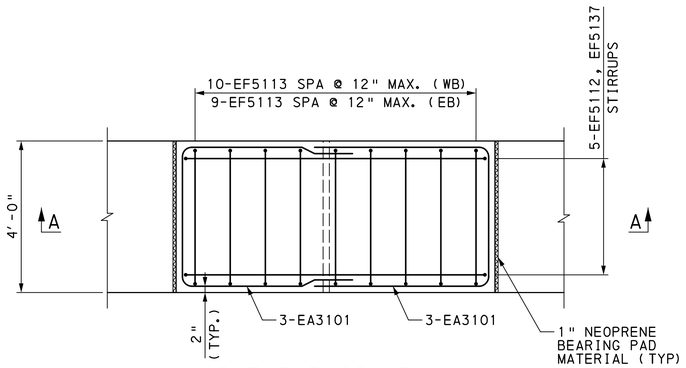


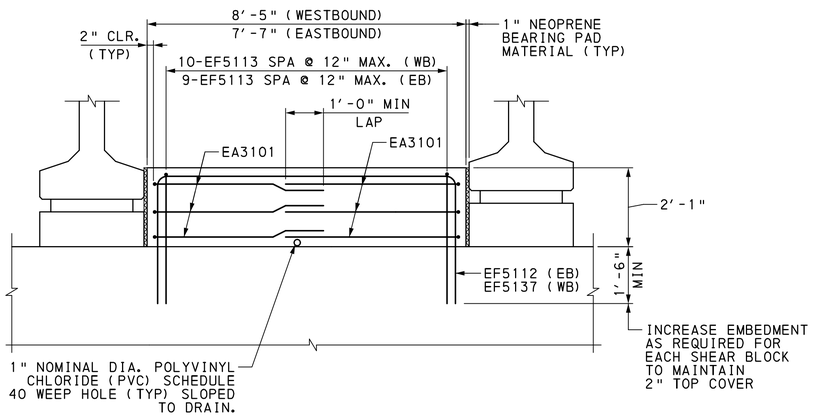

## ABUTMENT 1 TYPICAL DIAPHRAGM

1 0 1 2 FEET



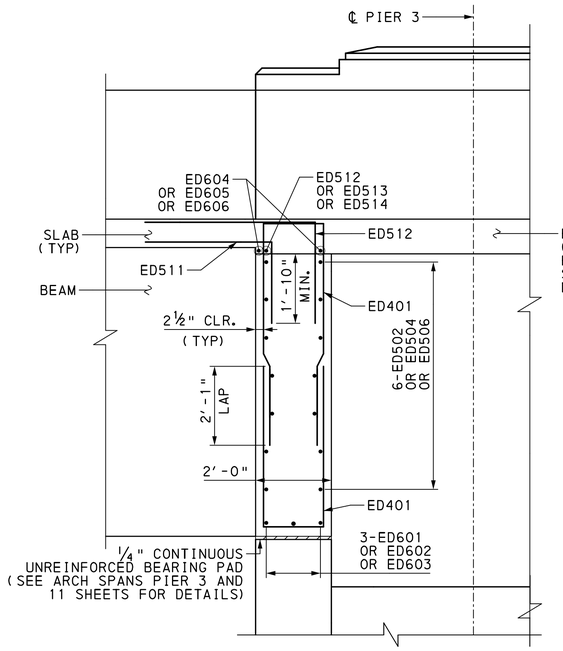

## SHEAR BLOCK PLAN

1 0 1 2 FEET



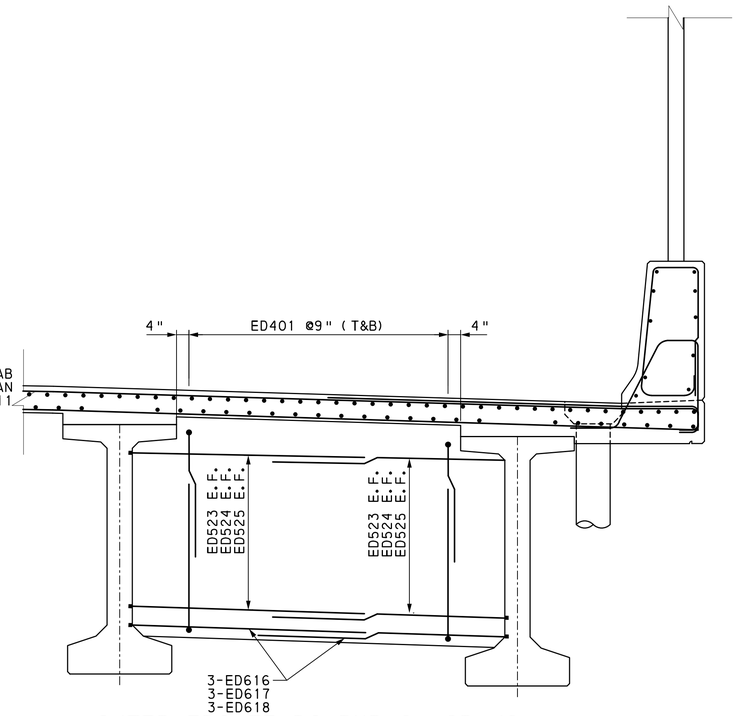

## SECTION A-A

1 0 1 2 FEET



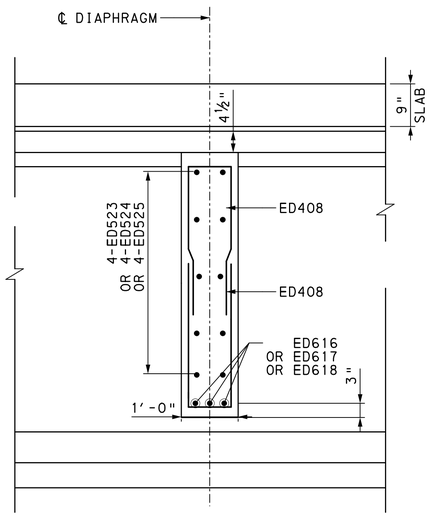

## PIER 3 FULL DEPTH DIAPHRAGM TYPICAL SECTION

1 0 1 2 FEET




## INTERMEDIATE DIAPHRAGM SPANS

1 0 1 2 FEET




## INTERMEDIATE DIAPHRAGM TYPICAL SECTION

12 0 12 INCHES

## NOTES:

1. THIS SHEET SHOWS DETAILS FOR PIER 3 FULL DEPTH DIAPHRAGM. FOR OTHER CONSTRUCTION DETAILS OF PIER SLAB, EXPANSION JOINT SEE ARCH SHEETS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# WEST APPROACH SPANS
# DIAPHRAGM TYPICAL SECTIONS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 90 OF 295

S-38014

| DES: DG | DWN: DG | CKD: AKS |
|---|---|---|

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OPERATOR: ASengupta

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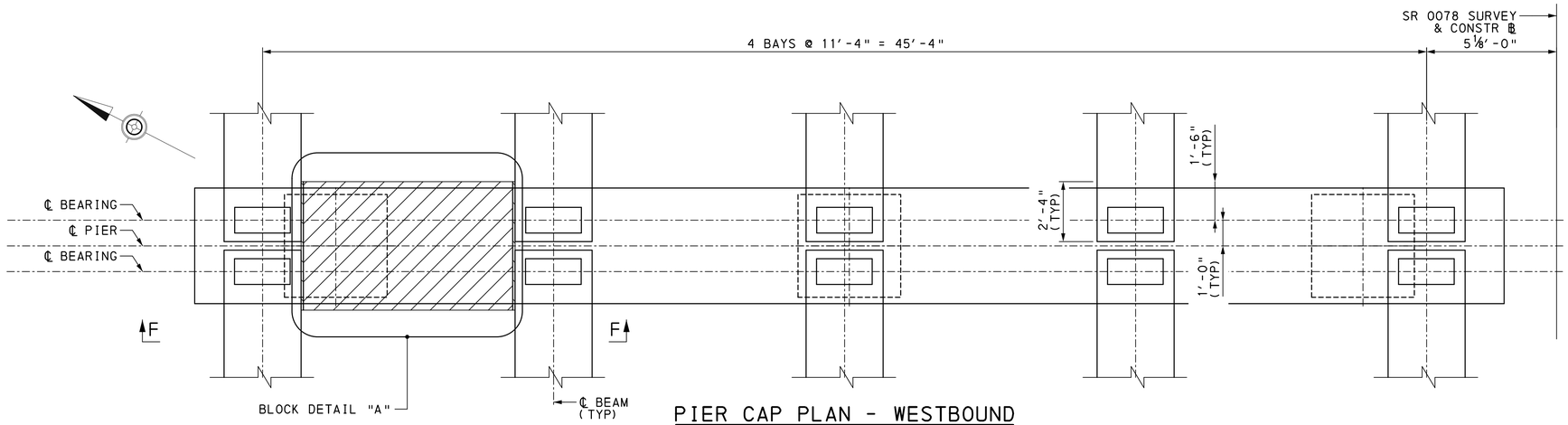
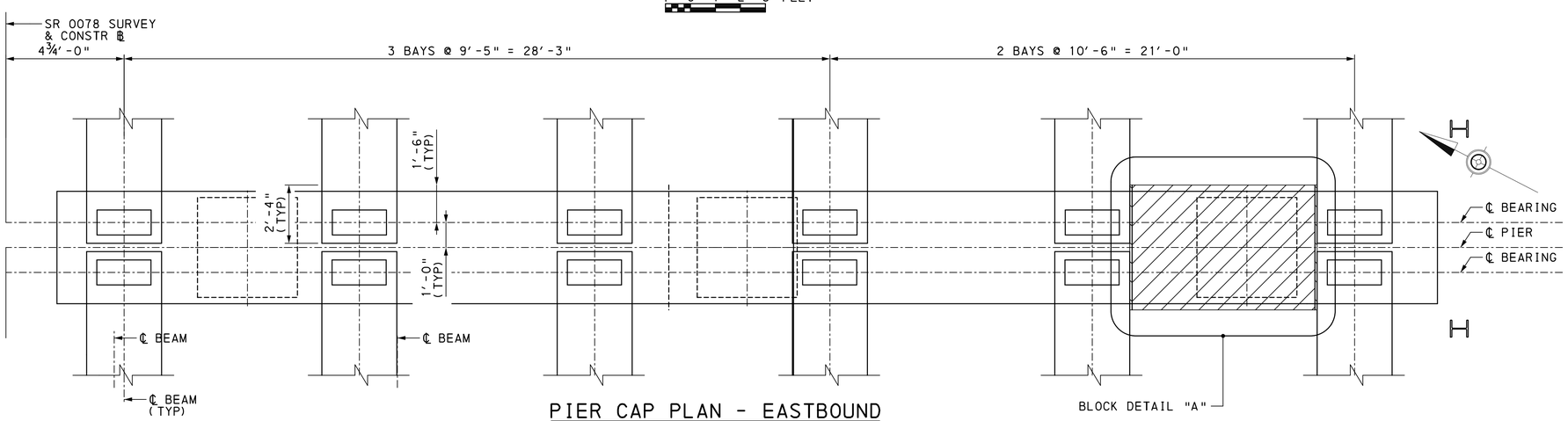


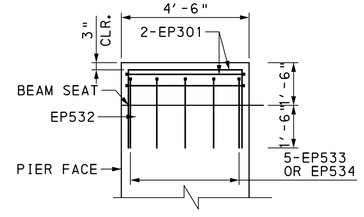

## PIER CAP PLAN - WESTBOUND

1 0 1 2 3 FEET



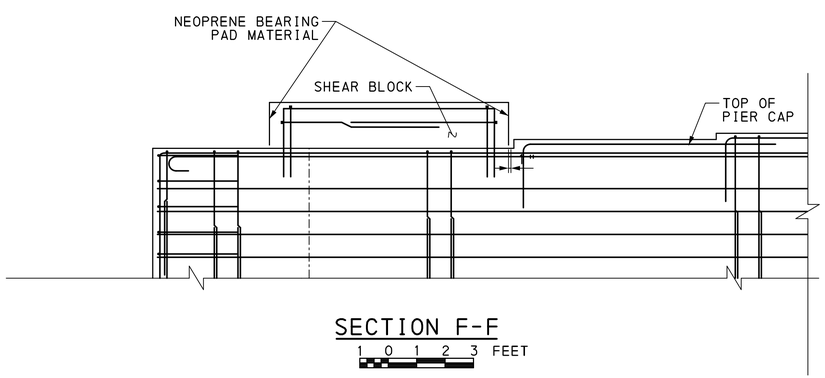

## PIER CAP PLAN - EASTBOUND

1 0 1 2 3 FEET



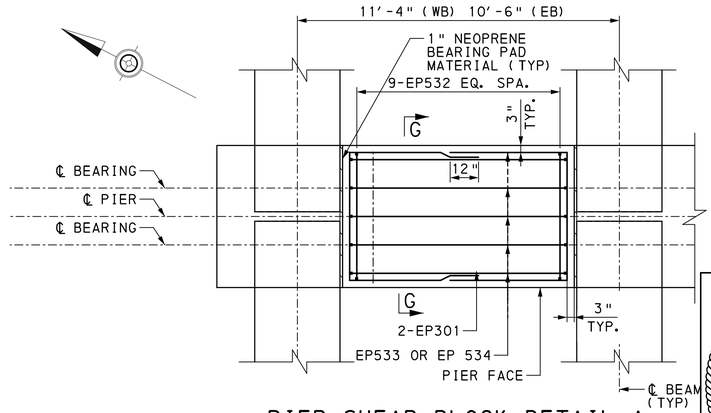

## SECTION G-G

1 0 1 2 3 FEET




## SECTION F-F

1 0 1 2 3 FEET




## PIER SHEAR BLOCK DETAIL A
## PLAN VIEW

1 0 1 2 3 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# WEST APPROACH SPANS
# SHEAR BLOCK DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 91 OF 295

S-38014

DES: AMF | DWN: ERT | CKD: AKS

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OPERATOR: ASengupta

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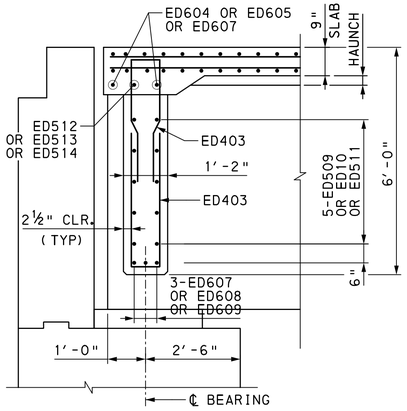
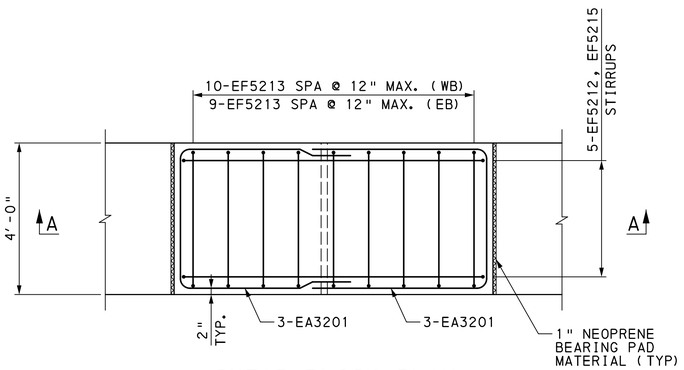


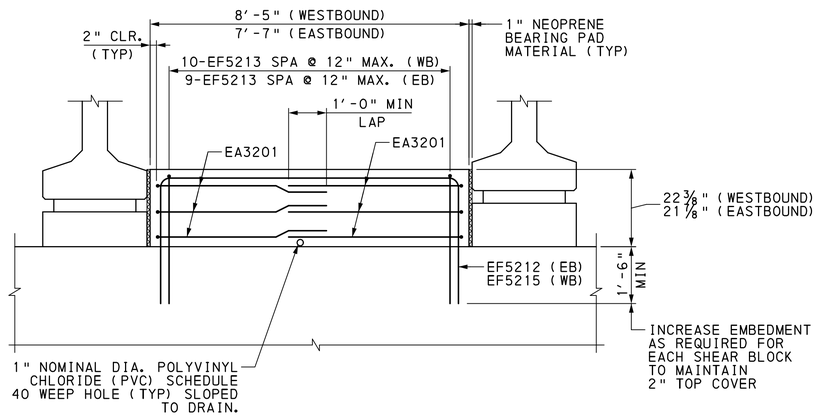

## ABUTMENT 2 TYPICAL DIAPHRAGM

1 0 1 2 FEET



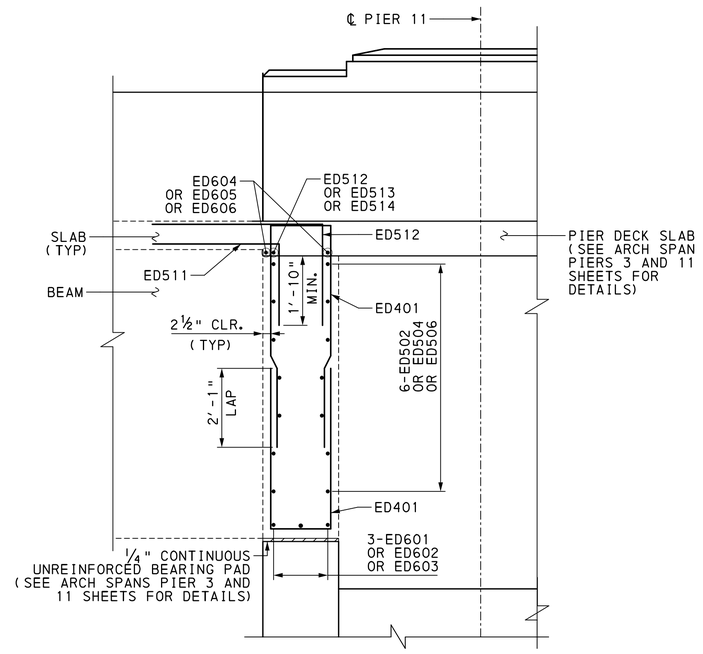

## SHEAR BLOCK PLAN

1 0 1 2 FEET




## SECTION A-A

1 0 1 2 FEET




## PIER 11 FULL DEPTH DIAPHRAGM TYPICAL SECTION

1 0 1 2 FEET

### NOTES:

1. THIS SHEET SHOWS DETAILS FOR PIER 3 FULL DEPTH DIAPHRAGM. FOR OTHER CONSTRUCTION DETAILS OF PIER SLAB, EXPANSION JOINT SEE ARCH SHEETS.
2. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE SHEET 90 .

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# EAST APPROACH SPANS
# DIAPHRAGM TYPICAL SECTIONS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 92 OF 295

S-38014

DES: DG | DWN: DG | CKD: AKS

FILENAME: E02657-S38014-DPM-DT-EAST-01.dgn
OPERATOR: ASengupta

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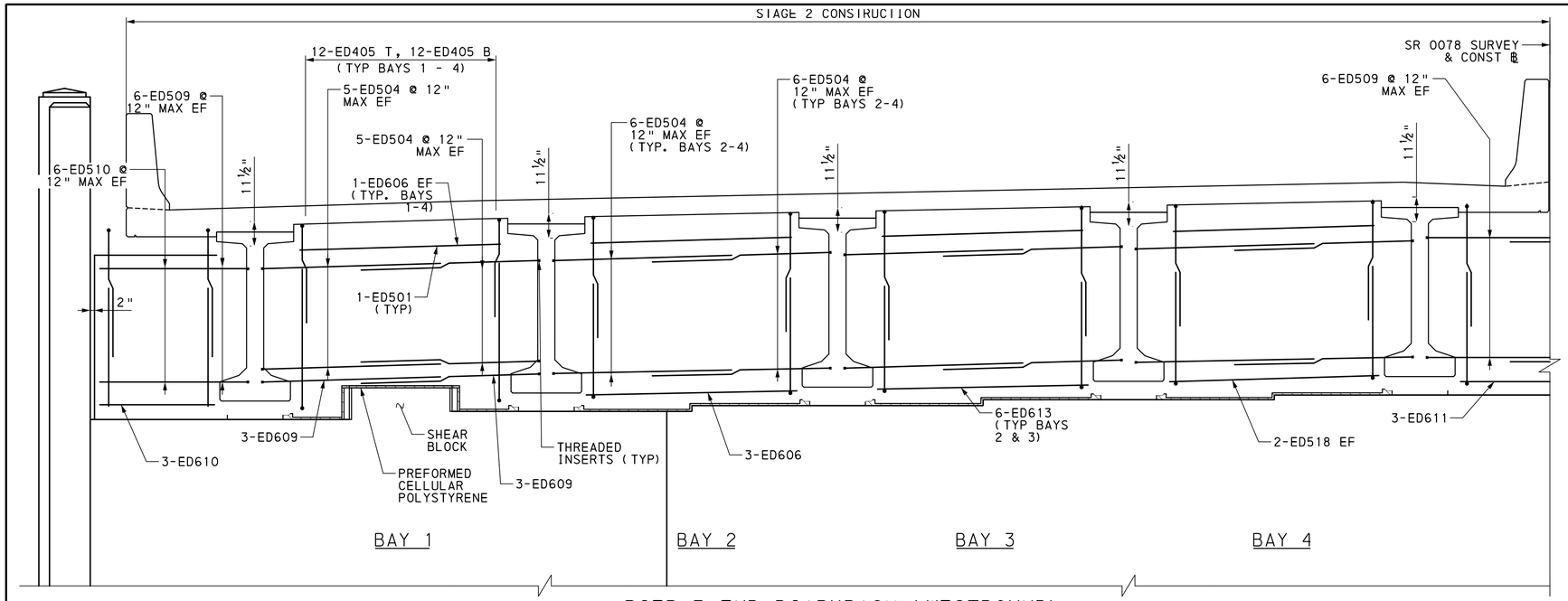
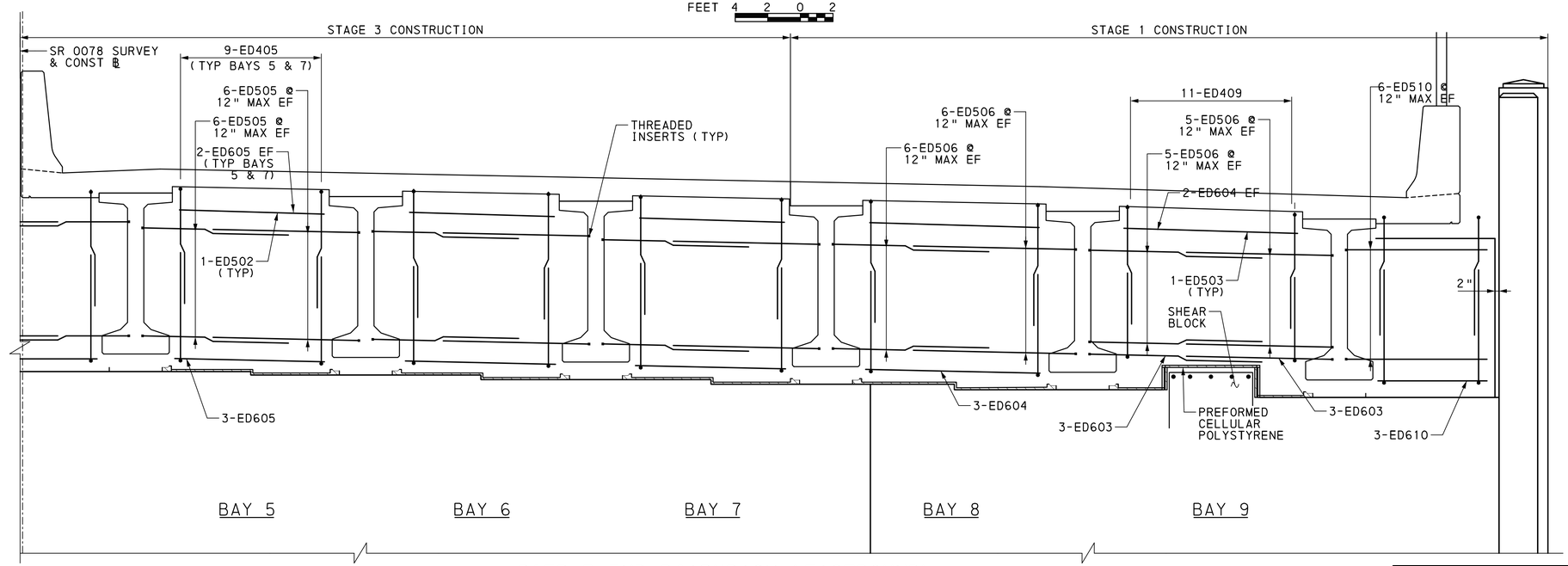



PIER 3 END DIAPHRAGM (WESTBOUND)

(LOOKING UPSTATION)

FEET 4 2 0 2

| BAR | LAP LENGTH |
|---|---|
| #4 | 2'-1" |
| #5 | 3'-4" |
| #6 | 3'-11" |




PIER 3 END DIAPHRAGM (EASTBOUND)

(LOOKING UPSTATION)

FEET 4 2 0 2

## NOTES:

1. FOR SHEAR BLOCK DETAILS, SEE ARCH SPAN SHEET XX.
2. PLACE BAY 7 DIAPHRAGMS DURING STAGE 3 CONSTRUCTION.

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

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

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P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
WEST APPROACH SPANS
PIER 3 DIAPHRAGM DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 93 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-PR03-DPM-DT-01.dgn
OPERATOR: ASengupta

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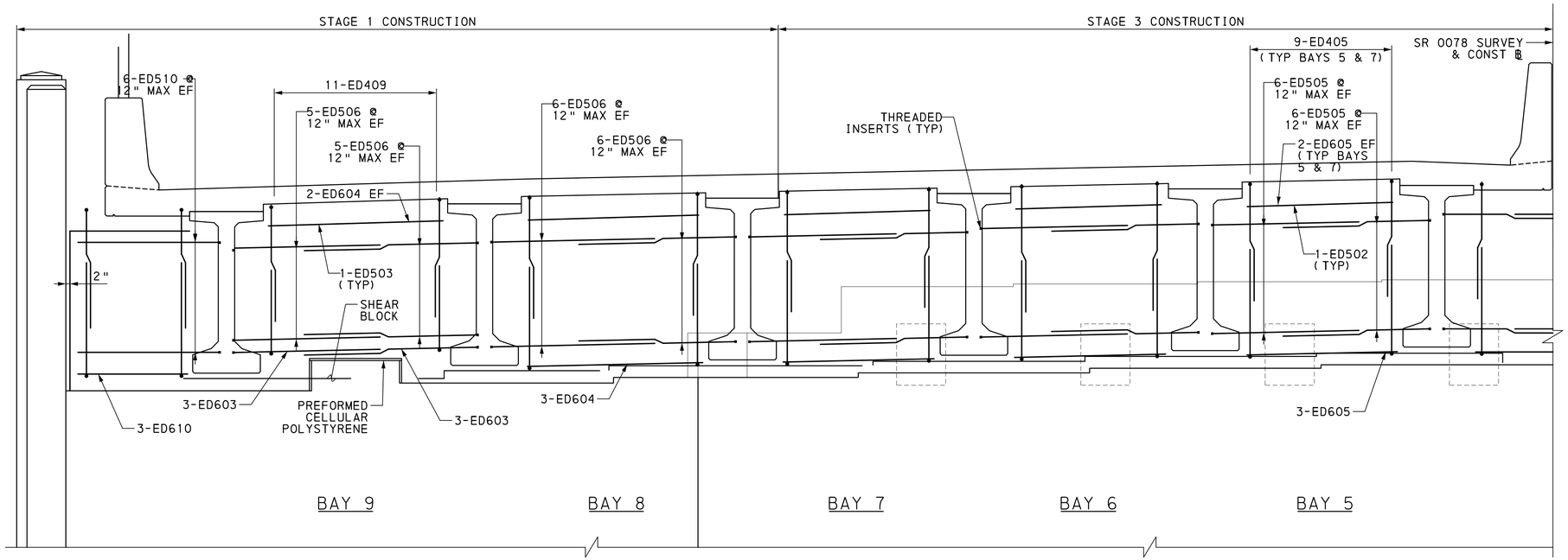
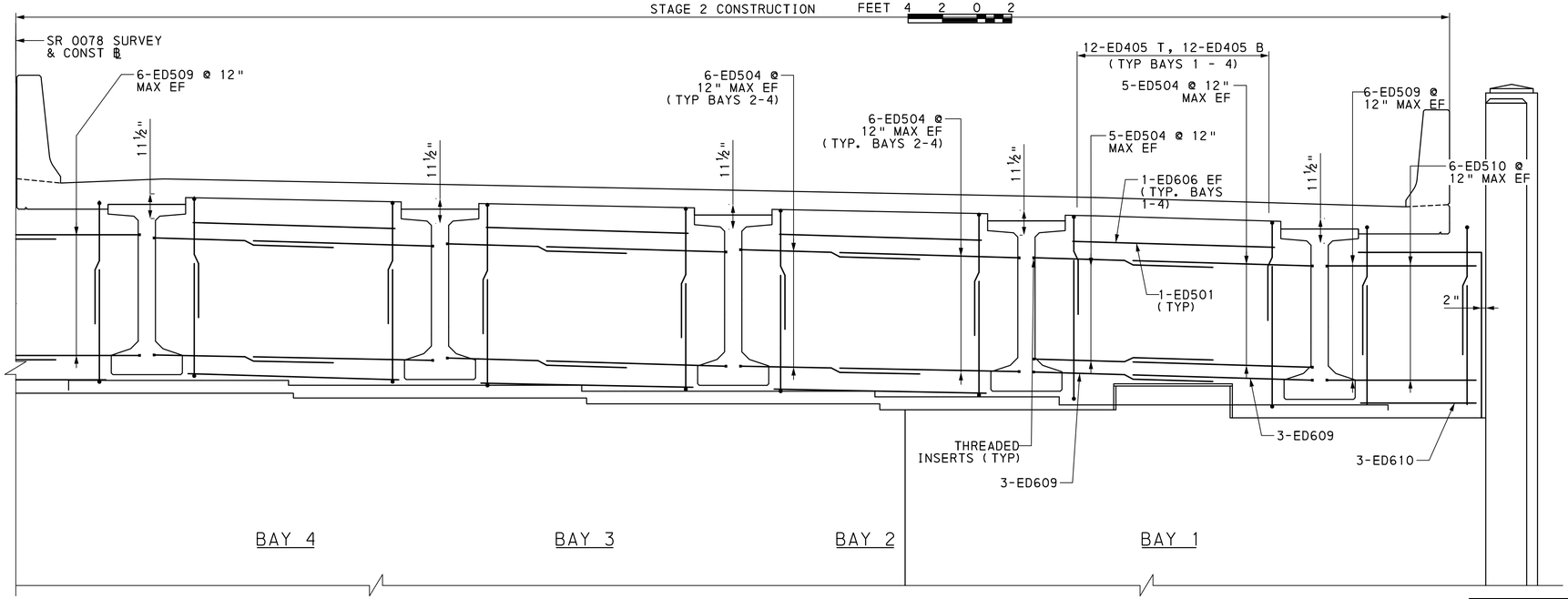



## PIER 11 END DIAPHRAGM (EASTBOUND)

(LOOKING DOWNSTATION)

FEET 4 2 0 2

| BAR | LAP LENGTH |
|---|---|
| #4 | 2′-1" |
| #5 | 3′-4" |
| #6 | 3′-11" |




## PIER 11 END DIAPHRAGM (WESTBOUND)

(LOOKING DOWNSTATION)

FEET 4 2 0 2

### NOTES:

1. FOR SHEAR BLOCK DETAILS, SEE ARCH SPAN SHEET XX.
2. PLACE BAY 7 DIAPHRAGMS DURING STAGE 3 CONSTRUCTION.

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

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COMMONWEALTH OF PENNSYLVANIA
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APPROACH SPANS 1-3 AND 12
EAST APPROACH SPANS
PIER 11 DIAPHRAGM DETAILS

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ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 94 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-PR11-DPM-DT-01.dgn
OPERATOR: ASengupta

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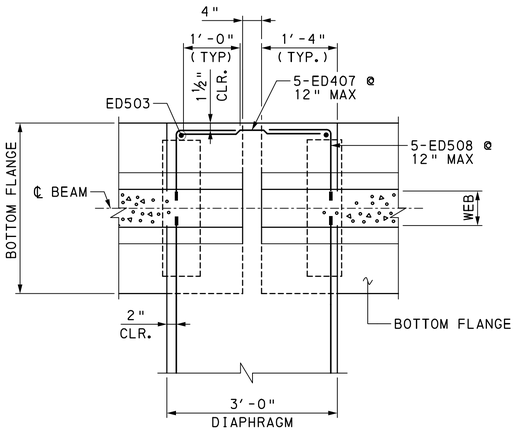
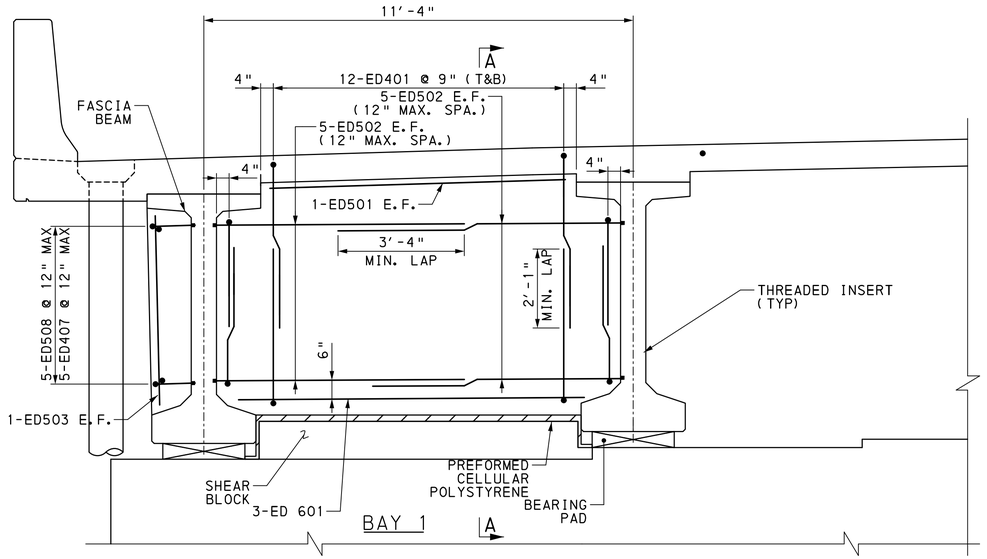


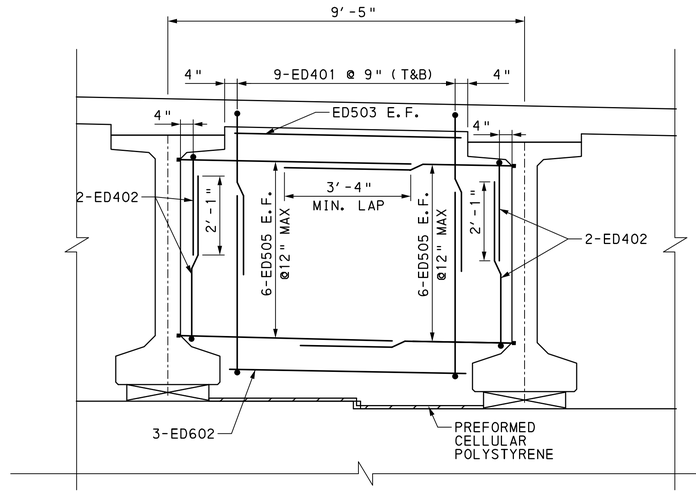

PLAN
TYPICAL DIAPHRAGM DETAIL
AT FASCIA BEAM

(TOP FLANGE NOT SHOWN FOR CLARITY
12 0 12 INCHES




DIAPHRAGM AT PIER - FULL DEPTH
(BAYS 2-4 SIMILAR)

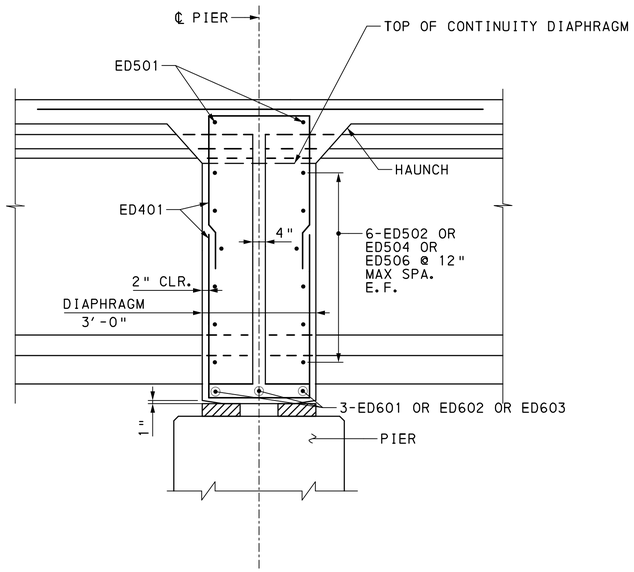
1 0 1 2 FEET




BAY 7

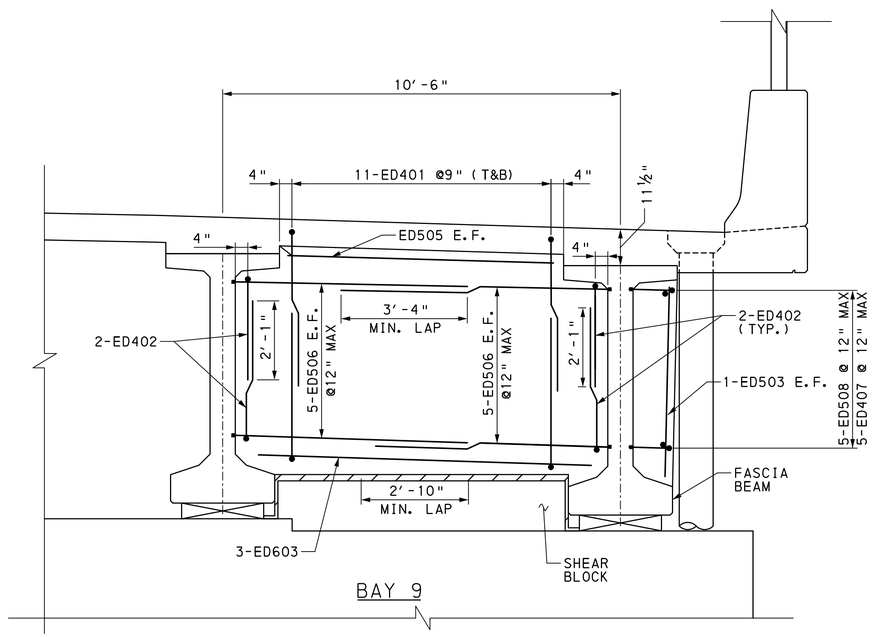
DIAPHRAGM AT PIER - FULL DEPTH
(BAYS 5 & 6 SIMILAR)

1 0 1 2 FEET




SECTION A-A

1 0 1 2 FEET




DIAPHRAGM AT PIER - FULL DEPTH
(BAY 8 SIMILAR)

1 0 1 2 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
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P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

TYPICAL PIER DIAPHRAGM DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 95 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-PR-DPM-01.dgn
OPERATOR: ASengupta

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## GENERAL NOTES:

1. ALL REINFORCEMENT STEEL BARS SHOWN MEET THE REQUIREMENTS OF ASTM A 615, A 996 OR A 706. DO NOT WELD GRADE 60 STEEL UNLESS SPECIFIED.
2. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 AND AASHTO/AWS WELDING SPECIFICATIONS.
3. PAINT ALL STEEL SURFACES WITH 3 COATS IN THE SHOP IN ACCORDANCE WITH SECTION 1060 OF PUBLICATION 408. GALVANIZED STEEL IN ACCORDANCE WITH SECTION 1105.02 (S) OF PUBLICATION 408 CAN BE USED AS AN ALTERNATE.
4. PROVIDE AASHTO M 270, GRADE 36 ASTM A 709 GRADE 36 FOR STEEL EXTRUSION UNLESS OTHERWISE SPECIFIED ON THE DESIGN DRAWINGS. ANCHOR STUDS TO BE IN ACCORDANCE WITH SECTION 1105.02(e) OF PUB 408. STUDS MAY BE PIGGY BACKED TO ACHIEVE REQUIRED LENGTH.
5. USE FLATHEAD STAINLESS STEEL ASTM F 738M OR F 593 (TYPE 304) FOR COUNTERSUNK SCREWS WITH INSERTS. ALL CONCRETE INSERTS AND M 20 COUNTERSUNK MACHINE SCREWS ARE ¾" DIAMETER UNLESS OTHERWISE NOTED.
6. USE THIS DRAWING AS A GUIDE IN THE PREPARATION OF SHOP DRAWINGS.
7. INSTALL CONTINUOUS NEOPRENE STRIP SEAL IN THE FIELD. SPLICING OF SEAL IS NOT PERMITTED. TEMPORARY SEAL MAY BE REQUIRED DEPENDING ON STAGES OF CONSTRUCTION.
8. CONSTRUCT EXPANSION DAM TO MATCH ROADWAY GRADE AND CROSS SLOPE.
9. PROVIDE ALL WELDING IN THE SHOP. PROVIDE NON-DESTRUCTIVE TESTING OF WELDS IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH AASHTO/AWS SPECIFICATIONS. EXPANSION DAMS GREATER THAN 40′ IN LENGTH, MAY, AT THE DISCRETION OF THE FABRICATOR, HAVE THE RETAINERS FOR THE STRIP SEALS WELDED IN THE FIELD. REFER TO NOTE 10 FOR SPECIAL REQUIREMENTS AND DETAILS FOR TRANSVERSE BUTT WELDS.
10. A LONGITUDINAL FULL PENETRATION WELD IS REQUIRED TO JOIN THE TOP AND BOTTOM (PLATE) OF THE RETAINER TOGETHER WHEN IT IS FURNISHED IN TWO PIECES; 25% OF THE WELD TO BE TESTED ULTRASONICALLY, AND IF DEFECTS ARE FOUND, 100% OF THE WELD TO BE TESTED. TRANSVERSE BUTT WELDS FOR SPLICING THE RETAINER TO BE PARTIAL PENETRATION DOUBLE V-GROOVE WELDS ON PREPARED BEVELED EDGES, EXTENDING ALL AROUND THE JOINT AS FAR AS PRACTICAL TO ACHIEVE A WATERTIGHT SEAL. FULL PENETRATION GROOVE WELD FOR SPLICING THE RETAINER IN LIEU OF PARTIAL PENETRATION DOUBLE V-GROOVE WELDS MAY BE USED IF SHOWN ON APPROVED SHOP DRAWINGS. DO NOT WELD INSIDE SEAL CAVITY. WHEREVER A TRANSVERSE JOINT OCCURS, TWO ADDITIONAL STUDS MUST BE ADDED ON EACH SIDE OF THE JOINT.
11. MOVEMENT CLASSIFICATION OF SEAL TO BE NOT LESS THAN THE CLASSIFICATION OF 3". ALL SEALS TO CONFORM TO THE REQUIREMENTS OF SECTION 705 OF PUBLICATION 408. OBTAIN APPROVAL FOR USE OF THE SEAL FROM THE CHIEF MATERIALS ENGINEER, LABORATORY TESTING SECTION, INNOVATION AND SUPPORT SERVICES DIVISION, BUREAU OF PROJECT DELIVERY.
12. FABRICATOR TO PROVIDE A CHART SHOWING JOINT OPENING FOR TEMPERATURES BETWEEN -10°F TO 110°F FOR STEEL STRUCTURES AND 10°F TO 100°F FOR P/S CONCRETE STRUCTURES, IN 10°F INTERVALS ON SHOP DRAWINGS. SET WIDTH @ 68°F. ALSO FURNISH MOVEMENT OF SEAL ON SKEW AND CERTIFY THAT SEAL IS CORRECT FOR DESIGN.
13. BOND NEOPRENE STRIP SEAL TO EXTRUSION WITH APPROVED ADHESIVE.
14. THE SEALS FURNISHED WITH THE RETAINERS MUST BE COMPATIBLE WITH THE RETAINER AND PROVIDE A WATERTIGHT JOINT.
15. PLACE CURBS AND SIDEWALKS WITH STEEL SLIDING PLATES, WITH INSERTS AND BOLTS IN PLACE TO INSURE PROPER ALIGNMENT OF INSERTS AND HOLES IN THE STEEL SLIDING PLATE. REMOVE PLATES TO INSTALL SEAL. APPLY BONDBREAKER TO SLIDING PLATES PRIOR TO INSTALLATION.
16. BEFORE PLACING BLOCKOUT CONCRETE, APPLY APPROVED EPOXY BONDING AGENT TO TRANSVERSE CONSTRUCTION JOINTS.
17. PLACE CLASS AAAP CEMENT CONCRETE IN THE BLOCKOUT AREA EXCEPT AS SPECIFIED OR INDICATED. THIS WORK IS INCIDENTAL TO CONCRETE DECK EXCEPT AS SPECIFIED OR INDICATED.
18. GRIND ALL STEEL EDGES EXPOSED TO TRAFFIC OR PEDESTRIANS TO 3/16" MIN. RADIUS.
19. EDGE OF DECK SURFACES SHOWN ARE OBTAINED WITH USE OF REMOVABLE WOOD FORMS. WHEN PERMANENT METAL FORMS ARE USED, PLACE FORM ON TOP OF STEEL END DIAPHRAGMS AND BEHIND EXPANSION DAM EXTRUSIONS WHICH WILL RESULT IN A RECESSED FRONT FACE BELOW EXTRUSIONS.

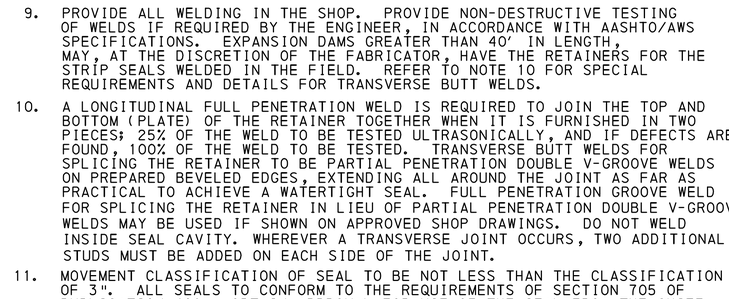



FIGURE 1

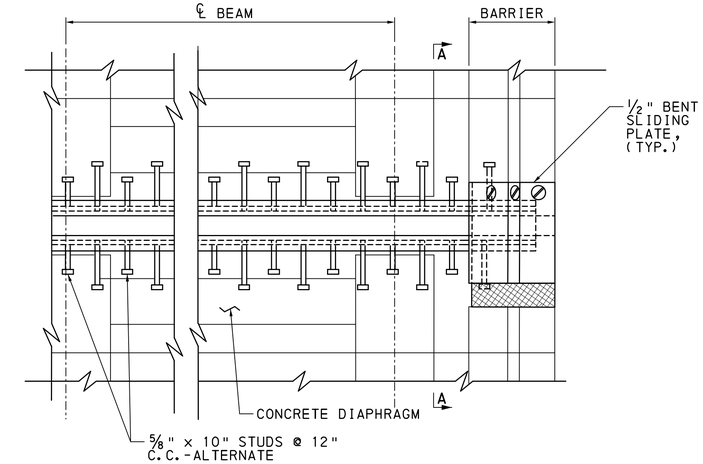


FIGURE 2

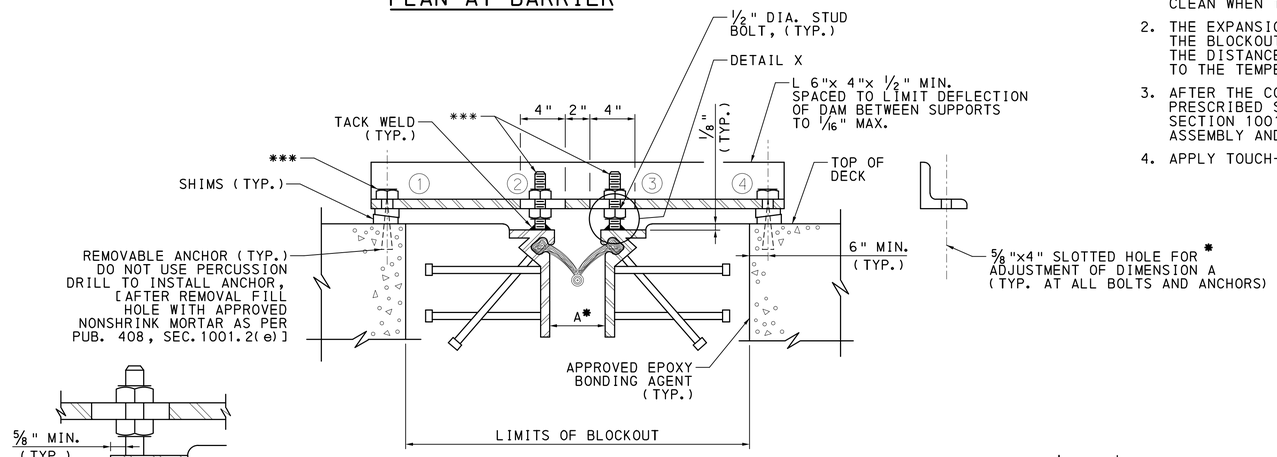


FIGURE 3

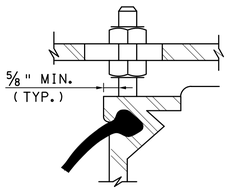
## STRIP SEAL INSTALLATION PROCEDURE




## PLAN AT BARRIER




**CONCEPTUAL SKETCH ****




## DETAIL X

## JOINT INSTALLATION SCHEME
(SEE JOINT INSTALLATION NOTES)

## JOINT INSTALLATION NOTES:

* TO BE ADJUSTED FOR INSTALLATION TEMPERATURE FOR SPECIFIC MOVEMENT CLASSIFICATION.

** CONTRACTOR MAY USE ALTERNATE SCHEMES ONLY WITH THE APPROVAL OF THE DISTRICT BRIDGE ENGINEER OR DISTRICT STRUCTURE CONTROL ENGINEER.

***
- DURING ASSEMBLY INSTALLATION TIGHTEN BOLT ① AND BOTH NUTS ON STUD BOLTS ② AND ③ MAKING SURE DIMENSION A* REFLECTS THE INSTALLATION TEMPERATURE.
- DO NOT TIGHTEN BOLT ④
- IMMEDIATELY AFTER BLOCKOUT IS CAST, LOOSEN BOTTOM NUT ON STUD BOLT ③ TO PERMIT TEMPERATURE MOVEMENT IN THE ASSEMBLY ON ONE SIDE OF JOINT.
- PROVIDE LOW FRICTION INTERFACE BETWEEN BOLT HEADS AND ANGLE AND TOP NUTS ON STUD BOLTS AND ANGLE.
- ALTERNATE THIS PATTERN BETWEEN NEAR SIDE AND FAR SIDE OF JOINT ON SUCCESSIVE ASSEMBLIES, I.E. TIGHTEN BOLT ④ AND BOTH NUTS ON STUD BOLTS ② AND ③ AFTER A* IS SET FOR INSTALLATION TEMPERATURE. DO NOT TIGHTEN BOLT ①. LOOSEN BOTTOM NUT ON STUD BOLT ② IMMEDIATELY AFTER BLOCKOUT IS CAST.

1. THE SURFACE OF THE BLOCKOUT MUST BE COMPLETELY CLEAN WHEN THE JOINT IS INSTALLED.
2. THE EXPANSION JOINT DEVICE MUST BE SUSPENDED IN THE BLOCKOUT TO THE PROPER LINE AND GRADE, WITH THE DISTANCE BETWEEN EXTRUSIONS SET WITH RESPECT TO THE TEMPERATURE AS SHOWN ON THE PLANS.
3. AFTER THE CONCRETE OF THE BLOCKOUT ACHIEVES PRESCRIBED STRENGTH IN ACCORDANCE WITH PUB. 408 SECTION 1001.3 (q) 1, REMOVE THE TEMPORARY SUPPORT ASSEMBLY AND GRIND OFF TACK WELD UNTIL SMOOTH.
4. APPLY TOUCH-UP PAINT.

## STRIP SEAL INSTALLATION NOTES

1. THE FRAME RAILS SHALL BE CLEANED THOROUGHLY AND SEAL CHANNELS SHALL BE INSPECTED TO ASCERTAIN THE ABSENCE OF CONCRETE AND DEBRIS. THE SEAL CHANNEL SHALL ALSO BE INSPECTED AT ALL FIELD SPLICES, AND ALL WELD SPLATTER AND/OR SHARP EDGES SHALL BE REMOVED.
2. LIBERALLY COAT THE STRIP SEAL LUGS WITH LUBRICANT ADHESIVE. COAT ONLY 3′-0" TO 4′-0" PRECEDING THE INSTALLATION.
3. COLLAPSE THE STRIP SEAL INTO THE THE JOINT OPENING UNTIL THE LUG IS ALIGNED WITH THE FRAME RAIL CHANNEL. (SEE FIGURE 1)
4. PUSH THE LUG INTO THE CHANNEL AND THEN USE A BENT BAR TO FORCE THE LUG INTO THE CHANNEL (MAKE SURE THAT THE BAR IS DULL TO PREVENT PUNCTURING OF THE SEAL) (SEE FIGURE 2)
5. AFTER THE SEAL LOCKS INTO PLACE, PUSH THE TOP OF THE LUG AGAINST THE FRAME RAIL TO INSURE PROPER SEATING. (SEE FIGURE 3)
6. AS THE WORK PROGRESSES DOWN THE LENGTH OF THE JOINT, WORK BOTH SIDES OF THE STRIP SEAL INTO THE RAIL CHANNEL.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
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BERKS COUNTY
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12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# APPROACH SPANS
# EXPANSION JOINT NOTES

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 96 OF 295

S-38014

DES: AMF | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-EXP-JT-GN.dgn
OPERATOR: ASengupta

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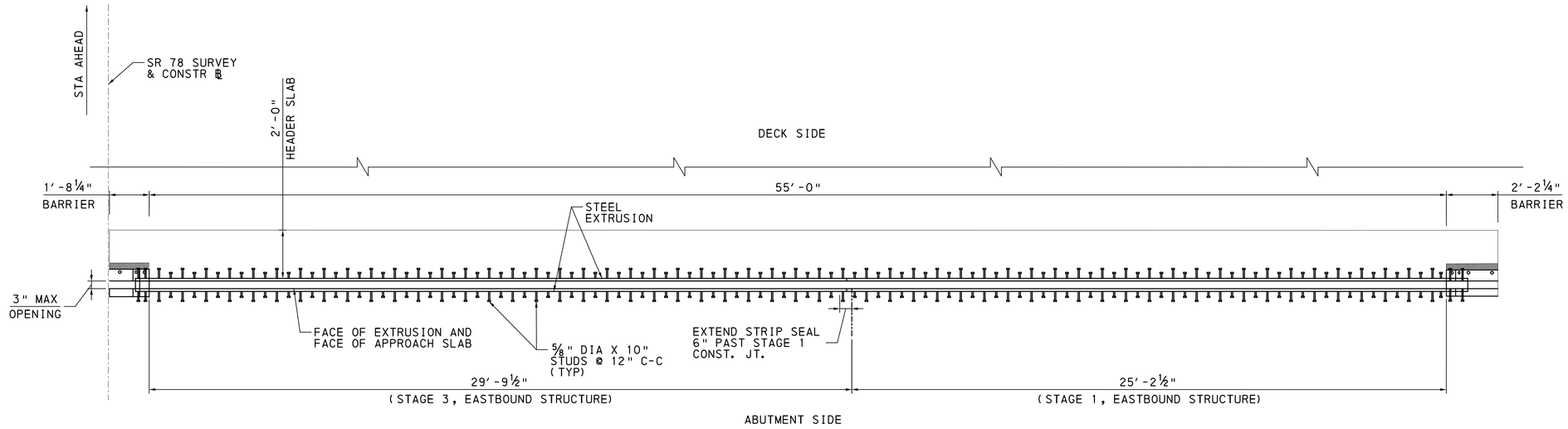


## STRIP SEAL PLAN @ ABUTMENT 1 (EASTBOUND)

1 0 1 2 3 FEET

| INSTALLATION OPENING @ VARIOUS TEMPERATURES (IN) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TEMPERATURE, °F | | | | | | | | | | |
| 10 | 20 | 30 | 40 | 50 | 60 | 68 | 70 | 80 | 90 | 100 |
| 1.80 | 2.05 | 2.30 | 2.55 | 2.80 | 3.05 | 3.25 | 3.30 | 3.55 | 3.80 | 4.05 |

NOTES:

1. FOR STRIP SEAL DETAILS, SEE SHEETS 101 AND 102.
2. TABLE FOR MINIMUM INSTALLATION OPENINGS AT VARIOUS TEMPERATURES IS FOR INFORMATION ONLY, ACTUAL TABLE TO BE SHOWN AND COMPLETED ON FABRICATIONS SHOP DRAWINGS.

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
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WEST APPROACH SPANS
EXPANSION JOINT PLAN - EB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
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SHEET 97 OF 295

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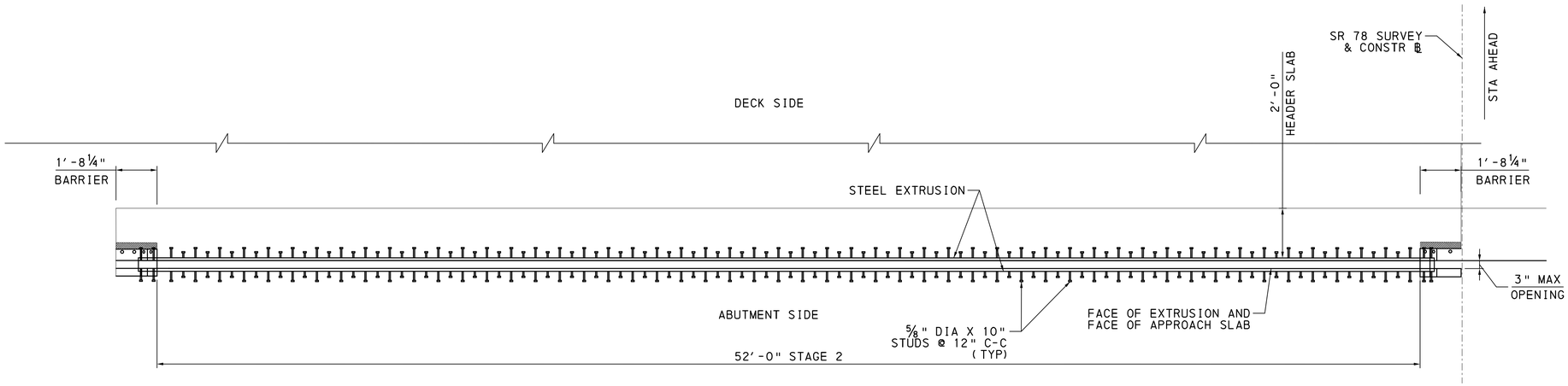
FILENAME: E02657-S38014-EXP-JT-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 1:31:51 AM




## STRIP SEAL PLAN @ ABUTMENT 1 (WESTBOUND)

1 0 1 2 3 FEET

NOTES:

1. FOR STRIP SEAL DETAILS, SEE SHEETS 101 AND 102.
2. TABLE FOR MINIMUM INSTALLATION OPENINGS AT VARIOUS TEMPERATURES IS FOR INFORMATION ONLY, ACTUAL TABLE TO BE SHOWN AND COMPLETED ON FABRICATIONS SHOP DRAWINGS.
3. SEE SHEET 97 FOR INSTALLATION OPENINGS AT VARIOUS TEMPERATURES.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
WEST APPROACH SPANS
EXPANSION JOINT PLAN - WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 98 OF 295

S-38014

DES: AMF | DWN: SAT | CKD: AKS

FILENAME: E02657-S38014-EXP-JT-03.dgn
OPERATOR: ASengupta

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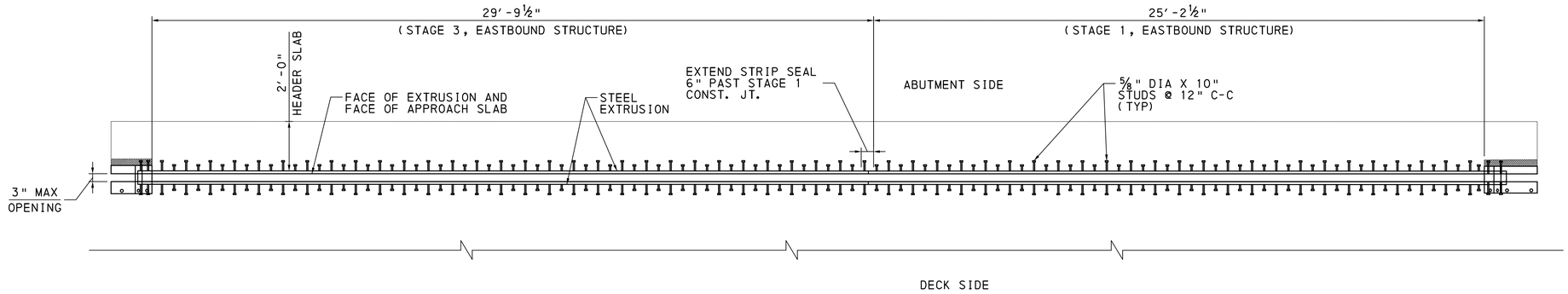


## STRIP SEAL PLAN @ ABUTMENT 2 (EASTBOUND)

1 0 1 2 3 FEET

| INSTALLATION OPENING @ VARIOUS TEMPERATURES (IN) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TEMPERATURE, °F | | | | | | | | | | |
| 10 | 20 | 30 | 40 | 50 | 60 | 68 | 70 | 80 | 90 | 100 |
| 2.77 | 2.85 | 2.93 | 3.02 | 3.10 | 3.18 | 3.25 | 3.27 | 3.35 | 3.43 | 3.52 |

NOTES:

1. FOR STRIP SEAL DETAILS, SEE SHEETS 101 AND 102.
2. TABLE FOR MINIMUM INSTALLATION OPENINGS AT VARIOUS TEMPERATURES IS FOR INFORMATION ONLY, ACTUAL TABLE TO BE SHOWN AND COMPLETED ON FABRICATIONS SHOP DRAWINGS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

EAST APPROACH SPANS
EXPANSION JOINT PLAN - EB

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REGISTERED PROFESSIONAL
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ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 99 OF 295

S-38014

DES: AMF | DWN: SAT | CKD: AKS

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OPERATOR: ASengupta

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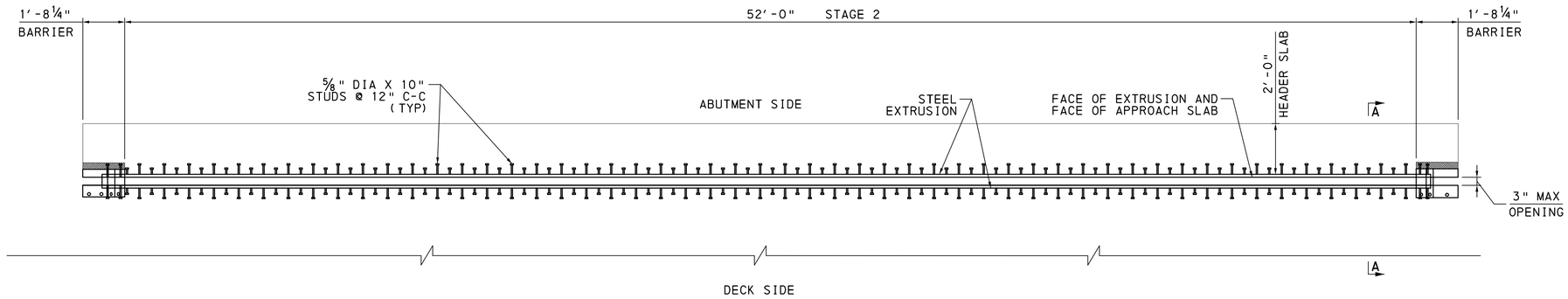


## STRIP SEAL PLAN @ ABUTMENT 2 ( WESTBOUND)

1 0 1 2 3 FEET

NOTES:

1. FOR STRIP SEAL DETAILS, SEE SHEETS 101 AND 102.
2. TABLE FOR MINIMUM INSTALLATION OPENINGS AT VARIOUS TEMPERATURES IS FOR INFORMATION ONLY, ACTUAL TABLE TO BE SHOWN AND COMPLETED ON FABRICATIONS SHOP DRAWINGS..
3. SEE SHEET 98 FOR INSTALLATION OPENINGS AT VARIOUS TEMPERATURES.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
EAST APPROACH SPANS
EXPANSION JOINT PLANS - WB

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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SHEET 100 OF 295

S-38014

DES: AMF | DWN: SIB | CKD: AKS

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OPERATOR: ASengupta

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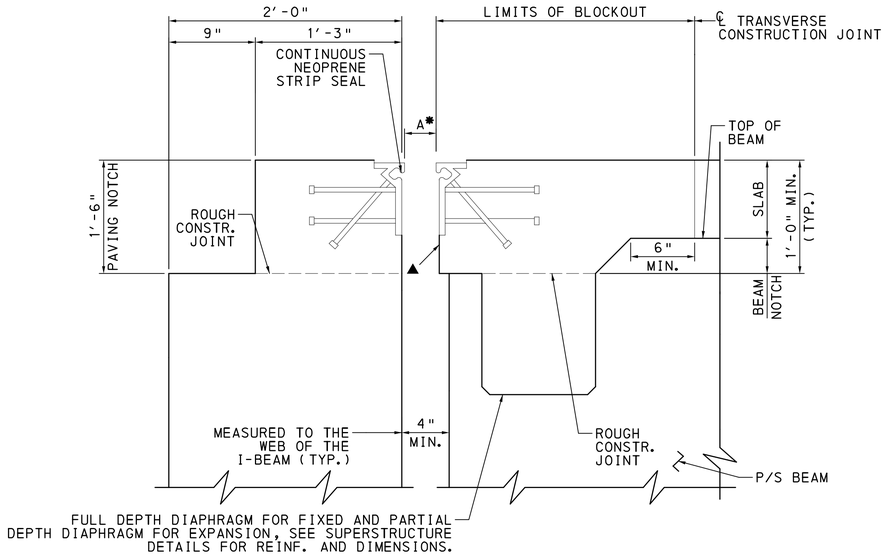
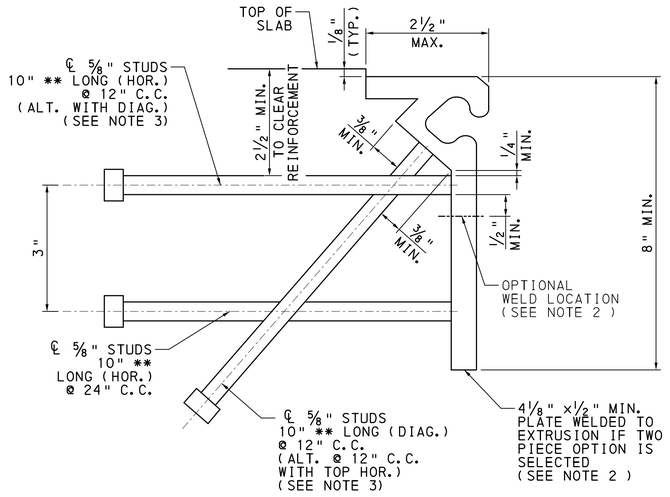



## TYPICAL SECTION AT ABUTMENT FIXED & EXPANION

ABUTMENT & DECK REINFORCEMENT NOT SHOWN FOR CLARITY




## EXTRUSION SCHEMATIC

** NOTE:
IF 10" STUDS CANNOT BE ACCOMMODATED IN THE SPACE AVAILABLE, REQUEST SPECIFIC LENGTH APPROVAL FROM THE DISTRICT BRIDGE ENGINEER AT THE SHOP DRAWINGS APPROVAL STAGE.

## EXTRUSION NOTES:

1. EXTRUSION THICKNESS 1/2".
2. TWO PIECE MEMBER (EXTRUSION AND PLATE COMBINATION) IN LIEU OF ONE PIECE EXTRUSION IS PERMITTED. WELD IN ACCORDANCE WITH AASHTO/AWS SPECIFICATIONS (FULL PENETRATION WELD AND N.D.T REQUIRED).
3. STUD SPACING IS 12" MAX. UNLESS SPECIFIED ON AN APPROVED DETAIL.

## NOTES:

1. FOR ABUTMENT 1 REINFORCEMENT DETAIL, SEE SHEETS 43-44 AND FOR ABUTMENT 2 SEE SHEETS 50-51.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
APPROACH SPANS
EXPANSION JOINT DETAILS - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019 2019

SHEET 101 OF 295

S-38014

DES: AMF | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-EXP-JT-DT-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:14:20 AM
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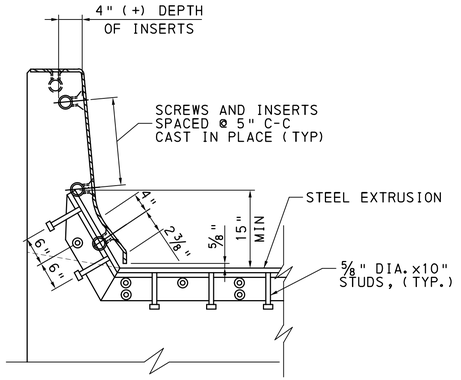
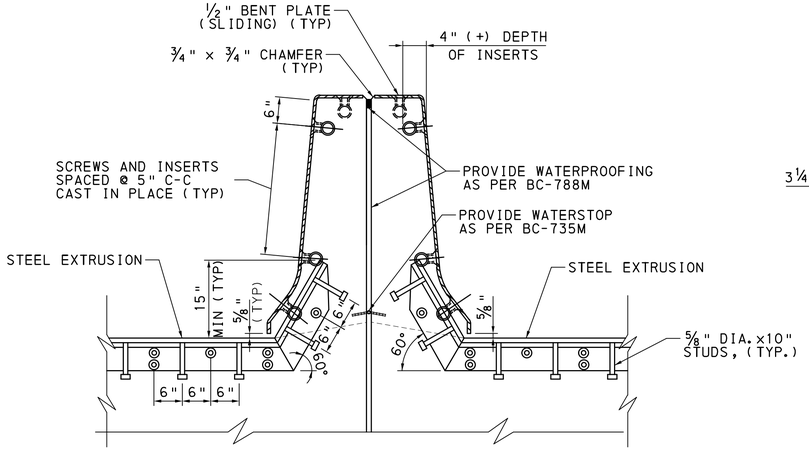
OPERATOR: ASengupta




## SECTION @ FASCIA BARRIER

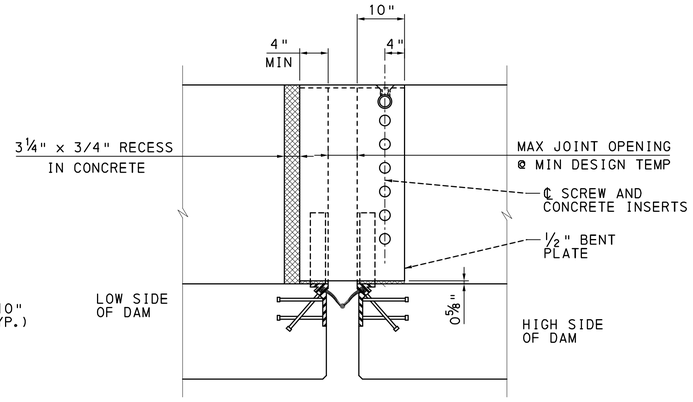
12 0 12 INCHES




## SECTION @ MEDIAN BARRIER

12 0 12 INCHES

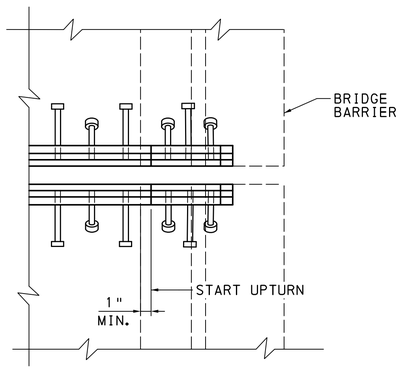
ALL DIMENSIONS SHOWN TYPICAL FOR EACH SIDE OF BARRIER.




## SECTION A-A (TYPICAL)

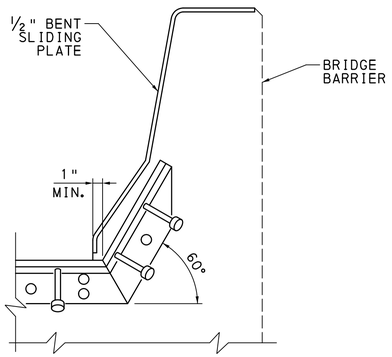
12 0 12 INCHES

NOTE:
FORM CONCRETE RECESS AREA IN BARRIER AND GRIND TO PROVIDE SMOOTH SURFACE. APPLY ONE COAT OF ASPHALT CEMENT PAINT WA-1 OR PERFORMANCE GRADED ASPHALT CEMENT PG 64-22 TO ALLOW BENT SLIDING PLATE TO MOVE FREELY WITHOUT FRICTION.




## PLAN

NOTE: SHOWN WITHOUT BENT SLIDING PLATE FOR CLARITY.




## SECTION @ EXPANSION DAM JOINT MITERED AT BARRIER FACE

12 0 12 INCHES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
APPROACH SPANS

# EXPANSION JOINT DETAILS - 2

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REGISTERED PROFESSIONAL
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ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 102 OF 295

S-38014

DES: AMF | DWN: SIB | CKD: AKS

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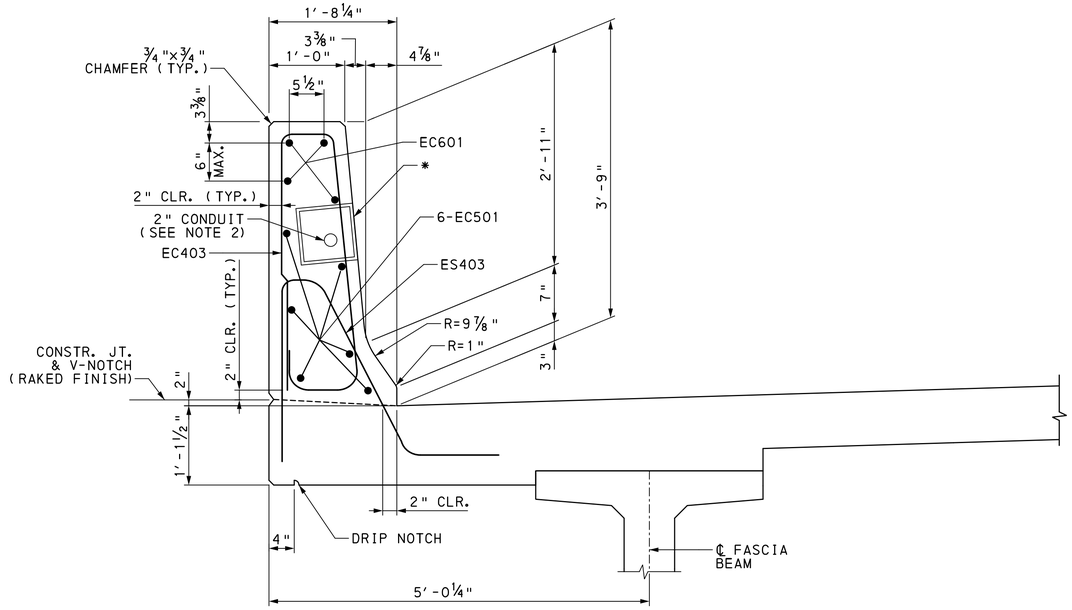
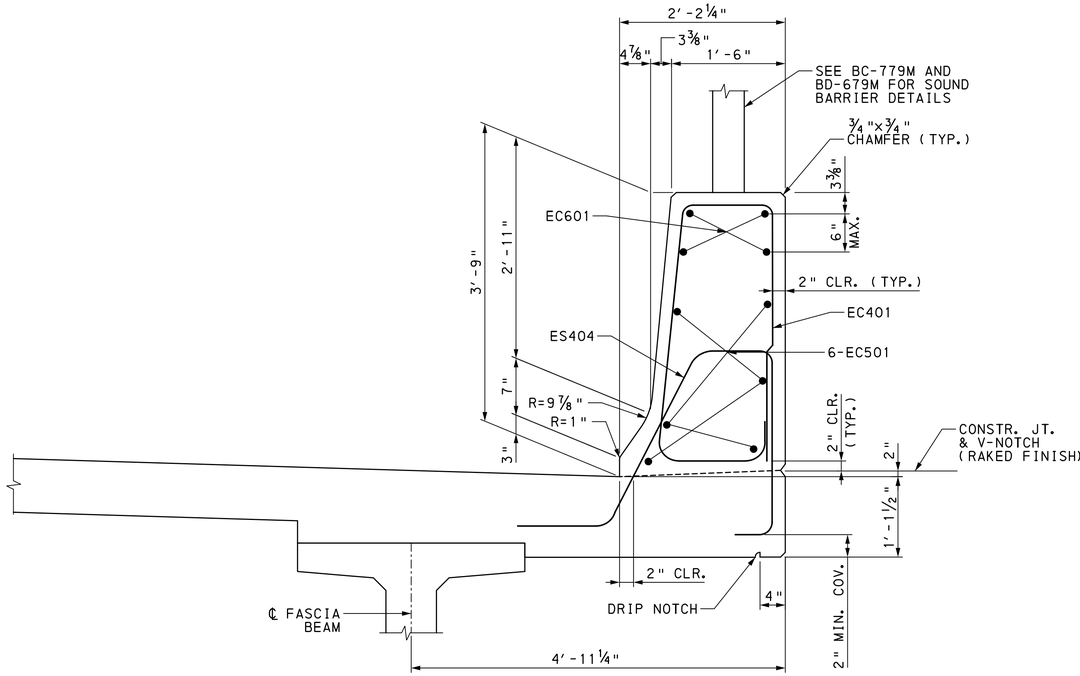



* SEE JUNCTION BOX TABLE FOR LOCATION

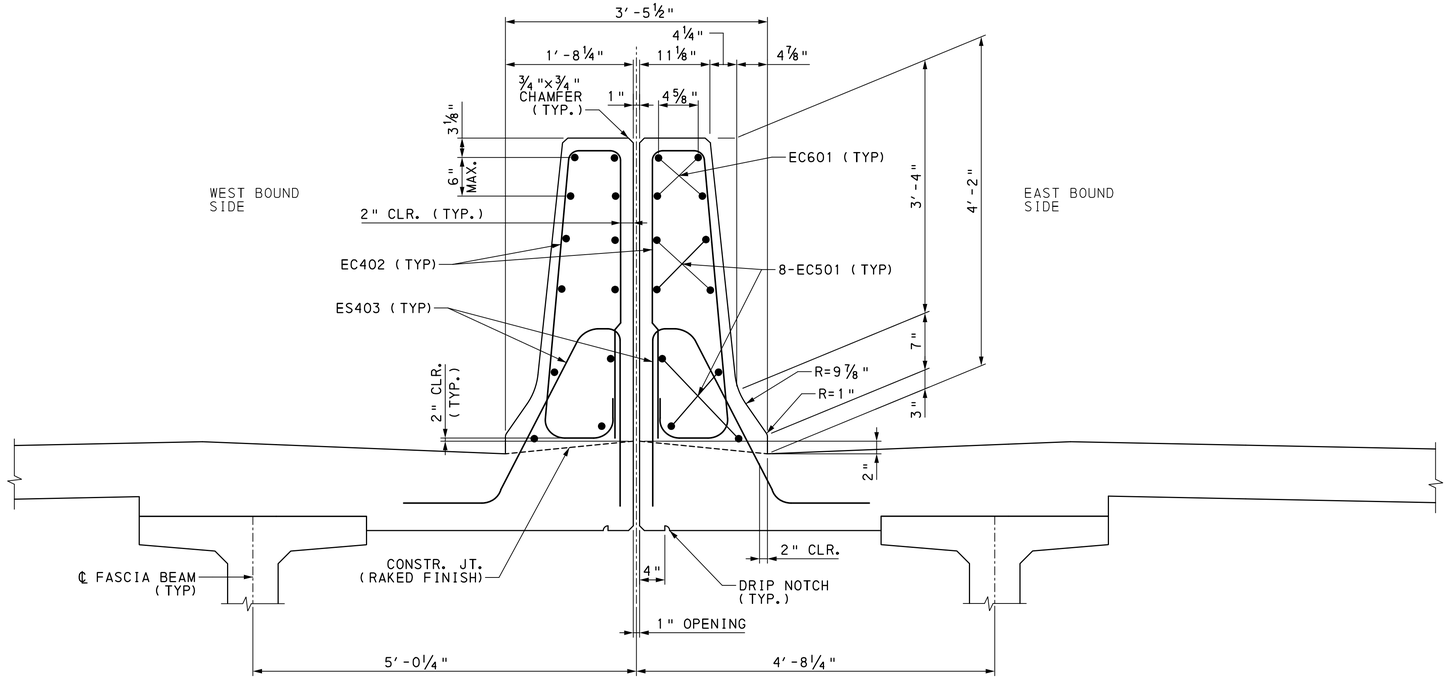
## CONCRETE FASCIA BARRIER DETAIL (WESTBOUND)

6 0 6 12 INCHES




## CONCRETE FASCIA BARRIER DETAIL (EASTBOUND)

6 0 6 12 INCHES




## MEDIAN CONCRETE BARRIER DETAIL

6 0 6 12 INCHES

NOTES:

1. FOR DECK REINFORCING DETAILS AND SECTIONS, SEE SHEETS 73 THRU 87.
2. FOR JUNCTION BOX LOCATION SEE SHEET 104.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

APPROACH SPANS
BARRIER DETAILS

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PE085336

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SHEET 103 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

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OPERATOR: ASengupta

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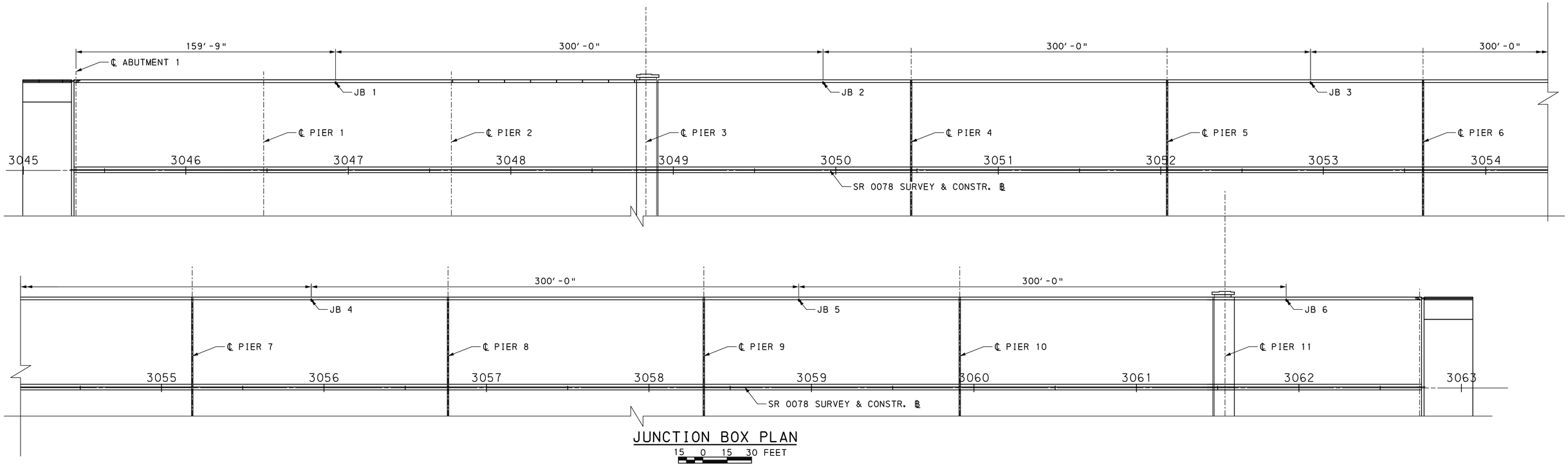


## JUNCTION BOX PLAN

15 0 15 30 FEET

| JUNCTION BOX STATIONS | | |
|---|---|---|
| JB | STATION | OFFSET |
| 1 | 3046+92.16 | 54.06 FT |
| 2 | 3049+92.16 | 54.06 FT |
| 3 | 3052+92.16 | 54.06 FT |
| 4 | 3055+92.16 | 54.06 FT |
| 5 | 3058+92.16 | 54.06 FT |
| 6 | 3061+92.16 | 54.06 FT |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
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APPROACH SPANS 1-3 AND 12

JUNCTION BOX PLAN

COMMONWEALTH OF PENNSYLVANIA
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SHEET 104 OF 295

S-38014

DES: DG | DWN: DG | CKD: AKS

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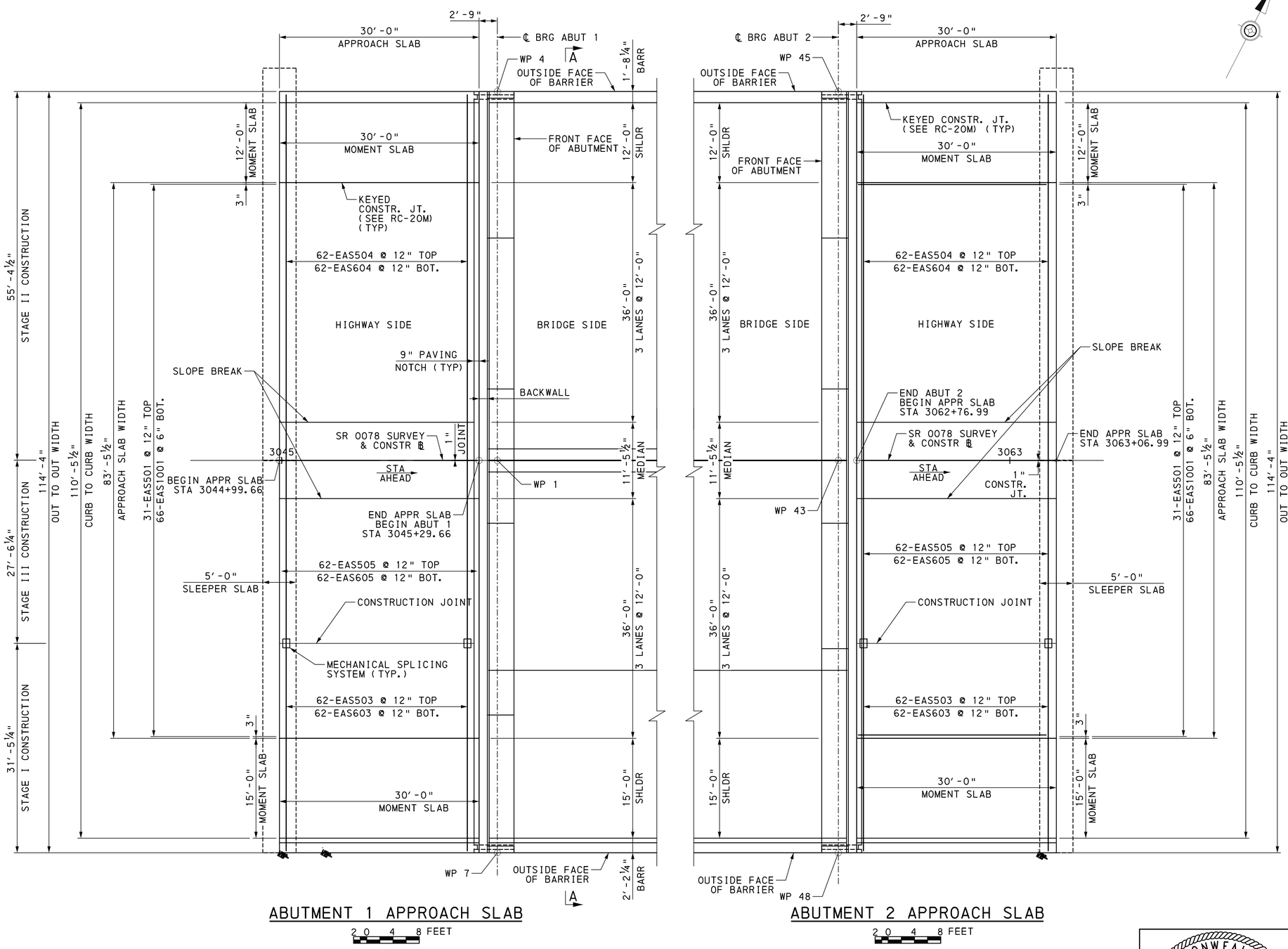
OPERATOR: ASengupta




ABUTMENT 1 APPROACH SLAB

2 0 4 8 FEET

ABUTMENT 2 APPROACH SLAB

2 0 4 8 FEET

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 13 THOUGH 16.
2. FOR REINFORCEMENT SCHEDULE, SEE SHEETS 117 TO 120.
3. FOR MOMENT SLAB REINFORCEMENT SEE SHEET 109.

| DES: AKS | DWN: SIB | CKD: |
|---|---|---|

## WEST APPROACH SLAB ELEVATIONS

| POINT | STATION | OFFSET | FINISHED GRADE |
|---|---|---|---|
| GRADE POINT WB | 3044+99.66 | 0 FT | 413.82 |
| | 3045+09.66 | 0 FT | 413.76 |
| | 3045+19.66 | 0 FT | 413.70 |
| | 3045+29.66 | 0 FT | 413.63 |
| EDGE OF SHLD. WESTBOUND | 3044+99.66 | -36 FT | 413.10 |
| | 3045+09.66 | -36 FT | 413.04 |
| | 3045+19.66 | -36 FT | 412.98 |
| | 3045+29.66 | -36 FT | 412.91 |
| MEDIAN GUTTER LINE WESTBOUND | 3044+99.66 | 4 FT | 413.66 |
| | 3045+09.66 | 4 FT | 413.60 |
| | 3045+19.66 | 4 FT | 413.54 |
| | 3045+29.66 | 4 FT | 413.47 |
| GRADE POINT EB | 3044+99.66 | 0 FT | 413.82 |
| | 3045+09.66 | 0 FT | 413.76 |
| | 3045+19.66 | 0 FT | 413.70 |
| | 3045+29.66 | 0 FT | 413.63 |
| EDGE OF SHLD. EASTBOUND | 3044+99.66 | -36 FT | 413.10 |
| | 3045+09.66 | -36 FT | 413.04 |
| | 3045+19.66 | -36 FT | 412.98 |
| | 3045+29.66 | -36 FT | 412.91 |
| MEDIAN GUTTER LINE EASTBOUND | 3044+99.66 | 4 FT | 413.66 |
| | 3045+09.66 | 4 FT | 413.60 |
| | 3045+19.66 | 4 FT | 413.54 |
| | 3045+29.66 | 4 FT | 413.47 |

## EAST APPROACH SLAB ELEVATIONS

| POINT | STATION | OFFSET | FINISHED GRADE |
|---|---|---|---|
| GRADE POINT WB | 3044+99.66 | 0 FT | 402.77 |
| | 3045+09.66 | 0 FT | 402.71 |
| | 3045+19.66 | 0 FT | 402.65 |
| | 3045+29.66 | 0 FT | 402.59 |
| EDGE OF SHLD. WESTBOUND | 3044+99.66 | -36 FT | 402.05 |
| | 3045+09.66 | -36 FT | 401.99 |
| | 3045+19.66 | -36 FT | 401.93 |
| | 3045+29.66 | -36 FT | 401.87 |
| MEDIAN GUTTER LINE WESTBOUND | 3044+99.66 | 4 FT | 402.61 |
| | 3045+09.66 | 4 FT | 402.55 |
| | 3045+19.66 | 4 FT | 402.49 |
| | 3045+29.66 | 4 FT | 402.43 |
| GRADE POINT EB | 3044+99.66 | 0 FT | 402.77 |
| | 3045+09.66 | 0 FT | 402.71 |
| | 3045+19.66 | 0 FT | 402.65 |
| | 3045+29.66 | 0 FT | 402.59 |
| EDGE OF SHLD. EASTBOUND | 3044+99.66 | -36 FT | 402.05 |
| | 3045+09.66 | -36 FT | 401.99 |
| | 3045+19.66 | -36 FT | 401.93 |
| | 3045+29.66 | -36 FT | 401.87 |
| MEDIAN GUTTER LINE EASTBOUND | 3044+99.66 | 4 FT | 402.61 |
| | 3045+09.66 | 4 FT | 402.55 |
| | 3045+19.66 | 4 FT | 402.49 |
| | 3045+29.66 | 4 FT | 402.43 |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
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P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

APPROACH SLAB PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
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ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 105 OF 295

S-38014

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OPERATOR: ASengupta

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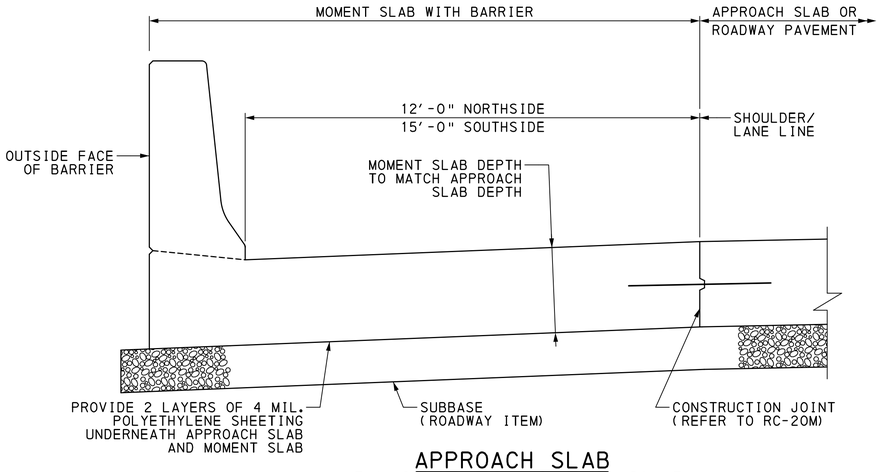
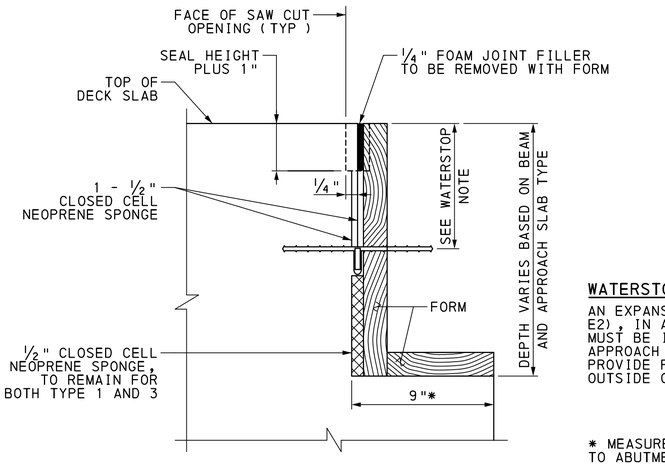



## APPROACH SLAB ADJACENT TO MOMENT SLAB

1 0 1 2 FEET




**WATERSTOP NOTE:**

AN EXPANSION WATERSTOP (TYPE E1 OR E2), IN ACCORDANCE WITH BC-735M, MUST BE INSTALLED AT MID-DEPTH OF APPROACH SLAB. PLACE WATERSTOP TO PROVIDE POSITIVE DRAINAGE TO THE OUTSIDE OF THE STRUCTURE.

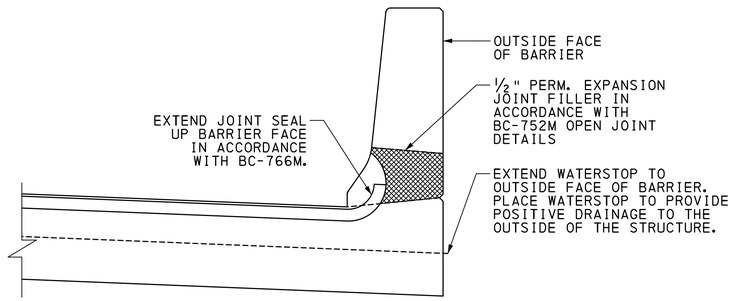
* MEASURED NORMAL TO ABUTMENT

## PAVING NOTCH FORMING DETAILS

NOT TO SCALE

## JOINT PREPARATION NOTES:

1. THE JOINT OPENING IS TO BE FORMED BY A TWO-STAGE SAWING OPERATION WHERE ACCESSIBLE. WHERE ACCESSIBILITY IS LIMITED, THE JOINT OPENING SHALL BE FORMED. THE FIRST SAW CUT IS DESIGNED TO CONTROL CRACKING. THE SECOND SAW CUT IS MADE USING A DOUBLE-BLADED WATER-COOLED SAW CAPABLE OF HOLDING A TOLERANCE OF 1/16" TO CREATE THE PROPER OPENING FOR THE PREFORMED NEOPRENE COMPRESSION SEAL OR INVERTED V JOINT SEAL.
2. WATER BLAST OPENING IMMEDIATELY FOLLOWING SAW CUTTING OPERATION TO REMOVE ANY RESIDUAL SLURRY BEFORE IT DRIES.
3. THE DEPTH OF THE JOINT OPENING EQUALS THE HEIGHT OF THE SEAL PLUS 1". THE WIDTH OF THE SECOND SAW CUT SHOULD BE ADJUSTED TO ACCOUNT FOR THE CONCRETE SURFACE TEMPERATURE AT THE TIME OF SAWING, SEE MANUFACTURER'S PRODUCT INFORMATION.
4. BEFORE INSTALLING THE SEAL, ABRASIVE BLAST THE BONDING SURFACES TO THOROUGHLY CLEAN THE JOINT OPENING AND REMOVE FOREIGN MATERIAL, INCLUDING BROKEN CONCRETE. USE WATER AND OIL FREE COMPRESSED AIR TO BLOW OUT RESIDUE FROM THE SEAL GROOVE OPENING.
5. PREPARE BONDING SURFACES AND INSTALL JOINT SEAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. DO NOT EXCEED 3% ELONGATION OF THE SEAL, IF STRETCHING OCCURS.




## JOINT SEAL AND WATERSTOP TERMINATION DETAIL

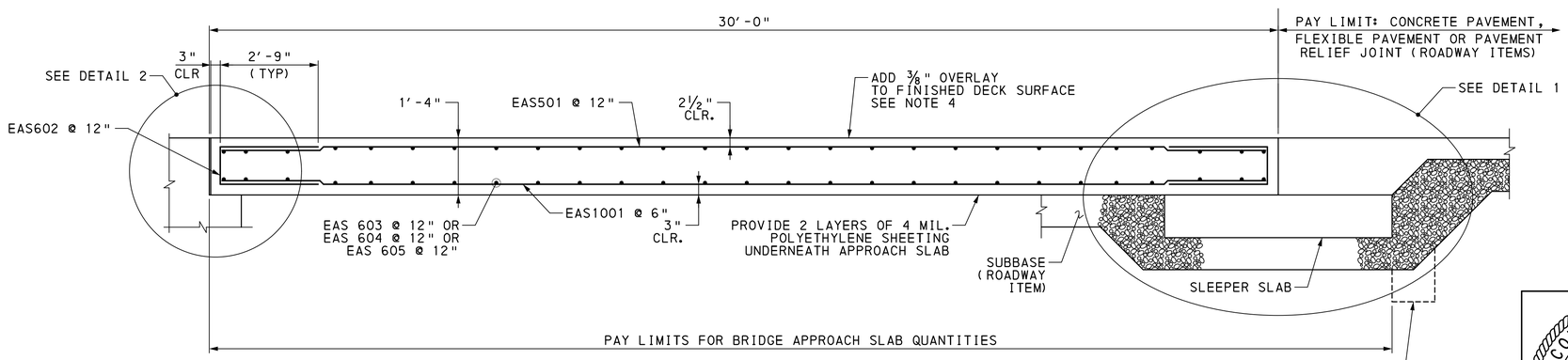
1 0 1 2 FEET

## NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 13 TO 16.
2. FOR REINFORCEMENT SCHEDULE, SEE SHEETS 117 TO 120.
3. FOR DECK OVERLAY SEE SPECIAL PROVISION 9000-0122.

BRIDGE SIDE

HIGHWAY SIDE




## APPROACH SLAB

1 0 1 2 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# APPROACH SLAB DETAILS - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 106 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

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OPERATOR: ASengupta

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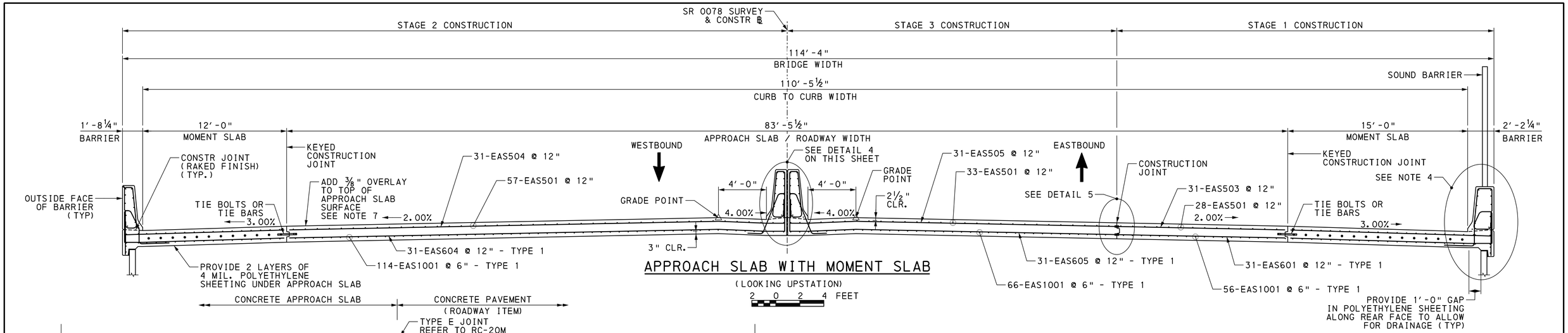
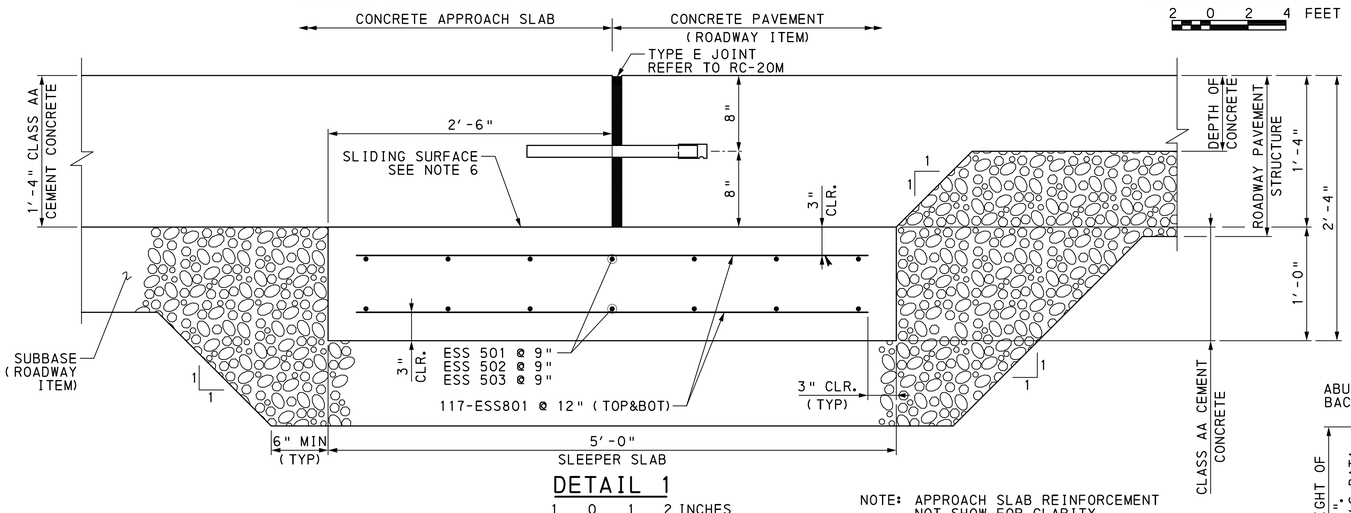



## APPROACH SLAB WITH MOMENT SLAB

(LOOKING UPSTATION)

2 0 2 4 FEET

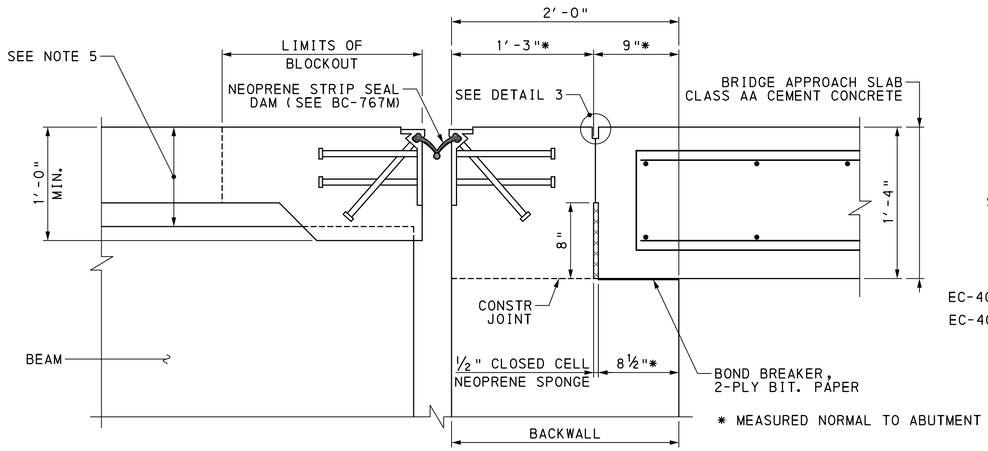



## DETAIL 1

1 0 1 2 INCHES

END OF APPROACH SLAB ADJACENT TO CONCRETE PAVEMENT

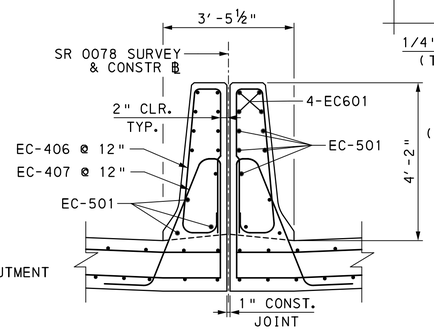
NOTE: APPROACH SLAB REINFORCEMENT NOT SHOW FOR CLARITY




## DETAIL 2

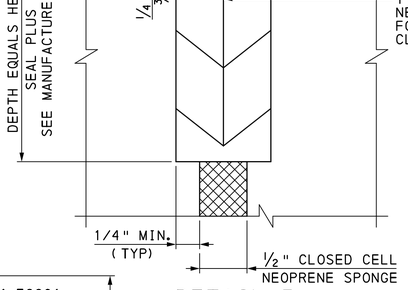
1 0 1 2 INCHES

APPROACH SLAB SUPPORTED ON ABUTMENT BACKWALL WITH NEOPRENE STRIP SEAL DAM




## DETAIL 4

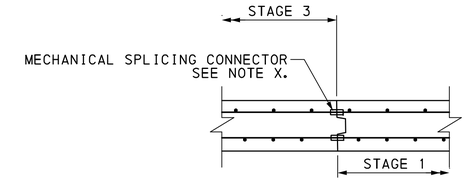
1 0 1 2 FEET




## DETAIL 3

(NEOPRENE COMPRESSION SEAL)

NOT TO SCALE




## DETAIL 5

1 0 1 2 FEET

**NOTES:**

1. FOR GENERAL NOTES, SEE SHEETS 13 TO 16.
2. FOR REINFORCEMENT SCHEDULE, SEE SHEETS 117 TO 120.
3. FOR BARRIER DETAILS, SEE SHEET 103.
4. FOR BRIDGE DECK AND HAUNCH DETAILS SEE SHEET 74 THROUGH 87.
5. TROWEL SMOOTH AND PLACE 2 LAYERS OF 4 MIL. POLYETHYLENE SHEETING AS BOND BREAKER.
6. FOR OVERLAY SEE SPECIAL PROVISION 9000-0122.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# APPROACH SLAB DETAILS - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 107 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-AS-DT-02.dgn
OPERATOR: ASengupta

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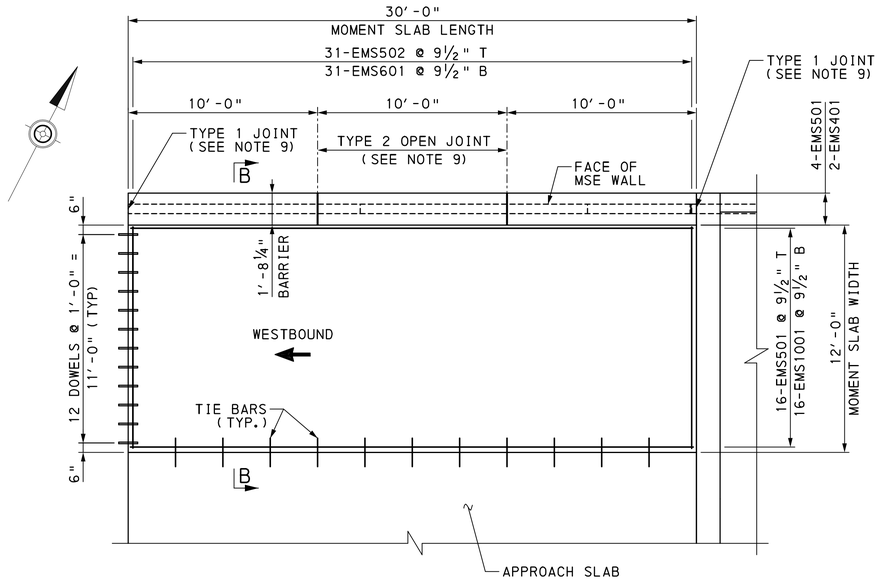
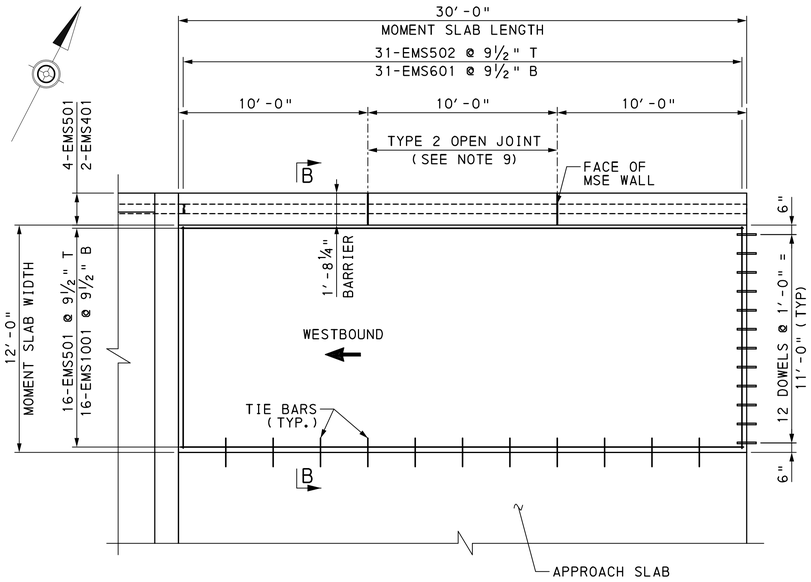


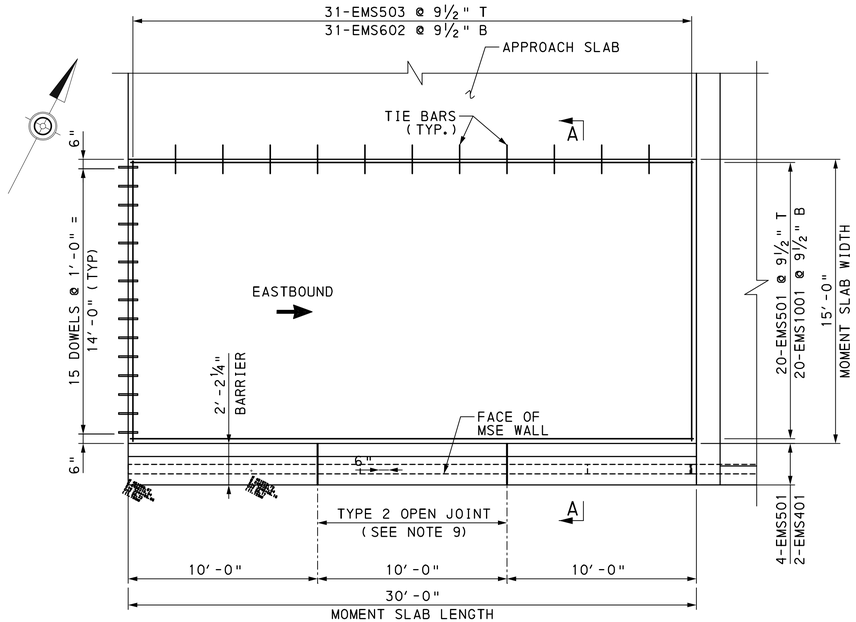

## MOMENT SLAB PLAN VIEW
## WEST APPROACH - WESTBOUND

2 0 2 4 FEET



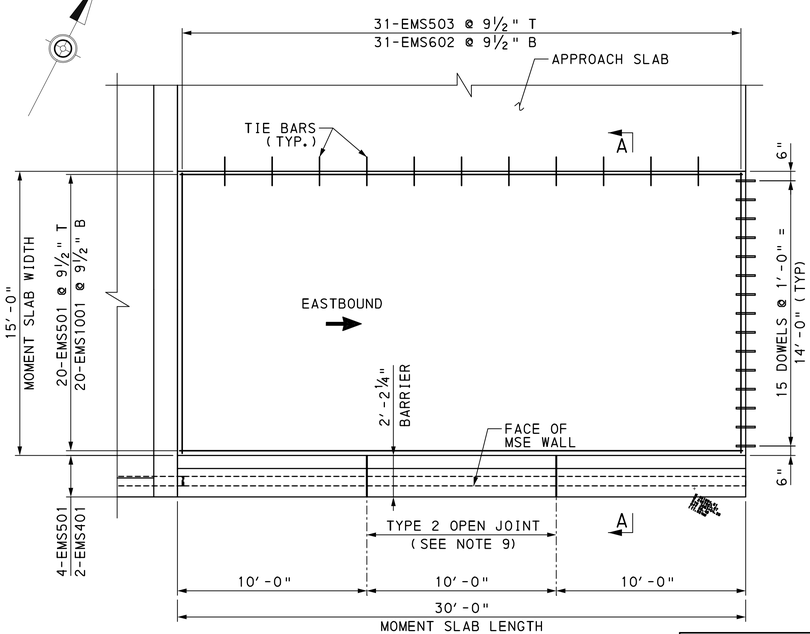

## MOMENT SLAB PLAN VIEW
## EAST APPROACH - WESTBOUND

2 0 2 4 FEET




## MOMENT SLAB PLAN VIEW
## WEST APPROACH - EASTBOUND

2 0 2 4 FEET




## MOMENT SLAB PLAN VIEW
## EAST APPROACH - EASTBOUND

2 0 2 4 FEET

## NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 13 TO 16.
2. FOR REINFORCEMENT SCHEDULE, SEE SHEETS 117 TO 120.
3. FOR SECTION A-A AND B-B, SEE SHEET 109.
4. FOR DETAILS OF APPROACH SLABS, SEE SHEETS 106 AND 107.
5. CONTRACTOR IS PERMITTED TO PROVIDE A PRECAST BARRIER IN PLACE OF THE CAST-IN-PLACE BARRIER. CONTRACTOR MUST SUBMIT SHOP DRAWINGS FOR REVIEW AND ACCEPTANCE IN ACCORDANCE WITH PUBLICATION 408. THE SHOP DRAWINGS MUST COMPLETELY DETAIL THE ENTIRE MOMENT SLAB AND BARRIER ALONG THE REQUIRED LENGTH. DETAIL INFORMATION IN ACCORDANCE WITH BD-629M.
6. CONTRACTOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
7. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY BRACING DESIGN CALCULATIONS AND DETAILS.
8. NOTES FOR LIFTING INSERTS:

   PROVIDE GALVANIZED LIFTING INSERTS.

   PROVIDE LIFTING INSERTS WITH A MINIMUM CAPACITY OF AT LEAST TWO TIMES THE CALCULATED LOAD ON THE INSERT.

   PROVIDE A MINIMUM OF TWO LIFTING INSERTS PER BARRIER SECTION.
9. FOR JOINT DETAILS, SEE SHEET 109.
10. OPENINGS IN BARRIERS AT BRIDGE/APPROACH SLAB INTERFACE ARE TO BE ½" OPEN JOINTS IN ACCORDANCE WITH BC-752M PLACED PARALLEL TO CENTERLINE OF BEARINGS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# APPROACH SPANS
# MOMENT SLAB PLAN VIEW

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 108 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

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OPERATOR: ASengupta

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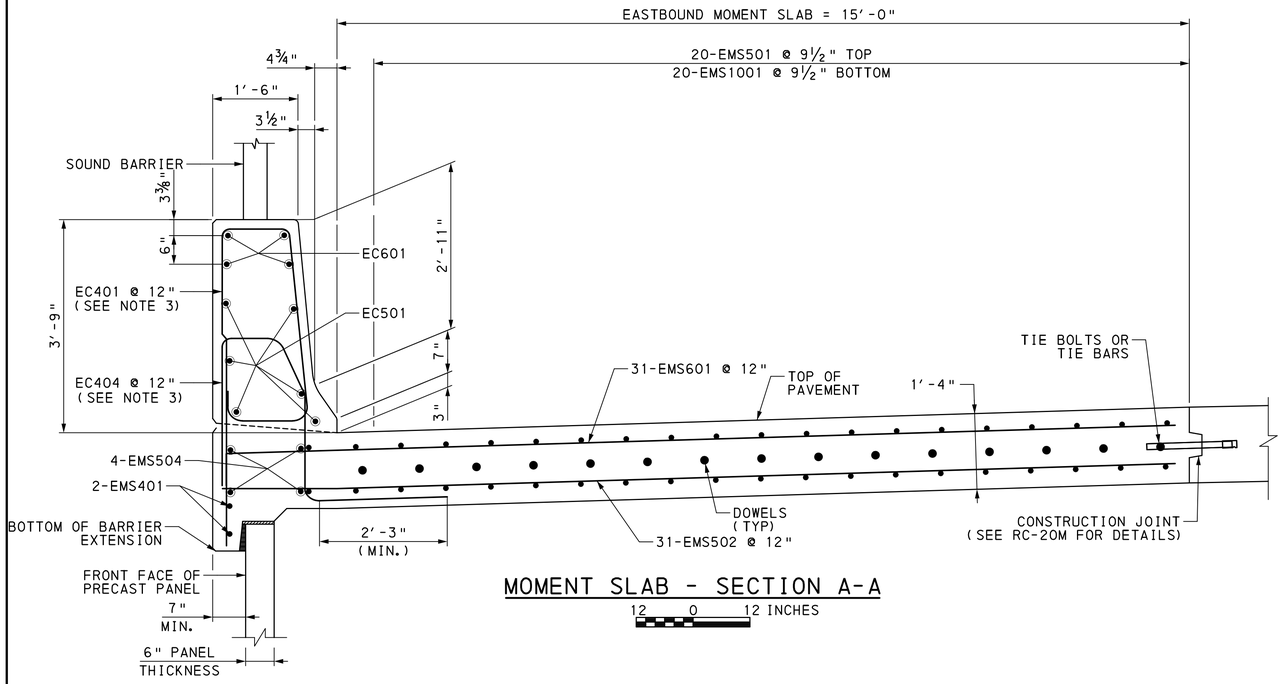
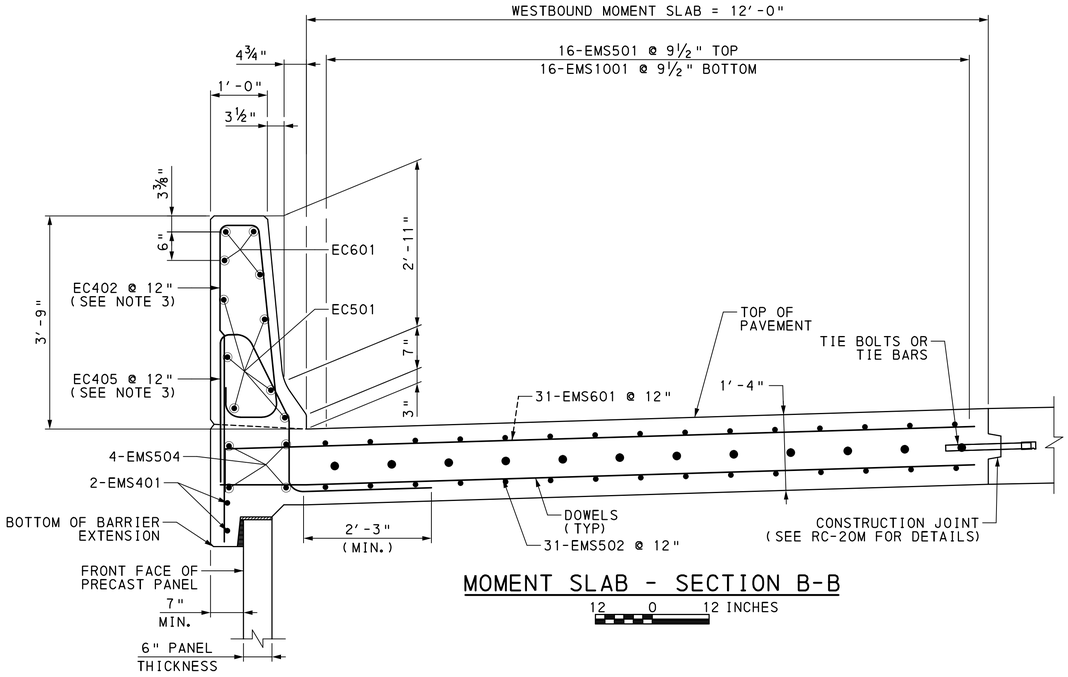


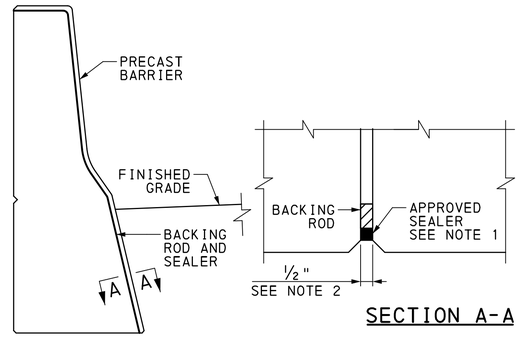

## MOMENT SLAB - SECTION A-A

12 0 12 INCHES




## MOMENT SLAB - SECTION B-B

12 0 12 INCHES




SECTION A-A

## TYPE 1 AND TYPE 2 OPEN JOINT IN PRECAST BARRIER

NOT TO SCALE

## MOMENT SLAB AND BARRIER NOTE:

LOCATE EXPANSION JOINTS IN MOMENT SLAB AND BARRIER TO MATCH THE PAVEMENT JOINTS. DO NOT LOCATE EXPANSION JOINTS WITHIN 6'-0" OF THE CENTERLINE OF LIGHT POLE OR WITHIN 2'-0" OF THE CENTERLINE OF A JUNCTION BOX.

## JOINT NOTES:

1. ALL OPEN JOINTS IN THE BARRIER MUST BE FILLED WITH BACKING ROD AND SEALED WITH SILICONE JOINT SEALING MATERIAL PER PUBLICATION 408, SECTION 705.4(a).
2. EXPOSED JOINTS AT BARRIER MAY VARY FROM ½" TO 1" WIDTH FOR TYPE 1 OPEN JOINT AND ¼" TO ¾" WIDTH FOR TYPE 2 OPEN JOINT, TO ALLOW FOR HORIZONTAL AND/OR VERTICAL CURVATURE IN WALL.

## NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 13 TO 16.
2. FOR REINFORCEMENT SCHEDULE, SEE SHEETS 117 TO 120.
3. REDUCE SPACING TO 6" WITHIN 10' OF EXPANSION JOINT.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

APPROACH SPANS
MOMENT SLAB SECTION

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

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SHEET 109 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-AS-MS-DT-01.dgn
OPERATOR: ASengupta

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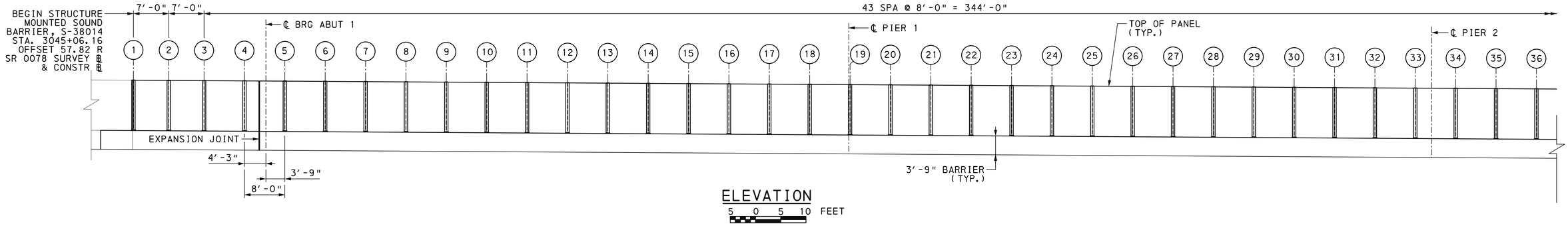
SEE PLAN BELOW

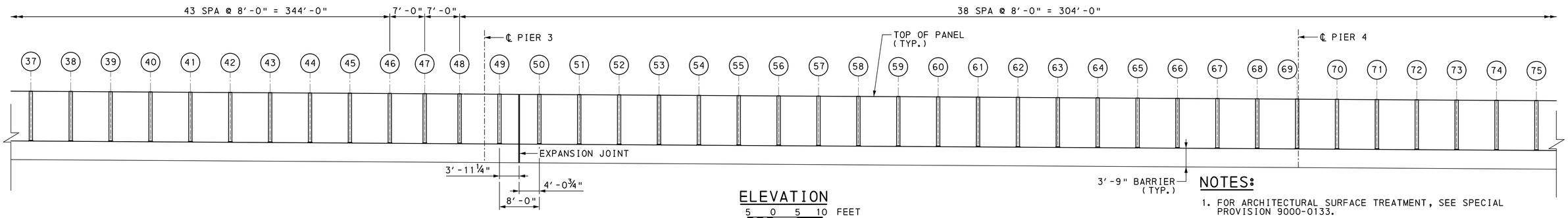



ELEVATION

5 0 5 10 FEET

SEE PLAN ABOVE

SEE PLAN BELOW



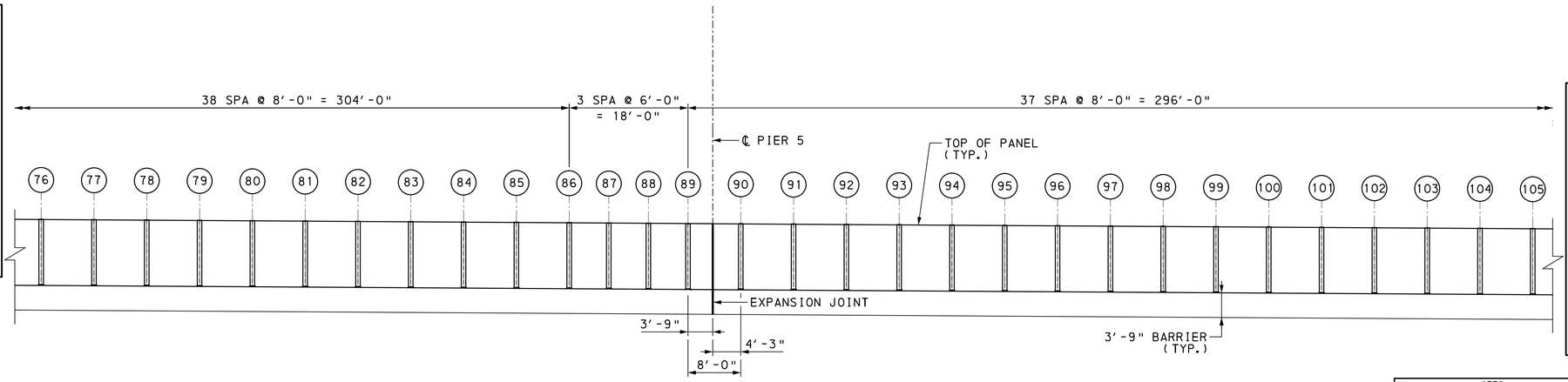

ELEVATION

5 0 5 10 FEET

## NOTES:

1. FOR ARCHITECTURAL SURFACE TREATMENT, SEE SPECIAL PROVISION 9000-0133.
2. USE DESIGN CASE 1 PARAMETERS FOR POST SIZE, ANCHOR BOLT, BASE PLATE AND ANCHOR PLATE SIZE.
3. FOR DESIGN CASE DETAILS, SEE SHEET 101.
4. RELIEF JOINTS IN BARRIER TO BE MINIMUM 2FT FROM THE ℄ OF POST AND MINIMUM DISTANCE OF 10FT BETWEEN ADJACENT JOINTS.
5. FOR TOP OF POST ELEVATIONS, SEE SHEET 115.

SEE PLAN ABOVE




ELEVATION

5 0 5 10 FEET

SEE SHEET 99

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

# BERKS COUNTY

## S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE

APPROACH SPANS 1-3 AND 12

## STRUCTURE MOUNTED SOUND BARRIER ELEVATION - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 110 OF 295

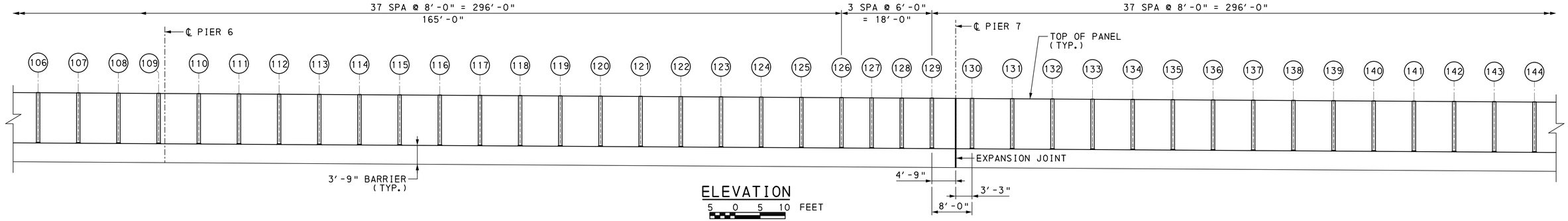
S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-S38014-SB-EL-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:15:40 AM

SEE SHEET 98

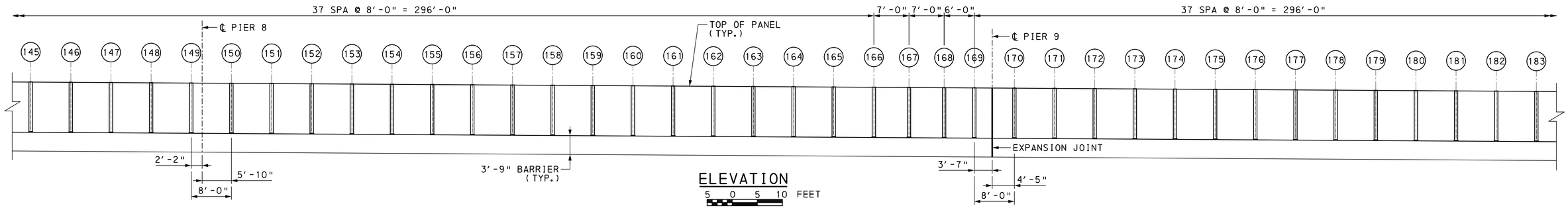



ELEVATION

5 0 5 10 FEET

SEE PLAN BELOW

SEE PLAN ABOVE

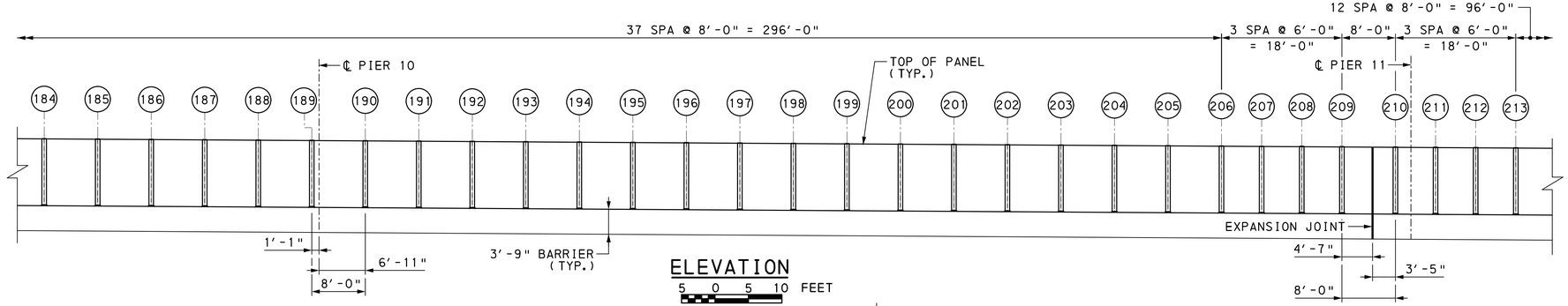



ELEVATION

5 0 5 10 FEET

SEE PLAN BELOW

SEE PLAN ABOVE

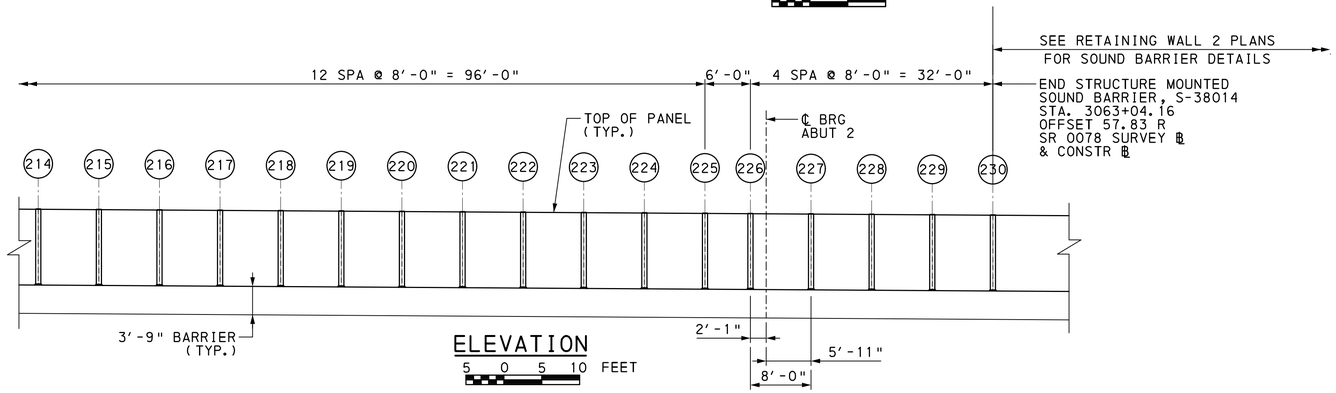



ELEVATION

5 0 5 10 FEET

SEE PLAN BELOW

SEE PLAN ABOVE




ELEVATION

5 0 5 10 FEET

NOTES:

1. FOR SOUND BARRIER NOTES, SEE SHEET 110.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
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OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

STRUCTURE MOUNTED
SOUND BARRIER ELEVATION - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

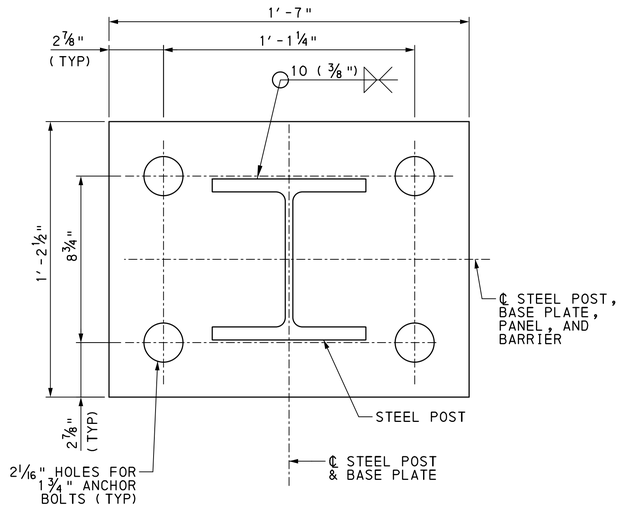
SHEET 111 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

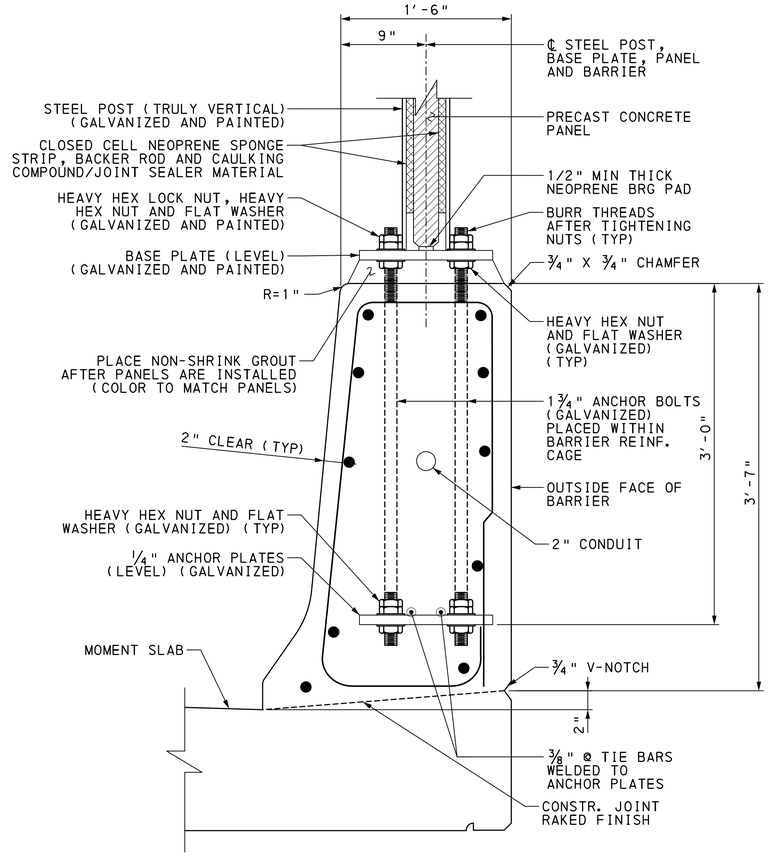
FILENAME: E02657-S38014-SB-EL-02.dgn

OPERATOR: ASengupta



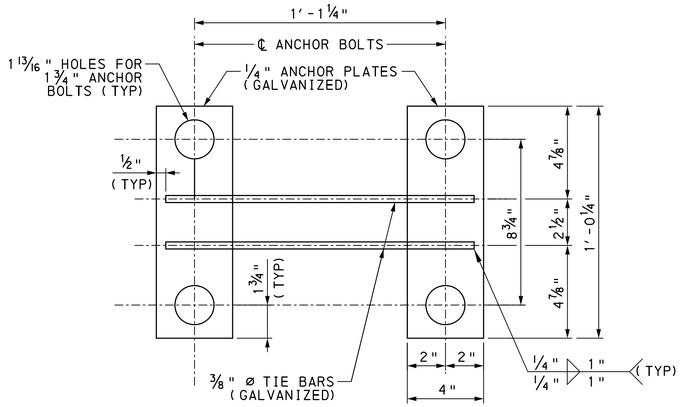

BASE PLATE PLAN

3 0 3 INCHES




MOUNTED SOUND BARRIER SECTION

1 0 1 2 INCHES




ANCHOR PLATE ASSEMBLY PLAN

3 0 3 INCHES

## BARRIER MOUNTED SOUND BARRIER ON BRIDGES U.S. CUSTOMARY UNITS

STEEL POST, BASE PLATE, ANCHOR BOLT, AND ANCHOR PLATE GEOMETRY
WIND PRESSURE = 37 psf

| | STEEL POST | BASE PLATE | | | | ANCHOR BOLTS | ANCHOR PLATES | |
|---|---|---|---|---|---|---|---|---|
| | | t (IN.) | ℓ (IN.) | W (IN.) | F (IN.) | D (IN.) | ℓ1 (IN.) | F1 (IN.) |
| DESIGN CASE 1 | W8×48 | 1⅝ | 14½ | 19 | 2⅞ | 1¾ | 12¼ | 1¾ |

NOTES:

1. POST HEIGHT IS 9′-8½".
2. GROUT DEPTH AT ℄POST (IN) = 2⅞".
3. FOR POST SPACING, SEE ELEVATION VIEW ON SHEETS 110 AND 111.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

SOUND BARRIER DETAILS - BASE/ANCHOR PLATE AND SECTION

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

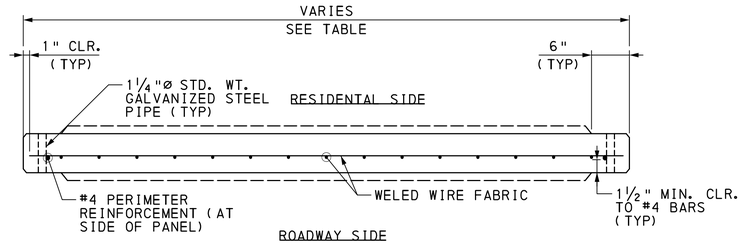
SHEET 112 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

PLOTTED: 8/27/2019 9:15:48 AM
FILENAME: E02657-S38014-SW-DT-01.dgn
OPERATOR: ASengupta

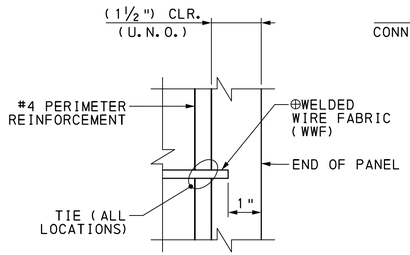
PLOTTED: 8/27/2019 9:15:56 AM




PLAN

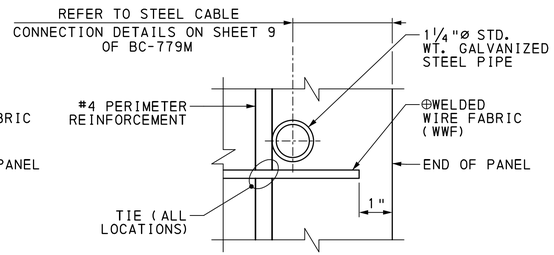
## PRECAST CONCRETE PANEL

6 0 6 12 INCHES



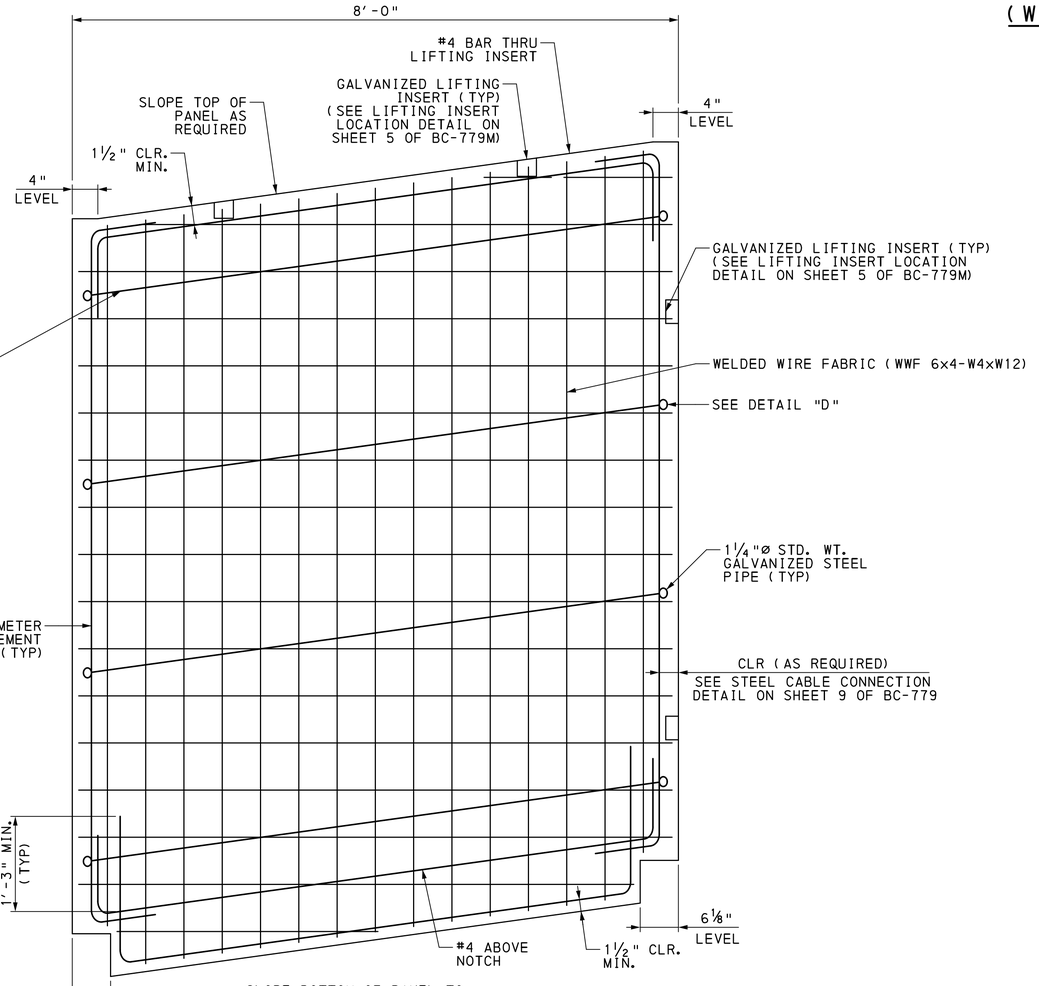

## DETAIL D (WITHOUT CABLE CONNECTION)

NOT TO SCALE




## DETAIL D (WITH CABLE CONNECTION)

NOT TO SCALE




SLOPE BOTTOM OF PANEL TO MATCH TOP OF BARRIER OR TOP OF RETAINING WALL

ELEVATION - SLOPE PANEL

## PRECAST CONCRETE PANEL

6 0 6 12 INCHES

| SOUND BARRIER PANEL LENGTH | |
|---|---|
| POST SPACING (FT) | PRECAST PANEL LENGTH (FT) |
| 6' - 0" | 5' - 10 5/8" |
| 7' - 0" | 6' - 10 5/8" |
| 8' - 0" | 7' - 10 5/8" |

## NOTES:

1. SUBMIT SHOP DRAWINGS FOR PRECAST PANELS TO ENGINEER PRIOR TO CONSTRUCTION.
2. FOR ARCHITECTURAL TREATMENT, SEE SPECIAL PROVISION 9000-0133.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

# SOUND BARRIER DETAILS - PANEL ELEVATION AND PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

RECOMMENDED 08/30/2019

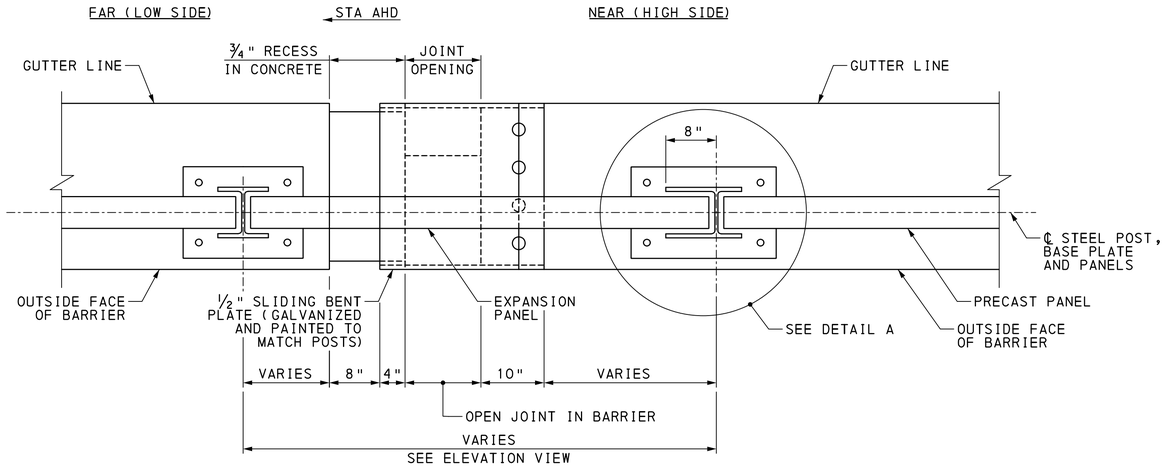
SHEET 113 OF 295

S-38014

DES: DG | DWN: ERT | CKD: AKS

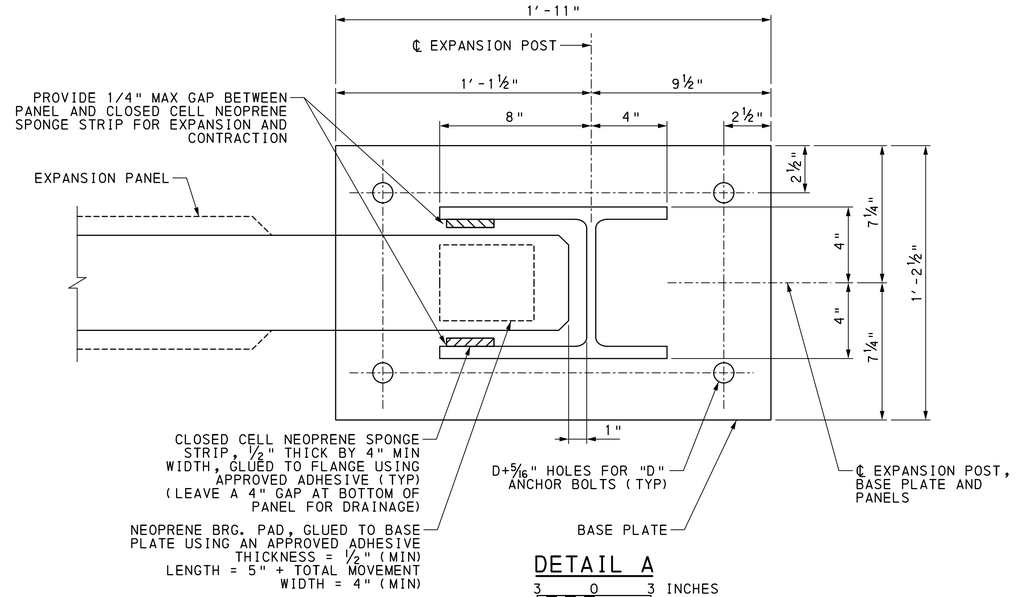
FILENAME: E02657-S38014-SW-DT-03.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:16:03 AM



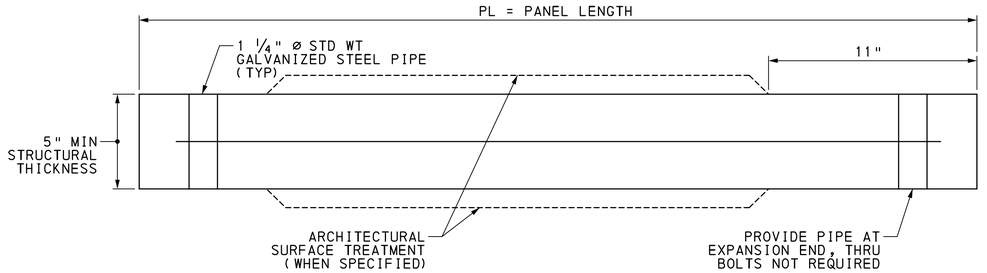

## EXPANSION PANEL DETAILS - PLAN

6 0 6 12 INCHES



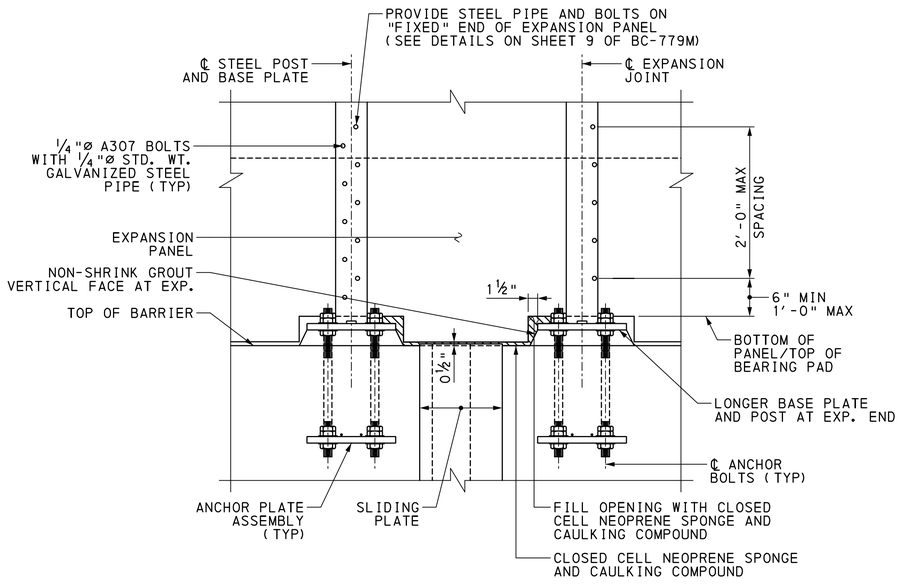

## DETAIL A

3 0 3 INCHES




## PRECAST CONCRETE EXPANSION PANEL

NOT TO SCALE




## EXPANSION PANEL ELEVATION (OUTSIDE)

6 0 6 12 INCHES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE

APPROACH SPANS 1-3 AND 12

## SOUND BARRIER DETAILS - EXPANSION PANEL DETAILS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ABIR K SENGUPTA — ENGINEER PE085336

RECOMMENDED 08/30/2019

SHEET 114 OF 295

S-38014

DES: DG | DWN: SIB | CKD: AKS

FILENAME: E02657-538014-SW-DT-02.dgn
OPERATOR: ASengupta

# SOUND BARRIER ELEVATION TABLE

| POST NO. | STATION | TOP OF BARRIER | TOP OF POST |
|---|---|---|---|
| 1 | 3045+06.16 | 416.36 | 426.44 |
| 2 | 3045+13.16 | 416.32 | 426.40 |
| 3 | 3045+20.16 | 416.27 | 426.36 |
| 4 | 3045+28.16 | 416.22 | 426.31 |
| 5 | 3045+36.16 | 416.17 | 426.26 |
| 6 | 3045+44.16 | 416.12 | 426.21 |
| 7 | 3045+52.16 | 416.07 | 426.16 |
| 8 | 3045+60.16 | 416.03 | 426.11 |
| 9 | 3045+68.16 | 415.98 | 426.06 |
| 10 | 3045+76.16 | 415.93 | 426.01 |
| 11 | 3045+84.16 | 415.88 | 425.96 |
| 12 | 3045+92.16 | 415.83 | 425.91 |
| 13 | 3046+00.16 | 415.78 | 425.86 |
| 14 | 3046+08.16 | 415.73 | 425.81 |
| 15 | 3046+16.16 | 415.68 | 425.76 |
| 16 | 3046+24.16 | 415.63 | 425.71 |
| 17 | 3046+32.16 | 415.58 | 425.66 |
| 18 | 3046+40.16 | 415.53 | 425.61 |
| 19 | 3046+48.16 | 415.48 | 425.56 |
| 20 | 3046+56.16 | 415.43 | 425.51 |
| 21 | 3046+64.16 | 415.38 | 425.46 |
| 22 | 3046+72.16 | 415.33 | 425.41 |
| 23 | 3046+80.16 | 415.28 | 425.36 |
| 24 | 3046+88.16 | 415.23 | 425.31 |
| 25 | 3046+96.16 | 415.18 | 425.26 |
| 26 | 3047+04.16 | 415.13 | 425.21 |
| 27 | 3047+12.16 | 415.08 | 425.16 |
| 28 | 3047+20.16 | 415.03 | 425.11 |
| 29 | 3047+28.16 | 414.98 | 425.06 |
| 30 | 3047+36.16 | 414.93 | 425.01 |
| 31 | 3047+44.16 | 414.88 | 424.96 |
| 32 | 3047+52.16 | 414.83 | 424.91 |
| 33 | 3047+60.16 | 414.78 | 424.87 |
| 34 | 3047+68.16 | 414.73 | 424.82 |
| 35 | 3047+76.16 | 414.68 | 424.77 |
| 36 | 3047+84.16 | 414.63 | 424.72 |
| 37 | 3047+92.16 | 414.58 | 424.67 |
| 38 | 3048+00.16 | 414.53 | 424.62 |
| 39 | 3048+08.16 | 414.48 | 424.57 |
| 40 | 3048+16.16 | 414.43 | 424.52 |
| 41 | 3048+24.16 | 414.38 | 424.47 |
| 42 | 3048+32.16 | 414.33 | 424.42 |
| 43 | 3048+40.16 | 414.28 | 424.37 |
| 44 | 3048+48.16 | 414.23 | 424.32 |
| 45 | 3048+56.16 | 414.19 | 424.27 |
| 46 | 3048+64.16 | 414.14 | 424.22 |
| 47 | 3048+71.16 | 414.09 | 424.18 |
| 48 | 3048+78.16 | 414.05 | 424.13 |
| 49 | 3048+86.16 | 414.00 | 424.08 |
| 50 | 3048+94.16 | 413.95 | 424.03 |
| 51 | 3049+02.16 | 413.90 | 423.98 |
| 52 | 3049+10.16 | 413.85 | 423.93 |
| 53 | 3049+18.16 | 413.80 | 423.88 |
| 54 | 3049+26.16 | 413.75 | 423.83 |
| 55 | 3049+34.16 | 413.70 | 423.78 |
| 56 | 3049+42.16 | 413.65 | 423.73 |
| 57 | 3049+50.16 | 413.60 | 423.68 |
| 58 | 3049+58.16 | 413.55 | 423.63 |
| 59 | 3049+66.16 | 413.50 | 423.58 |
| 60 | 3049+74.16 | 413.45 | 423.54 |
| 61 | 3049+82.16 | 413.40 | 423.49 |
| 62 | 3049+90.16 | 413.35 | 423.44 |
| 63 | 3049+98.16 | 413.30 | 423.39 |
| 64 | 3050+06.16 | 413.25 | 423.34 |
| 65 | 3050+14.16 | 413.20 | 423.29 |
| 66 | 3050+22.16 | 413.15 | 423.24 |
| 67 | 3050+30.16 | 413.10 | 423.19 |
| 68 | 3050+38.16 | 413.05 | 423.14 |
| 69 | 3050+46.16 | 413.00 | 423.09 |
| 70 | 3050+54.16 | 412.95 | 423.04 |
| 71 | 3050+62.16 | 412.90 | 422.99 |
| 72 | 3050+70.16 | 412.86 | 422.94 |
| 73 | 3050+78.16 | 412.81 | 422.89 |
| 74 | 3050+86.16 | 412.76 | 422.84 |
| 75 | 3050+94.16 | 412.71 | 422.79 |
| 76 | 3051+02.16 | 412.66 | 422.74 |
| 77 | 3051+10.16 | 412.61 | 422.69 |
| 78 | 3051+18.16 | 412.56 | 422.64 |
| 79 | 3051+26.16 | 412.51 | 422.59 |
| 80 | 3051+34.16 | 412.46 | 422.54 |
| 81 | 3051+42.16 | 412.41 | 422.49 |
| 82 | 3051+50.16 | 412.36 | 422.44 |
| 83 | 3051+58.16 | 412.31 | 422.39 |
| 84 | 3051+66.16 | 412.26 | 422.34 |
| 85 | 3051+74.16 | 412.21 | 422.29 |
| 86 | 3051+82.16 | 412.16 | 422.24 |
| 87 | 3051+88.16 | 412.12 | 422.20 |
| 88 | 3051+94.16 | 412.08 | 422.17 |
| 89 | 3052+00.16 | 412.05 | 422.13 |
| 90 | 3052+08.16 | 412.00 | 422.08 |
| 91 | 3052+16.16 | 411.95 | 422.03 |
| 92 | 3052+24.16 | 411.90 | 421.98 |
| 93 | 3052+32.16 | 411.85 | 421.93 |
| 94 | 3052+40.16 | 411.80 | 421.88 |
| 95 | 3052+48.16 | 411.75 | 421.83 |
| 96 | 3052+56.16 | 411.70 | 421.78 |
| 97 | 3052+64.16 | 411.65 | 421.73 |
| 98 | 3052+72.16 | 411.60 | 421.68 |
| 99 | 3052+80.16 | 411.55 | 421.63 |
| 100 | 3052+88.16 | 411.50 | 421.58 |
| 101 | 3052+96.16 | 411.45 | 421.53 |
| 102 | 3053+04.16 | 411.40 | 421.48 |
| 103 | 3053+12.16 | 411.35 | 421.43 |
| 104 | 3053+20.16 | 411.30 | 421.38 |
| 105 | 3053+28.16 | 411.25 | 421.33 |
| 106 | 3053+36.16 | 411.20 | 421.29 |
| 107 | 3053+44.16 | 411.15 | 421.24 |
| 108 | 3053+52.16 | 411.10 | 421.19 |
| 109 | 3053+60.16 | 411.05 | 421.14 |
| 110 | 3053+68.16 | 411.00 | 421.09 |
| 111 | 3053+76.16 | 410.95 | 421.04 |
| 112 | 3053+84.16 | 410.90 | 420.99 |
| 113 | 3053+92.16 | 410.85 | 420.94 |
| 114 | 3054+00.16 | 410.80 | 420.89 |
| 115 | 3054+08.16 | 410.75 | 420.84 |
| 116 | 3054+16.16 | 410.70 | 420.79 |
| 117 | 3054+24.16 | 410.65 | 420.74 |
| 118 | 3054+32.16 | 410.61 | 420.69 |
| 119 | 3054+40.16 | 410.56 | 420.64 |
| 120 | 3054+48.16 | 410.51 | 420.59 |
| 121 | 3054+56.16 | 410.46 | 420.54 |
| 122 | 3054+64.16 | 410.41 | 420.49 |
| 123 | 3054+72.16 | 410.36 | 420.44 |
| 124 | 3054+80.16 | 410.31 | 420.39 |
| 125 | 3054+88.16 | 410.26 | 420.34 |
| 126 | 3054+96.16 | 410.21 | 420.29 |
| 127 | 3055+02.16 | 410.17 | 420.25 |
| 128 | 3055+08.16 | 410.13 | 420.22 |
| 129 | 3055+14.16 | 410.10 | 420.18 |
| 130 | 3055+22.16 | 410.05 | 420.13 |
| 131 | 3055+30.16 | 410.00 | 420.08 |
| 132 | 3055+38.16 | 409.95 | 420.03 |
| 133 | 3055+46.16 | 409.90 | 419.98 |
| 134 | 3055+54.16 | 409.85 | 419.93 |
| 135 | 3055+62.16 | 409.80 | 419.88 |
| 136 | 3055+70.16 | 409.75 | 419.83 |
| 137 | 3055+78.16 | 409.70 | 419.78 |
| 138 | 3055+86.16 | 409.65 | 419.73 |
| 139 | 3055+94.16 | 409.60 | 419.68 |
| 140 | 3056+02.16 | 409.55 | 419.63 |
| 141 | 3056+10.16 | 409.50 | 419.58 |
| 142 | 3056+18.16 | 409.45 | 419.53 |
| 143 | 3056+26.16 | 409.40 | 419.48 |
| 144 | 3056+34.16 | 409.35 | 419.43 |
| 145 | 3056+42.16 | 409.30 | 419.38 |
| 146 | 3056+50.16 | 409.25 | 419.33 |
| 147 | 3056+58.16 | 409.20 | 419.28 |
| 148 | 3056+66.16 | 409.15 | 419.23 |
| 149 | 3056+74.16 | 409.10 | 419.18 |
| 150 | 3056+82.16 | 409.05 | 419.13 |
| 151 | 3056+90.16 | 409.00 | 419.08 |
| 152 | 3056+98.16 | 408.95 | 419.04 |
| 153 | 3057+06.16 | 408.90 | 418.99 |
| 154 | 3057+14.16 | 408.85 | 418.94 |
| 155 | 3057+22.16 | 408.80 | 418.89 |
| 156 | 3057+30.16 | 408.75 | 418.84 |
| 157 | 3057+38.16 | 408.70 | 418.79 |
| 158 | 3057+46.16 | 408.65 | 418.74 |
| 159 | 3057+54.16 | 408.60 | 418.69 |
| 160 | 3057+62.16 | 408.55 | 418.64 |
| 161 | 3057+70.16 | 408.50 | 418.59 |
| 162 | 3057+78.16 | 408.45 | 418.54 |
| 163 | 3057+86.16 | 408.40 | 418.49 |
| 164 | 3057+94.16 | 408.35 | 418.44 |
| 165 | 3058+02.16 | 408.31 | 418.39 |
| 166 | 3058+10.16 | 408.26 | 418.34 |
| 167 | 3058+17.16 | 408.21 | 418.30 |
| 168 | 3058+24.16 | 408.17 | 418.25 |
| 169 | 3058+30.16 | 408.13 | 418.21 |
| 170 | 3058+38.16 | 408.08 | 418.16 |
| 171 | 3058+46.16 | 408.03 | 418.12 |
| 172 | 3058+54.16 | 407.98 | 418.07 |
| 173 | 3058+62.16 | 407.93 | 418.02 |
| 174 | 3058+70.16 | 407.88 | 417.97 |
| 175 | 3058+78.16 | 407.83 | 417.92 |
| 176 | 3058+86.16 | 407.78 | 417.87 |
| 177 | 3058+94.16 | 407.73 | 417.82 |
| 178 | 3059+02.16 | 407.68 | 417.77 |
| 179 | 3059+10.16 | 407.63 | 417.72 |
| 180 | 3059+18.16 | 407.58 | 417.67 |
| 181 | 3059+26.16 | 407.53 | 417.62 |
| 182 | 3059+34.16 | 407.48 | 417.57 |
| 183 | 3059+42.16 | 407.44 | 417.52 |
| 184 | 3059+50.16 | 407.39 | 417.47 |
| 185 | 3059+58.16 | 407.34 | 417.42 |
| 186 | 3059+66.16 | 407.29 | 417.37 |
| 187 | 3059+74.16 | 407.24 | 417.32 |
| 188 | 3059+82.16 | 407.19 | 417.27 |
| 189 | 3059+90.16 | 407.14 | 417.22 |
| 190 | 3059+98.16 | 407.09 | 417.17 |
| 191 | 3060+06.16 | 407.04 | 417.12 |
| 192 | 3060+14.16 | 406.99 | 417.07 |
| 193 | 3060+22.16 | 406.94 | 417.02 |
| 194 | 3060+30.16 | 406.89 | 416.97 |
| 195 | 3060+38.16 | 406.84 | 416.92 |
| 196 | 3060+46.16 | 406.79 | 416.87 |
| 197 | 3060+54.16 | 406.74 | 416.82 |
| 198 | 3060+62.16 | 406.69 | 416.77 |
| 199 | 3060+70.16 | 406.64 | 416.72 |
| 200 | 3060+78.16 | 406.59 | 416.67 |
| 201 | 3060+86.16 | 406.54 | 416.62 |
| 202 | 3060+94.16 | 406.49 | 416.57 |
| 203 | 3061+02.16 | 406.44 | 416.52 |
| 204 | 3061+10.16 | 406.39 | 416.47 |
| 205 | 3061+18.16 | 406.34 | 416.42 |
| 206 | 3061+26.16 | 406.29 | 416.37 |
| 207 | 3061+32.16 | 406.25 | 416.34 |
| 208 | 3061+38.16 | 406.22 | 416.30 |
| 209 | 3061+44.16 | 406.18 | 416.26 |
| 210 | 3061+52.16 | 406.13 | 416.21 |
| 211 | 3061+58.16 | 406.09 | 416.18 |
| 212 | 3061+64.16 | 406.06 | 416.14 |
| 213 | 3061+70.16 | 406.02 | 416.10 |
| 214 | 3061+78.16 | 405.97 | 416.05 |
| 215 | 3061+86.16 | 405.92 | 416.00 |
| 216 | 3061+94.16 | 405.87 | 415.95 |
| 217 | 3062+02.16 | 405.82 | 415.90 |
| 218 | 3062+10.16 | 405.77 | 415.85 |
| 219 | 3062+18.16 | 405.72 | 415.80 |
| 220 | 3062+26.16 | 405.67 | 415.75 |
| 221 | 3062+34.16 | 405.62 | 415.70 |
| 222 | 3062+42.16 | 405.57 | 415.65 |
| 223 | 3062+50.16 | 405.52 | 415.60 |
| 224 | 3062+58.16 | 405.47 | 415.55 |
| 225 | 3062+66.16 | 405.42 | 415.50 |
| 226 | 3062+72.16 | 405.38 | 415.47 |
| 227 | 3062+80.16 | 405.33 | 415.42 |
| 228 | 3062+88.16 | 405.28 | 415.37 |
| 229 | 3062+96.16 | 405.23 | 415.32 |
| 230 | 3063+04.16 | 405.19 | 415.27 |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12
SOUND BARRIER DETAILS -
ELEVATION TABLE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

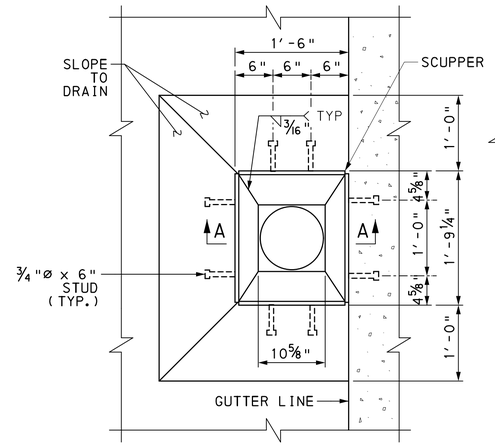
SHEET 115 OF 295

S-38014

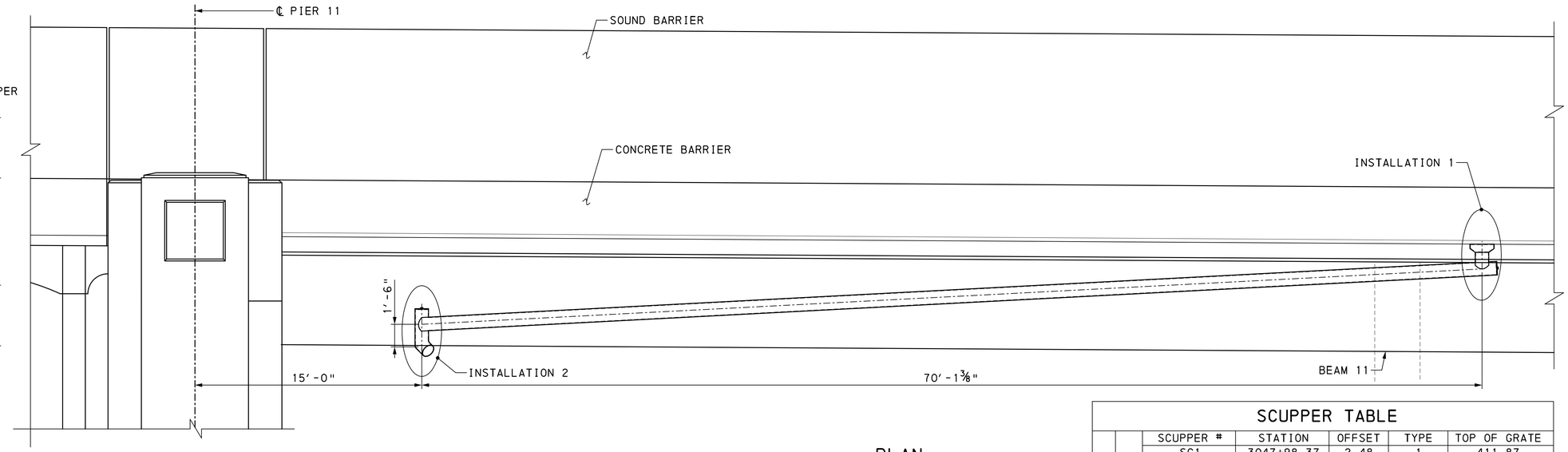
DES: XIH | DWN: DG | CKD: DG

PLOTTED: 8/27/2019 9:16:11 AM
FILENAME: E02657-S38014-SB-ELEV-DT-01.dgn
OPERATOR: ASengupta

PLOTTED: 8/27/2019 9:16:50 AM



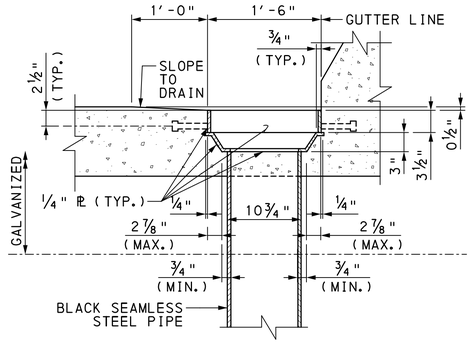

PLAN




PLAN

BEAM 11 SHOWN, BEAMS 1, 5 AND 6 SIMILAR

2 0 2 4 FEET

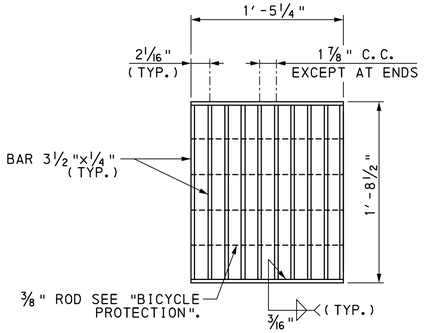



SECTION A-A

TYPE 1 SCUPPER

SHOWN WITHOUT GRATE,
SEE TYPE 1 GRATE DETAIL ON THIS SHEET

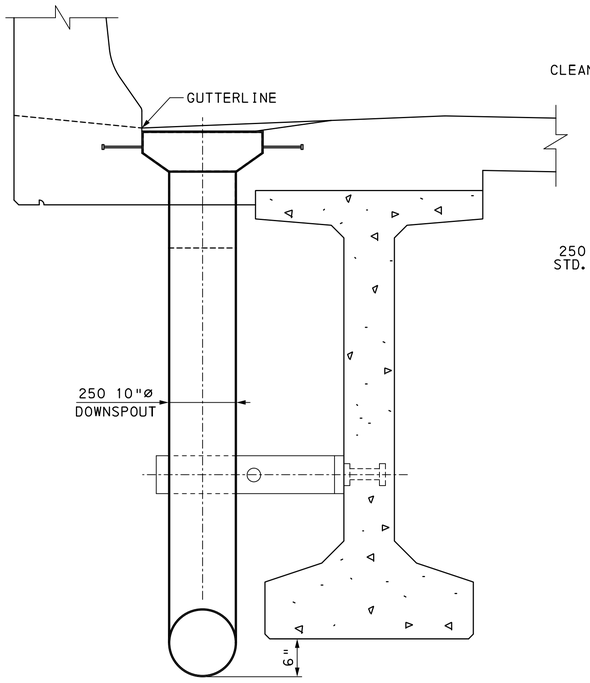
6 0 6 12INCHES




PLAN

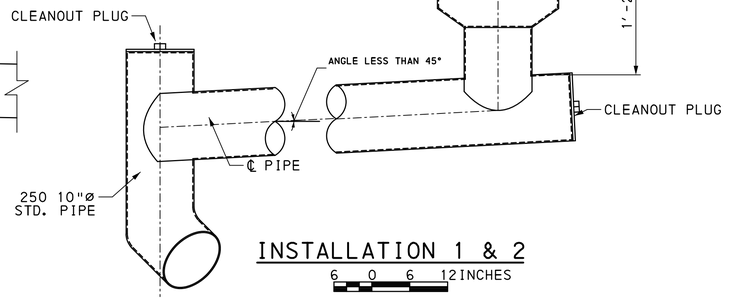
TYPE 1 GRATE

NOT TO SCALE



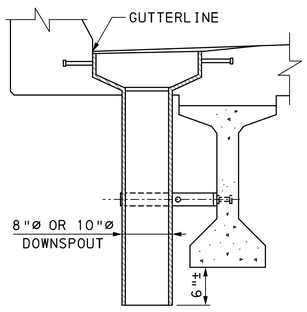

TYPICAL INSTALLATION

6 0 6 12INCHES




INSTALLATION 1 & 2

6 0 6 12INCHES




SECTION B-B

INSTALLATION III

FOR ADDITIONAL INFORMATION
SEE DOWNSPOUTING DETAILS
ON SHEET 4 OF BC-779M

6 0 6 12INCHES

## SCUPPER TABLE

| | | SCUPPER # | STATION | OFFSET | TYPE | TOP OF GRATE |
|---|---|---|---|---|---|---|
| WESTBOUND | RT GUTTER | SC1 | 3047+98.37 | 2.48 | 1 | 411.87 |
| | | SC5 | 3050+41.39 | 2.48 | 1 | 410.35 |
| | | SC9 | 3053+56.39 | 2.48 | 1 | 408.40 |
| | | SC13 | 3056+71.30 | 2.48 | 1 | 406.44 |
| | | SC17 | 3059+86.22 | 2.48 | 1 | 404.48 |
| | | SC21 | 3062+39.24 | 2.48 | 1 | 402.91 |
| | LT GUTTER | SC3 | 3047+98.37 | -52.99 | 1 | 410.88 |
| | | SC7 | 3050+41.39 | -52.99 | 1 | 409.37 |
| | | SC11 | 3053+56.39 | -52.99 | 1 | 407.41 |
| | | SC15 | 3056+71.30 | -52.99 | 1 | 405.45 |
| | | SC19 | 3059+86.22 | -52.99 | 1 | 403.49 |
| | | SC23 | 3062+39.24 | -52.99 | 1 | 401.92 |
| EASTBOUND | LT GUTTER | SC2 | 3047+98.37 | -2.48 | 1 | 411.87 |
| | | SC6 | 3050+41.39 | -2.48 | 1 | 410.35 |
| | | SC10 | 3053+56.39 | -2.48 | 1 | 408.40 |
| | | SC14 | 3056+71.30 | -2.48 | 1 | 406.44 |
| | | SC18 | 3059+86.22 | -2.48 | 1 | 404.48 |
| | | SC22 | 3062+39.24 | -2.48 | 1 | 402.91 |
| | RT GUTTER | SC4 | 3047+98.37 | 52.99 | 1 | 410.79 |
| | | SC8 | 3050+41.39 | 52.99 | 1 | 409.28 |
| | | SC12 | 3053+56.39 | 52.99 | 1 | 407.32 |
| | | SC16 | 3056+71.30 | 52.99 | 1 | 405.36 |
| | | SC20 | 3059+86.22 | 52.99 | 1 | 403.40 |
| | | SC24 | 3062+39.24 | 52.99 | 1 | 401.82 |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

NOTES

1. FOR DECK REINFORCING, SEE SHEETS 74 THROUGH 87.
2. FOR DETAILS NOT PROVIDED ON THIS SHEET SEE BC-751M.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER PE085336

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE

APPROACH SPANS 1-3 AND 12

EAST APPROACH SPANS

BRIDGE DRAINAGE DETAILS

RECOMMENDED 08/30/2019

SHEET 116 OF 295

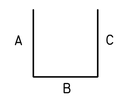
S-38014

| DES: DG | DWN: DG | CKD: AKS |
|---|---|---|

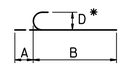
FILENAME: E02657-S38014-DR-DT-01.dgn
OPERATOR: ASengupta

# SUPERSTRUCTURE REINFORCING BAR SCHEDULE

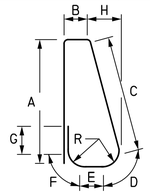
| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST APPROACH SPAN | | | | | | | | | | | | | | | | | | |
| DECK | | | | | | | | | | | | | | | | | | |
| EC401 | 4 | 357 | ---- | ---- | 9'-9 1/2" | 37 | 3'-1/2" | 0'-4" | 0'-9 3/8" | 0'-3 5/8" | 2'-10 3/4" | 0'-4 1/8" | 1'-3/4" | 0'-5" | 0'-3 3/8" | | 0'-2" | |
| EC402 | 4 | ---- | 357 | 357 | 9'-7 3/8" | 37 | 3'-5 1/2" | 0'-4" | 0'-2 1/2" | 0'-3 5/8" | 3'-3 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-4 1/8" | | 0'-2" | |
| EC403 | 4 | ---- | 357 | ---- | 8'-9 1/2" | 37 | 3'-1/2" | 0'-4" | 0'-3 3/8" | 0'-3 5/8" | 2'-10 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-3 3/8" | | 0'-2" | |
| EC501 | 5 | 60 | 140 | 80 | 38'-1" | STR | 38'-1" | | | | | | | | | | | |
| EC601 | 6 | 40 | 80 | 40 | 38'-9" | STR | 38'-9" | | | | | | | | | | | |
| ES401 | 4 | 87 | 177 | 102 | 34'-4" | STR | 34'-4" | | | | | | | | | | | LONGITUDINAL (TOP) |
| ES402 | 4 | 16 | 32 | 24 | 5'-1 3/4" | 29 | 2'-5" | 0'-7 1/4" | 1'-6 1/2" | 0'-7" | 0'-5" | | | | | | | |
| ES403 | 4 | ---- | 714 | 357 | 5'-11 1/2" | 36 | 1'-10" | 0'-4" | 0'-4" | 0'-2 3/4" | 2'-0" | 0'-2 3/4" | 1'-0" | 0'-10 1/2" | | | 0'-2" | |
| ES404 | 4 | 357 | ---- | ---- | 6'-11" | 48 | 1'-7 1/2" | 0'-4" | 0'-10" | 0'-2 3/4" | 2'-0" | 0'-2 3/4" | 1'-0" | 0'-10 1/2" | 0'-4" | 0'-4" | 0'-2" | |
| ES405 | 4 | 58 | 118 | 68 | 32'-3" | STR | 32'-3" | | | | | | | | | | | LONGITUDINAL (TOP) |
| ES406 | 4 | 87 | 177 | 102 | 33'-5" | STR | 33'-5" | | | | | | | | | | | LONGITUDINAL (TOP) |
| ES501 | 5 | 114 | 222 | 135 | 34'-0" | STR | 34'-0" | | | | | | | | | | | LONGITUDINAL (BOT) |
| ES502 | 5 | ---- | ---- | 691 | 31'-1" | STR | 31'-1" | | | | | | | | | | | TRANSVERSE (BOT) |
| ES503 | 5 | 76 | 144 | 90 | 55'-8" | STR | 55'-8" | | | | | | | | | | | LONGITUDINAL (BOT) |
| ES504 | 5 | 693 | 1512 | 693 | 9'-9" | 14 | 0'-7" | 9'-2" | | 0'-5" | | | | | | | | |
| ES505 | 5 | 691 | ---- | ---- | 32'-7" | 14 | 0'-7" | 32'-0" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES506 | 5 | 691 | ---- | ---- | 31'-1" | STR | 31'-1" | | | | | | | | | | | TRANSVERSE (BOT) |
| ES507 | 5 | ---- | ---- | 691 | 30'-3" | 14 | 0'-7" | 29'-8" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES509 | 5 | 76 | 148 | 90 | 30'-5" | STR | 30'-5" | | | | | | | | | | | LONGITUDINAL (BOT) |
| ES510 | 5 | 114 | 222 | 135 | 33'-1" | STR | 33'-1" | | | | | | | | | | | LONGITUDINAL (BOT) |
| ES511 | 5 | 3 | 6 | 3 | 5'-3" | STR | 5'-3" | | | | | | | | | | | |
| ES512 | 5 | 6 | 12 | 6 | 4'-6" | STR | 4'-6" | | | | | | | | | | | |
| ES513 | 5 | 6 | 12 | 6 | 5'-8" | STR | 5'-8" | | | | | | | | | | | |
| ES514 | 5 | ---- | 754 | ---- | 35'-4" | 14 | 0'-7" | 34'-9" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES515 | 5 | ---- | 754 | ---- | 24'-0" | 14 | 0'-7" | 23'-5" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES516 | 5 | ---- | 1508 | ---- | 29'-1" | STR | 29'-1" | | | | | | | | | | | TRANSVERSE (BOT) |
| ES601 | 6 | 4 | ---- | ---- | 9'-4" | STR | 9'-4" | | | | | | | | | | | |
| ES602 | 6 | 4 | ---- | ---- | 32'-4" | STR | 32'-4" | | | | | | | | | | | TRANSVERSE (TOP) |
| ES603 | 6 | ---- | ---- | 6 | 8'-3" | STR | 8'-3" | | | | | | | | | | | |
| ES604 | 6 | ---- | ---- | 4 | 30'-0" | STR | 30'-0" | | | | | | | | | | | TRANSVERSE (TOP) |
| ES605 | 6 | ---- | 8 | ---- | 10'-2" | STR | 10'-2" | | | | | | | | | | | |
| ES606 | 6 | ---- | 4 | ---- | 35'-1" | STR | 35'-1" | | | | | | | | | | | TRANSVERSE (TOP) |
| ES607 | 6 | ---- | 4 | ---- | 23'-9" | STR | 23'-9" | | | | | | | | | | | TRANSVERSE (TOP) |
| ES801 | 8 | 58 | 118 | 68 | 55'-8" | STR | 55'-8" | | | | | | | | | | | LONGITUDINAL (TOP) |
| ES802 | 8 | 58 | 116 | 66 | 55'-8" | STR | 55'-8" | | | | | | | | | | | LONGITUDINAL (TOP) |
| | | | | | | | | | | | | | | | | | | |
| APPROACH SLAB | | | | | | | | | | | | | | | | | | |
| EAS 401 | 4 | ---- | 31 | 31 | 7'-2" | 36 | 2'-5" | 0'-4" | 0'-4" | 0'-2 3/4" | 2'-7 1/2" | 0'-2 3/4" | 1'-0" | 1'-1 7/8" | | | 0'-2" | |
| EAS 501 | 5 | 28 | 57 | 33 | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EAS 503 | 5 | 31 | ---- | ---- | 27'-2" | STR | 27'-2" | | | | | | | | | | | |
| EAS 504 | 5 | ---- | 31 | ---- | 54'-10 1/2" | STR | 54'-10 1/2" | | | | | | | | | | | |
| EAS 505 | 5 | ---- | ---- | 31 | 31'-9 1/4" | STR | 31'-9 1/4" | | | | | | | | | | | |
| EAS 602 | 6 | 56 | 57 | 33 | 6'-4 1/2" | 4 | 2'-9" | 0'-10 1/2" | 2'-9" | | | | | | | | | |
| EAS 603 | 6 | 31 | ---- | ---- | 26'-10 3/4" | STR | 26'-10 3/4" | | | | | | | | | | | |
| EAS 604 | 6 | ---- | 31 | ---- | 54'-10 1/2" | STR | 54'-10 1/2" | | | | | | | | | | | |
| EAS 605 | 6 | ---- | ---- | 31 | 31'-9 1/4" | STR | 31'-9 1/4" | | | | | | | | | | | |
| EAS 1001 | 10 | 56 | 114 | 66 | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EC 402 | 4 | ---- | 31 | 31 | 9'-7 3/8" | 37 | 3'-5 1/2" | 0'-4" | 0'-2 1/2" | 0'-3 5/8" | 3'-3 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-4 1/8" | | 0'-2" | |
| EC 502 | 5 | ---- | 8 | 8 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |
| EC 602 | 6 | ---- | 4 | 4 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| MOMENT SLAB | | | | | | | | | | | | | | | | | | |
| EMS 501 | 5 | 20 | 16 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 502 | 5 | 31 | 31 | ---- | 11'-6" | STR | 11'-6" | | | | | | | | | | | |
| EMS 503 | 5 | 31 | 31 | ---- | 14'-6" | STR | 14'-6" | | | | | | | | | | | |
| EMS 504 | 5 | 4 | 4 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 601 | 6 | 31 | ---- | ---- | 11'-6" | STR | 11'-6" | | | | | | | | | | | |
| EMS 602 | 6 | ---- | 31 | ---- | 14'-6" | STR | 14'-6" | | | | | | | | | | | |
| EMS 401 | 4 | 2 | 2 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 1001 | 10 | 20 | 16 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 402 | 4 | 31 | ---- | ---- | 8'-6" | 36 | 3'-5" | 0'-4" | 0'-10" | 0'-2 3/4" | 2'-5 1/2" | 0'-2 3/4" | 1'-0" | 1'-1" | | | 0'-2" | |
| EMS 403 | 4 | ---- | ---- | 31 | 8'-0" | 36 | 3'-5" | 0'-4" | 0'-4" | 0'-2 3/4" | 2'-5 1/2" | 0'-2 3/4" | 1'-0" | 1'-1" | | | 0'-2" | |
| EC 401 | 4 | 31 | ---- | ---- | 9'-9 1/2" | 37 | 3'-1/2" | 0'-4" | 0'-9 3/8" | 0'-3 5/8" | 2'-10 3/4" | 0'-4 1/8" | 1'-3/4" | 0'-5" | 0'-3 3/8" | | 0'-2" | |
| EC 402 | 4 | ---- | ---- | 31 | 9'-7 3/8" | 37 | 3'-5 1/2" | 0'-4" | 0'-2 1/2" | 0'-3 5/8" | 3'-3 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-4 1/8" | | 0'-2" | |
| EC 502 | 5 | 8 | ---- | 8 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |
| EC 602 | 6 | 4 | ---- | 4 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| SLEEPER SLAB | | | | | | | | | | | | | | | | | | |
| ESS 501 | 5 | 14 | ---- | ---- | 26'-10 3/4" | STR | 26'-10 3/4" | | | | | | | | | | | |
| ESS 502 | 5 | ---- | 14 | ---- | 54'-10 1/2" | STR | 54'-10 1/2" | | | | | | | | | | | |
| ESS 503 | 5 | ---- | ---- | 14 | 31'-3 1/4" | STR | 31'-3 1/4" | | | | | | | | | | | |
| ESS 801 | 8 | 56 | 112 | 66 | 4'-6" | STR | 4'-6" | | | | | | | | | | | |



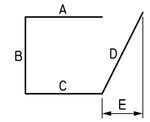
4



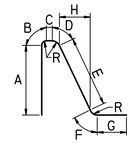
14



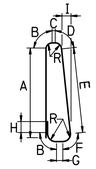
28



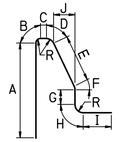
29



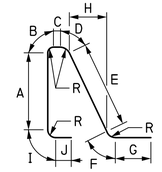
36



37



41



48

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

SUPERSTRUCTURE BAR SCHEDULE - 1

RECOMMENDED 08/30/2019

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

SHEET 117 OF 295

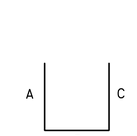
S-38014

DES: DG | DWN: SIB | CKD: AKS

PLOTTED: 8/27/2019 9:16:57 AM
FILENAME: E02657-S38014-DECK-REBR-01.dgn
OPERATOR: ASengupta

# SUPERSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIAPHRAGM | | | | | | | | | | | | | | | | | | |
| DIAPHRAGM - PIER 1 | | | | | | | | | | | | | | | | | | |
| ED 401 | 4 | 44 | 96 | 54 | 12'-5" | 4 | 4'-11" | 2'-7" | 4'-11" | | | | | | | | | |
| ED 402 | 4 | 8 | 16 | 12 | 9'-5" | 4 | 3'-5" | 2'-7" | 3'-5" | | | | | | | | | |
| ED 501 | 5 | ---- | 4 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 502 | 5 | ---- | ---- | 3 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 503 | 5 | 2 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 504 | 5 | ---- | 96 | ---- | 7'-4" | STR | 7'-4" | | | | | | | | | | | |
| ED 505 | 5 | ---- | ---- | 72 | 6'-5" | STR | 6'-5" | | | | | | | | | | | |
| ED 506 | 5 | 48 | ---- | ---- | 6'-11" | STR | 6'-11" | | | | | | | | | | | |
| ED 601 | 6 | ---- | 32 | ---- | 8'-3" | STR | 8'-3" | | | | | | | | | | | |
| ED 602 | 6 | ---- | ---- | 24 | 6'-4" | STR | 6'-4" | | | | | | | | | | | |
| ED 603 | 6 | 16 | ---- | ---- | 7'-5" | STR | 7'-5" | | | | | | | | | | | |
| ED 507 | 5 | 1 | 2 | 1 | 5'-0" | STR | 5'-0" | | | | | | | | | | | |
| ED 508 | 5 | 12 | 12 | ---- | 2'-2" | 10 | 1'-2" | 1'-0" | | | | | | | | | | |
| ED 403 | 4 | 6 | 6 | ---- | 2'-8" | STR | 2'-8" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DIAPHRAGM - PIER 2 | | | | | | | | | | | | | | | | | | |
| ED 401 | 4 | 44 | 96 | 54 | 12'-5" | 4 | 4'-11" | 2'-7" | 4'-11" | | | | | | | | | |
| ED 402 | 4 | 8 | 16 | 12 | 9'-5" | 4 | 3'-5" | 2'-7" | 3'-5" | | | | | | | | | |
| ED 501 | 5 | ---- | 4 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 502 | 5 | ---- | ---- | 3 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 503 | 5 | 2 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 504 | 5 | ---- | 96 | ---- | 7'-4" | STR | 7'-4" | | | | | | | | | | | |
| ED 505 | 5 | ---- | ---- | 72 | 6'-5" | STR | 6'-5" | | | | | | | | | | | |
| ED 506 | 5 | 48 | ---- | ---- | 6'-11" | STR | 6'-11" | | | | | | | | | | | |
| ED 601 | 6 | ---- | 32 | ---- | 8'-3" | STR | 8'-3" | | | 0'-11 1/8" | | | | | | | | |
| ED 602 | 6 | ---- | ---- | 24 | 6'-4" | STR | 6'-4" | | | | | | | | | | | |
| ED 603 | 6 | 16 | ---- | ---- | 7'-5" | STR | 7'-5" | | | | | | | | | | | |
| ED 507 | 5 | 1 | 2 | 1 | 5'-0" | STR | 5'-0" | | | | | | | | | | | |
| ED 508 | 5 | 12 | 12 | ---- | 2'-2" | 10 | 1'-2" | 1'-0" | | | | | | | | | | |
| ED 403 | 4 | 6 | 6 | ---- | 2'-8" | STR | 2'-8" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DIAPHRAGM - ABUTMENT 1 | | | | | | | | | | | | | | | | | | |
| ED 404 | 4 | 44 | 96 | 54 | 8'-5" | 4 | 3'-10" | 0'-9" | 3'-10" | | | | | | | | | |
| ED 504 | 5 | ---- | 80 | ---- | 7'-4" | STR | 7'-4" | | | | | | | | | | | |
| ED 505 | 5 | ---- | ---- | 60 | 6'-5" | STR | 6'-5" | | | | | | | | | | | |
| ED 506 | 5 | 40 | ---- | ---- | 6'-11" | STR | 6'-11" | | | | | | | | | | | |
| ED 604 | 6 | 4 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 605 | 6 | ---- | ---- | 6 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 606 | 6 | ---- | 8 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 501 | 5 | ---- | 4 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 502 | 5 | ---- | ---- | 3 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 503 | 5 | 2 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 607 | 6 | 12 | ---- | ---- | 7'-3" | STR | 7'-3" | | | | | | | | | | | |
| ED 608 | 6 | ---- | ---- | 18 | 6'-4" | STR | 6'-4" | | | | | | | | | | | |
| ED 609 | 6 | ---- | 24 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DIAPHRAGM - PIER 3 | | | | | | | | | | | | | | | | | | |
| ED 405 | 4 | 60 | 122 | 80 | 11'-4" | 4 | 4'-11" | 1'-6" | 4'-11" | | | | | | | | | |
| ED 501 | 5 | ---- | 4 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 502 | 5 | ---- | ---- | 3 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 503 | 5 | 2 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 604 | 6 | 8 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 605 | 6 | ---- | ---- | 12 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 606 | 6 | 16 | ---- | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 504 | 5 | ---- | 96 | ---- | 7'-4" | STR | 7'-4" | | | | | | | | | | | |
| ED 505 | 5 | ---- | ---- | 72 | 6'-5" | STR | 6'-5" | | | | | | | | | | | |
| ED 506 | 5 | 48 | ---- | ---- | 6'-11" | STR | 6'-11" | | | | | | | | | | | |
| ED 509 | 5 | ---- | 12 | 12 | 6'-7" | STR | 6'-7" | | | | | | | | | | | |
| ED 510 | 5 | 12 | 12 | ---- | 6'-0" | STR | 6'-0" | | | | | | | | | | | |
| ED 610 | 6 | 6 | 6 | ---- | 4'-7" | STR | 4'-7" | | | | | | | | | | | |
| ED 611 | 6 | ---- | 6 | 6 | 6'-7" | STR | 6'-7" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| INTERMEDIATE DIAPHRAGM - SPAN 1 | | | | | | | | | | | | | | | | | | |
| ED 523 | 5 | ---- | 40 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 524 | 5 | 20 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 525 | 5 | ---- | ---- | 30 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |
| ED 408 | 4 | 30 | 32 | 26 | 7'-10" | 4 | 3'-8" | 0'-6" | 3'-8" | | | | | | | | | |
| ED 616 | 6 | ---- | 2 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 617 | 6 | 2 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 618 | 6 | ---- | ---- | 2 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |



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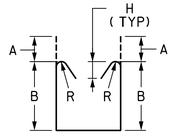

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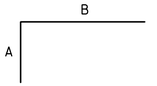

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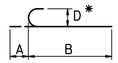

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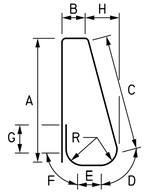

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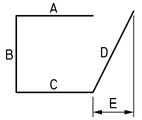

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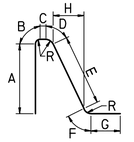

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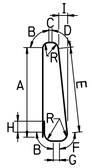

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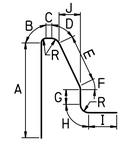

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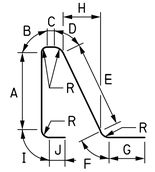


48

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

SUPERSTRUCTURE BAR SCHEDULE - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019 2019

SHEET 118 OF 295

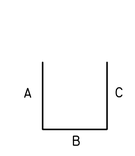
S-38014

DES: DG | DWN: SIB | CKD: AKS

PLOTTED: 8/27/2019 1:17:35 AM
FILENAME: E02657-538014-DECK-REBR-02.dgn
OPERATOR: ASengupta

# SUPERSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIAPHRAGM (CONT'D) | | | | | | | | | | | | | | | | | | |
| INTERMEDIATE DIAPHRAGM - SPAN 2 | | | | | | | | | | | | | | | | | | |
| ED 523 | 5 | ---- | 40 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 524 | 5 | 20 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 525 | 5 | ---- | ---- | 30 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |
| ED 408 | 4 | 30 | 32 | 26 | 7'-10" | 4 | 3'-8" | 0'-6" | 3'-8" | | | | | | | | | |
| ED 616 | 6 | ---- | 2 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 617 | 6 | 2 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 618 | 6 | ---- | ---- | 2 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| INTERMEDIATE DIAPHRAGM - SPAN 3 | | | | | | | | | | | | | | | | | | |
| ED 523 | 5 | ---- | 40 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 524 | 5 | 20 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 525 | 5 | ---- | ---- | 30 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |
| ED 408 | 4 | 30 | 32 | 26 | 7'-10" | 4 | 3'-8" | 0'-6" | 3'-8" | | | | | | | | | |
| ED 616 | 6 | ---- | 2 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 617 | 6 | 2 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 618 | 6 | ---- | ---- | 2 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| EAST APPROACH SPAN | | | | | | | | | | | | | | | | | | |
| DECK | | | | | | | | | | | | | | | | | | |
| EC401 | 4 | 126 | ---- | ---- | 9'-9 1/2" | 37 | 3'-1/2" | 0'-4" | 0'-9 3/8" | 0'-3 5/8" | 2'-10 3/4" | 0'-4 1/8" | 1'-3/4" | 0'-5" | 0'-3 3/8" | | 0'-2" | |
| EC402 | 4 | ---- | 126 | 126 | 9'-7 3/8" | 37 | 3'-5 1/2" | 0'-4" | 0'-2 1/2" | 0'-3 5/8" | 3'-3 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-4 1/8" | | 0'-2" | |
| EC403 | 4 | ---- | 126 | ---- | 8'-9 1/2" | 37 | 3'-1/2" | 0'-4" | 0'-3 3/8" | 0'-3 5/8" | 2'-10 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-3 3/8" | | 0'-2" | |
| EC501 | 5 | 18 | 42 | 24 | 41'-0" | STR | 41'-0" | | | | | | | | | | | |
| EC601 | 6 | 12 | 24 | 12 | 41'-6" | STR | 41'-6" | | | | | | | | | | | |
| ES402 | 4 | 16 | 32 | 24 | 5'-1 3/4" | 29 | 2'-5" | 0'-7 1/4" | 1'-6 1/2" | 0'-7" | 0'-5" | | | | | | | |
| ES403 | 4 | ---- | 252 | 126 | 5'-11 1/2" | 36 | 1'-10" | 0'-4" | 0'-4" | 0'-2 3/4" | 2'-0" | 0'-2 3/4" | 1'-0" | 0'-10 1/2" | | | 0'-2" | |
| ES404 | 4 | 126 | ---- | ---- | 6'-11" | 48 | 1'-7 1/2" | 0'-4" | 0'-10" | 0'-2 3/4" | 2'-0" | 0'-2 3/4" | 1'-0" | 0'-10 1/2" | 0'-4" | 0'-4" | 0'-2" | |
| ES408 | 4 | 87 | 177 | 102 | 39'-11" | STR | 39'-11" | | | | | | | | | | | LONGITUDINAL (TOP) |
| ES502 | 5 | ---- | ---- | 229 | 31'-1" | STR | 31'-1" | | | | | | | | | | | TRANSVERSE (BOT) |
| ES504 | 5 | 231 | 504 | 231 | 9'-9" | 14 | 0'-7" | 9'-2" | | 0'-5" | | | | | | | | |
| ES505 | 5 | 229 | ---- | ---- | 32'-7" | 14 | 0'-7" | 32'-0" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES506 | 5 | 229 | ---- | ---- | 31'-1" | STR | 31'-1" | | | | | | | | | | | TRANSVERSE (BOT) |
| ES507 | 5 | ---- | ---- | 229 | 30'-3" | 14 | 0'-7" | 29'-8" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES508 | 5 | 114 | 222 | 135 | 40'-4" | STR | 40'-4" | | | | | | | | | | | LONGITUDINAL (BOT) |
| ES511 | 5 | 3 | 6 | 3 | 5'-3" | STR | 5'-3" | | | | | | | | | | | |
| ES512 | 5 | 6 | 12 | 6 | 4'-6" | STR | 4'-6" | | | | | | | | | | | |
| ES513 | 5 | 6 | 12 | 6 | 5'-8" | STR | 5'-8" | | | | | | | | | | | |
| ES514 | 5 | ---- | 250 | ---- | 35'-4" | 14 | 0'-7" | 34'-9" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES515 | 5 | ---- | 250 | ---- | 24'-0" | 14 | 0'-7" | 23'-5" | | 0'-5" | | | | | | | | TRANSVERSE (TOP) |
| ES516 | 5 | ---- | 500 | ---- | 29'-1" | STR | 29'-1" | | | | | | | | | | | TRANSVERSE (BOT) |
| ES601 | 6 | 4 | ---- | ---- | 9'-4" | STR | 9'-4" | | | | | | | | | | | |
| ES602 | 6 | 4 | ---- | ---- | 32'-4" | STR | 32'-4" | | | | | | | | | | | TRANSVERSE (TOP) |
| ES603 | 6 | ---- | ---- | 6 | 8'-3" | STR | 8'-3" | | | | | | | | | | | |
| ES604 | 6 | ---- | ---- | 4 | 30'-0" | STR | 30'-0" | | | | | | | | | | | TRANSVERSE (TOP) |
| ES605 | 6 | ---- | 8 | ---- | 10'-2" | STR | 10'-2" | | | | | | | | | | | |
| ES606 | 6 | ---- | 4 | ---- | 35'-1" | STR | 35'-1" | | | | | | | | | | | TRANSVERSE (TOP) |
| ES607 | 6 | ---- | 4 | ---- | 23'-9" | STR | 23'-9" | | | | | | | | | | | TRANSVERSE (TOP) |
| | | | | | | | | | | | | | | | | | | |
| APPROACH SLAB | | | | | | | | | | | | | | | | | | |
| EAS 401 | 4 | ---- | 31 | 31 | 7'-2" | 36 | 2'-5" | 0'-4" | 0'-4" | 0'-2 3/4" | 2'-7 1/2" | 0'-2 3/4" | 1'-0" | 1'-1 7/8" | | | 0'-2" | |
| EAS 501 | 5 | 28 | 57 | 33 | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EAS 503 | 5 | 31 | ---- | ---- | 27'-2" | STR | 27'-2" | | | | | | | | | | | |
| EAS 504 | 5 | ---- | 31 | ---- | 54'-10 1/2" | STR | 54'-10 1/2" | | | | | | | | | | | |
| EAS 505 | 5 | ---- | ---- | 31 | 31'-9 1/4" | STR | 31'-9 1/4" | | | | | | | | | | | |
| EAS 602 | 6 | 56 | 57 | 33 | 6'-4 1/2" | 4 | 2'-9" | 0'-10 1/2" | 2'-9" | | | | | | | | | |
| EAS 603 | 6 | 31 | ---- | ---- | 26'-10 3/4" | STR | 26'-10 3/4" | | | | | | | | | | | |
| EAS 604 | 6 | ---- | 31 | ---- | 54'-10 1/2" | STR | 54'-10 1/2" | | | | | | | | | | | |
| EAS 605 | 6 | ---- | ---- | 31 | 31'-9 1/4" | STR | 31'-9 1/4" | | | | | | | | | | | |
| EAS 1001 | 10 | 56 | 114 | 66 | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EC 402 | 4 | ---- | 31 | 31 | 9'-7 3/8" | 37 | 3'-5 1/2" | 0'-4" | 0'-2 1/2" | 0'-3 5/8" | 3'-3 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-4 1/8" | | 0'-2" | |
| EC 502 | 5 | ---- | 8 | 8 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |
| EC 602 | 6 | ---- | 4 | 4 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |



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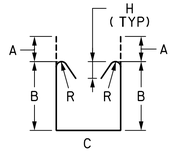

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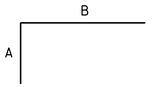

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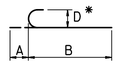

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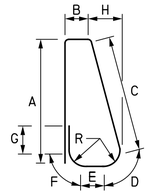

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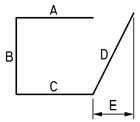

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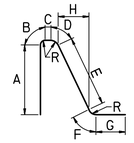

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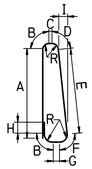

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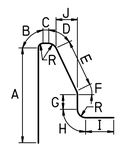

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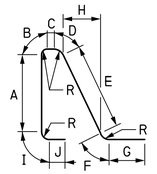


48

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

SUPERSTRUCTURE BAR SCHEDULE - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019 19

SHEET 119 OF 295

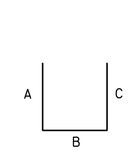
S-38014

DES: DG | DWN: SIB | CKD: AKS

PLOTTED: 8/27/2019 1:18:06 AM
FILENAME: E02657-S38014-DECK-REBR-03.dgn
OPERATOR: ASengupta

# SUPERSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | NUMBER STAGE 1 | NUMBER STAGE 2 | NUMBER STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MOMENT SLAB | | | | | | | | | | | | | | | | | | |
| EMS 501 | 5 | 20 | 16 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 502 | 5 | 31 | 31 | ---- | 11'-6" | STR | 11'-6" | | | | | | | | | | | |
| EMS 503 | 5 | 31 | 31 | ---- | 14'-6" | STR | 14'-6" | | | | | | | | | | | |
| EMS 504 | 5 | 4 | 4 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 601 | 6 | 31 | ---- | ---- | 11'-6" | STR | 11'-6" | | | | | | | | | | | |
| EMS 602 | 6 | ---- | 31 | ---- | 14'-6" | STR | 14'-6" | | | | | | | | | | | |
| EMS 401 | 4 | 2 | 2 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 1001 | 10 | 20 | 16 | ---- | 29'-6" | STR | 29'-6" | | | | | | | | | | | |
| EMS 402 | 4 | 31 | ---- | ---- | 8'-6" | 36 | 3'-5" | 0'-4" | 0'-10" | 0'-2 3/4" | 2'-5 1/2" | 0'-2 3/4" | 1'-0" | 1'-1" | | | 0'-2" | |
| EMS 403 | 4 | ---- | ---- | 31 | 8'-0" | 36 | 3'-5" | 0'-4" | 0'-4" | 0'-2 3/4" | 2'-5 1/2" | 0'-2 3/4" | 1'-0" | 1'-1" | | | 0'-2" | |
| EC 401 | 4 | 31 | ---- | ---- | 9'-9 1/2" | 37 | 3'-1/2" | 0'-4" | 0'-9 3/8" | 0'-3 5/8" | 2'-10 3/4" | 0'-4 1/8" | 1'-3/4" | 0'-5" | 0'-3 3/8" | | 0'-2" | |
| EC 402 | 4 | ---- | ---- | 31 | 9'-7 3/8" | 37 | 3'-5 1/2" | 0'-4" | 0'-2 1/2" | 0'-3 5/8" | 3'-3 3/4" | 0'-4 1/8" | 0'-6 3/4" | 0'-5" | 0'-4 1/8" | | 0'-2" | |
| EC 502 | 5 | 8 | ---- | 8 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |
| EC 602 | 6 | 4 | ---- | 4 | 29'-8" | STR | 29'-8" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| SLEEPER SLAB | | | | | | | | | | | | | | | | | | |
| ESS 501 | 5 | 14 | ---- | ---- | 26'-10 3/4" | STR | 26'-10 3/4" | | | | | | | | | | | |
| ESS 502 | 5 | ---- | 14 | ---- | 54'-10 1/2" | STR | 54'-10 1/2" | | | | | | | | | | | |
| ESS 503 | 5 | ---- | ---- | 14 | 31'-3 1/4" | STR | 31'-3 1/4" | | | | | | | | | | | |
| ESS 801 | 8 | 56 | 112 | 66 | 4'-6" | STR | 4'-6" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DIAPHRAGM | | | | | | | | | | | | | | | | | | |
| DIAPHRAGM - ABUTMENT 2 | | | | | | | | | | | | | | | | | | |
| ED 404 | 4 | 44 | 96 | 54 | 8'-5" | 4 | 3'-10" | 0'-9" | 3'-10" | | | | | | | | | |
| ED 504 | 5 | ---- | 80 | ---- | 7'-4" | STR | 7'-4" | | | | | | | | | | | |
| ED 505 | 5 | ---- | ---- | 60 | 6'-5" | STR | 6'-5" | | | | | | | | | | | |
| ED 506 | 5 | 40 | ---- | ---- | 6'-11" | STR | 6'-11" | | | | | | | | | | | |
| ED 604 | 6 | 4 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 605 | 6 | ---- | ---- | 6 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 606 | 6 | ---- | 8 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 501 | 5 | ---- | 4 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 502 | 5 | ---- | ---- | 3 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 503 | 5 | 2 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 607 | 6 | 12 | ---- | ---- | 7'-3" | STR | 7'-3" | | | | | | | | | | | |
| ED 608 | 6 | ---- | ---- | 18 | 6'-4" | STR | 6'-4" | | | | | | | | | | | |
| ED 609 | 6 | ---- | 24 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| DIAPHRAGM - PIER 11 | | | | | | | | | | | | | | | | | | |
| ED 405 | 4 | 60 | 122 | 80 | 11'-4" | 4 | 4'-11" | 1'-6" | 4'-11" | | | | | | | | | |
| ED 501 | 5 | ---- | 4 | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 502 | 5 | ---- | ---- | 3 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 503 | 5 | 2 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 604 | 6 | 8 | ---- | ---- | 6'-10" | STR | 6'-10" | | | | | | | | | | | |
| ED 605 | 6 | ---- | ---- | 12 | 5'-9" | STR | 5'-9" | | | | | | | | | | | |
| ED 606 | 6 | 16 | ---- | ---- | 7'-8" | STR | 7'-8" | | | | | | | | | | | |
| ED 504 | 5 | ---- | 96 | ---- | 7'-4" | STR | 7'-4" | | | 0'-11 1/8" | | | | | | | | |
| ED 505 | 5 | ---- | ---- | 72 | 6'-5" | STR | 6'-5" | | | | | | | | | | | |
| ED 506 | 5 | 48 | ---- | ---- | 6'-11" | STR | 6'-11" | | | | | | | | | | | |
| ED 509 | 5 | ---- | 12 | 12 | 6'-7" | STR | 6'-7" | | | | | | | | | | | |
| ED 510 | 5 | 12 | 12 | ---- | 6'-0" | STR | 6'-0" | | | | | | | | | | | |
| ED 610 | 6 | 6 | 6 | ---- | 4'-7" | STR | 4'-7" | | | | | | | | | | | |
| ED 611 | 6 | ---- | 6 | 6 | 6'-7" | STR | 6'-7" | | | | | | | | | | | |
| INTERMEDIATE DIAPHRAGM - SPAN 11 | | | | | | | | | | | | | | | | | | |
| ED 523 | 5 | ---- | 40 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 524 | 5 | 20 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 525 | 5 | ---- | ---- | 30 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |
| ED 408 | 4 | 30 | 32 | 26 | 7'-10" | 4 | 3'-8" | 0'-6" | 3'-8" | | | | | | | | | |
| ED 616 | 6 | ---- | 2 | ---- | 8'-0" | STR | 8'-0" | | | | | | | | | | | |
| ED 617 | 6 | 2 | ---- | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| ED 618 | 6 | ---- | ---- | 2 | 7'-0" | STR | 7'-0" | | | | | | | | | | | |



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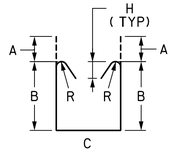

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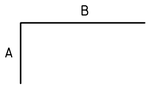

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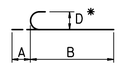

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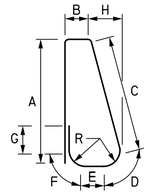

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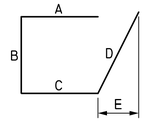

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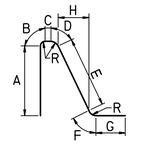

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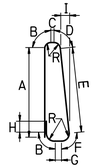

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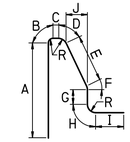

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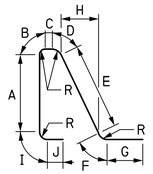


(48)

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
P/S CONCRETE CONTINUOUS COMPOSITE BULB TEE
APPROACH SPANS 1-3 AND 12

SUPERSTRUCTURE BAR SCHEDULE - 4

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ABIR K SENGUPTA
ENGINEER
PE085336

RECOMMENDED 08/30/2019

SHEET 120 OF 295

S-38014

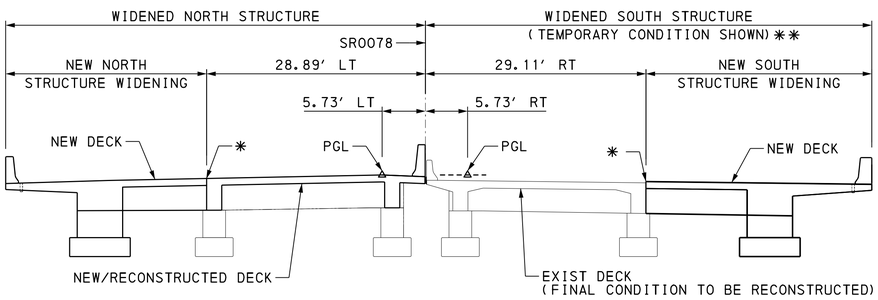
DES: DG | DWN: SIB | CKD: AKS

PLOTTED: 8/27/2019 1:18:39 AM
FILENAME: E02657-S38014-DECK-REBR-04.dgn
OPERATOR: ASengupta

PLOTTED: 8/26/2019 4:51:30 PM

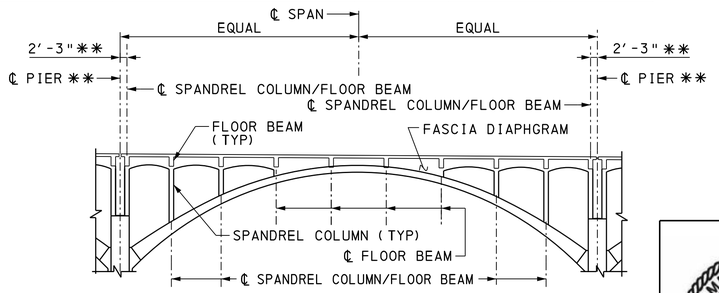
## TOP OF DECK CONSTRUCTION TIE-IN INTERFACE

| | LOCATION DESCRIPTION | SR0078 STATIONING | PGL ELEV (FT) | SOUTH STRUCTURE DECK TIE-IN | | | | NORTH STRUCTURE DECK TIE-IN | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RT OFFSET (FT) | NEW/RECONSTRUCTED T.O. DECK ELEV (FT) | | EXIST T.O. DECK ELEV (FT) | ELEV DIFFERENCE BETWEEN NEW & EXIST T.O. DECK (IN) | LT OFFSET (FT) | NEW/RECONSTRUCTED T.O. DECK ELEV (FT) | |
| | | | | | W/O CAMBER | W/ CAMBER | | | | W/O CAMBER | W/ CAMBER |
| SPAN 4 | ℄ PIER 3 | 3048+83.16 | 411.44 | 29.11 | 410.97 | 410.97 | 411.09 | 1.4 | 28.89 | 410.98 | 410.98 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3048+91.16 | 411.39 | 29.11 | 410.92 | 410.96 | 411.03 | 1.3 | 28.89 | 410.93 | 410.97 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3049+05.83 | 411.29 | 29.11 | 410.82 | 410.88 | 410.91 | 1.1 | 28.89 | 410.83 | 410.89 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3049+22.24 | 411.19 | 29.11 | 410.72 | 410.79 | 410.77 | 0.6 | 28.89 | 410.73 | 410.80 |
| | ℄ FLOOR BEAM | 3049+40.41 | 411.08 | 29.11 | 410.61 | 410.68 | 410.63 | 0.2 | 28.89 | 410.62 | 410.70 |
| | ℄ FLOOR BEAM | 3049+58.58 | 410.96 | 29.11 | 410.49 | 410.57 | 410.48 | -0.1 | 28.89 | 410.50 | 410.58 |
| | CENTER OF SPAN | 3049+67.66 | 410.91 | 29.11 | 410.44 | 410.51 | 410.42 | -0.3 | 28.89 | 410.45 | 410.53 |
| | ℄ FLOOR BEAM | 3049+76.74 | 410.85 | 29.11 | 410.38 | 410.45 | 410.36 | -0.3 | 28.89 | 410.39 | 410.47 |
| | ℄ FLOOR BEAM | 3049+94.90 | 410.74 | 29.11 | 410.27 | 410.33 | 410.22 | -0.6 | 28.89 | 410.28 | 410.34 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3050+13.08 | 410.63 | 29.11 | 410.16 | 410.21 | 410.09 | -0.9 | 28.89 | 410.17 | 410.22 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3050+29.49 | 410.53 | 29.11 | 410.06 | 410.10 | 410.00 | -0.7 | 28.89 | 410.07 | 410.11 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3050+44.16 | 410.44 | 29.11 | 409.97 | 410.00 | 409.95 | -0.3 | 28.89 | 409.98 | 410.01 |
| | ℄ PIER 4 | 3050+46.41 | 410.42 | 29.11 | 409.95 | 409.95 | 409.95 | 0.0 | 28.89 | 409.96 | 409.96 |
| | | | | | | | | | | | |
| SPAN 5 | ℄ PIER 4 | 3050+46.41 | 410.42 | 29.11 | 409.95 | 409.95 | 409.95 | 0.0 | 28.89 | 409.96 | 409.96 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3050+48.66 | 410.41 | 29.11 | 409.94 | 409.98 | 409.90 | -0.5 | 28.89 | 409.95 | 409.99 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3050+63.33 | 410.32 | 29.11 | 409.85 | 409.88 | 409.81 | -0.5 | 28.89 | 409.86 | 409.90 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3050+79.74 | 410.22 | 29.11 | 409.75 | 409.78 | 409.64 | -1.3 | 28.89 | 409.76 | 409.79 |
| | ℄ FLOOR BEAM | 3050+97.91 | 410.10 | 29.11 | 409.63 | 409.67 | 409.56 | -0.9 | 28.89 | 409.64 | 409.68 |
| | ℄ FLOOR BEAM | 3051+16.08 | 409.99 | 29.11 | 409.52 | 409.57 | 409.43 | -1.1 | 28.89 | 409.53 | 409.58 |
| | CENTER OF SPAN | 3051+25.16 | 409.93 | 29.11 | 409.46 | 409.51 | 409.38 | -1.0 | 28.89 | 409.47 | 409.52 |
| | ℄ FLOOR BEAM | 3051+34.24 | 409.88 | 29.11 | 409.41 | 409.46 | 409.33 | -1.0 | 28.89 | 409.42 | 409.47 |
| | ℄ FLOOR BEAM | 3051+52.41 | 409.76 | 29.11 | 409.29 | 409.35 | 409.23 | -0.7 | 28.89 | 409.30 | 409.36 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3051+70.58 | 409.65 | 29.11 | 409.18 | 409.23 | 409.12 | -0.7 | 28.89 | 409.19 | 409.24 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3051+86.99 | 409.55 | 29.11 | 409.08 | 409.12 | 409.03 | -0.6 | 28.89 | 409.09 | 409.13 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3052+01.66 | 409.46 | 29.11 | 408.99 | 409.02 | 408.93 | -0.7 | 28.89 | 409.00 | 409.03 |
| | ℄ PIER 5 | 3052+03.91 | 409.44 | 29.11 | 408.97 | 408.97 | 408.93 | -0.5 | 28.89 | 408.98 | 408.98 |
| | | | | | | | | | | | |
| SPAN 6 | ℄ PIER 5 | 3052+03.91 | 409.44 | 29.11 | 408.97 | 408.97 | 408.93 | -0.5 | 28.89 | 408.98 | 408.98 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3052+06.16 | 409.43 | 29.11 | 408.96 | 409.00 | 408.93 | -0.4 | 28.89 | 408.97 | 409.01 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3052+20.83 | 409.34 | 29.11 | 408.87 | 408.91 | 408.81 | -0.7 | 28.89 | 408.88 | 408.92 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3052+37.24 | 409.24 | 29.11 | 408.77 | 408.82 | 408.72 | -0.6 | 28.89 | 408.78 | 408.82 |
| | ℄ FLOOR BEAM | 3052+55.41 | 409.12 | 29.11 | 408.65 | 408.71 | 408.58 | -0.9 | 28.89 | 408.66 | 408.71 |
| | ℄ FLOOR BEAM | 3052+73.58 | 409.01 | 29.11 | 408.54 | 408.59 | 408.47 | -0.9 | 28.89 | 408.55 | 408.60 |
| | CENTER OF SPAN | 3052+82.66 | 408.95 | 29.11 | 408.48 | 408.54 | 408.42 | -0.7 | 28.89 | 408.49 | 408.55 |
| | ℄ FLOOR BEAM | 3052+91.74 | 408.89 | 29.11 | 408.42 | 408.48 | 408.37 | -0.6 | 28.89 | 408.43 | 408.49 |
| | ℄ FLOOR BEAM | 3053+09.91 | 408.79 | 29.11 | 408.32 | 408.37 | 408.24 | -1.0 | 28.89 | 408.33 | 408.38 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3053+28.08 | 408.67 | 29.11 | 408.20 | 408.25 | 408.14 | -0.7 | 28.89 | 408.21 | 408.26 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3053+44.49 | 408.57 | 29.11 | 408.10 | 408.15 | 408.04 | -0.7 | 28.89 | 408.11 | 408.16 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3053+59.16 | 408.48 | 29.11 | 408.01 | 408.05 | 407.99 | -0.3 | 28.89 | 408.02 | 408.06 |
| | ℄ PIER 6 | 3053+61.41 | 408.47 | 29.11 | 408.00 | 408.00 | 407.99 | -0.1 | 28.89 | 408.01 | 408.01 |
| | | | | | | | | | | | |
| SPAN 7 | ℄ PIER 6 | 3053+61.41 | 408.47 | 29.11 | 408.00 | 408.00 | 407.99 | -0.1 | 28.89 | 408.01 | 408.01 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3053+63.66 | 408.45 | 29.11 | 407.98 | 408.03 | 407.94 | -0.5 | 28.89 | 407.99 | 408.04 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3053+78.33 | 408.36 | 29.11 | 407.89 | 407.94 | 407.86 | -0.4 | 28.89 | 407.90 | 407.95 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3053+94.74 | 408.26 | 29.11 | 407.79 | 407.84 | 407.77 | -0.3 | 28.89 | 407.80 | 407.85 |
| | ℄ FLOOR BEAM | 3054+12.91 | 408.15 | 29.11 | 407.68 | 407.73 | 407.66 | -0.3 | 28.89 | 407.69 | 407.74 |
| | ℄ FLOOR BEAM | 3054+31.08 | 408.03 | 29.11 | 407.56 | 407.62 | 407.51 | -0.6 | 28.89 | 407.57 | 407.63 |
| | CENTER OF SPAN | 3054+40.16 | 407.98 | 29.11 | 407.51 | 407.56 | 407.47 | -0.5 | 28.89 | 407.52 | 407.57 |
| | ℄ FLOOR BEAM | 3054+49.24 | 407.92 | 29.11 | 407.45 | 407.50 | 407.42 | -0.4 | 28.89 | 407.46 | 407.52 |
| | ℄ FLOOR BEAM | 3054+67.41 | 407.81 | 29.11 | 407.34 | 407.39 | 407.34 | 0.0 | 28.89 | 407.35 | 407.40 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3054+85.58 | 407.69 | 29.11 | 407.22 | 407.28 | 407.26 | 0.5 | 28.89 | 407.23 | 407.29 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3055+01.99 | 407.59 | 29.11 | 407.12 | 407.17 | 407.15 | 0.3 | 28.89 | 407.13 | 407.18 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3055+16.66 | 407.50 | 29.11 | 407.03 | 407.07 | 407.09 | 0.7 | 28.89 | 407.04 | 407.08 |
| | ℄ PIER 7 | 3055+18.91 | 407.49 | 29.11 | 407.02 | 407.02 | 407.09 | 0.8 | 28.89 | 407.03 | 407.03 |




* TOP OF DECK CONSTRUCTION TIE-IN INTERFACE (SEE TABLE FOR ELEVATION)
** SEE "TYPICAL SECTIONS" SHEET FOR FINAL CONDITION

TRANSVERSE SECTION
(LOOKING UPSTATION)
NTS




** DIMENSION TYPICAL FOR INTERIOR PIERS 4 THRU 10.
SEE STRUCTURAL PLAN & ELEVATION SHEETS FOR END PIERS 3 AND 11.

LONGITUDINAL SECTION
NTS

## NOTES:

1. EXISTING STRUCTURE STATIONING AND TOP OF (T.O.) EXISTING DECK ELEVATION SHOWN IS BASED ON PROJECT SURVEY, CONTRACTOR TO VERIFY AND CONFIRM PRIOR TO CONSTRUCTION.
2. SIGN CONVENTION FOR APPROXIMATE ELEVATION DIFFERENCE BETWEEN NEW AND EXISTING TOP OF DECK AT SOUTH STRUCTURE TIE-IN (TEMPORARY CONDITION):

   POSITIVE (+) INDICATES TOP OF EXISTING DECK AT TIE-IN IS HIGHER THAN TOP OF NEW/RECONSTRUCTED DECK.

   NEGATIVE (-) INDICATES TOP OF EXISTING DECK AT TIE-IN IS LOWER THAN TOP OF NEW/RECONSTRUCTED DECK.
3. NEW/RECONSTRUCTED TOP OF DECK ELEVATION WITHOUT CAMBER IS BASED ON UNDEFORMED GEOMETRY (PGL VERTICAL CURVE WITH DECK TRANSVERSE CROSS SLOPE).
4. NEW/RECONSTRUCTED TOP OF DECK ELEVATION WITH CAMBER IS BASED ON UNDEFORMED GEOMETRY PLUS ALLOWANCE FOR ESTIMATED CAMBER. ESTIMATED CAMBER DOES NOT INCLUDE CIP CONSTRUCTION FALSEWORK SETTLEMENT.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING
DECK CONSTRUCTION TIE-IN - 1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 121 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-TS-111.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:46:09 PM

## TOP OF DECK CONSTRUCTION TIE-IN INTERFACE

| | LOCATION DESCRIPTION | SR0078 STATIONING | PGL ELEV (FT) | SOUTH STRUCTURE DECK TIE-IN | | | | NORTH STRUCTURE DECK TIE-IN | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RT OFFSET (FT) | NEW/RECONSTRUCTED T.O. DECK ELEV (FT) | | EXIST T.O. DECK ELEV (FT) | ELEV DIFFERENCE BETWEEN NEW & EXIST T.O. DECK (IN) | LT OFFSET (FT) | NEW/RECONSTRUCTED T.O. DECK ELEV (FT) | |
| | | | | | W/O CAMBER | W/ CAMBER | | | | W/O CAMBER | W/ CAMBER |
| SPAN 8 | ℄ PIER 7 | 3055+18.91 | 407.49 | 29.11 | 407.02 | 407.02 | 407.09 | 0.8 | 28.89 | 407.03 | 407.03 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3055+21.16 | 407.47 | 29.11 | 407.00 | 407.05 | 407.06 | 0.7 | 28.89 | 407.02 | 407.06 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3055+35.82 | 407.38 | 29.11 | 406.91 | 406.96 | 407.00 | 1.1 | 28.89 | 406.93 | 406.97 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3055+52.22 | 407.28 | 29.11 | 406.81 | 406.86 | 406.90 | 1.1 | 28.89 | 406.82 | 406.87 |
| | ℄ FLOOR BEAM | 3055+70.38 | 407.17 | 29.11 | 406.70 | 406.75 | 406.73 | 0.3 | 28.89 | 406.71 | 406.76 |
| | ℄ FLOOR BEAM | 3055+88.54 | 407.05 | 29.11 | 406.58 | 406.64 | 406.61 | 0.3 | 28.89 | 406.60 | 406.65 |
| | CENTER OF SPAN | 3055+97.62 | 406.99 | 29.11 | 406.52 | 406.58 | 406.55 | 0.3 | 28.89 | 406.54 | 406.60 |
| | ℄ FLOOR BEAM | 3056+06.69 | 406.94 | 29.11 | 406.47 | 406.52 | 406.50 | 0.3 | 28.89 | 406.49 | 406.54 |
| | ℄ FLOOR BEAM | 3056+24.85 | 406.83 | 29.11 | 406.36 | 406.41 | 406.41 | 0.6 | 28.89 | 406.37 | 406.42 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3056+43.01 | 406.71 | 29.11 | 406.24 | 406.29 | 406.31 | 0.8 | 28.89 | 406.26 | 406.31 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3056+59.41 | 406.61 | 29.11 | 406.14 | 406.19 | 406.23 | 1.1 | 28.89 | 406.16 | 406.21 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3056+74.07 | 406.52 | 29.11 | 406.05 | 406.09 | 406.15 | 1.2 | 28.89 | 406.07 | 406.11 |
| | ℄ PIER 8 | 3056+76.32 | 406.51 | 29.11 | 406.04 | 406.04 | 406.15 | 1.3 | 28.89 | 406.06 | 406.06 |
| | | | | | | | | | | | |
| SPAN 9 | ℄ PIER 8 | 3056+76.32 | 406.51 | 29.11 | 406.04 | 406.04 | 406.15 | 1.3 | 28.89 | 406.06 | 406.06 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3056+78.57 | 406.49 | 29.11 | 406.02 | 406.07 | 406.10 | 0.9 | 28.89 | 406.04 | 406.08 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3056+93.23 | 406.40 | 29.11 | 405.93 | 405.98 | 405.99 | 0.7 | 28.89 | 405.95 | 405.99 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3057+09.64 | 406.30 | 29.11 | 405.83 | 405.88 | 405.86 | 0.6 | 28.89 | 405.85 | 405.89 |
| | ℄ FLOOR BEAM | 3057+27.79 | 406.19 | 29.11 | 405.72 | 405.77 | 405.76 | 0.5 | 28.89 | 405.73 | 405.78 |
| | ℄ FLOOR BEAM | 3057+45.95 | 406.07 | 29.11 | 405.60 | 405.66 | 405.68 | 0.9 | 28.89 | 405.62 | 405.67 |
| | CENTER OF SPAN | 3057+55.03 | 406.02 | 29.11 | 405.55 | 405.60 | 405.62 | 0.8 | 28.89 | 405.56 | 405.61 |
| | ℄ FLOOR BEAM | 3057+64.11 | 405.96 | 29.11 | 405.49 | 405.55 | 405.56 | 0.8 | 28.89 | 405.50 | 405.56 |
| | ℄ FLOOR BEAM | 3057+82.27 | 405.85 | 29.11 | 405.38 | 405.43 | 405.45 | 0.8 | 28.89 | 405.39 | 405.44 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3058+00.42 | 405.74 | 29.11 | 405.27 | 405.32 | 405.34 | 0.8 | 28.89 | 405.28 | 405.32 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3058+16.83 | 405.63 | 29.11 | 405.16 | 405.21 | 405.24 | 0.9 | 28.89 | 405.17 | 405.22 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3058+31.49 | 405.54 | 29.11 | 405.07 | 405.12 | 405.17 | 1.2 | 28.89 | 405.08 | 405.12 |
| | ℄ PIER 9 | 3058+33.74 | 405.53 | 29.11 | 405.06 | 405.06 | 405.17 | 1.3 | 28.89 | 405.07 | 405.07 |
| | | | | | | | | | | | |
| SPAN 10 | ℄ PIER 9 | 3058+33.74 | 405.53 | 29.11 | 405.06 | 405.06 | 405.17 | 1.3 | 28.89 | 405.07 | 405.07 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3058+35.99 | 405.52 | 29.11 | 405.05 | 405.09 | 405.13 | 0.9 | 28.89 | 405.05 | 405.09 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3058+50.66 | 405.42 | 29.11 | 404.95 | 405.00 | 405.03 | 0.9 | 28.89 | 404.96 | 405.01 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3058+67.07 | 405.32 | 29.11 | 404.85 | 404.91 | 404.91 | 0.7 | 28.89 | 404.86 | 404.91 |
| | ℄ FLOOR BEAM | 3058+85.24 | 405.21 | 29.11 | 404.74 | 404.80 | 404.82 | 0.9 | 28.89 | 404.75 | 404.80 |
| | ℄ FLOOR BEAM | 3059+03.41 | 405.09 | 29.11 | 404.62 | 404.68 | 404.67 | 0.6 | 28.89 | 404.63 | 404.69 |
| | CENTER OF SPAN | 3059+12.49 | 405.04 | 29.11 | 404.57 | 404.62 | 404.62 | 0.6 | 28.89 | 404.58 | 404.63 |
| | ℄ FLOOR BEAM | 3059+21.57 | 404.98 | 29.11 | 404.51 | 404.56 | 404.58 | 0.8 | 28.89 | 404.52 | 404.57 |
| | ℄ FLOOR BEAM | 3059+39.74 | 404.87 | 29.11 | 404.40 | 404.45 | 404.48 | 0.9 | 28.89 | 404.41 | 404.45 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3059+57.91 | 404.76 | 29.11 | 404.29 | 404.33 | 404.38 | 1.1 | 28.89 | 404.29 | 404.34 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3059+74.32 | 404.66 | 29.11 | 404.19 | 404.23 | 404.26 | 0.8 | 28.89 | 404.19 | 404.23 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3059+88.99 | 404.56 | 29.11 | 404.09 | 404.13 | 404.17 | 0.9 | 28.89 | 404.10 | 404.14 |
| | ℄ PIER 10 | 3059+91.24 | 404.55 | 29.11 | 404.08 | 404.08 | 404.17 | 1.1 | 28.89 | 404.09 | 404.09 |
| | | | | | | | | | | | |
| SPAN 11 | ℄ PIER 10 | 3059+91.24 | 404.55 | 29.11 | 404.08 | 404.08 | 404.17 | 1.1 | 28.89 | 404.09 | 404.09 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3059+93.49 | 404.54 | 29.11 | 404.07 | 404.11 | 404.17 | 1.2 | 28.89 | 404.08 | 404.12 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3060+08.16 | 404.45 | 29.11 | 403.98 | 404.02 | 404.05 | 0.8 | 28.89 | 404.00 | 404.05 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3060+24.57 | 404.34 | 29.11 | 403.87 | 403.93 | 403.95 | 0.9 | 28.89 | 403.92 | 403.97 |
| | ℄ FLOOR BEAM | 3060+42.74 | 404.23 | 29.11 | 403.76 | 403.82 | 403.82 | 0.7 | 28.89 | 403.83 | 403.89 |
| | ℄ FLOOR BEAM | 3060+60.91 | 404.12 | 29.11 | 403.65 | 403.71 | 403.69 | 0.5 | 28.89 | 403.74 | 403.81 |
| | CENTER OF SPAN | 3060+69.99 | 404.06 | 29.11 | 403.59 | 403.66 | 403.63 | 0.5 | 28.89 | 403.70 | 403.76 |
| | ℄ FLOOR BEAM | 3060+79.07 | 404.00 | 29.11 | 403.53 | 403.60 | 403.57 | 0.5 | 28.89 | 403.65 | 403.72 |
| | ℄ FLOOR BEAM | 3060+97.24 | 403.89 | 29.11 | 403.42 | 403.49 | 403.46 | 0.5 | 28.89 | 403.56 | 403.62 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3061+15.41 | 403.78 | 29.11 | 403.31 | 403.37 | 403.40 | 1.1 | 28.89 | 403.47 | 403.53 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3061+31.82 | 403.68 | 29.11 | 403.21 | 403.26 | 403.29 | 0.9 | 28.89 | 403.39 | 403.44 |
| | ℄ SPANDREL COLUMN/FLOOR BEAM | 3061+46.49 | 403.58 | 29.11 | 403.11 | 403.16 | 403.19 | 0.9 | 28.89 | 403.32 | 403.36 |
| | ℄ PIER 11 | 3061+54.49 | 403.54 | 29.11 | 403.07 | 403.07 | 403.15 | 0.9 | 28.89 | 403.28 | 403.28 |

## NOTES:

1. EXISTING STRUCTURE STATIONING AND TOP OF (T.O.) EXISTING DECK ELEVATION SHOWN IS BASED ON PROJECT SURVEY, CONTRACTOR TO VERIFY AND CONFIRM PRIOR TO CONSTRUCTION.
2. SIGN CONVENTION FOR APPROXIMATE ELEVATION DIFFERENCE BETWEEN NEW AND EXISTING TOP OF DECK AT SOUTH STRUCTURE TIE-IN (TEMPORARY CONDITION):

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DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK CONSTRUCTION TIE-IN - 2

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 122 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPWO11CS01$ FILENAME: E02657-S38014-BR-TS-112.dgn

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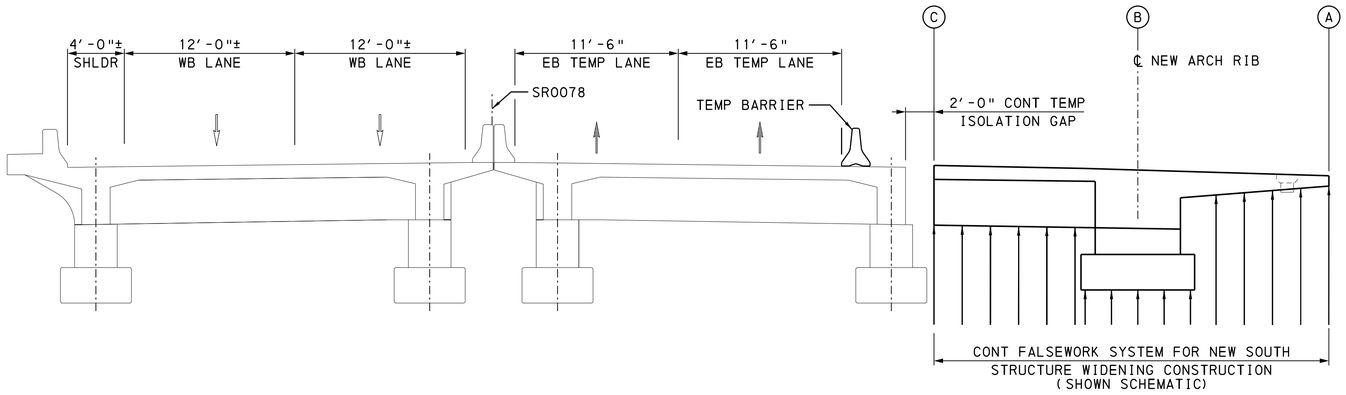
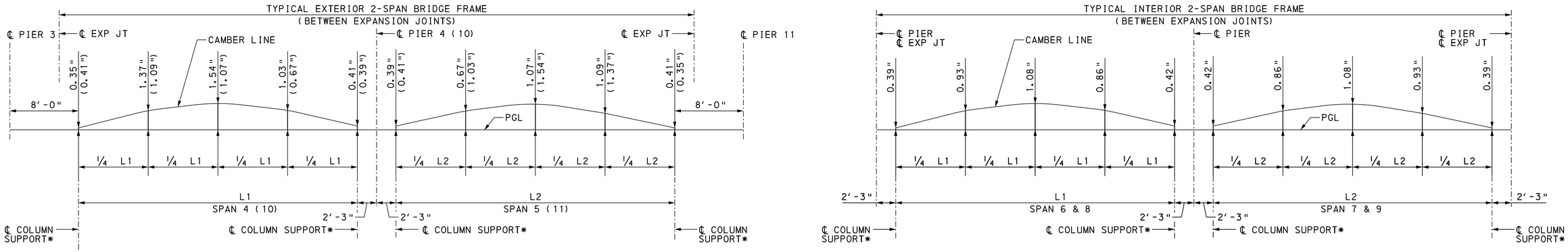



## STAGE 1 CONSTRUCTION - SOUTH STRUCTURE WIDENING

NTS

## CAMBER NOTES:

1. CAMBER SHOWN ACCOUNTS FOR LONG-TERM STRUCTURAL SETTLEMENT DUE TO DEAD LOADS AND DOES NOT INCLUDE FALSEWORK SETTLEMENT WHEN CONCRETE IS PLACED ON FALSEWORK.
2. ADDITIONAL UPWARD CAMBER DUE TO FALSEWORK SETTLEMENT SHALL BE ADDED TO THE CAMBER VALUES SHOWN.
3. POSITIVE CAMBER VALUES SHOWN INDICATE REQUIRED UPWARD ADJUSTMENT ON THE UN-DEFORMED STRUCTURE GEOMETRY SHOWN ON THE PLANS.
4. CAMBER AT LOCATION NOT SHOWN MAY BE OBTAINED BY LINEARLY INTERPOLATING THE CAMBER VALUES SHOWN FOR QUARTER POINTS ALONG THE TYPICAL 2-SPAN BRIDGE FRAME.
5. ELEVATIONS FOR FALSEWORK SETTING AND CONCRETE CASTING SHALL BE DETERMINED BY ADDING TOTAL REQUIRED CAMBER (DUE TO DEAD LOADS PLUS FALSEWORK SETTLEMENTS) TO THE UN-DEFORMED STRUCTURAL GEOMETRY SHOWN ON THE PLANS I.E. PROFILE GRADE LINE (PGL), DECK TRANSVERSE CROSS SLOPES AND VERTICAL DIMENSIONS.
6. FALSEWORK SYSTEM IS THE INTENDED MEANS-AND-METHODS OF ARCH SPANS CIP CONSTRUCTION.
7. CONTRACTOR IS SOLELY RESPONSIBLE FOR FALSEWORK DESIGN AND FALSEWORK SETTLEMENT CALCULATIONS.




CAMBER VALUES IN PARENTHESES ARE FOR SPANS 10 AND 11

## LONGITUDINAL CAMBER DIAGRAM ALONG (A) LINE

(* COLUMN SUPPORTED ON PIER)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW CIP SOUTH STRUCTURE CAMBER - 1

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

RECOMMENDED 08/30/2019

SHEET 123 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPWO11CS01$ FILENAME: E02657-S38014-BR-CB-001.dgn

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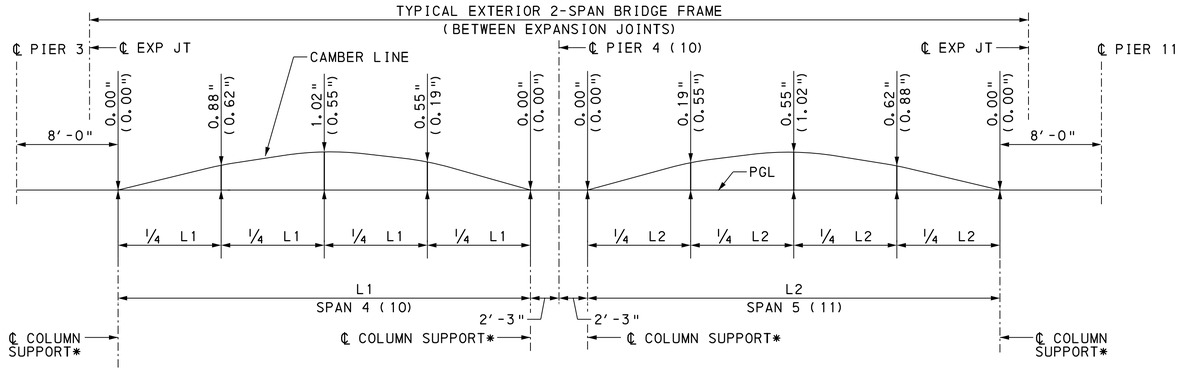
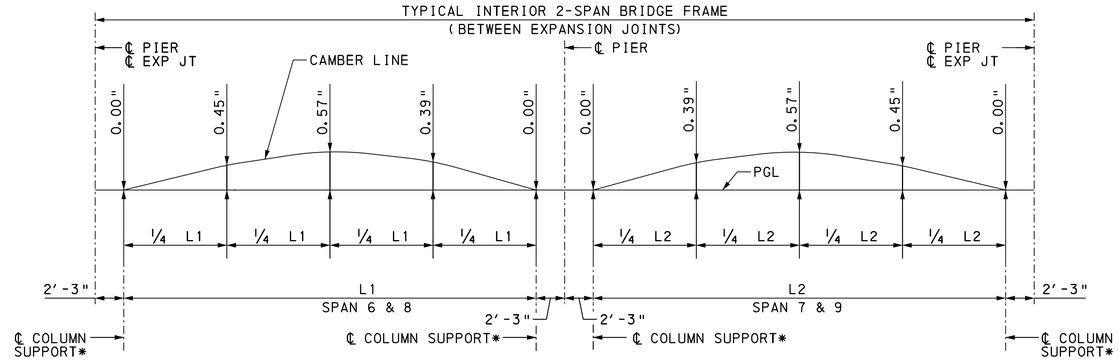
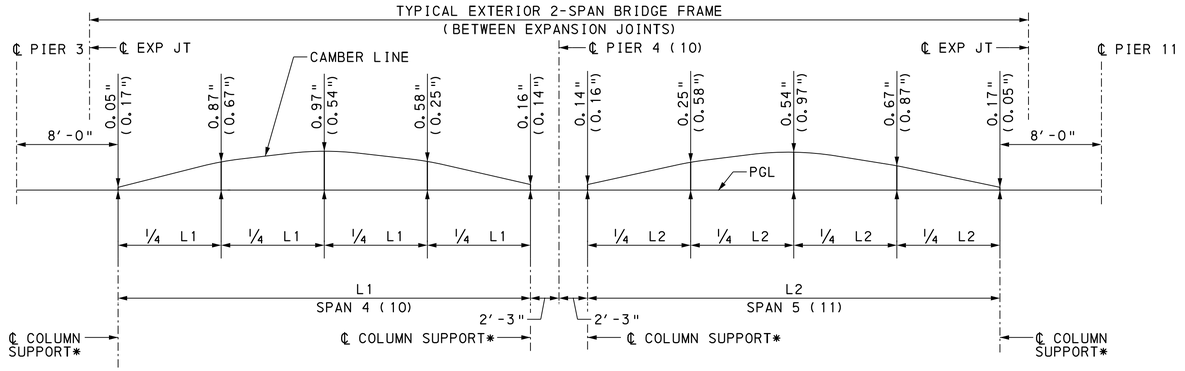



CAMBER VALUES IN PARENTHESES ARE FOR SPANS 10 AND 11

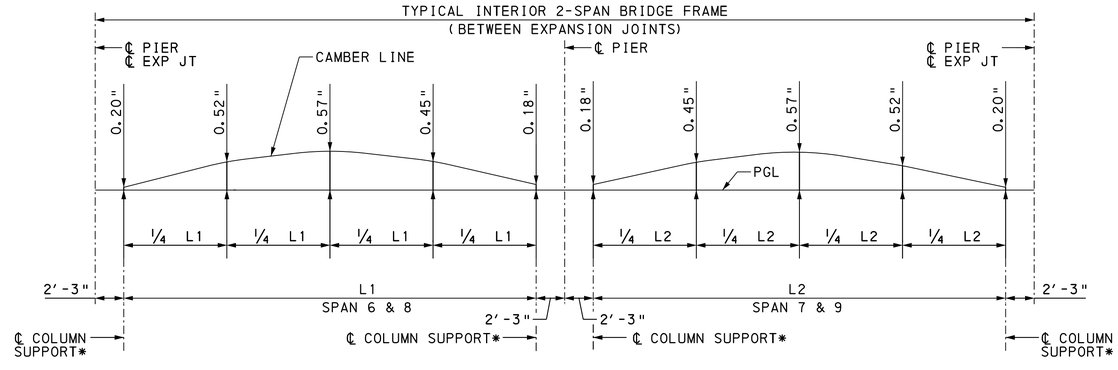



## LONGITUDINAL CAMBER DIAGRAM ALONG Ⓑ LINE

(* COLUMN SUPPORTED ON PIER)




CAMBER VALUES IN PARENTHESES ARE FOR SPANS 10 AND 11




## LONGITUDINAL CAMBER DIAGRAM ALONG Ⓒ LINE

(* COLUMN SUPPORTED ON PIER)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW CIP SOUTH STRUCTURE CAMBER - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 124 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: CL | DWN: TK | CKD: SC

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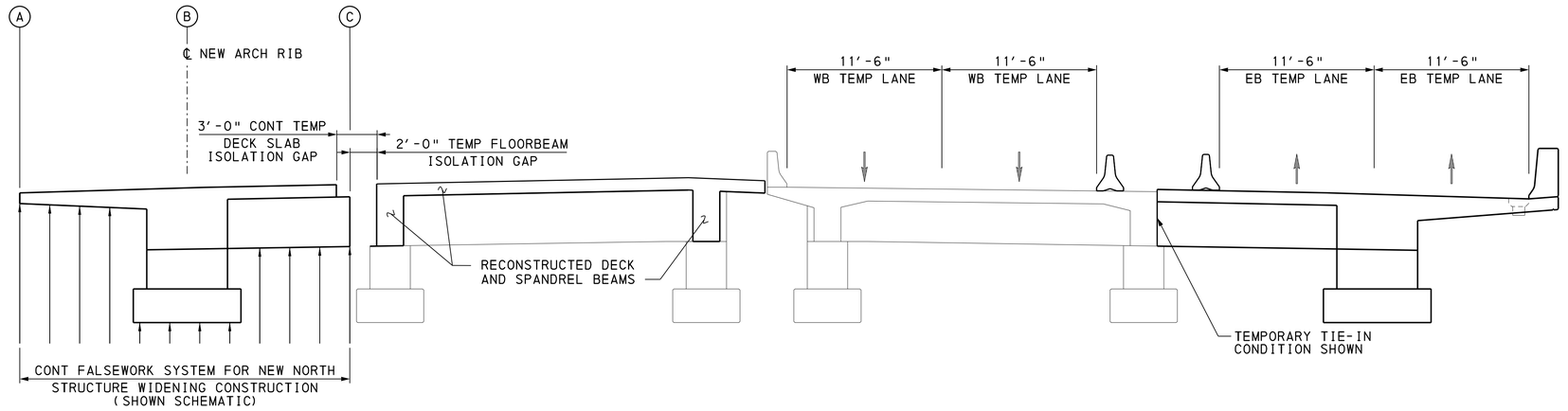
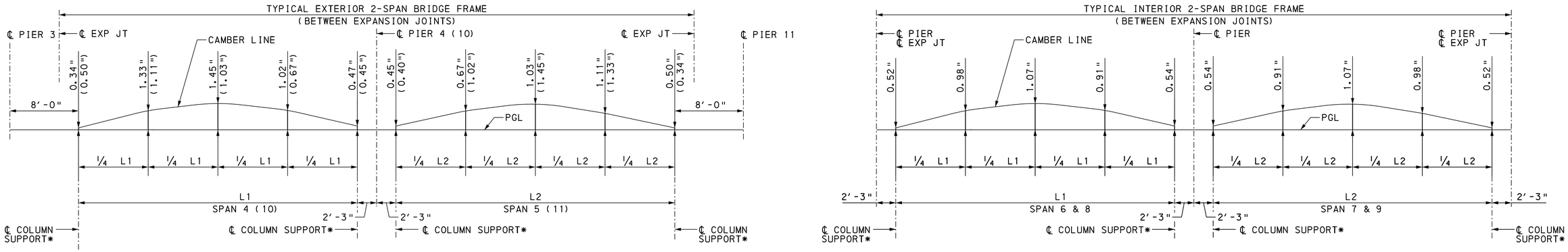



## STAGE 2 CONSTRUCTION - NORTH STRUCTURE WIDENING

NTS

## CAMBER NOTES:

1. CAMBER SHOWN ACCOUNTS FOR LONG-TERM STRUCTURAL SETTLEMENT DUE TO DEAD LOADS AND DOES NOT INCLUDE FALSEWORK SETTLEMENT WHEN CONCRETE IS PLACED ON FALSEWORK.
2. ADDITIONAL UPWARD CAMBER DUE TO FALSEWORK SETTLEMENT SHALL BE ADDED TO THE CAMBER VALUES SHOWN.
3. POSITIVE CAMBER VALUES SHOWN INDICATE REQUIRED UPWARD ADJUSTMENT ON THE UN-DEFORMED STRUCTURE GEOMETRY SHOWN ON THE PLANS.
4. CAMBER AT LOCATION NOT SHOWN MAY BE OBTAINED BY LINEARLY INTERPOLATING THE CAMBER VALUES SHOWN FOR QUARTER POINTS ALONG THE TYPICAL 2-SPAN BRIDGE FRAME.
5. ELEVATIONS FOR FALSEWORK SETTING AND CONCRETE CASTING SHALL BE DETERMINED BY ADDING TOTAL REQUIRED CAMBER (DUE TO DEAD LOADS PLUS FALSEWORK SETTLEMENTS) TO THE UN-DEFORMED STRUCTURAL GEOMETRY SHOWN ON THE PLANS I.E. PROFILE GRADE LINE (PGL), DECK TRANSVERSE CROSS SLOPES AND VERTICAL DIMENSIONS.
6. FALSEWORK SYSTEM IS THE INTENDED MEANS-AND-METHODS OF ARCH SPANS CIP CONSTRUCTION.
7. CONTRACTOR IS SOLELY RESPONSIBLE FOR FALSEWORK DESIGN AND FALSEWORK SETTLEMENT CALCULATIONS.




CAMBER VALUES IN PARENTHESES ARE FOR SPANS 10 AND 11

## LONGITUDINAL CAMBER DIAGRAM ALONG (A) LINE

(* COLUMN SUPPORTED ON PIER)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW CIP NORTH STRUCTURE CAMBER - 1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 125 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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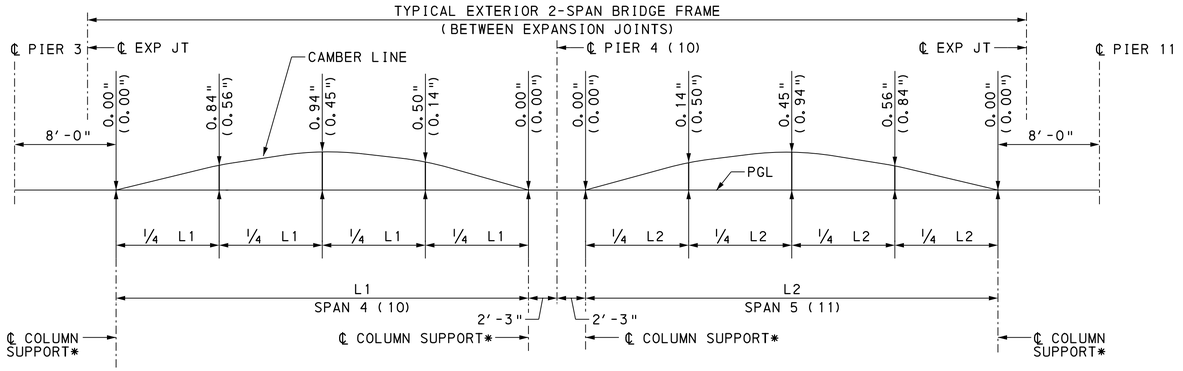
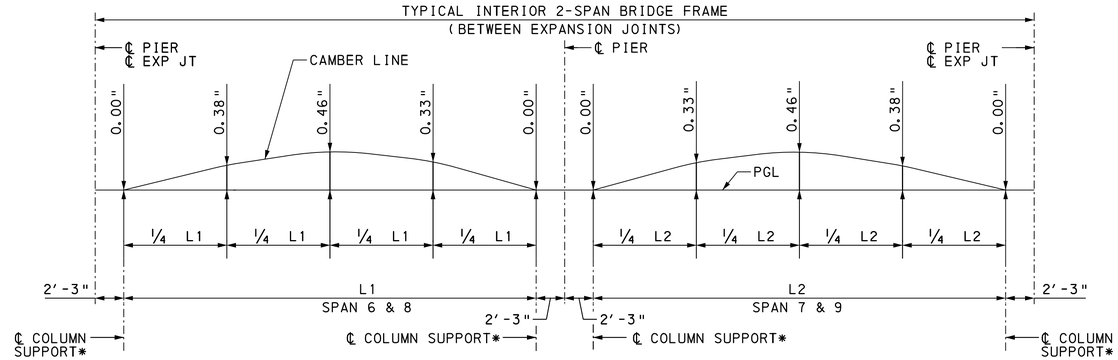
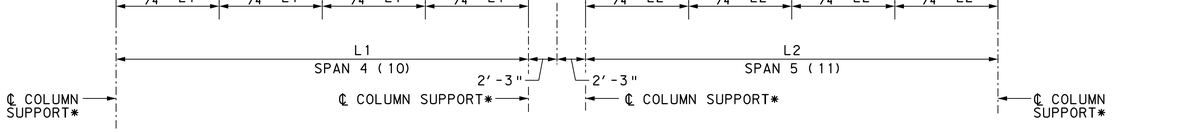



CAMBER VALUES IN PARENTHESES ARE FOR SPANS 10 AND 11

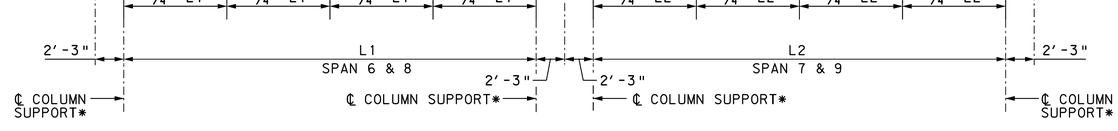



## LONGITUDINAL CAMBER DIAGRAM ALONG Ⓑ LINE

(* COLUMN SUPPORTED ON PIER)




CAMBER VALUES IN PARENTHESES ARE FOR SPANS 10 AND 11




## LONGITUDINAL CAMBER DIAGRAM ALONG Ⓒ LINE

(* COLUMN SUPPORTED ON PIER)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW CIP NORTH STRUCTURE CAMBER - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 126 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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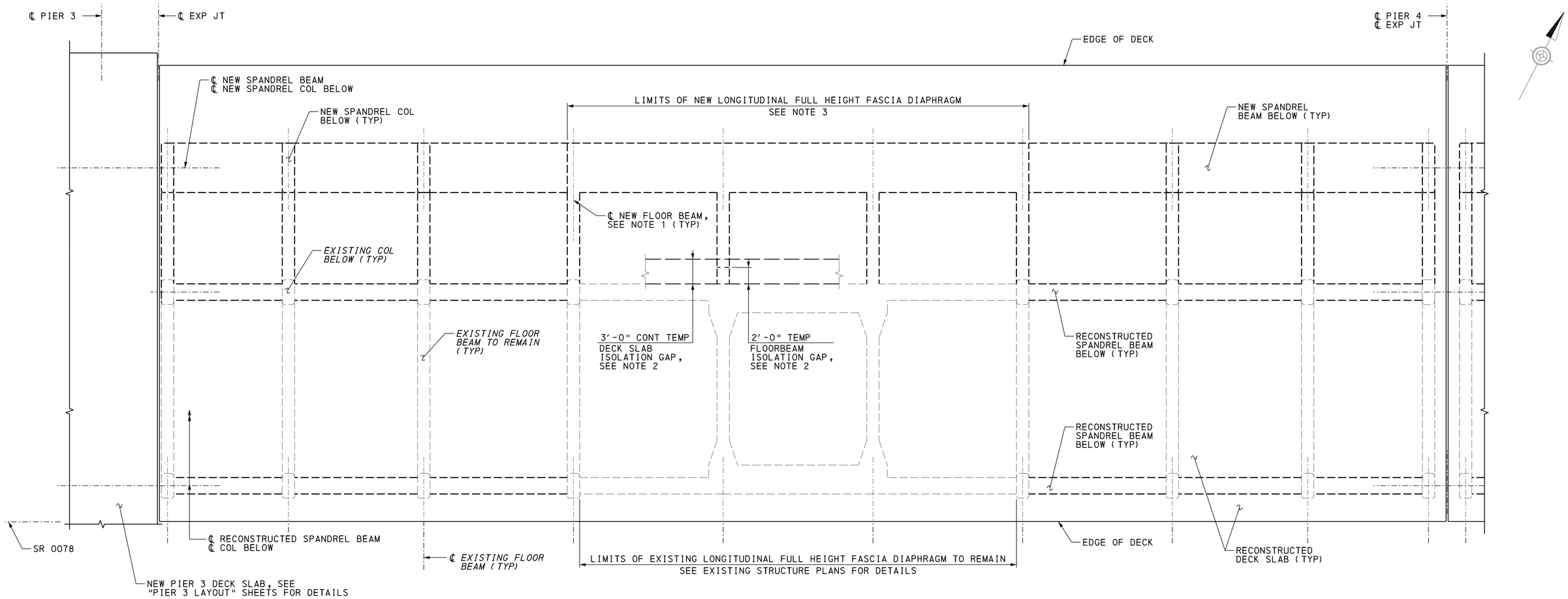


## NORTH STRUCTURE - SPAN 4
## DECK FRAMING PLAN
NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 127 OF 295

S-38014

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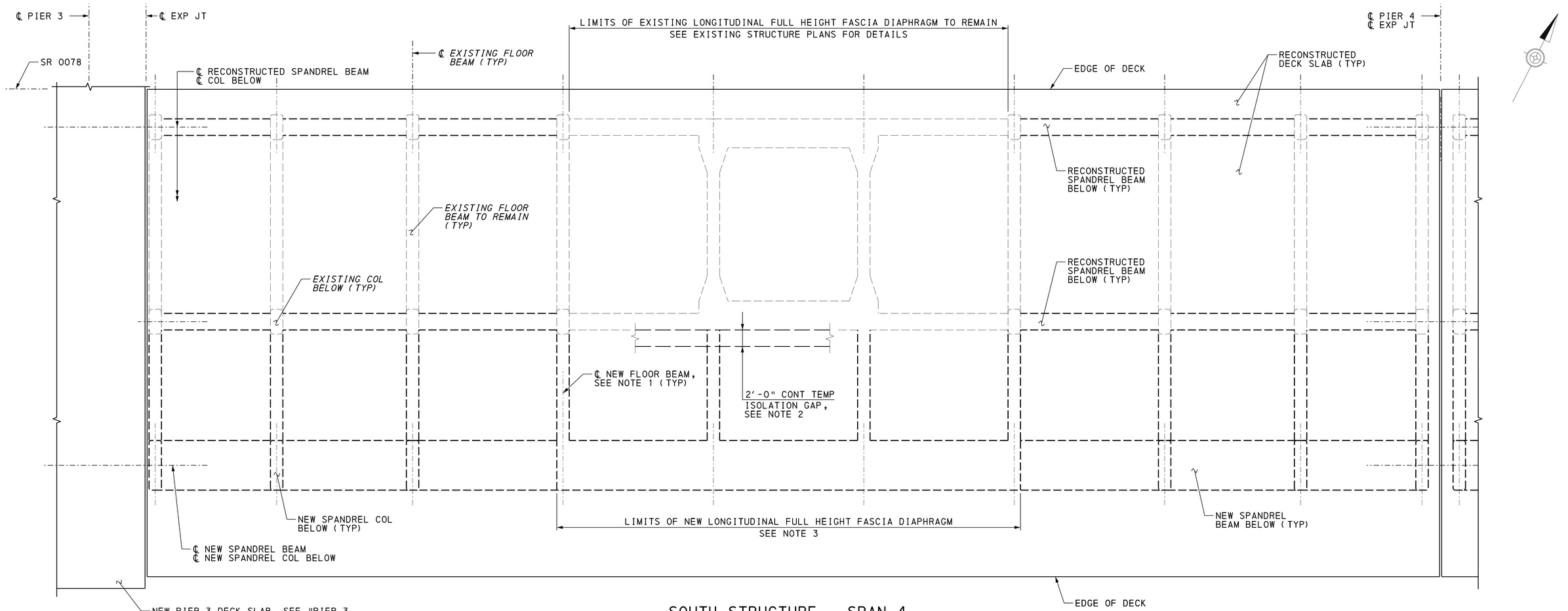


## SOUTH STRUCTURE - SPAN 4
## DECK FRAMING PLAN
NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 128 OF 295

S-38014

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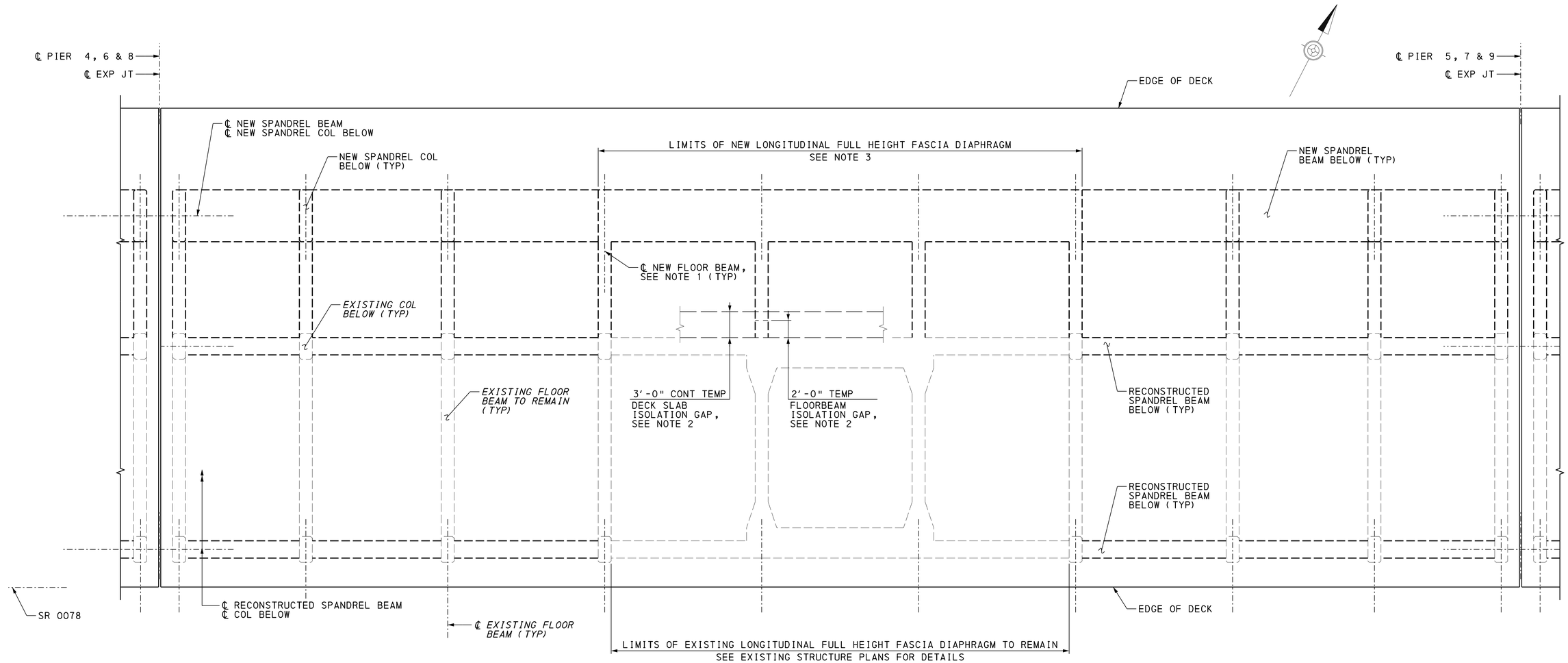


## NORTH STRUCTURE - SPANS 5, 7 & 9
## DECK FRAMING PLAN
NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 3

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 129 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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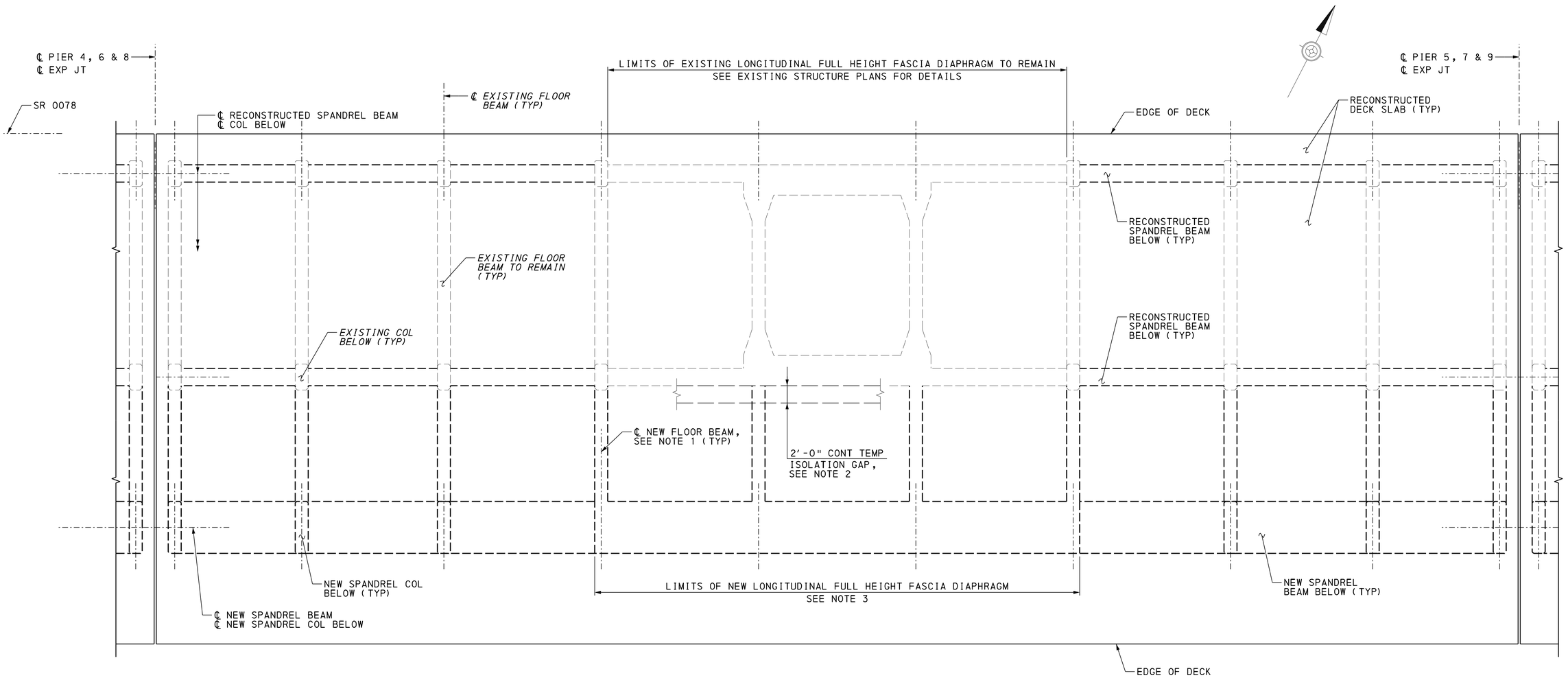


## SOUTH STRUCTURE - SPANS 5, 7 & 9
## DECK FRAMING PLAN
NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R
PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 4

RECOMMENDED 08/30/2019

SHEET 130 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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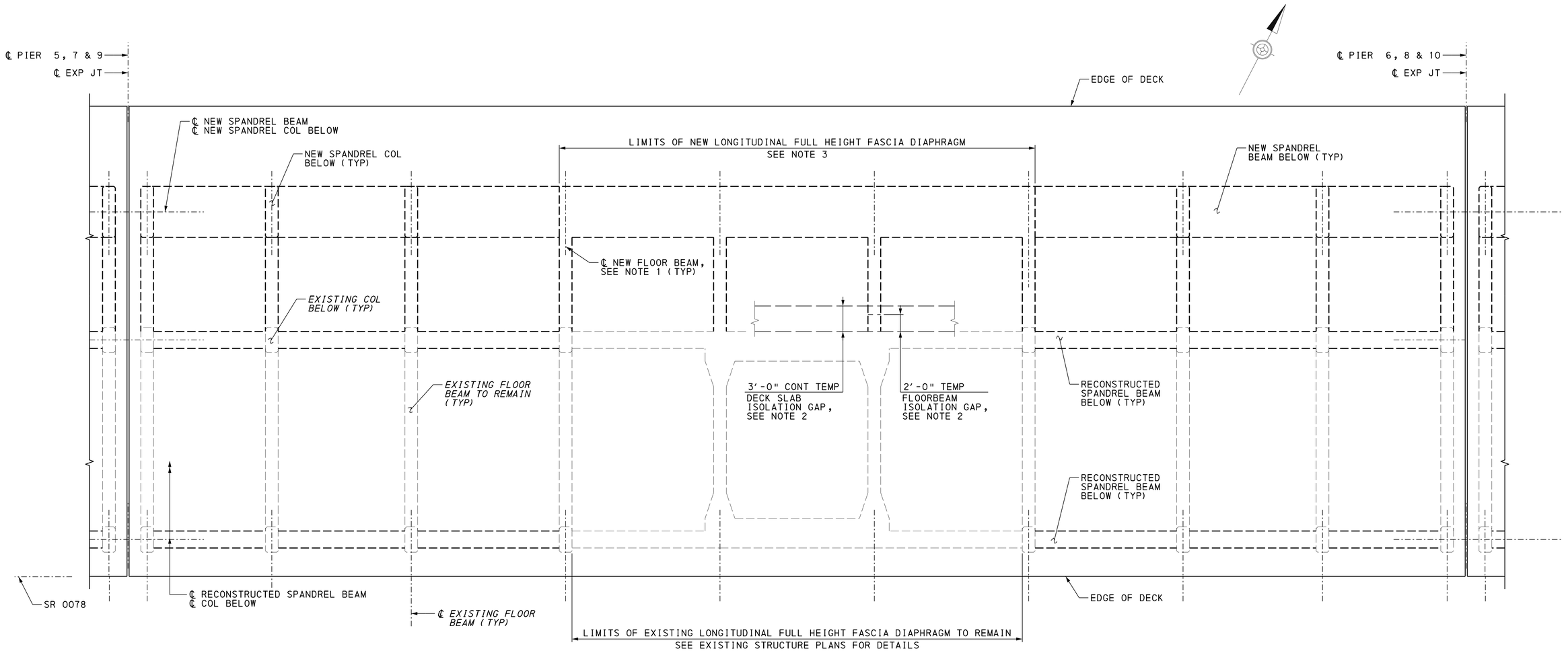


## NORTH STRUCTURE - SPANS 6, 8 & 10
## DECK FRAMING PLAN
NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 5

RECOMMENDED 08/30/2019

SHEET 131 OF 295

S-38014

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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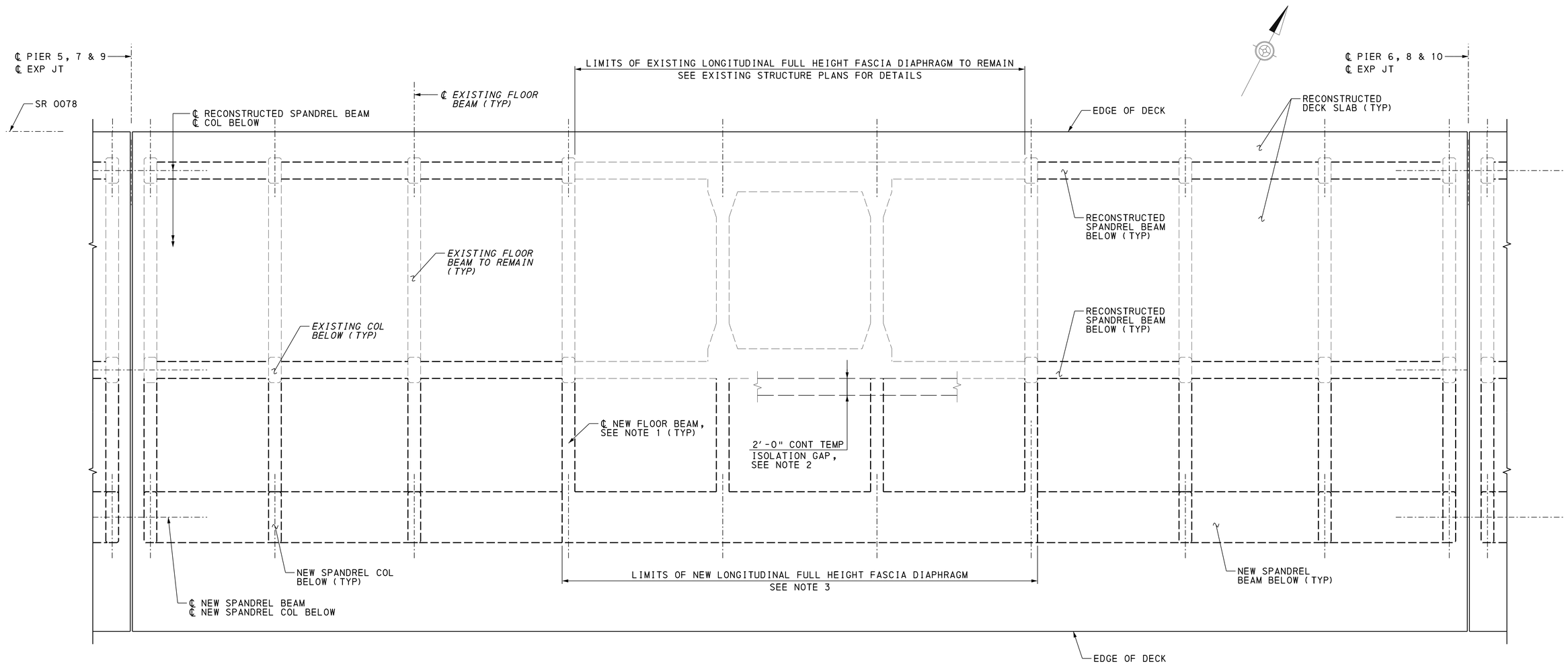


## SOUTH STRUCTURE - SPANS 6, 8 & 10
## DECK FRAMING PLAN
NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 6

RECOMMENDED 08/30/2019

SHEET 132 OF 295

S-38014

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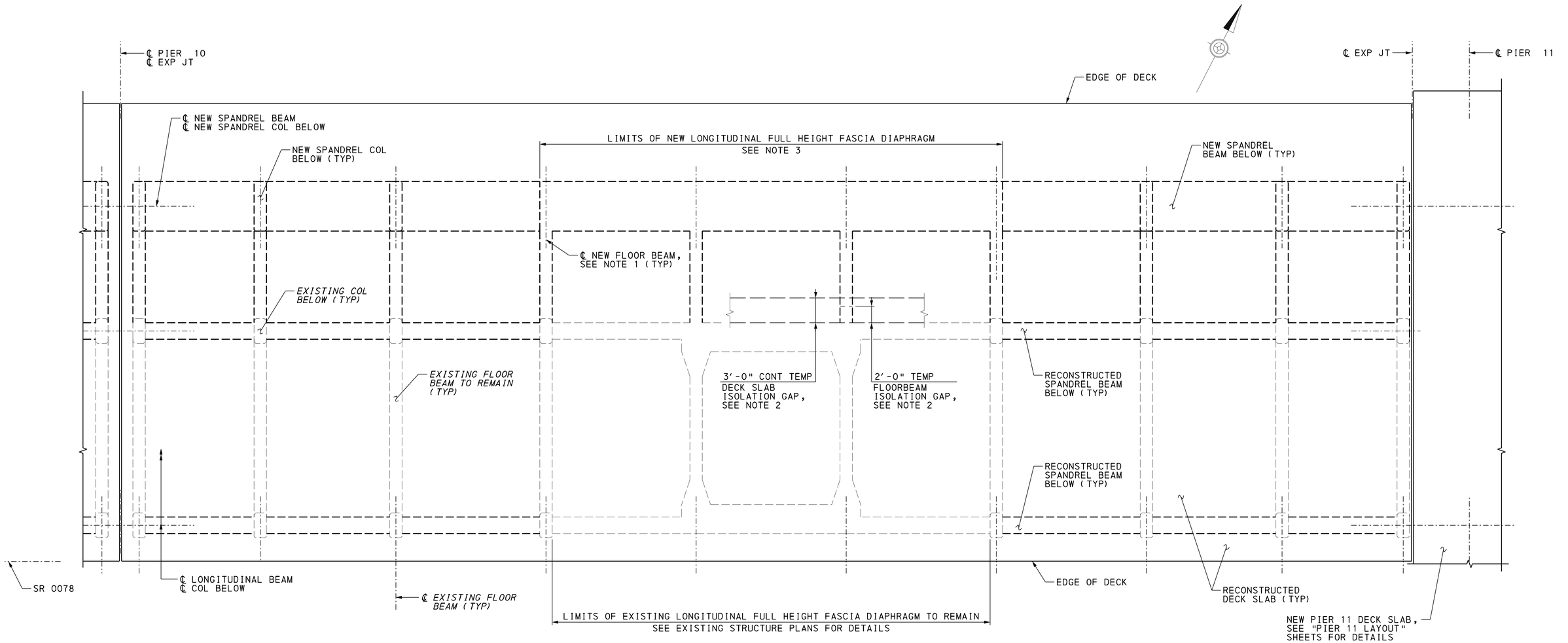


## NORTH STRUCTURE - SPAN 11
## DECK FRAMING PLAN
NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 7

RECOMMENDED 08/30/2019

SHEET 133 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW011CS01$ FILENAME: E02657-S38014-BR-DT-036.dgn

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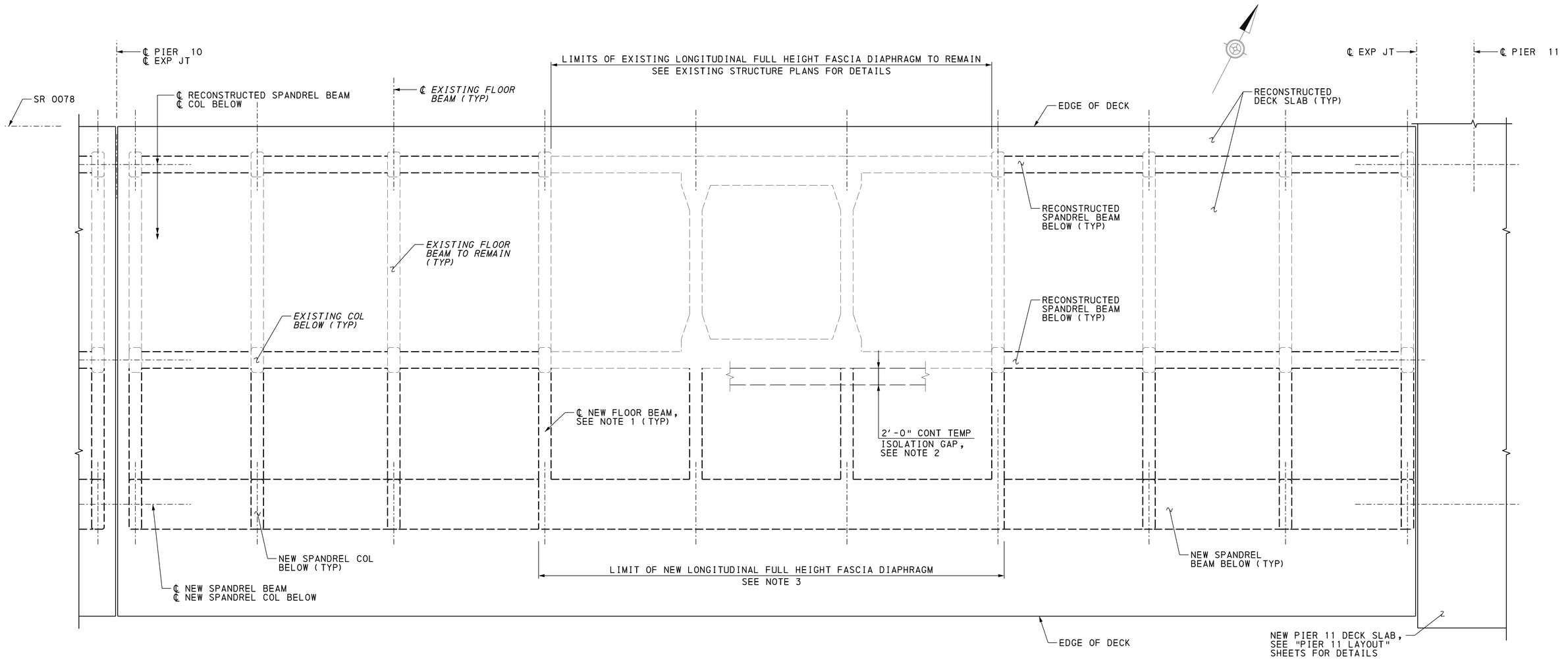


## SOUTH STRUCTURE - SPAN 11
## DECK FRAMING PLAN
NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## NOTES:

1. CENTER LINE OF NEW FLOOR BEAM MATCHES CENTER LINE OF EXISTING FLOOR BEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOOR BEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. NEW FASCIA DIAPHRAGM DIRECTLY CONNECTS DECK SLAB TO TOP OF ARCH RIB WITHIN LIMITS SHOWN, SEE "NEW SPANDREL BEAM SHEETS" FOR DETAILS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK FRAMING PLAN - 8

RECOMMENDED 08/30/2019

SHEET 134 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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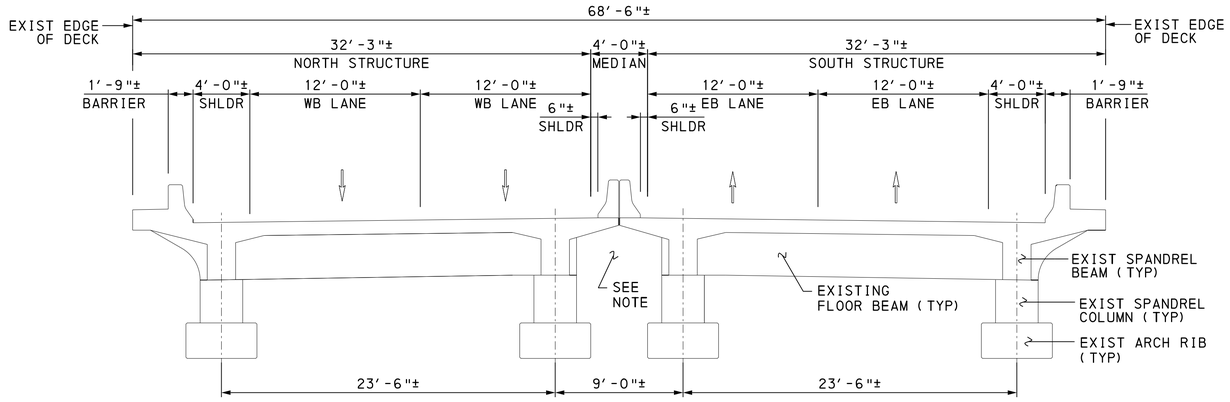



## EXISTING STRUCTURE

NOTE: EXISTING INSPECTION WALKWAY (NOT SHOWN) TO BE REMOVED.
NTS

## CONSTRUCTION STAGING GENERAL NOTES:

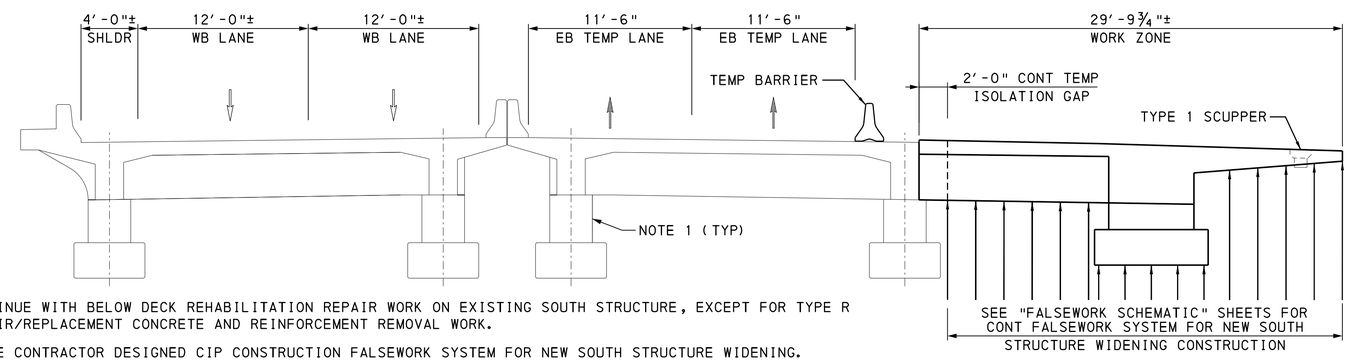
STRUCTURE CONSTRUCTION STAGING IS DESCRIBED AND SHOWN SCHEMATICALLY, NOT ALL CONTRACTOR'S WORK IS IDENTIFIED. SEE OTHER PLAN SHEETS FOR DETAILS NOT SHOWN. STRUCTURAL DESIGN OF WIDENED BRIDGE IS BASED ON THE SEQUENCE OF LOADINGS ASSOCIATED WITH THE STRUCTURE CONSTRUCTION STAGING AS SHOWN AND DESCRIBED ON THIS SHEET. STRUCTURE CONSTRUCTION STAGING SEQUENCE SHALL NOT BE CHANGED.

A TOTAL OF FOUR TRAFFIC LANES SHALL BE MAINTAINED DURING CONSTRUCTION (TWO TRAFFIC LANES IN EACH DIRECTION).

## (A) FOUNDATION AND SUBSTRUCTURE CONSTRUCTION (NOT SHOWN)

(A.1) CONSTRUCT NEW DRILLED PILES, WIDEN PILE CAPS AND WIDEN SUBSTRUCTURES AT ALL PIER LOCATIONS.

(A.2) MAINTAIN TEMPORARY CONTINUOUS ISOLATION GAPS BETWEEN NEW AND EXISTING FOUNDATIONS AND SUBSTRUCTURE PIERS. SCHEDULE FOR CONCRETE CLOSURE OF ISOLATION GAPS SHALL BE AS DESCRIBED IN STAGE 1 AND STAGE 2 CONSTRUCTION.




(C.1) CONTINUE WITH BELOW DECK REHABILITATION REPAIR WORK ON EXISTING SOUTH STRUCTURE, EXCEPT FOR TYPE R REPAIR/REPLACEMENT CONCRETE AND REINFORCEMENT REMOVAL WORK.

(C.2) PLACE CONTRACTOR DESIGNED CIP CONSTRUCTION FALSEWORK SYSTEM FOR NEW SOUTH STRUCTURE WIDENING.

(C.3) FALSEWORK SYSTEM SHALL ENSURE GLOBAL STABILITY OF THE SUPPORTED STRUCTURES DURING CONSTRUCTION. FALSEWORK SYSTEM MAY BE SUPPORTED BY GROUND BASED TEMPORARY FOUNDATIONS WHEN GROUND ACCESS IS AVAILABLE, OR BY OVERHEAD GANTRY/TEMPORARY GIRDER MOUNTED ON THE WIDENED SUBSTRUCTURE WHEN GROUND BASED TEMPORARY FOUNDATION IS NOT FEASIBLE.

(C.4) USING FALSEWORK SYSTEM, CONSTRUCT NEW ARCH RIBS, SPANDREL COLUMNS, SPANDREL BEAMS, FLOOR BEAMS AND DECK SLAB WHILE MAINTAINING TEMPORARY CONTINUOUS ISOLATION GAPS BETWEEN NEW AND EXISTING SUPERSTRUCTURES, SUBSTRUCTURES AND FOUNDATIONS. SEE OTHER SHEETS FOR DETAILS.

(C.5) REMOVE FALSEWORK SYSTEM AFTER NEWLY CONSTRUCTED CONCRETE ELEMENTS REACHED SPECIFIED MINIMUM CONCRETE COMPRESSIVE STRENGTH AND AGING REQUIREMENTS, SEE "CIP FALSEWORK SCHEMATIC" SHEETS.

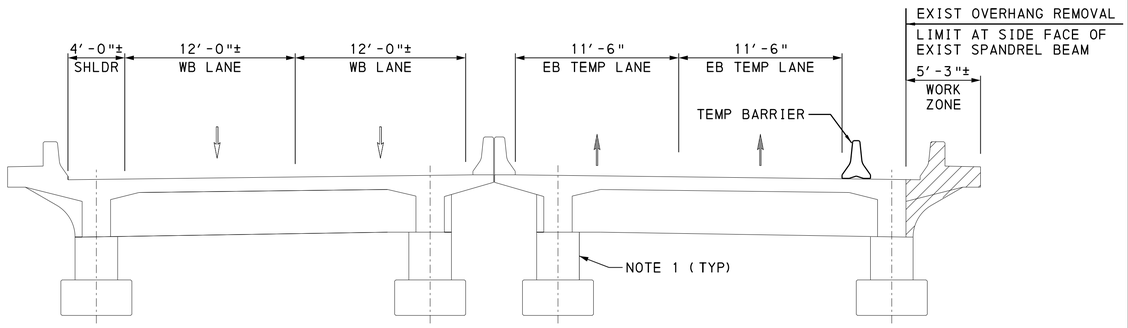
(C.6) COMPLETE BELOW DECK REHABILITATION REPAIR ON EXISTING SOUTH STRUCTURE, EXCEPT FOR TYPE R REHAB/REPLACEMENT CONCRETE AND REINFORCEMENT WORK.

(C.7) FILL CONTINUOUS ISOLATION GAPS WITH ULTRA HIGH PERFORMANCE CLOSURE CONCRETE TO CONNECT NEW AND EXISTING STRUCTURES FROM FOOTING UP TO DECK LEVEL NO EARLIER THAN 30 DAYS AFTER FALSEWORK FOR SOUTH STRUCTURE WIDENING CONSTRUCTION HAS BEEN REMOVED. ISOLATION GAP CLOSURE CONCRETE SHALL NOT BE SUBJECTED TO LOADS UNTIL MINIMUM REQUIRED STRENGTH HAS BEEN REACHED.

## (C) STAGE 1 CONSTRUCTION - SOUTH STRUCTURE (TRAFFIC CONTROL PLAN STAGE 3A/3B)

NTS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.




(B.1) REDUCE WIDTH OF EXISTING EASTBOUND TRAFFIC LANES TO 11′- 6" BY INSTALLING TEMPORARY TRAFFIC CONTROL BARRIER.

(B.2) WHILE MAINTAINING TRAFFIC ON EXISTING SOUTH STRUCTURE DECK, REMOVE PORTION OF EXISTING DECK, OVERHANG FLOOR BEAM, BARRIER AND REFUGE WALK. CONCRETE REMOVAL METHOD USED SHALL PRESERVE AND SHALL NOT CAUSE DAMAGE TO EMBEDDED EXISTING REINFORCEMENT USED FOR SPLICING OR SHOWN ON THE PLANS TO REMAIN.

(B.3) BEGIN BELOW DECK REHABILITATION REPAIR ON EXISTING SOUTH STRUCTURE, INSTALL SNUG TIGHT TEMPORARY SUPPORT SYSTEM ADJACENT TO EACH EXISTING SOUTH STRUCTURE SPANDREL COLUMN THAT WILL BE SUBJECTED TO TYPE R1 REPAIR OR TYPE R2 REPLACEMENT (DAMAGED COLUMN ONLY), SEE "REHAB" SHEETS. AT EACH DAMAGED SPANDREL COLUMN LOCATION, TEMPORARY SUPPORT SYSTEM SHALL BE DESIGNED FOR FULL UNFACTORED DEAD LOAD OF 80 KIPS AND FULL LIVE LOAD WITH IMPACT OF 160 KIPS. DO NOT START ANY CONCRETE OR REINFORCEMENT REMOVAL WORK ASSOCIATED WITH TYPE R REPAIR/REPLACEMENT UNTIL EXISTING DECK HAS BEEN REMOVED (SEE STAGE 3 DEMOLITION).

## (B) STAGE 1 DEMOLITION - SOUTH STRUCTURE (TRAFFIC CONTROL PLAN STAGE 3A/3B)

NTS

### NOTE:

1. TYPE R1 & R2 TEMPORARY SUPPORT COLUMNS ARE ACTIVATED BUT ASSOCIATED CONCRETE AND REIFORCEMENT REMOVAL WORK IS DELAYED UNTIL STAGE 3 DEMOLITION.

### LEGEND:

CONCRETE REMOVAL (SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET)

EXISTING TRAFFIC LANE

TEMPORARY TRAFFIC LANE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
ARCH SPANS CONSTRUCTION STAGING - 1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 135 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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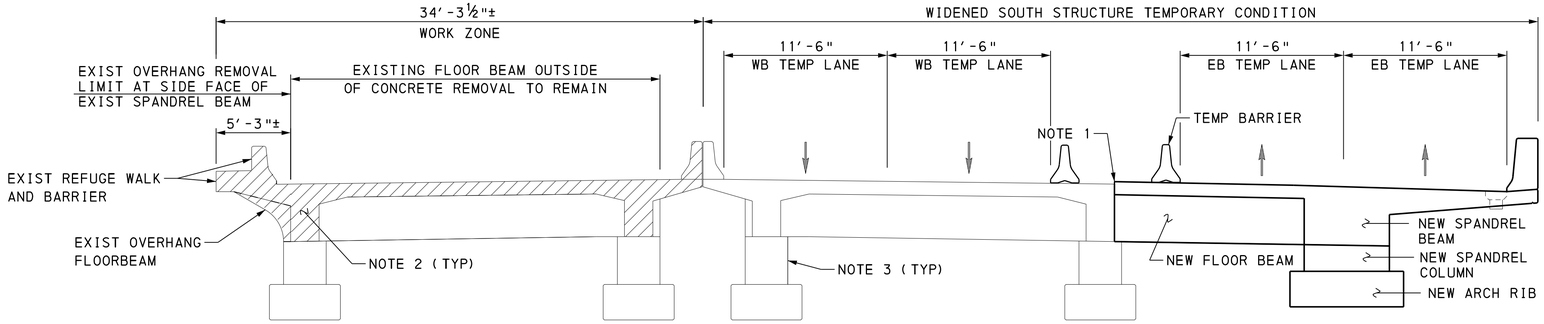



(D.1) CONSTRUCT NEW PERMANENT TRAFFIC BARRIER AT EDGE OF NEWLY CONSTRUCTED OVERHANG DECK.

(D.2) INSTALL TEMPORARY AND PERMANENT TRAFFIC CONTROL BARRIERS ON WIDENED SOUTH STRUCTURE DECK IN ORDER TO ACCOMMODATE FOUR TEMPORARY 11′-6" WIDE LANES.

(D.3) ROUTE TRAFFIC AWAY FROM EXISTING NORTH STRUCTURE ONTO THE WIDENED SOUTH STRUCTURE.

(D.4) REMOVE EXISTING NORTH STRUCTURE CONTINUOUS DECK, OVERHANG FLOOR BEAM, BARRIERS AND REFUGE WALK. PORTION OF EXISTING FLOOR BEAM OUTSIDE OF CONCRETE REMOVAL LIMITS SHALL REMAIN. CONCRETE REMOVAL METHOD USED SHALL PRESERVE AND SHALL NOT CAUSE DAMAGE TO EMBEDDED EXISTING REINFORCEMENT USED FOR SPLICING OR SHOWN ON THE PLANS TO REMAIN (SEE "DECK AND SPANDREL BEAM REMOVAL" SHEETS).

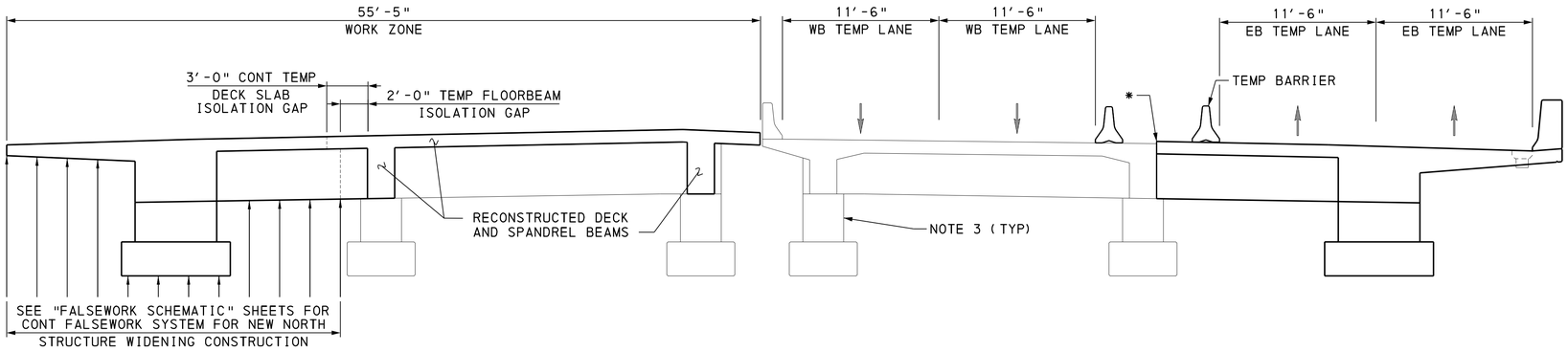
(D.5) BEGIN EXISTING NORTH STRUCTURE BELOW DECK REHABILITATION REPAIR. INSTALL SNUG TIGHT TEMPORARY SUPPORT SYSTEM ADJACENT TO EACH EXISTING NORTH STRUCTURE SPANDREL COLUMN THAT WILL BE SUBJECTED TO TYPE R1 REPAIR OR TYPE R2 REPLACEMENT (BOTH DAMAGED AND UNDAMAGED COLUMNS), SEE "REHAB" SHEETS. AT EACH SPANDREL COLUMN LOCATION WHERE TYPE R1 OR TYPE R2 WORK WILL BE PERFORMED, TEMPORARY SUPPORT SHALL BE DESIGNED FOR UNFACTORED DEAD LOAD OF 30 KIPS (NO DECK WEIGHT AND NO LIVE LOAD). DO NOT START ANY CONCRETE OR REINFORCEMENT REMOVAL WORK ASSOCIATED WITH TYPE R REPAIR/REPLACEMENT UNTIL EXISTING DECK HAS BEEN REMOVED.

(D.6) AFTER TYPE R1 REPAIR AND TYPE R2 REPLACEMENT WORK IS COMPLETE, REMOVE TEMPORARY SUPPORT COLUMNS TO ALLOW ACCESS FOR REMOVAL OF SPANDREL BEAMS.

(D.7) REMOVE EXISTING NORTH STRUCTURE SPANDREL BEAMS, SEE "DECK AND SPANDREL BEAM REMOVAL" SHEETS.

## (D) STAGE 2 DEMOLITION - NORTH STRUCTURE (TRAFFIC CONTROL PLAN STAGE 4A/4B)

NTS




(E.1) RECONSTRUCT EXISTING NORTH STRUCTURE DECK AND SPANDREL BEAMS.

(E.2) PLACE CONTRACTOR DESIGNED CIP CONSTRUCTION FALSEWORK SYSTEM FOR NEW NORTH STRUCTURE WIDENING.

(E.3) FALSEWORK SYSTEM SHALL ENSURE GLOBAL STABILITY OF THE SUPPORTED STRUCTURES DURING CONSTRUCTION. FALSEWORK SYSTEM MAY BE SUPPORTED BY GROUND BASED TEMPORARY FOUNDATIONS WHEN GROUND ACCESS IS AVAILABLE, OR BY OVERHEAD GANTRY/TEMPORARY GIRDER MOUNTED ON THE WIDENED SUBSTRUCTURES WHEN GROUND BASED TEMPORARY FOUNDATION IS NOT FEASIBLE.

(E.4) USING FALSEWORK SYSTEM, CONSTRUCT NEW ARCH RIBS, SPANDREL COLUMNS, SPANDREL BEAMS, FLOOR BEAMS AND DECK SLAB WHILE MAINTAINING TEMPORARY CONTINUOUS ISOLATION GAPS BETWEEN NEW AND EXISTING SUPERSTRUCTURES, SUBSTRUCTURES AND FOUNDATIONS. SEE OTHER SHEETS FOR DETAILS.

(E.5) REMOVE FALSEWORK SYSTEM AFTER NEWLY CONSTRUCTED CONCRETE ELEMENTS REACHED SPECIFIED MINIMUM CONCRETE COMPRESSIVE STRENGTH AND AGING REQUIREMENTS, SEE "CIP FALSEWORK SCHEMATIC" SHEETS.

(E.6) COMPLETE BELOW DECK REHABILITATION REPAIR ON EXISTING NORTH STRUCTURE.

(E.7) FILL CONTINUOUS ISOLATION GAPS WITH ULTRA HIGH PERFORMANCE CLOSURE CONCRETE TO CONNECT NEW AND EXISTING STRUCTURES FROM FOOTING UP TO DECK LEVEL NO EARLIER THAN 30 DAYS AFTER FALSEWORK HAS BEEN REMOVED. ISOLATION GAPS SHALL NOT BE FILLED WITH CONCRETE UNTIL BELOW DECK REHABILITATION REPAIR/REPLACEMENT WORK ON EXISTING NORTH STRUCTURE IS COMPLETE AND CLOSURE CONCRETE HAS REACHED DESIGN COMPRESSIVE STRENGTH AND IS READY TO SUPPORT ADDITIONAL LOADS.

## (E) STAGE 2 CONSTRUCTION - NORTH STRUCTURE (TRAFFIC CONTROL PLAN STAGE 4A/4B)

NTS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

## NOTES:

1. DECK CONSTRUCTION TIE-IN INTERFACE SHOWN SCHEMATIC, SEE "DECK CONSTRUCTION TIE-IN" SHEETS FOR VARYING ELEVATION DIFFERENCE BETWEEN EXISTING AND NEW TOP OF DECK ALONG STATIONING.
2. EXISTING SPANDREL BEAMS SHALL NOT BE REMOVED UNTIL TYPE R REPAIR/REPLACEMENT WORK IS COMPLETE, TYP.
3. TYPE R1 AND R2 TEMPORARY SUPPORT COLUMNS ARE ACTIVATED BUT CONCRETE AND REINFORCEMENT REMOVAL WORK IS DELAYED UNTIL STAGE 3 DEMOLITION.

## LEGEND:

CONCRETE REMOVAL (SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET)

TEMPORARY TRAFFIC LANE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
ARCH SPANS CONSTRUCTION STAGING - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 136 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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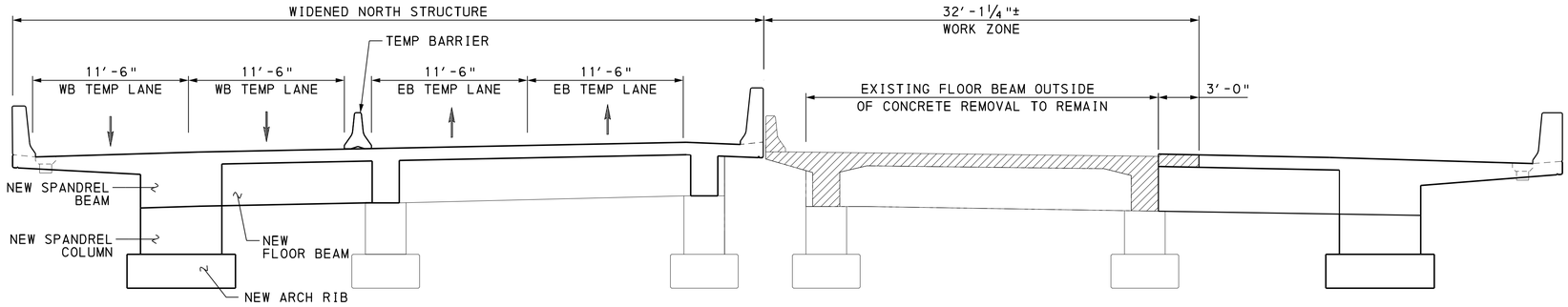



(F.1) CONSTRUCT NEW TEMPORARY AND PERMANENT TRAFFIC BARRIERS ON WIDENED NORTH STRUCTURE IN ORDER TO ACCOMMODATE FOUR TEMPORARY 11′- 6" WIDE LANES.

(F.2) ROUTE TRAFFIC AWAY FROM SOUTH STRUCTURE ONTO NEW WIDENED NORTH STRUCTURE.

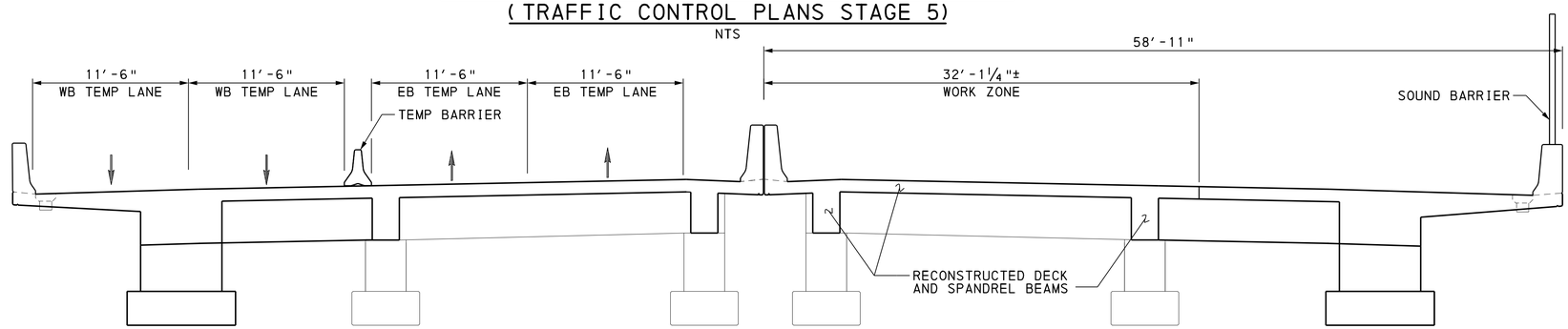
(F.3) REMOVE EXISTING SOUTH STRUCTURE CONTINUOUS DECK AND BARRIER. PORTION OF EXISTING FLOOR BEAM OUTSIDE OF CONCRETE REMOVAL LIMITS SHALL REMAIN. CONCRETE REMOVAL USED SHALL PRESERVE AND SHALL NOT CAUSE DAMAGE TO EMBEDDED EXISTING REINFORCEMENT USED FOR SPLICING OR SHOWN ON THE PLANS TO REMAIN, SEE "DECK AND SPANDREL BEAM REMOVAL" SHEETS.

(F.4) BEGIN TYPE R1 REPAIR AND TYPE R2 REPLACEMENT WORK ON EXISTING SOUTH STRUCTURE SPANDREL COLUMNS WHILE DECK IS OFF THE STRUCTURE. PRIOR TO PERFORMING TYPE R2 REPLACEMENT WORK ON THE UNDAMAGED SOUTH STRUCTURE SPANDREL COLUMN, INSTALL SNUG TIGHT TEMPORARY SUPPORT SYSTEM ADJACENT TO THE SPANDREL COLUMN, SEE "REHAB" SHEETS. AT EACH UNDAMAGED SPANDREL COLUMN LOCATION WHERE TYPE R2 WORK IS TO BE CARRIED OUT, TEMPORARY SUPPORT SYSTEM SHALL BE DESIGNED FOR UNFACTORED DEAD LOAD OF 30 KIPS (NO DECK WEIGHT AND NO LIVE LOAD).

(F.5) AFTER TYPE R1 REPAIR AND TYPE R2 REPLACEMENT WORK IS COMPLETE, REMOVE TYPE R TEMPORARY SUPPORT COLUMNS TO ALLOW ACCESS FOR REMOVAL OF EXISTING SOUTH STRUCTURE SPANDREL BEAMS.

## (F) STAGE 3 DEMOLITION - SOUTH STRUCTURE
## (TRAFFIC CONTROL PLANS STAGE 5)

NTS



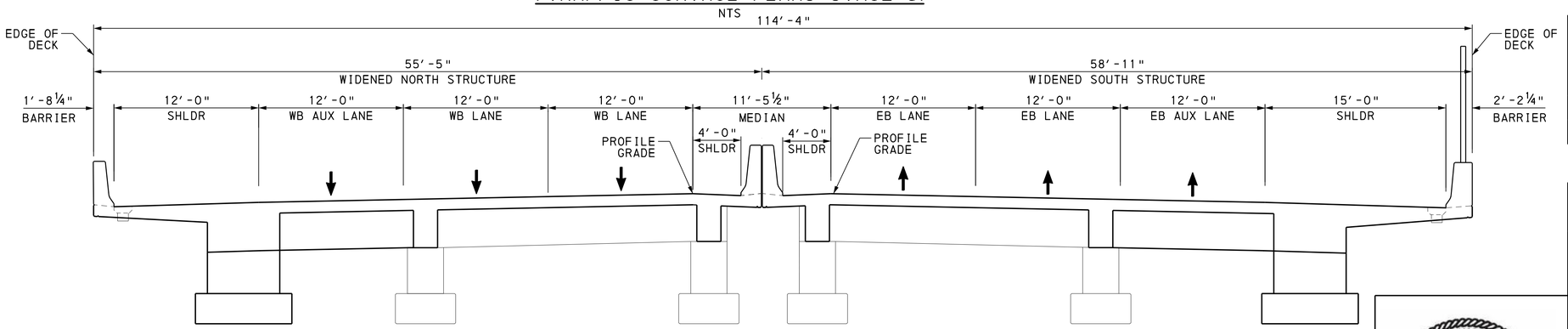

(G.1) RECONSTRUCT EXISTING SOUTH STRUCTURE DECK AND SPANDREL BEAMS.

(G.2) CONSTRUCT PERMANENT TRAFFIC BARRIER ON RECONSTRUCTED SOUTH STRUCTURE DECK.

(G.3) CONSTRUCT SOUND BARRIER.

## (G) STAGE 3 CONSTRUCTION - SOUTH STRUCTURE
## (TRAFFIC CONTROL PLANS STAGE 5)

NTS




(H.1) REMOVE TEMPORARY BARRIER FROM WIDENED NORTH STRUCTURE.

(H.2) MOVE TRAFFIC FROM WIDENED NORTH STRUCTURE ONTO WIDENED SOUTH STRUCTURE TO ACHIEVE FINAL TRAFFIC LANES CONFIGURATION, AS SHOWN.

## (H) FINISHED CONSTRUCTION
## FINAL CONDITION

NTS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

## CONCRETE REMOVAL NOTES:

(CONCRETE REMOVAL & PRESERVATION OF EXISTING REINFORCEMENT TO REMAIN)

1. CONCRETE REMOVAL METHODS SHALL CONSIST OF A COMBINATION OF SAW CUTTING, HYDRODEMOLITION AND/OR PNEUMATIC BREAKERS.
2. EXISTING CONCRETE OR EMBEDDED REINFORCEMENT THAT IS SHOWN ON THE PLANS TO REMAIN SHALL BE PRESERVED AND SHALL NOT BE DAMAGED IN ANY MANNER DURING CONCRETE REMOVAL WORK.
3. PNEUMATIC BREAKERS IF USED SHALL WEIGH 50lbs OR LESS AND SHALL BE OPERATED BY SKILLED CAREFUL OPERATORS. ANGLE OF ATTACK MEASURED FROM THE BREAKER'S AXIS TO THE CONCRETE SURFACE SHALL NOT EXCEED 45 DEGREES. CONTRACTOR SHALL IMMEADIATELY CEASE THE USE OF PNEUMATIC BREAKERS AT THE FIRST SIGN OF DAMAGE TO EXISTING CONCRETE OR EMBEDDED REINFORCEMENT SHOWN ON THE PLANS TO REMAIN. USE OF PNEUMATIC BREAKERS WILL NOT BE REINSTATED UNTIL CONTRACTOR SUBMITS A REMEDIATION PLAN FOR APPROVAL AND DEMONSTRATES TO THE STATE THAT PNEUMATIC BREAKERS WILL NOT DAMAGE EXISTING CONCRETE OR EMBEDDED REINFORCEMENT SHOWN ON THE PLANS TO REMAIN.
4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR REPAIRING EXISTING CONCRETE OR EMBEDDED REINFORCEMENT TO REMAIN IN THE EVENT OF UNINTENTIONAL DAMAGE. PROPOSED CONTRACTOR'S REPAIR METHOD SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER AND SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE STATE.
5. AFTER CONCRETE REMOVAL, EXISTING REINFORCING BAR EXTENSION PRESERVED FOR SPLICING WITH NEW REINFORCEMENT SHALL BE PAINTED WITH AN APPROVED EPOXY PAINT TO PREVENT RUST PRIOR TO CASTING NEW CONCRETE

## LEGEND:

- CONCRETE REMOVAL (SEE "CONCRETE REMOVAL NOTES")
- TEMPORARY TRAFFIC LANE
- FINAL TRAFFIC LANE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
ARCH SPANS CONSTRUCTION STAGING - 3

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 137 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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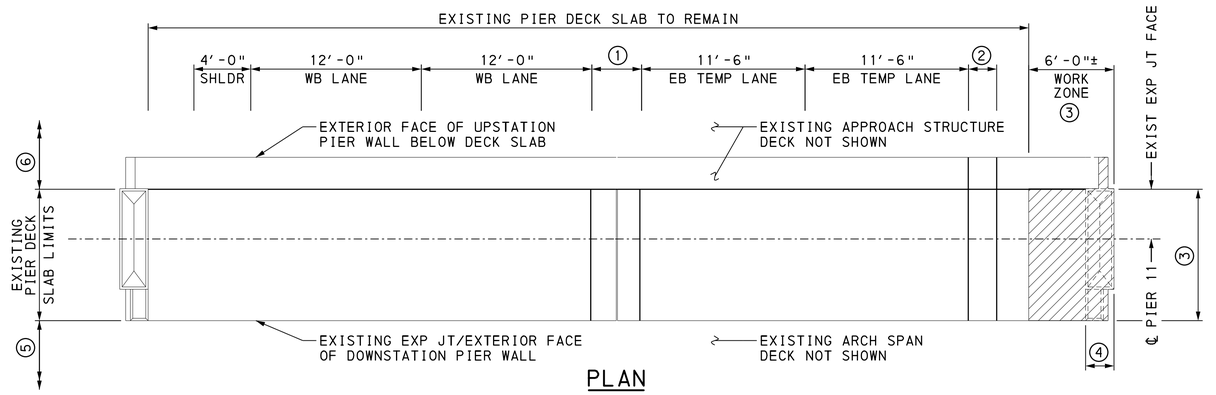
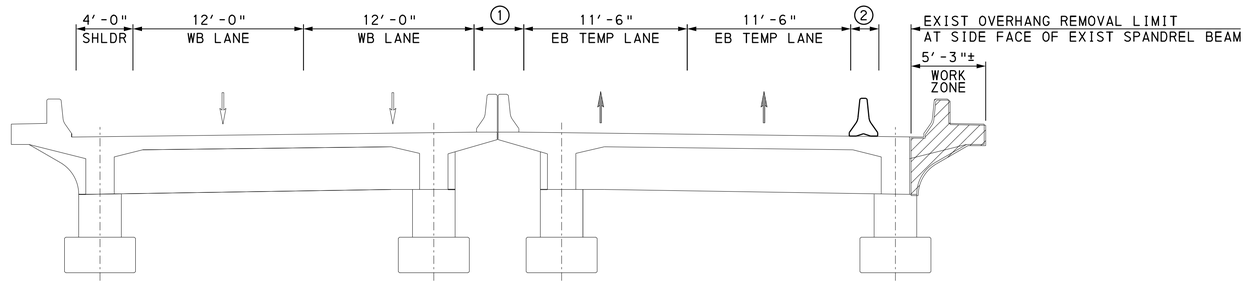
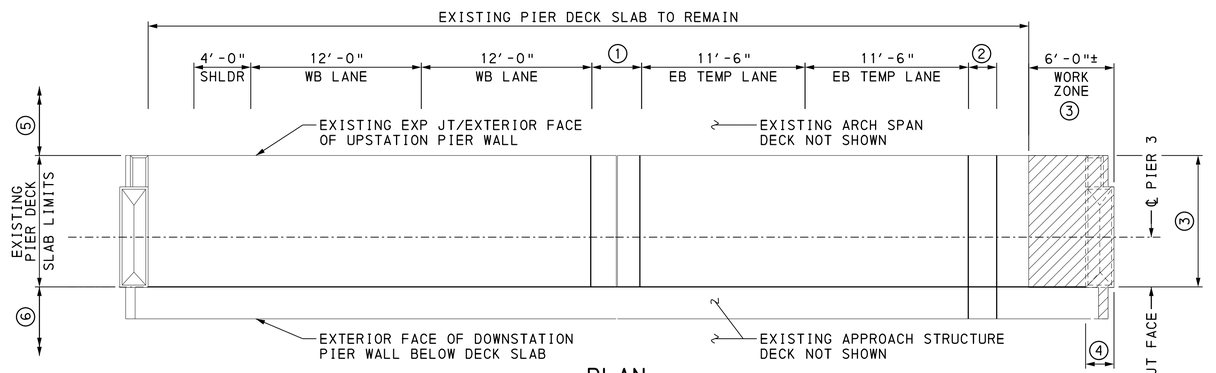



PLAN
(PIER 11 DECK SLAB SHOWN)
NOT TO SCALE




ARCH SPAN SECTION
STAGE 1 DEMOLITION - SOUTH STRUCTURE
NOT TO SCALE




PLAN
(PIER 3 DECK SLAB SHOWN)
NOT TO SCALE

## LEGEND:

- CONCRETE REMOVAL (SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET)
- TEMPORARY TRAFFIC LANE
- EXISTING TRAFFIC LANE
- ① MEDIAN BARRIERS
- ② TEMPORARY BARRIERS
- ③ EXISTING PIER DECK SLAB & REFUGE WALK REMOVAL
- ④ EXISTING PIER END WALL REMOVAL, SEE "PIER 3 AND PIER 11" SHEETS FOR DETAILS NOT SHOWN
- ⑤ ARCH SPAN DECK NOT SHOWN, SEE "ARCH SPANS CONSTRUCTION STAGING" SHEETS
- ⑥ APPROACH STRUCTURE DECK NOT SHOWN, SEE "ARCH SPANS CONSTRUCTION STAGING" SHEETS

## STAGE 1 DEMOLITION - PIER DECK SLAB (TRAFFIC CONTROL PLAN STAGE 3A/3B)

- REMOVE EXISTING PIER DECK SLAB, REFUGE WALK AND END WALL AT PIER 3 AND PIER 11.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER DECK CONSTRUCTION STAGING-1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 138 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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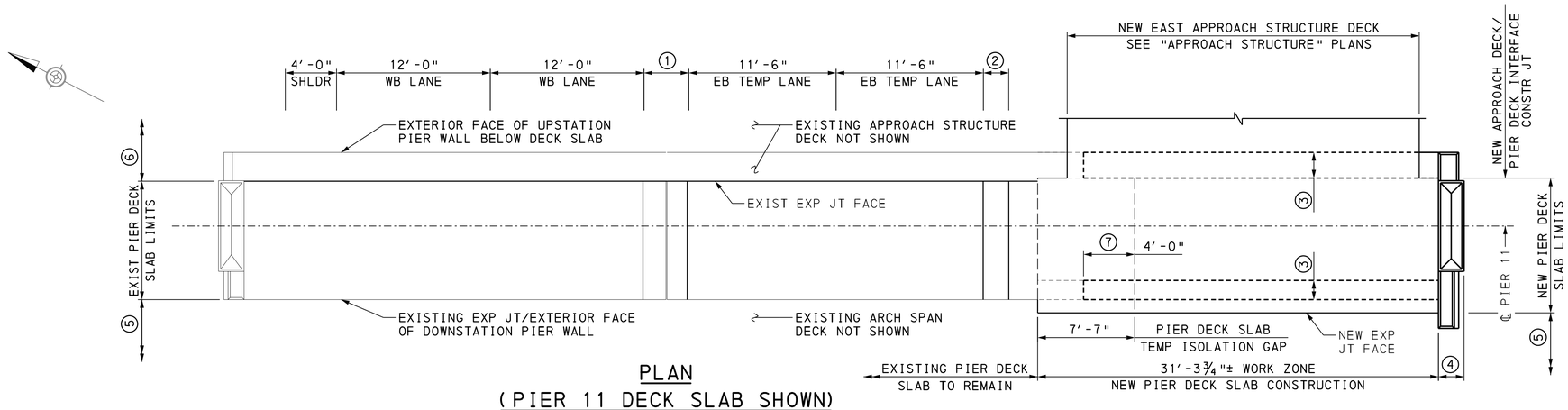
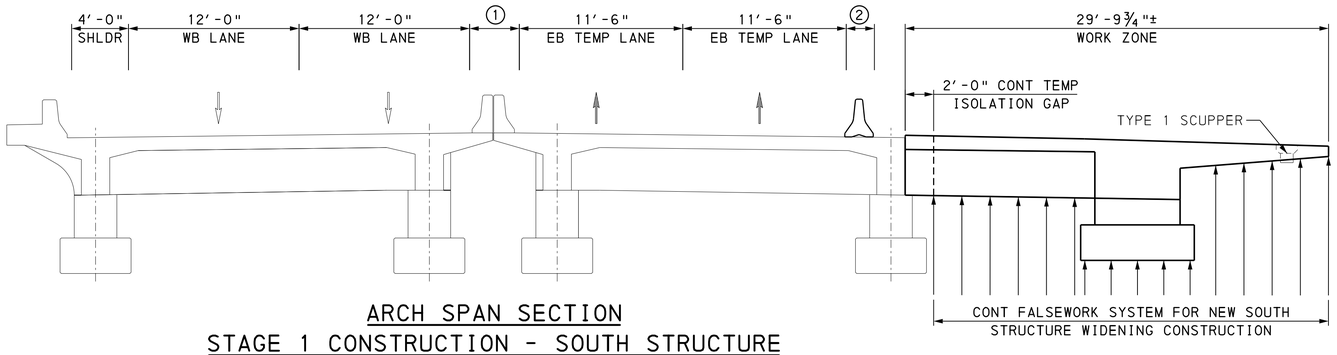


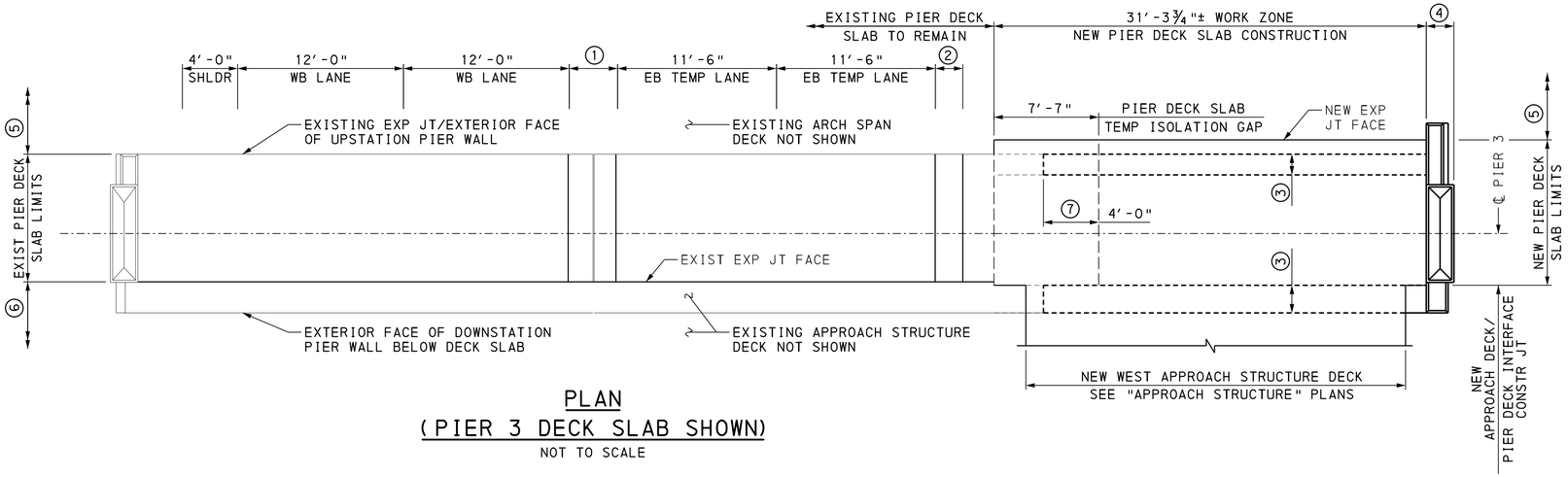

## PLAN
## ( PIER 11 DECK SLAB SHOWN)

NOT TO SCALE




## ARCH SPAN SECTION
## STAGE 1 CONSTRUCTION - SOUTH STRUCTURE

NOT TO SCALE




## PLAN
## ( PIER 3 DECK SLAB SHOWN)

NOT TO SCALE

## LEGEND:

- TEMPORARY TRAFFIC LANE
- EXISTING TRAFFIC LANE
- ① MEDIAN BARRIERS
- ② TEMPORARY BARRIERS
- ③ PIER WALL BELOW DECK SLAB
- ④ NEW PIER END WALL
- ⑤ ARCH SPAN DECK NOT SHOWN, SEE "ARCH SPANS CONSTRUCTION STAGING" SHEETS
- ⑥ APPROACH STRUCTURE DECK NOT SHOWN, SEE "ARCH SPANS CONSTRUCTION STAGING" SHEETS
- ⑦ EXTENT OF PIER WALL TEMPORARY ISOLATION GAP BELOW PIER DECK SLAB

## STAGE 1 CONSTRUCTION - PIER DECK SLAB
## ( TRAFFIC CONTROL PLAN STAGE 3A/3B)

- CONSTRUCT PORTION OF NEW PIER DECK SLAB FOR SOUTH STRUCTURE WHILE MAINTAINING TEMPORARY CONTINUOUS ISOLATION GAPS AS SHOWN. SEE END PIER SHEETS FOR DETAILS BELOW DECK SLAB.
- CAST PIER DECK SLAB AND PIER WALL TEMPORARY ISOLATION GAPS WITH CONCRETE AT PIERS 3 AND 11 AT THE SAME TIME AS ARCH SPAN SOUTH STRUCTURE NEW DECK WIDENING CLOSURE POUR.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER DECK CONSTRUCTION STAGING-2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 139 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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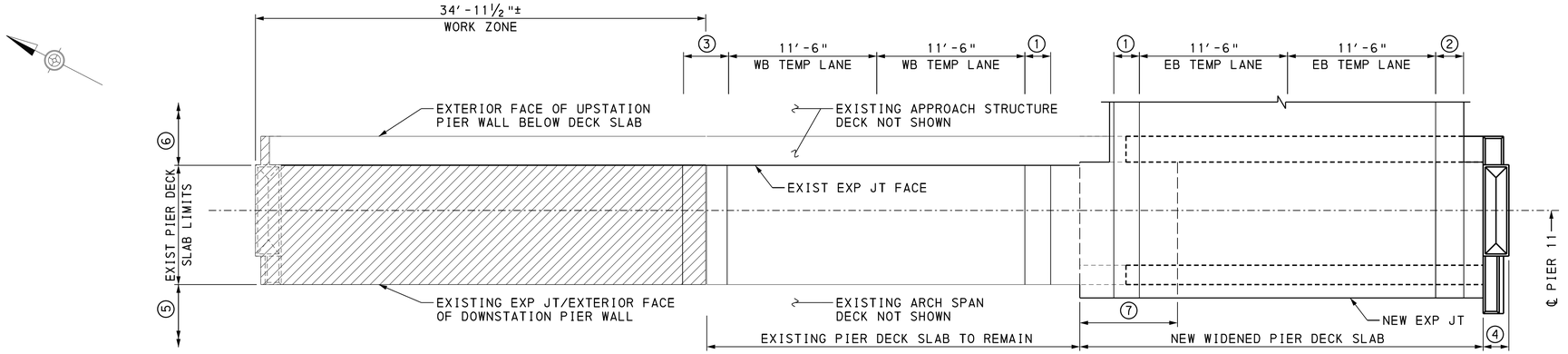
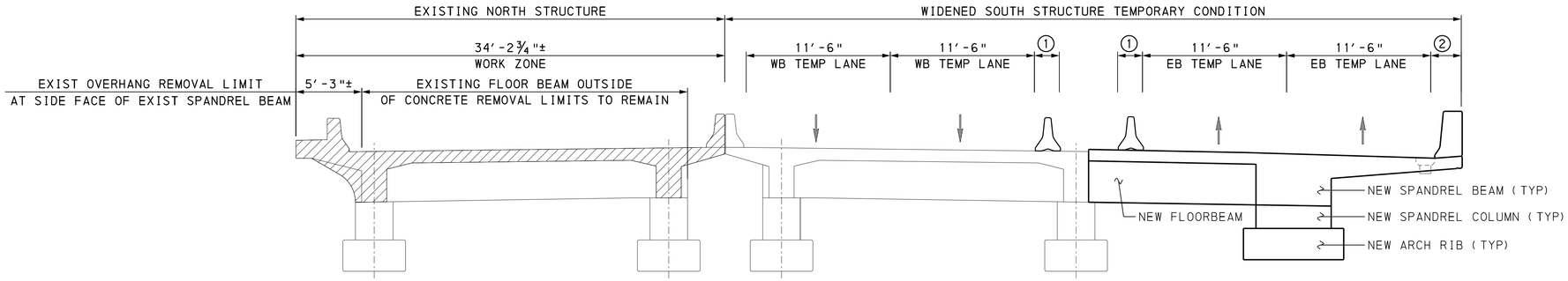


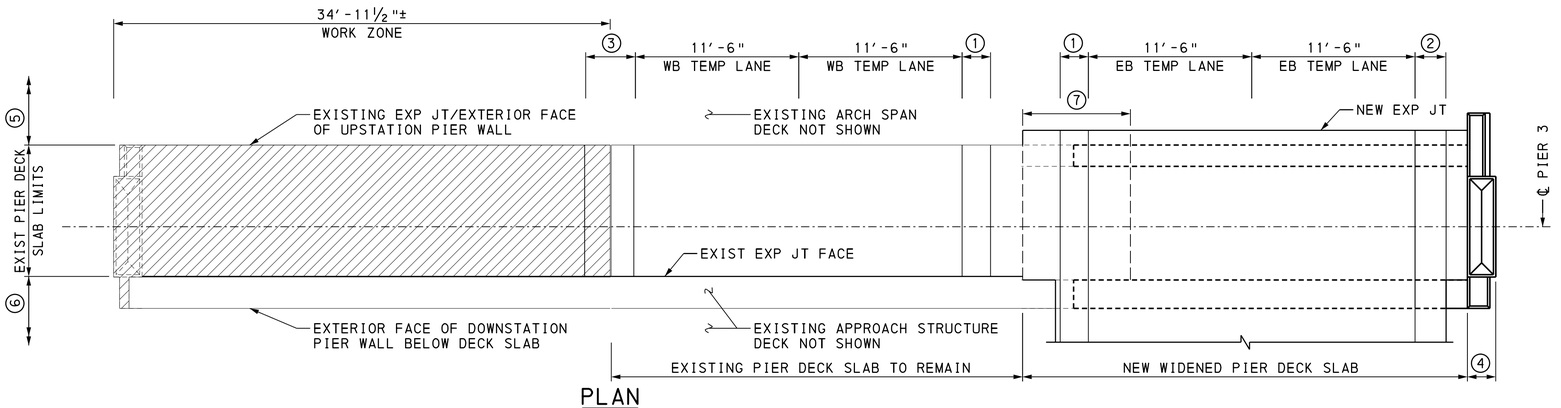

## PLAN
## ( PIER 11 DECK SLAB SHOWN)

NOT TO SCALE




## ARCH SPAN SECTION
## STAGE 2 DEMOLITION - NORTH STRUCTURE

NOT TO SCALE




## PLAN
## ( PIER 3 DECK SLAB SHOWN)

NOT TO SCALE

## LEGEND:

- CONCRETE REMOVAL ( SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET)
- TEMPORARY TRAFFIC LANE
- ① TEMPORARY BARRIERS
- ② PERMANENT BARRIERS
- ③ MEDIAN BARRIERS
- ④ NEW PIER END WALL
- ⑤ ARCH SPAN DECK NOT SHOWN, SEE "ARCH SPANS CONSTRUCTION STAGING" SHEETS
- ⑥ APPROACH STRUCTURE DECK NOT SHOWN, SEE "ARCH SPANS CONSTRUCTION STAGING" SHEETS
- ⑦ PIER DECK SLAB CONCRETE CLOSURE

## STAGE 2 DEMOLITION - PIER DECK SLAB ( TRAFFIC CONTROL PLAN STAGE 4A/4B)

- INSTALL TRAFFIC BARRIERS ON NEW WIDENED PIER DECK SLAB AT PIERS 3 & 11 ( SOUTH SIDE).
- ROUTE TRAFFIC AWAY FROM EXISTING NORTH STRUCTURE ONTO THE NEW WIDENED PIER DECK SLAB.
- REMOVE EXISTING PIER END WALL, PIER DECK SLAB AND REFUGE WALK AT PIER 3 AND PIER 11 (NORTH SIDE). SEE PIER 3 & PIER 11 SHEETS FOR DETAILS NOT SHOWN.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIER DECK CONSTRUCTION STAGING-3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 140 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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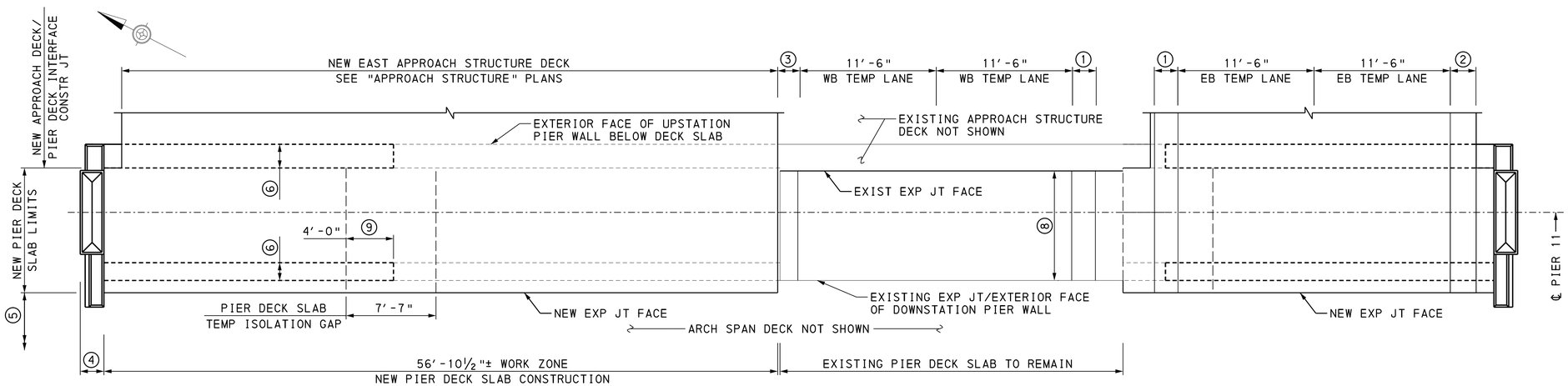
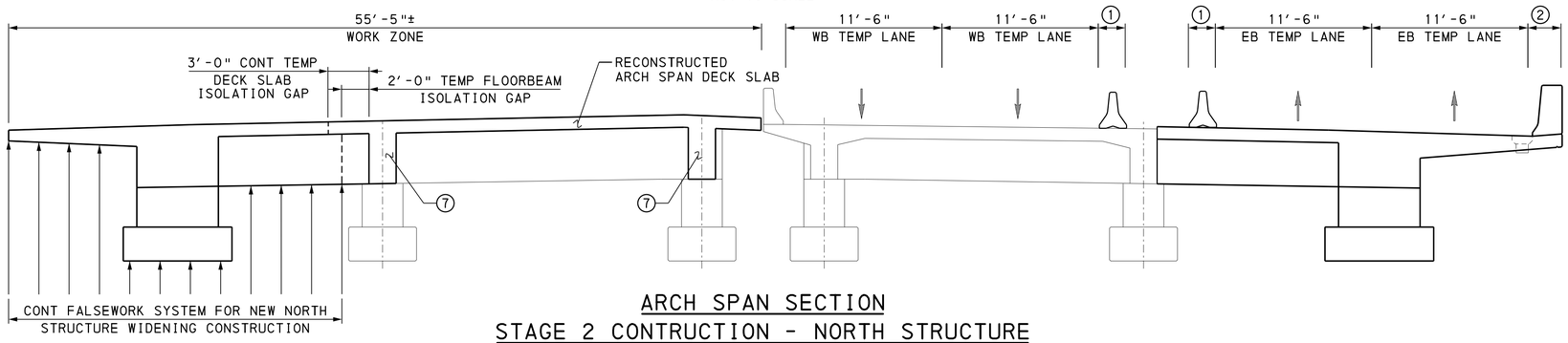


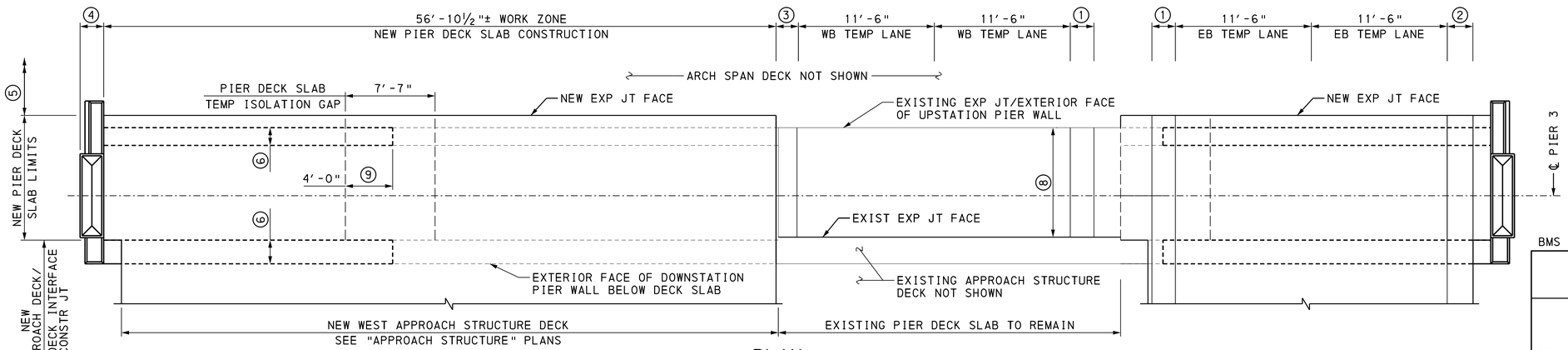

## PLAN
## (PIER 11 DECK SLAB SHOWN)

NOT TO SCALE




## ARCH SPAN SECTION
## STAGE 2 CONTRUCTION - NORTH STRUCTURE

NOT TO SCALE




## PLAN
## (PIER 3 DECK SLAB SHOWN)

NOT TO SCALE

## LEGEND:

| | |
|---|---|
| ↑ | TEMPORARY TRAFFIC LANE |
| ① | TEMPORARY BARRIERS |
| ② | PERMANENT BARRIERS |
| ③ | MEDIAN BARRIERS |
| ④ | NEW PIER END WALL |
| ⑤ | ARCH SPAN DECK NOT SHOWN, SEE "ARCH SPANS CONSTRUCTION STAGING" SHEETS |
| ⑥ | PIER WALL BELOW DECK SLAB |
| ⑦ | RECONSTRUCTED SPANDREL BEAM |
| ⑧ | EXISTING PIER DECK SLAB LIMITS |
| ⑨ | EXTENT OF PIER WALL TEMPORARY ISOLATION GAP BELOW PIER DECK SLAB |

## STAGE 2 CONTRUCTION - PIER DECK SLAB (TRAFFIC CONTROL PLAN STAGE 4A/4B)

- CONSTRUCT NEW PIER DECK SLAB FOR NORTH STRUCTURE WHILE MAINTAINING TEMPORARY CONTINUOUS ISOLATION GAPS AS SHOWN. SEE END PIER SHEETS FOR DETAILS BELOW DECK SLAB.
- CAST PIER DECK SLAB AND PIER WALL TEMPORARY ISOLATION GAPS WITH CONCRETE AT PIERS 3 AND 11 AT THE SAME TIME AS ARCH SPAN NORTH STRUCTURE NEW DECK WIDENING CLOSURE POUR.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|

REVISIONS

DES: CL | DWN: TK | CKD: SC

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER DECK CONSTRUCTION STAGING-4

RECOMMENDED 08/30/2019

SHEET 141 OF 295

S-38014

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-SG-008.dgn

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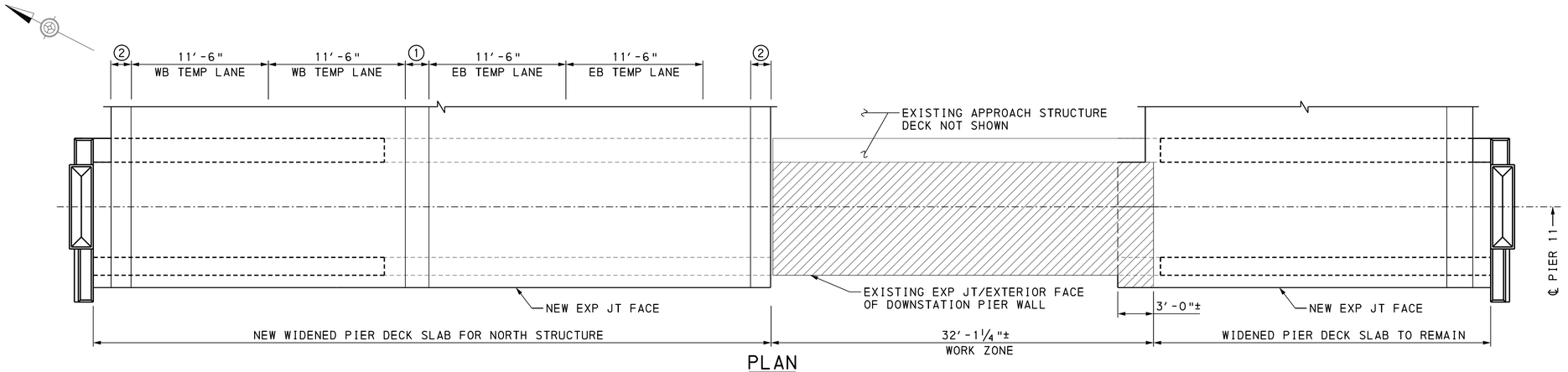
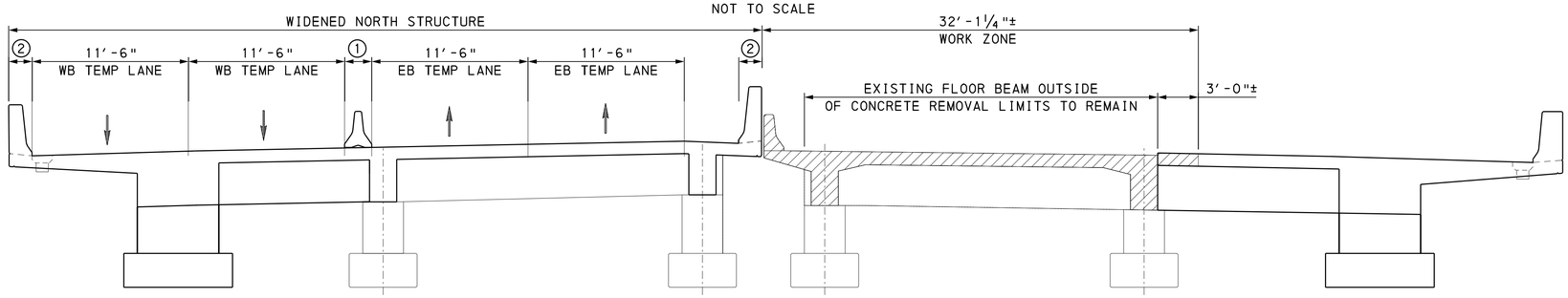



## PLAN
## (PIER 11 DECK SLAB SHOWN)
NOT TO SCALE



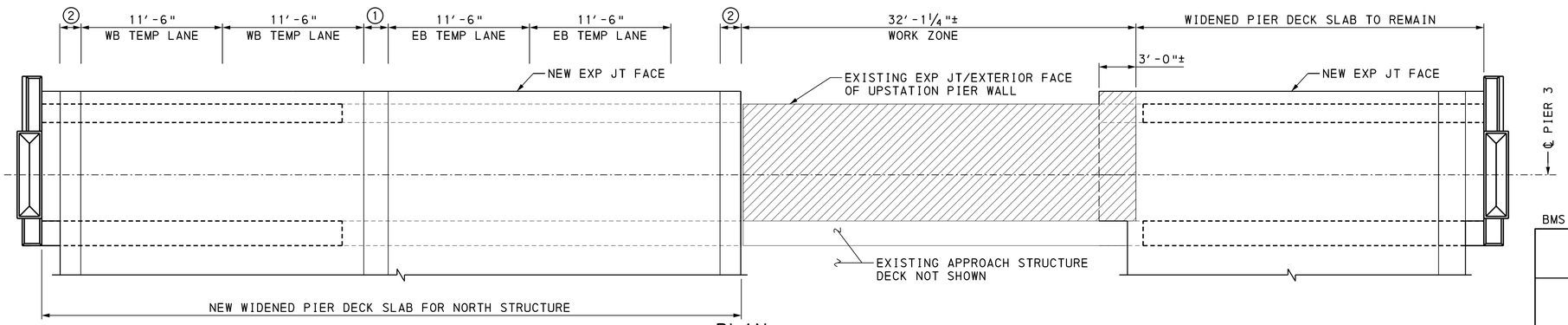

## LEGEND:

- CONCRETE REMOVAL (SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET)
- TEMPORARY TRAFFIC LANE
- ① TEMPORARY BARRIERS
- ② PERMANENT BARRIERS

## STAGE 3 DEMOLITION - PIER DECK SLAB
## (TRAFFIC CONTROL PLAN STAGE 5)

- INSTALL TRAFFIC BARRIERS ON NEW WIDENED PIER DECK SLAB FOR NORTH STRUCTURE AT PIERS 3 & 11.
- ROUTE TRAFFIC AWAY FROM SOUTH STRUCTURE ONTO THE NEW WIDENED PIER DECK SLAB FOR NORTH STRUCTURE.
- REMOVE EXISTING SOUTH STRUCTURE PIER DECK SLAB AT PIER 3 AND PIER 11. SEE PIER 3 & PIER 11 SHEETS FOR DETAILS BELOW DECK SLAB NOT SHOWN.

## ARCH SPAN SECTION
## STAGE 3 DEMOLITION - SOUTH STRUCTURE
NOT TO SCALE




## PLAN
## (PIER 3 DECK SLAB SHOWN)
NOT TO SCALE

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER DECK CONSTRUCTION STAGING-5

RECOMMENDED 08/30/2019

SHEET 142 OF 295

S-38014

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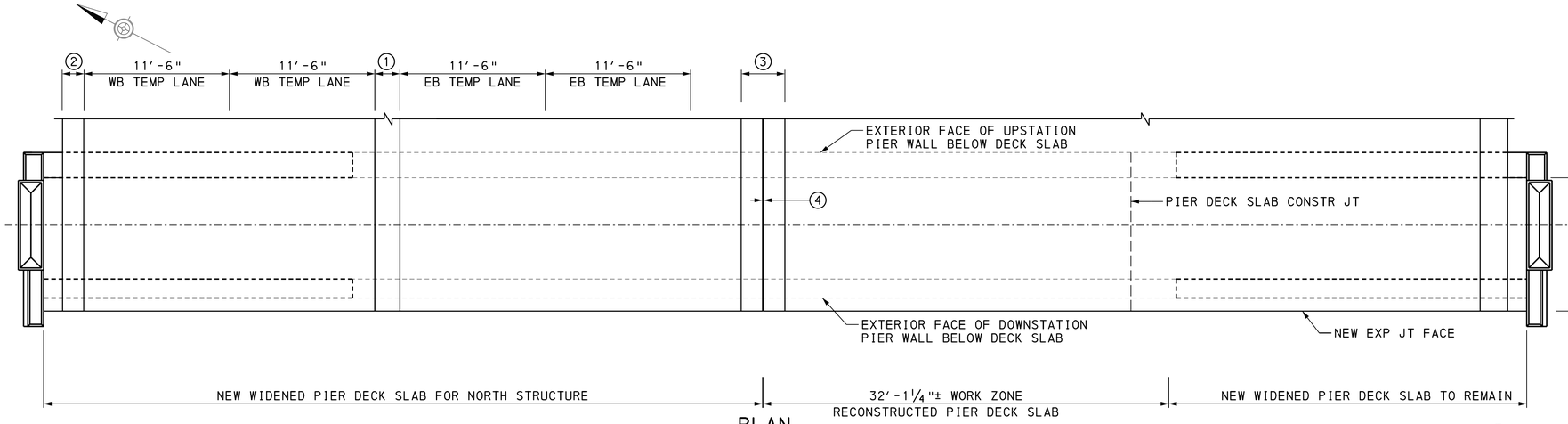
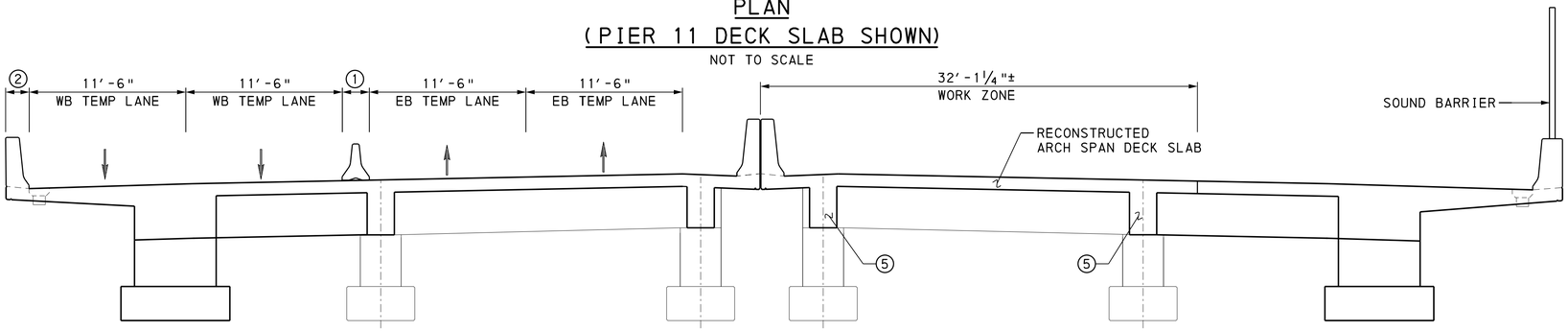
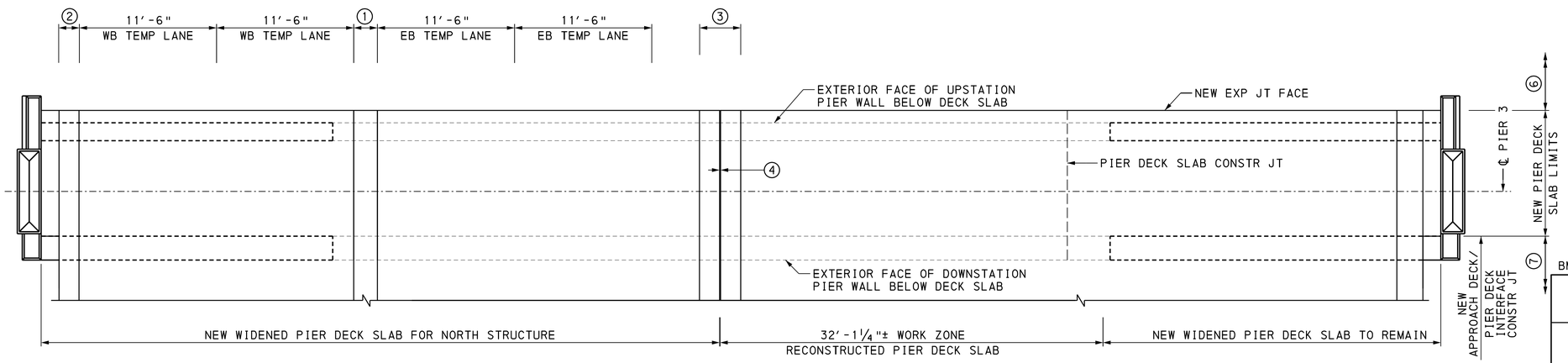



PLAN
(PIER 11 DECK SLAB SHOWN)
NOT TO SCALE




ARCH SPAN SECTION
STAGE 3 CONSTRUCTION - SOUTH STRUCTURE)
NOT TO SCALE




PLAN
(PIER 3 DECK SLAB SHOWN)
NOT TO SCALE

## LEGEND:

- TEMPORARY TRAFFIC LANE
- ① TEMPORARY BARRIERS
- ② PERMANENT BARRIERS
- ③ MEDIAN BARRIERS
- ④ JOINT GAP ONLY ON MEDIAN BARRIERS (PIER DECK SLAB REINFORCED CONSTRUCTION JOINT INTERFACE BELOW BARRIER JOINT GAP)
- ⑤ RECONSTRUCTED SPANDREL BEAM
- ⑥ ARCH SPAN NOT SHOWN
- ⑦ APPROACH STRUCTURE DECK

## STAGE 3 CONSTRUCTION - PIER DECK SLAB (TRAFFIC CONTROL PLAN STAGE 5)

- RECONSTRUCT SOUTH STRUCTURE PIER DECK SLAB AT PIER 3 & PIER 11. SEE PIER 3 & PIER 11 SHEETS FOR DETAILS BELOW DECK SLAB NOT SHOWN.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

**BERKS COUNTY**
**S.R. 0078 SECTION 13B**
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
**ARCH SPANS REHAB & WIDENING**
**PIER DECK CONSTRUCTION STAGING-6**

RECOMMENDED 08/30/2019

SHEET 143 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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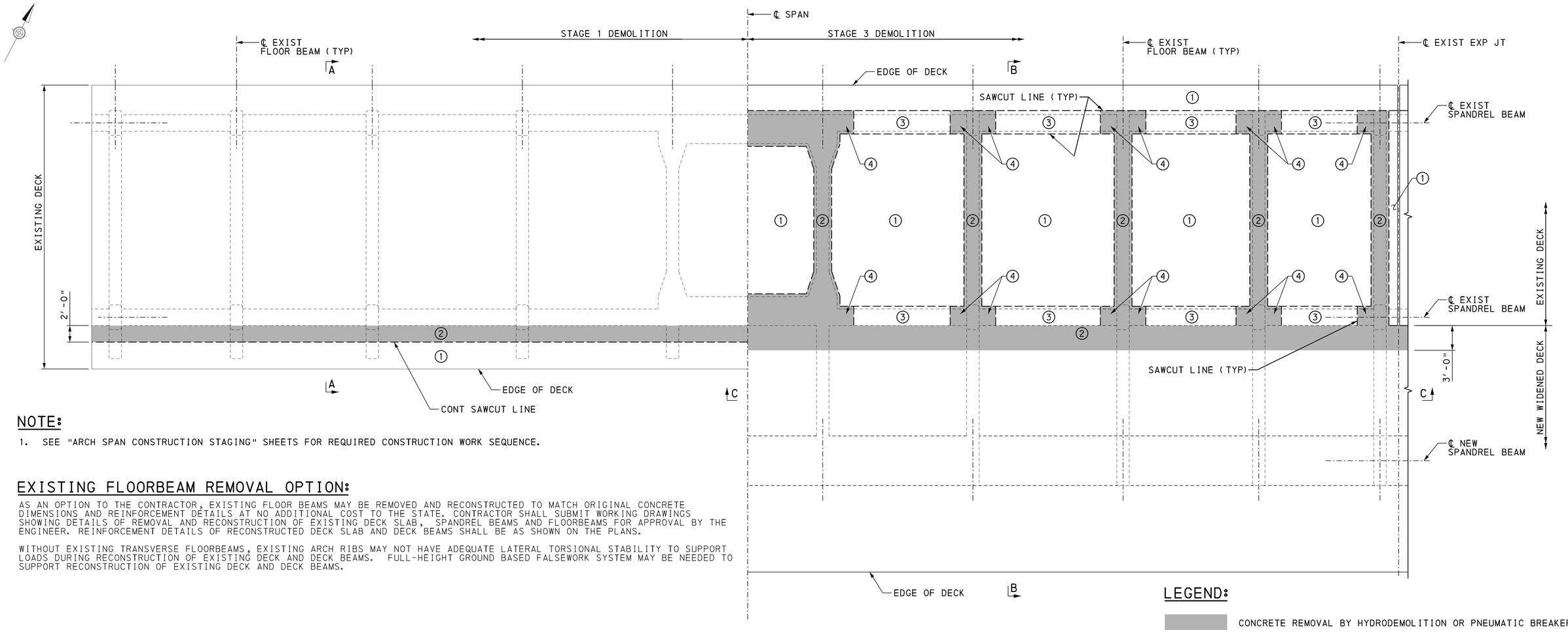


## NOTE:

1. SEE "ARCH SPAN CONSTRUCTION STAGING" SHEETS FOR REQUIRED CONSTRUCTION WORK SEQUENCE.

## EXISTING FLOORBEAM REMOVAL OPTION:

AS AN OPTION TO THE CONTRACTOR, EXISTING FLOOR BEAMS MAY BE REMOVED AND RECONSTRUCTED TO MATCH ORIGINAL CONCRETE DIMENSIONS AND REINFORCEMENT DETAILS AT NO ADDITIONAL COST TO THE STATE. CONTRACTOR SHALL SUBMIT WORKING DRAWINGS SHOWING DETAILS OF REMOVAL AND RECONSTRUCTION OF EXISTING DECK SLAB, SPANDREL BEAMS AND FLOORBEAMS FOR APPROVAL BY THE ENGINEER. REINFORCEMENT DETAILS OF RECONSTRUCTED DECK SLAB AND DECK BEAMS SHALL BE AS SHOWN ON THE PLANS.

WITHOUT EXISTING TRANSVERSE FLOORBEAMS, EXISTING ARCH RIBS MAY NOT HAVE ADEQUATE LATERAL TORSIONAL STABILITY TO SUPPORT LOADS DURING RECONSTRUCTION OF EXISTING DECK AND DECK BEAMS. FULL-HEIGHT GROUND BASED FALSEWORK SYSTEM MAY BE NEEDED TO SUPPORT RECONSTRUCTION OF EXISTING DECK AND DECK BEAMS.

## PARTIAL PLAN
## SOUTH SUPERSTRUCTURE DEMOLITION
NOT TO SCALE

## STAGE 1 DEMOLITION

CONCRETE REMOVAL SEQUENCE ①: SAW-CUT EXISTING OVERHANG DECK TO BE LOWERED TO THE GROUND FOR DISPOSAL OFF SITE.

CONCRETE REMOVAL SEQUENCE ②: FULL-DEPTH CONCRETE REMOVAL BY HYDRODEMOLITION OR PNEUMATIC BREAKER AS APPROPRIATE. EXISTING CONCRETE AND REINFORCEMENT SHOWN ON THE PLANS TO REMAIN SHALL BE PRESERVED AND SHALL NOT BE DAMAGED DURING CONCRETE REMOVAL.

## STAGE 3 DEMOLITION

CONCRETE REMOVAL SEQUENCE ①: SAW-CUT EXISTING OVERHANG DECK, DECK ADJACENT TO EXPANSION JOINT AND DECK PANEL WITHIN TWO DIRECTIONAL DECK BEAMS TO BE LOWERED TO THE GROUND FOR DISPOSAL OFF SITE.

CONCRETE REMOVAL SEQUENCE ②: PARTIAL DEPTH DECK CONCRETE REMOVAL BY HYDRODEMOLITION OR PNEUMATIC BREAKER AS APPROPRIATE. FLOORBEAM STIRRUPS, FASCIA DIAPHRAGM REINFORCEMENT, AND OTHER REINFORCEMENT SHOWN ON THE PLANS TO REMAIN SHALL BE PRESERVED AND SHALL NOT BE DAMAGED DURING CONCRETE REMOVAL.

CONCRETE REMOVAL SEQUENCE ③: SAW-CUT EXISTING SPANDREL BEAM TO BE LOWERED TO THE GROUND FOR DISPOSAL OFF SITE.

CONCRETE REMOVAL SEQUENCE ④: FULL-DEPTH SPANDREL BEAM CONCRETE REMOVAL NEAR SUPPORTS BY HYDRODEMOLITION OR PNEUMATIC BREAKER AS APPROPRIATE. EXISTING SPANDREL BEAM LONGITUDINAL REINFORCEMENT EMBEDDED IN THE FLOORBEAM SHOWN ON THE PLANS TO REMAIN SHALL BE PRESERVED AND SHALL NOT BE DAMAGED DURING CONCRETE REMOVAL.

## LEGEND:

CONCRETE REMOVAL BY HYDRODEMOLITION OR PNEUMATIC BREAKER

SAWCUT LINE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK AND SPANDREL BEAM REMOVAL - 1

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 144 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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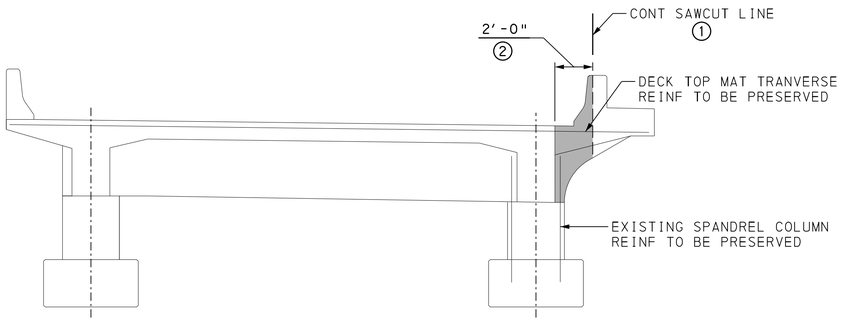
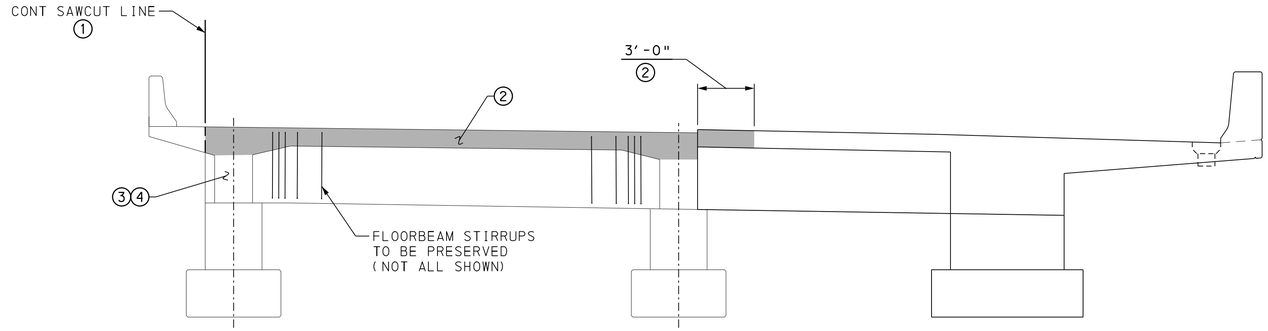


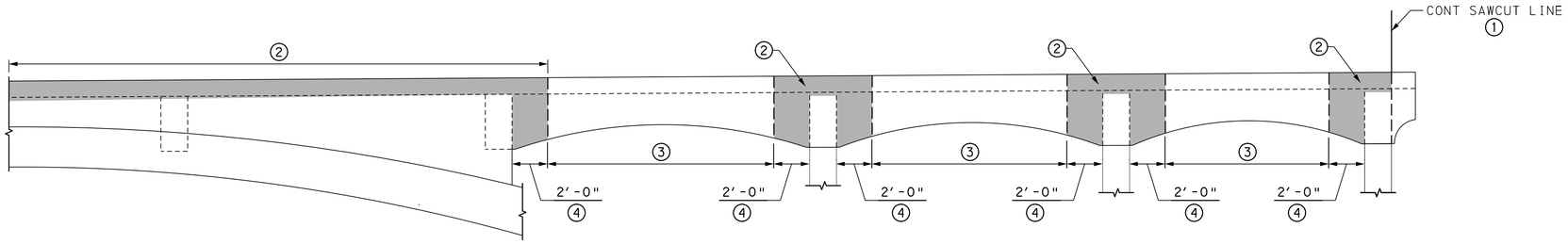

## SECTION A-A

STAGE 1 DEMOLITION (EXISTING OVERHANG DECK REMOVAL)
NTS




## SECTION B-B

STAGE 3 DEMOLITION (EXISTING DECK SLAB REMOVAL)
NTS




## SECTION C-C

STAGE 3 DEMOLITION (EXISTING SPANDREL BEAM REMOVAL)
NTS

LEGEND:

CONCRETE REMOVAL BY HYDRODEMOLITION OR PNEUMATIC BREAKER

SAWCUT LINE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK AND SPANDREL BEAM REMOVAL - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 145 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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OPERATOR: TYLIPW01ICSO1$

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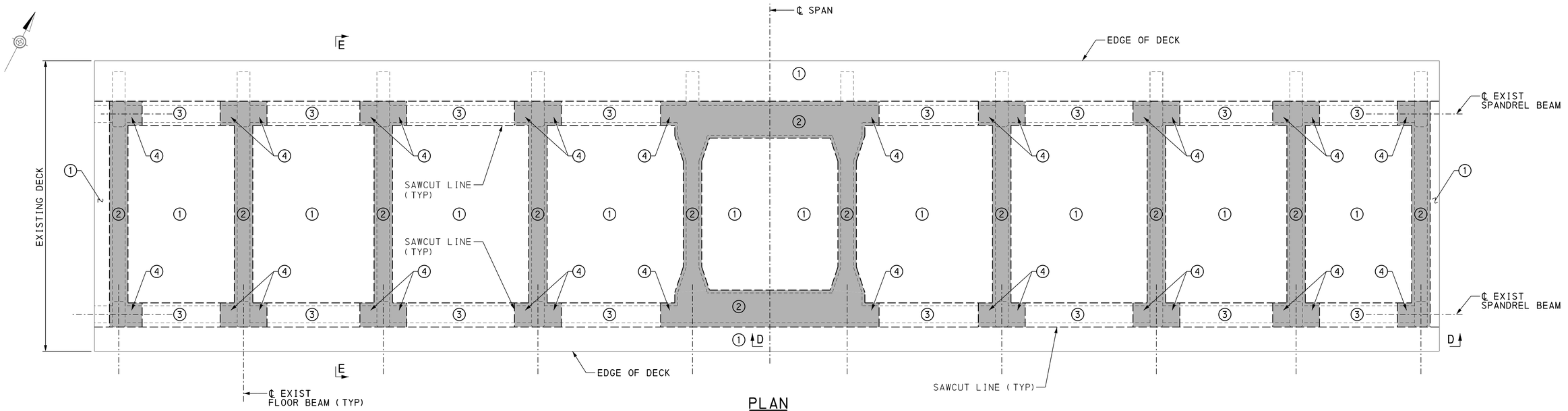
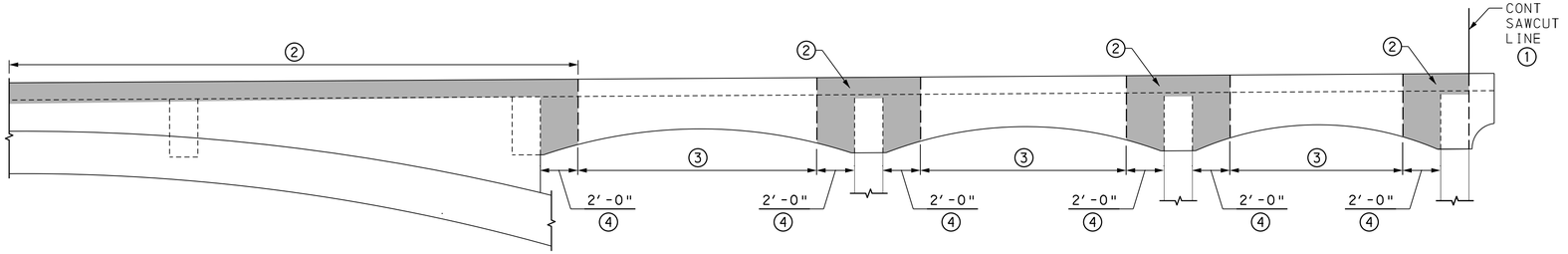


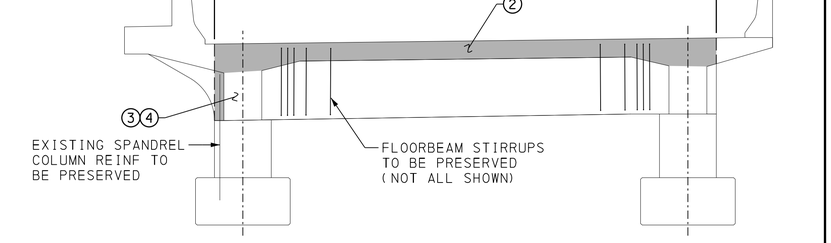

## PLAN
## NORTH SUPERSTRUCTURE DEMOLITION
NOT TO SCALE

**NOTE:**

1. SEE "ARCH SPAN CONSTRUCTION STAGING" SHEETS FOR REQUIRED CONSTRUCTION WORK SEQUENCE.




## SECTION D-D
STAGE 2 DEMOLITION (EXISTING SPANDREL BEAM REMOVAL)
NTS




## SECTION E-E
STAGE 2 DEMOLITION (EXISTING OVERHANG AND DECK SLAB REMOVAL)
NTS

## STAGE 2 DEMOLITION

CONCRETE REMOVAL SEQUENCE ①: SAW-CUT EXISTING OVERHANG DECK, DECK ADJACENT TO EXPANSION JOINT AND DECK PANEL WITHIN TWO DIRECTIONAL DECK BEAMS TO BE LOWERED TO THE GROUND FOR DISPOSAL OFF SITE.

CONCRETE REMOVAL SEQUENCE ②: PARTIAL DEPTH DECK CONCRETE REMOVAL BY HYDRODEMOLITION OR PNEUMATIC BREAKER AS APPROPRIATE. FLOORBEAM STIRRUPS, FASCIA DIAPHRAGM REINFORCEMENT, AND OTHER REINFORCEMENT SHOWN ON THE PLANS TO REMAIN SHALL BE PRESERVED AND SHALL NOT BE DAMAGED DURING CONCRETE REMOVAL.

CONCRETE REMOVAL SEQUENCE ③: SAW-CUT EXISTING SPANDREL BEAM TO BE LOWERED TO THE GROUND FOR DISPOSAL OFF SITE.

CONCRETE REMOVAL SEQUENCE ④: FULL DEPTH SPANDREL BEAM CONCRETE REMOVAL NEAR SUPPORTS BY HYDRODEMOLITION OR PNEUMATIC BREAKER AS APPROPRIATE. EXISTING SPANDREL BEAM LONGITUDINAL REINFORCEMENT EMBEDDED IN THE FLOORBEAM SHOWN ON THE PLANS TO REMAIN SHALL BE PRESERVED AND SHALL NOT BE DAMAGED DURING CONCRETE REMOVAL.

## LEGEND:

CONCRETE REMOVAL BY HYDRODEMOLITION OR PNEUMATIC BREAKER

SAWCUT LINE

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R PENNSYLVANIA

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK AND SPANDREL BEAM REMOVAL - 3

RECOMMENDED 08/30/2019

SHEET 146 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-DT-052.dgn
OPERATOR: TYLIPWOIICSO1$

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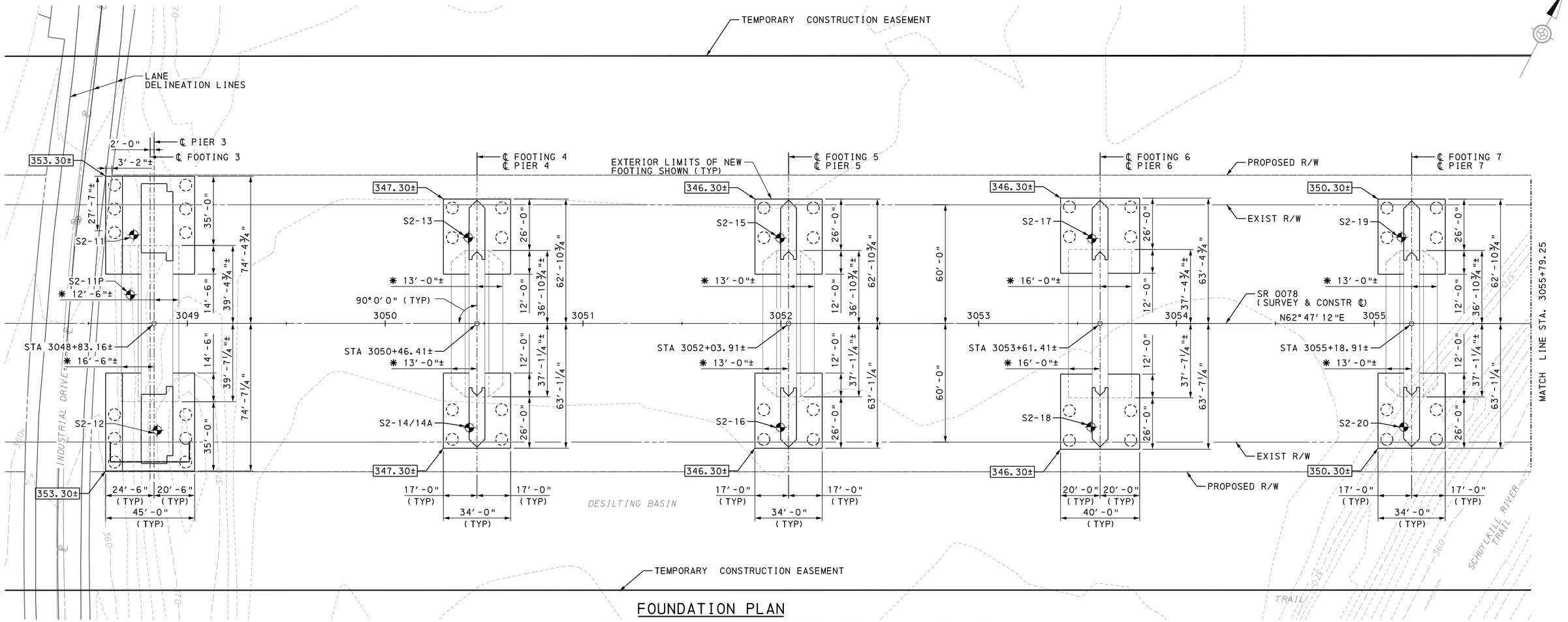
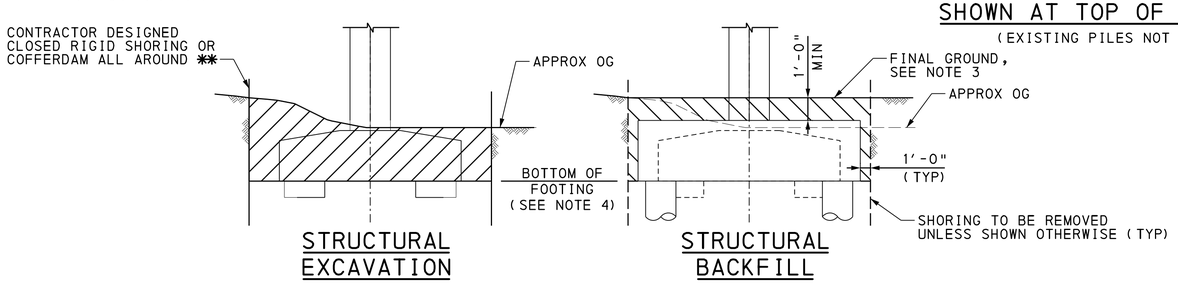



## FOUNDATION PLAN
## SHOWN AT TOP OF FOOTING
(EXISTING PILES NOT SHOWN)

✱ EXTENT OF EXISTING FOOTING




STRUCTURAL EXCAVATION

STRUCTURAL BACKFILL

✱✱ RIGID SHORING OR COFFERDAM SHALL BE PROVIDED TO PREVENT UNDERMINING OF EXISTING FOUNDATION DURING EXCAVATION AND TO RETAIN SOIL (EXISTING ROADWAY, TRAILS, AND ETC.) AND TO RETAIN WATER (RIVERS) ADJACENT TO EXCAVATION

## "FINAL" PAY LIMITS FOR STRUCTURAL EXCAVATION AND STRUCTURAL BACKFILL (SEE NOTE 2)

NTS

## NOTES:

1. CENTERLINE OF NEW FOOTING LOCATED TO MATCH CENTERLINE OF EXISTING FOOTING.
2. RIGID SHORING, COFFERDAM, FOOTING AND PIER SHOWN SCHEMATICALLY. SEE PIER SHEETS FOR DETAILS OF PIER AND FOOTINGS. OPEN-CUT SLOPED UNSHORED EXCAVATION SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER.
3. SEE GRADING PLANS, FOR FINISHED GROUND PROFILE.
4. CONTRACTOR DESIGNED SEAL COURSE CONCRETE (NOT SHOWN) IS ANTICIPATED TO BE PLACED BELOW BOTTOM OF FOOTING DUE TO HIGH GROUND WATER TABLE. EXCAVATED PIT SHALL BE DEWATERED IN ORDER TO CONSTRUCT THE FOOTING IN THE DRY.
5. BOTTOM OF NEW FOOTING LOCATED TO MATCH BOTTOM OF EXISTING FOOTING.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

## LEGEND:

- SOIL BORING LOCATION
- 400 EXISTING CONTOURS
- 400 PROPOSED CONTOURS
- XXX.XX APPROX BOTTOM OF NEW FOOTING ELEV (ft), SEE NOTE 5
- STRUCTURE BACKFILL
- STRUCTURE EXCAVATION
- 6' ø DRILLED SHAFT

25 0 25 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
FOUNDATION PLAN - 1

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 147 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-FP-001.dgn
OPERATOR: TYLIPWO11CS01$

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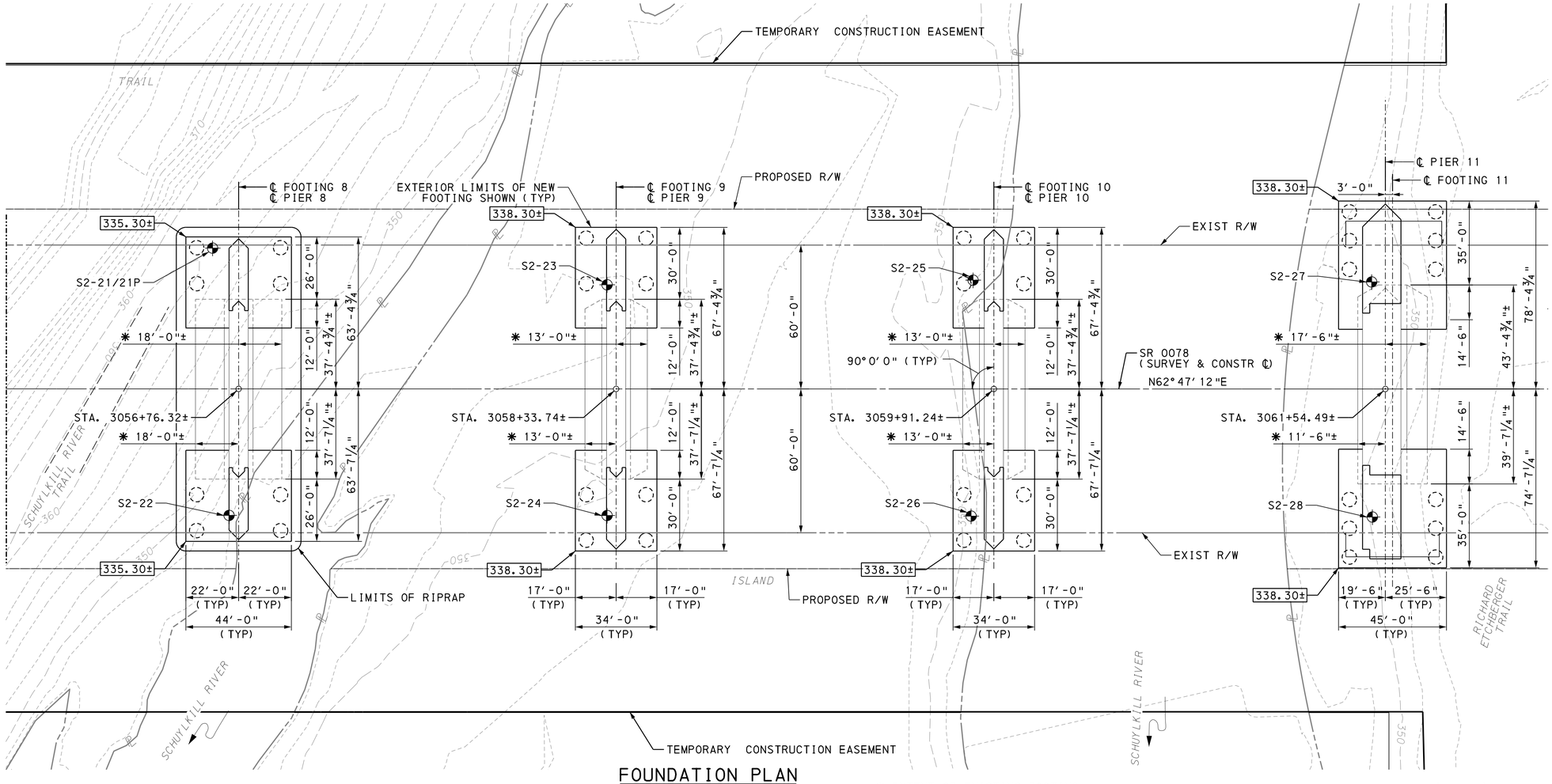
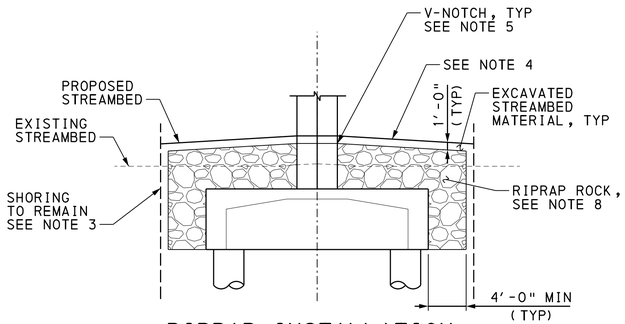



## FOUNDATION PLAN
## SHOWN AT TOP OF FOOTING
(EXISTING PILES NOT SHOWN)

✱ EXTENT OF EXISTING FOOTING




## RIPRAP INSTALLATION
(PIERS 8, 9, 10 & 11)

## LEGEND:

| | |
|---|---|
| ⊕ | SOIL BORING LOCATION |
| -400- | EXISTING CONTOURS |
| —400— | PROPOSED CONTOURS |
| XXX.XX | APPROX BOTTOM OF NEW FOOTING ELEVATION (ft), SEE NOTE 2 |
| ◌ | 6′ ø DRILLED SHAFT |

25 0 25 FEET

## NOTES:

1. CENTERLINE OF NEW FOOTING LOCATED TO MATCH CENTERLINE OF EXISTING FOOTING.
2. BOTTOM OF NEW FOOTING LOCATED TO MATCH BOTTOM OF EXISTING FOOTING.
3. SHORING TO REMAIN AND SHALL BE CUT 1′-0" BELOW FINAL STREAMBED ELEVATION.
4. SLOPE, 6:1 MINIMUM, 2:1 MAXIMUM.
5. REFER TO BD-629M AND BC-751 FOR V-NOTCH DETAIL.
6. RIPRAP RROCK R-8 CHOKED WITH R-4 SHALL EXTEND TO THE BOTTOM OF PIER FOOTING FOR PIERS 8, 9 AND 11. FOR PIERR 10 OER EXCAVATE TO INSTALL RIPRAP TO ELEVATION 335.25.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
FOUNDATION PLAN - 2

RECOMMENDED 08/30/2019

SHEET 148 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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OPERATOR: TYLIPW01ICSO1$

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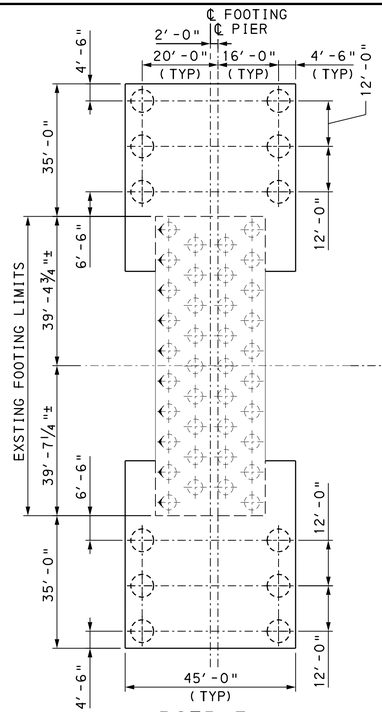
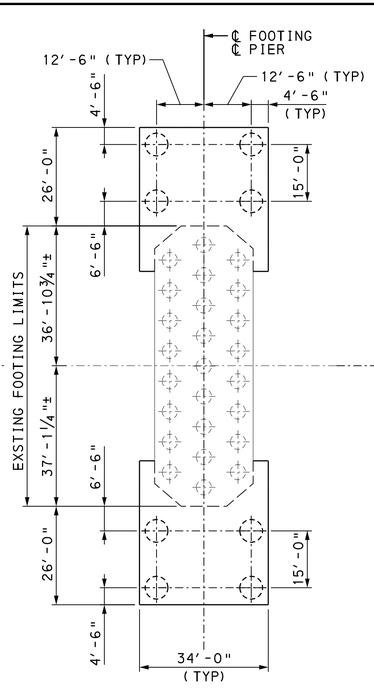
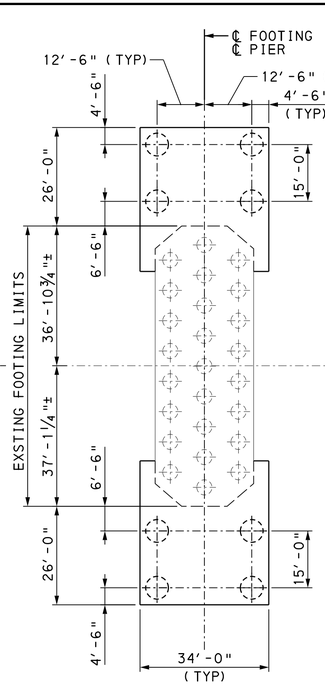


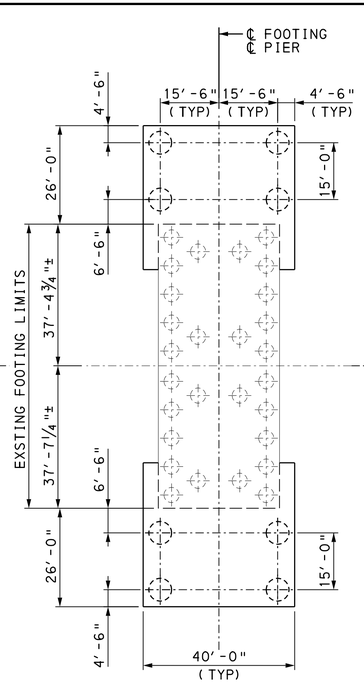

PIER 3




PIER 4




PIER 5

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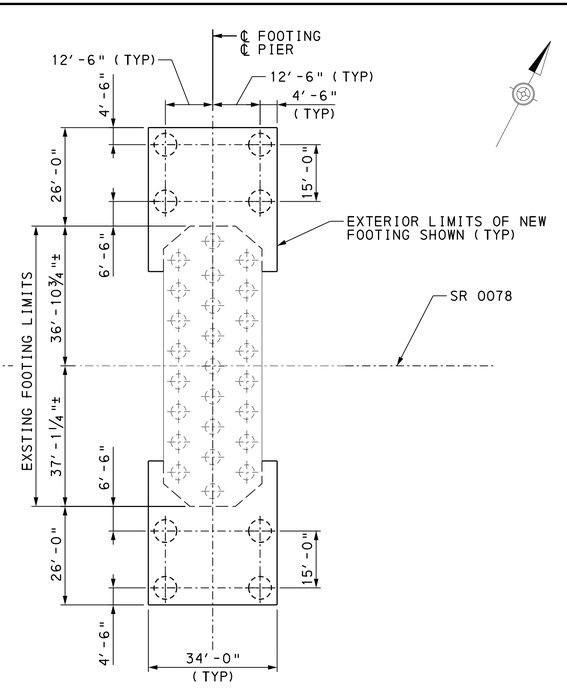
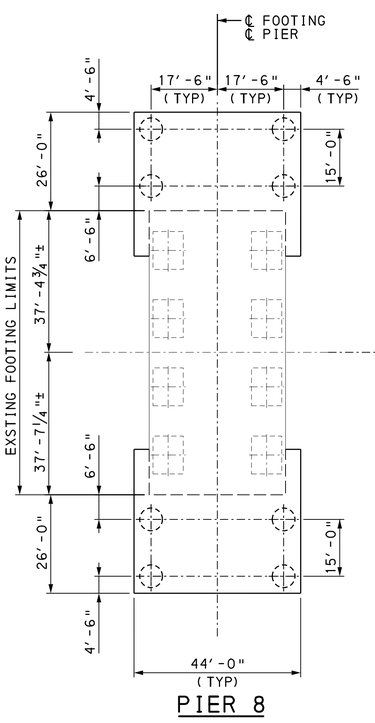
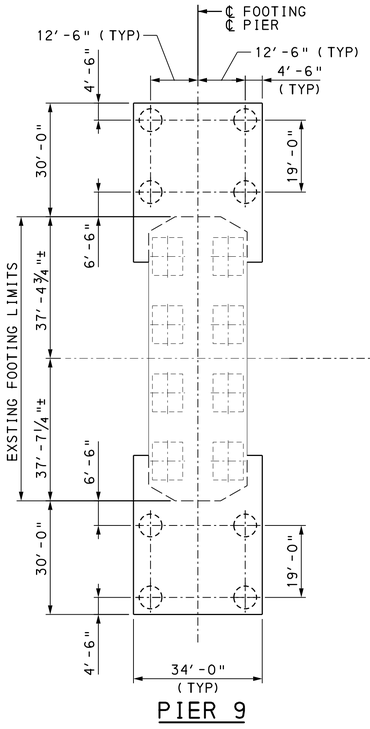


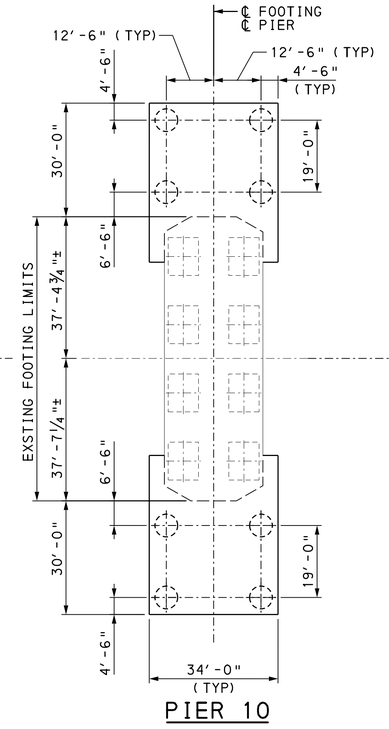

PIER 7



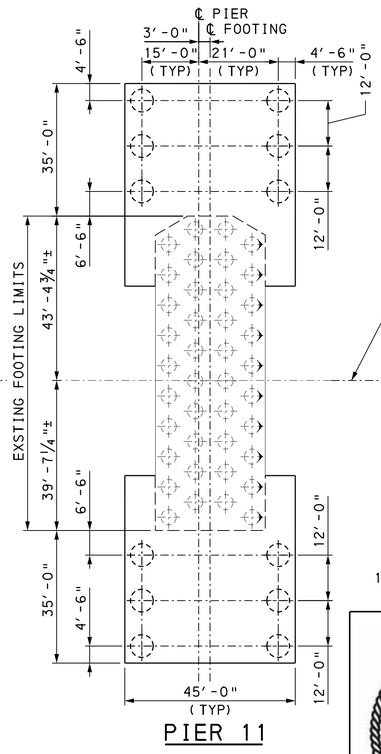

PIER 8




PIER 9




PIER 10




PIER 11

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

## LEGEND:

- EXISTING PILES
- EXISTING BATTER PILES
- 6′ ø PILE

## NOTES:

1. CENTERLINE OF NEW FOOTING LOCATED TO MATCH CENTERLINE OF EXISTING FOOTING.

10 0 10 20 FEET

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

## BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PILE LAYOUT

RECOMMENDED 08/30/2019



DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-FP-003.dgn

# PILE LOAD DATA - DRILLED SHAFT CONCRETE PILE

| | | PILE DESIGN FORCE DEMANDS | | | | | | | | | PILE DIMENSIONAL/CAPACITY REQUIREMENTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | COMPUTED FACTORED PILE MAXIMUM COMPRESSION DEMANDS (KIPS/PILE) (NOTE 1) | | | COMPUTED FACTORED PILE MAXIMUM TENSION/MINIMUM COMPRESSION DEMANDS (KIPS/PILE) (NOTE 1) | | | REQUIRED NOMINAL PILE RESISTANCE Rn (TONS/PILE) (NOTE 5) | | | | BOTTOM OF FOOTING ELEV (±) | LOWEST TOP OF "ROCK" ELEV (NOTE 9) (±) | PILE DIA | PILE HEAD CUTOFF ELEV | TOP OF ROCK ANCHOR ELEV | BOTTOM OF ROCK ANCHOR ELEV | DRILLED SHAFT LENGTH | ROCK ANCHOR LENGTH |
| | | | | | | | | COMPRESSION | | TENSION | | | | | | | | | |
| | LOCATION | CONTROLLING LOAD COMBINATION (NOTE 3) | DEAD LOADS | TOTAL DESIGN LOAD (NOTE 2) | CONTROLLING LOAD COMBINATION (NOTE 3) | DEAD LOADS | TOTAL DESIGN LOAD (NOTE 2) | ø | Rn | ø | Rn | | | | | | | | |
| EXISTING PILES | PIER 3 | STRENGTH IV | -438 | -652 | STRENGTH IV | -108 | -92 | 0.55 | -1185 | 0.45 | - | 353.3′ | 334.0′ | 4′ OR 6′ (NOTE 10) | UNKNOWN | N/A | N/A | 12.5′ (NOTE 7) | N/A |
| | PIER 4 | STRENGTH IV | -397 | -544 | STRENGTH IV | -258 | -382 | 0.55 | -989 | 0.45 | - | 347.3′ | 337.0′ | 4′ OR 6′ (NOTE 10) | UNKNOWN | N/A | N/A | UNKNOWN | N/A |
| | PIER 5 | STRENGTH IV | -389 | -575 | STRENGTH IV | -261 | -373 | 0.55 | -1045 | 0.45 | - | 346.3′ | 335.6′ | 4′ OR 6′ (NOTE 10) | UNKNOWN | N/A | N/A | UNKNOWN | N/A |
| | PIER 6 | STRENGTH IV | -386 | -566 | STRENGTH IV | -265 | -368 | 0.55 | -1029 | 0.45 | - | 346.3′ | 324.2′ | 4′ OR 6′ (NOTE 10) | UNKNOWN | N/A | N/A | UNKNOWN | N/A |
| | PIER 7 | STRENGTH IV | -444 | -852 | STRENGTH IV | -209 | -265 | 0.55 | -1549 | 0.45 | - | 350.3′ | 324.8′ | 4′ OR 6′ (NOTE 10) | UNKNOWN | N/A | N/A | 12.5′ (NOTE 7) | N/A |
| | PIER 8 (NOTE 8) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 335.3′ | 330.8′ | N/A | N/A | N/A | N/A | N/A | N/A |
| | PIER 9 (NOTE 8) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 338.3′ | 337.3′ | N/A | N/A | N/A | N/A | N/A | N/A |
| | PIER 10 (NOTE 8) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 338.3′ | 335.6′ | N/A | N/A | N/A | N/A | N/A | N/A |
| | PIER 11 | STRENGTH IV | -583 | -971 | STRENGTH V | -30 | -11 | 0.55 | -1765 | 0.45 | - | 338.3′ | 335.5′ | 4′ OR 6′ (NOTE 10) | UNKNOWN | N/A | N/A | 5.5′ (NOTE 7) | N/A |
| NEW PILES | PIER 3 | STRENGTH IV | -1894 | -2747 | STRENGTH V | -220 | -327 | 0.55 | -4995 | 0.45 | - | 353.3′ | 334.0′ | 6′ | 353.5′ | 332.0′ | 321.0′ | 21.5′ | 11′ |
| | PIER 4 | STRENGTH IV | -1709 | -2613 | STRENGTH V | -352 | -310 | 0.55 | -4751 | 0.45 | - | 347.3′ | 337.0′ | 6′ | 347.5′ | 335.0′ | 324.0′ | 12.5′ | 11′ |
| | PIER 5 | STRENGTH IV | -1627 | -2272 | STRENGTH IV | -357 | -577 | 0.55 | -4131 | 0.45 | - | 346.3′ | 335.6′ | 6′ | 346.5′ | 333.6′ | 322.6′ | 12.9′ | 11′ |
| | PIER 6 | STRENGTH IV | -1686 | -2278 | STRENGTH IV | -471 | -627 | 0.55 | -4142 | 0.45 | - | 346.3′ | 324.2′ | 6′ | 346.5′ | 322.2′ | 311.2′ | 24.3′ | 11′ |
| | PIER 7 | STRENGTH IV | -1654 | -2253 | STRENGTH IV | -452 | -716 | 0.55 | -4096 | 0.45 | - | 350.3′ | 324.8′ | 6′ | 350.5′ | 322.8′ | 311.8′ | 27.7′ | 11′ |
| | PIER 8 | STRENGTH I | -1749 | -2588 | STRENGTH IV | -278 | -495 | 0.55 | -4705 | 0.45 | - | 335.3′ | 330.8′ | 6′ | 335.5′ | 328.8′ | 317.8′ | 6.7′ | 11′ |
| | PIER 9 | STRENGTH IV | -1549 | -2325 | STRENGTH IV | -188 | -308 | 0.55 | -4227 | 0.45 | - | 338.3′ | 337.3′ | 6′ | 338.5′ | 333.5′ | 322.5′ | 5′ | 11′ |
| | PIER 10 | STRENGTH I | -1650 | -2399 | STRENGTH I | -148 | -327 | 0.55 | -4362 | 0.45 | - | 338.3′ | 335.6′ | 6′ | 338.5′ | 333.5′ | 322.5′ | 5′ | 11′ |
| | PIER 11 | STRENGTH IV | -1962 | -2776 | STRENGTH V | 124 | 116 | 0.55 | -5047 | 0.45 | 258 | 338.3′ | 335.5′ | 6′ | 338.5′ | 333.5′ | 322.5′ | 5′ | 11′ |

## NOTES:

1. FACTORED PILE HEAD COMPRESSION OR TENSION LOADS INCLUDE AXIAL & MOMENT EFFECTS ON PILE GROUP (NEGATIVE =COMPRESSION; POSITIVE =TENSION).
2. TOTAL DESIGN LOAD = SUM OF FACTORED PILE HEAD LOADS IN THE CONTROLLING LOAD COMBINATION.
3. LOAD COMBINATION IS BASED ON AASHTO LRFD 2014 WITHOUT INTERIM.
4. RESISTANCE FACTOR ø IS BASED ON FIELD VERIFICATION METHOD USED TO VERIFY PILE LOAD CAPACITY DURING CONSTRUCTION, AS SPECIFIED BY THE GEOTECHICAL ENGINEER.
5. REQUIRED NOMINAL PILE RESISTANCE Rn=TOTAL DESIGN LOAD / ø.
6. BOTTOM OF ROCK SOCKET ELEVATION SHOWN SHALL NOT BE MODIFIED UNLESS APPROVED BY DESIGNER OF RECORD.
7. AS DEFINED IN THE "STRUCTURE FOUNDATION REPORT", DATED APRIL 2019, APPENDIX J.
8. EXISTING FOUNDATION AT PIERS 8, 9, AND 10 ARE SPREAD FOOTINGS.
9. AS DEFINED IN THE "STRUCTURE FOUNDATION REPORT", DATED APRIL 2019, APPENDIX B.
10. UNCERTAINTY IN EXISTING PILE DIAMETER IS DISCUSSED IN THE "STRUCTURE FOUNDATION REPORT", DATED APRIL 2019, APPENDIX J. NUMERICAL CALCULATION IS BASED ON ASSUMING BOTH 4′ AND 6′ EXISTING PILE DIAMETERS IN ORDER TO ENVELOPE WORST CASE PILE FORCE DEMANDS AND PILE SECTION CAPACITIES.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PILE LOAD TABLE

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 150 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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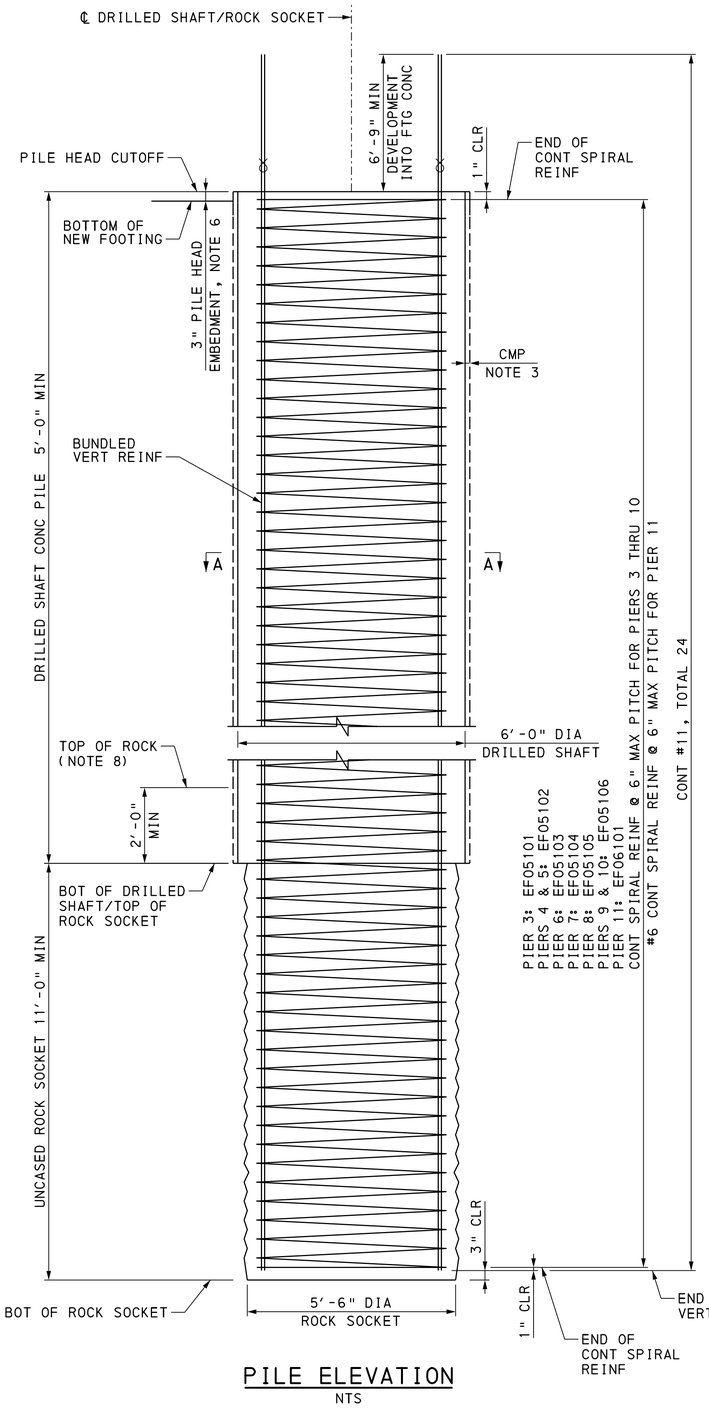
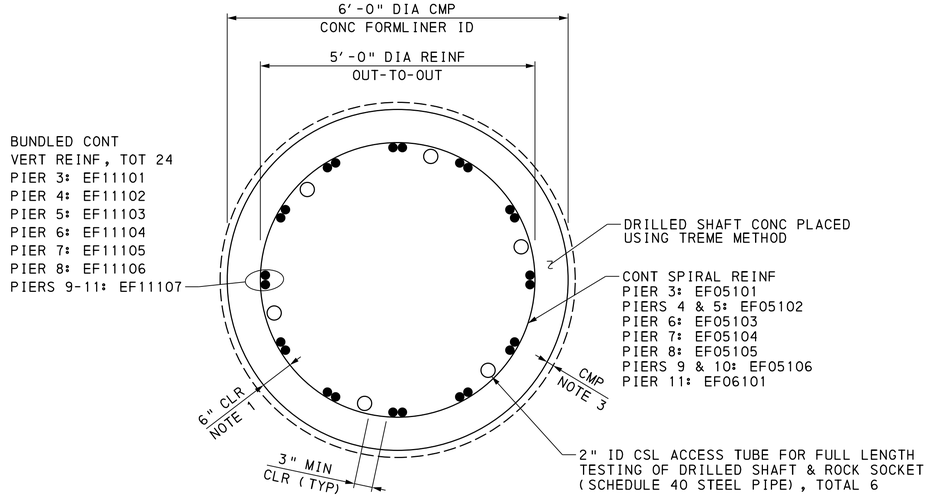



## PILE ELEVATION
NTS




## SECTION A-A
NTS

## NOTES:

1. ± 1" TOLERANCE.
2. HEAVY WALL TEMPORARY CASING USED AS CONTRACTOR'S MEANS-AND-METHODS OF CONSTRUCTING DRILLED SHAFT SHALL BE EXTRACTED/REMOVED.
3. CORRUGATED METAL PIPE (CMP) CASING USED AS CONCRETE FORMLINER MAY BE LEFT IN PLACE PERMANENTLY.
4. ANNULAR SPACE BETWEEN EXTERIOR TEMPORARY CASING AND INTERIOR CMP SHALL BE FILLED WITH GRANULAR BACKFILL MATERIAL.
5. GRANULAR BACKFILL MATERIAL SHALL BE ALLOWED TO SELF-CONSOLIDATE INSIDE LATERALLY CONFINED ANNULAR SPACE DURING EXTRACTION OF TEMPORARY CASING (VIA VIBRATION AND/OR OSILLATION OF TEMPORARY CASING DURING EXTRACTION).
6. FOOTING BOTTOM MAT REINFORCEMENT SHALL BE CONTINUOUS THROUGH PILE HEAD LOCATION.
7. CSL ACCESS TUBE SHALL BE FILLED WITH CONCRETE AFTER PILE IS TESTED AND ACCEPTED.
8. TOP OF ROCK SHOWN SCHEMATICALLY. TOP OF ROCK ELEVATION VARIES, SEE "PILE LOAD TABLE".

## DRILLED SHAFT CONCRETE REQUIREMENTS

DRILLED SHAFT CONCRETE MIX REQUIREMENTS SHALL INCLUDE THE FOLLOWING:

-3/4" MAX AGGREGATE SIZE
-28-DAY CONCRETE COMPRESSIVE STRENGTH, f'c = 4,000 PSI MIN
-SELF-CONSOLIDATING CONCRETE (SCC)
-RESISTANCE TO SEGREGATION AND BLEEDING
-RESISTANCE TO LEACHING
-ADMIXTURES TO CONTROL CONCRETE SETTING TIME AND WORKABILITY
-SUPPLEMENTARY CEMENTING MATERIALS (SCM) TO CONTROL HEAT OF HYDRATION

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW PILE DETAILS

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SHEET 151 OF 295

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DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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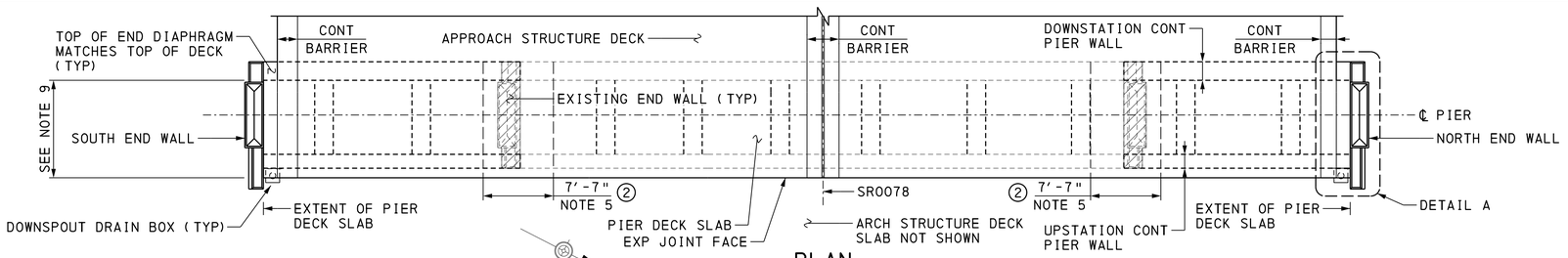
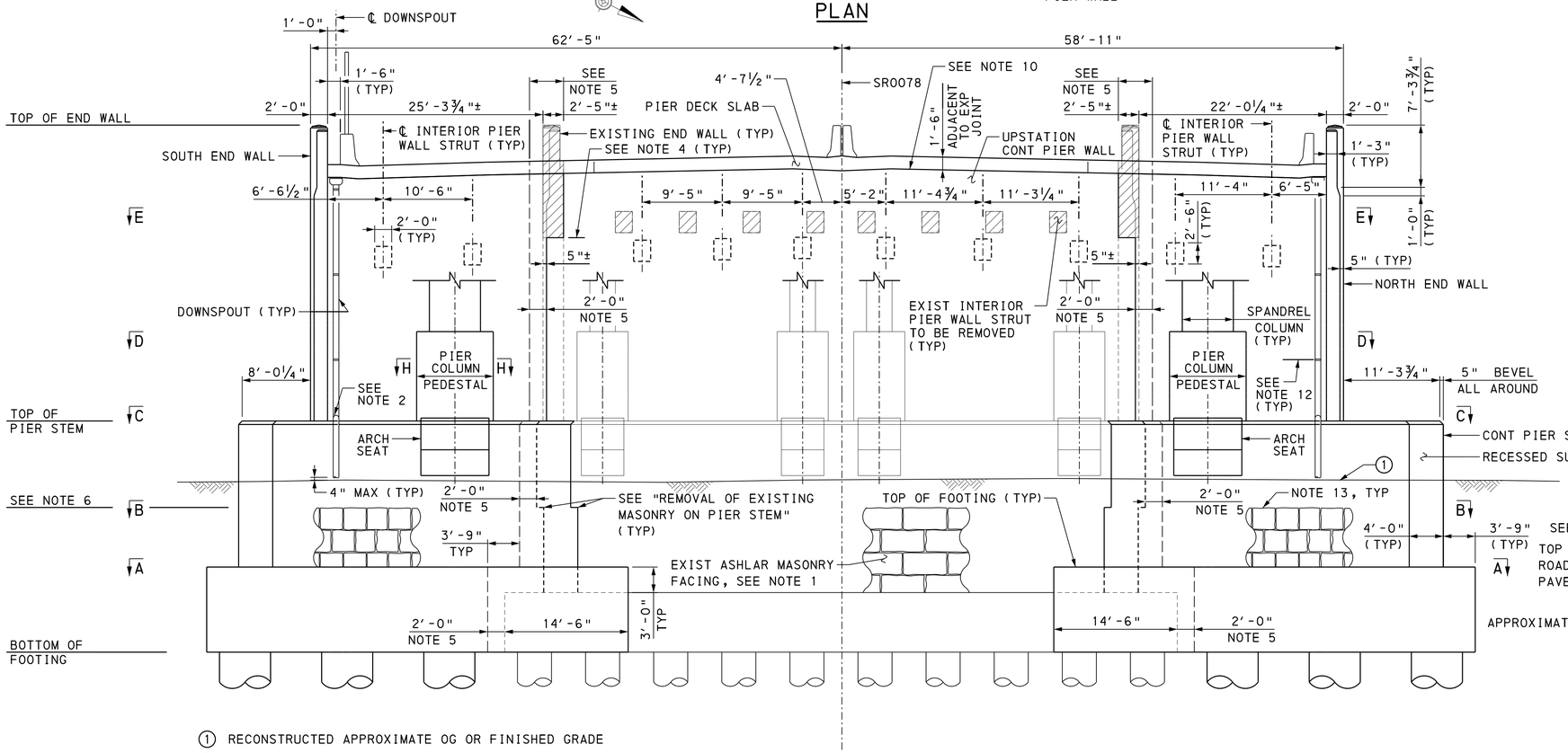



## PLAN

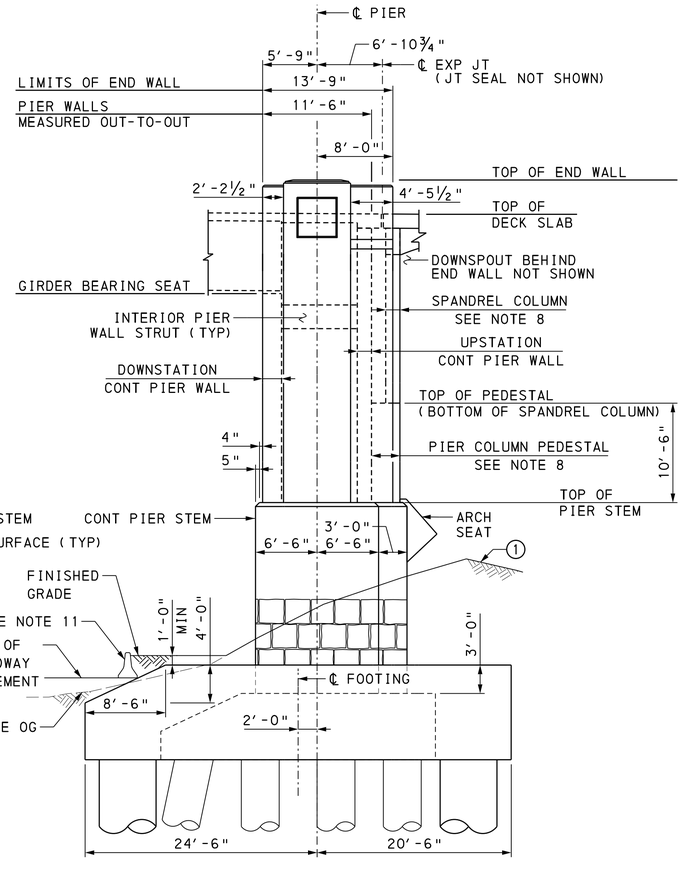



① RECONSTRUCTED APPROXIMATE OG OR FINISHED GRADE

② CLOSURE POUR AT PIER DECK SLAB

## LEGEND:

CONCRETE REMOVAL

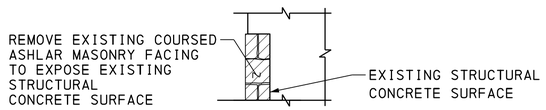



## ELEVATION

(UPSTATION SIDE)

## END VIEW

(SOUTH END WALL SHOWN, NORTH END WALL SIMILAR)




## REMOVAL OF EXISTING MASONRY ON PIER STEM

## NOTES:

1. REMOVE EXISTING COURSED ASHLAR MASONRY FACING FROM SURFACES THAT WILL BE INCORPORATED WITHIN LIMITS OF NEW CONCRETE.
2. INSTALL 90 DEGREE ELBOWS ON DOWNSPOUT IN ORDER TO DISCHARGE RUNOFF AWAY FROM UPSTATION FACE OF PIER STEM.
3. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
4. EXTENT OF EXISTING END WALL REMOVAL (ELEVATION 402.42±).
5. TEMPORARY ISOLATION GAP SHOWN FOR PIER DECK SLAB, PIER WALLS, PIER STEM AND FOOTING. DIMENSION OF ISOLATION GAP AS SHOWN.
6. TOP OF NEW COURSED ASHLAR MASONRY FACING TO MATCH EXISTING.
7. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
8. SPANDREL COLUMN AND PIER COLUMN PEDESTAL PARTIALLY HIDDEN BEHIND END WALL.
9. LONGITUDINAL LIMITS OF FULL-WIDTH PIER DECK SLAB SHOWN. PIER DECK SLAB IS MONOLITHICALLY CONTINUOUS WITH APPROACH STRUCTURE DECK AND GIRDER END DIAPHRAGM.
10. FINISH TOP OF UPSTATION CONTINUOUS PIER WALL TO ACCOMMODATE 1/4" CONTINUOUS ELASTOMERIC BEARING PAD AND CONFORM TO THE BOTTOM OF PIER STRUCTURE DECK SLAB TRANSVERSE CROSS SLOPE GEOMETRY.
11. ROADWAY BARRIER SHOWN SCHEMATICALLY.
12. DOWNSPOUT SUPPORTED ON PIER WALL, SEE STD PLAN BC-751M FOR DETAILS NOT SHOWN.
13. NEW SQUARE COURSED ASHLAR STONE ARCHITECTURAL SURFACE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|

REVISIONS

2 0 4 8 FEET

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 LAYOUT - 1

RECOMMENDED 08/30/2019

SHEET 152 OF 295

S-38014

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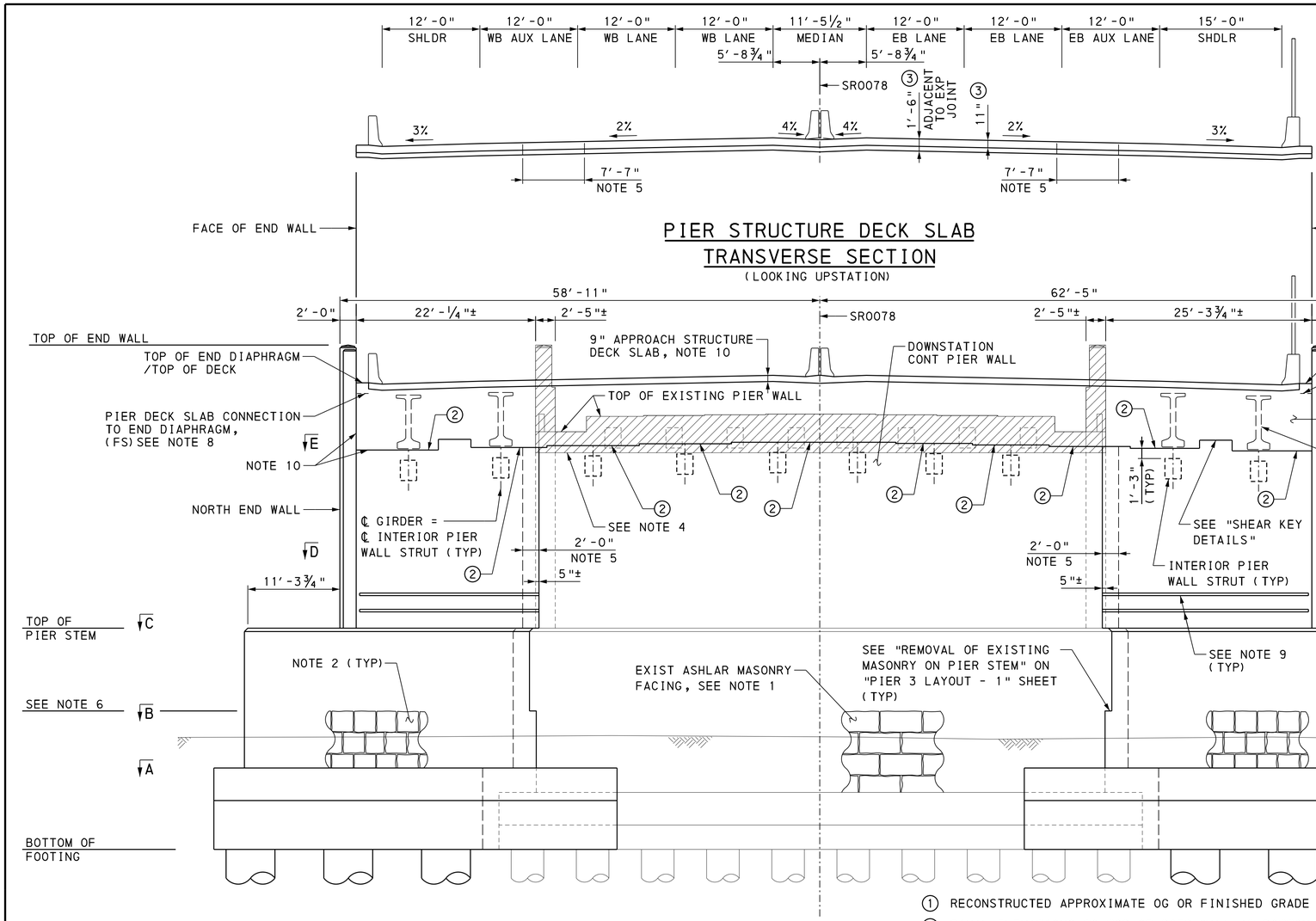



## PIER STRUCTURE DECK SLAB TRANSVERSE SECTION

(LOOKING UPSTATION)

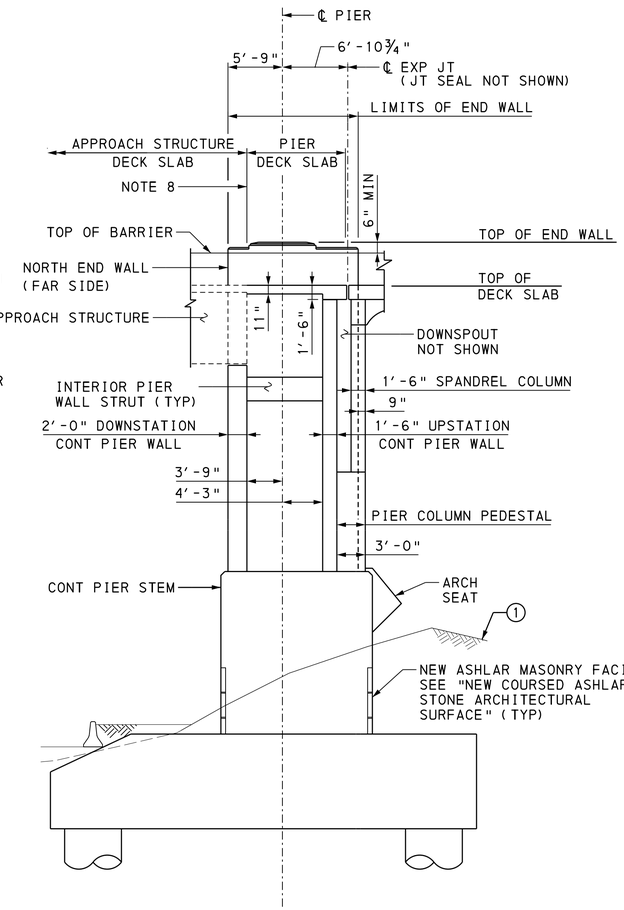



## ELEVATION

(DOWNSTATION SIDE)

## LEGEND:

CONCRETE REMOVAL




## PIER SECTION

(AWAY FROM OVERHANG DECK, LOOKING NORTH)

1. RECONSTRUCTED APPROXIMATE OG OR FINISHED GRADE
2. FINAL ELEVATIONS TO TOP OF PIER WALL AT BOTTOM OF BEARING PADS NOT DRAWN TO SCALE. TOP OF PIER WALL FINAL/FINISHED ELEVATIONS SHALL ACCOMMODATE TRUE HEIGHT OF FURNISHED BEARING PADS. SEE APPROACH STRUCTURE DRAWINGS FOR SPECIFIED PRECAST GIRDER BEARING SEAT/TOP OF BEARING PAD ELEVATIONS.
3. INCLUDES ½" INTEGRAL CONC WEARING SURFACE.

## NOTES:

1. REMOVE EXISTING COURSED ASHLAR MASONRY FACING FROM SURFACES THAT WILL BE INCORPORATED WITHIN LIMITS OF NEW CONCRETE.
2. NEW SQUARE COURSED ASHLAR STONE ARCHITECTURAL SURFACE.
3. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
4. FOR EXTENT OF EXISTING END WALL AND TRANSVERSE PIER WALL REMOVAL, SEE "PIER 3 - LAYOUT 1" SHEET.
5. TEMPORARY ISOLATION GAP SHOWN FOR PIER DECK SLAB, PIER WALLS, PIER STEM AND FOOTING. DIMENSION OF ISOLATION GAP AS SHOWN.
6. TOP OF NEW COURSED ASHLAR MASONRY FACING TO MATCH EXISTING.
7. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
8. MONOLITHIC CONNECTION BETWEEN PIER DECK SLAB AND APPROACH STRUCTURE AND END DIAPHRAGM.
9. 1 1/2" x 3 3/4" RUSTICATION ON FACE OF NEW PIER WALL, NOT ALL SHOWN. LOCATION, TOTAL NUMBER, AND SPACING OF RUSTICATION TO MATCH RUSTICATIONS ON EXISTING PIER WALL FACE. SEE AS-BUILT PLANS FOR DETAILS OF RUSTICATION.
10. SEE APPROACH STRUCTURE PLANS FOR DETAILS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING
PIER 3 LAYOUT - 2

RECOMMENDED 08/30/2019

SHEET 153 OF 295

S-38014

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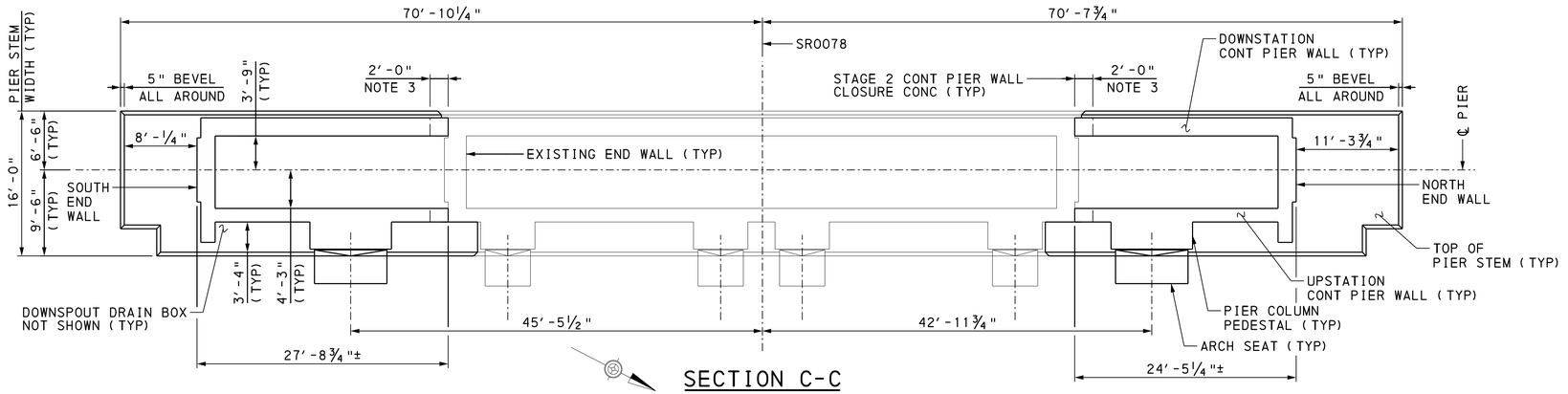
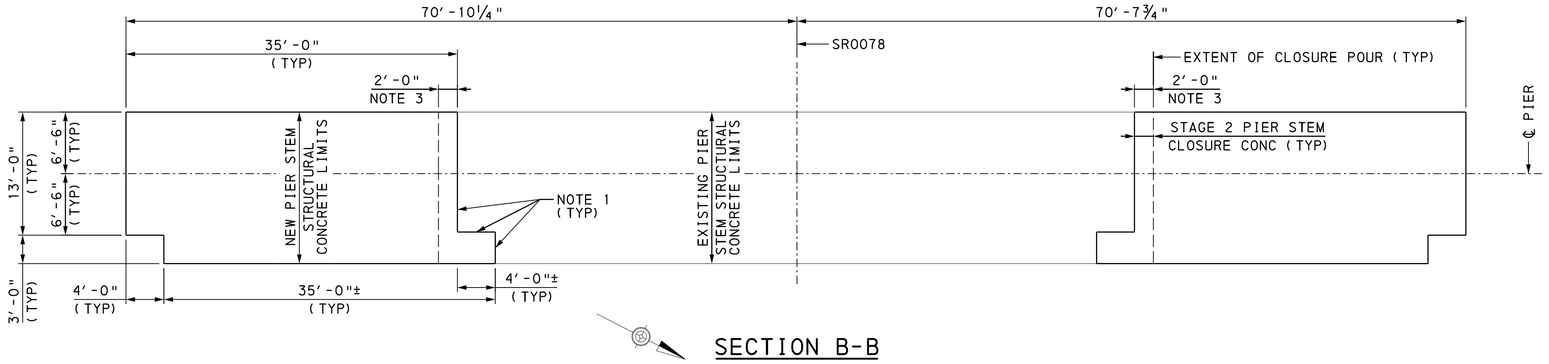
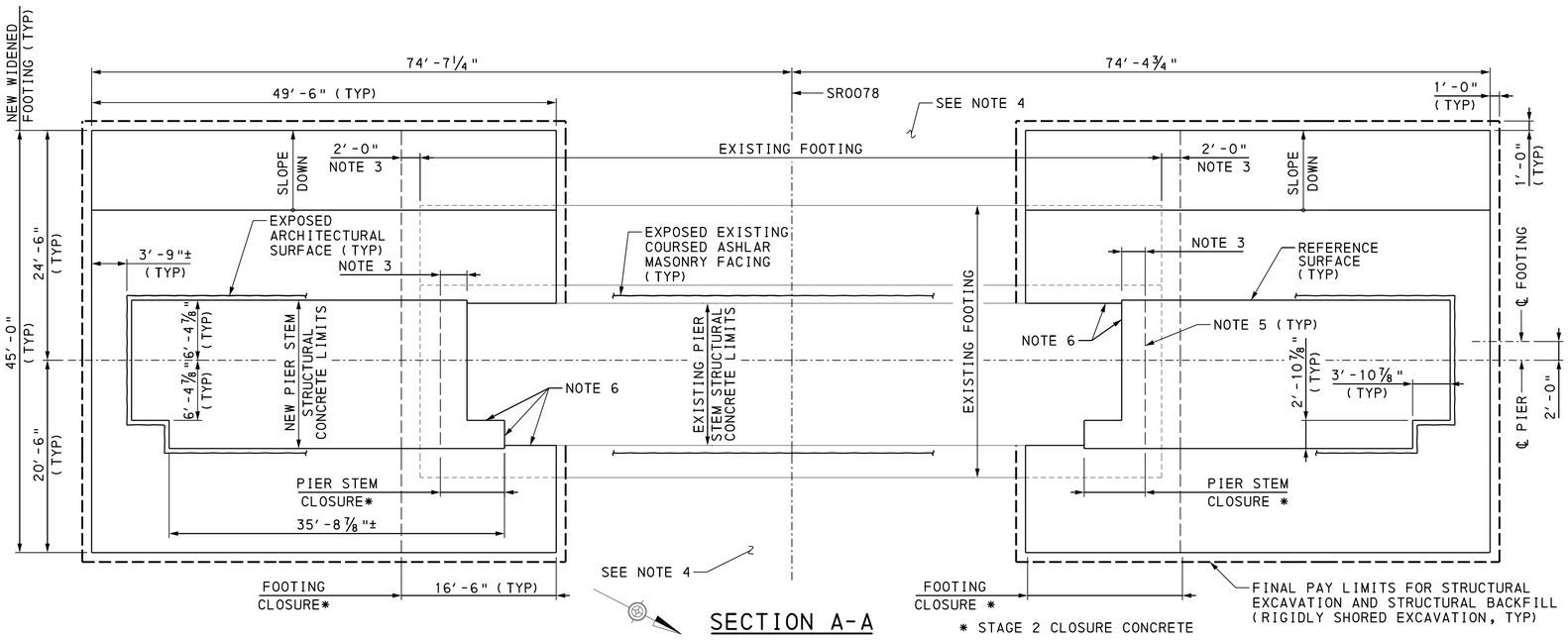



## SECTION C-C




## SECTION B-B




## SECTION A-A

2 0 4 8 FEET

## NOTES:

1. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
2. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
3. TEMPORARY ISOLATION GAP SHOWN FOR FOOTING, PIER STEM AND PIER WALLS. DIMENSION OF ISOLATION GAP AS SHOWN.
4. SOIL ON UPSTATION AND DOWNSTATION OF EXISTING PILE FOUNDATION SHALL NOT BE SUBJECTED TO GROUND DISPLACEMENT THAT CAN CAUSE UNDERMINING OF EXISTING FOUNDATION DURING EXCAVATION.
5. EXTENT OF CLOSURE POUR SHALL MATCH EXTENT OF CLOSURE POUR SHOWN ON SECTION B-B.
6. EXISTING STRUCTURAL CONCRETE SURFACE AFTER REMOVING EXISTING COURSED ASHLAR MASONRY STONE, TYPICAL.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 LAYOUT - 3

COMMONWEALTH OF PENNSYLVANIA
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STEVEN B. BOLT
ENGINEER
PE38208-R

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SHEET 154 OF 295

S-38014

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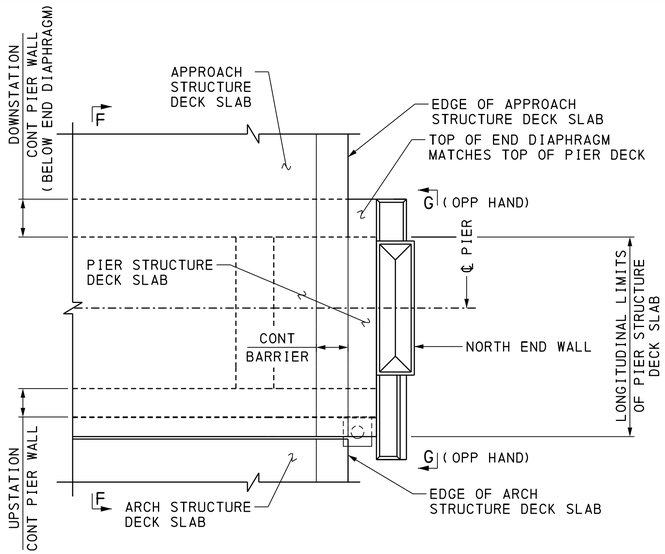
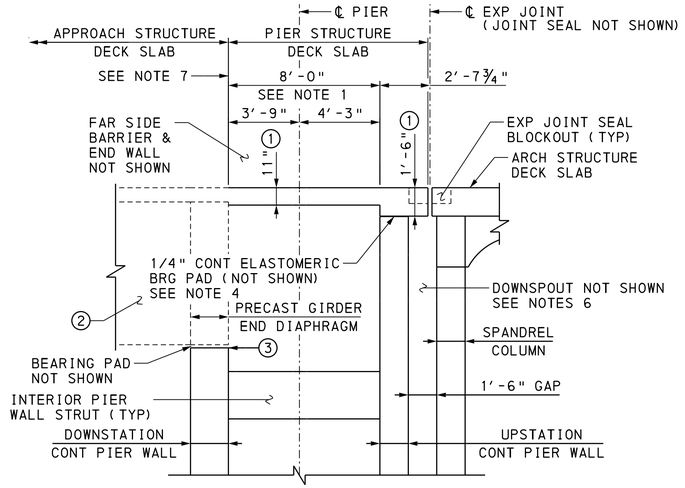



## DETAIL A

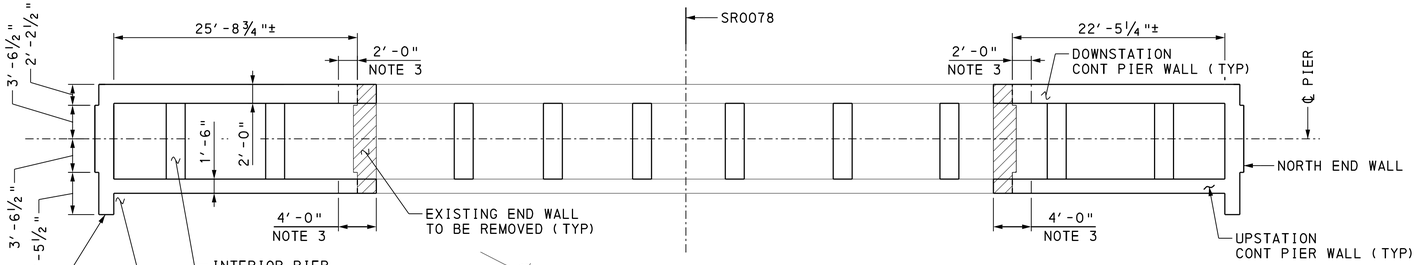
1 0 2 4 FEET




## SECTION F-F

1 0 2 4 FEET

1. INCLUDES 1/2" INTEGRAL CONC WEARING SURFACE
2. APPROACH STRUCTURE GIRDER SHOWN SCHEMATICALLY
3. TOP OF PIER WALL FINAL/FINISHED ELEVATION MATCHES BOTTOM OF APPROACH GIRDER BEARING ELEVATION




## SECTION E-E

2 0 4 8 FEET




## SECTION H-H

1 0 2 4 FEET




## SECTION D-D

2 0 4 8 FEET

## LEGEND:

CONCRETE REMOVAL

## NOTES:

1. LIMITS OF 11" THICK PRISMATIC PIER STRUCTURE DECK SLAB.
2. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
3. TEMPORARY ISOLATION GAP SHOWN FOR PIER WALLS, DIMENSIONS FOR ISOLATION GAPS AS SHOWN. ISOLATION GAP TO BE FILLED WITH CONCRETE.
4. TOP PIER WALL FINISHED ELEVATIONS SHALL ACCOMMODATE 1/4" CONTINUOUS ELASTOMERIC PAD AND CONFORM TO THE BOTTOM OF THE PIER STRUCTURE DECK SLAB TRANSVERSE CROSS SLOPE GEOMETRY.
5. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
6. REFER TO PENNDOT STANDARD PLANS BC-751M FOR BRIDGE DRAINAGE DOWNSPOUTING DETAILS/DRAIN BOX DETAIL.
7. MONOLITHIC CONNECTION BETWEEN PIER DECK SLAB AND APPROACH STRUCTURE AND END DIAPHRAGM.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| REVISIONS | | | | | |

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 LAYOUT - 4

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 155 OF 295

S-38014

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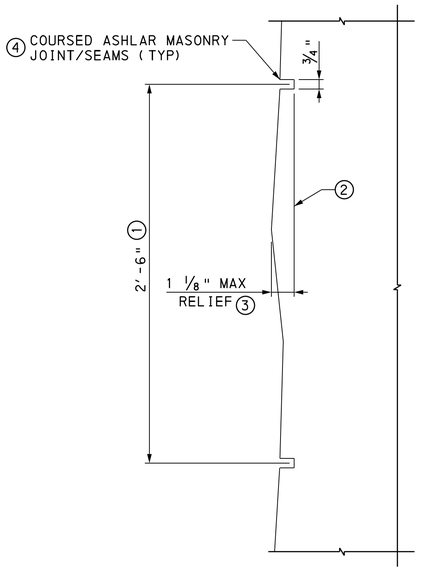
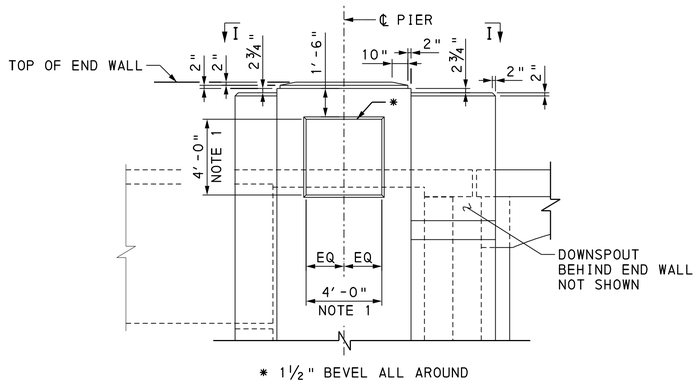
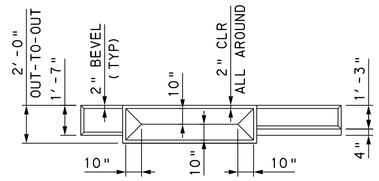



SECTION G-G

1 0 2 4 FEET

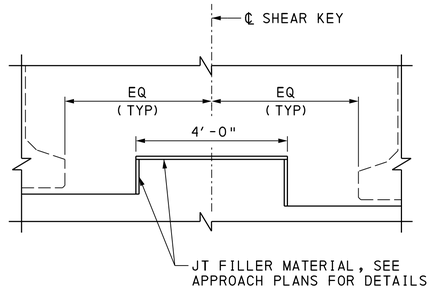



SECTION I-I

1 0 2 4 FEET

## NOTES:

1. AESTHETIC RECESSED SURFACE TO MATCH EXISTING. SEE AS-BUILT PLANS FOR DETAILS NOT SHOWN.




SHEAR KEY DETAILS

.5 0 1 2 FEET

① EXPOSED CONCRETE GREY 30"x30" SQUARE COURSED ASHLAR STONE ARCHITECTURAL SURFACE. SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.

② REFERENCE SURFACE FOR CONCRETE DIMENSIONING AND CONCRETE COVER TO REINFORCING BARS.

③ FORMLINER SPACE MEASURED BETWEEN THE LOWEST AND HIGHEST POINT ON THE EXPOSED SURFACE.

④ COURSED ASHLAR MASONRY JOINTS SHALL CONSIST OF STRAIGHT VERTICAL AND HORIZONTAL SEAMS.

NEW COURSED ASHLAR STONE ARCHITECTURAL SURFACE

NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING

PIER 3 LAYOUT - 5

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 156 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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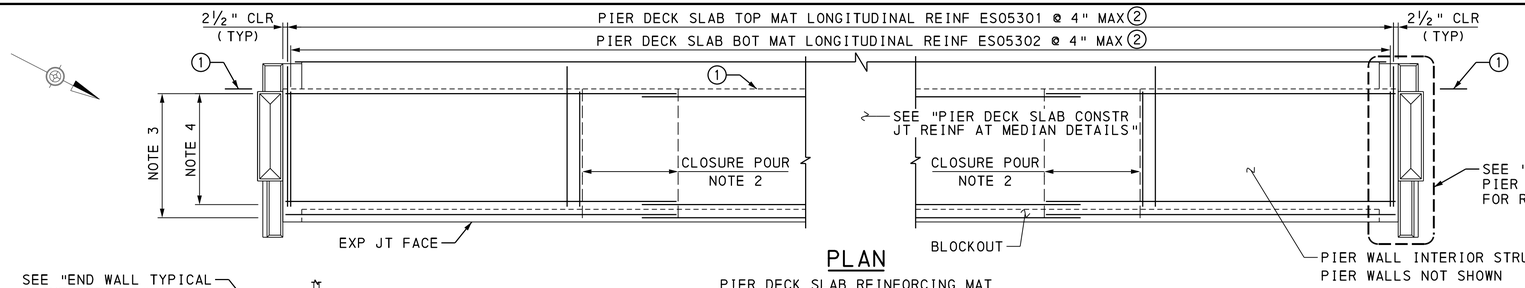


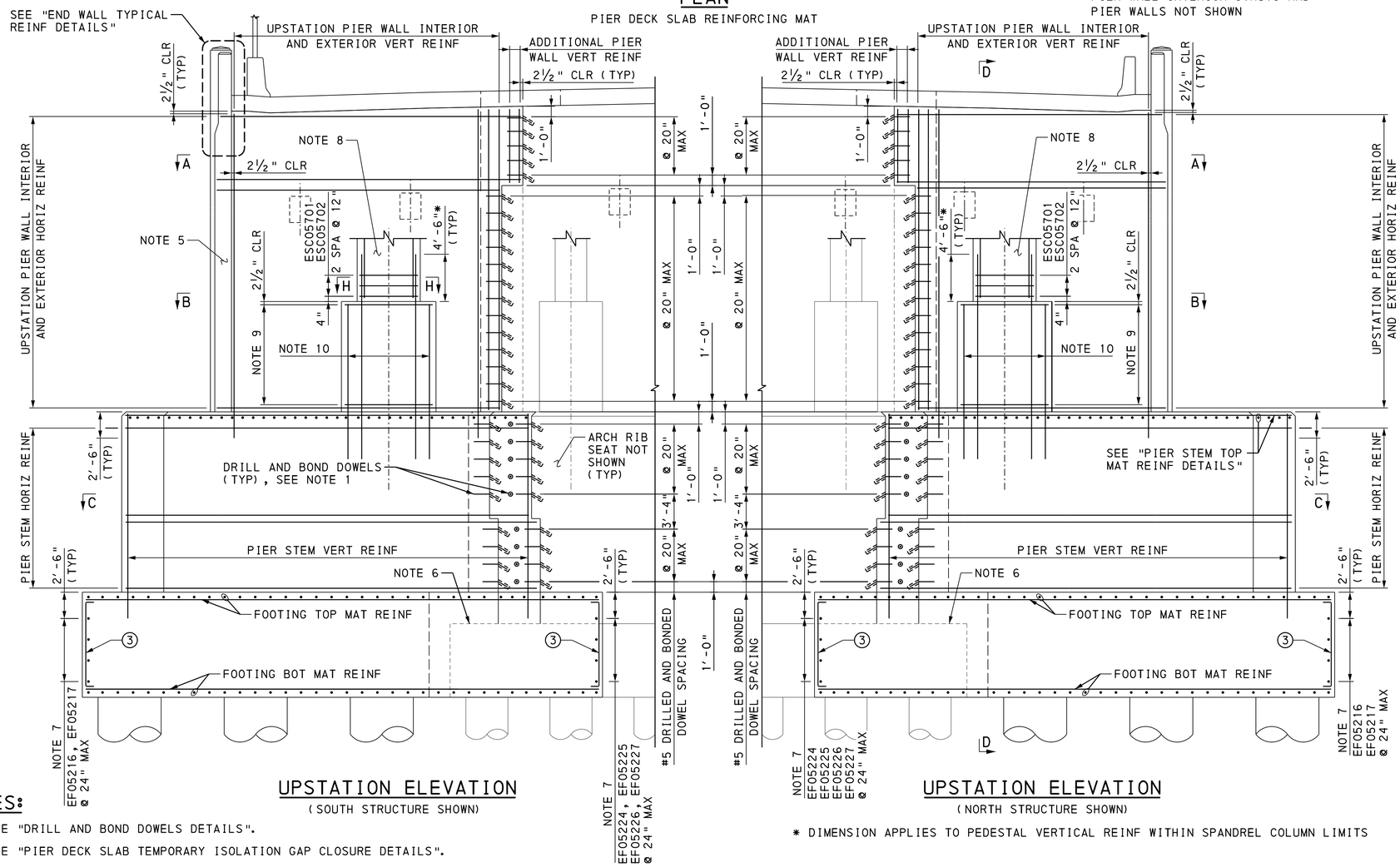

## PLAN

PIER DECK SLAB REINFORCING MAT

(1) EXTENT OF PIER DECK SLAB CONCRETE ( INTERFACE BETWEEN PIER DECK SLAB AND APPROACH DECK/END DIAPHRAGM)

(2) SEE "PIER DECK SLAB REINFORCING DETAILS" ON "PIER 3 DETAILS - 3" SHEET

(3) CONCRETE "SKIN" REINF EF05218, EF05219, EF05220, EF05221, EF05222, EF05223 VAR @ 18" MAX AT FOOTING NORTH AND SOUTH CONCRETE SURFACES.

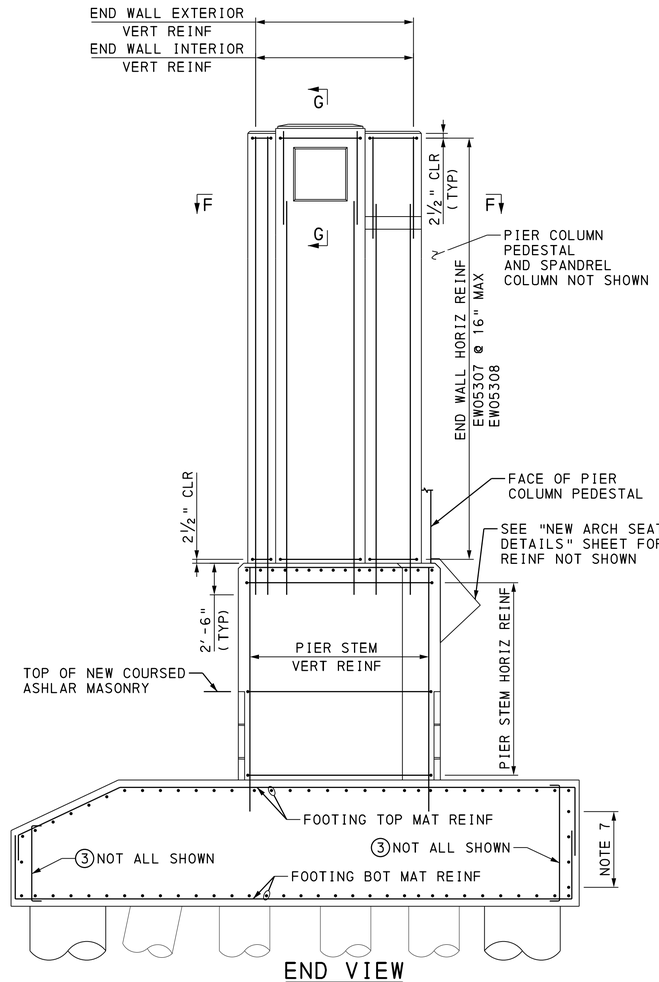



## UPSTATION ELEVATION

( SOUTH STRUCTURE SHOWN)

## UPSTATION ELEVATION

( NORTH STRUCTURE SHOWN)




## END VIEW

SOUTH END WALL SHOWN, NORTH END WALL SIMILAR (OPPOSITE HAND)

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## NOTES:

1. SEE "DRILL AND BOND DOWELS DETAILS".
2. SEE "PIER DECK SLAB TEMPORARY ISOLATION GAP CLOSURE DETAILS".
3. PIER DECK SLAB BOTTOM MAT TRANSVERSE REINFORCEMENT.
4. PIER DECK SLAB TOP MAT TRANSVERSE REINFORCEMENT.
5. SEE "END VIEW" FOR REINFORCEMENT NOT SHOWN.
6. REINFORCING DETAILS CONNECTING NEW AND EXISTING FOOTINGS NOT SHOWN, SEE OTHER SHEETS.
7. FOOTING SIDE FACE HORIZONTAL REINFORCEMENT.
8. SPANDREL COLUMN, SEE SPANDREL COLUMN SHEETS.
9. PIER COLUMN PEDESTAL HORIZONTAL REINFORCEMENT, EP05551 @ 16" MAX.
10. PIER COLUMN PEDESTAL VERTICAL REINFORCEMENT, EP09551, EP09552 @ 6" MAX.

* DIMENSION APPLIES TO PEDESTAL VERTICAL REINF WITHIN SPANDREL COLUMN LIMITS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

1.5 0 3 6 FEET

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

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COMMONWEALTH OF PENNSYLVANIA
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STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING

PIER 3 DETAILS - 1

RECOMMENDED 08/30/2019

SHEET 157 OF 295

S-38014

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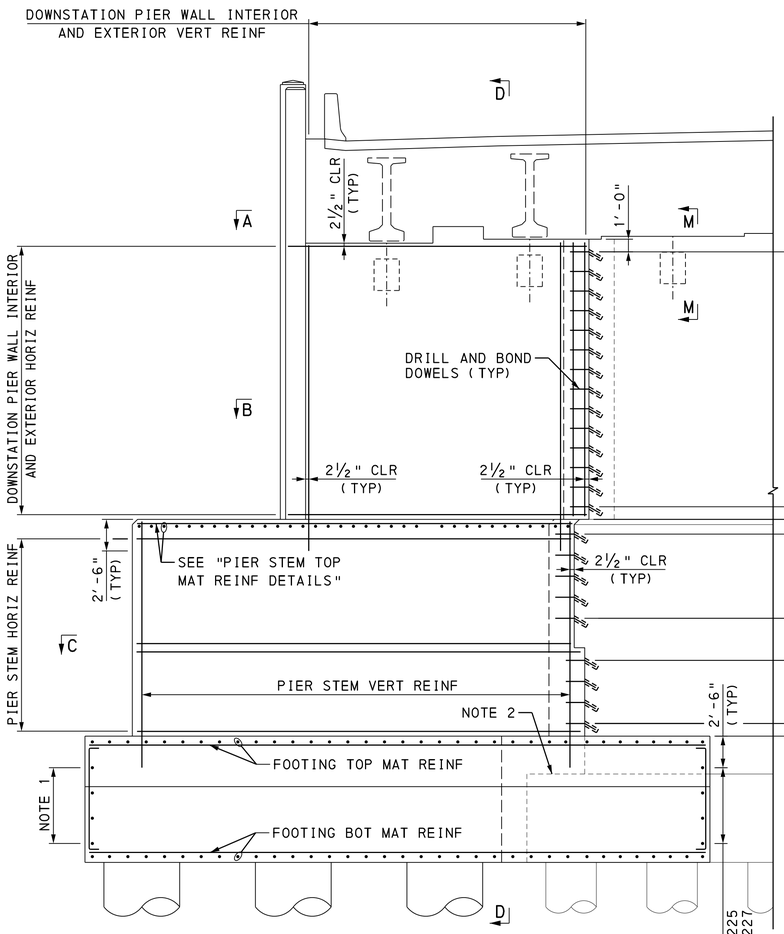
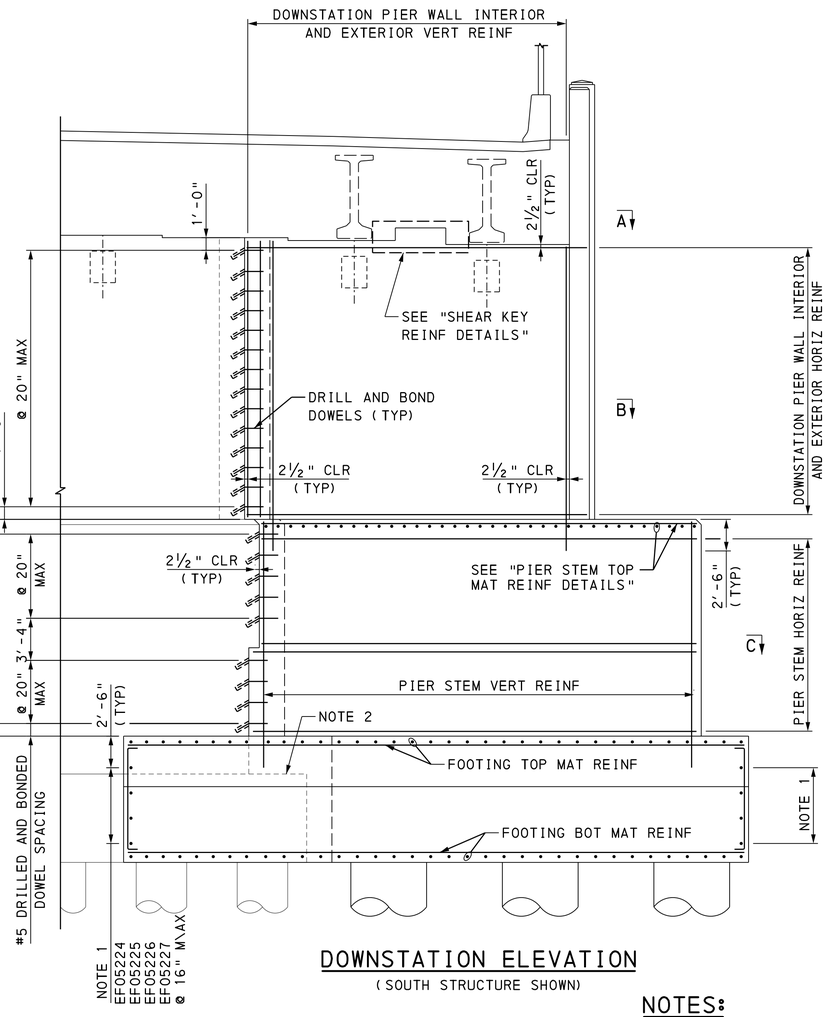


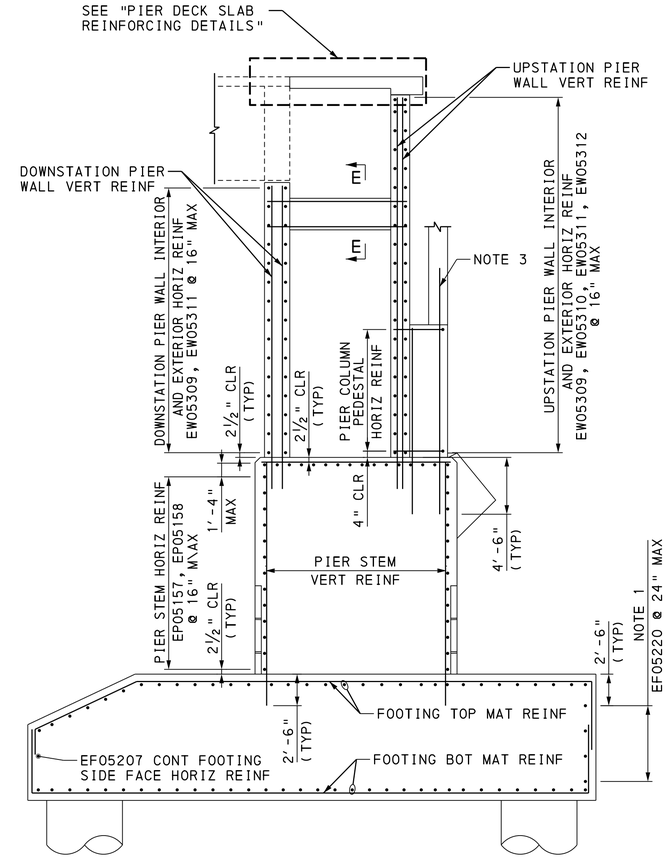

## DOWNSTATION ELEVATION

(NORTH STRUCTURE SHOWN)

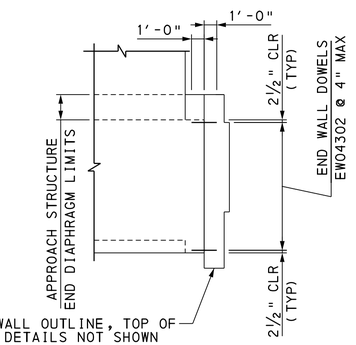



## DOWNSTATION ELEVATION

(SOUTH STRUCTURE SHOWN)

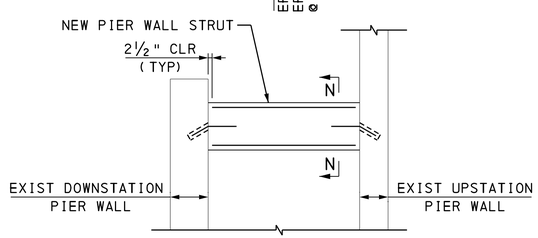



## SECTION D-D



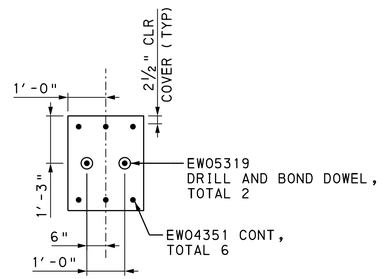

## END WALL TO PIER DECK SLAB DOWEL DETAILS

NOT TO SCALE




## SECTION M-M

(RECONSTRUCTED EXISTING INTERIOR PIER WALL STRUT)




## SECTION N-N

## NOTES:

1. FOOTING SIDE FACE HORIZONTAL REINFORCEMENT.
2. REINFORCING DETAILS CONNECTING NEW AND EXISTING FOOTINGS NOT SHOWN, SEE OTHER SHEETS.
3. PIER COLUMN PEDESTAL VERTICAL REINFORCEMENT, NOT ALL SHOWN.

1.5 0 3 6 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R PENNSYLVANIA

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 DETAILS - 2

RECOMMENDED 08/30/2019

SHEET 158 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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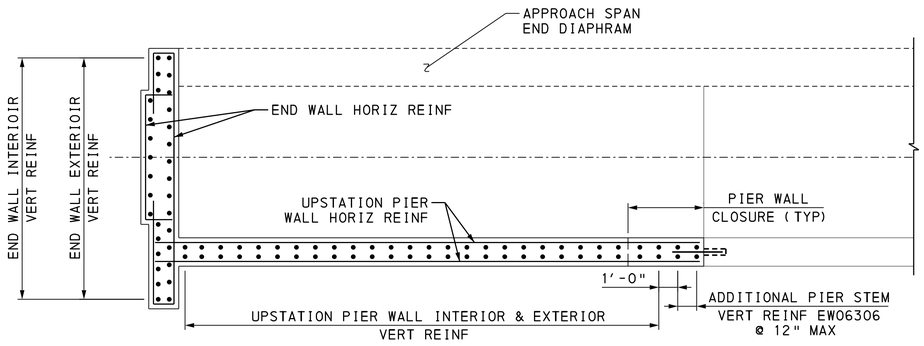
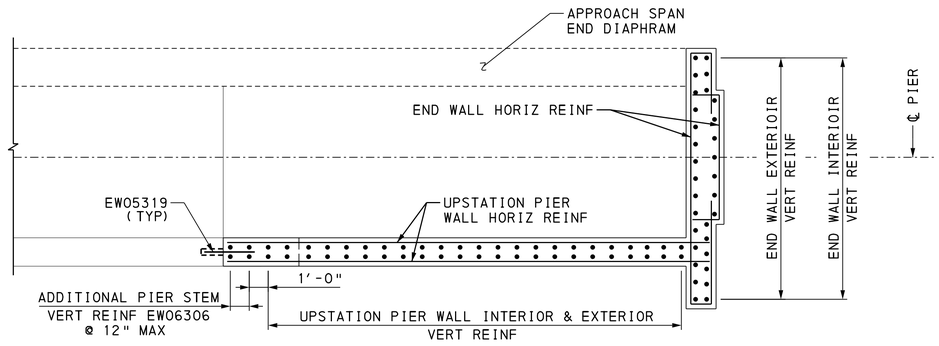
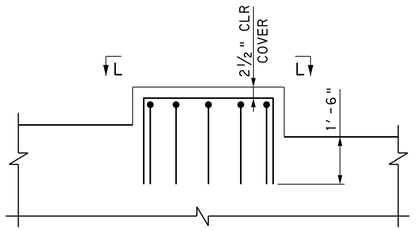


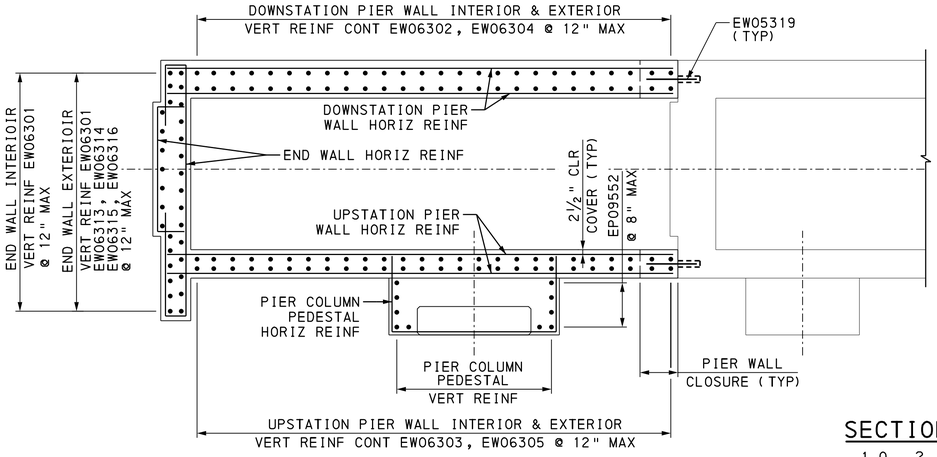

## SECTION A-A

1 0 2 4 FEET



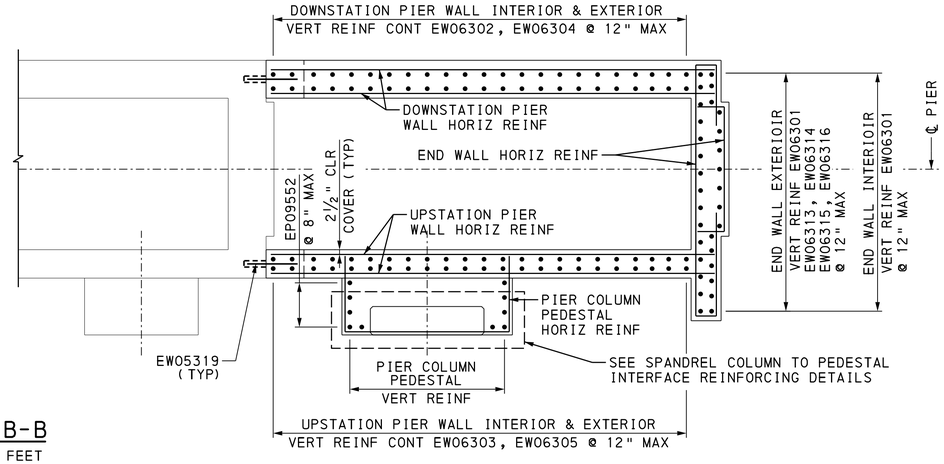

## SHEAR KEY REINFORCING DETAILS

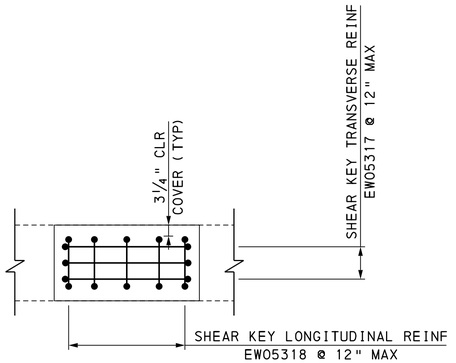
.5 0 1 2 FEET




## SECTION B-B

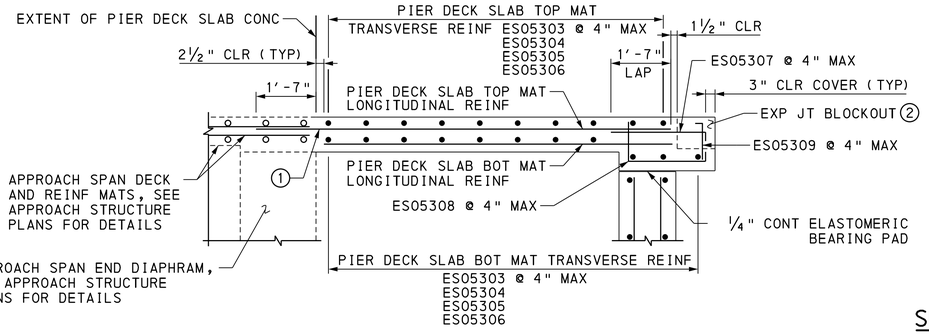
1 0 2 4 FEET



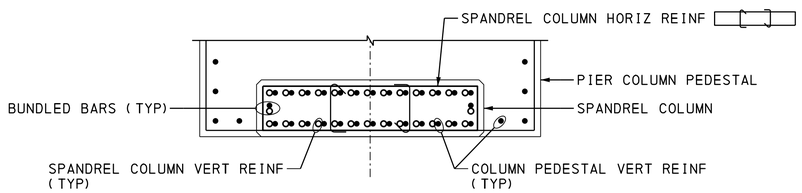

## SECTION L-L

.5 0 1 2 FEET




## PIER DECK SLAB REINFORCING DETAILS

.5 0 1 2 FEET




## SECTION H-H
## SPANDREL COLUMN TO PEDESTAL INTERFACE REINFORCING DETAILS

.5 0 1 2 FEET

① FORMSAVER COUPLER INSERT MAY BE USED AT LOCATIONS WHERE APPROACH GIRDERS ARE POSITIONED.

② SEE "EXPANSION JOINT SEAL DETAILS" SHEETS.

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| Mark | Description | By | Chk'd. | Recm'd. | Date |
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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIER 3 DETAILS - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 159 OF 295

S-38014

| DES: CL | DWN: TK | CKD: SC |
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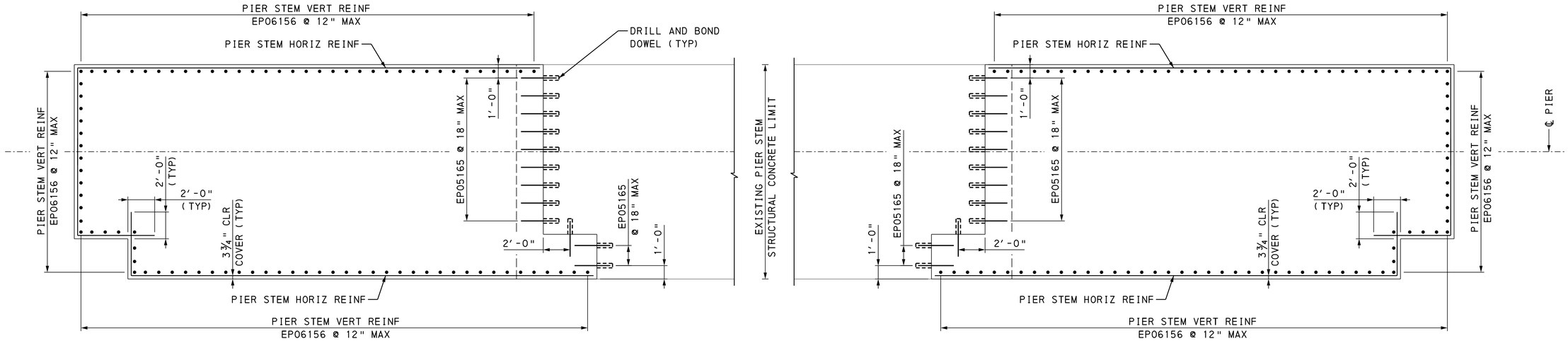
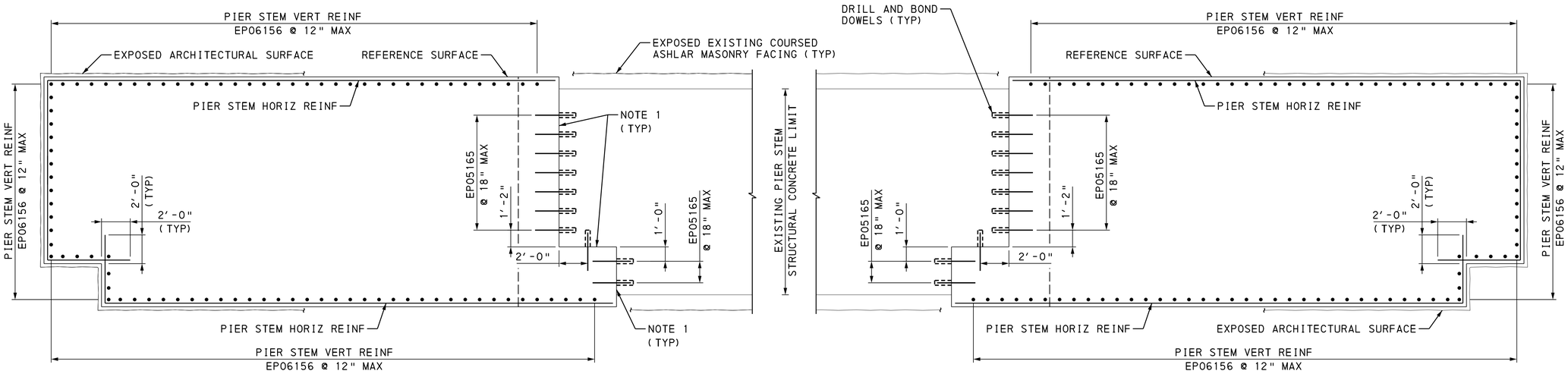



## PIER STEM SECTION WITHOUT ASHLAR FACING

1 0 2 4 FEET




## PIER STEM SECTION WITH ASHLAR FACING

1 0 2 4 FEET

## SECTION C-C

### NOTES:

1. EXPOSED STRUCTURAL CONCRETE SURFACE AFTER REMOVAL OF EXISTING COURSED ASHLAR MASONRY FACING.

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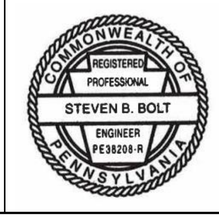


S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
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PIER 3 DETAILS - 4

RECOMMENDED 08/30/2019

SHEET 160 OF 295

S-38014

| DES: CL | DWN: TK | CKD: SC |
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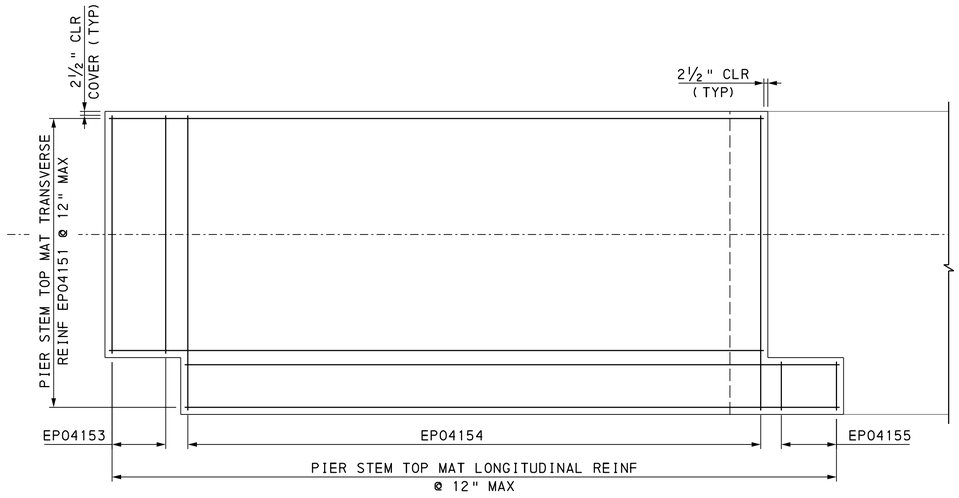
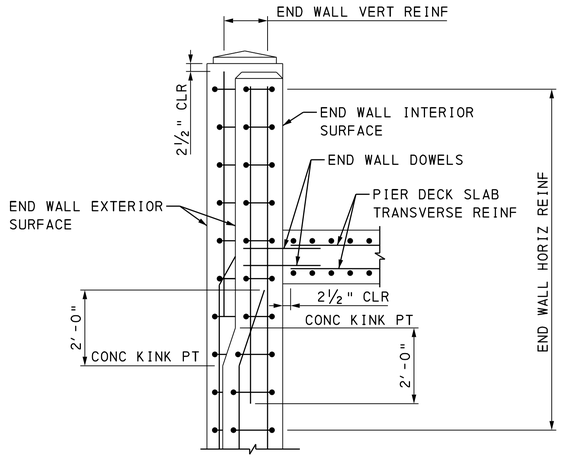



## PIER STEM TOP MAT REINFORCING DETAILS

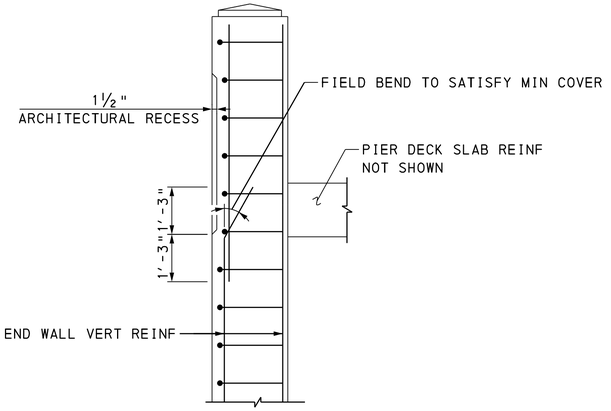
1 0 2 4 FEET




## END WALL TYPICAL REINFORCING DETAILS

(SOUTH STRUCTURE SHOWN, NORTH STRUCTURE SIMILAR OPPOSITE HAND)

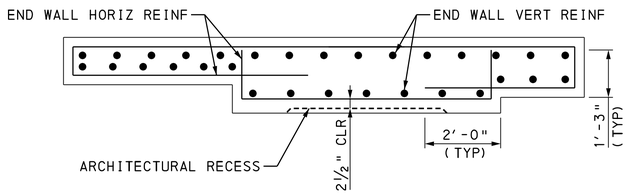
.5 0 1 2 FEET




## SECTION G-G

(SOUTH STRUCTURE SHOWN, NORTH STRUCTURE SIMILAR OPPOSITE HAND)

.5 0 1 2 FEET




## SECTION F-F

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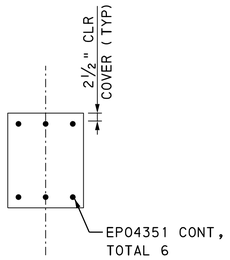


## SECTION E-E

(NEW INTERIOR PIER WALL STRUT)

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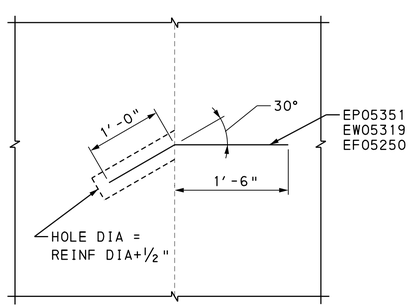


## DRILL AND BOND DOWEL DETAILS

NTS

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 DETAILS - 5

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 161 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: CL | DWN: TK | CKD: SC

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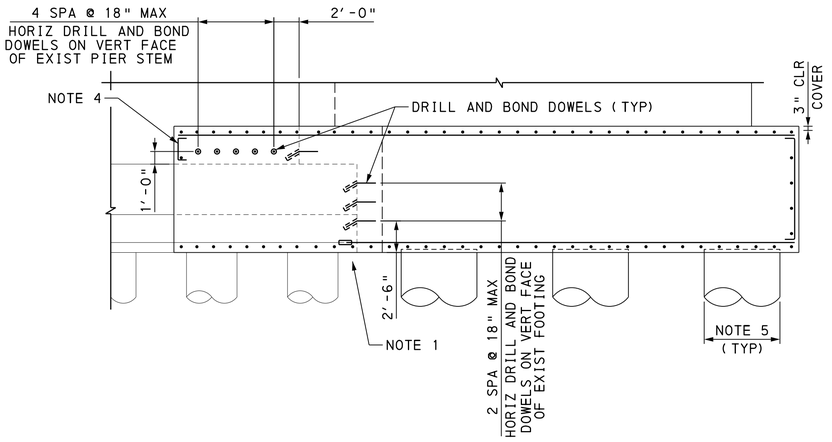
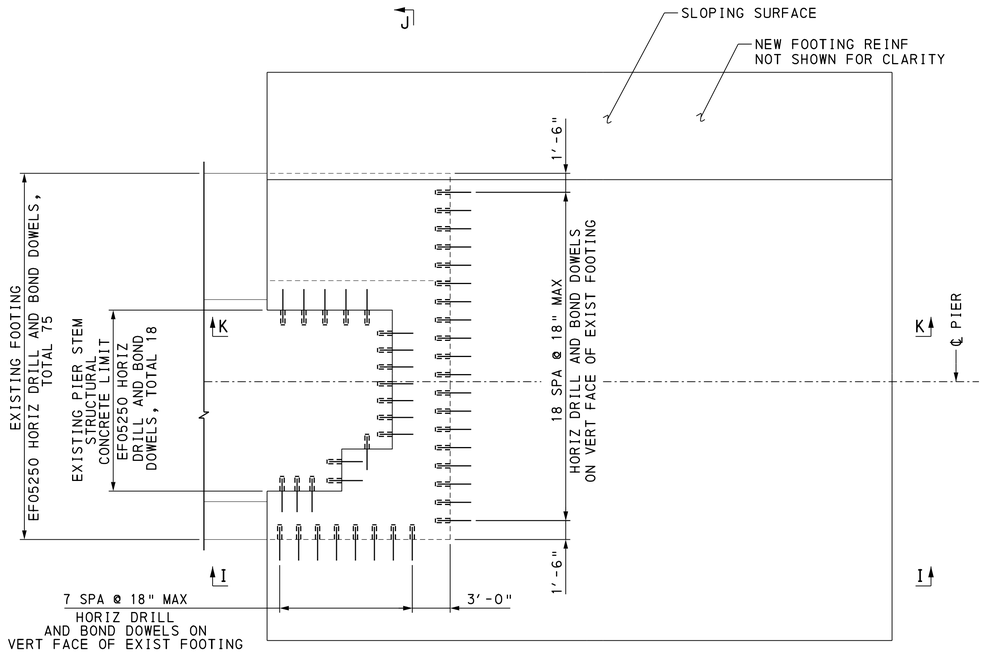


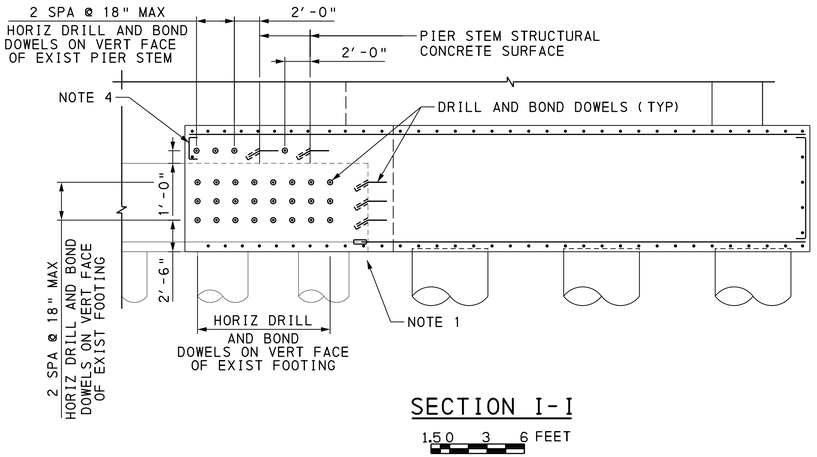

## SECTION K-K

1.5 0 3 6 FEET



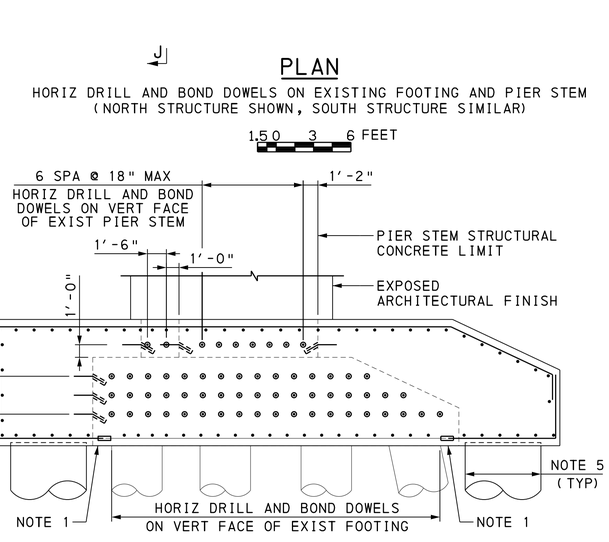

## NOTES:

1. SEE "DETAIL A" FOR BOTTOM MAT REINF SPLICING DETAILS.
2. REMOVE END HOOK OF FOOTING EXISTING BOTTOM MAT REINFORCEMENT TO BE SPLICED WITH NEW FOOTING BOTTOM MAT REINFORCEMENT.
3. MECHANICAL PINNED BUTT SPLICE COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.
4. CONCRETE "SKIN" REINFORCEMENT (FULL HEIGHT VERTICAL LEG OUTSIDE EXISTING FOOTING LIMITS)
5. FOOTING REINFORCEMENT WITHIN DRILLED SHAFT LIMITS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT VERTICAL REINFORCEMENT CAGE.




## SECTION I-I

1.5 0 3 6 FEET



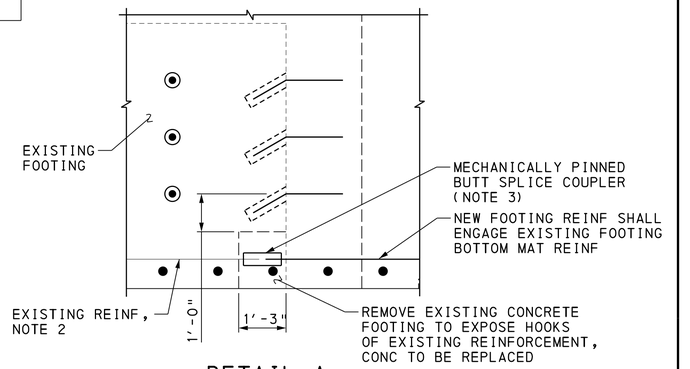

## PLAN

HORIZ DRILL AND BOND DOWELS ON EXISTING FOOTING AND PIER STEM
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

1.5 0 3 6 FEET

## SECTION J-J

1.5 0 3 6 FEET




## DETAIL A

NTS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R PENNSYLVANIA

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 DETAILS - 6

RECOMMENDED 08/30/2019

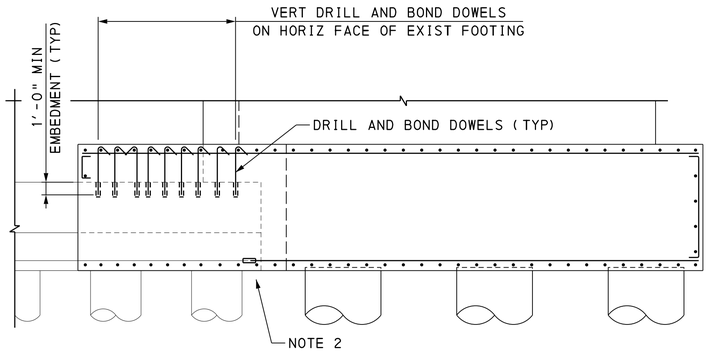
SHEET 162 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

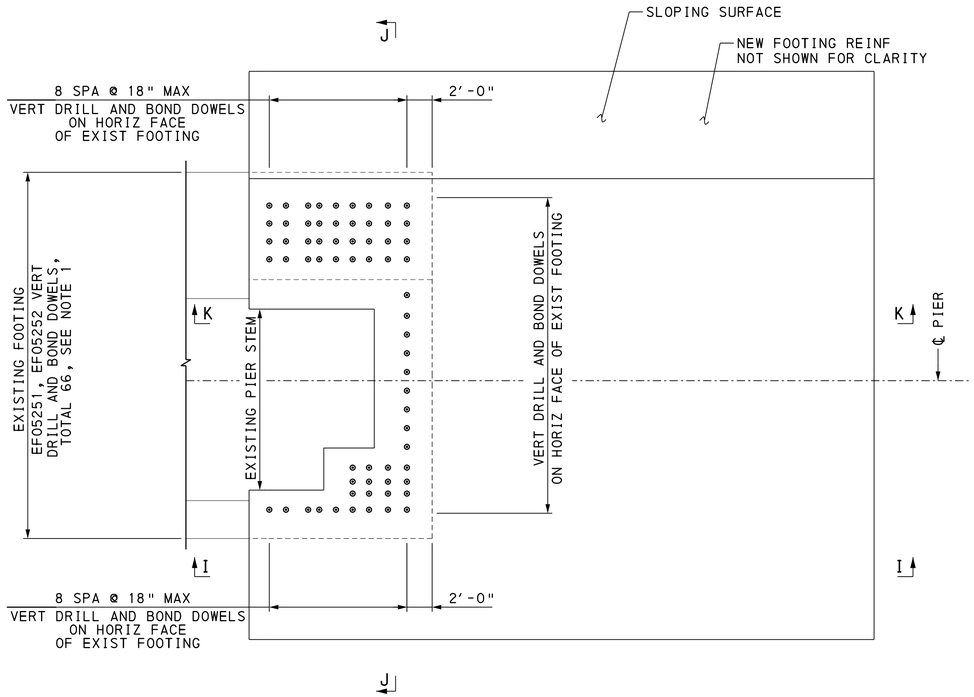
OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-115.dgn

PLOTTED: 8/26/2019 4:47:35 PM




## SECTION K-K

1.5 0 3 6 FEET



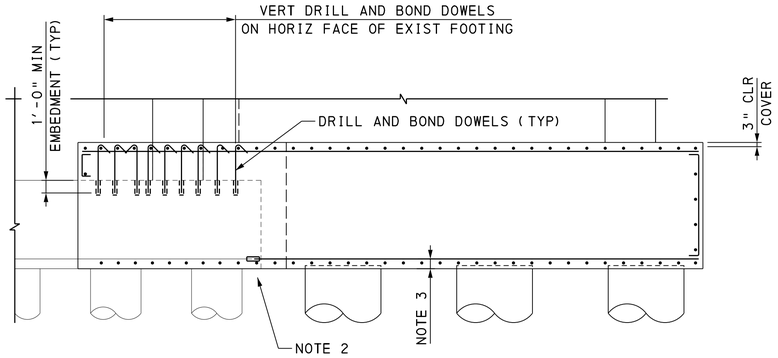

## PLAN

VERT DRILL AND BOND DOWELS ON EXISTING FOOTING
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

1.5 0 3 6 FEET

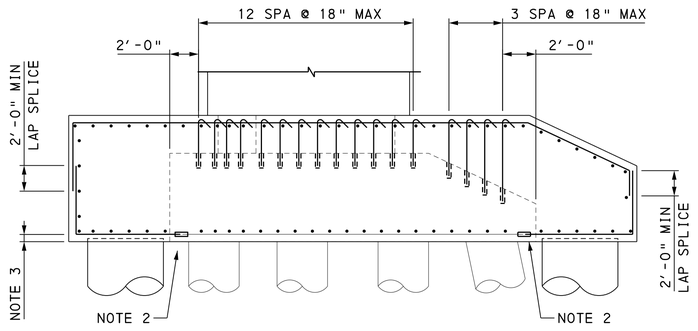
## NOTES:

1. VERTICAL DRILL AND BOND DOWEL HOOKS SHALL ENGAGE TOP MAT REINFORCEMENT.
2. SEE "DETAIL A" ON "PIER 3 REINF DETAILS - 6" SHEET FOR BOTTOM MAT REINF SPLICING DETAILS.
3. FOOTING BOTTOM MAT REINF SHALL BE LOCATED TO MATCH EXISTING FOOTING BOTTOM MAT REINF.




## SECTION I-I

1.5 0 3 6 FEET




## SECTION J-J

1.5 0 3 6 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIER 3 DETAILS - 7

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 163 OF 295

S-38014

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

FILENAME: E02657-S38014-BR-DT-116.dgn
OPERATOR: TYLIPWO1ICS01$

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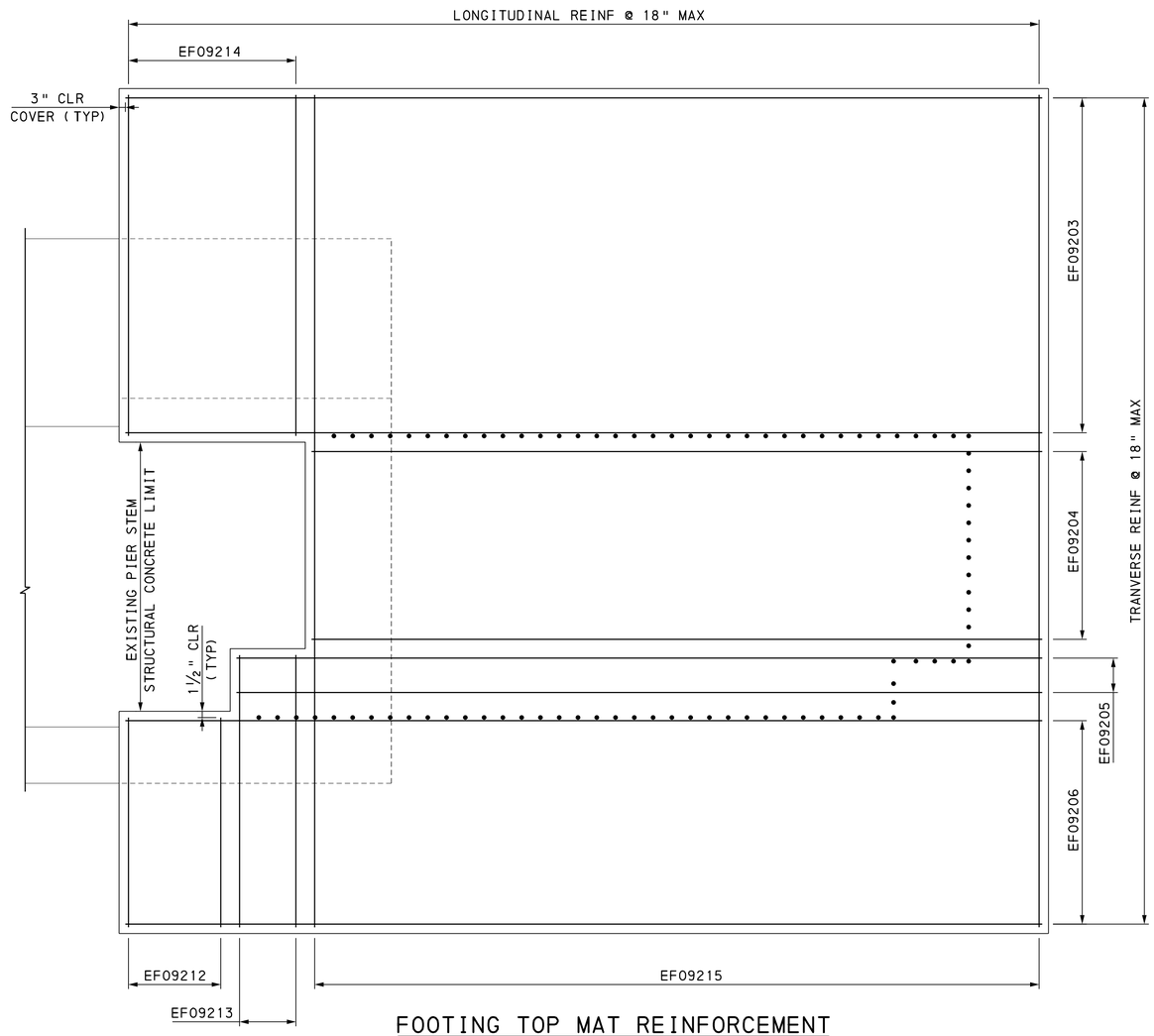
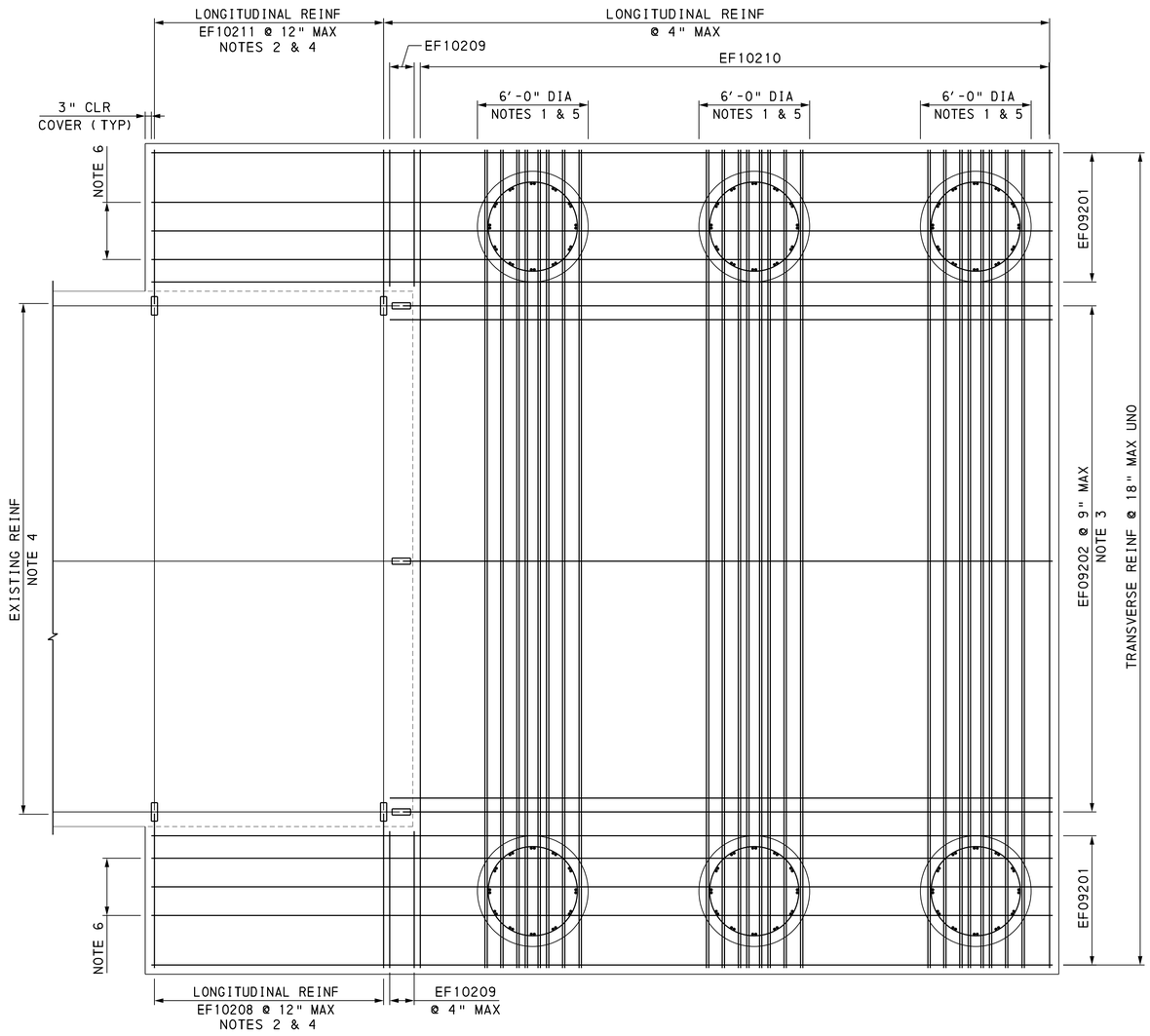



## FOOTING TOP MAT REINFORCEMENT

NOT ALL SHOWN FOR CLARITY
( NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)




## FOOTING BOTTOM MAT REINFORCEMENT

NOT ALL SHOWN FOR CLARITY
( NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. WITHIN DRILLED SHAFT LIMITS SHOWN, LONGITUDINAL REINF SHALL BE BUNDLED ( 2-BAR BUNDLES, TOTAL 8). SPACING OF BUNDLES MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.
2. NEW FOOTING BOTTOM MAT REINFORCEMENT SHALL ENGAGE EXISTING FOOTING BOTTOM MAT REINFORCEMENT. NOT ALL EXISTING LONGITUDINAL FOOTING BOTTOM MAT REINFORCEMENT WILL BE ENGAGED.
3. EVERY OTHER NEW BOTTOM MAT REINFORCEMENT SHALL ENGAGE EXISTING FOOTING REINFORCEMENT.
4. SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET FOR PROTECTING EXISTING REINFORCEMENT.
5. FOOTING BOTTOM MAT LONGITUDINAL REINFORCEMENT MAY BE BUNDLED TO AVOID CONFLICTS WITH PILE REINFORCING CAGE. BUNDLES SHALL NOT EXCEED 2 BARS.
6. WITHIN DRILLED SHAFT LIMITS SHOWN, TRANSVERSE REINF ( TOTAL 3) MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

1 0 2 4 FEET

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 DETAILS - 8

RECOMMENDED 08/30/2019

SHEET 164 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-DT-117.dgn
OPERATOR: TYLIPW01ICSOI$

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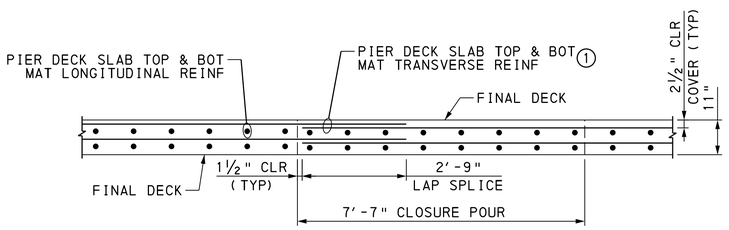
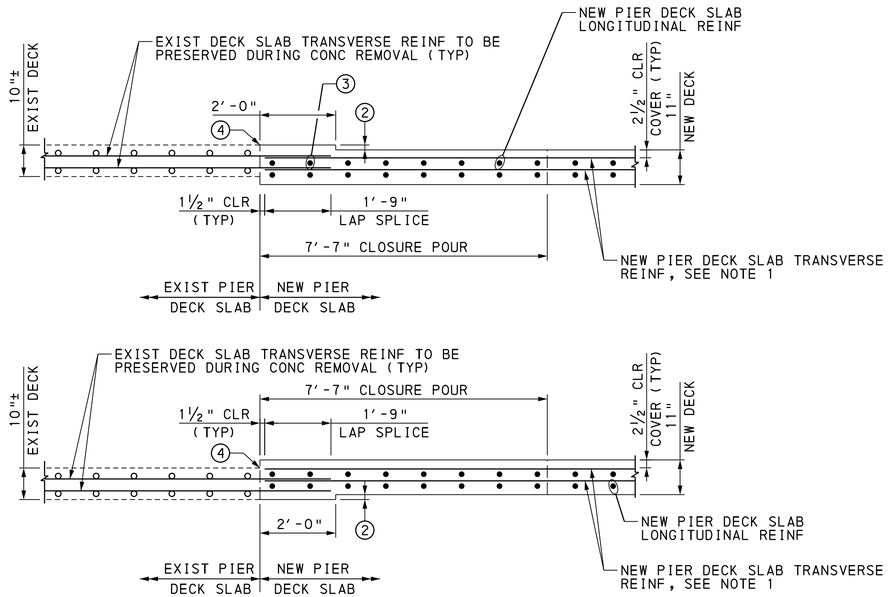



## TRANSVERSE SECTION
## NORTH & SOUTH STRUCTURES - FINAL CONDITION




## TRANSVERSE SECTIONS
## SOUTH STRUCTURE ONLY - TEMPORARY STAGE 3 CONSTRUCTION

① LAP SPLICED TOP AND BOTTOM MAT TRANSVERSE REINFORCEMENT WITHIN CLOSURE SHALL BE BUNDLED HORIZONTALLY IN THE SAME HORIZONTAL PLANE.

② ADDITIONAL CONCRETE COVER, AS NEEDED, TO PREVENT EXISTING REINFORCEMENT FROM DAYLIGHTING.

③ TOP & BOTTOM MAT LONGITUDINAL REINFORCEMENT WITHIN 2'-0" REGION MAY BE ADJUSTED VERTICALLY TO CLEAR REINFORCEMENT CONFLICT AND TO MAINTAIN SUFFICIENT MINIMUM CONCRETE COVER.

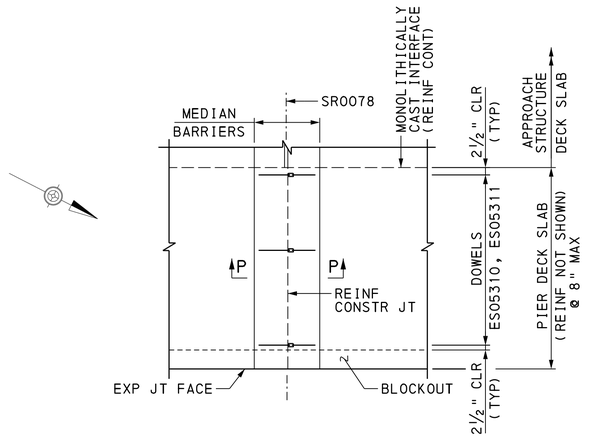
④ TOP OF DECK CONSTRUCTION TIE-IN INTERFACE, SEE "DECK CONSTRUCTION TIE-IN" AND "TYPICAL SECTIONS" SHEETS

## NOTES:

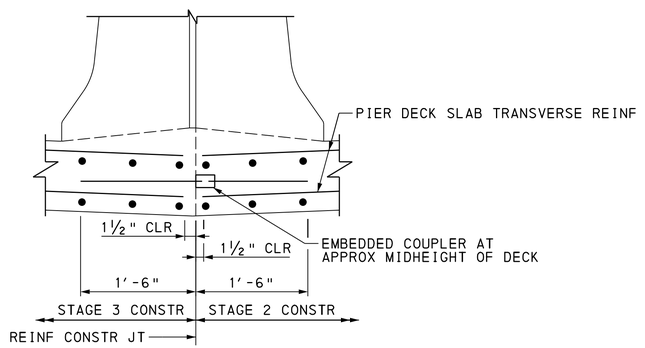
1. NEW PIER DECK SLAB TRANSVERSE BARS MAY BE ADJUSTED HORIZONTALLY TO CLEAR CONFLICTS WITH EXISTING TRANSVERSE BARS.

## PIER DECK SLAB TEMPORARY ISOLATION GAP CLOSURE DETAILS

NOT TO SCALE




PLAN




SECTION P-P

## PIER DECK SLAB CONSTRUCTION JOINT DETAILS AT MEDIAN

NOT TO SCALE

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 3 DETAILS - 9

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 165 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-DT-118.dgn

PLOTTED: 8/26/2019 4:54:58 PM
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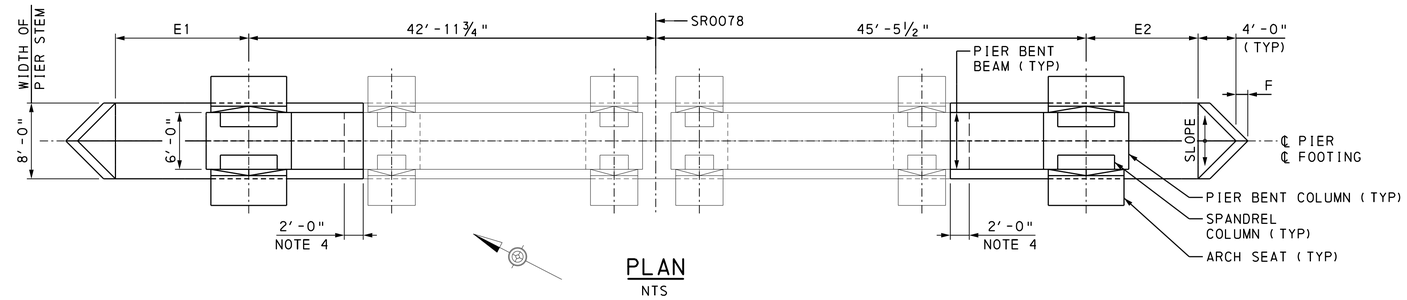
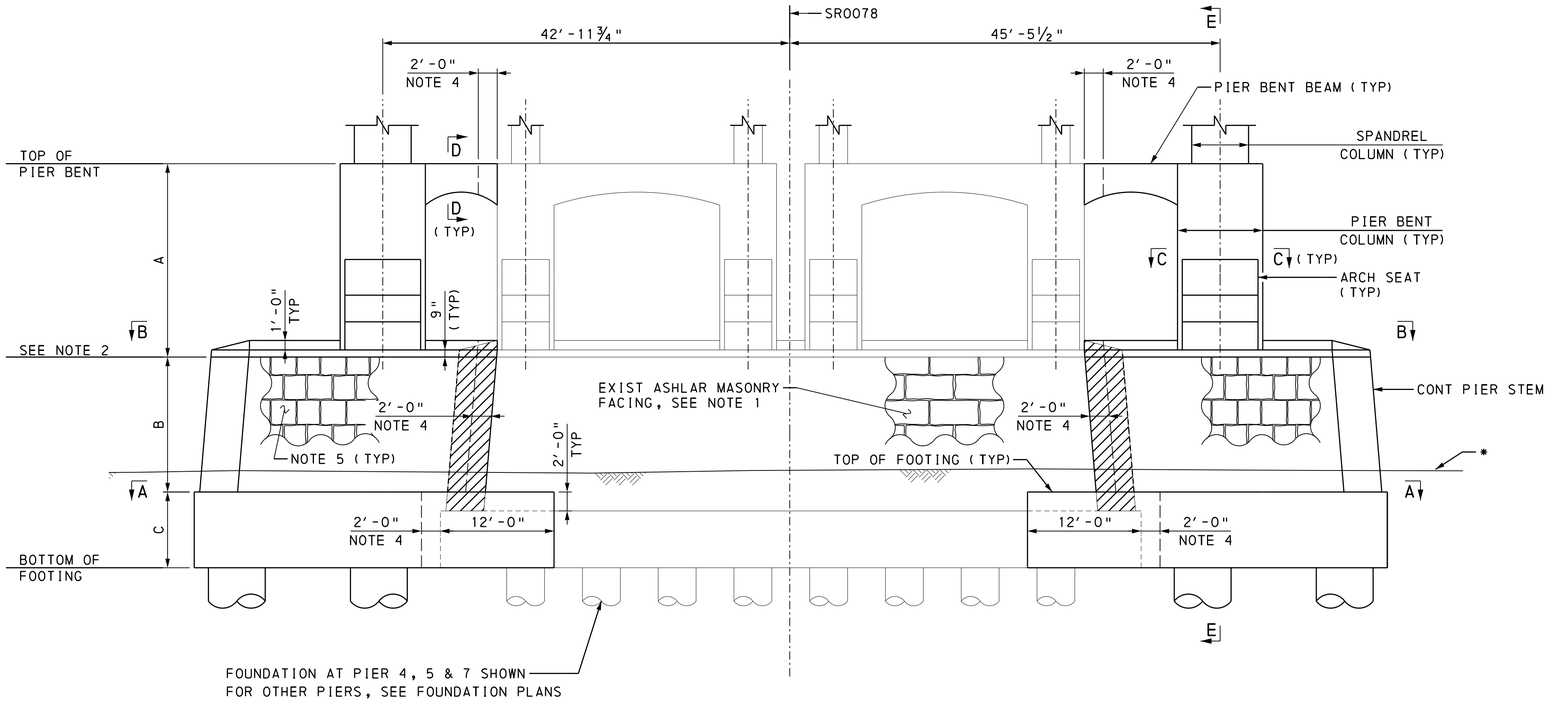
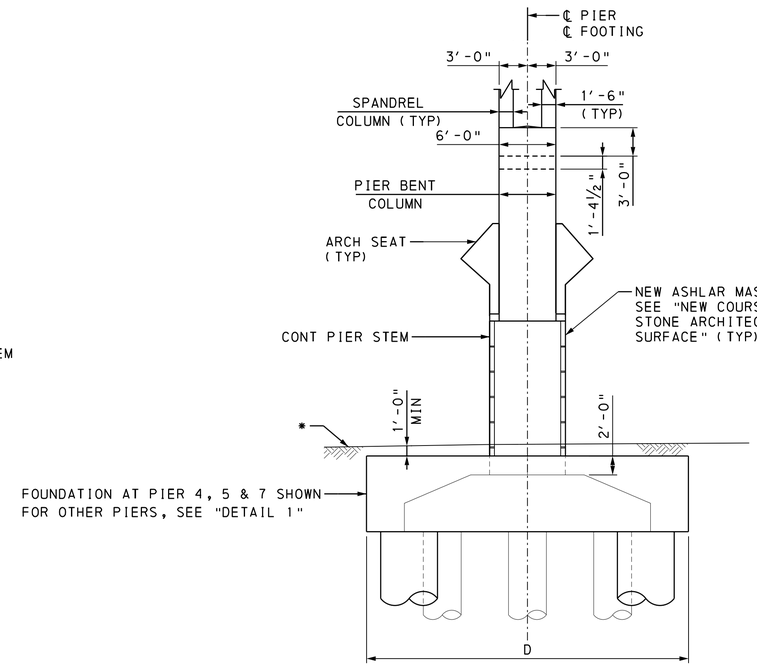
OPERATOR: TYLIPW01ICS01$




PLAN
NTS




ELEVATION (DOWNSTATION SIDE SHOWN, UPSTATION SIDE SIMILAR)
NTS




SECTION E-E
NTS

## LEGEND:

CONCRETE REMOVAL

| PIER | A | B | C | D | E1 | E2 | F |
|---|---|---|---|---|---|---|---|
| 4 | 20′-5"± | 14′-3" | 8′-0" | 34′-0" | 14′-0 1/2" | 11′-9 1/4" | 1′-3 1/2" |
| 5 | 19′-5"± | 15′-3" | 8′-0" | 34′-0" | 14′-0 1/2" | 11′-9 1/4" | 1′-4 1/2" |
| 6 | 18′-5"± | 13′-3" | 10′-0" | 40′-0" | 14′-0 1/2" | 11′-9 1/4" | 1′-2 1/2" |
| 7 | 17′-5"± | 11′-3" | 8′-0" | 34′-0" | 14′-0 1/2" | 11′-9 1/4" | 1′-0 1/2" |
| 8 | 20′-5"± | 18′-3" | 12′-0" | 44′-0" | 14′-0 1/2" | 11′-9 1/4" | 1′-7 1/2" |
| 9 | 20′-5"± | 17′-3" | 9′-0" | 34′-0" | 17′-6 1/2" | 15′-3 1/4" | 1′-6 1/2" |
| 10 | 20′-5"± | 16′-3" | 9′-0" | 34′-0" | 17′-6 1/2" | 15′-3 1/4" | 1′-5 1/2" |

## NOTES:

1. REMOVE EXISTING COURSED ASHLAR MASONRY FACING FROM SURFACES THAT WILL BE INCORPORATED WITHIN LIMITS OF NEW CONCRETE.
2. TOP OF PIER STEM STRUCTURAL CONCRETE/BOTTOM OF CAP STONE.
3. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
4. TEMPORARY ISOLATION GAP SHOWN FOR FOOTING, PIER STEM AND PIER BENT BEAM. DIMENSION OF ISOLATION GAP AS SHOWN.
5. NEW SQUARE COURSED ASHLAR MASONRY ARCHITECTURAL SURFACE.
6. CENTERLINE OF NEW PIER LOCATED TO MATCH CENTERLINE OF EXISTING PIER.

* GROUND PROFILE SHOWN FOR PIER 4. FOR GROUND PROFILE FOR OTHER PIER LOCATIONS, SEE FOUNDATION, GRADING AND EXISTING STRUCTURE PLANS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIERS 4 THRU 10 LAYOUT - 1

RECOMMENDED 08/30/2019

SHEET 166 OF 295

S-38014

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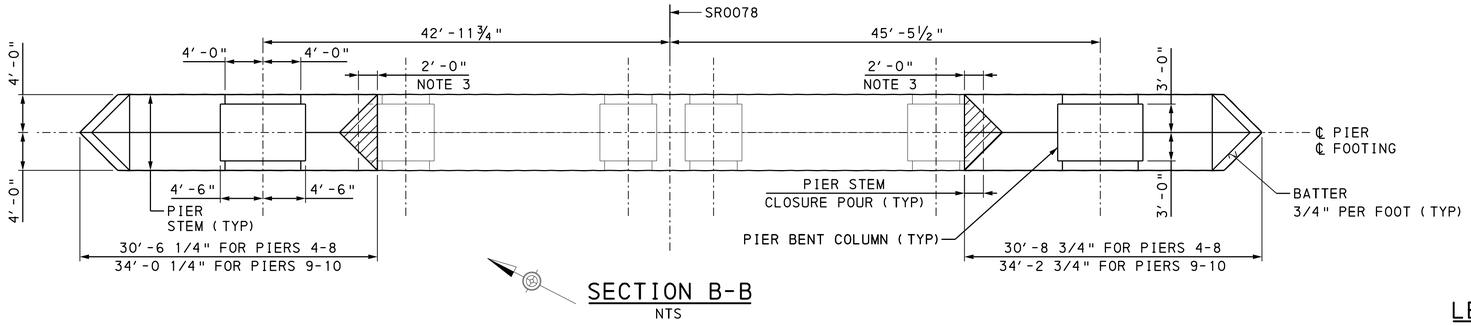
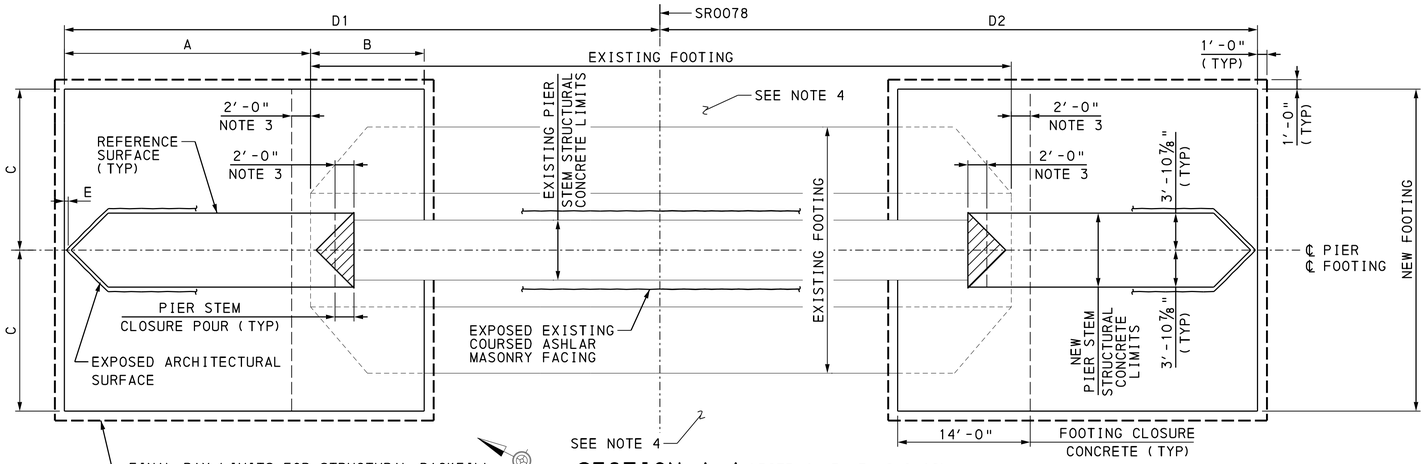


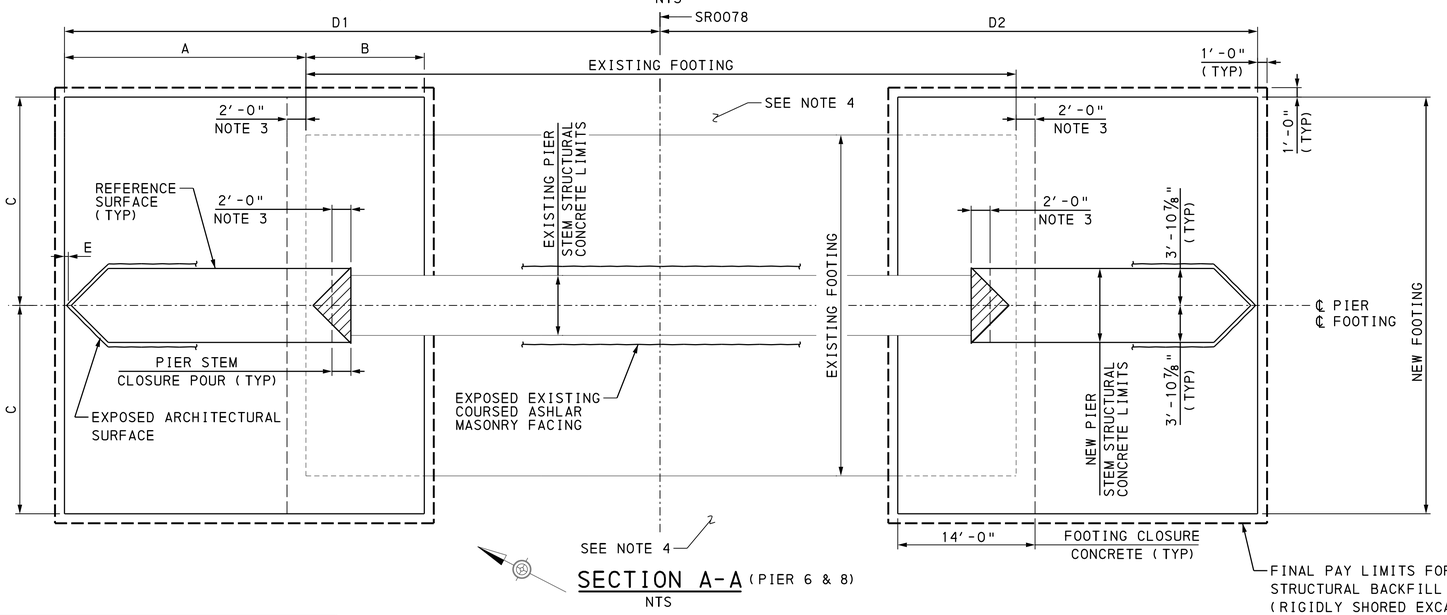

## SECTION B-B
NTS

| PIER | A | B | C | D1 | D2 | E |
|---|---|---|---|---|---|---|
| 4 | 26′-0" | 12′-0" | 17′-0" | 62′-10 3/4" | 63′-1 1/4" | 0′-7"± |
| 5 | 26′-0" | 12′-0" | 17′-0" | 62′-10 3/4" | 63′-1 1/4" | 0′-6"± |
| 6 | 26′-0" | 12′-0" | 20′-0" | 63′-4 3/4" | 63′-7 1/4" | 1′-2"± |
| 7 | 26′-0" | 12′-0" | 17′-0" | 62′-10 3/4" | 63′-1 1/4" | 0′-10"± |
| 8 | 26′-0" | 12′-0" | 22′-0" | 63′-4 3/4" | 63′-7 1/4" | 0′-9"± |
| 9 | 30′-0" | 12′-0" | 17′-0" | 67′-4 3/4" | 67′-7 1/4" | 0′-10"± |
| 10 | 30′-0" | 12′-0" | 17′-0" | 67′-4 3/4" | 67′-7 1/4" | 0′-11"± |

## LEGEND:
CONCRETE REMOVAL




## SECTION A-A (PIER 4, 5, 7, 9 & 10)
NTS




## SECTION A-A (PIER 6 & 8)
NTS

## NOTES:
1. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
2. CENTERLINE OF NEW PIER LOCATED TO MATCH CENTERLINE OF EXISTING PIER.
3. TEMPORARY ISOLATION GAP SHOWN FOR FOOTING AND PIER STEM. DIMENSION OF ISOLATION GAP AS SHOWN.
4. SOIL ON UPSTATION AND DOWNSTATION OF EXISTING PILE FOUNDATION SHALL NOT BE SUBJECTED TO GROUND DISPLACEMENT THAT CAN CAUSE UNDERMINING OF EXISTING FOUNDATION DURING EXCAVATION.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 LAYOUT - 2

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 167 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-DT-202.dgn

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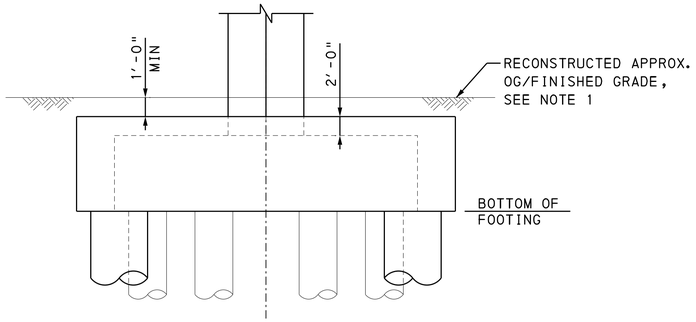
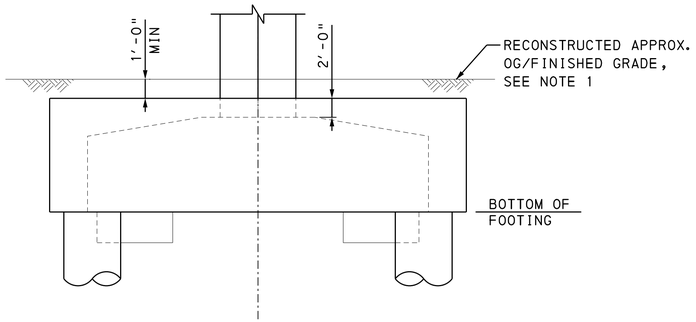
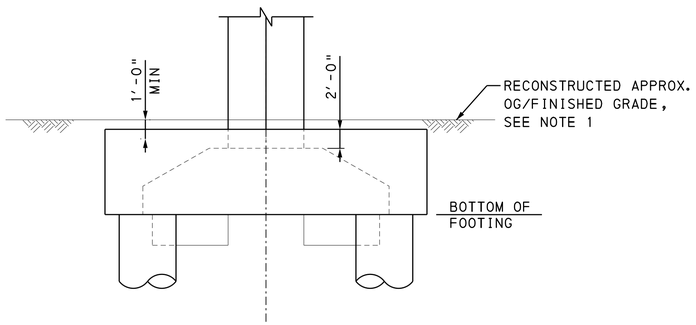



PIER 6

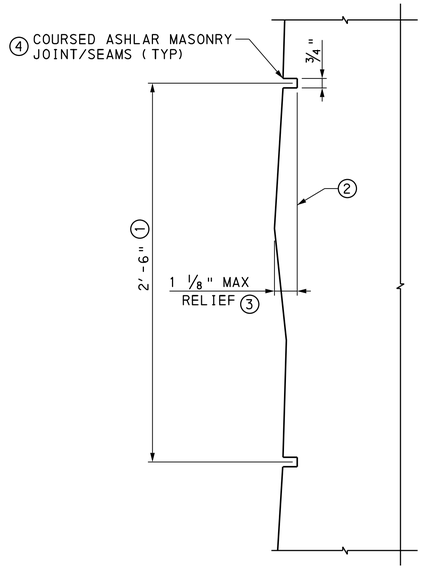



PIER 8

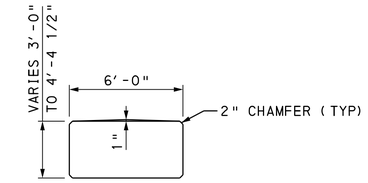



PIERS 9 & 10

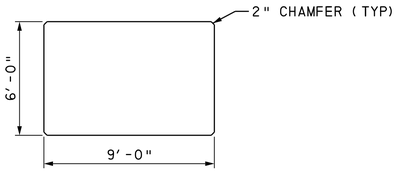
DETAIL 1
NTS




NEW COURSED ASHLAR STONE ARCHITECTURAL SURFACE
NOT TO SCALE




SECTION D-D
1 0 2 4 FEET




SECTION C-C
1 0 2 4 FEET

① EXPOSED CONCRETE GREY 30"x30" SQUARE COURSED ASHLAR STONE ARCHITECTURAL SURFACE. SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.

② REFERENCE SURFACE FOR CONCRETE DIMENSIONING AND CONCRETE COVER TO REINFORCING BARS.

③ FORMLINER SPACE MEASURED BETWEEN THE LOWEST AND HIGHEST POINT ON THE EXPOSED SURFACE.

④ COURSED ASHLAR MASONRY JOINTS SHALL CONSIST OF STRAIGHT VERTICAL AND HORIZONTAL SEAMS.

## NOTES:

1. FOR FINISHED GROUND PROFILE, SEE GRADING PLANS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 LAYOUT - 3

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 168 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: CL | DWN: TK | CKD: SC

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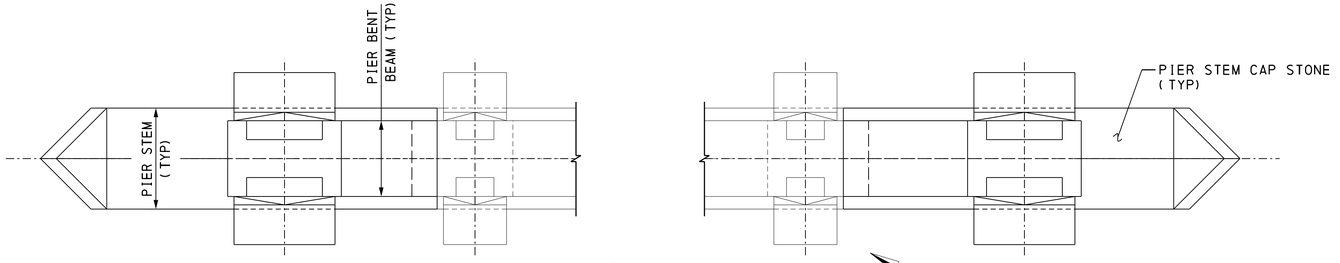
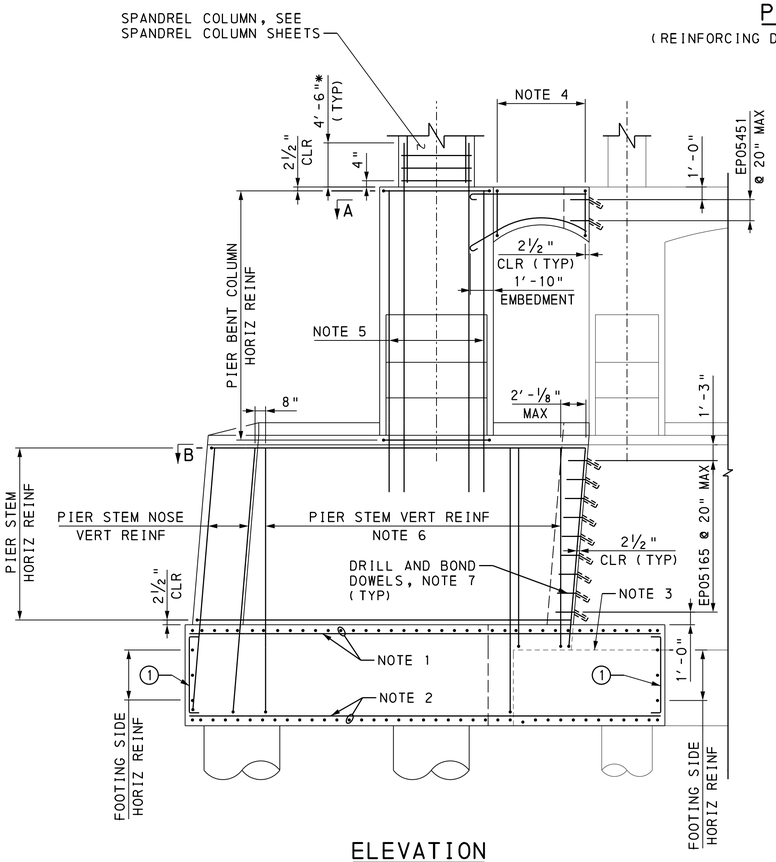
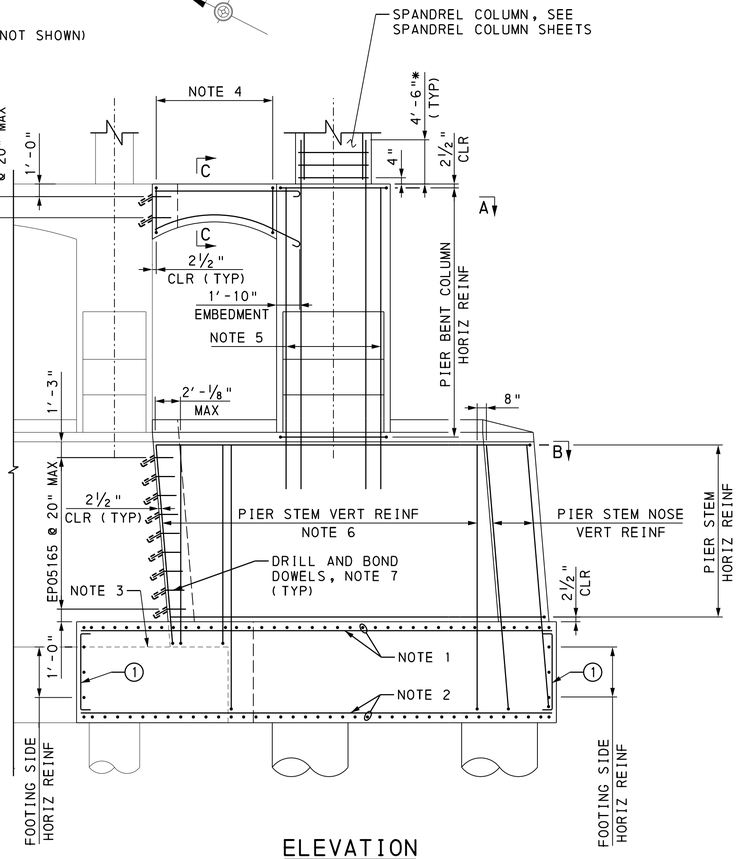



## PLAN
(REINFORCING DETAILS NOT SHOWN)

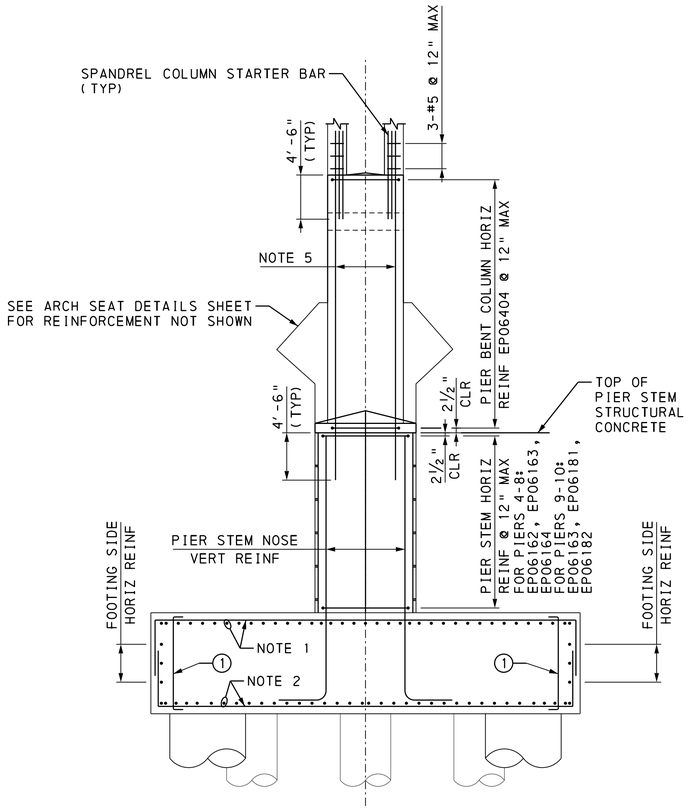
① CONCRETE "SKIN" REINF ] EF05415, EF05416, EF05417 PIERS 4,5,7
EF05507, EF05417 PIER 6
EF05607, EF05608, EF05417 PIER 8
EF05663, EF05664, EF05417 PIERS 9,10
@ 24" MAX AT FOOTING
NORTH AND SOUTH CONCRETE SURFACES, NOT ALL SHOWN.




## ELEVATION
(DOWNSTATION SIDE SHOWN, UPSTATION SIDE SIMILAR
NORTH STRUCTURE FOR PIERS 4, 5, AND 7 SHOWN)




## ELEVATION
(DOWNSTATION SIDE SHOWN, UPSTATION SIDE SIMILAR
SOUTH STRUCTURE FOR PIERS 4, 5, AND 7 SHOWN)




## END VIEW
SOUTH STRUCTURE FOR PIERS 4, 5 AND 7 SHOWN,
NORTH STRUCTURE SIMILAR

## NOTES:
1. FOOTING TOP MAT REINFORCEMENT.
2. FOOTING BOTTOM MAT REINFORCEMENT.
3. REINFORCING DETAILS CONNECTING NEW AND EXISTING FOOTINGS NOT SHOWN, SEE OTHER SHEETS.
4. PIER BENT BEAM TRANSVERSE REINFORCEMENT.
5. PIER BENT COLUMN VERTICAL REINFORCEMENT.
6. WITHIN EXISTING FOOTING LIMITS, PIER STEM VERTICAL REINFORCEMENT SHALL EXTEND TO 1" CLEAR OF EXISTING FOOTING.
7. SEE "DRILL AND BOND DETAILS"

* DIMENSION APPLIES TO PIER BENT COLUMN VERTICAL REINF WITHIN SPANDREL COLUMN LIMITS

1.5 0 3 6 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| | | | | | |

REVISIONS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIERS 4 THRU 10 DETAILS - 1

RECOMMENDED 08/30/2019

SHEET 169 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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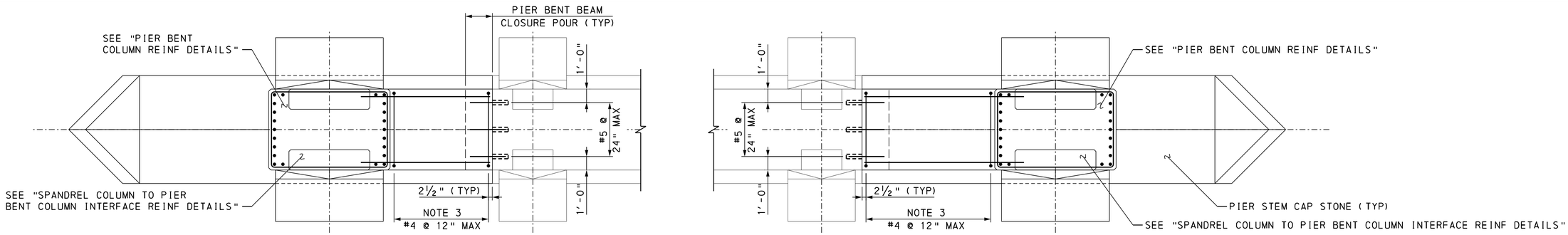
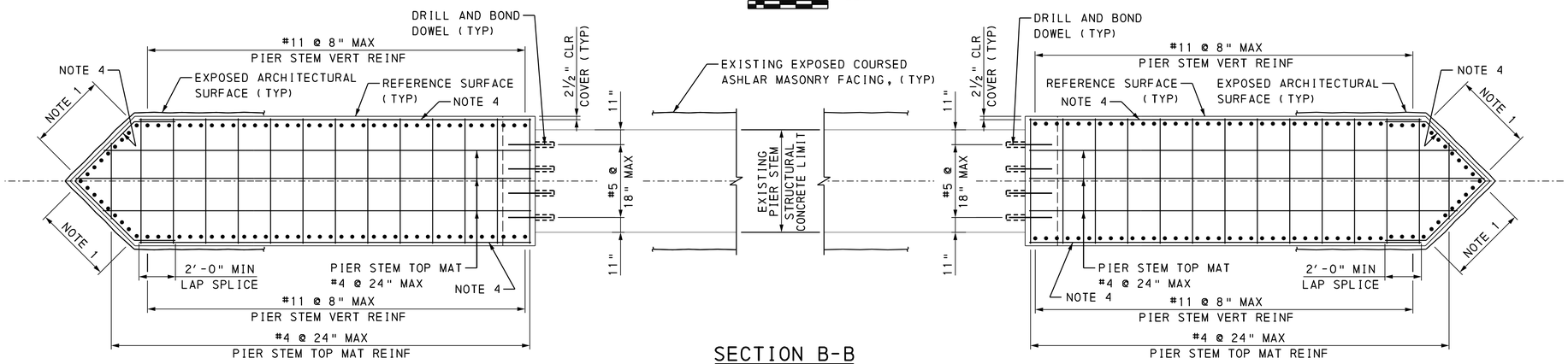


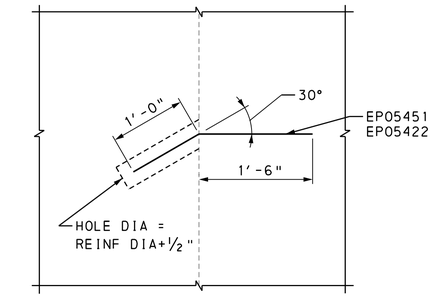

## SECTION A-A

1 0 2 4 FEET



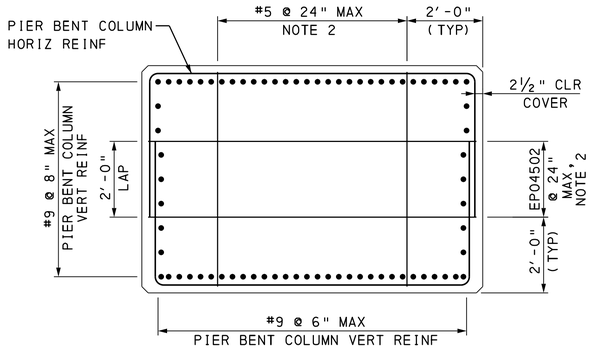

## SECTION B-B

1 0 2 4 FEET



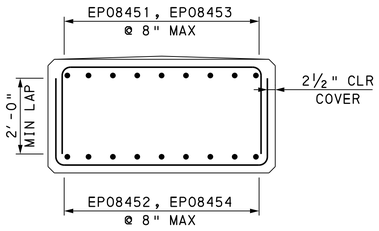

## DRILL AND BOND DOWEL DETAILS

NTS



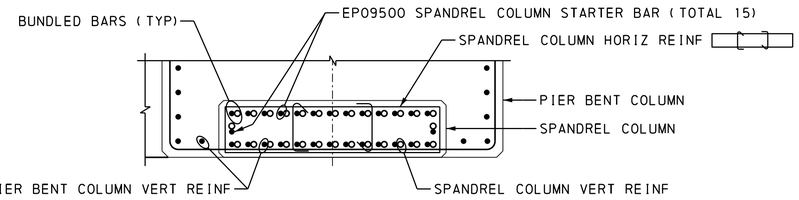

## PIER BENT COLUMN REINFORCING DETAILS

.5 0 1 2 FEET




## SECTION C-C

.5 0 1 2 FEET




## SPANDREL COLUMN TO PIER BENT COLUMN INTERFACE REINFORCING DETAILS

.5 0 1 2 FEET

## NOTES:

1. PIER STEM NOSE VERTICAL REINFORCEMENT, #11 @ 8" MAX.
2. PIER BENT COLUMN TOP MAT REINFORCEMENT.
3. PIER BENT BEAM TRANSVERSE REINFORCEMENT.
4. PIER STEM HORIZONTAL REINFORCEMENT.

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

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 DETAILS - 2

RECOMMENDED 08/30/2019

SHEET 170 OF 295

S-38014

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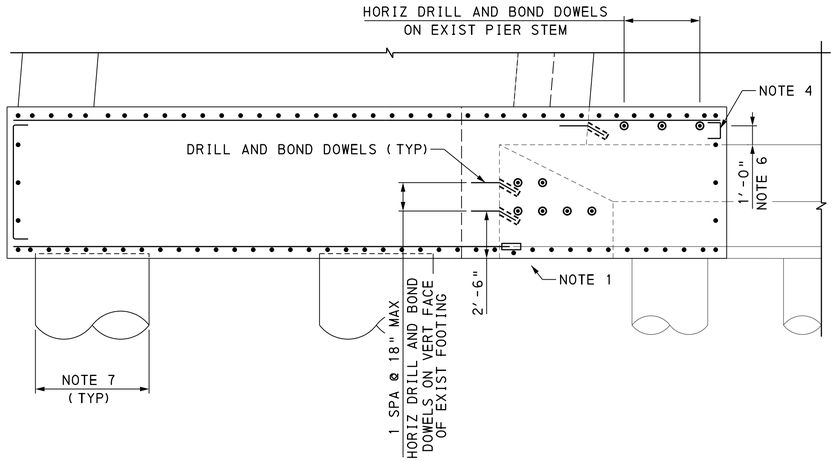
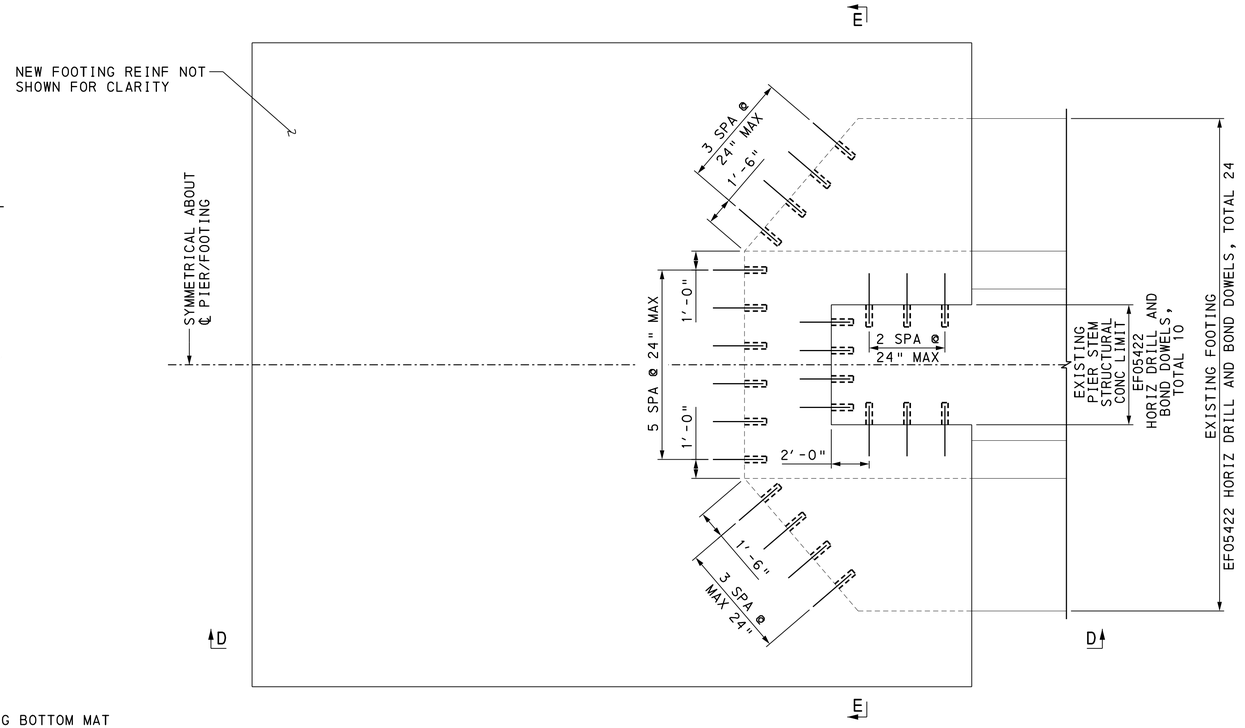



## SECTION D-D
NTS

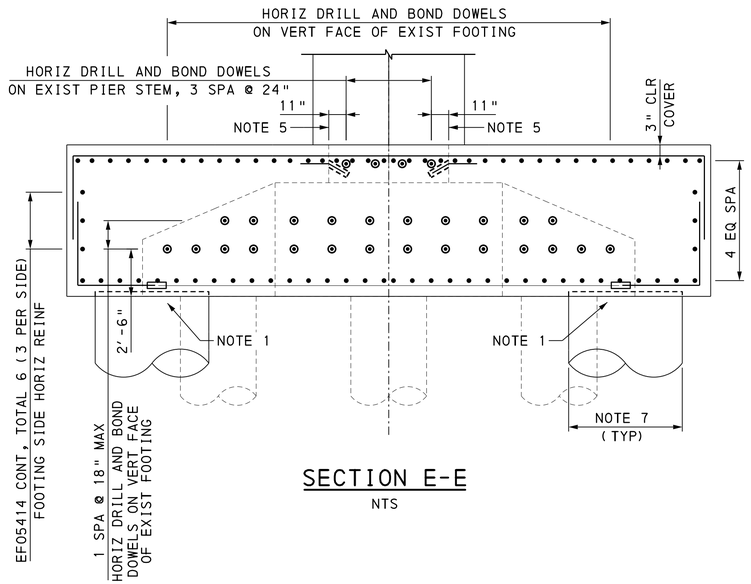



## PLAN
NTS

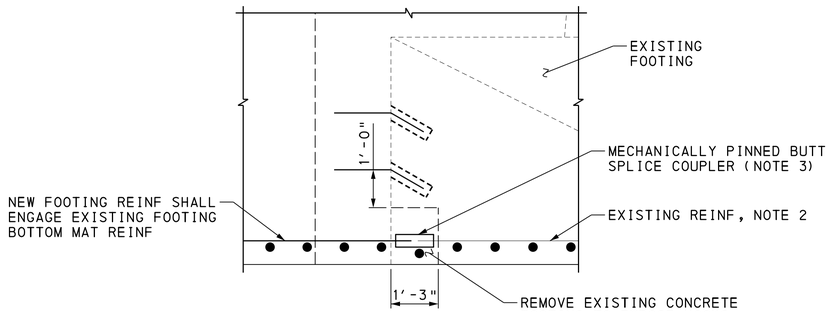
HORIZ DRILL AND BOND DOWELS ON EXISTING FOOTING AND PIER STEM OF PIERS 4, 5 AND 7
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. SEE "DETAIL A" FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
2. REMOVE END HOOK OF FOOTING EXISTING BOTTOM MAT REINFORCEMENT TO BE SPLICED WITH NEW FOOTING BOTTOM MAT REINFORCEMENT.
3. MECHANICAL PINNED BUTT SPLICE COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S RECOMENDATIONS AND REQUIREMENTS.
4. CONCRETE "SKIN" REINFORCEMENT (FULL HEIGHT VERTICAL LEG OUTSIDE EXISTING FOOTING LIMITS)
5. PIER STEM STRUCTURAL CONCRETE SURFACE.
6. DIMENSION FROM CENTER OF DOWEL TO TOP OF EXISTING FOOTING.
7. FOOTING REINFORCEMENT WITHIN DRILLED SHAFT LIMITS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT VERTICAL REINFORCEMENT CAGE.




## SECTION E-E
NTS




## DETAIL A
NTS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
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PIERS 4 THRU 10 DETAILS - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

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SHEET 171 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-207.dgn

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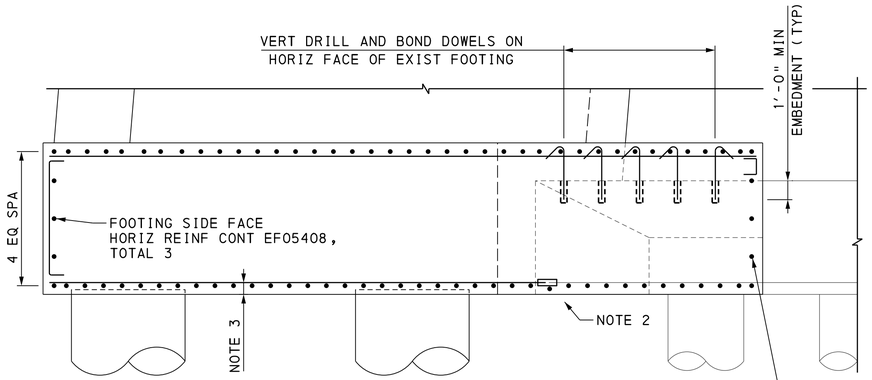
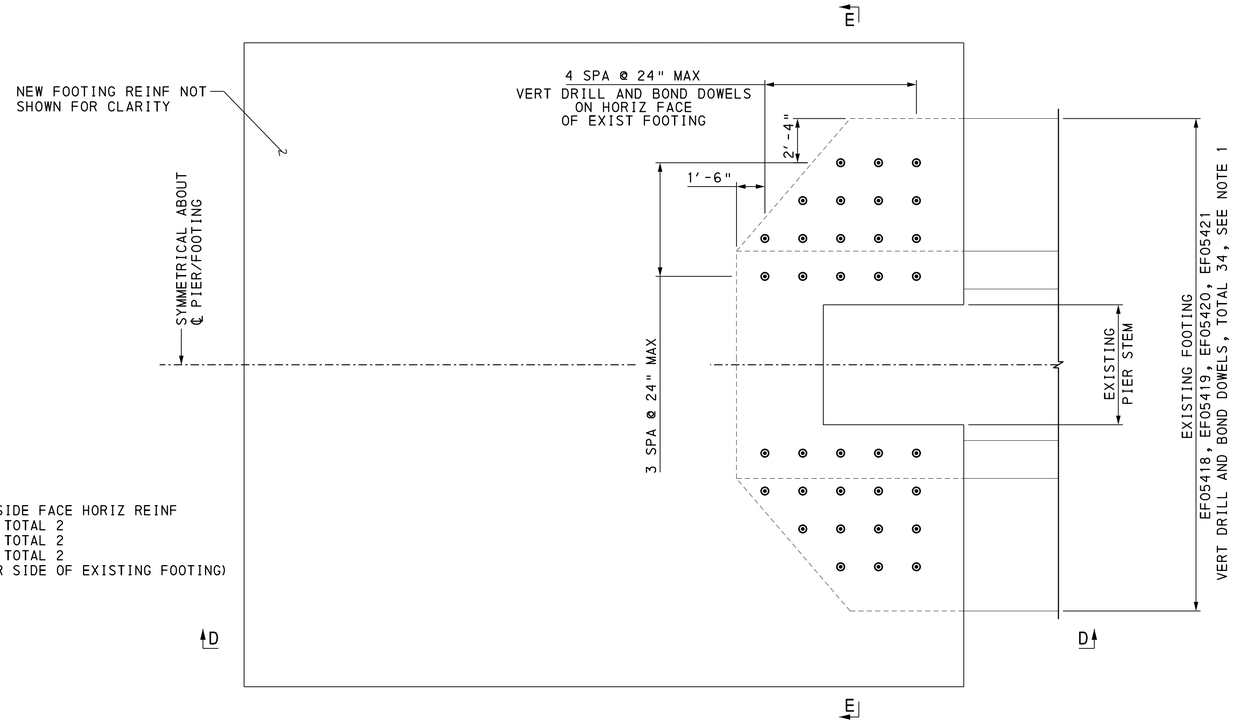


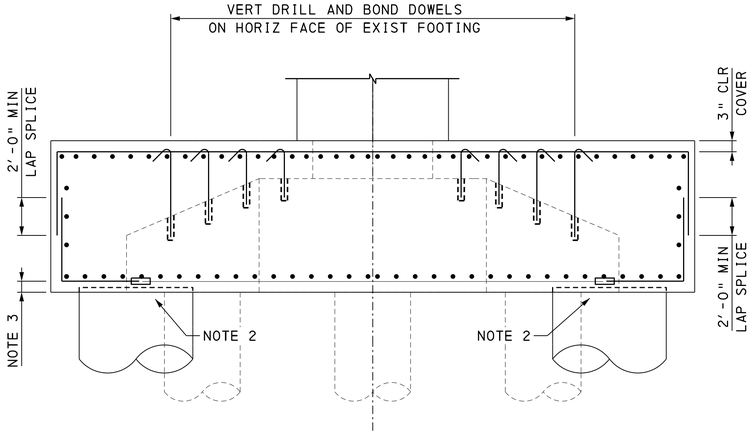

## SECTION D-D
NTS




## PLAN
NTS
VERT DRILL AND BOND DOWELS ON EXISTING FOOTING OF PIERS 4, 5 AND 7
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. VERTICAL DRILL AND BOND DOWEL HOOKS SHALL ENGAGE TOP MAT REINFORCEMENT.
2. SEE "DETAIL A" ON "PIER 4 THRU 10 DETAILS - 3" SHEET FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
3. FOOTING BOTTOM MAT REINF SHALL BE LOCATED TO MATCH EXISTING FOOTING BOTTOM MAT REINF.




## SECTION E-E
NTS

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 DETAILS - 4

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 172 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: CL | DWN: TK | CKD: SC

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OPERATOR: TYLIPWO11CS01$

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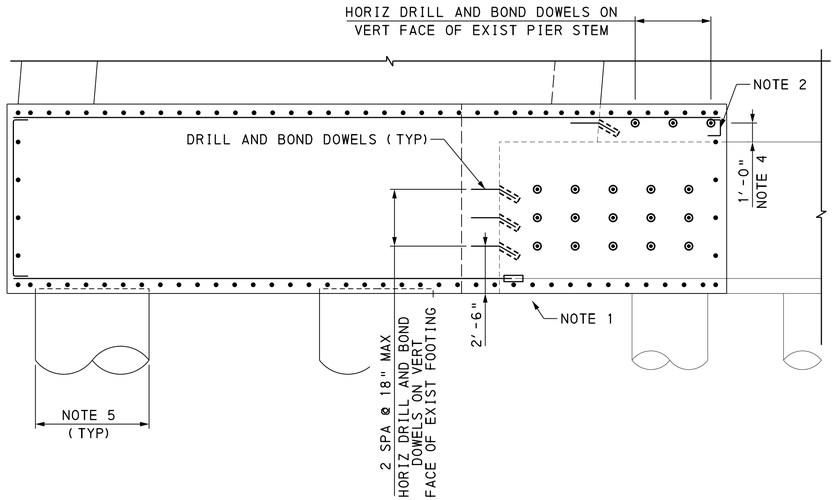
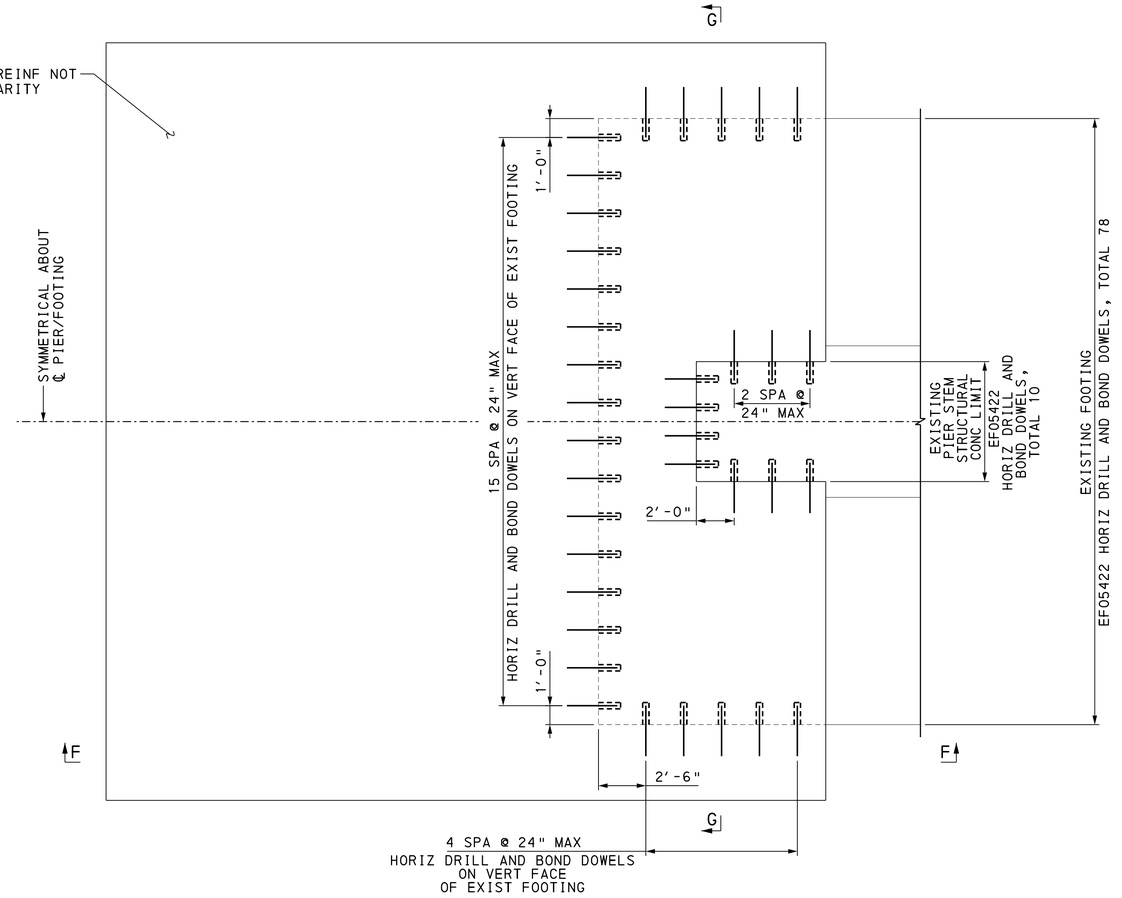



## SECTION F-F

NTS



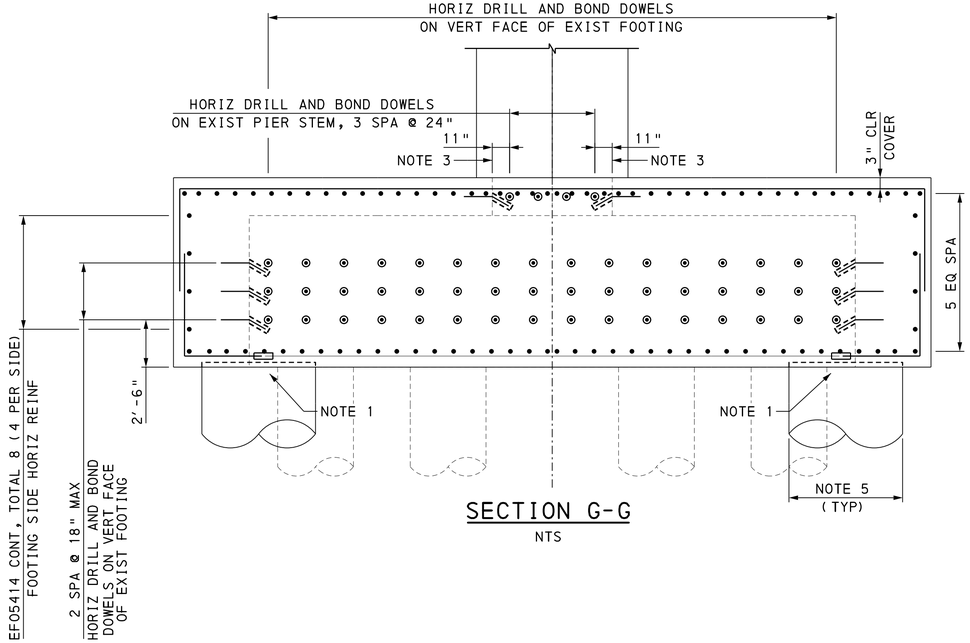

## PLAN

NTS

HORIZ DRILL AND BOND DOWELS ON EXISTING FOOTING AND PIER STEM AT PIER 6
( NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. SEE "DETAIL A" ON "PIER 4 THRU 10 DETAILS - 3" SHEET FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
2. CONCRETE "SKIN" REINFORCEMENT (FULL HEIGHT VERTICAL LEG OUTSIDE EXISTING FOOTING LIMITS)
3. PIER STEM STRUCTURAL CONCRETE SURFACE.
4. DIMENSION FROM CENTER OF DOWEL TO TOP OF EXISTING FOOTING.
5. FOOTING REINFORCEMENT WITHIN DRILLED SHAFT LIMITS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT VERTICAL REINFORCEMENT CAGE.




## SECTION G-G

NTS

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 DETAILS - 5

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 173 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
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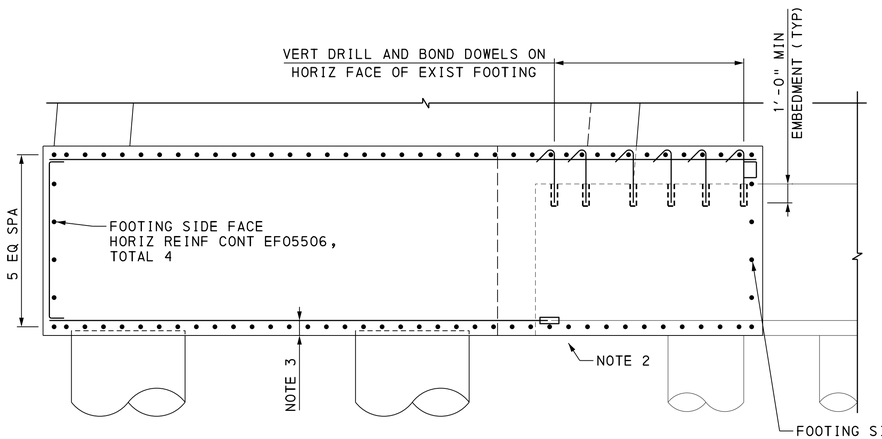
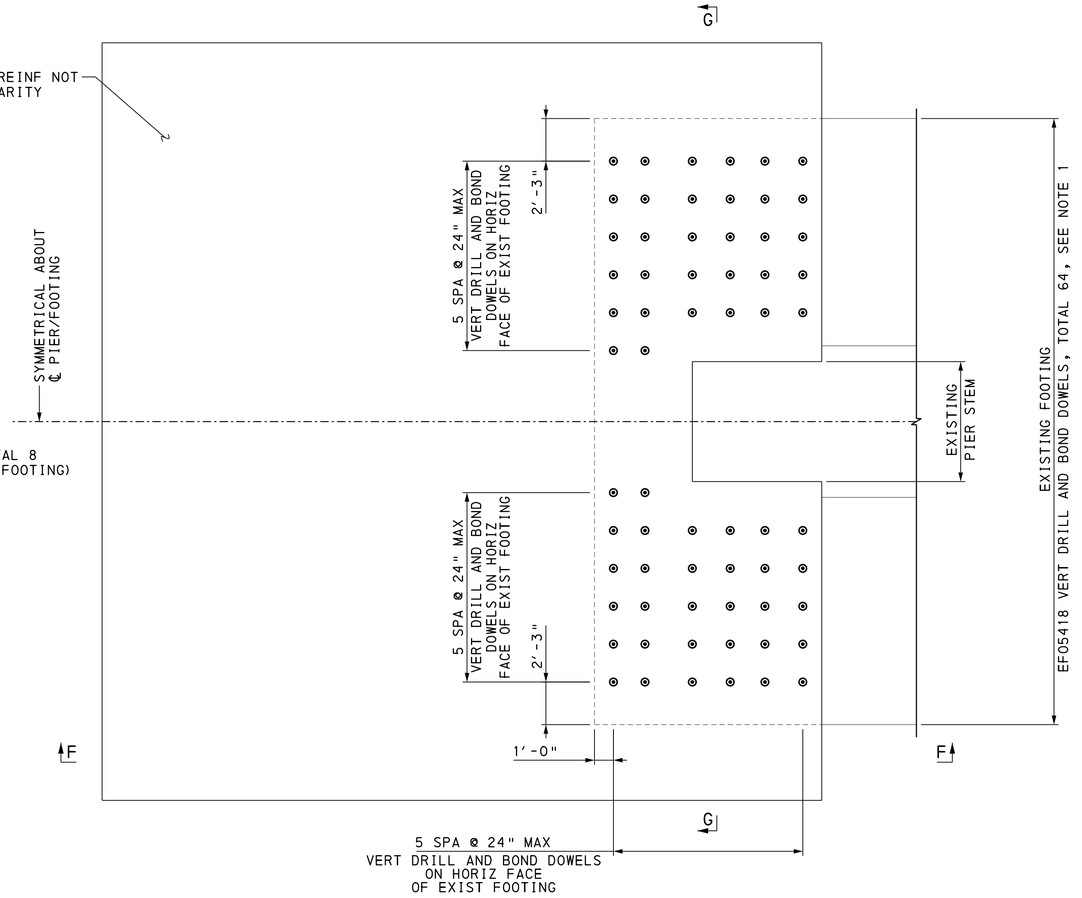


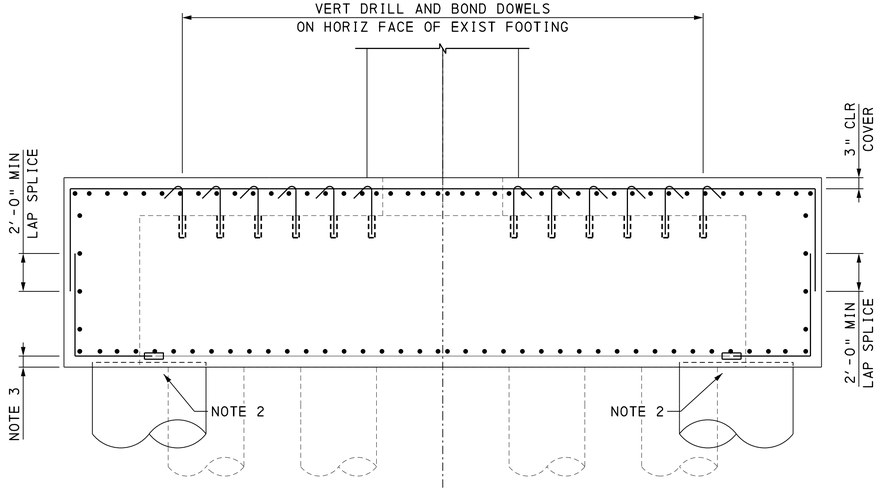

## SECTION F-F
NTS




## PLAN
NTS
VERT DRILL AND BOND DOWELS ON EXISTING FOOTING AT PIER 6
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. VERTICAL DRILL AND BOND DOWEL HOOKS SHALL ENGAGE TOP MAT REINFORCEMENT.
2. SEE "DETAIL A" ON "PIER 4 THRU 10 DETAILS - 3" SHEET FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
3. FOOTING BOTTOM MAT REINF SHALL BE LOCATED TO MATCH EXISTING FOOTING BOTTOM MAT REINF.




## SECTION G-G
NTS

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 DETAILS - 6

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 174 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: CL | DWN: TK | CKD: SC

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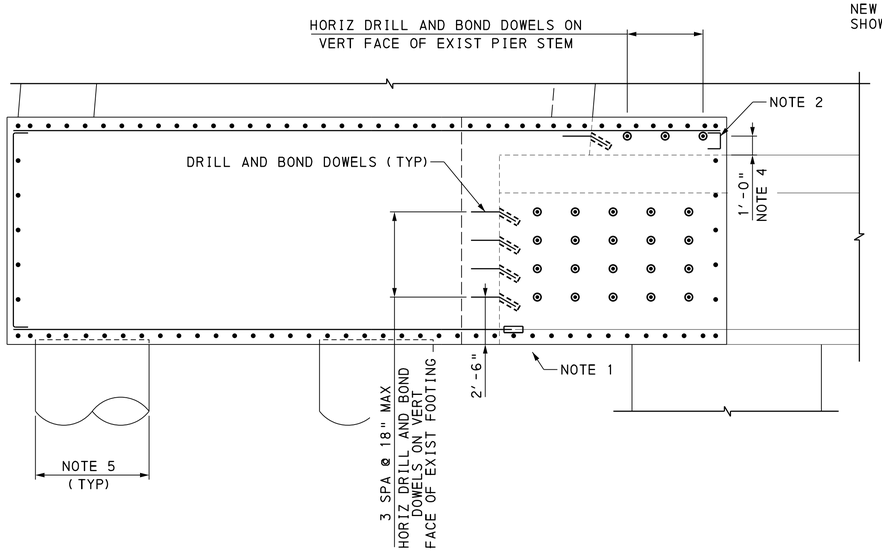
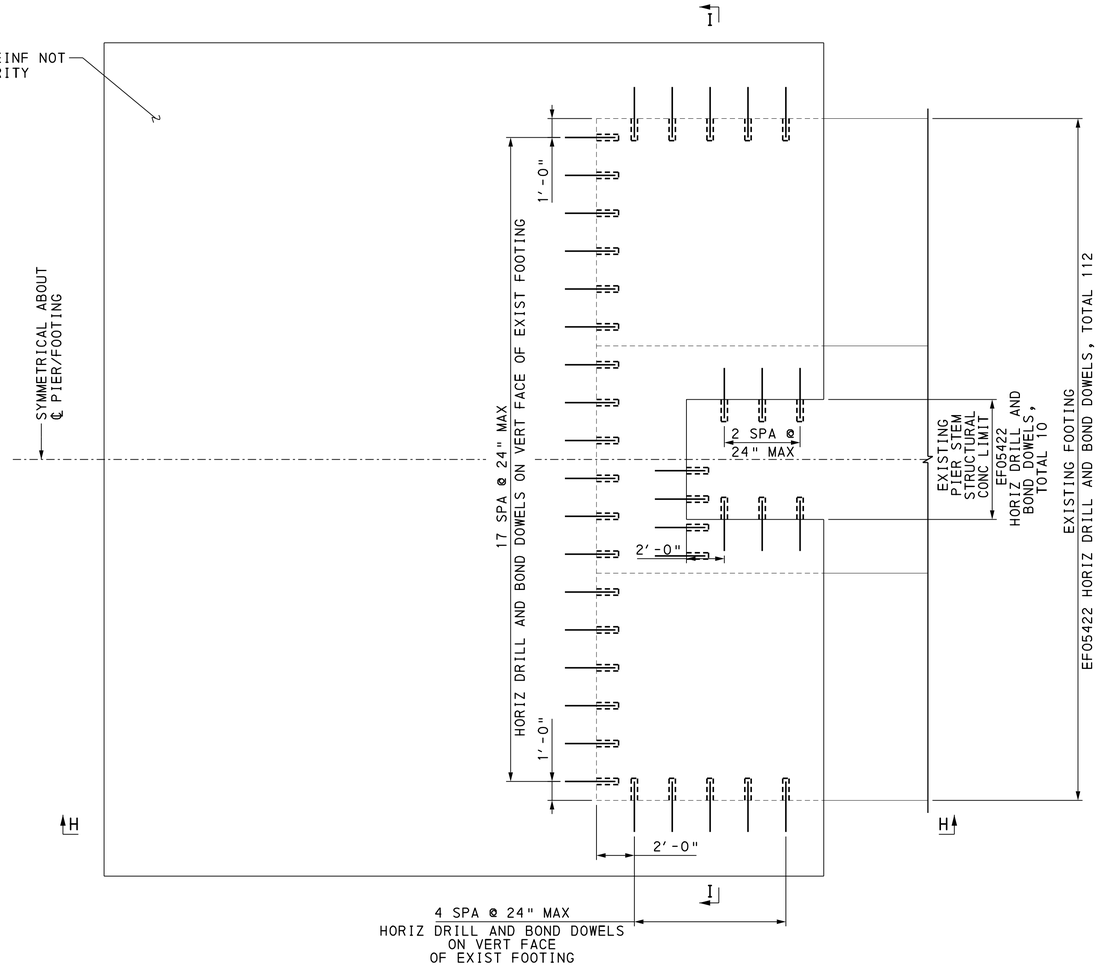



## SECTION H-H

NTS



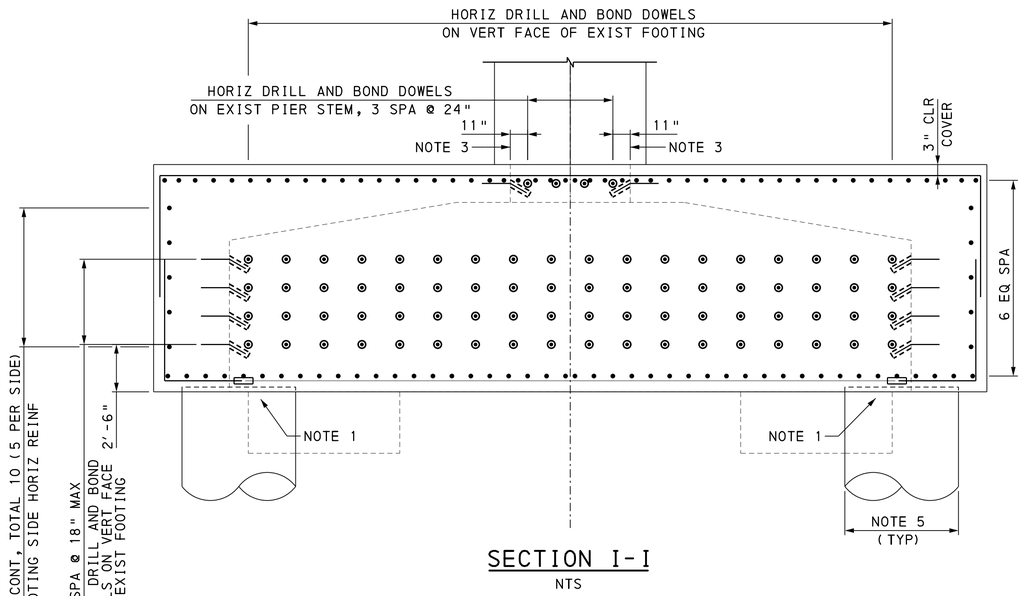

## PLAN

NTS

HORIZ DRILL AND BOND DOWELS ON EXISTING FOOTING AND PIER STEM AT PIER 8
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. SEE "DETAIL A" ON "PIER 4 THRU 10 DETAILS - 3" SHEET FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
2. CONCRETE "SKIN" REINFORCEMENT (FULL HEIGHT VERTICAL LEG OUTSIDE EXISTING FOOTING LIMITS)
3. PIER STEM STRUCTURAL CONCRETE SURFACE.
4. DIMENSION FROM CENTER OF DOWEL TO TOP OF EXISTING FOOTING.
5. FOOTING REINFORCEMENT WITHIN DRILLED SHAFT LIMITS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT VERTICAL REINFORCEMENT CAGE.




## SECTION I-I

NTS

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 DETAILS - 7

RECOMMENDED 08/30/2019

SHEET 175 OF 295

S-38014

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

OPERATOR: TYLIPWO11CS01$ FILENAME: E02657-S38014-BR-DT-211.dgn

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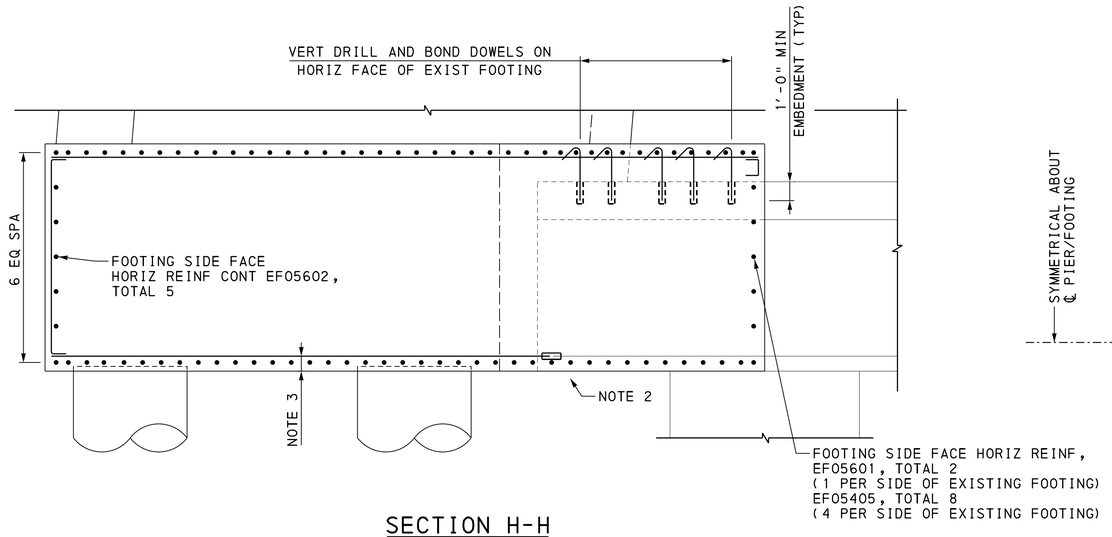
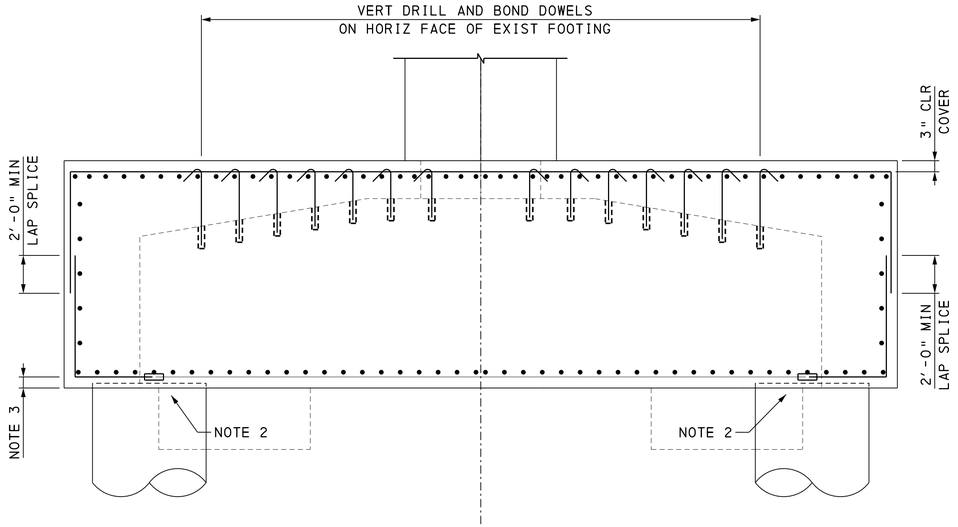



## SECTION H-H

NTS

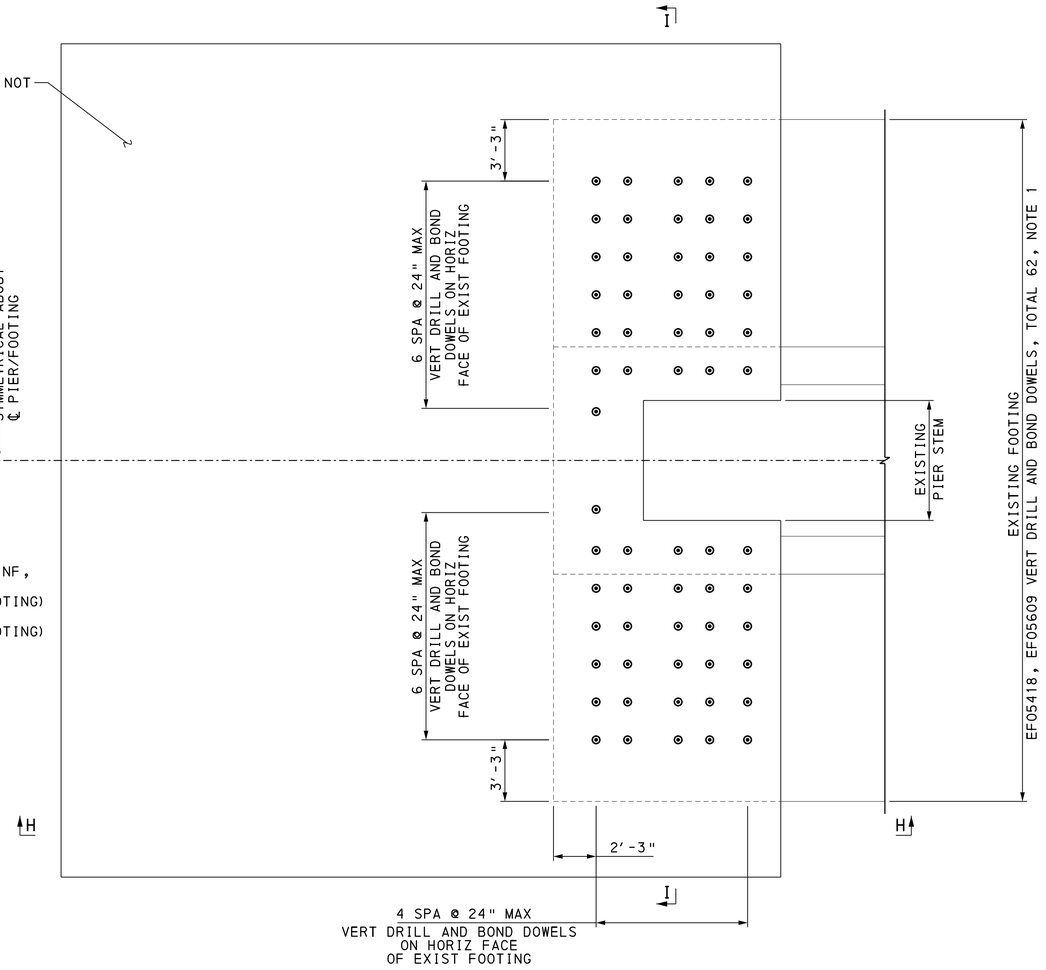
## NOTES:

1. VERTICAL DRILL AND BOND DOWEL HOOKS SHALL ENGAGE TOP MAT REINFORCEMENT.
2. SEE "DETAIL A" ON "PIER 4 THRU 10 DETAILS - 3" SHEET FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
3. FOOTING BOTTOM MAT REINF SHALL BE LOCATED TO MATCH EXISTING FOOTING BOTTOM MAT REINF.




## SECTION I-I

NTS




## PLAN

NTS

VERT DRILL AND BOND DOWELS ON EXISTING FOOTING AT PIER 8
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

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

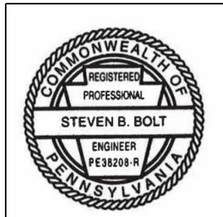
S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

## BERKS COUNTY
## S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

## ARCH SPANS REHAB & WIDENING
## PIERS 4 THRU 10 DETAILS - 8




RECOMMENDED 08/30/2019

SHEET 176 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
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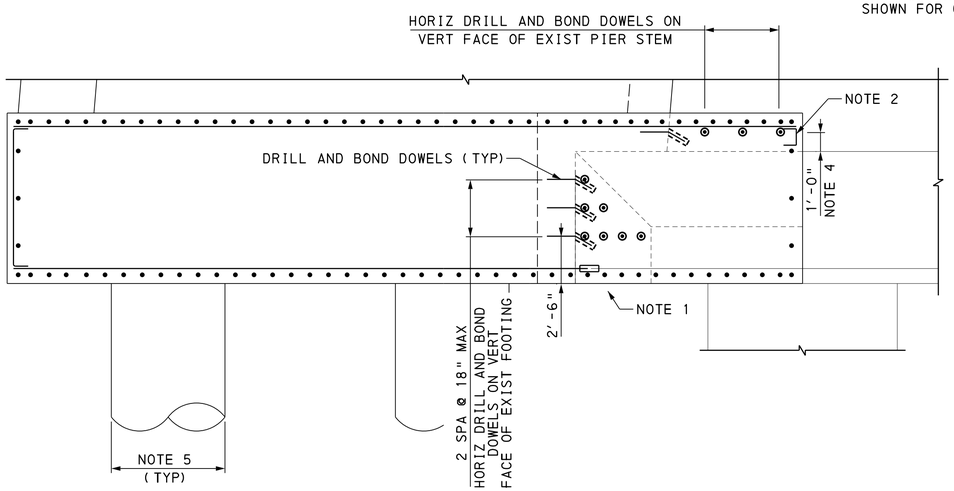
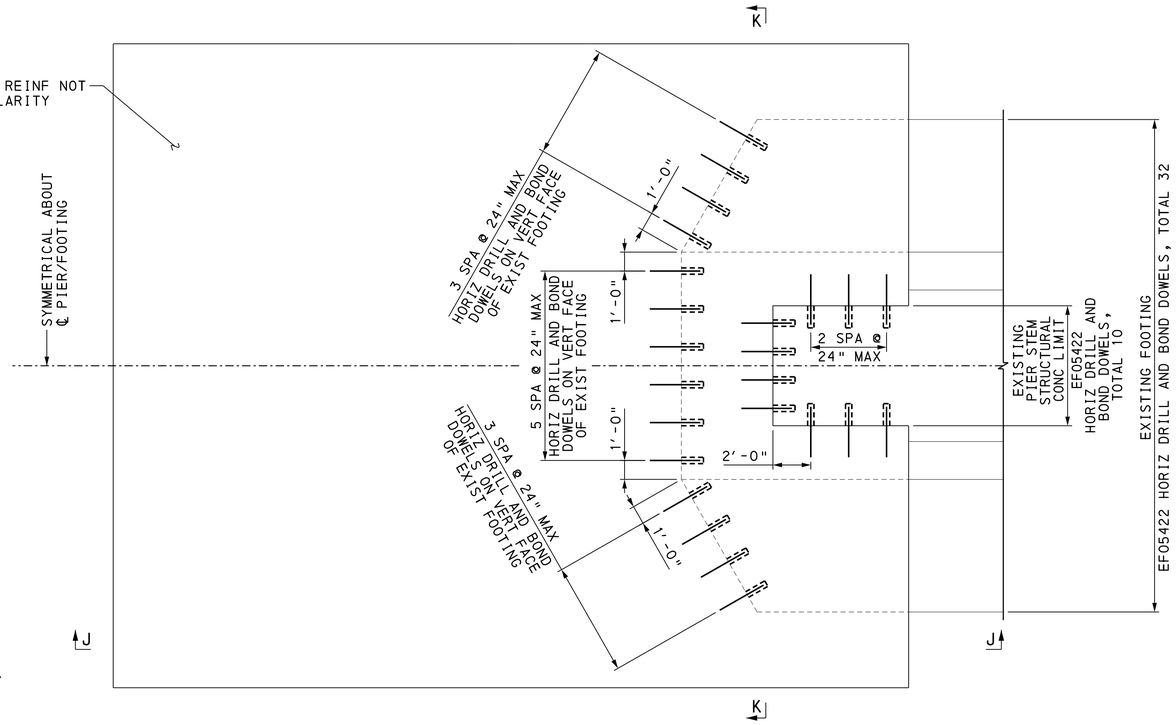



## SECTION J-J

NTS



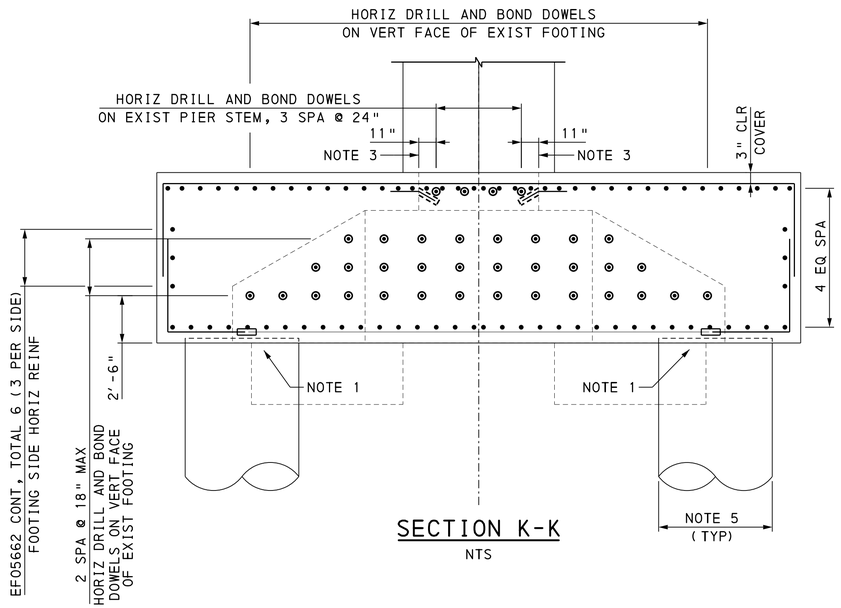

## PLAN

NTS

HORIZ DRILL AND BOND DOWELS ON EXISTING FOOTING AND PIER STEM AT PIERS 9 AND 10
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. SEE "DETAIL A" ON "PIER 4 THRU 10 DETAILS - 3" SHEET FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
2. CONCRETE "SKIN" REINFORCEMENT (FULL HEIGHT VERTICAL LEG OUTSIDE EXISTING FOOTING LIMITS)
3. PIER STEM STRUCTURAL CONCRETE SURFACE.
4. DIMENSION FROM CENTER OF DOWEL TO TOP OF EXISTING FOOTING.
5. FOOTING REINFORCEMENT WITHIN DRILLED SHAFT LIMITS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT VERTICAL REINFORCEMENT CAGE.




## SECTION K-K

NTS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIERS 4 THRU 10 DETAILS - 9

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 177 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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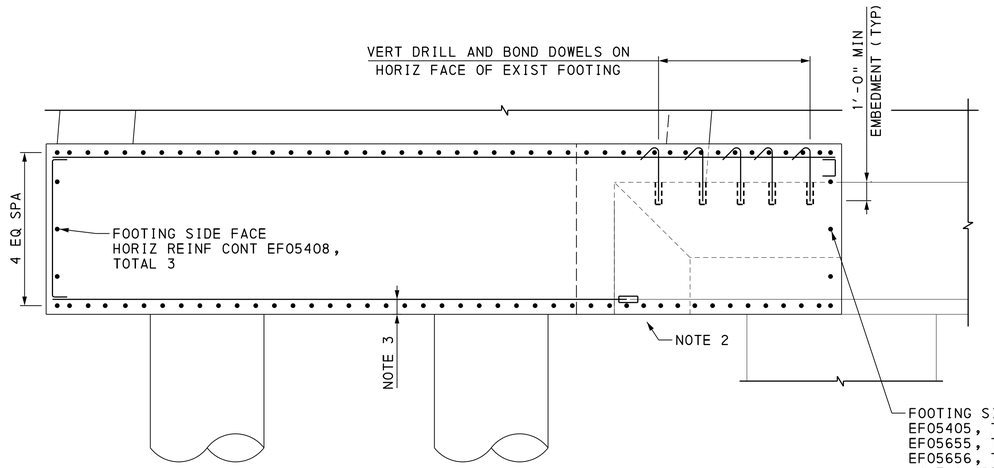
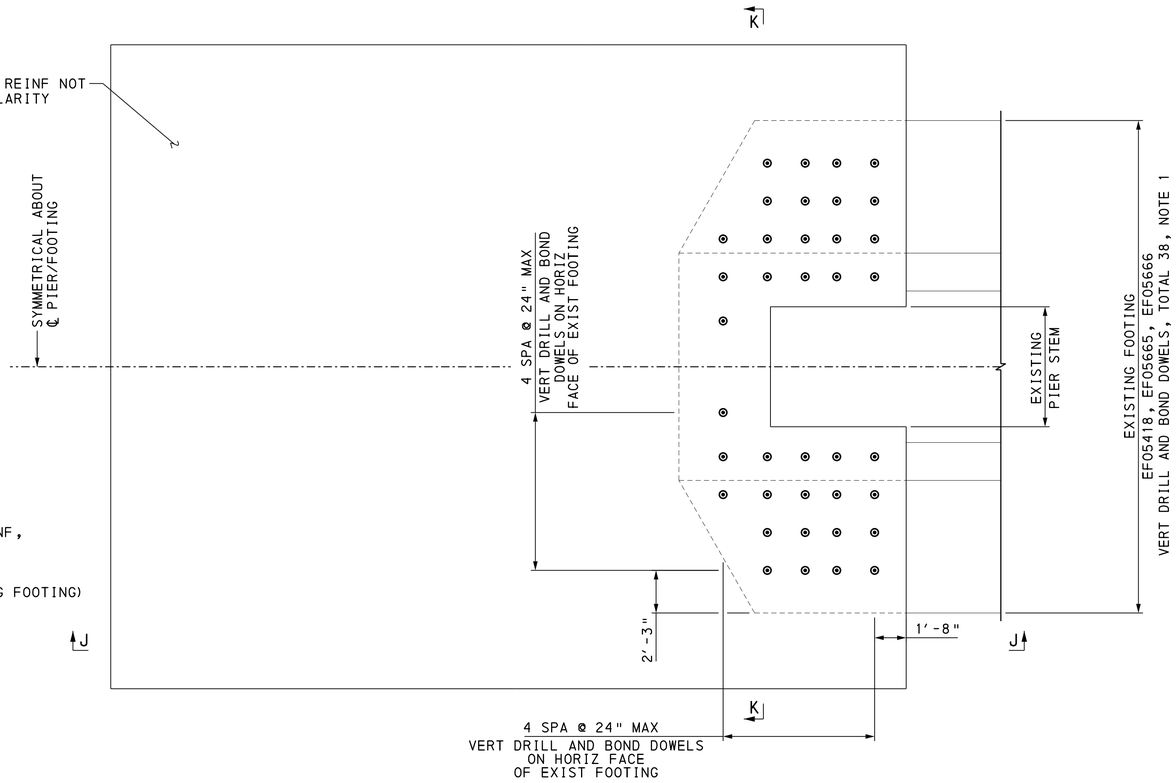


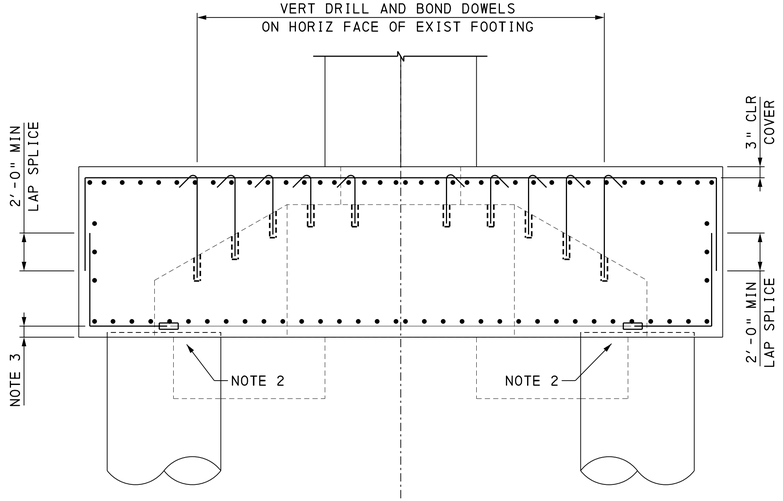

## SECTION J-J
NTS




## PLAN
NTS
VERT DRILL AND BOND DOWELS ON EXISTING FOOTING AT PIERS 9 AND 10
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. VERTICAL DRILL AND BOND DOWEL HOOKS SHALL ENGAGE TOP MAT REINFORCEMENT.
2. SEE "DETAIL A" ON "PIER 4 THRU 10 DETAILS - 3" SHEET FOR BOTTOM MAT REINFORCEMENT SPLICING DETAILS.
3. FOOTING BOTTOM MAT REINF SHALL BE LOCATED TO MATCH EXISTING FOOTING BOTTOM MAT REINF.




## SECTION K-K
NTS

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 DETAILS - 10

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 178 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
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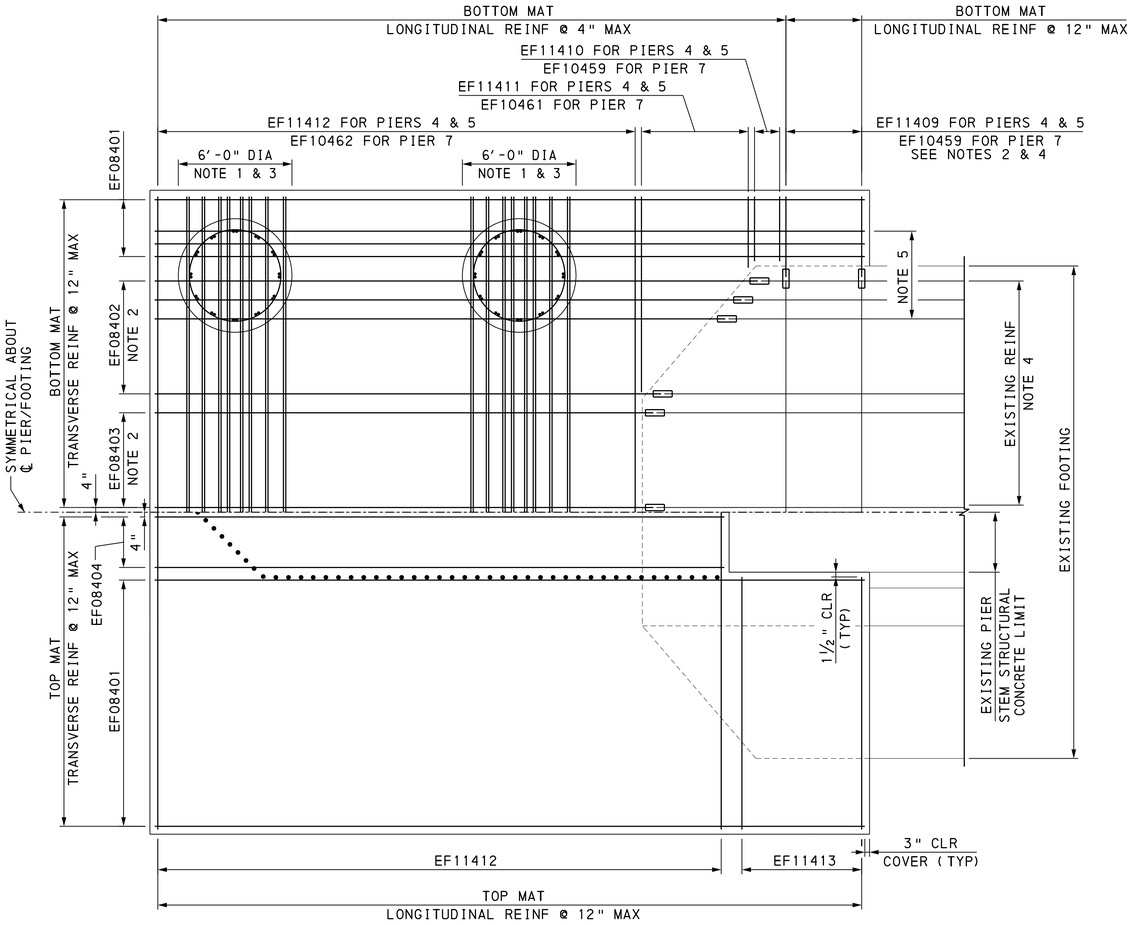
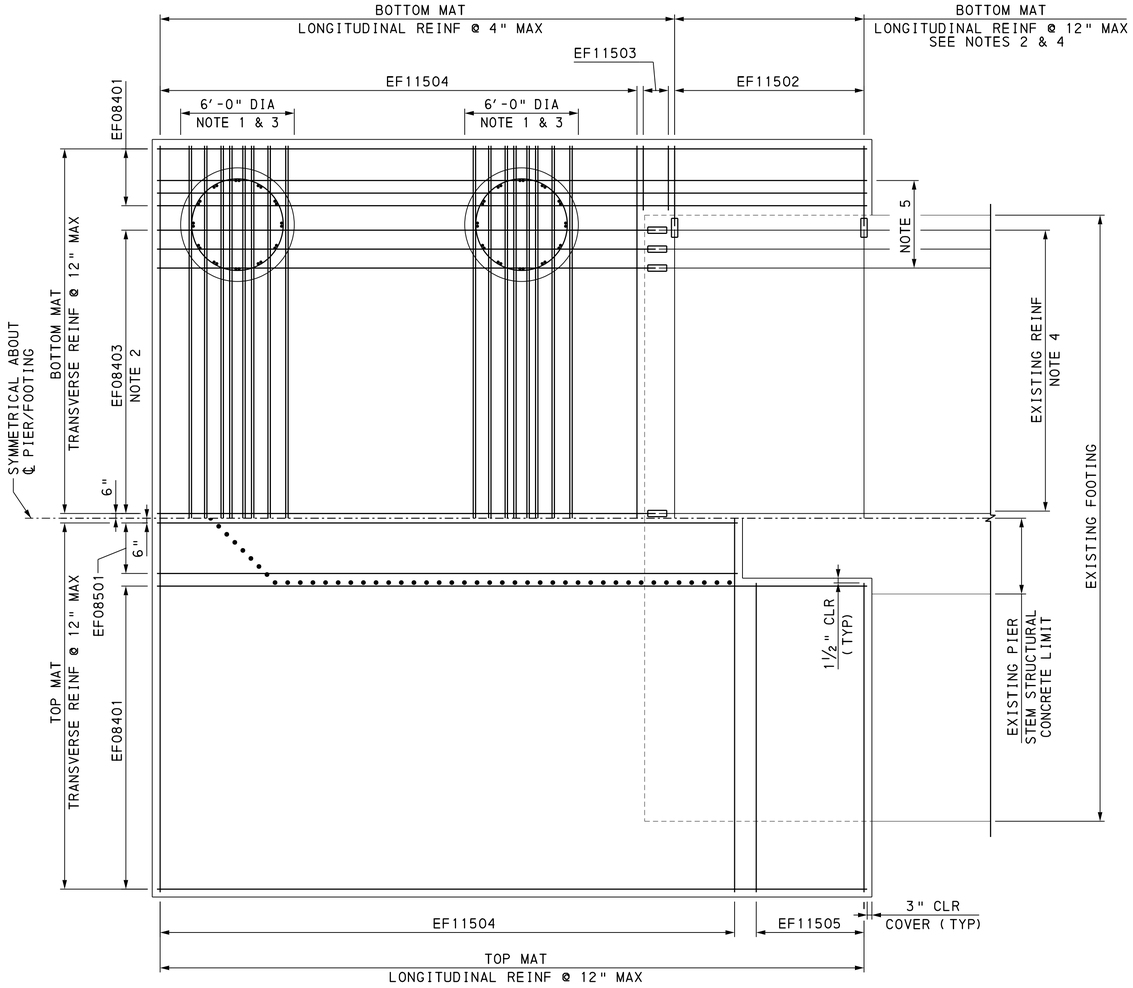



## FOOTING TOP & BOTTOM MAT REINFORCEMENT

PIERS 4, 5 & 7
NOT ALL SHOWN FOR CLARITY
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)




## FOOTING TOP & BOTTOM MAT REINFORCEMENT

PIER 6
NOT ALL SHOWN FOR CLARITY
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. WITHIN DRILLED SHAFT LIMITS SHOWN, LONGITUDINAL REINF SHALL BE BUNDLED (2-BAR BUNDLES, TOTAL 8). SPACING OF BUNDLES MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.
2. NEW FOOTING BOTTOM MAT REINFORCEMENT SHALL ENGAGE EXISTING FOOTING BOTTOM MAT REINFORCEMENT.
3. FOOTING BOTTOM MAT LONGITUDINAL REINFORCEMENT MAY BE BUNDLED TO AVOID CONFLICTS WITH PILE REINFORCING CAGE. BUNDLES SHALL NOT EXCEED 2 BARS.
4. SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET FOR PROTECTING EXISTING REINFORCEMENT.
5. WITHIN DRILLED SHAFT LIMITS SHOWN, TRANSVERSE REINF (TOTAL 6) MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIERS 4 THRU 10 DETAILS - 11

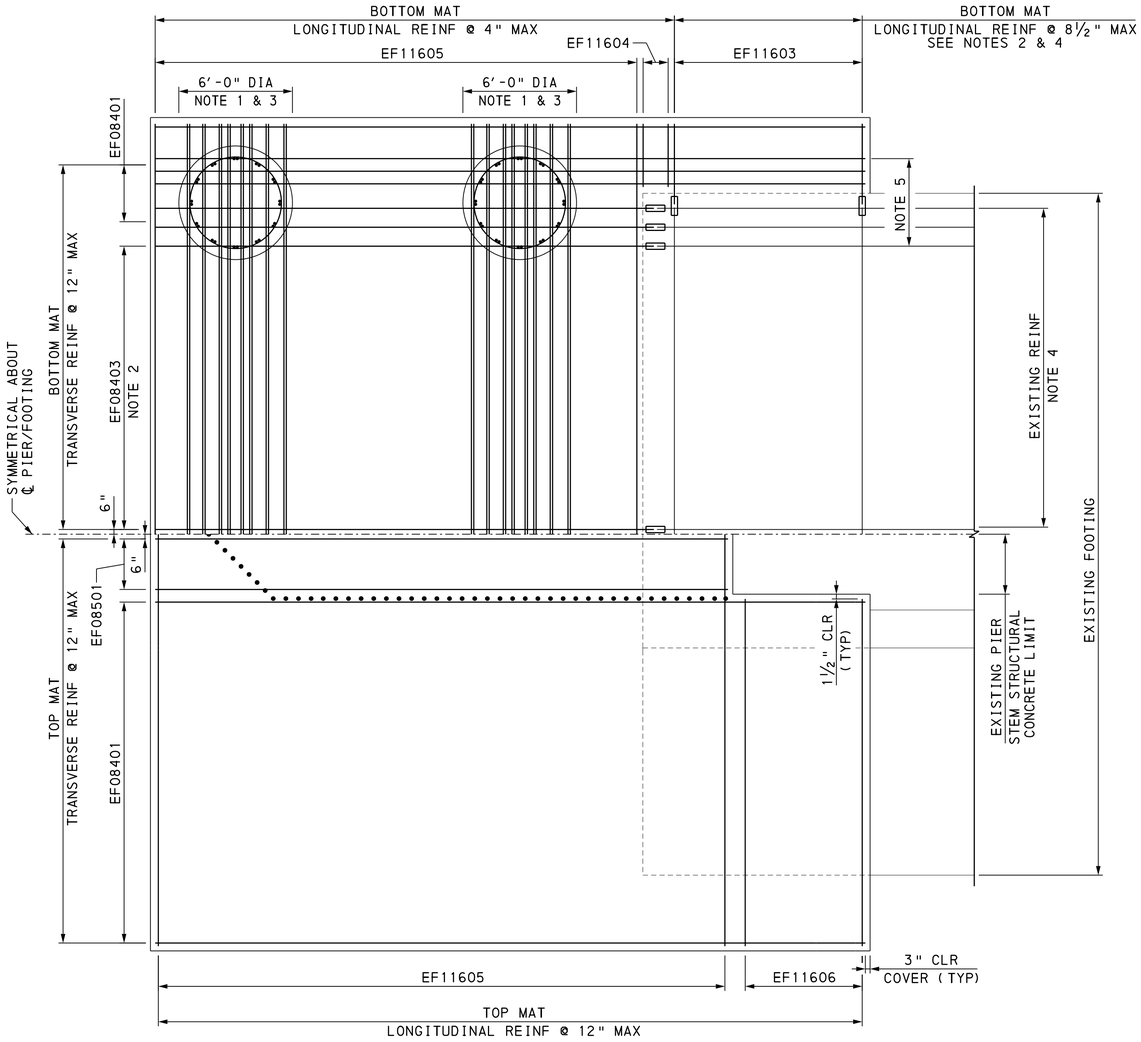
RECOMMENDED 08/30/2019

SHEET 179 OF 295

S-38014

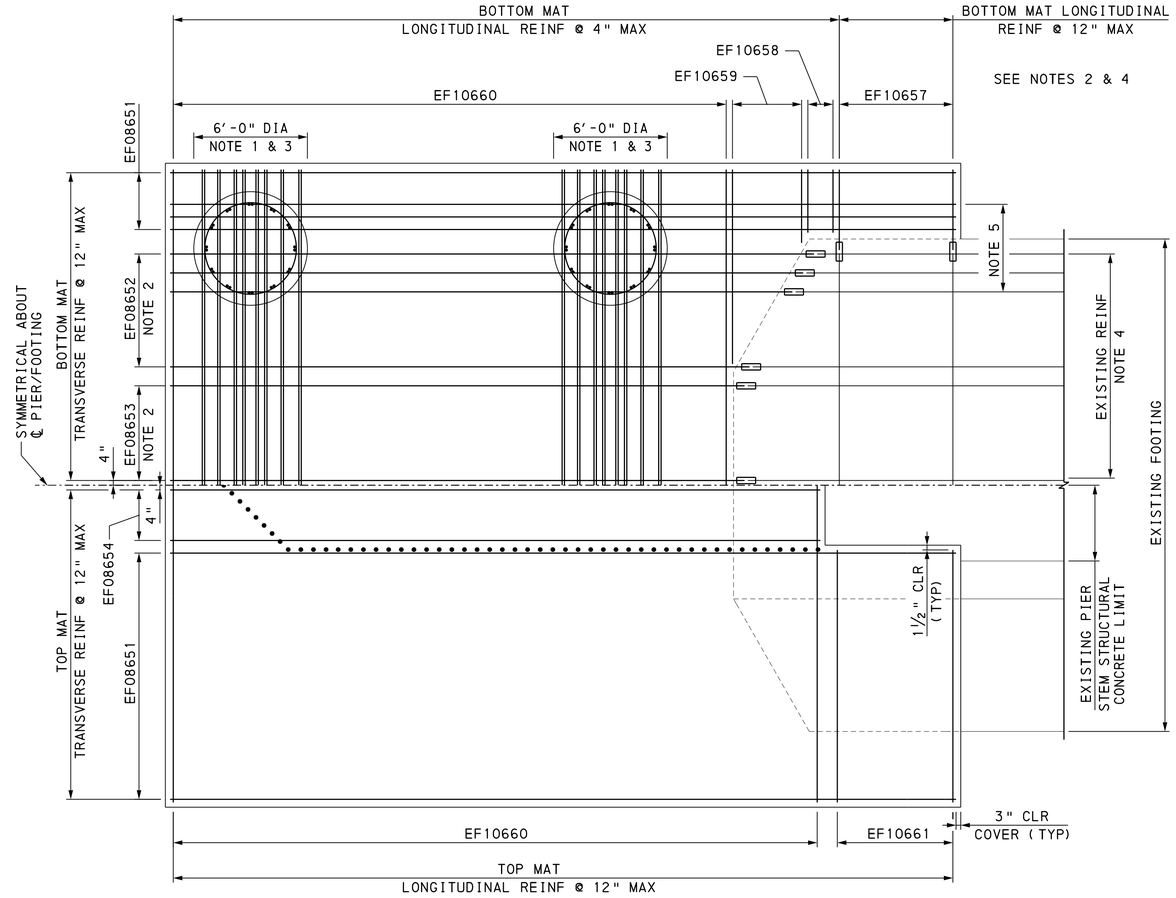
FILENAME: E02657-S38014-BR-DT-215.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:48:27 PM




## FOOTING TOP & BOTTOM MAT REINFORCEMENT

PIER 8
NOT ALL SHOWN FOR CLARITY
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)




## FOOTING TOP & BOTTOM MAT REINFORCEMENT

PIERS 9 & 10
NOT ALL SHOWN FOR CLARITY
(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR)

## NOTES:

1. WITHIN DRILLED SHAFT LIMITS SHOWN, LONGITUDINAL REINF SHALL BE BUNDLED (2-BAR BUNDLES, TOTAL 8). SPACING OF BUNDLES MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.
2. NEW FOOTING BOTTOM MAT REINFORCEMENT SHALL ENGAGE EXISTING FOOTING BOTTOM MAT REINFORCEMENT.
3. FOOTING BOTTOM MAT LONGITUDINAL REINFORCEMENT MAY BE BUNDLED TO AVOID CONFLICTS WITH PILE REINFORCING CAGE. BUNDLES SHALL NOT EXCEED 2 BARS.
4. SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET FOR PROTECTING EXISTING REINFORCEMENT.
5. WITHIN DRILLED SHAFT LIMITS SHOWN, TRANSVERSE REINF (TOTAL 6) MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
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ENGINEER
PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIERS 4 THRU 10 DETAILS - 12

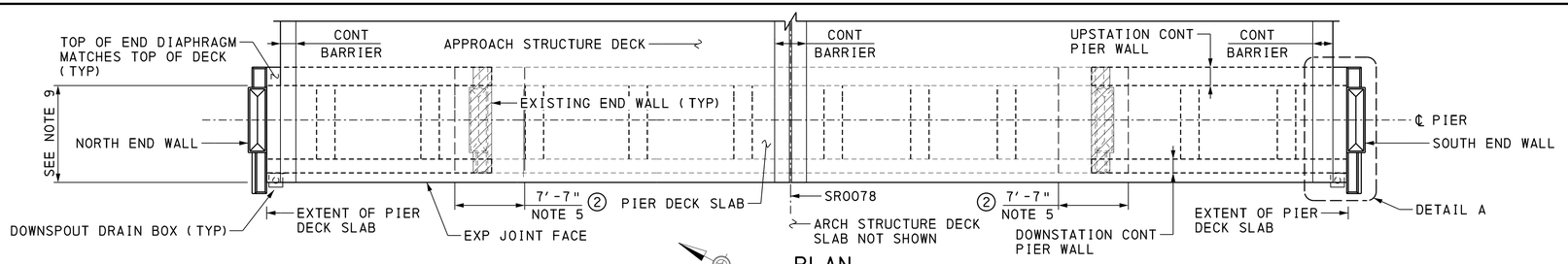
RECOMMENDED 08/30/2019

SHEET 180 OF 295

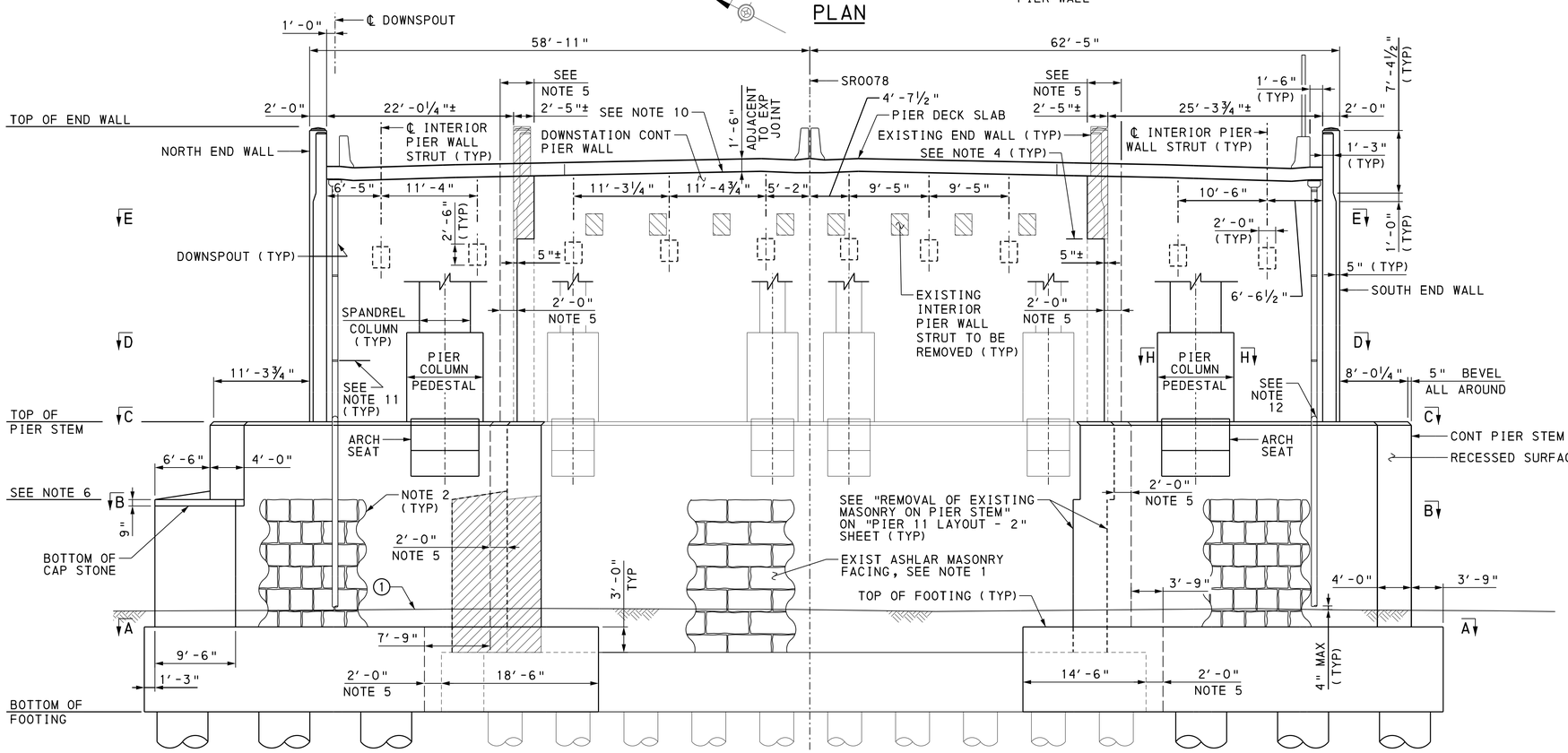
S-38014

FILENAME: E02657-S38014-BR-DT-216.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:46:34 PM

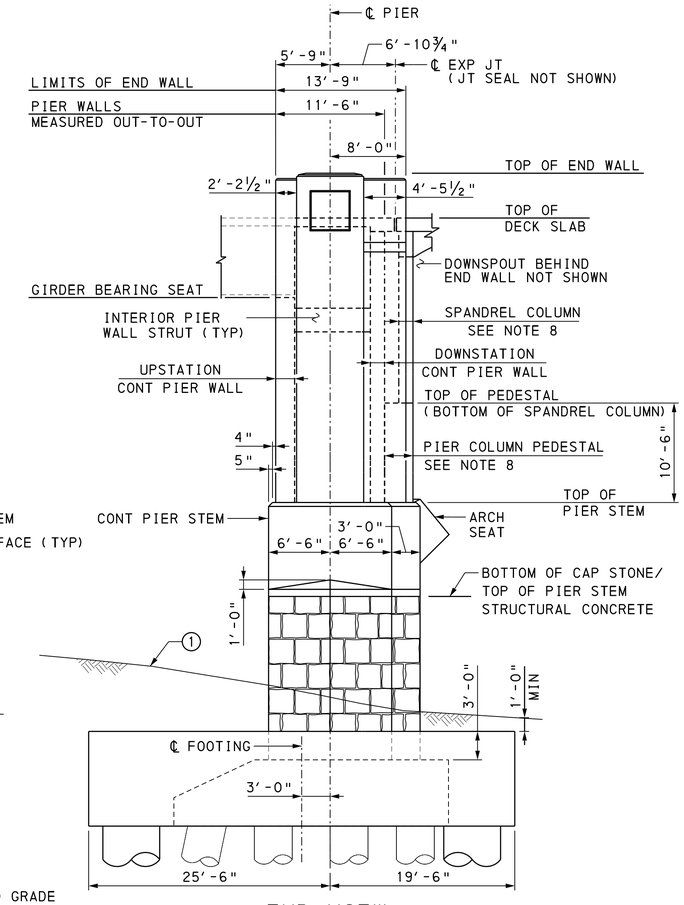



## PLAN




## ELEVATION
(DOWNSTATION SIDE)

## LEGEND:
CONCRETE REMOVAL




## END VIEW
(NORTH END WALL, SEE NOTE 13)

## NOTES:

1. REMOVE EXISTING COURSED ASHLAR MASONRY FACING FROM SURFACES THAT WILL BE INCORPORATED WITHIN LIMITS OF NEW CONCRETE.
2. NEW SQUARE COURSED ASHLAR STONE ARCHITECTURAL SURFACE.
3. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
4. EXTENT OF EXISTING END WALL REMOVAL (ELEVATION 394.292±).
5. TEMPORARY ISOLATION GAP SHOWN FOR PIER DECK SLAB, PIER WALLS, PIER STEM AND FOOTING. DIMENSION OF ISOLATION GAP AS SHOWN.
6. TOP OF NEW COURSED ASHLAR MASONRY FACING TO MATCH EXISTING.
7. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
8. SPANDREL COLUMN AND PIER COLUMN PEDESTAL PARTIALLY HIDDEN BEHIND END WALL.
9. LONGITUDINAL LIMITS OF FULL-WIDTH PIER DECK SLAB SHOWN. PIER DECK SLAB IS MONOLITHICALLY CONTINUOUS WITH APPROACH STRUCTURE DECK AND GIRDER END DIAPHRAGM.
10. FINISH TOP OF DOWNSTATION CONTINUOUS PIER WALL TO ACCOMMODATE 1/4" CONTINUOUS ELASTOMERIC BEARING PAD AND CONFORM TO THE BOTTOM OF PIER STRUCTURE DECK SLAB TRANSVERSE CROSS SLOPE GEOMETRY.
11. DOWNSPOUT SUPPORTED ON PIER WALL, SEE STD PLAN BC-751M FOR DETAILS NOT SHOWN.
12. INSTALL 90 DEGREE ELBOWS ON DOWNSPOUT IN ORDER TO DISCHARGE RUNOFF AWAY FROM DOWNSTATION FACE OF PIER STEM.
13. PIER STEM END VIEW AT THE SOUTH END WALL SIDE IS DIFFERENT THAN THE SECTION SHOWN IN THE END VIEW, SEE SECTION B-B.

① RECONSTRUCTED APPROXIMATE OG OR FINISHED GRADE

② CLOSURE POUR AT PIER DECK SLAB

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

2 0 4 8 FEET

DES: CL | DWN: TK | CKD: SC

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 LAYOUT - 1

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 181 OF 295

S-38014

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-301.dgn

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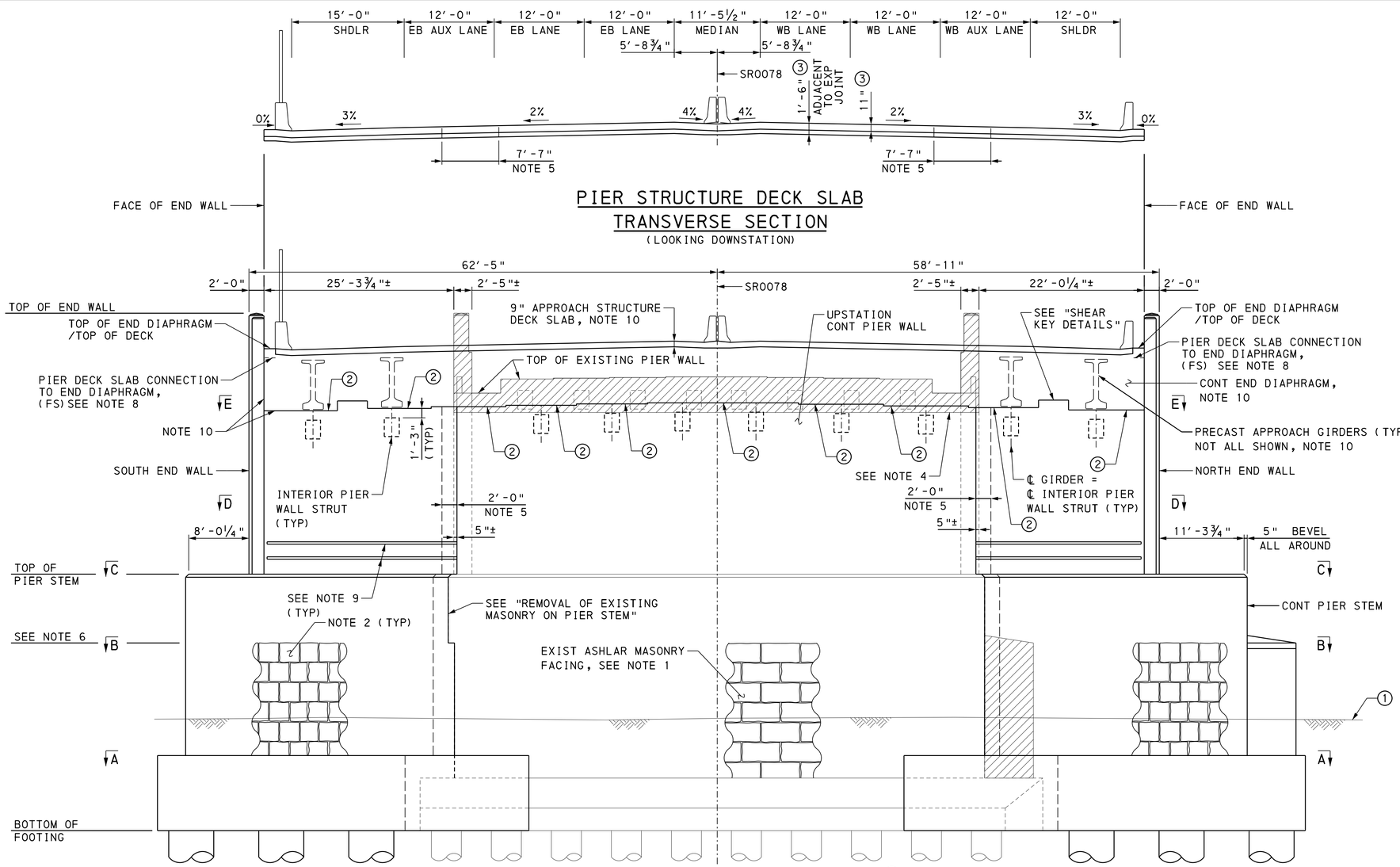



## PIER STRUCTURE DECK SLAB TRANSVERSE SECTION

(LOOKING DOWNSTATION)

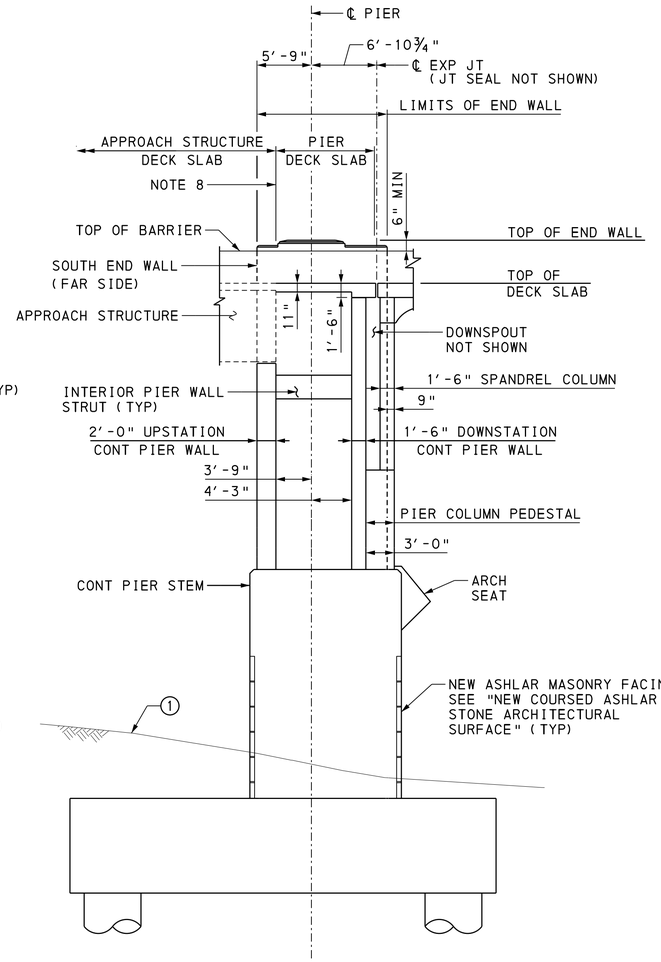



## ELEVATION

(UPSTATION SIDE)

## LEGEND:

CONCRETE REMOVAL




## PIER SECTION

(AWAY FROM OVERHANG DECK, LOOKING SOUTH)

① RECONSTRUCTED APPROXIMATE OG OR FINISHED GRADE

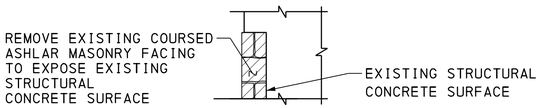
② FINAL ELEVATIONS TO TOP OF PIER WALL AT BOTTOM OF BEARING PADS NOT DRAWN TO SCALE. TOP OF PIER WALL FINAL/FINISHED ELEVATIONS SHALL ACCOMMODATE TRUE HEIGHT OF FURNISHED BEARING PADS. SEE APPROACH STRUCTURE DRAWINGS FOR SPECIFIED PRECAST GIRDER BEARING SEAT/TOP OF BEARING PAD ELEVATIONS.

③ INCLUDES ½" INTEGRAL CONC WEARING SURFACE.

## NOTES:

1. REMOVE EXISTING COURSED ASHLAR MASONRY FACING FROM SURFACES THAT WILL BE INCORPORATED WITHIN LIMITS OF NEW CONCRETE.
2. NEW SQUARE COURSED ASHLAR STONE ARCHITECTURAL SURFACE.
3. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
4. FOR EXTENT OF EXISTING END WALL AND TRANSVERSE PIER WALL REMOVAL, SEE "PIER 11 - LAYOUT 1" SHEET.
5. TEMPORARY ISOLATION GAP SHOWN FOR PIER DECK SLAB, PIER WALLS, PIER STEM AND FOOTING. DIMENSION OF ISOLATION GAP AS SHOWN.
6. TOP OF NEW COURSED ASHLAR MASONRY FACING TO MATCH EXISTING.
7. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
8. MONOLITHIC CONNECTION BETWEEN PIER DECK SLAB AND APPROACH STRUCTURE AND END DIAPHRAGM.
9. 1 1/2" x 3 3/4" RUSTICATION ON FACE OF NEW PIER WALL, NOT ALL SHOWN. LOCATION, TOTAL NUMBER, AND SPACING OF RUSTICATION TO MATCH RUSTICATIONS ON EXISTING PIER WALL FACE. SEE AS-BUILT PLANS FOR DETAILS OF RUSTICATION.
10. SEE APPROACH STRUCTURE PLANS FOR DETAILS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.




## REMOVAL OF EXISTING MASONRY ON PIER STEM

2 0 4 8 FEET

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

DES: CL | DWN: TK | CKD: SC

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 LAYOUT - 2

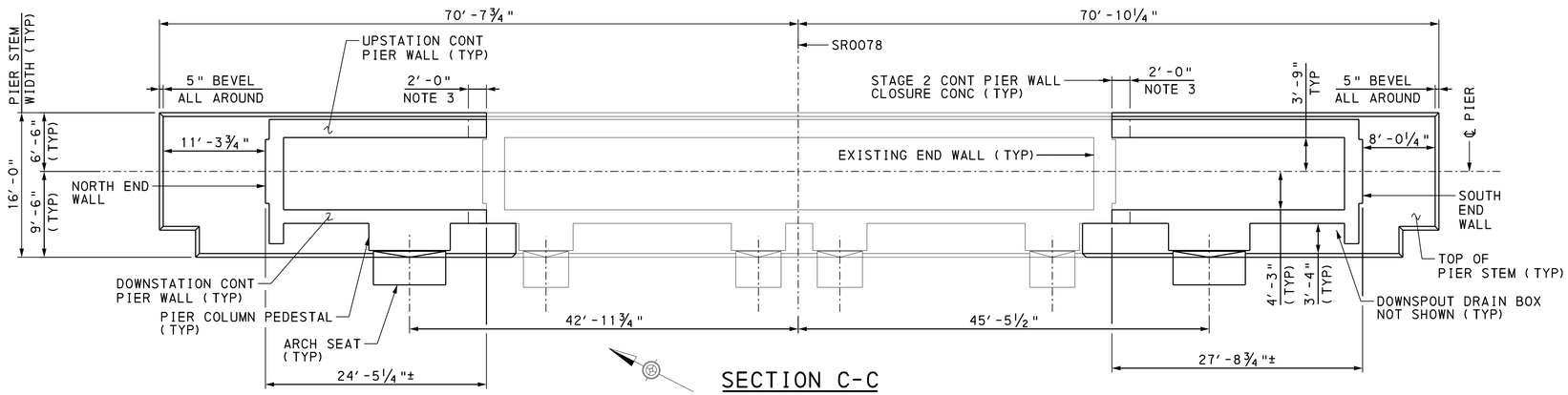
RECOMMENDED 08/30/2019

SHEET 182 OF 295

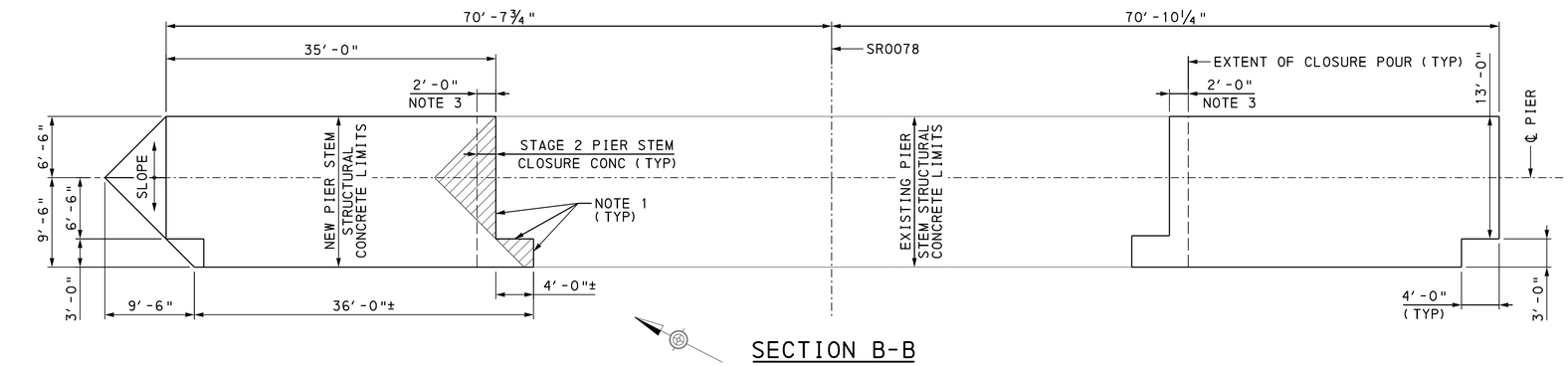
S-38014

FILENAME: E02657-S38014-BR-DT-302.dgn
OPERATOR: TYLIPW011CS01$

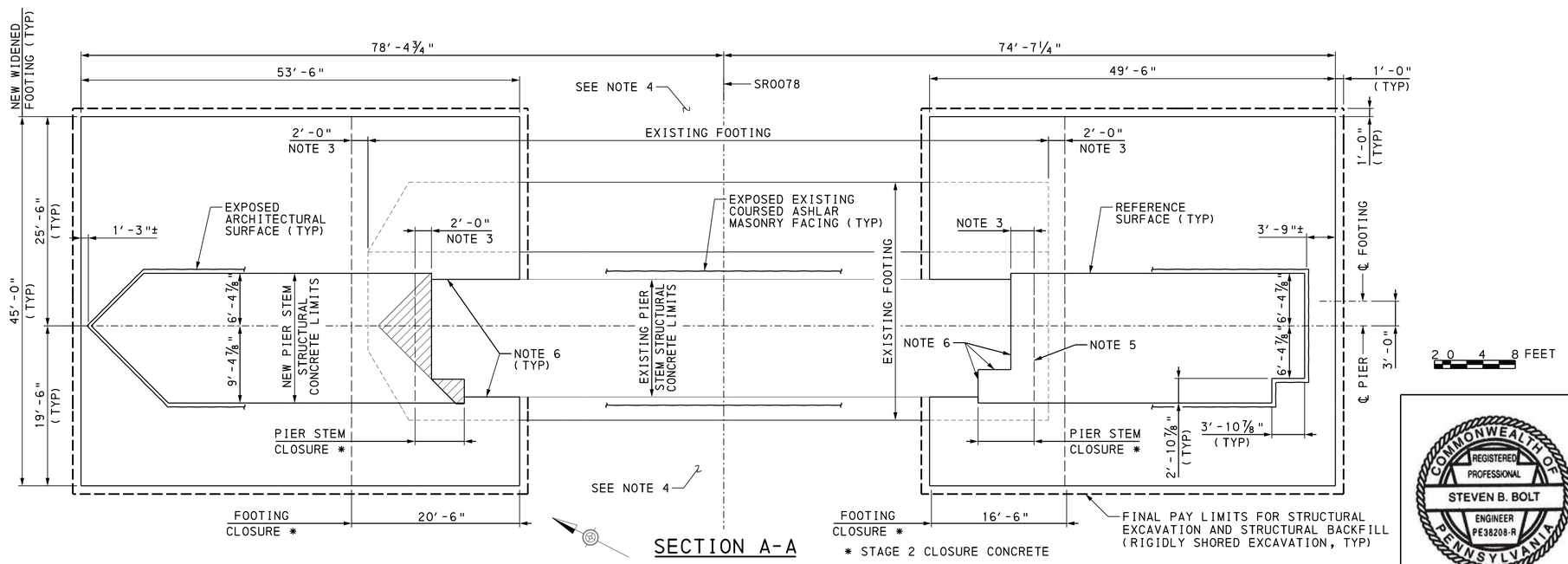
PLOTTED: 8/26/2019 4:46:20 PM




## SECTION C-C




## SECTION B-B




## SECTION A-A

## LEGEND:

CONCRETE REMOVAL

## NOTES:

1. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
2. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
3. TEMPORARY ISOLATION GAP SHOWN FOR FOOTING, PIER STEM AND PIER WALLS. DIMENSION OF ISOLATION GAP AS SHOWN.
4. SOIL ON UPSTATION AND DOWNSTATION OF EXISTING PILE FOUNDATION SHALL NOT BE SUBJECTED TO GROUND DISPLACEMENT THAT CAN CAUSE UNDERMINING OF EXISTING FOUNDATION DURING EXCAVATION.
5. EXTENT OF CLOSURE POUR SHALL MATCH EXTENT OF CLOSURE POUR SHOWN ON SECTION B-B.
6. EXISTING STRUCTURAL CONCRETE SURFACE AFTER REMOVING EXISTING COURSE ASHLAR MASONRY STONE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

2 0 4 8 FEET

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 LAYOUT - 3

RECOMMENDED 08/30/2019

SHEET 183 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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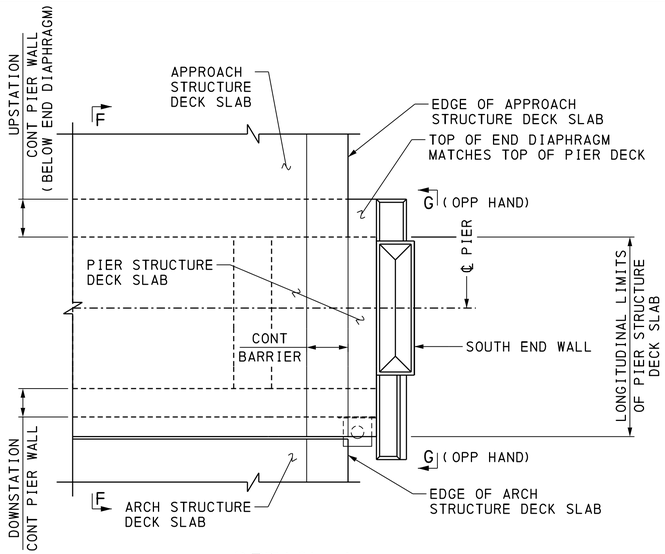
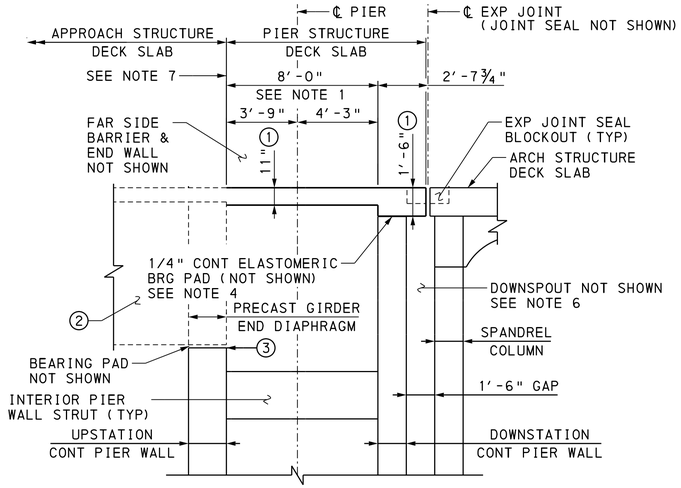



## DETAIL A

1 0 2 4 FEET




① INCLUDES 1/2" INTEGRAL CONC WEARING SURFACE

② APPROACH STRUCTURE GIRDER SHOWN SCHEMATICALLY

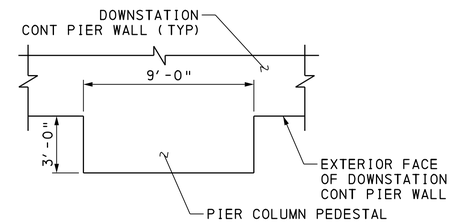
③ TOP OF PIER WALL FINAL/FINISHED ELEVATION MATCHES BOTTOM OF APPROACH GIRDER BEARING ELEVATION

## SECTION F-F

1 0 2 4 FEET

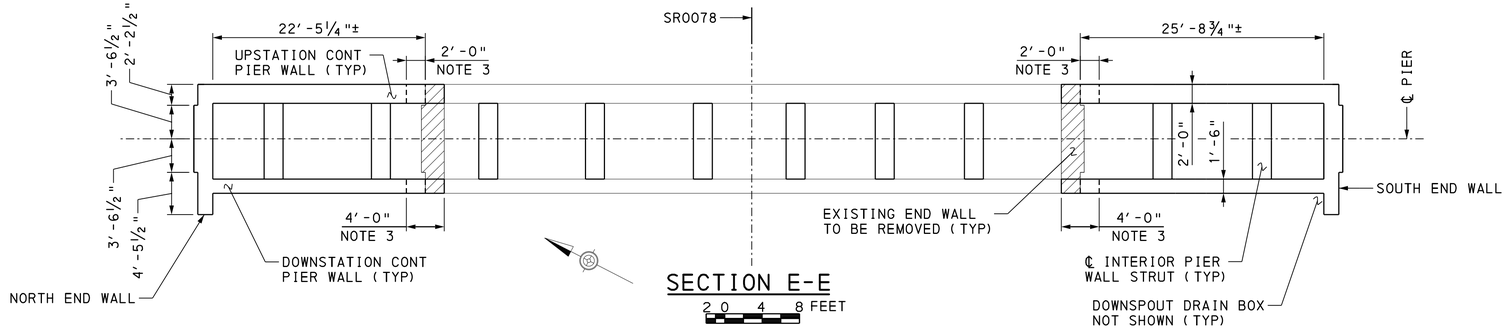
## LEGEND:

CONCRETE REMOVAL



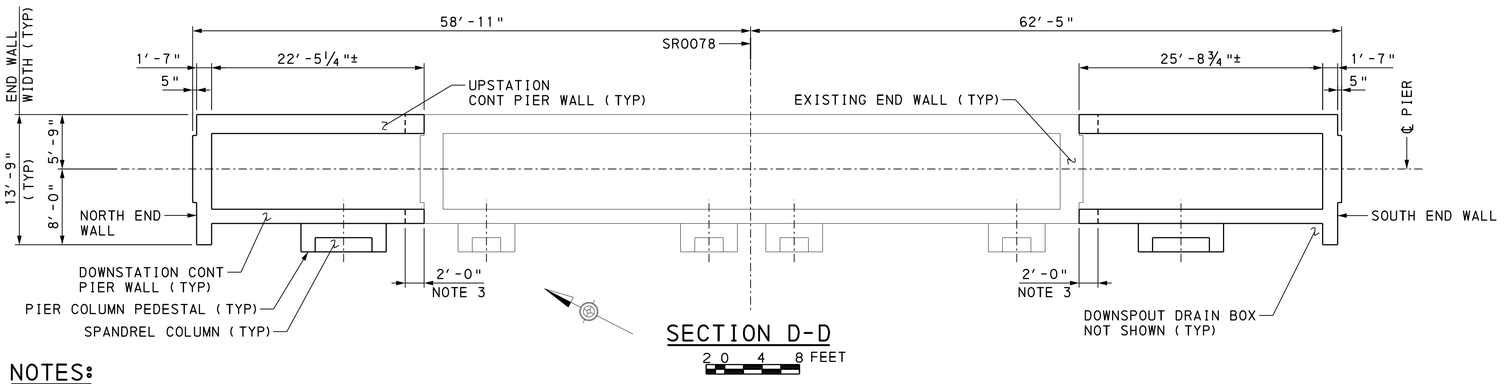

## SECTION H-H

1 0 2 4 FEET




## SECTION E-E

2 0 4 8 FEET




## SECTION D-D

2 0 4 8 FEET

## NOTES:

1. LIMITS OF 11" THICK PRISMATIC PIER STRUCTURE DECK SLAB.
2. ROUGHEN ALL EXISTING CONCRETE SURFACES THAT WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" MIN AMPLITUDE.
3. TEMPORARY ISOLATION GAP SHOWN FOR PIER WALLS, DIMENSIONS FOR ISOLATION GAPS AS SHOWN. ISOLATION GAP TO BE FILLED WITH CONCRETE.
4. TOP PIER WALL FINISHED ELEVATIONS SHALL ACCOMMODATE 1/4" CONTINUOUS ELASTOMERIC PAD AND CONFORM TO THE BOTTOM OF THE PIER STRUCTURE DECK SLAB TRANSVERSE CROSS SLOPE GEOMETRY.
5. CENTERLINE NEW PIER LOCATED TO MATCH CENTERLINE EXISTING PIER.
6. REFER TO PENNDOT STANDARD PLANS BC-751M FOR BRIDGE DRAINAGE DOWNSPOUTING DETAILS/DRAIN BOX DETAIL.
7. MONOLITHIC CONNECTION BETWEEN PIER DECK SLAB AND APPROACH STRUCTURE AND END DIAPHRAGM.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING

PIER 11 LAYOUT - 4

RECOMMENDED 08/30/2019

SHEET 184 OF 295

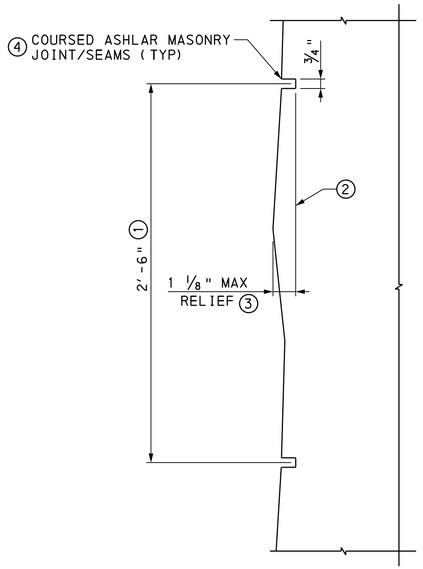
S-38014

FILENAME: E02657-S38014-BR-DT-304.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:49:10 PM

## NOTES:

1. AESTHETIC RECESSED SURFACE TO MATCH EXISTING. SEE AS-BUILT PLANS FOR DETAILS NOT SHOWN.




① EXPOSED CONCRETE GREY 30"x30" SQUARE COURSED ASHLAR STONE ARCHITECTURAL SURFACE. SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.

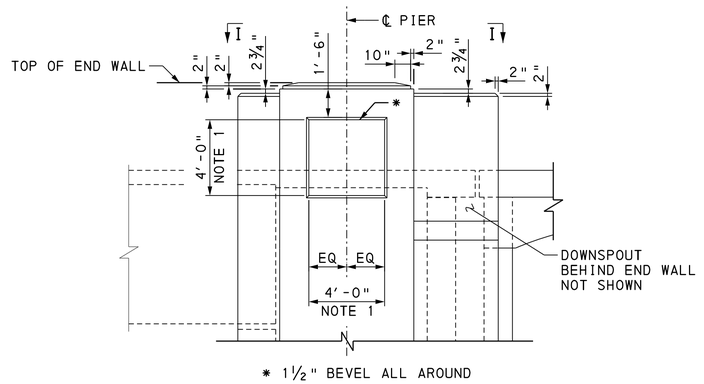
② REFERENCE SURFACE FOR CONCRETE DIMENSIONING AND CONCRETE COVER TO REINFORCING BARS.

③ FORMLINER SPACE MEASURED BETWEEN THE LOWEST AND HIGHEST POINT ON THE EXPOSED SURFACE.

④ COURSED ASHLAR MASONRY JOINTS SHALL CONSIST OF STRAIGHT VERTICAL AND HORIZONTAL SEAMS.

## NEW COURSED ASHLAR STONE ARCHITECTURAL SURFACE

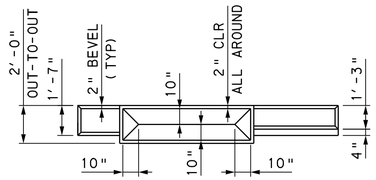
NOT TO SCALE




* 1½" BEVEL ALL AROUND

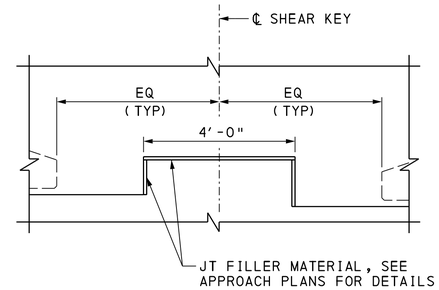
## SECTION G-G

1 0 2 4 FEET




## SECTION I-I

1 0 2 4 FEET




## SHEAR KEY DETAILS

.5 0 1 2 FEET

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 LAYOUT - 5

RECOMMENDED 08/30/2019

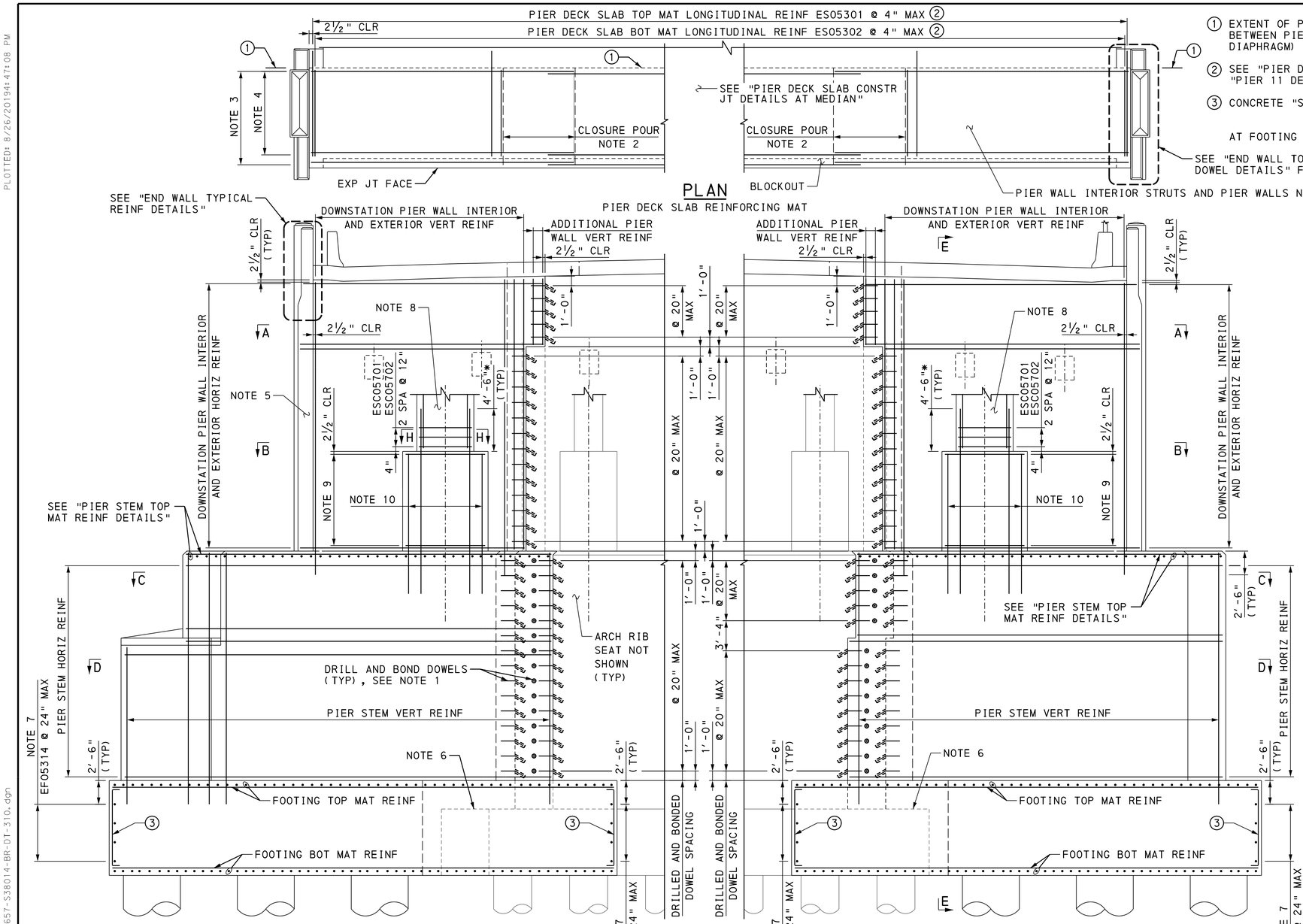
SHEET 185 OF 295

S-38014

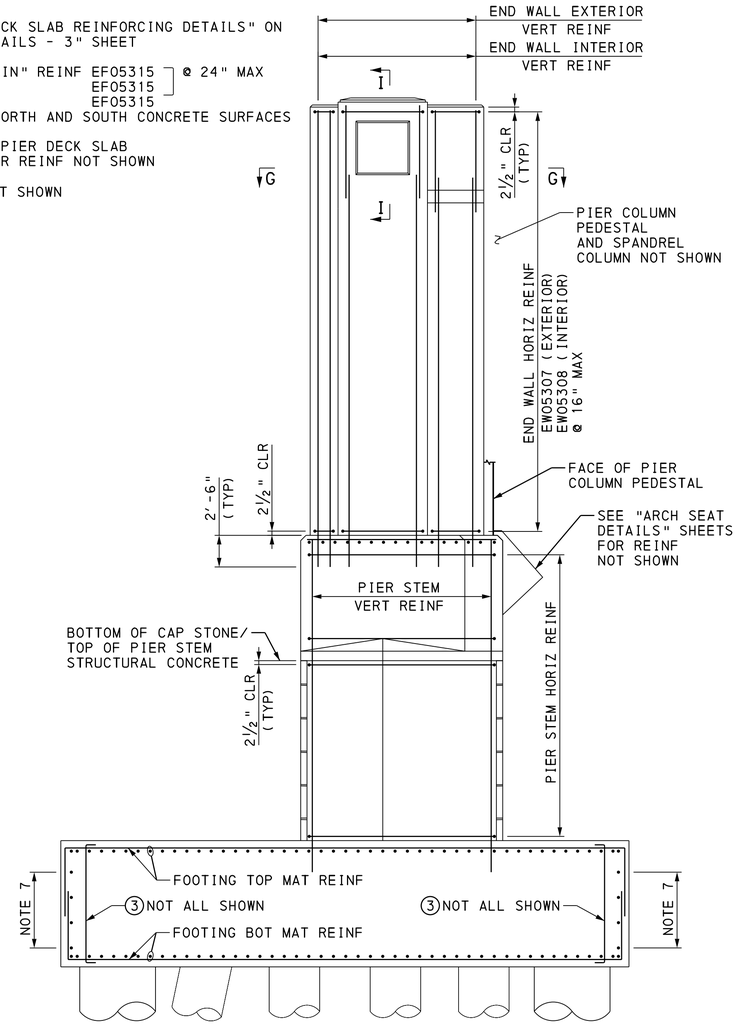
DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-305.dgn

PLOTTED: 8/26/2019 4:47:08 PM




1. EXTENT OF PIER DECK SLAB CONCRETE ( INTERFACE BETWEEN PIER DECK SLAB AND APPROACH DECK/END DIAPHRAGM)
2. SEE "PIER DECK SLAB REINFORCING DETAILS" ON "PIER 11 DETAILS - 3" SHEET
3. CONCRETE "SKIN" REINF EF05315, EF05315, EF05315 @ 24" MAX AT FOOTING NORTH AND SOUTH CONCRETE SURFACES




## END VIEW

NORTH END WALL SHOWN, SOUTH END WALL SIMILAR (OPPOSITE HAND)

## NOTES:

1. SEE "DRILL AND BOND DOWELS DETAILS".
2. SEE "PIER DECK SLAB TEMPORARY ISOLATION GAP CLOSURE DETAILS".
3. PIER DECK SLAB BOTTOM MAT TRANSVERSE REINFORCEMENT.
4. PIER DECK SLAB TOP MAT TRANSVERSE REINFORCEMENT.
5. SEE "END VIEW" FOR REINFORCEMENT NOT SHOWN.
6. REINFORCING DETAILS CONNECTING NEW AND EXISTING FOOTINGS NOT SHOWN, SEE OTHER SHEETS.
7. FOOTING SIDE FACE HORIZONTAL REINFORCEMENT.
8. SPANDREL COLUMN, SEE SPANDREL COLUMN SHEETS.
9. PIER COLUMN PEDESTAL HORIZONTAL REINFORCEMENT, EP05551 @ 16" MAX.
10. PIER COLUMN PEDESTAL VERTICAL REINFORCEMENT, EP09551, EP09552 @ 6" MAX.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|

REVISIONS

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COMMONWEALTH OF REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R PENNSYLVANIA

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 DETAILS - 1

RECOMMENDED 08/30/2019

SHEET 186 OF 295

S-38014

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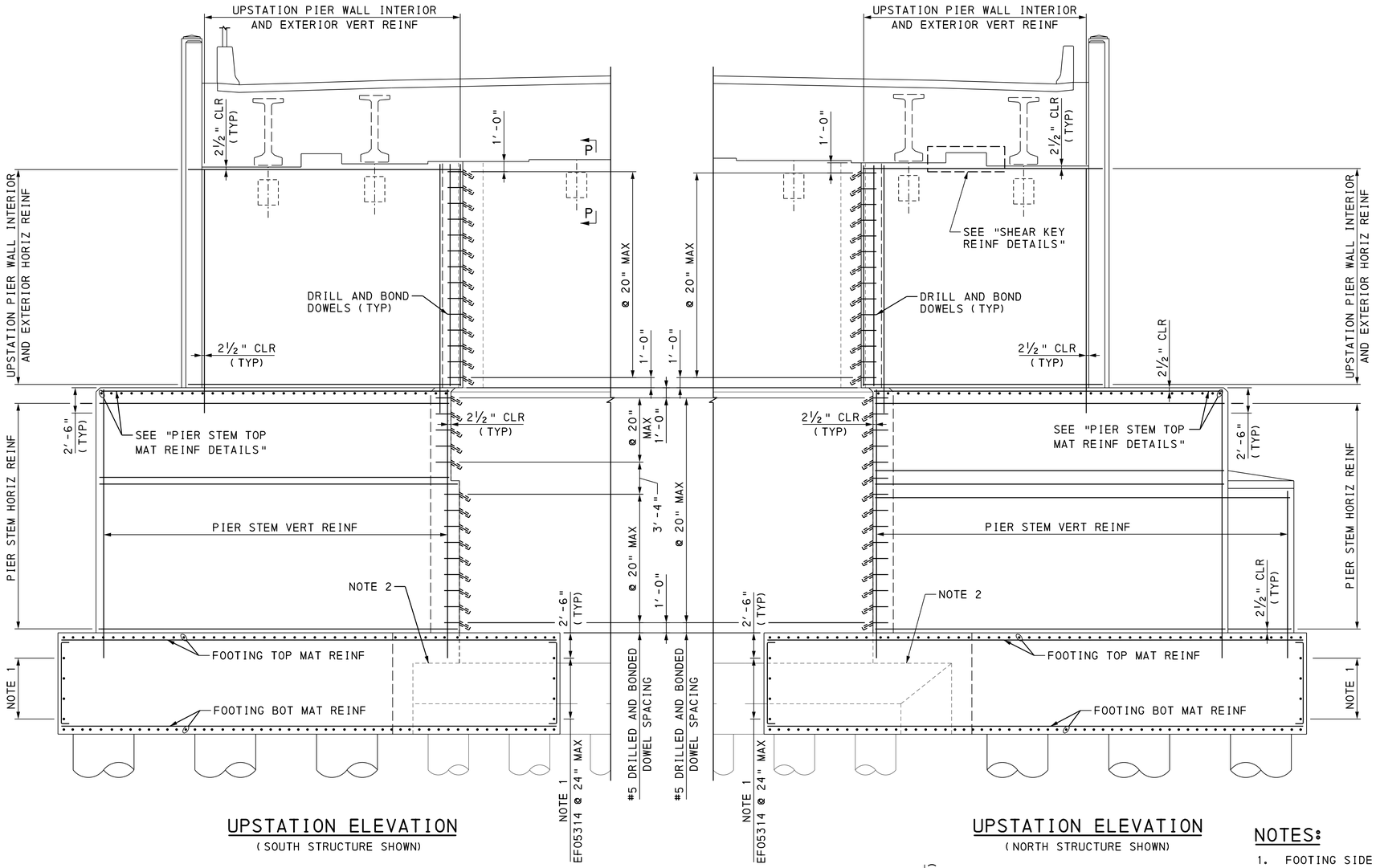
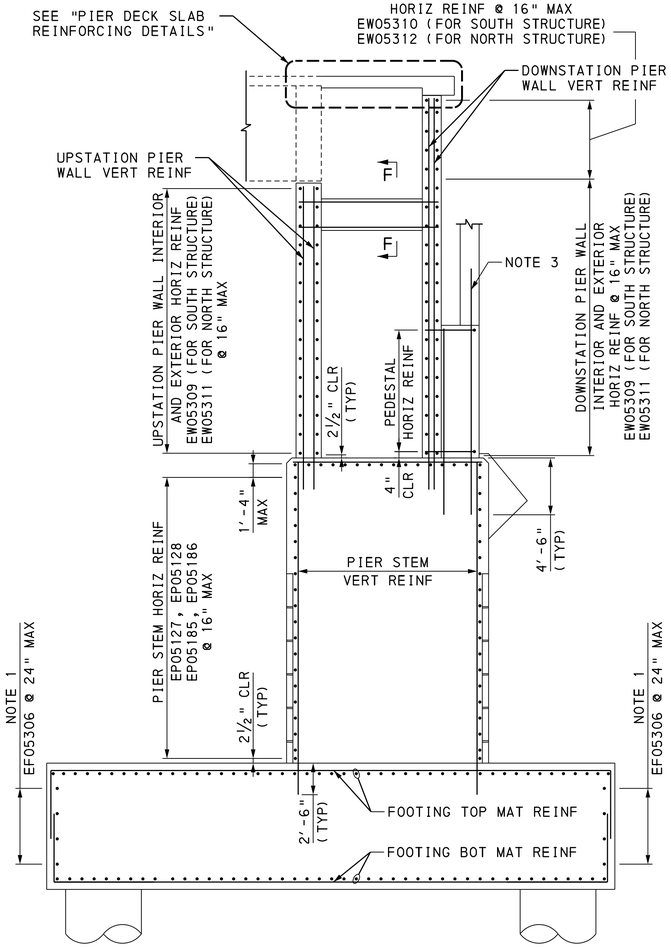



## UPSTATION ELEVATION
(SOUTH STRUCTURE SHOWN)



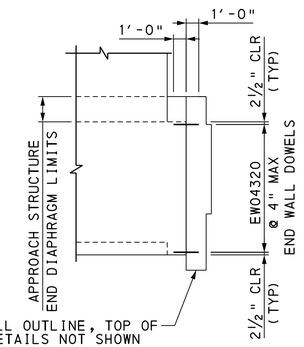

## UPSTATION ELEVATION
(NORTH STRUCTURE SHOWN)



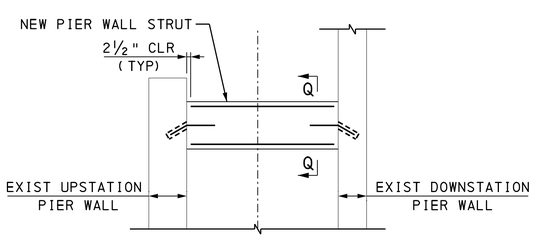

## SECTION E-E

## NOTES:

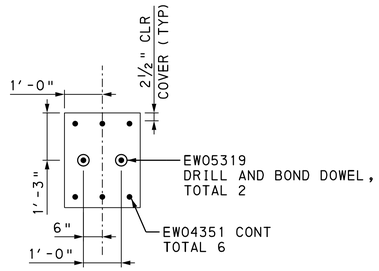
1. FOOTING SIDE FACE HORIZONTAL REINFORCEMENT.
2. REINFORCING DETAILS CONNECTING NEW AND EXISTING FOOTINGS NOT SHOWN, SEE OTHER SHEETS.
3. PIER COLUMN PEDESTAL VERTICAL REINFORCEMENT, NOT ALL SHOWN.




## END WALL TO PIER DECK SLAB DOWEL DETAILS
NOT TO SCALE




## SECTION P-P
(RECONSTRUCTED EXISTING INTERIOR PIER WALL STRUT)




## SECTION Q-Q

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

1.5 0 3 6 FEET

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 DETAILS - 2

RECOMMENDED 08/30/2019

SHEET 187 OF 295

S-38014

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-DT-311.dgn

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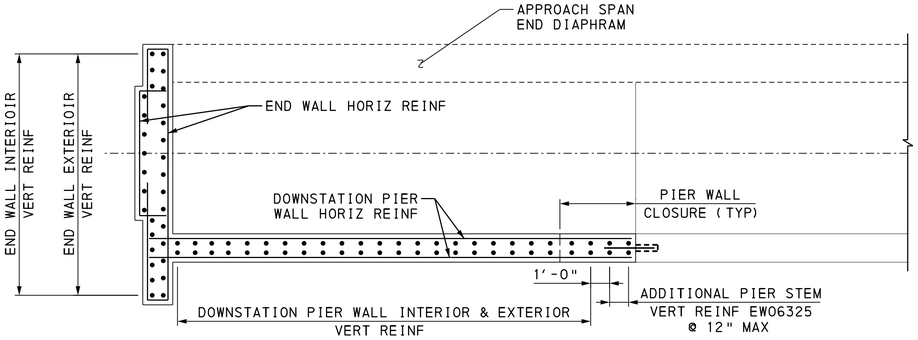
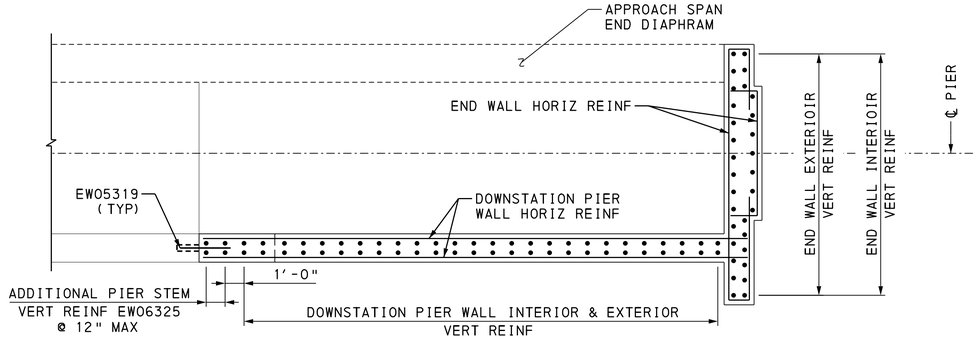
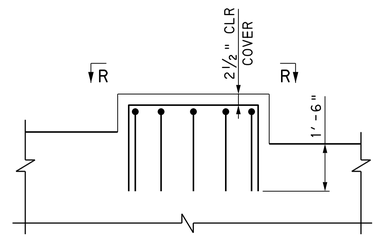


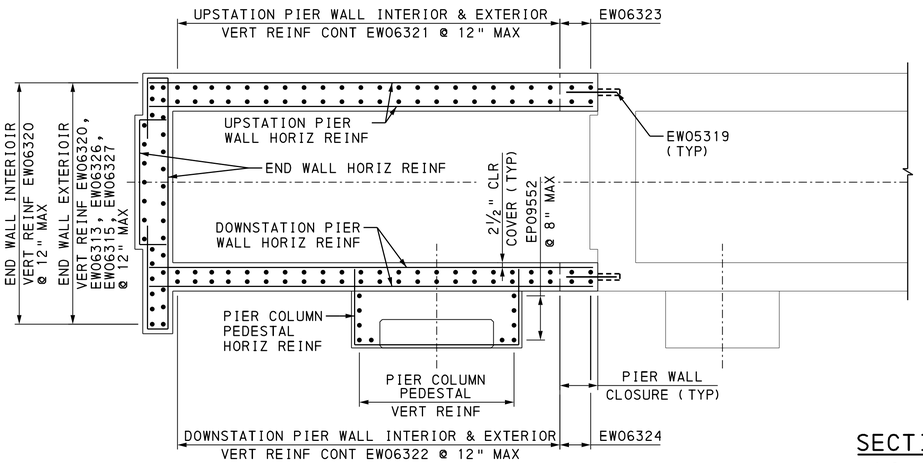

## SECTION A-A

1 0 2 4 FEET



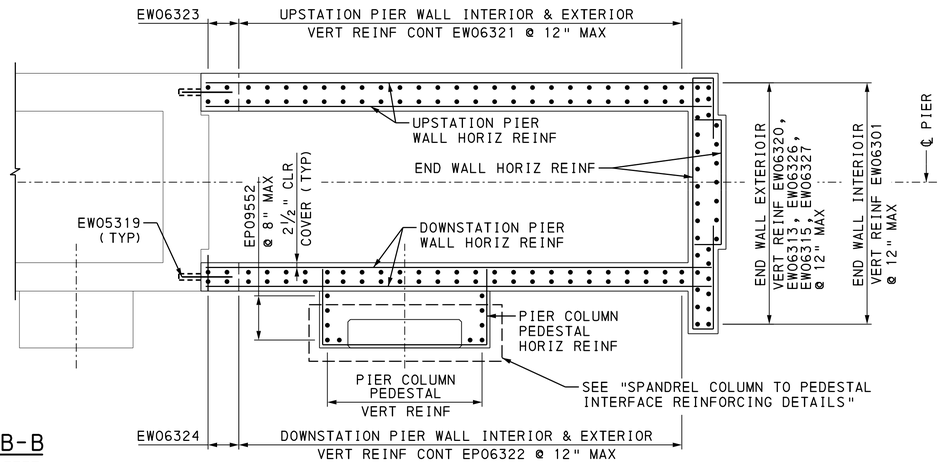

## SHEAR KEY REINFORCING DETAILS

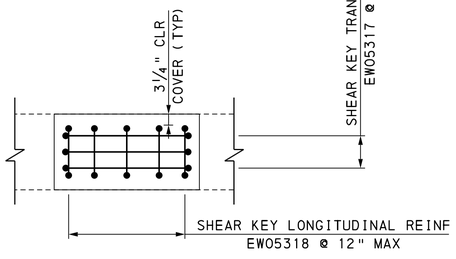
.5 0 1 2 FEET




## SECTION B-B

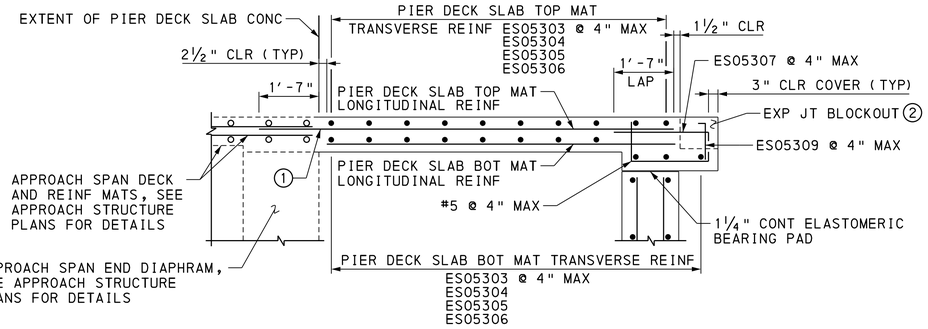
1 0 2 4 FEET



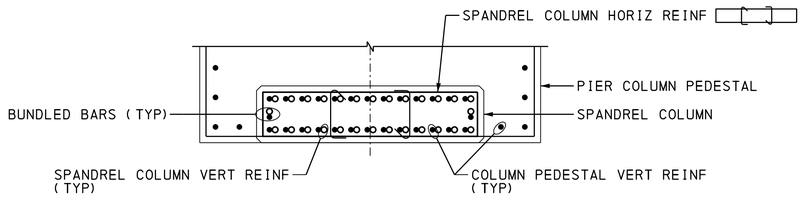

## SECTION R-R

.5 0 1 2 FEET




## PIER DECK SLAB REINFORCING DETAILS

.5 0 1 2 FEET




## SECTION H-H
## SPANDREL COLUMN TO PEDESTAL INTERFACE REINFORCING DETAILS

.5 0 1 2 FEET

(1) FORMSAVER COUPLER INSERT MAY BE USED AT LOCATIONS WHERE APPROACH GIRDERS ARE POSITIONED.

(2) SEE "EXPANSION JOINT SEAL DETAILS" SHEETS.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIER 11 DETAILS - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 188 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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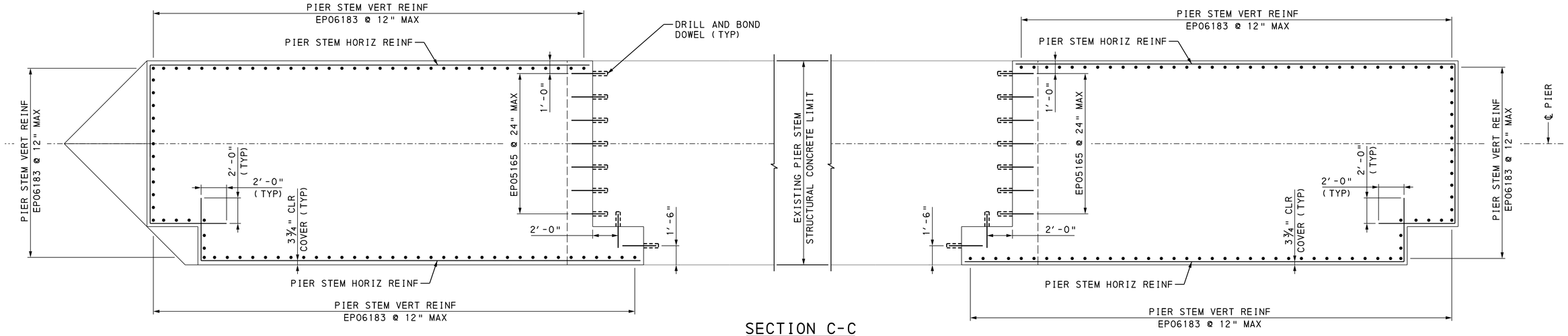
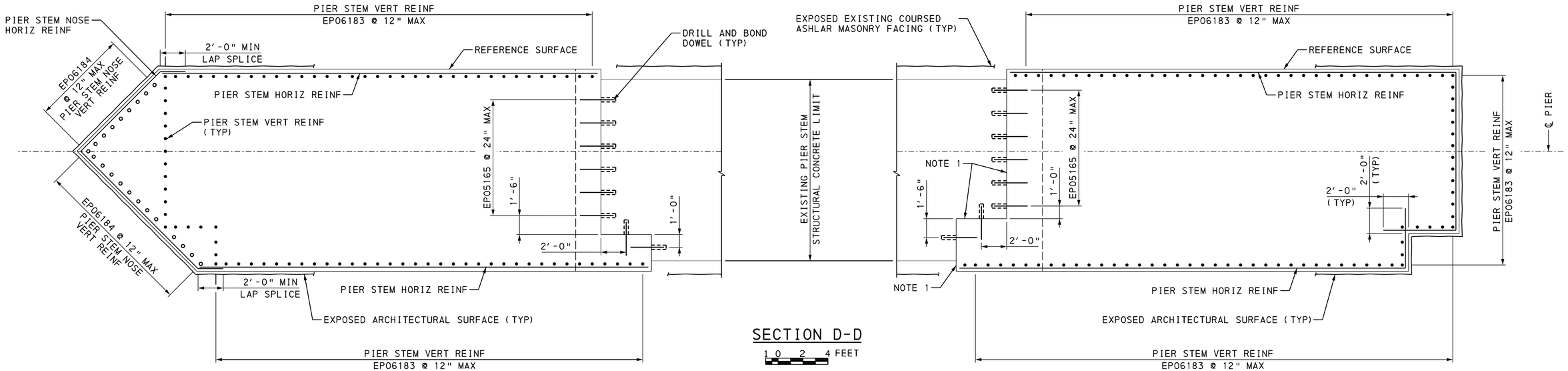



## SECTION C-C

1 0 2 4 FEET




## SECTION D-D

1 0 2 4 FEET

## NOTES:

1. EXPOSED STRUCTURAL CONCRETE SURFACE AFTER REMOVAL OF EXISTING COURSED ASHLAR MASONRY FACING.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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| REVISIONS | | | | | |

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 DETAILS - 4

RECOMMENDED 08/30/2019

SHEET 189 OF 295

S-38014

OPERATOR: TYLIPWO1ICSO1$ FILENAME: E02657-S38014-BR-DT-313.dgn

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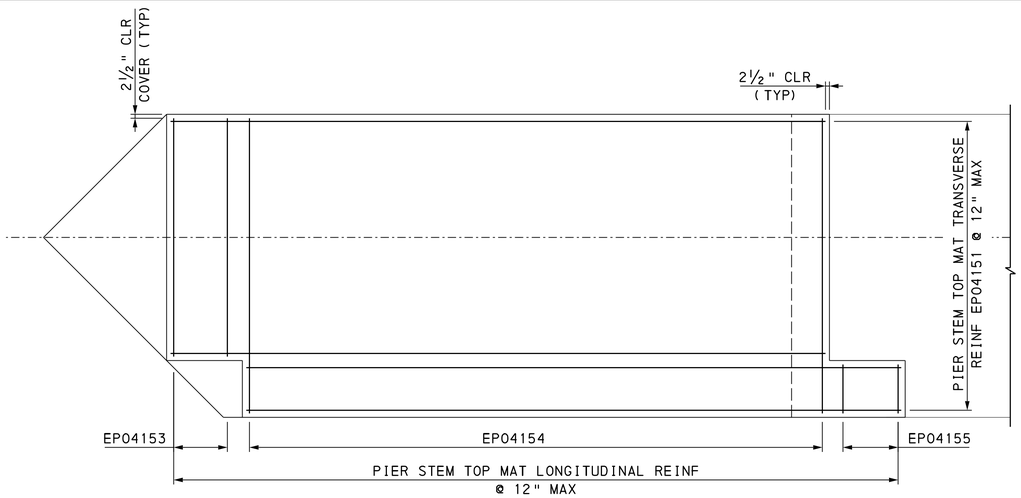
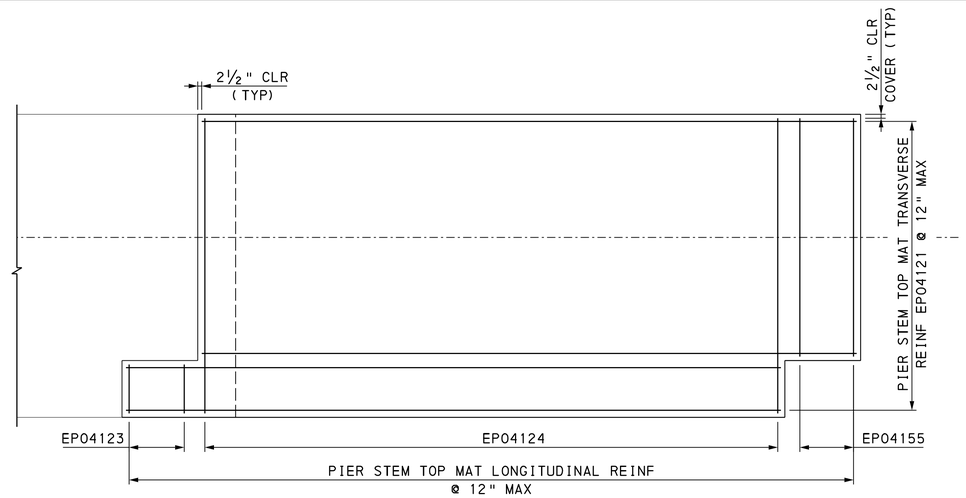



## PIER STEM TOP MAT REINFORCING DETAILS

(NORTH STRUCTURE SHOWN)

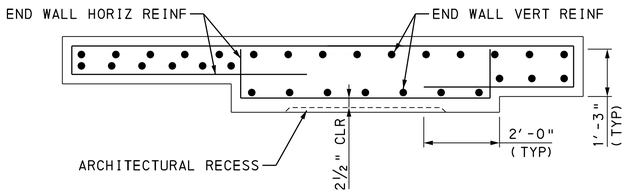
1 0 2 4 FEET




## PIER STEM TOP MAT REINFORCING DETAILS

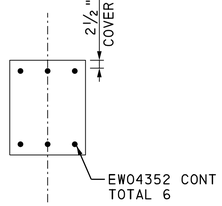
(SOUTH STRUCTURE SHOWN)

1 0 2 4 FEET




## SECTION G-G

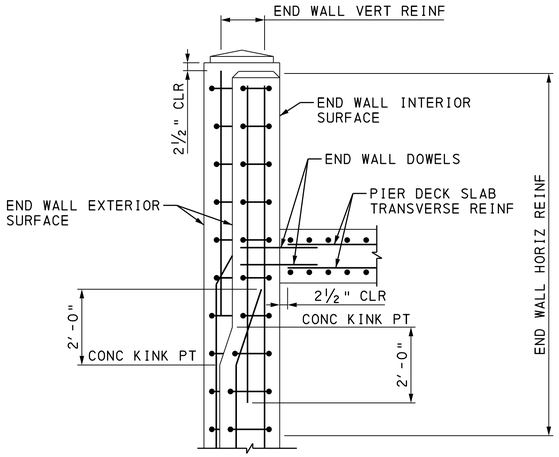
.5 0 1 2 FEET




## SECTION F-F

(NEW INTERIOR PIER WALL STRUT)

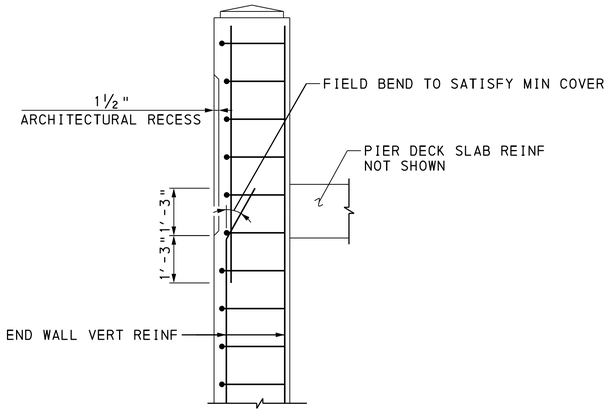
.5 0 1 2 FEET




## END WALL TYPICAL REINFORCING DETAILS

(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR OPPOSITE HAND)

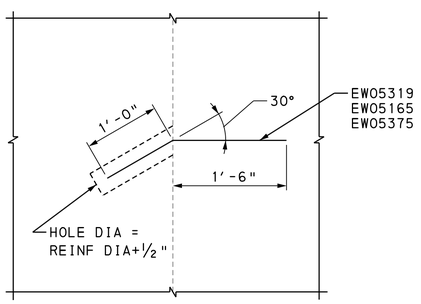
.5 0 1 2 FEET




## SECTION I-I

(NORTH STRUCTURE SHOWN, SOUTH STRUCTURE SIMILAR OPPOSITE HAND)

.5 0 1 2 FEET




## DRILL AND BOND DOWEL DETAILS

NTS

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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

# COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING

PIER 11 DETAILS - 5

RECOMMENDED 08/30/2019

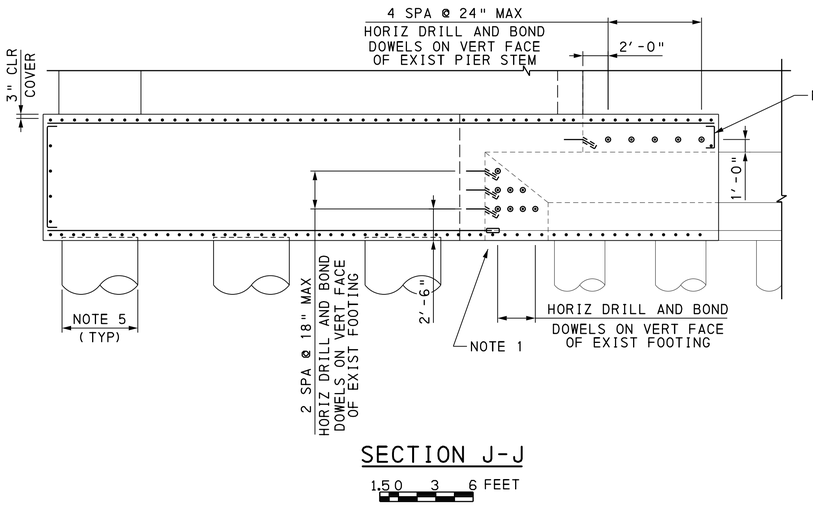
SHEET 190 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

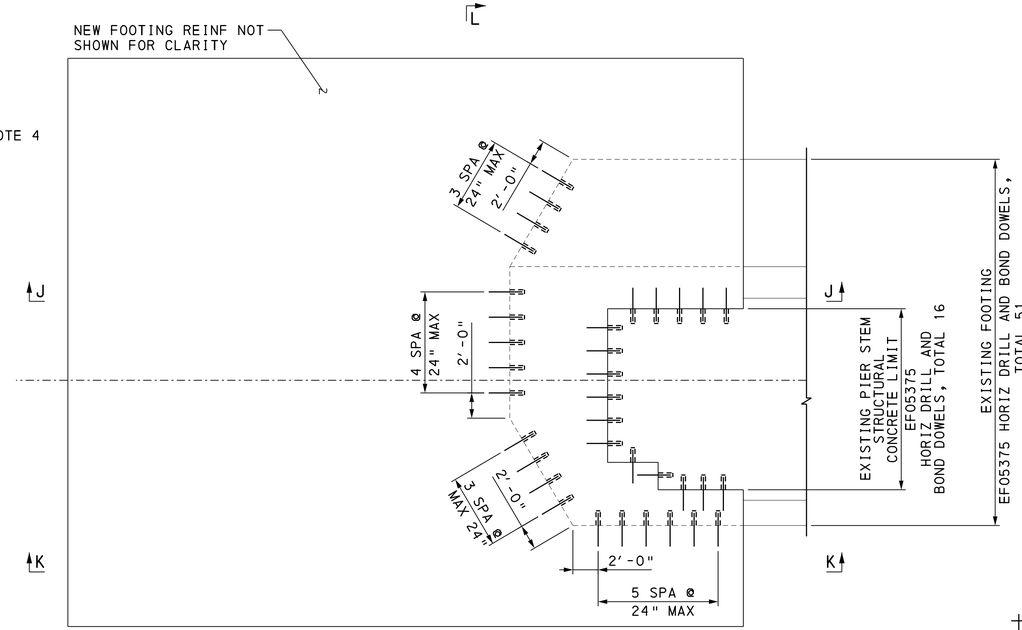
OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-314.dgn

PLOTTED: 8/26/2019 4:47:19 PM




## SECTION J-J

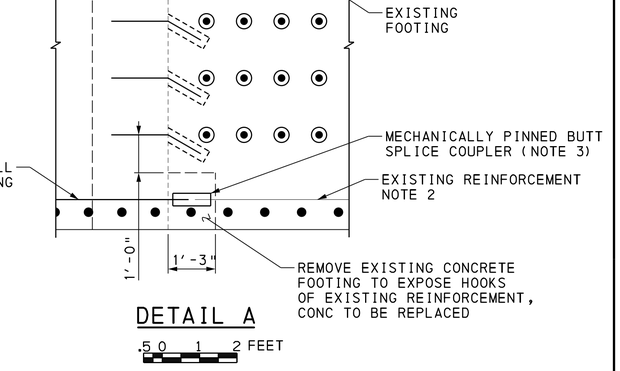
1.5 0 3 6 FEET




## PLAN

HORIZ DRILL AND BOND DOWELS ON NORTH STRUCTURE EXISTING FOOTING AND PIER STEM

1.5 0 3 6 FEET

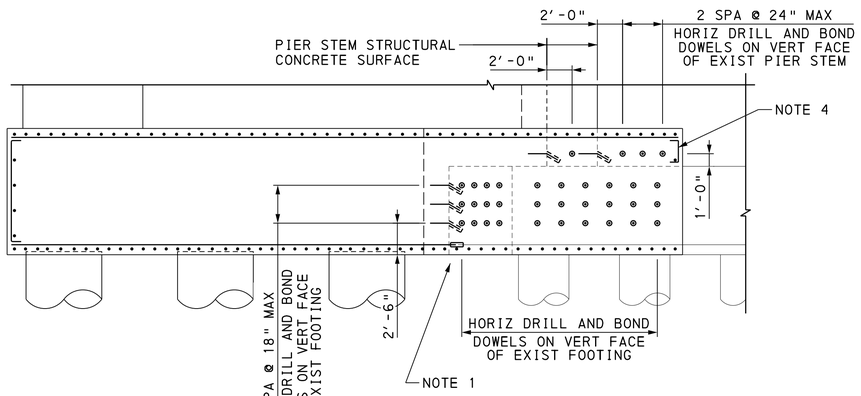



## DETAIL A

.5 0 1 2 FEET

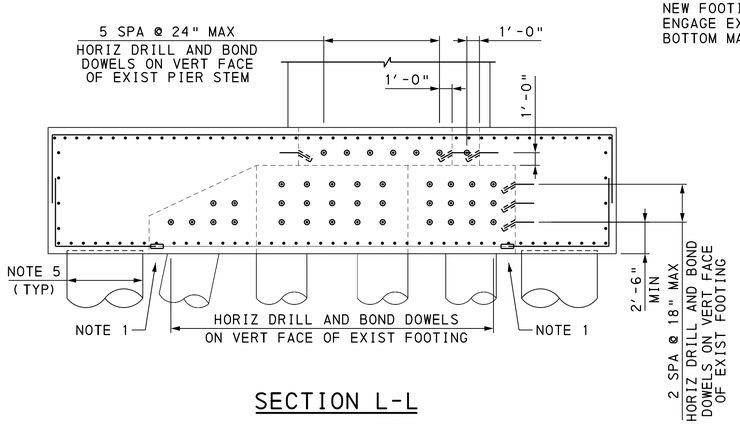
## NOTES:

1. SEE "DETAIL A" FOR BOTTOM MAT REINF SPLICING DETAILS.
2. REMOVE END HOOK OF FOOTING EXISTING BOTTOM MAT REINFORCEMENT TO BE SPLICED WITH NEW FOOTING BOTTOM MAT REINFORCEMENT.
3. MECHANICAL PINNED BUTT SPLICE COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.
4. CONCRETE "SKIN" REINFORCEMENT (FULL HEIGHT VERTICAL LEG OUTSIDE EXISTING FOOTING LIMITS)
5. FOOTING REINFORCEMENT WITHIN DRILLED SHAFT LIMITS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT VERTICAL REINFORCEMENT CAGE.




## SECTION K-K

1.5 0 3 6 FEET




## SECTION L-L

1.5 0 3 6 FEET

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

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# PIER 11 DETAILS - 6

RECOMMENDED 08/30/2019

SHEET 191 OF 295

S-38014

OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-DT-315.dgn

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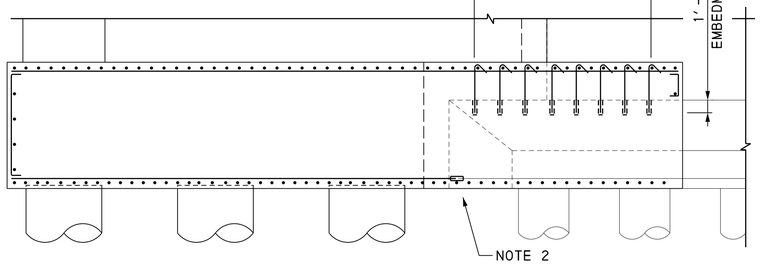
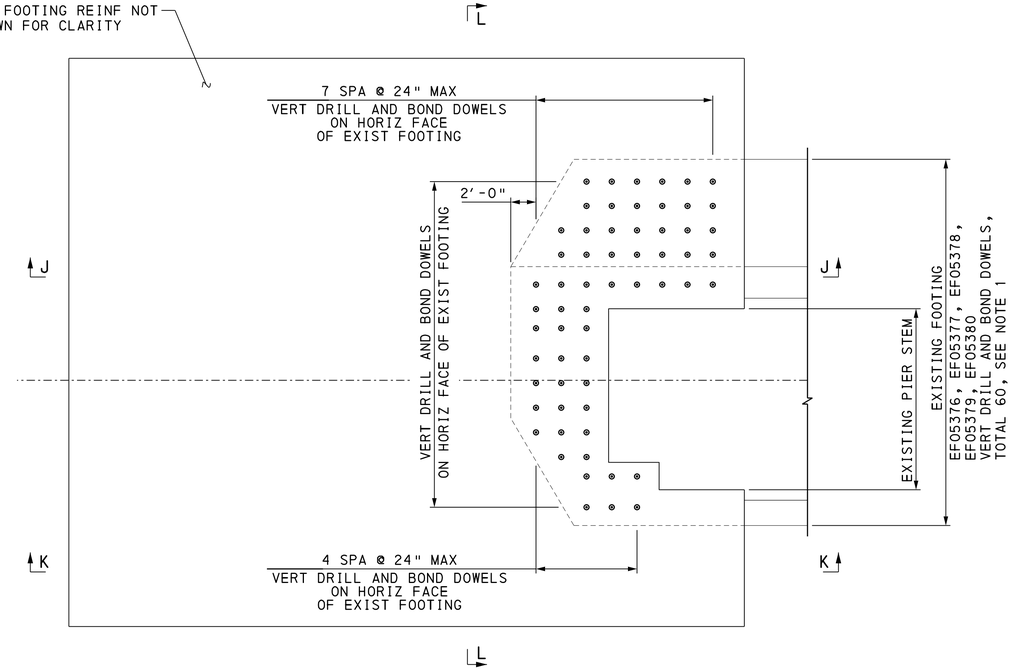



SECTION J-J

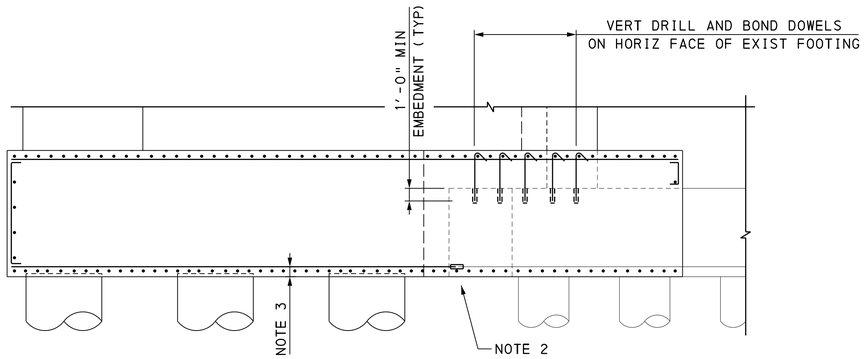



PLAN

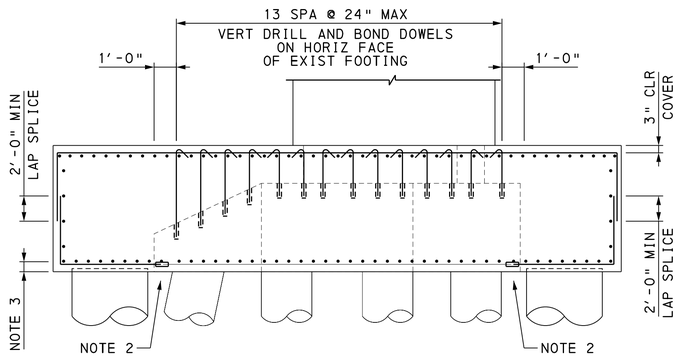
VERT DRILL AND BOND DOWELS ON NORTH STRUCTURE EXISTING FOOTING

## NOTES:

1. VERTICAL DRILL AND BOND DOWEL HOOKS SHALL ENGAGE TOP MAT REINFORCEMENT.
2. SEE "DETAIL A" ON "PIER 11 REINF DETAILS - 6" SHEET FOR BOTTOM MAT REINF SPLICING DETAILS.
3. FOOTING BOTTOM MAT REINF SHALL BE LOCATED TO MATCH EXISTING FOOTING BOTTOM MAT REINF.




SECTION K-K




SECTION L-L

1.5 0 3 6 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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PE38208-R

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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 DETAILS - 7

RECOMMENDED 08/30/2019

SHEET 192 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-DT-316.dgn

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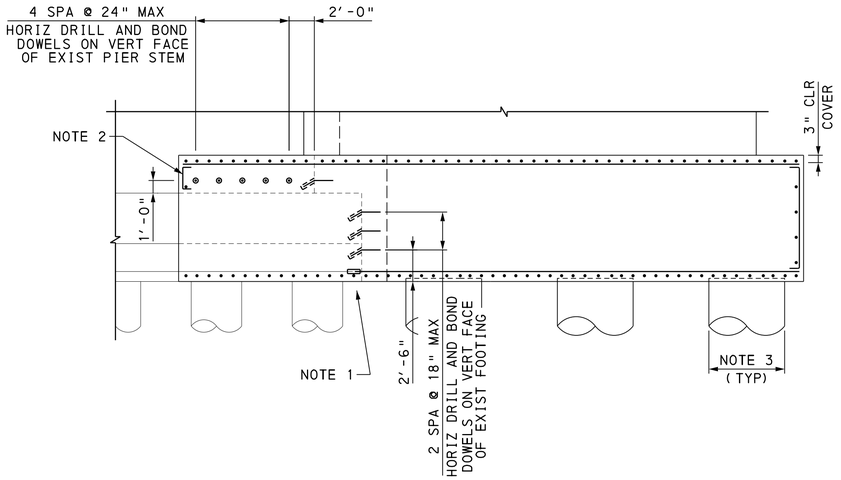
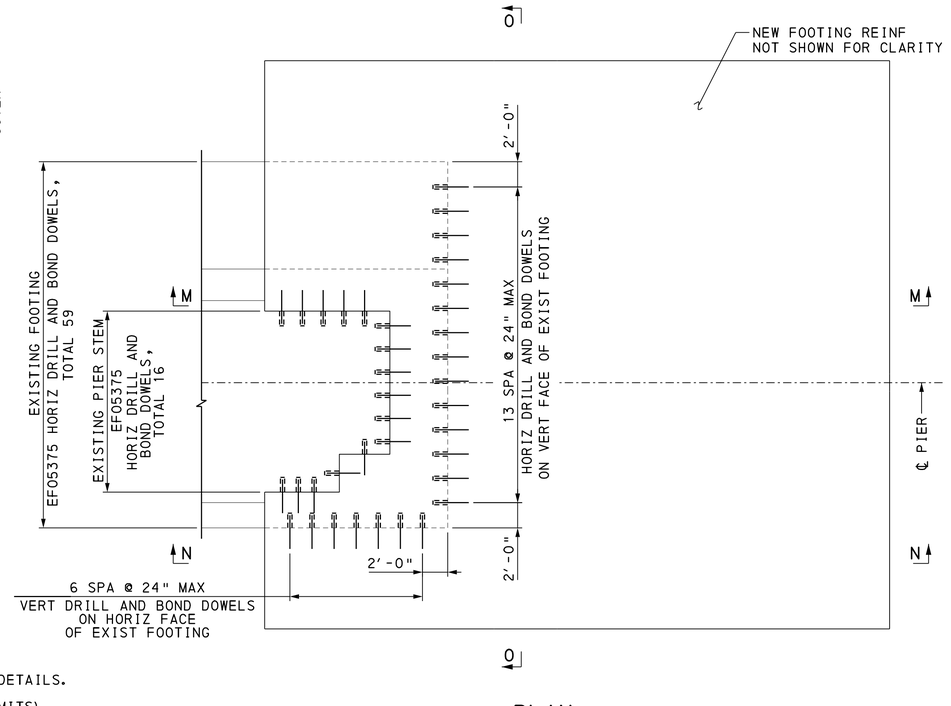



SECTION M-M

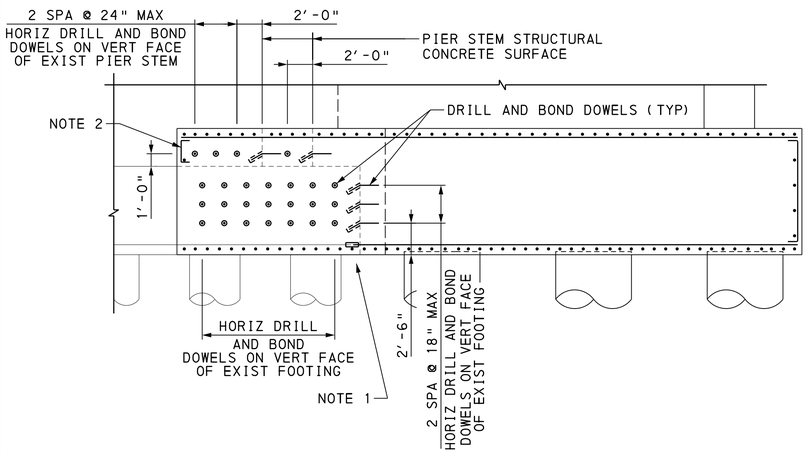



PLAN

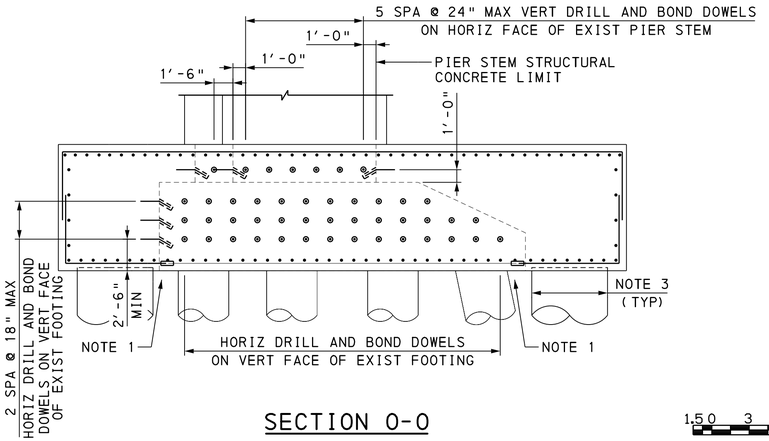
HORIZ DRILL AND BOND DOWELS ON SOUTH STRUCTURE EXISTING FOOTING AND PIER STEM

## NOTES:

1. SEE "DETAIL A" ON " PIER 11 REINF DETAILS - 6" SHEET FOR BOTTOM MAT REINF SPLICING DETAILS.
2. CONCRETE "SKIN" REINFORCEMENT (FULL HEIGHT VERTICAL LEG OUTSIDE EXISTING FOOTING LIMITS)
3. FOOTING REINFORCEMENT WITHIN DRILLED SHAFT LIMITS SHALL BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT VERTICAL REINFORCEMENT CAGE.




SECTION N-N




SECTION O-O

1.5 0 3 6 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

| Mark | Description | By | Chk'd. | Recm'd. | Date |
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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 DETAILS - 8

RECOMMENDED 08/30/2019

SHEET 193 OF 295

S-38014

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-317.dgn

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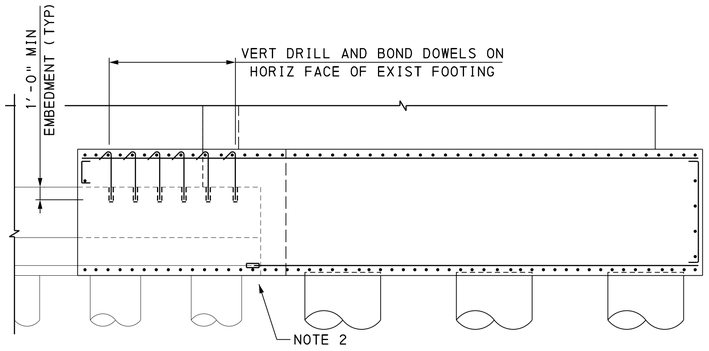
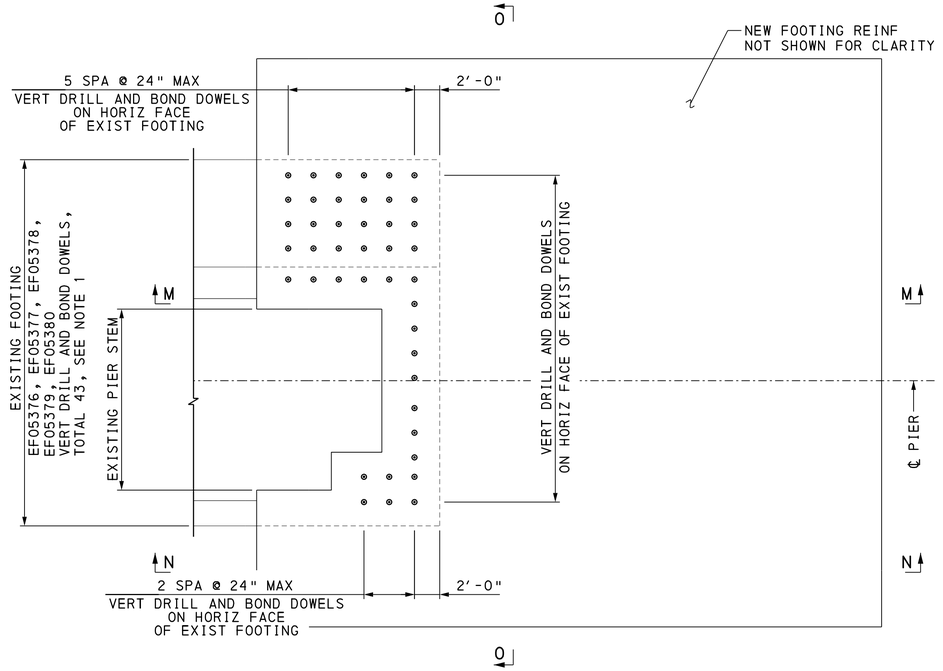



SECTION M-M

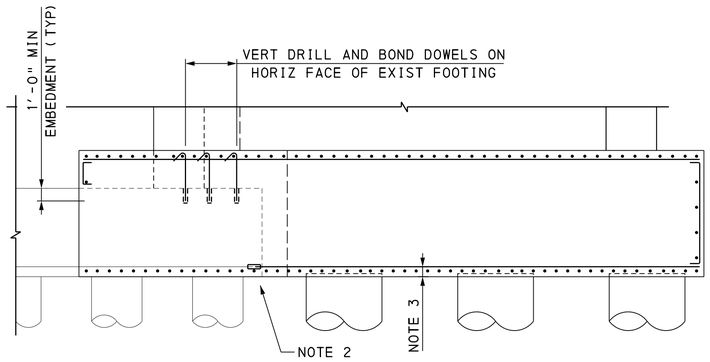



PLAN

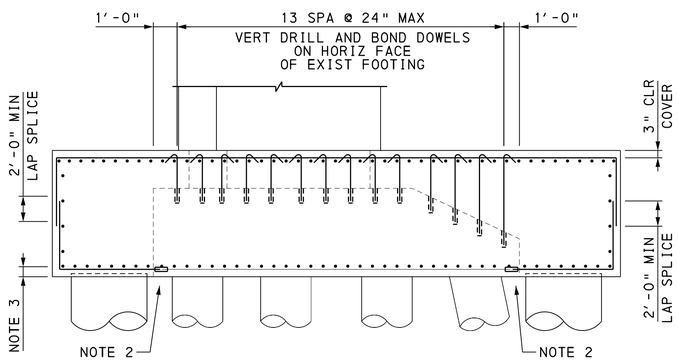
VERT DRILL AND BOND DOWELS ON SOUTH STRUCTURE EXISTING FOOTING

## NOTES:

1. VERTICAL DRILL AND BOND DOWEL HOOKS SHALL ENGAGE TOP MAT REINFORCEMENT.
2. SEE "DETAIL A" ON "PIER 11 REINF DETAILS - 6" SHEET FOR BOTTOM MAT REINF SPLICING DETAILS.
3. FOOTING BOTTOM MAT REINF SHALL BE LOCATED TO MATCH EXISTING FOOTING BOTTOM MAT REINF.




SECTION N-N




SECTION O-O

1.5 0 3 6 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 DETAILS - 9

RECOMMENDED 08/30/2019

SHEET 194 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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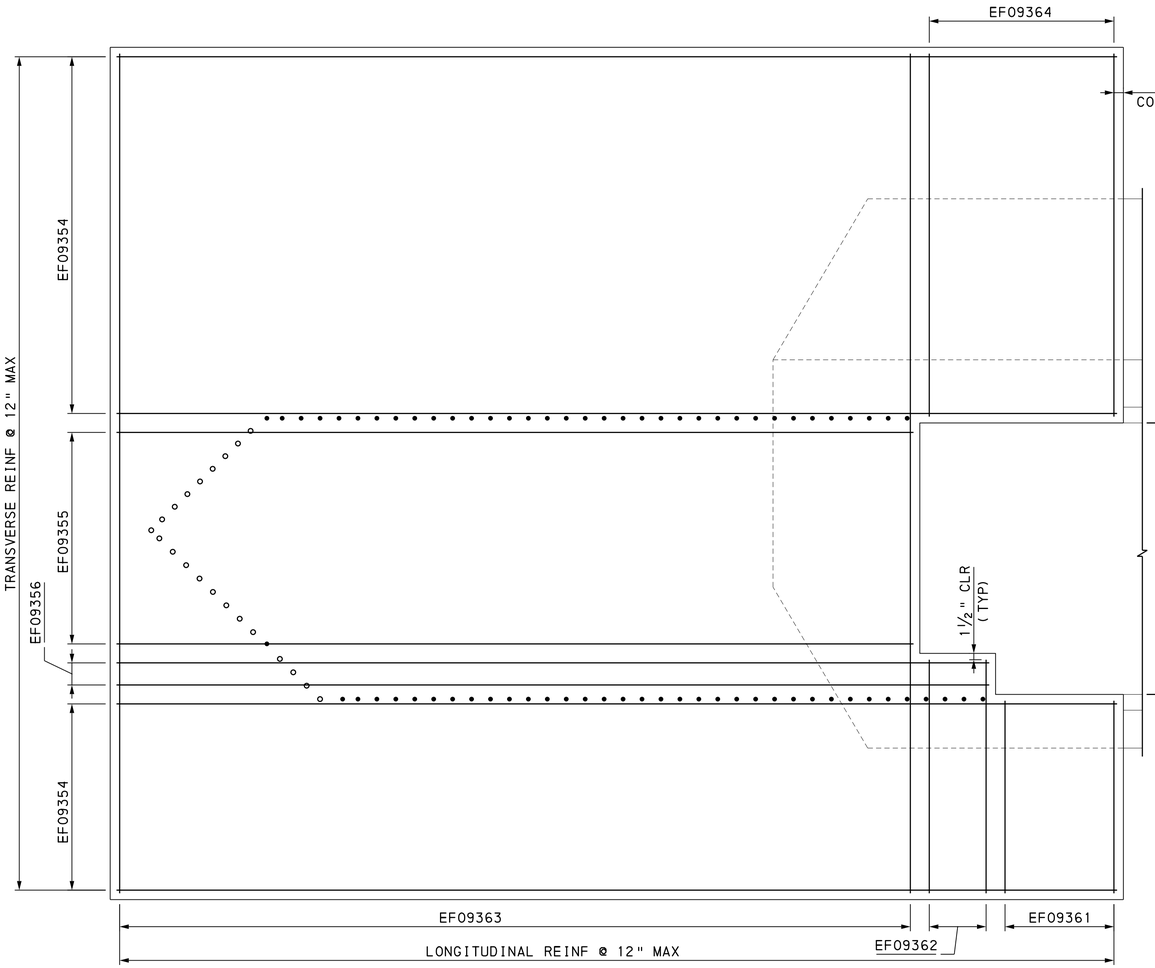
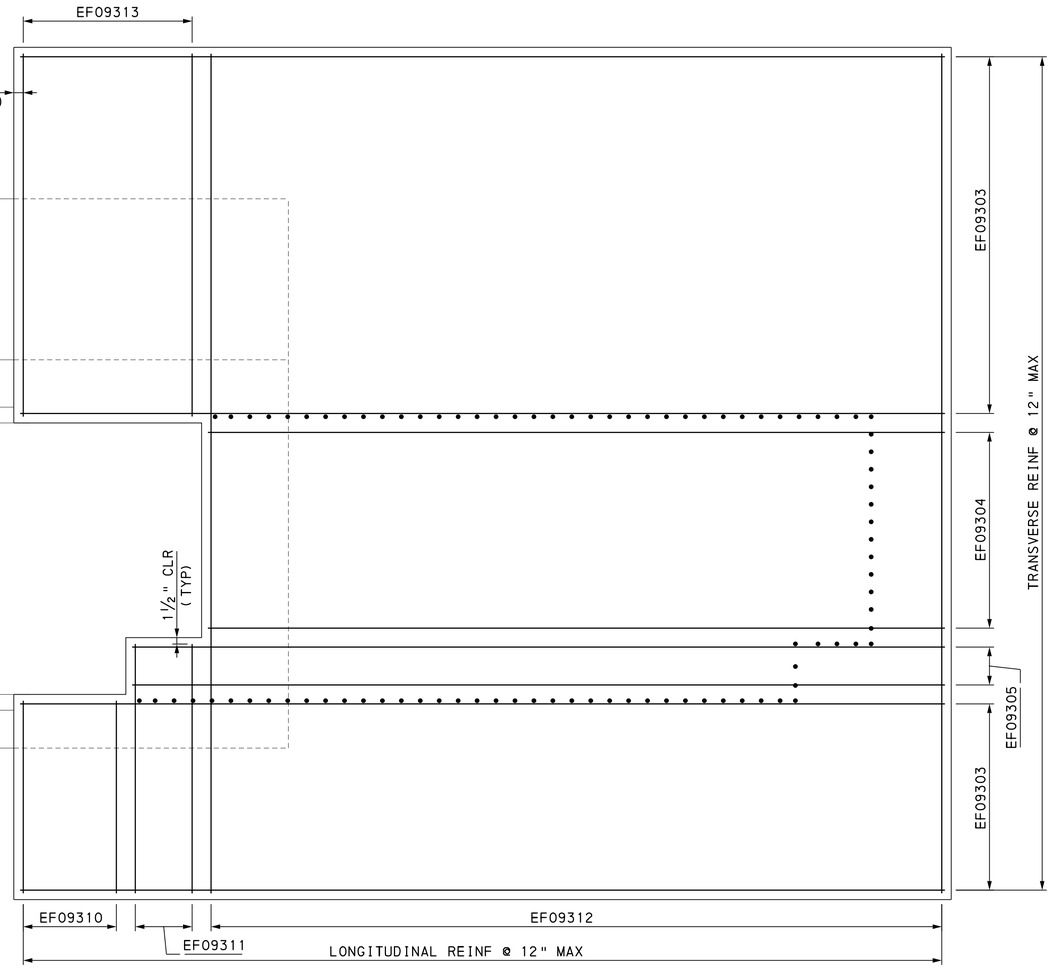



## FOOTING TOP MAT REINFORCEMENT

NORTH STRUCTURE (NOT ALL REINF SHOWN FOR CLARITY)




## FOOTING TOP MAT REINFORCEMENT

SOUTH STRUCTURE (NOT ALL REINF SHOWN FOR CLARITY)

1 0 2 4 FEET

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|

REVISIONS

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**

DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING

PIER 11 DETAILS - 10

RECOMMENDED 08/30/2019

SHEET 195 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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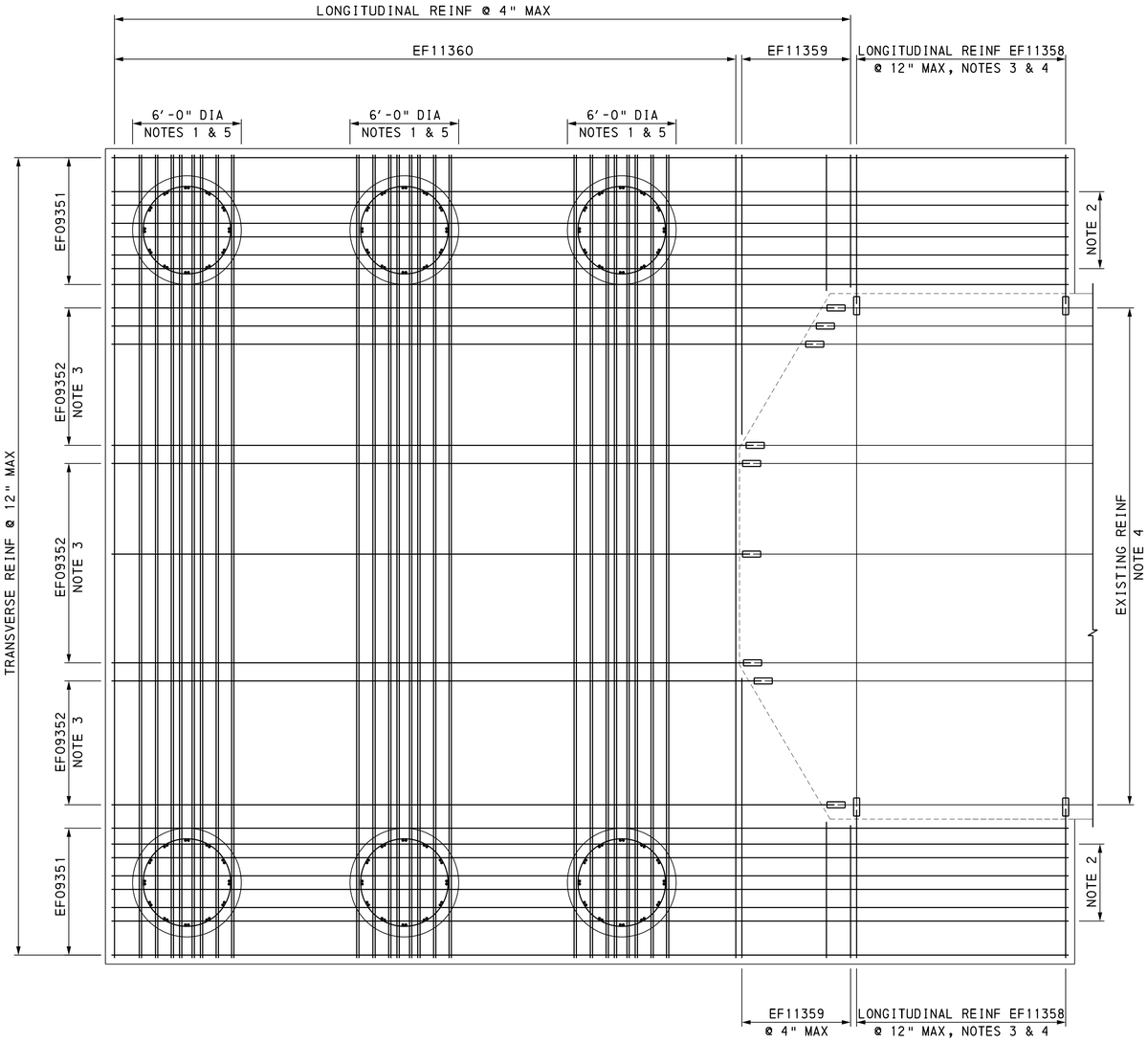
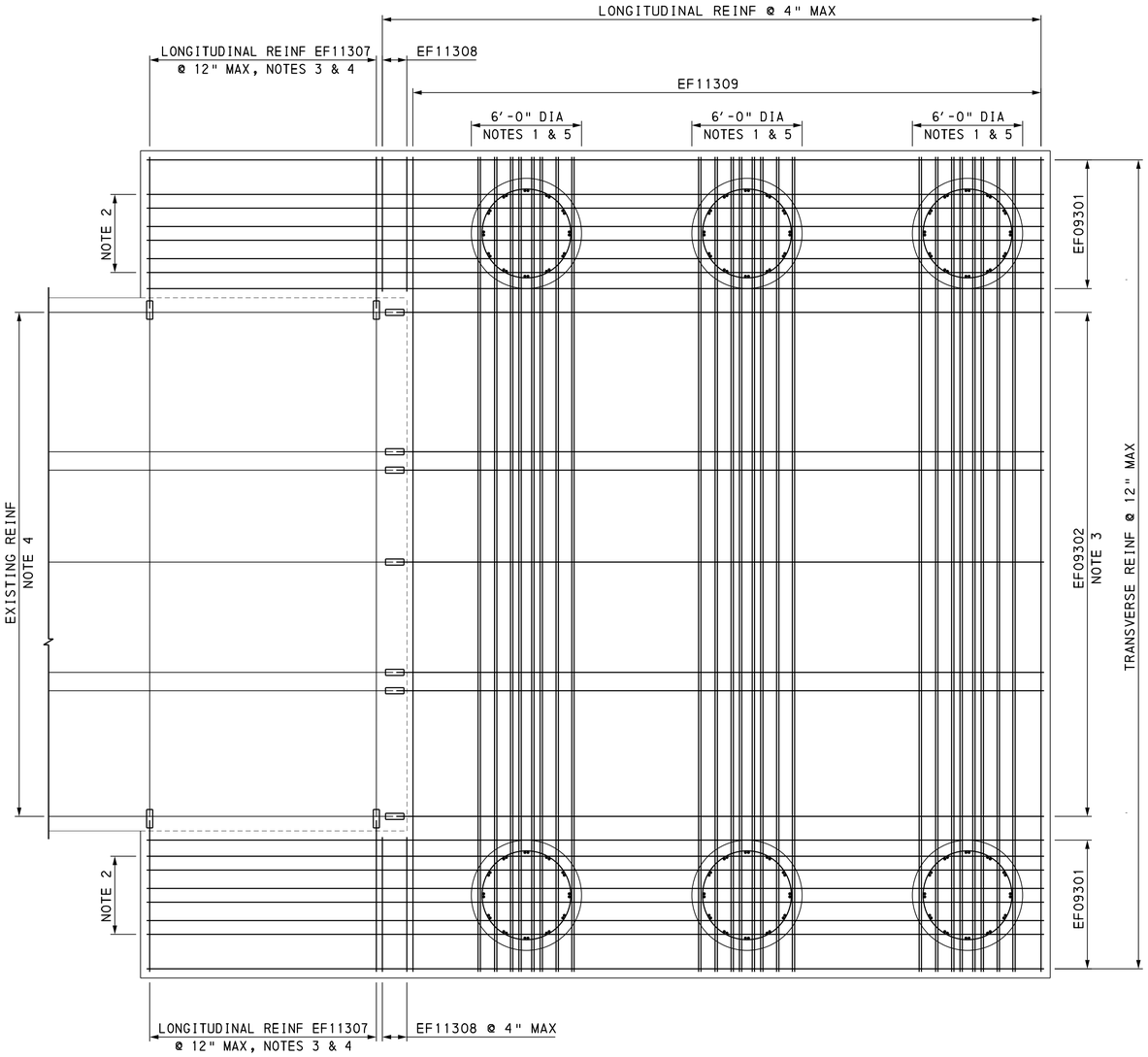



## FOOTING BOTTOM MAT REINFORCEMENT

NORTH STRUCTURE (NOT ALL REINF SHOWN FOR CLARITY)




## FOOTING BOTTOM MAT REINFORCEMENT

SOUTH STRUCTURE (NOT ALL REINF SHOWN FOR CLARITY)

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## NOTES:

1. WITHIN DRILLED SHAFT LIMITS SHOWN, LONGITUDINAL REINF SHALL BE BUNDLED (2-BAR BUNDLES, TOTAL 8). SPACING OF BUNDLES MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.
2. WITHIN DRILLED SHAFT LIMITS SHOWN, TRANSVERSE REINF (TOTAL 6) MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILL SHAFT VERTICAL REINFORCEMENT.
3. NEW FOOTING BOTTOM MAT REINFORCEMENT SHALL ENGAGE EXISTING FOOTING BOTTOM MAT REINFORCEMENT. NOT ALL EXISTING LONGITUDINAL FOOTING BOTTOM MAT REINFORCEMENT WILL BE ENGAGED.
4. SEE "CONCRETE REMOVAL NOTES" ON "ARCH SPANS CONSTRUCTION STAGING - 3" SHEET FOR PROTECTING EXISTING REINFORCEMENT.
5. FOOTING BOTTOM MAT LONGITUDINAL REINFORCEMENT MAY BE BUNDLED TO AVOID CONFLICTS WITH PILE REINFORCING CAGE. BUNDLES SHALL NOT EXCEED 2 BARS.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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|---|---|---|

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

1 0 2 4 FEET

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING

# PIER 11 DETAILS - 11

RECOMMENDED 08/30/2019

SHEET 196 OF 295

S-38014

FILENAME: E02657-S38014-BR-DT-320.dgn
OPERATOR: TYLIPWOLICS01$

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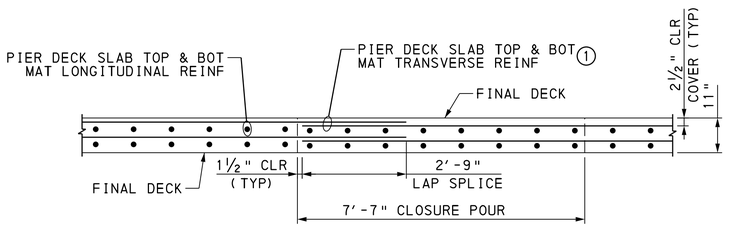
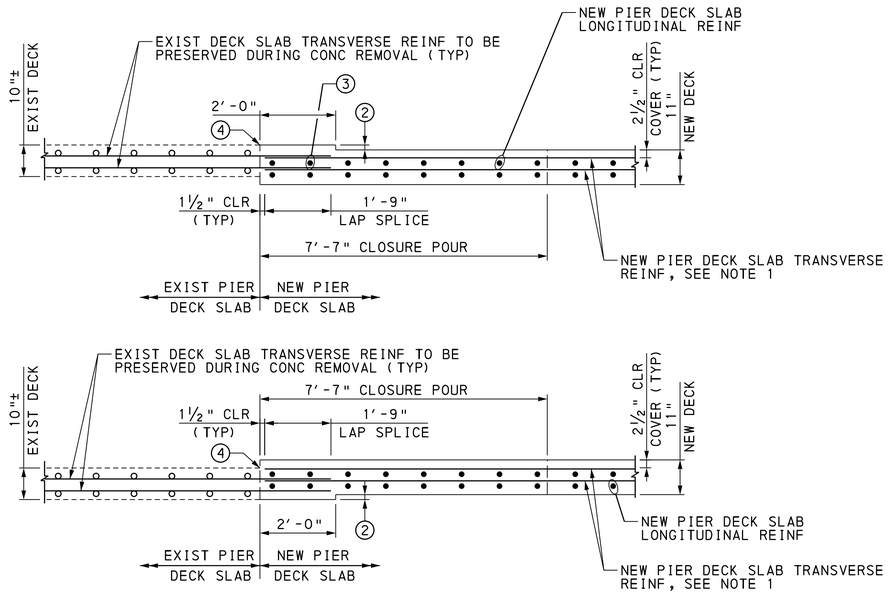



## TRANSVERSE SECTION
## NORTH & SOUTH STRUCTURES - FINAL CONDITION




## TRANSVERSE SECTIONS
## SOUTH STRUCTURE ONLY - TEMPORARY STAGE 3 CONSTRUCTION

① LAP SPLICED TOP AND BOTTOM MAT TRANSVERSE REINFORCEMENT WITHIN CLOSURE SHALL BE BUNDLED HORIZONTALLY IN THE SAME HORIZONTAL PLANE.

② ADDITIONAL CONCRETE COVER, AS NEEDED, TO PREVENT EXISTING REINFORCEMENT FROM DAYLIGHTING.

③ TOP & BOTTOM MAT LONGITUDINAL REINFORCEMENT WITHIN 2'-0" REGION MAY BE ADJUSTED VERTICALLY TO CLEAR REINFORCEMENT CONFLICT AND TO MAINTAIN SUFFICIENT MINIMUM CONCRETE COVER.

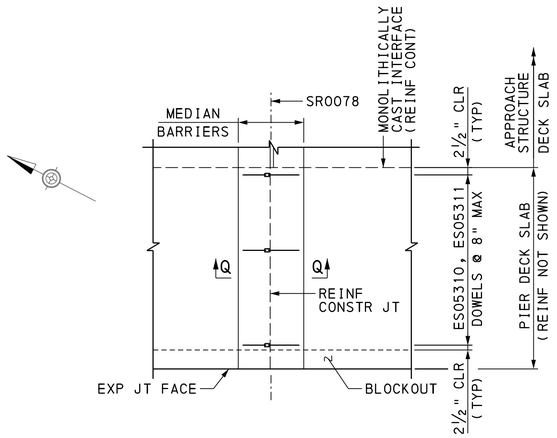
④ TOP OF DECK CONSTRUCTION TIE-IN INTERFACE, SEE "DECK CONSTRUCTION TIE-IN" AND "TYPICAL SECTIONS" SHEETS

## NOTES:

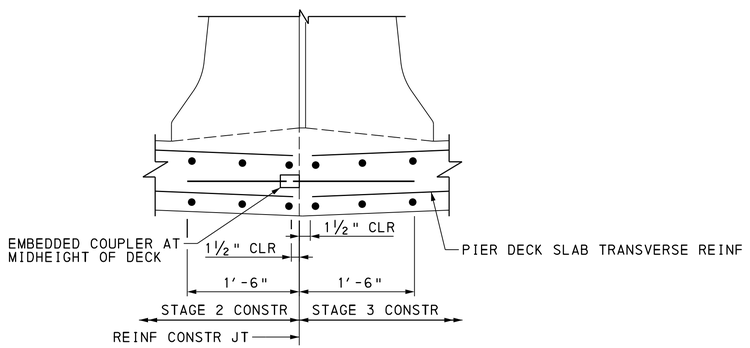
1. NEW PIER DECK SLAB TRANSVERSE BARS MAY BE ADJUSTED HORIZONTALLY TO CLEAR CONFLICTS WITH EXISTING TRANSVERSE BARS.

## PIER DECK SLAB TEMPORARY ISOLATION GAP CLOSURE DETAILS

NOT TO SCALE




PLAN




SECTION Q-Q

## PIER DECK SLAB CONSTRUCTION JOINT DETAILS AT MEDIAN

NOT TO SCALE

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
PIER 11 DETAILS - 12

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 197 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-DT-321.dgn

PLOTTED: 8/26/2019 4:41:05 PM

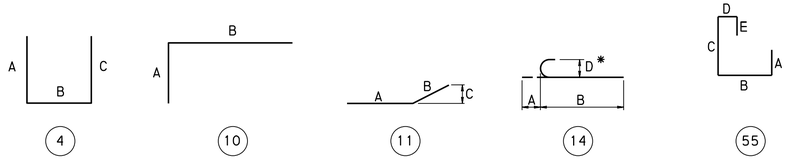
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NEW PILES** | | | | | | | | | | | | | | | | | | |
| PIER 3 | | | | | | | | | | | | | | | | | | |
| EF05101 | 5 | 6 | 6 | ---- | 60'-0" & VAR. = 1112'-10 6/7" | 107 | 0'-6" | 32'-1" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11101 | 11 | 144 | 144 | ---- | 39'-0" | STR | 39'-0" | | | | | | | | | | | |
| PIER 4 | | | | | | | | | | | | | | | | | | |
| EF05102 | 5 | 4 | 4 | ---- | 60'-0" & VAR. = 820'-10 1/2" | 107 | 0'-6" | 23'-1" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11102 | 11 | 96 | 96 | ---- | 30'-0" | STR | 30'-0" | | | | | | | | | | | |
| PIER 5 | | | | | | | | | | | | | | | | | | |
| EF05102 | 5 | 4 | 4 | ---- | 60'-0" & VAR. = 820'-10 1/2" | 107 | 0'-6" | 23'-5 4/5" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11103 | 11 | 96 | 96 | ---- | 30'-4 4/5" | STR | 30'-4 4/5" | | | | | | | | | | | |
| PIER 6 | | | | | | | | | | | | | | | | | | |
| EF05103 | 5 | 4 | 4 | ---- | 60'-0" & VAR. = 1193'-1" | 107 | 0'-6" | 34'-10 3/5" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11104 | 11 | 96 | 96 | ---- | 41'-9 3/5" | STR | 41'-9 3/5" | | | | | | | | | | | |
| PIER 7 | | | | | | | | | | | | | | | | | | |
| EF05104 | 5 | 4 | 4 | ---- | 60'-0" & VAR. = 1306'-9 2/5" | 107 | 0'-6" | 38'-3 2/5" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11105 | 11 | 96 | 96 | ---- | 45'-2 2/5" | STR | 45'-2 2/5" | | | | | | | | | | | |
| PIER 8 | | | | | | | | | | | | | | | | | | |
| EF05105 | 5 | 4 | 4 | ---- | 60'-0" & VAR. = 626'-12" | 107 | 0'-6" | 17'-3 2/5" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11106 | 11 | 96 | 96 | ---- | 24'-2 2/5" | STR | 24'-2 2/5" | | | | | | | | | | | |
| PIER 9 | | | | | | | | | | | | | | | | | | |
| EF05106 | 5 | 4 | 4 | ---- | 60'-0" & VAR. = 577'-11 1/9" | 107 | 0'-6" | 15'-7" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11107 | 11 | 96 | 96 | ---- | 22'-6" | STR | 22'-6" | | | | | | | | | | | |
| PIER 10 | | | | | | | | | | | | | | | | | | |
| EF05106 | 5 | 4 | 4 | ---- | 60'-0" & VAR. = 577'-11 1/9" | 107 | 0'-6" | 15'-7" | 0'-5 1/2" | 4'-11 3/8" | | | | | | | | NOTE 1 |
| EF11107 | 11 | 96 | 96 | ---- | 22'-6" | STR | 22'-6" | | | | | | | | | | | |
| PIER 11 | | | | | | | | | | | | | | | | | | |
| EF06101 | 6 | 6 | 6 | ---- | 60'-0" & VAR. = 580'-7 5/9" | 107 | 0'-6" | 15'-7" | 0'-8" | 4'-11 1/4" | | | | | | | | NOTE 1 |
| EF11107 | 11 | 144 | 144 | ---- | 22'-6" | STR | 22'-6" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **NEW FOOTINGS** | | | | | | | | | | | | | | | | | | |
| PILE CAP (PIER 3) | | | | | | | | | | | | | | | | | | |
| EF09201 | 9 | 12 | 12 | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF09202 | 9 | 39 | 39 | ---- | 35'-4 1/2" | STR | 35'-4 1/2" | | | | | | | | | | | Coupler attached on one end |
| EF09203 | 9 | 14 | 14 | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF09204 | 9 | 9 | 9 | ---- | 39'-6" | STR | 39'-6" | | | | | | | | | | | |
| EF09205 | 9 | 3 | 3 | ---- | 43'-6" | STR | 43'-6" | | | | | | | | | | | |
| EF09206 | 9 | 9 | 9 | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF05207 | 5 | 5 | 5 | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF10208 | 10 | 14 | 14 | ---- | 14'-1 1/2" | 10 | 5'-9" | 8'-4 1/2" | | | | | | | | | | Coupler attached on one end |
| EF10209 | 10 | 10 | 10 | ---- | 13'-3" | 10 | 5'-9" | 7'-6" | | | | | | | | | | |
| EF10210 | 10 | 105 | 105 | ---- | 55'-9" | 4 | 5'-9" | 44'-6" | 5'-6" | | | | | | | | | |
| EF10211 | 10 | 14 | 14 | ---- | 13'-10 1/2" | 10 | 5'-6" | 8'-4 1/2" | | | | | | | | | | Coupler attached on one end |
| EF09212 | 9 | 5 | 5 | ---- | 16'-7" | 10 | 5'-9" | 10'-10" | | | | | | | | | | |
| EF09213 | 9 | 4 | 4 | ---- | 19'-7" | 10 | 5'-9" | 13'-10" | | | | | | | | | | |
| EF09214 | 9 | 8 | 8 | ---- | 22'-5 3/4" | 107 | 11'-1" | 9'-4 3/4" | 2'-0" | | | | | | | | | |
| EF09215 | 9 | 28 | 28 | ---- | 53'-4 3/4" | 109 | 5'-9" | 36'-3" | 9'-4 3/4" | 2'-0" | | | | | | | | |
| EF05216 | 5 | 3 | 3 | ---- | 44'-6" | STR | 44'-6" | | | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.




NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 1

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 198 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-101.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:41:03 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

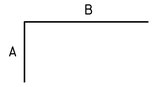
| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF05217 | 5 | 1 | 1 | ---- | 40'-3" | STR | 40'-3" | | | | | | | | | | | |
| EF05218 | 5 | 2 | 2 | ---- | 7'-11 1/2" | 4 | 0'-6" | 6'-11 1/2" | 0'-6" | | | | | | | | | |
| EF05219 | 5 | 2 | 2 | ---- | 8'-5 1/4" | 4 | 0'-6" | 7'-5 1/4" | 0'-6" | | | | | | | | | |
| EF05220 | 5 | 2 | 2 | ---- | 8'-10 1/2" | 4 | 0'-6" | 7'-10 1/2" | 0'-6" | | | | | | | | | |
| EF05221 | 5 | 2 | 2 | ---- | 9'-4" | 4 | 0'-6" | 8'-4" | 0'-6" | | | | | | | | | |
| EF05222 | 5 | 2 | 2 | ---- | 9'-9 1/2" | 4 | 0'-6" | 8'-9 1/2" | 0'-6" | | | | | | | | | |
| EF05223 | 5 | 31 | 31 | ---- | 10'-3" | 4 | 0'-6" | 9'-3" | 0'-6" | | | | | | | | | |
| EF05224 | 5 | 4 | 4 | ---- | 7'-6" | STR | 7'-6" | | | | | | | | | | | |
| EF05225 | 5 | 1 | 1 | ---- | 11'-9" | STR | 11'-9" | | | | | | | | | | | |
| EF05226 | 5 | 1 | 1 | ---- | 10'-6" | STR | 10'-6" | | | | | | | | | | | |
| EF05227 | 5 | 1 | 1 | ---- | 13'-3" | STR | 13'-3" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DOWELS | | | | | | | | | | | | | | | | | | |
| EF05250 | 5 | 93 | 93 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05251 | 5 | 30 | 30 | ---- | 3'-10" | 103 | 0'-5 1/2" | 3'-4 1/2" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05252 | 5 | 36 | 36 | ---- | 5'-8 1/2" | 103 | 0'-5 1/2" | 5'-3" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL 9.63'-11.88'. Vary 8 EACH BY 9" |
| PILE CAP (PIER 4) | | | | | | | | | | | | | | | | | | |
| EF08401 | 8 | 40 | 40 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF08402 | 8 | 16 | 16 | ---- | 29'-4 1/2" | STR | 29'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END, 26.37' to 32.37', vary 1 EA. by by 10.286" |
| EF08403 | 8 | 14 | 14 | ---- | 26'-4 1/2" | STR | 26'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF08404 | 8 | 8 | 8 | ---- | 31'-6" | STR | 31'-6" | | | | | | | | | | | |
| EF05405 | 5 | 2 | 2 | ---- | 3'-6" | STR | 3'-6" | | | | | | | | | | | |
| EF05406 | 5 | 2 | 2 | ---- | 5'-10" | STR | 5'-10" | | | | | | | | | | | |
| EF05407 | 5 | 2 | 2 | ---- | 10'-2 1/2" | STR | 10'-2 1/2" | | | | | | | | | | | |
| EF05408 | 5 | 3 | 3 | ---- | 33'-6" | STR | 33'-6" | | | | | | | | | | | |
| EF11409 | 11 | 14 | 14 | ---- | 9'-1 1/2" | 10 | 4'-9" | 4'-4 1/2" | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF11410 | 11 | 6 | 6 | ---- | 8'-3" | 10 | 4'-9" | 3'-6" | | | | | | | | | | |
| EF11411 | 11 | 38 | 38 | ---- | 12'-0" | 10 | 4'-9" | 7'-3" | | | | | | | | | | 8.5' to 15.5', vary 1 EA. by 4.667" |
| EF11412 | 11 | 111 | 111 | ---- | 43'-0" | 4 | 4'-9" | 33'-6" | 4'-9" | | | | | | | | | |
| EF11413 | 11 | 14 | 14 | ---- | 18'-1" | 10 | 4'-9" | 13'-4" | | | | | | | | | | |
| EF05414 | 5 | 6 | 6 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF05415 | 5 | 20 | 20 | ---- | 8'-4 3/4" | 4 | 0'-6" | 7'-4 3/4" | 0'-6" | | | | | | | | | |
| EF05416 | 5 | 10 | 10 | ---- | 3'-11 3/8" | 4 | 0'-6" | 2'-11 3/8" | 0'-6" | | | | | | | | | 2.45' to 5.45', vary 1 EA. by 9" |
| EF05417 | 5 | 6 | 6 | ---- | 2'-5 3/8" | 4 | 0'-6" | 1'-5 3/8" | 0'-6" | | | | | | | | | |
| EF05418 | 5 | 10 | 10 | ---- | 3'-2 1/2" | 103 | 0'-5 1/2" | 2'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05419 | 5 | 10 | 10 | ---- | 3'-6" | 103 | 0'-5 1/2" | 3'-1/2" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05420 | 5 | 8 | 8 | ---- | 4'-4 1/4" | 103 | 0'-5 1/2" | 3'-10 3/4" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05421 | 5 | 6 | 6 | ---- | 5'-2 1/2" | 103 | 0'-5 1/2" | 4'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05422 | 5 | 34 | 34 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PILE CAP (PIER 5) | | | | | | | | | | | | | | | | | | |
| EF08401 | 8 | 40 | 40 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF08402 | 8 | 16 | 16 | ---- | 29'-4 1/2" | STR | 29'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END, 26.37' to 32.37', vary 1 EA. by by 10.286 |
| EF08403 | 8 | 14 | 14 | ---- | 26'-4 1/2" | STR | 26'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF08404 | 8 | 8 | 8 | ---- | 31'-6" | STR | 31'-6" | | | | | | | | | | | |
| EF05405 | 5 | 2 | 2 | ---- | 3'-6" | STR | 3'-6" | | | | | | | | | | | |
| EF05406 | 5 | 2 | 2 | ---- | 5'-10" | STR | 5'-10" | | | | | | | | | | | |
| EF05407 | 5 | 2 | 2 | ---- | 10'-2 1/2" | STR | 10'-2 1/2" | | | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.

4



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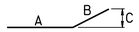

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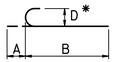

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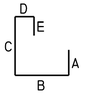
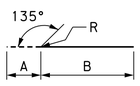
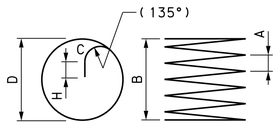


55

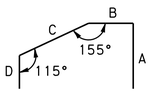


103



106

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



109

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 199 OF 195

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-102.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:41:06 PM

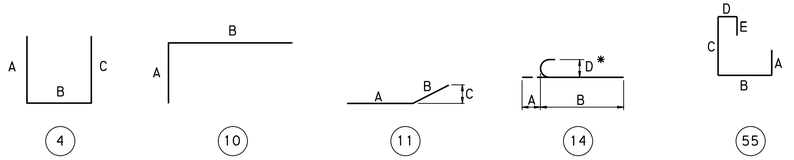
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

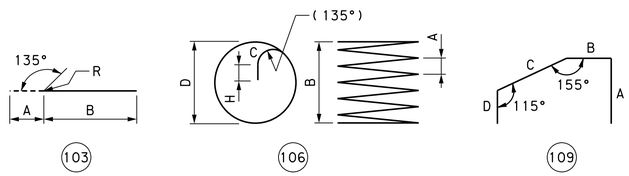
| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF05408 | 5 | 3 | 3 | ---- | 33'-6" | STR | 33'-6" | | | | | | | | | | | |
| EF11409 | 11 | 14 | 14 | ---- | 9'-1 1/2" | 10 | 4'-9" | 4'-4 1/2" | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF11410 | 11 | 6 | 6 | ---- | 8'-3" | 10 | 4'-9" | 3'-6" | | | | | | | | | | |
| EF11411 | 11 | 38 | 38 | ---- | 12'-0" | 10 | 4'-9" | 7'-3" | | | | | | | | | | 8.5' to 15.5', vary 1 EA. by 4.667 |
| EF11412 | 11 | 111 | 111 | ---- | 43'-0" | 4 | 4'-9" | 33'-6" | 4'-9" | | | | | | | | | |
| EF11413 | 11 | 14 | 14 | ---- | 18'-1" | 10 | 4'-9" | 13'-4" | | | | | | | | | | |
| EF05414 | 5 | 6 | 6 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF05415 | 5 | 20 | 20 | ---- | 8'-4 3/4" | 4 | 0'-6" | 7'-4 3/4" | 0'-6" | | | | | | | | | |
| EF05416 | 5 | 10 | 10 | ---- | 3'-11 3/8" | 4 | 0'-6" | 2'-11 3/8" | 0'-6" | | | | | | | | | 2.45' to 5.45', vary 1 EA. by 9" |
| EF05417 | 5 | 6 | 6 | ---- | 2'-5 3/8" | 4 | 0'-6" | 1'-5 3/8" | 0'-6" | | | | | | | | | |
| EF05418 | 5 | 10 | 10 | ---- | 3'-2 1/2" | 103 | 0'-5 1/2" | 2'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05419 | 5 | 10 | 10 | ---- | 3'-6" | 103 | 0'-5 1/2" | 3'-1/2" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05420 | 5 | 8 | 8 | ---- | 4'-4 1/4" | 103 | 0'-5 1/2" | 3'-10 3/4" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05421 | 5 | 6 | 6 | ---- | 5'-2 1/2" | 103 | 0'-5 1/2" | 4'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05422 | 5 | 34 | 34 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PILE CAP (PIER 6) | | | | | | | | | | | | | | | | | | |
| EF08401 | 8 | 46 | 46 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF08403 | 8 | 34 | 34 | ---- | 26'-4 1/2" | STR | 26'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF08501 | 8 | 8 | 8 | ---- | 31'-0" | STR | 31'-0" | | | | | | | | | | | |
| EF05405 | 5 | 8 | 8 | ---- | 3'-6" | STR | 3'-6" | | | | | | | | | | | |
| EF11502 | 11 | 26 | 26 | ---- | 10'-1 1/2" | 10 | 5'-9" | 4'-4 1/2" | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF11503 | 11 | 6 | 6 | ---- | 9'-3" | 10 | 5'-9" | 3'-6" | | | | | | | | | | |
| EF11504 | 11 | 110 | 110 | ---- | 51'-0" | 4 | 5'-9" | 39'-6" | 5'-9" | | | | | | | | | |
| EF11505 | 11 | 16 | 16 | ---- | 22'-1" | 10 | 5'-9" | 16'-4" | | | | | | | | | | |
| EF05414 | 5 | 8 | 8 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF05506 | 5 | 4 | 4 | ---- | 39'-6" | STR | 39'-6" | | | | | | | | | | | |
| EF05507 | 5 | 23 | 23 | ---- | 10'-4 3/4" | 4 | 0'-6" | 9'-4 3/4" | 0'-6" | | | | | | | | | |
| EF05417 | 5 | 16 | 16 | ---- | 2'-5 3/8" | 4 | 0'-6" | 1'-5 3/8" | 0'-6" | | | | | | | | | |
| EF05418 | 5 | 64 | 64 | ---- | 3'-2 1/2" | 103 | 0'-5 1/2" | 2'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05422 | 5 | 88 | 88 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PILE CAP (PIER 7) | | | | | | | | | | | | | | | | | | |
| EF08401 | 8 | 40 | 40 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF08402 | 8 | 16 | 16 | ---- | 29'-4 1/2" | STR | 29'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END, 26.37' to 32.37', vary 1 EA. by by 10.286 |
| EF08403 | 8 | 14 | 14 | ---- | 26'-4 1/2" | STR | 26'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF08404 | 8 | 8 | 8 | ---- | 31'-6" | STR | 31'-6" | | | | | | | | | | | |
| EF05405 | 5 | 2 | 2 | ---- | 3'-6" | STR | 3'-6" | | | | | | | | | | | |
| EF05406 | 5 | 2 | 2 | ---- | 5'-10" | STR | 5'-10" | | | | | | | | | | | |
| EF05407 | 5 | 2 | 2 | ---- | 10'-2 1/2" | STR | 10'-2 1/2" | | | | | | | | | | | |
| EF05408 | 5 | 3 | 3 | ---- | 33'-6" | STR | 33'-6" | | | | | | | | | | | |
| EF10459 | 10 | 14 | 14 | ---- | 9'-1 1/2" | 10 | 4'-9" | 4'-4 1/2" | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF10460 | 10 | 6 | 6 | ---- | 8'-3" | 10 | 4'-9" | 3'-6" | | | | | | | | | | |
| EF10461 | 10 | 38 | 38 | ---- | 12'-0" | 10 | 4'-9" | 7'-3" | | | | | | | | | | 8.5' to 15.5', vary 1 EA. by 4.667 |
| EF10462 | 10 | 78 | 78 | ---- | 43'-0" | 4 | 4'-9" | 33'-6" | 4'-9" | | | | | | | | | |
| EF11412 | 11 | 33 | 33 | ---- | 43'-0" | 4 | 4'-9" | 33'-6" | 4'-9" | | | | | | | | | |
| EF11413 | 11 | 14 | 14 | ---- | 18'-1" | 10 | 4'-9" | 13'-4" | | | | | | | | | | |
| EF05414 | 5 | 6 | 6 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF05415 | 5 | 20 | 20 | ---- | 8'-4 3/4" | 4 | 0'-6" | 7'-4 3/4" | 0'-6" | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.




NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 3

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 200 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-103.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:44:14 PM

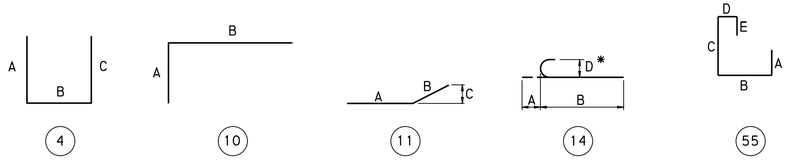
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

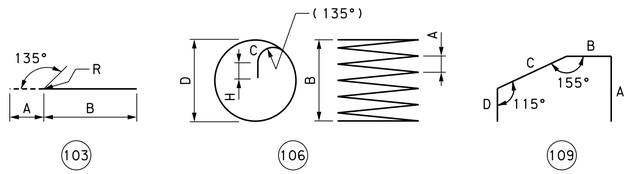
| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF05416 | 5 | 10 | 10 | ---- | 3'-11 3/8" | 4 | 0'-6" | 2'-11 3/8" | 0'-6" | | | | | | | | | 2.45' to 5.45', vary 1 EA. by 9" |
| EF05417 | 5 | 6 | 6 | ---- | 2'-5 3/8" | 4 | 0'-6" | 1'-5 3/8" | 0'-6" | | | | | | | | | |
| EF05418 | 5 | 10 | 10 | ---- | 3'-2 1/2" | 103 | 0'-5 1/2" | 2'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05419 | 5 | 10 | 10 | ---- | 3'-6" | 103 | 0'-5 1/2" | 3'-1/2" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05420 | 5 | 8 | 8 | ---- | 4'-4 1/4" | 103 | 0'-5 1/2" | 3'-10 3/4" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05421 | 5 | 6 | 6 | ---- | 5'-2 1/2" | 103 | 0'-5 1/2" | 4'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05422 | 5 | 34 | 34 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PILE CAP (PIER 8) | | | | | | | | | | | | | | | | | | |
| EF08401 | 8 | 50 | 50 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF08403 | 8 | 38 | 38 | ---- | 26'-4 1/2" | STR | 26'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF08501 | 8 | 8 | 8 | ---- | 31'-0" | STR | 31'-0" | | | | | | | | | | | |
| EF05405 | 5 | 8 | 8 | ---- | 3'-6" | STR | 3'-6" | | | | | | | | | | | |
| EF05601 | 5 | 2 | 2 | ---- | 14'-6" | STR | 14'-6" | | | | | | | | | | | |
| EF05602 | 5 | 5 | 5 | ---- | 43'-6" | STR | 43'-6" | | | | | | | | | | | |
| EF11603 | 11 | 34 | 34 | ---- | 11'-1 1/2" | 10 | 6'-9" | 4'-4 1/2" | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF11604 | 11 | 6 | 6 | ---- | 10'-3" | 10 | 6'-9" | 3'-6" | | | | | | | | | | |
| EF11605 | 11 | 110 | 110 | ---- | 57'-0" | 4 | 6'-9" | 43'-6" | 6'-9" | | | | | | | | | |
| EF11606 | 11 | 16 | 16 | ---- | 25'-1" | 10 | 6'-9" | 18'-4" | | | | | | | | | | |
| EF05414 | 5 | 10 | 10 | ---- | 37'-6" | STR | 37'-6" | | | | | | | | | | | |
| EF05607 | 5 | 25 | 25 | ---- | 12'-4 3/4" | 4 | 0'-6" | 11'-4 3/4" | 0'-6" | | | | | | | | | |
| EF05608 | 5 | 14 | 14 | ---- | 3'-5 3/8" | 4 | 0'-6" | 2'-5 3/8" | 0'-6" | | | | | | | | | 2.45' to 4.45', vary 1 EA. by 4" |
| EF05417 | 5 | 6 | 6 | ---- | 2'-5 3/8" | 4 | 0'-6" | 1'-5 3/8" | 0'-6" | | | | | | | | | |
| EF05418 | 5 | 12 | 12 | ---- | 3'-2 1/2" | 103 | 0'-5 1/2" | 2'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05609 | 5 | 50 | 50 | ---- | 4'-0" | 103 | 0'-5 1/2" | 3'-6 1/2" | | | | | | | | | 0'-1 1/4" | 3.33' to 4.67', vary 5 EA. by 4" DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05422 | 5 | 122 | 122 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PILE CAP (PIER 9) | | | | | | | | | | | | | | | | | | |
| EF08651 | 8 | 40 | 40 | ---- | 41'-6" | STR | 41'-6" | | | | | | | | | | | |
| EF08652 | 8 | 16 | 16 | ---- | 33'-4 1/2" | STR | 33'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END, 30.375' to 36.375', vary 1 EA. by 9" |
| EF08653 | 8 | 14 | 14 | ---- | 30'-4 1/2" | STR | 30'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF08654 | 8 | 8 | 8 | ---- | 35'-0" | STR | 35'-0" | | | | | | | | | | | |
| EF05405 | 5 | 2 | 2 | ---- | 3'-6" | STR | 3'-6" | | | | | | | | | | | |
| EF05655 | 5 | 2 | 2 | ---- | 6'-1 1/2" | STR | 6'-1 1/2" | | | | | | | | | | | |
| EF05656 | 5 | 2 | 2 | ---- | 9'-10" | STR | 9'-10" | | | | | | | | | | | |
| EF05408 | 5 | 3 | 3 | ---- | 33'-6" | STR | 33'-6" | | | | | | | | | | | |
| EF10657 | 10 | 18 | 18 | ---- | 9'-7 1/2" | 10 | 5'-3" | 4'-4 1/2" | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF10658 | 10 | 6 | 6 | ---- | 8'-9" | 10 | 5'-3" | 3'-6" | | | | | | | | | | |
| EF10659 | 10 | 26 | 26 | ---- | 12'-6" | 10 | 5'-3" | 7'-3" | | | | | | | | | | 9' to 16', vary 1 EA. by 7" |
| EF10660 | 10 | 126 | 126 | ---- | 44'-0" | 4 | 5'-3" | 33'-6" | 5'-3" | | | | | | | | | |
| EF10661 | 10 | 16 | 16 | ---- | 18'-7" | 10 | 5'-3" | 13'-4" | | | | | | | | | | |
| EF05662 | 5 | 6 | 6 | ---- | 41'-6" | STR | 41'-6" | | | | | | | | | | | |
| EF05663 | 5 | 20 | 20 | ---- | 9'-4 3/4" | 4 | 0'-6" | 8'-4 3/4" | 0'-6" | | | | | | | | | |
| EF05664 | 5 | 10 | 10 | ---- | 4'-5 3/8" | 4 | 0'-6" | 3'-5 3/8" | 0'-6" | | | | | | | | | 2.45' to 6.45', vary 1 EA. by 12" |
| EF05417 | 5 | 6 | 6 | ---- | 2'-5 3/8" | 4 | 0'-6" | 1'-5 3/8" | 0'-6" | | | | | | | | | |
| EF05418 | 5 | 12 | 12 | ---- | 3'-2 1/2" | 103 | 0'-5 1/2" | 2'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05665 | 5 | 10 | 10 | ---- | 3'-7 5/8" | 103 | 0'-5 1/2" | 3'-2 1/8" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05666 | 5 | 16 | 16 | ---- | 5'-4 1/4" | 103 | 0'-5 1/2" | 4'-10 3/4" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL 9.358' to 11.071' vary 4 EA. by 13.71" |
| EF05422 | 5 | 42 | 42 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.




NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# BAR SCHEDULE - 4

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 201 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

OPERATOR: TYLIPWO1ICSO1$ FILENAME: E02657-S38014-BR-BL-104.dgn

PLOTTED: 8/26/2019 4:41:32 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

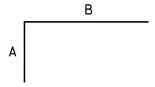
| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILE CAP (PIER 10) | | | | | | | | | | | | | | | | | | |
| EF08651 | 8 | 40 | 40 | ---- | 41'-6" | STR | 41'-6" | | | | | | | | | | | |
| EF08652 | 8 | 16 | 16 | ---- | 33'-4 1/2" | STR | 33'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END, 30.375' to 36.375', vary 1 EA. by 9" |
| EF08653 | 8 | 14 | 14 | ---- | 30'-4 1/2" | STR | 30'-4 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF08654 | 8 | 8 | 8 | ---- | 35'-0" | STR | 35'-0" | | | | | | | | | | | |
| EF05405 | 5 | 2 | 2 | ---- | 3'-6" | STR | 3'-6" | | | | | | | | | | | |
| EF05655 | 5 | 2 | 2 | ---- | 6'-1 1/2" | STR | 6'-1 1/2" | | | | | | | | | | | |
| EF05656 | 5 | 2 | 2 | ---- | 9'-10" | STR | 9'-10" | | | | | | | | | | | |
| EF05408 | 5 | 3 | 3 | ---- | 33'-6" | STR | 33'-6" | | | | | | | | | | | |
| EF10657 | 10 | 18 | 18 | ---- | 9'-7 1/2" | 10 | 5'-3" | 4'-4 1/2" | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| EF10658 | 10 | 6 | 6 | ---- | 8'-9" | 10 | 5'-3" | 3'-6" | | | | | | | | | | |
| EF10659 | 10 | 26 | 26 | ---- | 12'-6" | 10 | 5'-3" | 7'-3" | | | | | | | | | | 9' to 16', vary 1 EA. by 7" |
| EF10660 | 10 | 126 | 126 | ---- | 44'-0" | 4 | 5'-3" | 33'-6" | 5'-3" | | | | | | | | | |
| EF10661 | 10 | 16 | 16 | ---- | 18'-7" | 10 | 5'-3" | 13'-4" | | | | | | | | | | |
| EF05662 | 5 | 6 | 6 | ---- | 41'-6" | STR | 41'-6" | | | | | | | | | | | |
| EF05663 | 5 | 20 | 20 | ---- | 9'-4 3/4" | 4 | 0'-6" | 8'-4 3/4" | 0'-6" | | | | | | | | | |
| EF05664 | 5 | 10 | 10 | ---- | 4'-5 3/8" | 4 | 0'-6" | 3'-5 3/8" | 0'-6" | | | | | | | | | 2.45' to 6.45', vary 1 EA. by 12" |
| EF05417 | 5 | 6 | 6 | ---- | 2'-5 3/8" | 4 | 0'-6" | 1'-5 3/8" | 0'-6" | | | | | | | | | |
| EF05418 | 5 | 12 | 12 | ---- | 3'-2 1/2" | 103 | 0'-5 1/2" | 2'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05665 | 5 | 10 | 10 | ---- | 3'-7 5/8" | 103 | 0'-5 1/2" | 3'-2 1/8" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05666 | 5 | 16 | 16 | ---- | 5'-4 1/4" | 103 | 0'-5 1/2" | 4'-10 3/4" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL 9.358' to 11.071' vary 4 EA. by 13.71" |
| EF05422 | 5 | 42 | 42 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PILE CAP (P11-SOUTH) | | | | | | | | | | | | | | | | | | |
| EF09301 | 9 | 18 | ---- | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF09302 | 9 | 30 | ---- | ---- | 35'-4 1/2" | STR | 35'-4 1/2" | | | | | | | | | | | Couplers attached on one end |
| EF09303 | 9 | 30 | ---- | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF09304 | 9 | 12 | ---- | ---- | 39'-1" | STR | 39'-1" | | | | | | | | | | | |
| EF09305 | 9 | 4 | ---- | ---- | 43'-1" | STR | 43'-1" | | | | | | | | | | | |
| EF05306 | 5 | 8 | ---- | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF11307 | 11 | 26 | ---- | ---- | 14'-1 1/2" | 10 | 5'-9" | 8'-4 1/2" | | | | | | | | | | Couplers attached on one end |
| EF11308 | 11 | 12 | ---- | ---- | 13'-3" | 10 | 5'-9" | 7'-6" | | | | | | | | | | |
| EF11309 | 11 | 105 | ---- | ---- | 56'-0" | 4 | 5'-9" | 44'-6" | 5'-9" | | | | | | | | | |
| EF09310 | 9 | 7 | ---- | ---- | 16'-1" | 10 | 5'-9" | 10'-4" | | | | | | | | | | |
| EF09311 | 9 | 5 | ---- | ---- | 19'-1" | 10 | 5'-9" | 13'-4" | | | | | | | | | | |
| EF09312 | 9 | 41 | ---- | ---- | 56'-0" | 4 | 5'-9" | 44'-6" | 5'-9" | | | | | | | | | |
| EF09313 | 9 | 11 | ---- | ---- | 25'-1" | 10 | 5'-9" | 19'-4" | | | | | | | | | | |
| EF05314 | 5 | 8 | 8 | ---- | 44'-6" | STR | 44'-6" | | | | | | | | | | | Accounts for North & South Ftg |
| EF05315 | 5 | 26 | 26 | ---- | 10'-6" | 4 | 0'-6" | 9'-6" | 0'-6" | | | | | | | | | Accounts for North & South Ftg |
| EF05316 | 5 | 4 | 4 | ---- | 3'-6" | 4 | 0'-6" | 2'-6" | 0'-6" | | | | | | | | | |
| EF05317 | 5 | 6 | 6 | ---- | 5'-7 1/2" | 4 | 0'-6" | 4'-7 1/2" | 0'-6" | | | | | | | | | 4.63'-5.63', vary 2 EA by 8.5" |
| PILE CAP (P11-NORTH) | | | | | | | | | | | | | | | | | | |
| EF09351 | 9 | ---- | 18 | ---- | 53'-0" | STR | 53'-0" | | | | | | | | | | | |
| EF09352 | 9 | ---- | 18 | ---- | 37'-10 1/2" | STR | 37'-10 1/2" | | | | | | | | | | | 35.4'-40.4', vary 2 EA by 6.7"; Couplers attached on one end |
| EF09353 | 9 | ---- | 13 | ---- | 35'-4 1/2" | STR | 35'-4 1/2" | | | | | | | | | | | Couplers attached on one end |
| EF09354 | 9 | ---- | 31 | ---- | 53'-0" | STR | 53'-0" | | | | | | | | | | | |
| EF09355 | 9 | ---- | 13 | ---- | 42'-3" | STR | 42'-3" | | | | | | | | | | | |
| EF09356 | 9 | ---- | 3 | ---- | 46'-3" | STR | 46'-3" | | | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.

4



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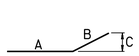

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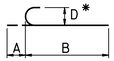

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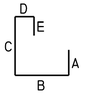

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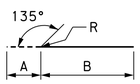

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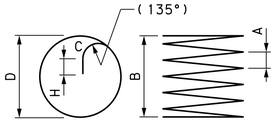
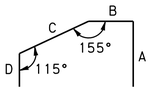


106

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



109

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 5

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 202 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-105.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:41:36 PM

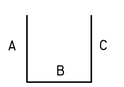
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF05357 | 5 | ---- | 12 | ---- | 49'-0" | STR | 49'-0" | | | | | | | | | | | |
| EF11358 | 11 | ---- | 26 | ---- | 14'-1 1/2" | 10 | 5'-9" | 8'-4 1/2" | | | | | | | | | | Couplers attached on one end |
| EF11359 | 11 | ---- | 30 | ---- | 17'-7 1/2" | 10 | 5'-9" | 11'-10 1/2" | | | | | | | | | | 7.75'-16.38', vary 2 EA by 7" |
| EF11360 | 11 | ---- | 105 | ---- | 56'-0" | 4 | 5'-9" | 44'-6" | 5'-9" | | | | | | | | | |
| EF09361 | 9 | ---- | 8 | ---- | 16'-1" | 10 | 5'-9" | 10'-4" | | | | | | | | | | |
| EF09362 | 9 | ---- | 5 | ---- | 18'-3" | 10 | 5'-9" | 12'-6" | | | | | | | | | | |
| EF09363 | 9 | ---- | 44 | ---- | 56'-0" | 4 | 5'-9" | 44'-6" | 5'-9" | | | | | | | | | |
| EF09364 | 9 | ---- | 12 | ---- | 25'-1" | 10 | 5'-9" | 19'-4" | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DOWELS | | | | | | | | | | | | | | | | | | |
| EF05375 | 5 | 75 | 67 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05376 | 5 | 19 | 34 | ---- | 4'-3 3/4" | 103 | 0'-5 1/2" | 3'-9" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05377 | 5 | 6 | 7 | ---- | 4'-9" | 103 | 0'-5 1/2" | 4'-2 1/4" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05378 | 5 | 6 | 7 | ---- | 5'-6 1/2" | 103 | 0'-5 1/2" | 4'-11 3/4" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05379 | 5 | 6 | 6 | ---- | 6'-4 1/4" | 103 | 0'-5 1/2" | 5'-9 1/2" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EF05380 | 5 | 6 | 6 | ---- | 7'-1 3/4" | 103 | 0'-5 1/2" | 6'-7" | | | | | | | | | 0'-1 1/4" | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| | | | | | | | | | | | | | | | | | | |
| **NEW PIER STEMS** | | | | | | | | | | | | | | | | | | |
| PIER STEM (P3) | | | | | | | | | | | | | | | | | | |
| EP04121 | 4 | 17 | 17 | ---- | 34'-7" | STR | 34'-7" | | | | | | | | | | | |
| EP04123 | 4 | 5 | 5 | ---- | 12'-7" | STR | 12'-7" | | | | | | | | | | | |
| EP04124 | 4 | 32 | 32 | ---- | 15'-7" | STR | 15'-7" | | | | | | | | | | | |
| EP04125 | 4 | 5 | 5 | ---- | 2'-7" | STR | 2'-7" | | | | | | | | | | | |
| EP06126 | 6 | 87 | 87 | ---- | 19'-9 1/2" | STR | 19'-9 1/2" | | | | | | | | | | | |
| EP05127 | 5 | 13 | 13 | ---- | 52'-9" | 4 | 34'-7" | 12'-7" | 5'-7" | | | | | | | | | |
| EP05128 | 5 | 13 | 13 | ---- | 39'-2" | 10 | 34'-7" | 4'-7" | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DOWELS | | | | | | | | | | | | | | | | | | |
| EP05165 | 5 | 100 | 100 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | | DRILL & BOND DOWELS - Vertical & Diagonal |
| PIER STEM (P4) | | | | | | | | | | | | | | | | | | |
| EP11159 | 11 | 19 | 19 | ---- | 23'-5 2/3" | 10 | 2'-0" | 21'-5 2/3" | | | | | | | | | | BARS ON SLOPE |
| EP11160 | 11 | 58 | 58 | ---- | 23'-5 3/4" | 10 | 2'-0" | 21'-5 3/4" | | | | | | | | | | |
| EP11161 | 11 | 20 | 20 | ---- | 17'-11 1/2" | 10 | 2'-0" | 15'-11 1/2" | | | | | | | | | | |
| EP06162 | 6 | ---- | 30 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP06163 | 6 | 15 | 15 | ---- | 15'-4" | 105 | 2'-0" | 5'-8" | 5'-8" | 2'-0" | | | | | | | | |
| EP06164 | 6 | 30 | ---- | ---- | 24'-11" | STR | 24'-11" | | | | | | | | | | | |
| EP05165 | 5 | 36 | 36 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | 0'-6" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP04190 | 4 | 15 | 15 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EP04191 | 4 | 1 | 1 | ---- | 3'-9 1/2" | STR | 3'-9 1/2" | | | | | | | | | | | |
| EP04192 | 4 | ---- | 2 | ---- | 28'-1 1/4" | STR | 28'-1 1/4" | | | | | | | | | | | |
| EP04193 | 4 | ---- | 1 | ---- | 30'-1 1/4" | STR | 30'-1 1/4" | | | | | | | | | | | |
| EP04194 | 4 | 2 | ---- | ---- | 28'-3 3/4" | STR | 28'-3 3/4" | | | | | | | | | | | |
| EP04195 | 4 | 1 | ---- | ---- | 30'-3 3/4" | STR | 30'-3 3/4" | | | | | | | | | | | |
| PIER STEM (P5) | | | | | | | | | | | | | | | | | | |
| EP11166 | 11 | 19 | 19 | ---- | 24'-5 2/3" | 10 | 2'-0" | 22'-5 2/3" | | | | | | | | | | BARS ON SLOPE |
| EP11167 | 11 | 58 | 58 | ---- | 24'-5 3/4" | 10 | 2'-0" | 22'-5 3/4" | | | | | | | | | | |
| EP11168 | 11 | 20 | 20 | ---- | 18'-11 1/2" | 10 | 2'-0" | 16'-11 1/2" | | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.



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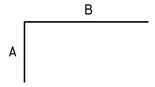

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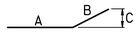

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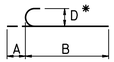

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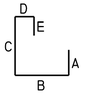

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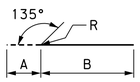

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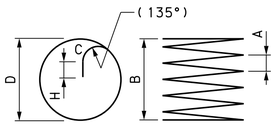
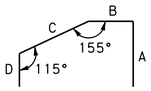


106

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED.
135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



109

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 6

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 203 OF 195

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-106.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:41:38 PM

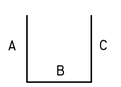
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EP06162 | 6 | ---- | 32 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP06163 | 6 | 16 | 16 | ---- | 15'-4" | 105 | 2'-0" | 5'-8" | 5'-8" | 2'-0" | | | | | | | | |
| EP06164 | 6 | 32 | ---- | ---- | 24'-11" | STR | 24'-11" | | | | | | | | | | | |
| EP05165 | 5 | 36 | 36 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | 0'-6" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP04190 | 4 | 15 | 15 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EP04191 | 4 | 1 | 1 | ---- | 3'-9 1/2" | STR | 3'-9 1/2" | | | | | | | | | | | |
| EP04192 | 4 | ---- | 2 | ---- | 28'-1 1/4" | STR | 28'-1 1/4" | | | | | | | | | | | |
| EP04193 | 4 | ---- | 1 | ---- | 30'-1 1/4" | STR | 30'-1 1/4" | | | | | | | | | | | |
| EP04194 | 4 | 2 | ---- | ---- | 28'-3 3/4" | STR | 28'-3 3/4" | | | | | | | | | | | |
| EP04195 | 4 | 1 | ---- | ---- | 30'-3 3/4" | STR | 30'-3 3/4" | | | | | | | | | | | |
| PIER STEM (P6) | | | | | | | | | | | | | | | | | | |
| EP11166 | 11 | 19 | 19 | ---- | 24'-5 3/4" | 10 | 2'-0" | 22'-5 3/4" | | | | | | | | | | BARS ON SLOPE |
| EP11167 | 11 | 58 | 58 | ---- | 24'-5 3/4" | 10 | 2'-0" | 22'-5 3/4" | | | | | | | | | | |
| EP11168 | 11 | 20 | 20 | ---- | 18'-11 1/2" | 10 | 2'-0" | 16'-11 1/2" | | | | | | | | | | |
| EP06162 | 6 | ---- | 28 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP06163 | 6 | 14 | 14 | ---- | 15'-4" | 105 | 2'-0" | 5'-8" | 5'-8" | 2'-0" | | | | | | | | |
| EP06164 | 6 | 28 | ---- | ---- | 24'-11" | STR | 24'-11" | | | | | | | | | | | |
| EP05165 | 5 | 32 | 32 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | 0'-6" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP04190 | 4 | 15 | 15 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EP04191 | 4 | 1 | 1 | ---- | 3'-9 1/2" | STR | 3'-9 1/2" | | | | | | | | | | | |
| EP04192 | 4 | ---- | 2 | ---- | 28'-1 1/4" | STR | 28'-1 1/4" | | | | | | | | | | | |
| EP04193 | 4 | ---- | 1 | ---- | 30'-1 1/4" | STR | 30'-1 1/4" | | | | | | | | | | | |
| EP04194 | 4 | 2 | ---- | ---- | 28'-3 3/4" | STR | 28'-3 3/4" | | | | | | | | | | | |
| EP04195 | 4 | 1 | ---- | ---- | 30'-3 3/4" | STR | 30'-3 3/4" | | | | | | | | | | | |
| PIER STEM (P7) | | | | | | | | | | | | | | | | | | |
| EP11169 | 11 | 19 | 19 | ---- | 20'-5 3/4" | 10 | 2'-0" | 18'-5 3/4" | | | | | | | | | | BARS ON SLOPE |
| EP11170 | 11 | 58 | 58 | ---- | 20'-5 3/4" | 10 | 2'-0" | 18'-5 3/4" | | | | | | | | | | |
| EP11171 | 11 | 20 | 20 | ---- | 14'-11 1/2" | 10 | 2'-0" | 12'-11 1/2" | | | | | | | | | | |
| EP06162 | 6 | ---- | 24 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP06163 | 6 | 12 | 12 | ---- | 15'-4" | 105 | 2'-0" | 5'-8" | 5'-8" | 2'-0" | | | | | | | | |
| EP06164 | 6 | 24 | ---- | ---- | 24'-11" | STR | 24'-11" | | | | | | | | | | | |
| EP05165 | 5 | 28 | 28 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | 0'-6" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP04190 | 4 | 15 | 15 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EP04191 | 4 | 1 | 1 | ---- | 3'-9 1/2" | STR | 3'-9 1/2" | | | | | | | | | | | |
| EP04192 | 4 | ---- | 2 | ---- | 28'-1 1/4" | STR | 28'-1 1/4" | | | | | | | | | | | |
| EP04193 | 4 | ---- | 1 | ---- | 30'-1 1/4" | STR | 30'-1 1/4" | | | | | | | | | | | |
| EP04194 | 4 | 2 | ---- | ---- | 28'-3 3/4" | STR | 28'-3 3/4" | | | | | | | | | | | |
| EP04195 | 4 | 1 | ---- | ---- | 30'-3 3/4" | STR | 30'-3 3/4" | | | | | | | | | | | |
| PIER STEM (P8) | | | | | | | | | | | | | | | | | | |
| EP11172 | 11 | 19 | 19 | ---- | 31'-5 3/4" | 10 | 2'-0" | 29'-5 3/4" | | | | | | | | | | BARS ON SLOPE |
| EP11173 | 11 | 58 | 58 | ---- | 31'-5 3/4" | 10 | 2'-0" | 29'-5 3/4" | | | | | | | | | | |
| EP11174 | 11 | 20 | 20 | ---- | 25'-11 1/2" | 10 | 2'-0" | 23'-11 1/2" | | | | | | | | | | |
| EP06162 | 6 | ---- | 38 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP06163 | 6 | 19 | 19 | ---- | 15'-4" | 105 | 2'-0" | 5'-8" | 5'-8" | 2'-0" | | | | | | | | |
| EP06164 | 6 | 38 | ---- | ---- | 24'-11" | STR | 24'-11" | | | | | | | | | | | |
| EP05165 | 5 | 44 | 44 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | 0'-6" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP04190 | 4 | 15 | 15 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |

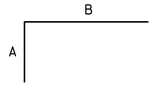
- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

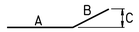
1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.



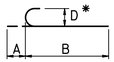
4



10

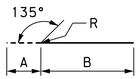


11

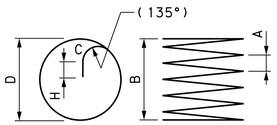


14

55

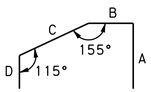


103



106

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



109

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 7

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 204 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-107.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:41:43 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EP04191 | 4 | 1 | 1 | ---- | 3'-9 1/2" | STR | 3'-9 1/2" | | | | | | | | | | | |
| EP04192 | 4 | ---- | 2 | ---- | 28'-1 1/4" | STR | 28'-1 1/4" | | | | | | | | | | | |
| EP04193 | 4 | ---- | 1 | ---- | 30'-1 1/4" | STR | 30'-1 1/4" | | | | | | | | | | | |
| EP04194 | 4 | 2 | ---- | ---- | 28'-3 3/4" | STR | 28'-3 3/4" | | | | | | | | | | | |
| EP04195 | 4 | 1 | ---- | ---- | 30'-3 3/4" | STR | 30'-3 3/4" | | | | | | | | | | | |
| PIER STEM (P9) | | | | | | | | | | | | | | | | | | |
| EP11175 | 11 | 19 | 19 | ---- | 27'-5 3/4" | 10 | 2'-0" | 25'-5 3/4" | | | | | | | | | | BARS ON SLOPE |
| EP11176 | 11 | 69 | 69 | ---- | 27'-5 3/4" | 10 | 2'-0" | 25'-5 3/4" | | | | | | | | | | |
| EP11177 | 11 | 20 | 20 | ---- | 21'-11 1/2" | 10 | 2'-0" | 19'-11 1/2" | | | | | | | | | | |
| EP06181 | 6 | ---- | 36 | ---- | 28'-2 1/2" | STR | 28'-2 1/2" | | | | | | | | | | | |
| EP06163 | 6 | 18 | 18 | ---- | 15'-4" | 105 | 2'-0" | 5'-8" | 5'-8" | 2'-0" | | | | | | | | |
| EP06182 | 6 | 36 | ---- | ---- | 28'-5" | STR | 28'-5" | | | | | | | | | | | |
| EP05165 | 5 | 40 | 40 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | 0'-6" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP04190 | 4 | 16 | 16 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EP04191 | 4 | 1 | 1 | ---- | 3'-9 1/2" | STR | 3'-9 1/2" | | | | | | | | | | | |
| EP04196 | 4 | ---- | 2 | ---- | 31'-7 1/4" | STR | 31'-7 1/4" | | | | | | | | | | | |
| EP04197 | 4 | ---- | 1 | ---- | 33'-7 1/4" | STR | 33'-7 1/4" | | | | | | | | | | | |
| EP04198 | 4 | 2 | ---- | ---- | 31'-9 3/4" | STR | 31'-9 3/4" | | | | | | | | | | | |
| EP04199 | 4 | 1 | ---- | ---- | 33'-9 3/4" | STR | 33'-9 3/4" | | | | | | | | | | | |
| PIER STEM (P10) | | | | | | | | | | | | | | | | | | |
| EP11178 | 11 | 19 | 19 | ---- | 26'-5 3/4" | 10 | 2'-0" | 24'-5 3/4" | | | | | | | | | | BARS ON SLOPE |
| EP11179 | 11 | 69 | 69 | ---- | 26'-5 3/4" | 10 | 2'-0" | 24'-5 3/4" | | | | | | | | | | |
| EP11180 | 11 | 20 | 20 | ---- | 20'-11 1/2" | 10 | 2'-0" | 18'-11 1/2" | | | | | | | | | | |
| EP06181 | 6 | ---- | 34 | ---- | 28'-2 1/2" | STR | 28'-2 1/2" | | | | | | | | | | | |
| EP06163 | 6 | 17 | 17 | ---- | 15'-4" | 105 | 2'-0" | 5'-8" | 5'-8" | 2'-0" | | | | | | | | |
| EP06182 | 6 | 34 | ---- | ---- | 28'-5" | STR | 28'-5" | | | | | | | | | | | |
| EP05165 | 5 | 40 | 40 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | 0'-6" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP04190 | 4 | 16 | 16 | ---- | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EP04191 | 4 | 1 | 1 | ---- | 3'-9 1/2" | STR | 3'-9 1/2" | | | | | | | | | | | |
| EP04196 | 4 | ---- | 2 | ---- | 31'-7 1/4" | STR | 31'-7 1/4" | | | | | | | | | | | |
| EP04197 | 4 | ---- | 1 | ---- | 33'-7 1/4" | STR | 33'-7 1/4" | | | | | | | | | | | |
| EP04198 | 4 | 2 | ---- | ---- | 31'-9 3/4" | STR | 31'-9 3/4" | | | | | | | | | | | |
| EP04199 | 4 | 1 | ---- | ---- | 33'-9 3/4" | STR | 33'-9 3/4" | | | | | | | | | | | |
| PIER STEM (P11) | | | | | | | | | | | | | | | | | | |
| EP04151 | 4 | 17 | 17 | ---- | 34'-7" | STR | 34'-7" | | | | | | | | | | | |
| EP04153 | 4 | 5 | 5 | ---- | 12'-7" | STR | 12'-7" | | | | | | | | | | | |
| EP04154 | 4 | 32 | 32 | ---- | 15'-7" | STR | 15'-7" | | | | | | | | | | | |
| EP04155 | 4 | 5 | 5 | ---- | 2'-7" | STR | 2'-7" | | | | | | | | | | | |
| EP06183 | 6 | 87 | 87 | ---- | 26'-11 3/4" | STR | 26'-11 3/4" | | | | | | | | | | | |
| EP06184 | 6 | ---- | 23 | ---- | 17'-9 1/2" | STR | 17'-9 1/2" | | | | | | | | | | | |
| EP05127 | 5 | 19 | 7 | ---- | 52'-9" | 4 | 34'-7" | 12'-7" | 5'-7" | | | | | | | | | |
| EP05128 | 5 | 19 | 7 | ---- | 39'-2" | 10 | 34'-7" | 4'-7" | | | | | | | | | | |
| EP05185 | 5 | ---- | 24 | ---- | 34'-7" | STR | 34'-7" | | | | | | | | | | | |
| EP05186 | 5 | ---- | 12 | ---- | 26'-7 3/4" | 105 | 2'-0" | 9'-2 1/2" | 13'-5 1/4" | 2'-0" | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| DOWELS | | | | | | | | | | | | | | | | | | |
| EP05165 | 5 | 117 | 126 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |

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- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
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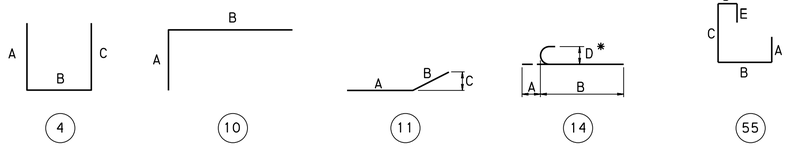



NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 8

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 205 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-108.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:45:05 PM

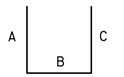
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | |
| **NEW PIER WALLS** | | | | | | | | | | | | | | | | | | |
| PIER WALL (P3) | | | | | | | | | | | | | | | | | | |
| EW06301 | 6 | 20 | 20 | ---- | 37'-1/2" | STR | 37'-1/2" | | | | | | | | | | | |
| EW06302 | 6 | 54 | 48 | ---- | 23'-4 1/4" | STR | 23'-4 1/4" | | | | | | | | | | | |
| EW06303 | 6 | 54 | 48 | ---- | 31'-7 1/4" | STR | 31'-7 1/4" | | | | | | | | | | | |
| EW06304 | 6 | 4 | 4 | ---- | 21'-7 3/4" | STR | 21'-7 3/4" | | | | | | | | | | | |
| EW06305 | 6 | 4 | 4 | ---- | 14'-9" | STR | 28'-10 3/4" | | | | | | | | | | | |
| EW06306 | 6 | 4 | 4 | ---- | 7'-3" | STR | 7'-3" | | | | | | | | | | | |
| EW05307 | 5 | 27 | 27 | ---- | 9'-10 1/4" | 4 | 1'-7" | 6'-8 1/4" | 1'-7" | | | | | | | | | |
| EW05308 | 5 | 27 | 27 | ---- | 25'-8" | 55 | 4'-2 1/2" | 0'-10" | 13'-4" | 0'-10" | 6'-5 1/2" | | | | | | | |
| EW05309 | 5 | 36 | 36 | ---- | 27'-3 3/4" | STR | 27'-3 3/4" | | | | | | | | | | | |
| EW05310 | 5 | 14 | ---- | ---- | 29'-3 3/4" | STR | 29'-3 3/4" | | | | | | | | | | | ONLY FOR SOUTH WALL |
| EW05311 | 5 | 36 | 36 | ---- | 24'-1/4" | STR | 24'-1/4" | | | | | | | | | | | |
| EW05312 | 5 | ---- | 14 | ---- | 26'-1/4" | STR | 26'-1/4" | | | | | | | | | | | ONLY FOR NORTH WALL |
| EW06313 | 6 | 9 | 9 | ---- | 6'-6 3/4" | STR | 6'-6 3/4" | | | | | | | | | | | |
| EW06314 | 6 | 8 | 8 | ---- | 35'-6" | STR | 35'-6" | | | | | | | | | | | |
| EW06315 | 6 | 6 | 6 | ---- | 8'-6" | STR | 8'-6" | | | | | | | | | | | |
| EW06316 | 6 | 6 | 6 | ---- | 30'-5 3/4" | 11 | 28'-8 3/4" | 1'-9" | 1'-0" | | | | | | | | | |
| EW05317 | 5 | 3 | 3 | ---- | 8'-9 1/4" | 4 | 2'-7 3/4" | 3'-5 3/4" | 2'-7 3/4" | | | | | | | | | SHEAR KEY REINF. |
| EW05318 | 5 | 5 | 5 | ---- | 6'-9 1/4" | 4 | 2'-7 3/4" | 1'-5 3/4" | 2'-7 3/4" | | | | | | | | | SHEAR KEY REINF. |
| EW05319 | 5 | 32 | 32 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL AND DIAGONAL |
| EW04320 | 4 | 64 | 64 | ---- | 2'-0" | STR | 2'-0" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| PIER WALL (P11) | | | | | | | | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 20 | 20 | ---- | 36'-4 3/4" | STR | 36'-4 3/4" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 48 | 54 | ---- | 25'-2" | STR | 25'-2" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 48 | 54 | ---- | 32'-5" | STR | 32'-5" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 4 | 4 | ---- | 22'-5 1/2" | STR | 22'-5 1/2" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 4 | 4 | ---- | 14'-9" | STR | 29'-8 1/2" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 4 | 4 | ---- | 7'-7 1/4" | STR | 7'-7 1/4" | | | | | | | | | | | |
| PIER WALL (P11) | 5 | 27 | 27 | ---- | 9'-10 1/4" | 4 | 1'-7" | 6'-8 1/4" | 1'-7" | | | | | | | | | |
| PIER WALL (P11) | 5 | 27 | 27 | ---- | 25'-8" | 55 | 4'-2 1/2" | 0'-10" | 13'-4" | 0'-10" | 6'-5 1/2" | | | | | | | |
| PIER WALL (P11) | 5 | 36 | 36 | ---- | 24'-1/4" | STR | 24'-1/4" | | | | | | | | | | | |
| PIER WALL (P11) | 5 | 14 | ---- | ---- | 26'-1/4" | STR | 26'-1/4" | | | | | | | | | | | ONLY FOR SOUTH WALL |
| PIER WALL (P11) | 5 | 36 | 36 | ---- | 27'-3 3/4" | STR | 27'-3 3/4" | | | | | | | | | | | |
| PIER WALL (P11) | 5 | ---- | 14 | ---- | 29'-3 3/4" | STR | 29'-3 3/4" | | | | | | | | | | | ONLY FOR NORTH WALL |
| PIER WALL (P11) | 6 | 9 | 9 | ---- | 6'-6 3/4" | STR | 6'-6 3/4" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 8 | 8 | ---- | 33'-10 1/4" | STR | 33'-10 1/4" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 6 | 6 | ---- | 8'-6" | STR | 8'-6" | | | | | | | | | | | |
| PIER WALL (P11) | 6 | 6 | 6 | ---- | 30'-1/2" | 11 | 28'-3 1/2" | 1'-9" | 1'-0" | | | | | | | | | |
| PIER WALL (P11) | 5 | 3 | 3 | ---- | 8'-9 1/4" | 4 | 2'-7 3/4" | 3'-5 3/4" | 2'-7 3/4" | | | | | | | | | SHEAR KEY REINF. |
| PIER WALL (P11) | 5 | 5 | 5 | ---- | 6'-9 1/4" | 4 | 2'-7 3/4" | 1'-5 3/4" | 2'-7 3/4" | | | | | | | | | SHEAR KEY REINF. |
| PIER WALL (P11) | 5 | 32 | 32 | ---- | 2'-6" | 11 | 1'-0" | 1'-6" | 0'-9" | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PIER WALL (P11) | 4 | 64 | 64 | ---- | 2'-0" | STR | 2'-0" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.



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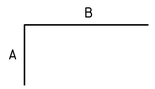

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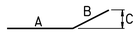

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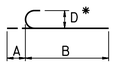

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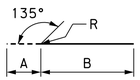

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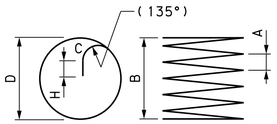
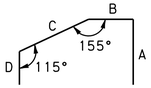


(106)

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



(109)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 9

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 206 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-BL-109.dgn

PLOTTED: 8/26/2019 4:45:14 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | |
| **NEW INTERIOR PIER WALL STRUTS** | | | | | | | | | | | | | | | | | | |
| PIER 3 | | | | | | | | | | | | | | | | | | |
| EW04351 | 4 | ---- | 18 | 18 | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EW04352 | 4 | 12 | 12 | ---- | 11'-1" | STR | 11'-1" | | | | | | | | | | | |
| EW05319 | 5 | ---- | 12 | 12 | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| PIER 11 | | | | | | | | | | | | | | | | | | |
| EW04351 | 4 | ---- | 18 | 18 | 7'-7" | STR | 7'-7" | | | | | | | | | | | |
| EW04352 | 4 | 12 | 12 | ---- | 11'-1" | STR | 11'-1" | | | | | | | | | | | |
| EW05319 | 5 | ---- | 12 | 12 | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| | | | | | | | | | | | | | | | | | | |
| **NEW PIER BENT COLUMNS** | | | | | | | | | | | | | | | | | | |
| PIER BENT COLUMN 4 | | | | | | | | | | | | | | | | | | |
| EP09400 | 9 | 32 | 32 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP09401 | 9 | 26 | 26 | ---- | 29'-5" | STR | 29'-5" | | | | | | | | | | | |
| EP09500 | 9 | 30 | 30 | ---- | 9'-0" | STR | 9'-0" | | | | | | | | | | | |
| EP05402 | 5 | 2 | 2 | ---- | 8'-7" | STR | 8'-7" | | | | | | | | | | | |
| EP05403 | 5 | 4 | 4 | ---- | 5'-7" | STR | 5'-7" | | | | | | | | | | | |
| EP06404 | 6 | 44 | 44 | ---- | 16'-2" | 4 | 3'-9 1/2" | 8'-7" | 3'-9 1/2" | | | | | | | | | |
| PIER BENT COLUMN 5 | | | | | | | | | | | | | | | | | | |
| EP09405 | 9 | 32 | 32 | ---- | 23'-8 1/2" | STR | 23'-8 1/2" | | | | | | | | | | | |
| EP09406 | 9 | 26 | 26 | ---- | 28'-5" | STR | 28'-5" | | | | | | | | | | | |
| EP09500 | 9 | 30 | 30 | ---- | 9'-0" | STR | 9'-0" | | | | | | | | | | | |
| EP05402 | 5 | 2 | 2 | ---- | 8'-7" | STR | 8'-7" | | | | | | | | | | | |
| EP05403 | 5 | 4 | 4 | ---- | 5'-7" | STR | 5'-7" | | | | | | | | | | | |
| EP06404 | 6 | 42 | 42 | ---- | 16'-2" | 4 | 3'-9 1/2" | 8'-7" | 3'-9 1/2" | | | | | | | | | |
| PIER BENT COLUMN 6 | | | | | | | | | | | | | | | | | | |
| EP09407 | 9 | 32 | 32 | ---- | 22'-8 1/2" | STR | 22'-8 1/2" | | | | | | | | | | | |
| EP09408 | 9 | 26 | 26 | ---- | 27'-5" | STR | 27'-5" | | | | | | | | | | | |
| EP09500 | 9 | 30 | 30 | ---- | 9'-0" | STR | 9'-0" | | | | | | | | | | | |
| EP05402 | 5 | 2 | 2 | ---- | 8'-7" | STR | 8'-7" | | | | | | | | | | | |
| EP05403 | 5 | 4 | 4 | ---- | 5'-7" | STR | 5'-7" | | | | | | | | | | | |
| EP06404 | 6 | 40 | 40 | ---- | 16'-2" | 4 | 3'-9 1/2" | 8'-7" | 3'-9 1/2" | | | | | | | | | |
| PIER BENT COLUMN 7 | | | | | | | | | | | | | | | | | | |
| EP09409 | 9 | 32 | 32 | ---- | 21'-8 1/2" | STR | 21'-8 1/2" | | | | | | | | | | | |
| EP09410 | 9 | 26 | 26 | ---- | 26'-5" | STR | 26'-5" | | | | | | | | | | | |
| EP09500 | 9 | 30 | 30 | ---- | 9'-0" | STR | 9'-0" | | | | | | | | | | | |
| EP05402 | 5 | 2 | 2 | ---- | 8'-7" | STR | 8'-7" | | | | | | | | | | | |
| EP05403 | 5 | 4 | 4 | ---- | 5'-7" | STR | 5'-7" | | | | | | | | | | | |
| EP06404 | 6 | 38 | 38 | ---- | 16'-2" | 4 | 3'-9 1/2" | 8'-7" | 3'-9 1/2" | | | | | | | | | |
| PIER BENT COLUMN 8 | | | | | | | | | | | | | | | | | | |
| EP09400 | 9 | 32 | 32 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP09401 | 9 | 26 | 26 | ---- | 29'-5" | STR | 29'-5" | | | | | | | | | | | |
| EP09500 | 9 | 30 | 30 | ---- | 9'-0" | STR | 9'-0" | | | | | | | | | | | |
| EP05402 | 5 | 2 | 2 | ---- | 8'-7" | STR | 8'-7" | | | | | | | | | | | |
| EP05403 | 5 | 4 | 4 | ---- | 5'-7" | STR | 5'-7" | | | | | | | | | | | |
| EP06404 | 6 | 44 | 44 | ---- | 16'-2" | 4 | 3'-9 1/2" | 8'-7" | 3'-9 1/2" | | | | | | | | | |

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- FIGURES IN CIRCLES SHOW TYPES.
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- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
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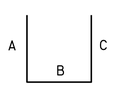
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.



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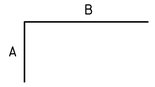

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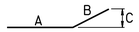

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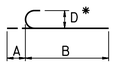

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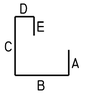

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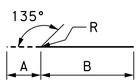

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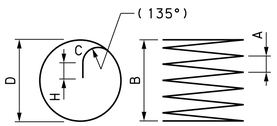
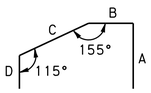


106

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED. 135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



109

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 10

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 207 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

OPERATOR: TYLIPWO1ICSO1$ FILENAME: E02657-S38014-BR-BL-110.dgn

PLOTTED: 8/26/2019 4:45:09 PM

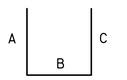
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PIER BENT COLUMN 9 | | | | | | | | | | | | | | | | | | |
| EP09400 | 9 | 32 | 32 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP09401 | 9 | 26 | 26 | ---- | 29'-5" | STR | 29'-5" | | | | | | | | | | | |
| EP09500 | 9 | 30 | 30 | ---- | 9'-0" | STR | 9'-0" | | | | | | | | | | | |
| EP05402 | 5 | 2 | 2 | ---- | 8'-7" | STR | 8'-7" | | | | | | | | | | | |
| EP05403 | 5 | 4 | 4 | ---- | 5'-7" | STR | 5'-7" | | | | | | | | | | | |
| EP06404 | 6 | 44 | 44 | ---- | 16'-2" | 4 | 3'-9 1/2" | 8'-7" | 3'-9 1/2" | | | | | | | | | |
| PIER BENT COLUMN 10 | | | | | | | | | | | | | | | | | | |
| EP09400 | 9 | 32 | 32 | ---- | 24'-8 1/2" | STR | 24'-8 1/2" | | | | | | | | | | | |
| EP09401 | 9 | 26 | 26 | ---- | 29'-5" | STR | 29'-5" | | | | | | | | | | | |
| EP09500 | 9 | 30 | 30 | ---- | 9'-0" | STR | 9'-0" | | | | | | | | | | | |
| EP05402 | 5 | 2 | 2 | ---- | 8'-7" | STR | 8'-7" | | | | | | | | | | | |
| EP05403 | 5 | 4 | 4 | ---- | 5'-7" | STR | 5'-7" | | | | | | | | | | | |
| EP06404 | 6 | 44 | 44 | ---- | 16'-2" | 4 | 3'-9 1/2" | 8'-7" | 3'-9 1/2" | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **NEW PIER BENT BEAMS** | | | | | | | | | | | | | | | | | | |
| PIER 4 | | | | | | | | | | | | | | | | | | |
| EP04451 | 4 | 4 | 4 | ---- | 11'-6 1/2" | 4 | 2'-11 3/4" | 5'-7" | 2'-11 3/4" | | | | | | | | | |
| EP04452 | 4 | 4 | 4 | ---- | 11'-1 1/2" | 4 | 2'-9 1/4" | 5'-7" | 2'-9 1/4" | | | | | | | | | |
| EP04453 | 4 | 8 | 4 | ---- | 10'-8 1/2" | 4 | 2'-6 3/4" | 5'-7" | 2'-6 3/4" | | | | | | | | | |
| EP04454 | 4 | 6 | 6 | ---- | 10'-3 1/2" | 4 | 2'-4 1/4" | 5'-7" | 2'-4 1/4" | | | | | | | | | |
| EP05451 | 5 | 6 | 6 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP08451 | 8 | ---- | 9 | ---- | 10'-1/4" | 14 | 0'-11" | 9'-1 1/4" | | | | | | | | | | |
| EP08452 | 8 | 9 | ---- | ---- | 12'-6" | 14 | 0'-11" | 11'-7" | | | | | | | | | | |
| EP08453 | 8 | ---- | 9 | ---- | 11'-4 2/7" | Curved | 0'-11" | 2'-1 2/3" | 8'-3 3/5" | | | | | | | | | |
| EP08454 | 8 | 9 | ---- | ---- | 13'-5 3/5" | Curved | 0'-11" | 2'-1 2/3" | 10'-5" | | | | | | | | | |
| PIER 5 | | | | | | | | | | | | | | | | | | |
| EP04451 | 4 | 4 | 4 | ---- | 11'-6 1/2" | 4 | 2'-11 3/4" | 5'-7" | 2'-11 3/4" | | | | | | | | | |
| EP04452 | 4 | 4 | 4 | ---- | 11'-1 1/2" | 4 | 2'-9 1/4" | 5'-7" | 2'-9 1/4" | | | | | | | | | |
| EP04453 | 4 | 8 | 4 | ---- | 10'-8 1/2" | 4 | 2'-6 3/4" | 5'-7" | 2'-6 3/4" | | | | | | | | | |
| EP04454 | 4 | 6 | 6 | ---- | 10'-3 1/2" | 4 | 2'-4 1/4" | 5'-7" | 2'-4 1/4" | | | | | | | | | |
| EP05451 | 5 | 6 | 6 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP08451 | 8 | ---- | 9 | ---- | 10'-1/4" | 14 | 0'-11" | 9'-1 1/4" | | | | | | | | | | |
| EP08452 | 8 | 9 | ---- | ---- | 12'-6" | 14 | 0'-11" | 11'-7" | | | | | | | | | | |
| EP08453 | 8 | ---- | 9 | ---- | 11'-4 2/7" | Curved | 0'-11" | 2'-1 2/3" | 8'-3 3/5" | | | | | | | | | |
| EP08454 | 8 | 9 | ---- | ---- | 13'-5 3/5" | Curved | 0'-11" | 2'-1 2/3" | 10'-5" | | | | | | | | | |
| PIER 6 | | | | | | | | | | | | | | | | | | |
| EP04451 | 4 | 4 | 4 | ---- | 11'-6 1/2" | 4 | 2'-11 3/4" | 5'-7" | 2'-11 3/4" | | | | | | | | | |
| EP04452 | 4 | 4 | 4 | ---- | 11'-1 1/2" | 4 | 2'-9 1/4" | 5'-7" | 2'-9 1/4" | | | | | | | | | |
| EP04453 | 4 | 8 | 4 | ---- | 10'-8 1/2" | 4 | 2'-6 3/4" | 5'-7" | 2'-6 3/4" | | | | | | | | | |
| EP04454 | 4 | 6 | 6 | ---- | 10'-3 1/2" | 4 | 2'-4 1/4" | 5'-7" | 2'-4 1/4" | | | | | | | | | |
| EP05451 | 5 | 6 | 6 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP08451 | 8 | ---- | 9 | ---- | 10'-1/4" | 14 | 0'-11" | 9'-1 1/4" | | | | | | | | | | |
| EP08452 | 8 | 9 | ---- | ---- | 12'-6" | 14 | 0'-11" | 11'-7" | | | | | | | | | | |
| EP08453 | 8 | ---- | 9 | ---- | 11'-4 2/7" | Curved | 0'-11" | 2'-1 2/3" | 8'-3 3/5" | | | | | | | | | |
| EP08454 | 8 | 9 | ---- | ---- | 13'-5 3/5" | Curved | 0'-11" | 2'-1 2/3" | 10'-5" | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.



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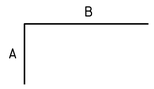

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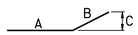

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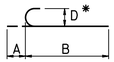

14

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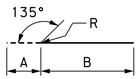

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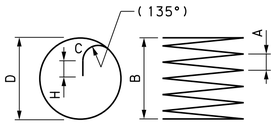
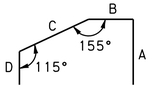


106

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED.
135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



109

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 11

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 208 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-111.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:45:32 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PIER 7 | | | | | | | | | | | | | | | | | | |
| EP04451 | 4 | 4 | 4 | ---- | 11'-6 1/2" | 4 | 2'-11 3/4" | 5'-7" | 2'-11 3/4" | | | | | | | | | |
| EP04452 | 4 | 4 | 4 | ---- | 11'-1 1/2" | 4 | 2'-9 1/4" | 5'-7" | 2'-9 1/4" | | | | | | | | | |
| EP04453 | 4 | 8 | 4 | ---- | 10'-8 1/2" | 4 | 2'-6 3/4" | 5'-7" | 2'-6 3/4" | | | | | | | | | |
| EP04454 | 4 | 6 | 6 | ---- | 10'-3 1/2" | 4 | 2'-4 1/4" | 5'-7" | 2'-4 1/4" | | | | | | | | | |
| EP05451 | 5 | 6 | 6 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP08451 | 8 | ---- | 9 | ---- | 10'-1/4" | 14 | 0'-11" | 9'-1 1/4" | | | | | | | | | | |
| EP08452 | 8 | 9 | ---- | ---- | 12'-6" | 14 | 0'-11" | 11'-7" | | | | | | | | | | |
| EP08453 | 8 | ---- | 9 | ---- | 11'-4 2/7" | Curved | 0'-11" | 2'-1 2/3" | 8'-3 3/5" | | | | | | | | | |
| EP08454 | 8 | 9 | ---- | ---- | 13'-5 3/5" | Curved | 0'-11" | 2'-1 2/3" | 10'-5" | | | | | | | | | |
| PIER 8 | | | | | | | | | | | | | | | | | | |
| EP04451 | 4 | 4 | 4 | ---- | 11'-6 1/2" | 4 | 2'-11 3/4" | 5'-7" | 2'-11 3/4" | | | | | | | | | |
| EP04452 | 4 | 4 | 4 | ---- | 11'-1 1/2" | 4 | 2'-9 1/4" | 5'-7" | 2'-9 1/4" | | | | | | | | | |
| EP04453 | 4 | 8 | 4 | ---- | 10'-8 1/2" | 4 | 2'-6 3/4" | 5'-7" | 2'-6 3/4" | | | | | | | | | |
| EP04454 | 4 | 6 | 6 | ---- | 10'-3 1/2" | 4 | 2'-4 1/4" | 5'-7" | 2'-4 1/4" | | | | | | | | | |
| EP05451 | 5 | 6 | 6 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP08451 | 8 | ---- | 9 | ---- | 10'-1/4" | 14 | 0'-11" | 9'-1 1/4" | | | | | | | | | | |
| EP08452 | 8 | 9 | ---- | ---- | 12'-6" | 14 | 0'-11" | 11'-7" | | | | | | | | | | |
| EP08453 | 8 | ---- | 9 | ---- | 11'-4 2/7" | Curved | 0'-11" | 2'-1 2/3" | 8'-3 3/5" | | | | | | | | | |
| EP08454 | 8 | 9 | ---- | ---- | 13'-5 3/5" | Curved | 0'-11" | 2'-1 2/3" | 10'-5" | | | | | | | | | |
| PIER 9 | 0 | | | | | | | | | | | | | | | | | |
| EP04451 | 4 | 4 | 4 | ---- | 11'-6 1/2" | 4 | 2'-11 3/4" | 5'-7" | 2'-11 3/4" | | | | | | | | | |
| EP04452 | 4 | 4 | 4 | ---- | 11'-1 1/2" | 4 | 2'-9 1/4" | 5'-7" | 2'-9 1/4" | | | | | | | | | |
| EP04453 | 4 | 8 | 4 | ---- | 10'-8 1/2" | 4 | 2'-6 3/4" | 5'-7" | 2'-6 3/4" | | | | | | | | | |
| EP04454 | 4 | 6 | 6 | ---- | 10'-3 1/2" | 4 | 2'-4 1/4" | 5'-7" | 2'-4 1/4" | | | | | | | | | |
| EP05451 | 5 | 6 | 6 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP08451 | 8 | ---- | 9 | ---- | 10'-1/4" | 14 | 0'-11" | 9'-1 1/4" | | | | | | | | | | |
| EP08452 | 8 | 9 | ---- | ---- | 12'-6" | 14 | 0'-11" | 11'-7" | | | | | | | | | | |
| EP08453 | 8 | ---- | 9 | ---- | 11'-4 2/7" | Curved | 0'-11" | 2'-1 2/3" | 8'-3 3/5" | | | | | | | | | |
| EP08454 | 8 | 9 | ---- | ---- | 13'-5 3/5" | Curved | 0'-11" | 2'-1 2/3" | 10'-5" | | | | | | | | | |
| PIER 10 | 0 | | | | | | | | | | | | | | | | | |
| EP04451 | 4 | 4 | 4 | ---- | 11'-6 1/2" | 4 | 2'-11 3/4" | 5'-7" | 2'-11 3/4" | | | | | | | | | |
| EP04452 | 4 | 4 | 4 | ---- | 11'-1 1/2" | 4 | 2'-9 1/4" | 5'-7" | 2'-9 1/4" | | | | | | | | | |
| EP04453 | 4 | 8 | 4 | ---- | 10'-8 1/2" | 4 | 2'-6 3/4" | 5'-7" | 2'-6 3/4" | | | | | | | | | |
| EP04454 | 4 | 6 | 6 | ---- | 10'-3 1/2" | 4 | 2'-4 1/4" | 5'-7" | 2'-4 1/4" | | | | | | | | | |
| EP05451 | 5 | 6 | 6 | ---- | 2'-6" | 11 | 1'-6" | 1'-0" | | | | | | | | | | DRILL & BOND DOWELS - VERTICAL & DIAGONAL |
| EP08451 | 8 | ---- | 9 | ---- | 10'-1/4" | 14 | 0'-11" | 9'-1 1/4" | | | | | | | | | | |
| EP08452 | 8 | 9 | ---- | ---- | 12'-6" | 14 | 0'-11" | 11'-7" | | | | | | | | | | |
| EP08453 | 8 | ---- | 9 | ---- | 11'-4 2/7" | Curved | 0'-11" | 2'-1 2/3" | 8'-3 3/5" | | | | | | | | | |
| EP08454 | 8 | 9 | ---- | ---- | 13'-5 3/5" | Curved | 0'-11" | 2'-1 2/3" | 10'-5" | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **NEW COLUMN PEDESTALS** | | | | | | | | | | | | | | | | | | |
| PIER 3 | | | | | | | | | | | | | | | | | | |
| EP05551 | 5 | 9 | 9 | ---- | 16'-9" | 4 | 4'-1" | 8'-7" | 4'-1" | | | | | | | | | |
| EP09551 | 9 | 28 | 28 | ---- | 19'-6" | STR | 19'-6" | | | | | | | | | | | |
| EP09552 | 9 | 10 | 10 | ---- | 14'-9 1/2" | STR | 14'-9 1/2" | | | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
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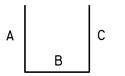
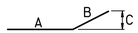


(4)

(10)



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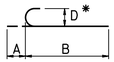

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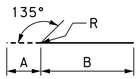

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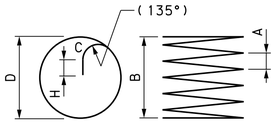
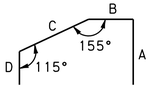


(106)

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED.
135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



(109)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 12

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 209 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-112.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:45:13 PM

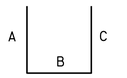
# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PIER 11 | | | | | | | | | | | | | | | | | | |
| EP05551 | 5 | 9 | 9 | ---- | 16'-9" | 4 | 4'-1" | 8'-7" | 4'-1" | | | | | | | | | |
| EP09551 | 9 | 28 | 28 | ---- | 19'-6" | STR | 19'-6" | | | | | | | | | | | |
| EP09552 | 9 | 10 | 10 | ---- | 14'-9 1/2" | STR | 14'-9 1/2" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **NEW PIER DECK SLABS** | | | | | | | | | | | | | | | | | | |
| New Pier Deck Slabs - Pier 3 | | | | | | | | | | | | | | | | | | |
| ES05301 | 5 | 94 | 171 | 88 | 11'-1/4" | STR | 11'-1/4" | | | | | | | | | | | |
| ES05302 | 5 | 94 | 171 | 87 | 9'-2 3/4" | STR | 9'-2 3/4" | | | | | | | | | | | |
| ES05303 | 5 | 61 | ---- | ---- | 30'-11 3/4" | STR | 30'-11 3/4" | | | | | | | | | | | |
| ES05304 | 5 | ---- | 61 | ---- | 27'-8 1/4" | STR | 27'-8 1/4" | | | | | | | | | | | |
| ES05305 | 5 | ---- | ---- | 61 | 31'-8 3/4" | STR | 31'-8 3/4" | | | | | | | | | | | |
| ES05306 | 5 | ---- | 61 | ---- | 31'-6 1/4" | STR | 31'-6 1/4" | | | | | | | | | | | |
| ES05307 | 5 | 94 | 171 | 88 | 3'-3 1/2" | 10 | 0'-10" | 2'-5 1/2" | | | | | | | | | | |
| ES05308 | 5 | 94 | 171 | 88 | 3'-5 1/4" | 4 | 0'-4" | 2'-3/4" | 1'-1/2" | | | | | | | | | |
| ES05309 | 5 | 94 | 171 | 88 | 1'-10 1/2" | 10 | 0'-10" | 1'-1/2" | | | | | | | | | | |
| ES05310 | 5 | ---- | ---- | 14 | 2'-1 1/2" | STR | 2'-1 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| ES05311 | 5 | ---- | 14 | ---- | 0'-10 1/2" | STR | 0'-10 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| New Pier Deck Slabs - Pier 11 | | | | | | | | | | | | | | | | | | |
| ES05301 | 5 | 94 | 171 | 88 | 11'-1/4" | STR | 11'-1/4" | | | | | | | | | | | |
| ES05302 | 5 | 94 | 171 | 87 | 9'-2 3/4" | STR | 9'-2 3/4" | | | | | | | | | | | |
| ES05303 | 5 | 61 | ---- | ---- | 30'-11 3/4" | STR | 30'-11 3/4" | | | | | | | | | | | |
| ES05304 | 5 | ---- | 61 | ---- | 27'-8 1/4" | STR | 27'-8 1/4" | | | | | | | | | | | |
| ES05305 | 5 | ---- | ---- | 61 | 31'-8 3/4" | STR | 31'-8 3/4" | | | | | | | | | | | |
| ES05306 | 5 | ---- | 61 | ---- | 31'-6 1/4" | STR | 31'-6 1/4" | | | | | | | | | | | |
| ES05307 | 5 | 94 | 171 | 88 | 3'-3 1/2" | 10 | 0'-10" | 2'-5 1/2" | | | | | | | | | | |
| ES05308 | 5 | 94 | 171 | 88 | 3'-5 1/4" | 4 | 0'-4" | 2'-3/4" | 1'-1/2" | | | | | | | | | |
| ES05309 | 5 | 94 | 171 | 88 | 1'-10 1/2" | 10 | 0'-10" | 1'-1/2" | | | | | | | | | | |
| ES05310 | 5 | ---- | ---- | 14 | 2'-1 1/2" | STR | 2'-1 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |
| ES05311 | 5 | ---- | 14 | ---- | 0'-10 1/2" | STR | 0'-10 1/2" | | | | | | | | | | | COUPLERS ATTACHED ON ONE END |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.



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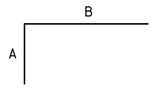

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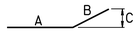

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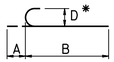

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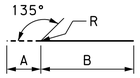

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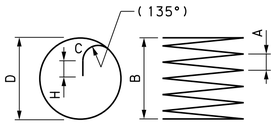
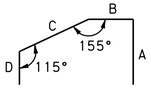


106

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED.
135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



109

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 13

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 210 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

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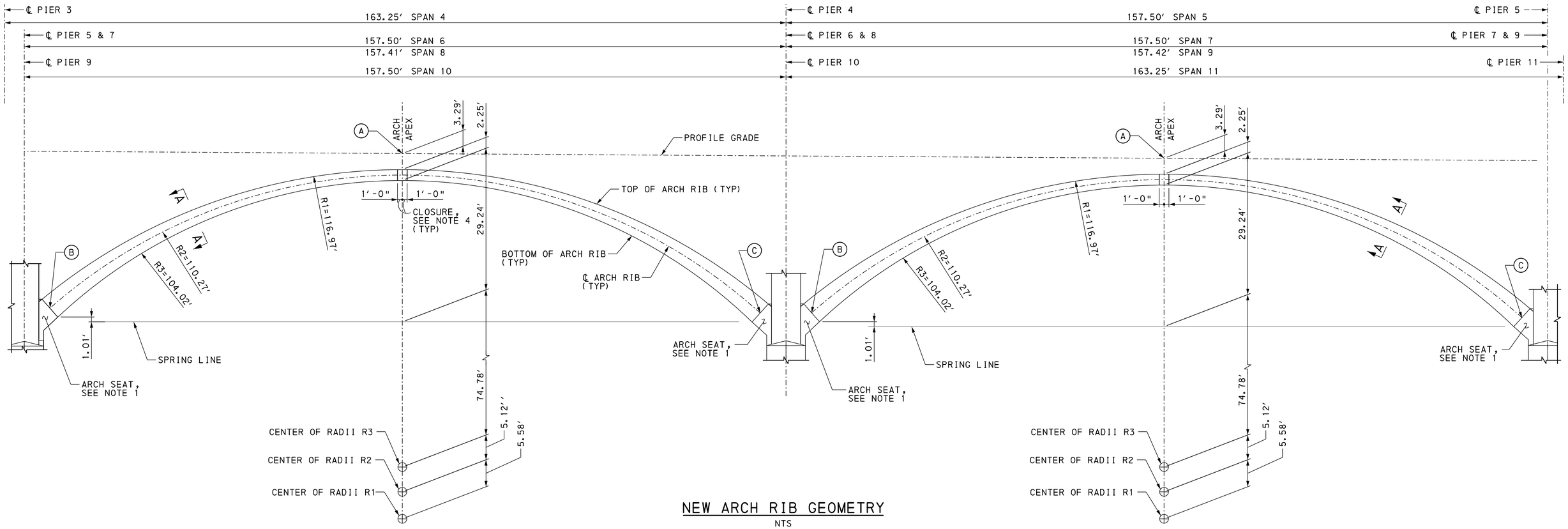
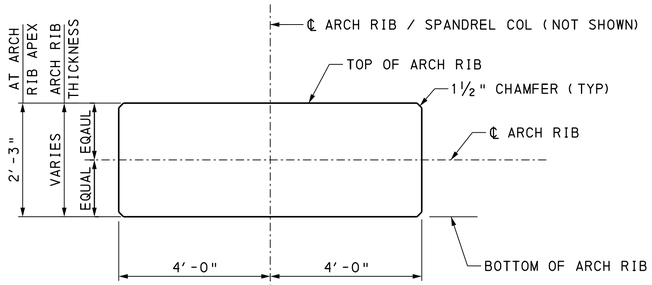



## NEW ARCH RIB GEOMETRY

NTS

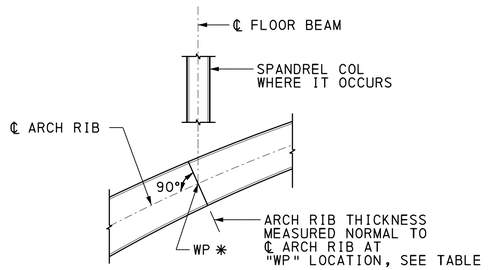



## SECTION A-A

1 0 1 2 FEET

| STATIONS AND ELEVATIONS FOR ARCH CONTROL POINTS (ft) | | | | |
|---|---|---|---|---|
| | Ⓐ | | Ⓑ | Ⓒ |
| SPAN | STATION | ELEV | ELEV | ELEV |
| 4 | 3049+67.07 | 410.92 | 378.99 | 378.00 |
| 5 | 3051+24.57 | 409.94 | 378.01 | 377.02 |
| 6 | 3052+82.07 | 408.96 | 377.03 | 376.04 |
| 7 | 3054+39.57 | 407.98 | 376.05 | 375.06 |
| 8 | 3055+97.08 | 407.00 | 375.07 | 374.08 |
| 9 | 3057+54.41 | 406.02 | 374.10 | 373.10 |
| 10 | 3059+11.91 | 405.04 | 373.12 | 372.12 |
| 11 | 3060+69.41 | 404.06 | 372.14 | 371.15 |

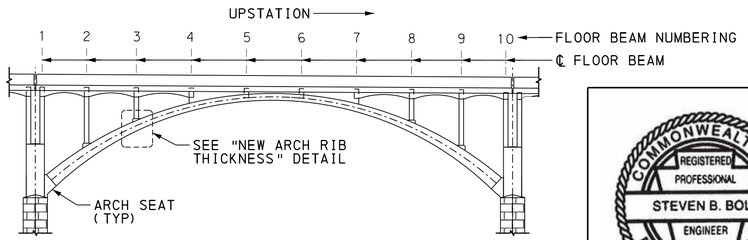
| ARCH RIB THICKNESS AT "WP" (ft), SEE NOTE 2 | | |
|---|---|---|
| FLOOR BEAM NUMBER | SPAN 4 THRU SPAN 8 AND SPAN 10, 11 | SPAN 9 |
| 2 | 4.05 | 4.04 |
| 3 | 3.18 | 3.17 |
| 4 | 2.57 | 2.56 |
| 5 | 2.28 | 2.28 |
| 6 | 2.29 | 2.29 |
| 7 | 2.59 | 2.59 |
| 8 | 3.22 | 3.23 |
| 9 | 4.13 | 4.13 |




✱ WP INDICATES INTERSECTION BETWEEN ℄ FLOOR BEAM AND ℄ ARCH RIB.

## NEW ARCH RIB THICKNESS

NTS




## FLOOR BEAM NUMBERING

NTS

## NOTES:

1. FOR ARCH SEAT GEOMETRY, SEE "NEW ARCH SEAT LAYOUT" SHEET.
2. FOR ARCH RIB THICKNESS AT ARCH SEAT, SEE "NEW ARCH SEAT LAYOUT" SHEET.
3. ARCH RIB GEOMETRY IS TYPICAL FOR NORTH AND SOUTH STRUCTURES.
4. 14-DAY DELAY CLOSURE TO MITIGATE INITIAL SHRINKAGE EFFECTS. CLOSURE SHALL CONSIST OF ULTRA HIGH PERFORMANCE CLOSURE CONCRETE.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# NEW ARCH RIB LAYOUT

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 211 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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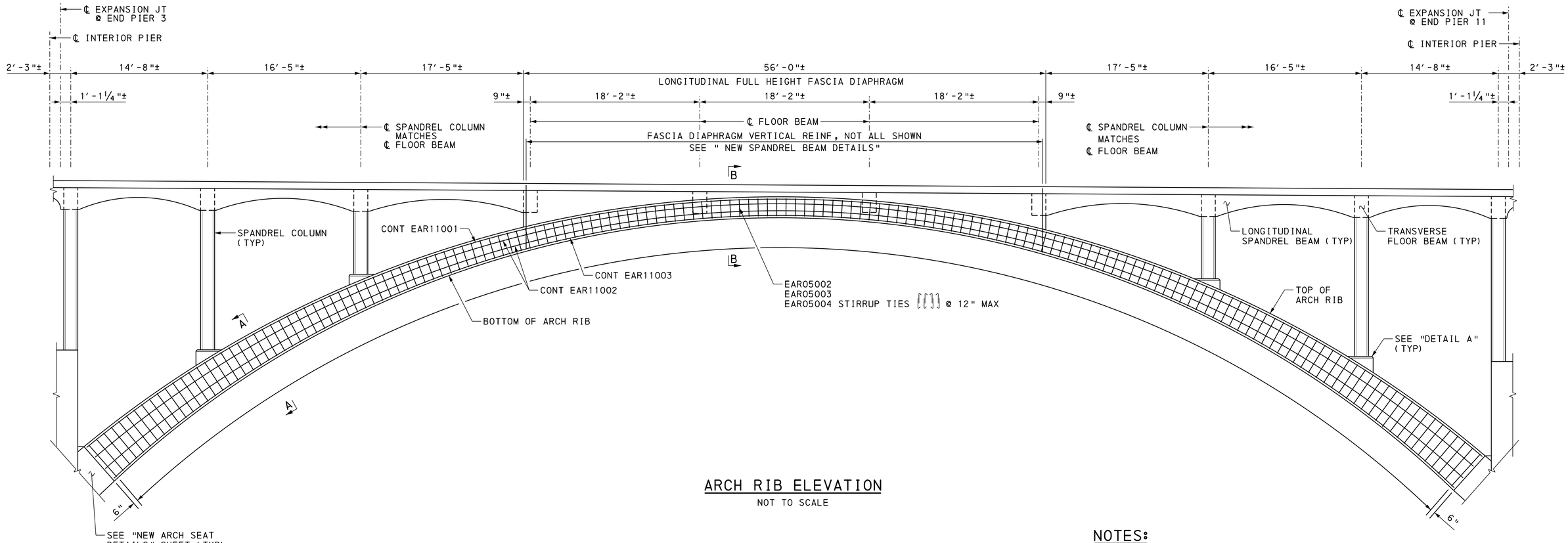
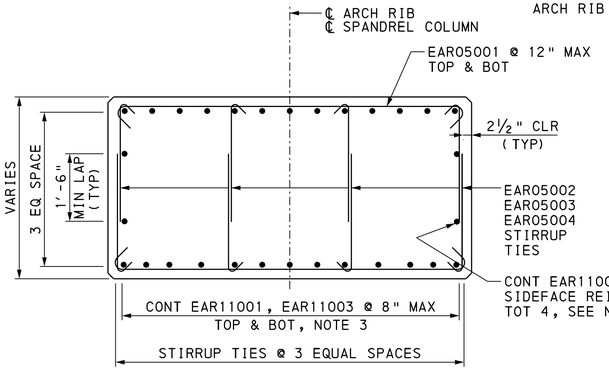



## ARCH RIB ELEVATION

NOT TO SCALE

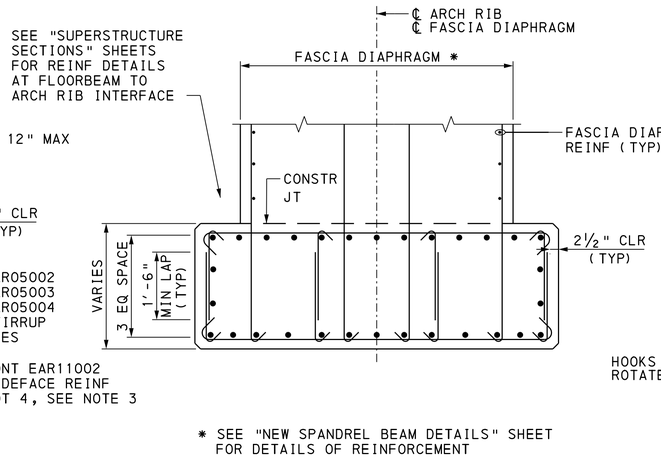
## NOTES:

1. AS NEEDED ARCH RIB CONSTRUCTION JOINT MAY BE PROPOSED BY CONTRACTOR TO FACILITATE CONTRACTOR'S CONSTRUCTION MEANS AND METHODS.
2. ARCH RIB LONGITUDINAL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL BE FULLY DEVELOPED ACROSS APPROVED ARCH RIB CONSTRUCTION JOINT. CONSTRUCTION JOINT SURFACES SHALL BE ROUGHENED TO ¼" MINIMUM AMPLITUDE.
3. AS AN OPTION TO THE CONTRACTOR, LONGITUDINAL ARCH RIB REINFORCEMENT EXCEEDING 60 FEET MAY BE MADE CONTINUOUS BY USING APPROVED LAP SPLICE PER STD PLANS BC-736M OR MECHANICAL SPLICE. OPTIONAL LAP SPLICE USED AS CONSTRUCTION MEANS AND METHODS OF MAKING LONGITUDINAL REINFORCEMENT CONTINUOUS SHALL BE STAGGERED LONGITUDINALLY SUCH THAT NO MORE THAN 50% OF THE TOTAL ARCH RIB LONGITUDINAL REINFORCEMENT IS LAP SPLICED AT THE SAME LONGITUDINAL LOCATION. LAP SPLICE SHALL BE ADEQUATE TO DEVELOP REINF YIELD STRENGTH OF 60KSI.
4. DETAILS OF CONSTRUCTION JOINT AND SPLICING OF CONTINUOUS LONGITUDINAL REINFORCEMENT SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER.




## SECTION A-A

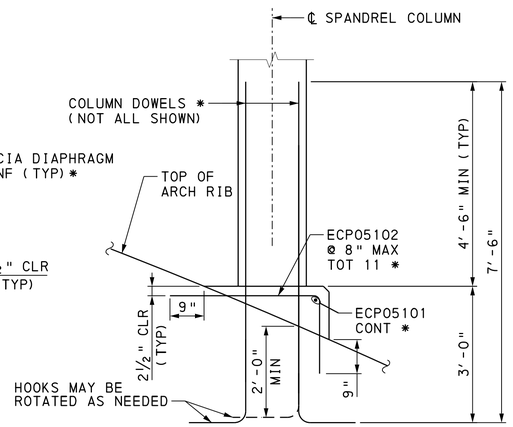
NOT TO SCALE




* SEE "NEW SPANDREL BEAM DETAILS" SHEET FOR DETAILS OF REINFORCEMENT

## SECTION B-B

NOT TO SCALE




* SEE "NEW SPANDREL COLUMN DETAILS" SHEET FOR DETAILS OF REINFORCEMENT

## DETAIL A

NOT TO SCALE

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

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW ARCH RIB DETAILS

RECOMMENDED 08/30/2019

SHEET 212 OF 295

S-38014

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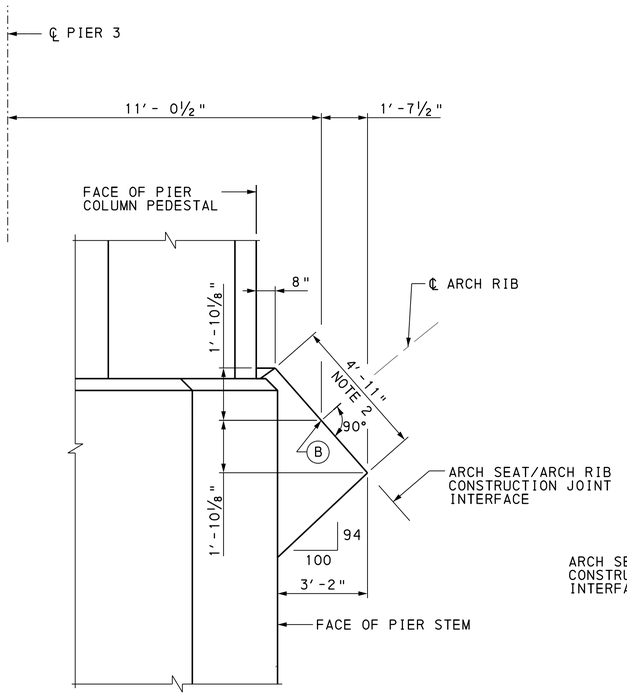
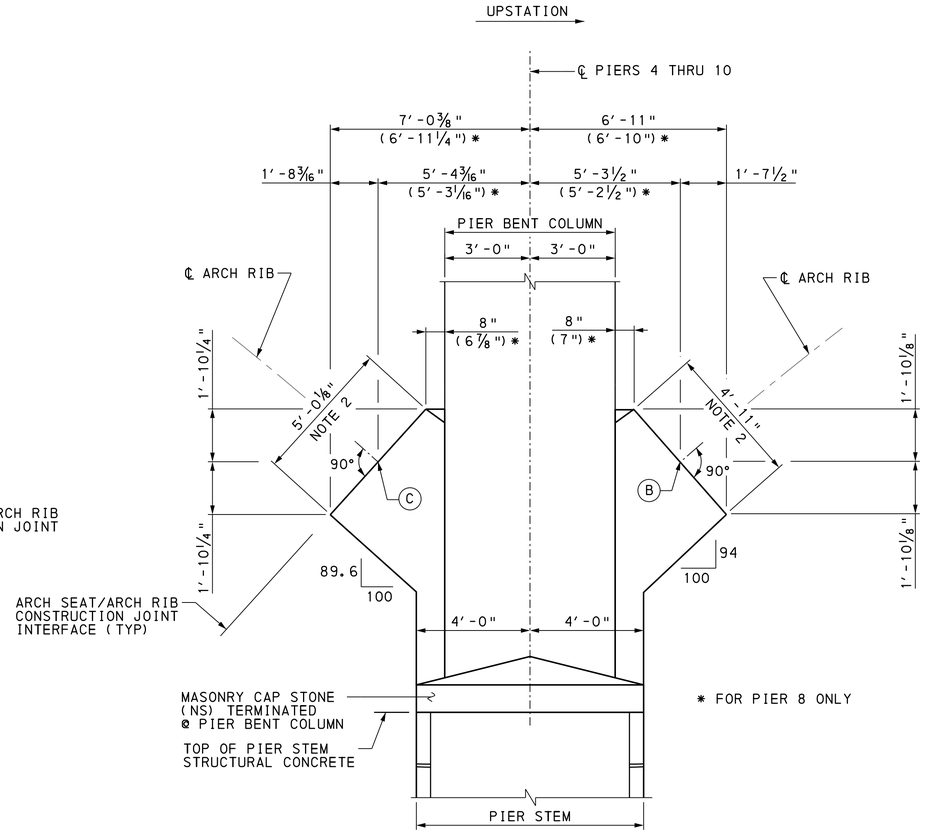
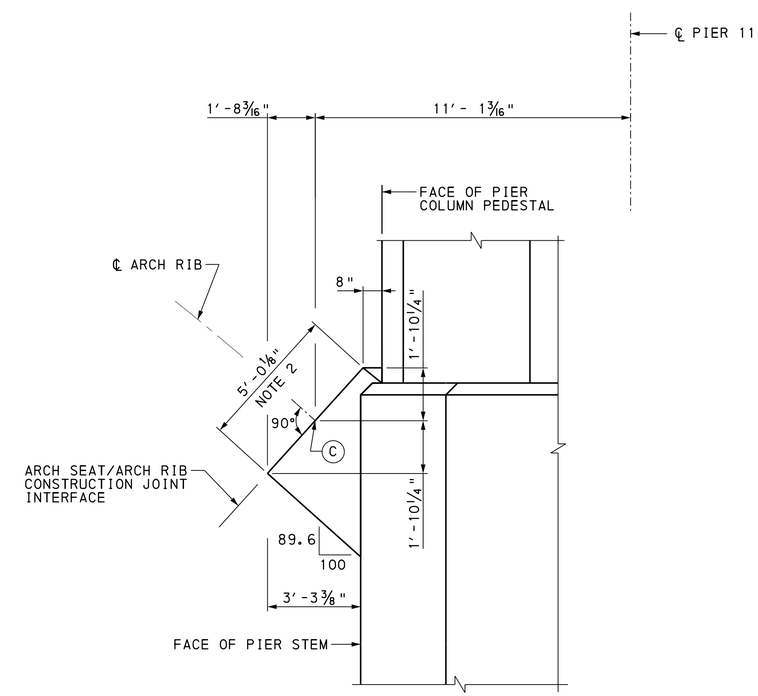



AT PIER 3




AT PIERS 4 THRU 10
(LOOKING NORTH)




AT PIER 11

## NOTES:

1. FOR STATIONS AND ELEVATIONS AT CONTROL POINTS (B) AND (C), SEE "NEW ARCH RIB LAYOUT" SHEET.
2. ARCH RIB THICKNESS MATCHES ARCH SEAT DIMENSION SHOWN AT ARCH RIB/ARCH SEAT CONSTRUCTION JOINT.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

1 0 1 2 3 FEET

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING
NEW ARCH SEAT LAYOUT

RECOMMENDED 08/30/2019

SHEET 213 OF 295

S-38014

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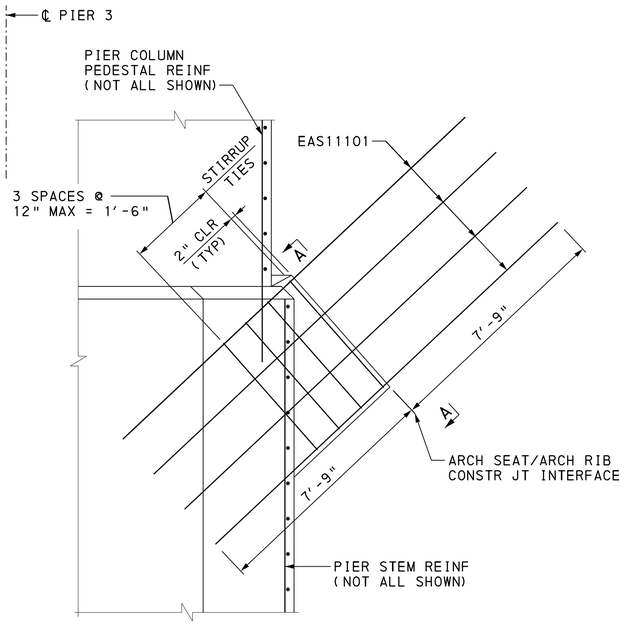


## AT PIER 3
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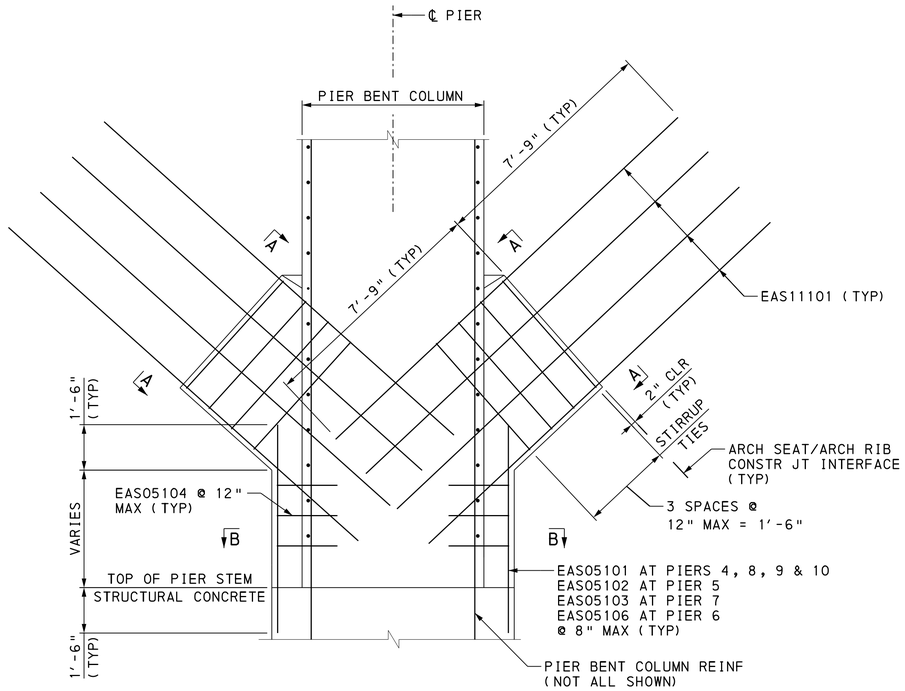


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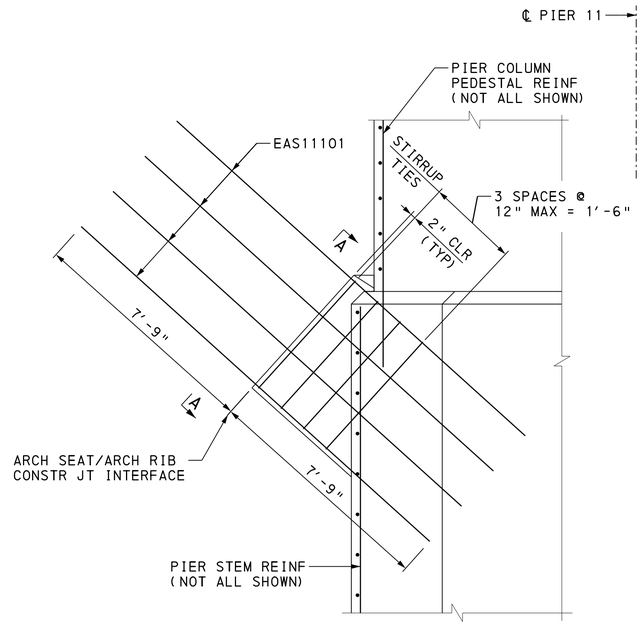
NOT TO SCALE

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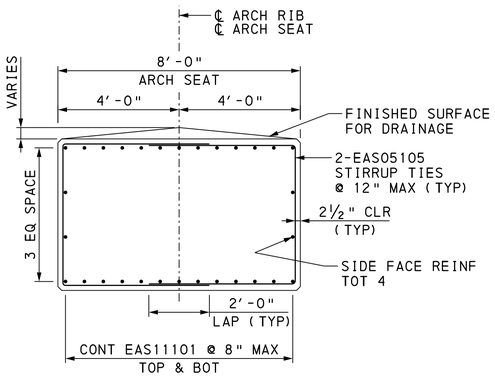
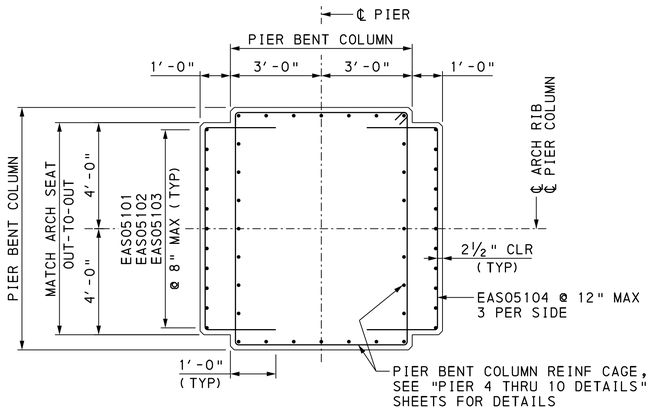



## SECTION A-A
NOT TO SCALE




## SECTION B-B
NOT TO SCALE

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# NEW ARCH SEAT DETAILS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 214 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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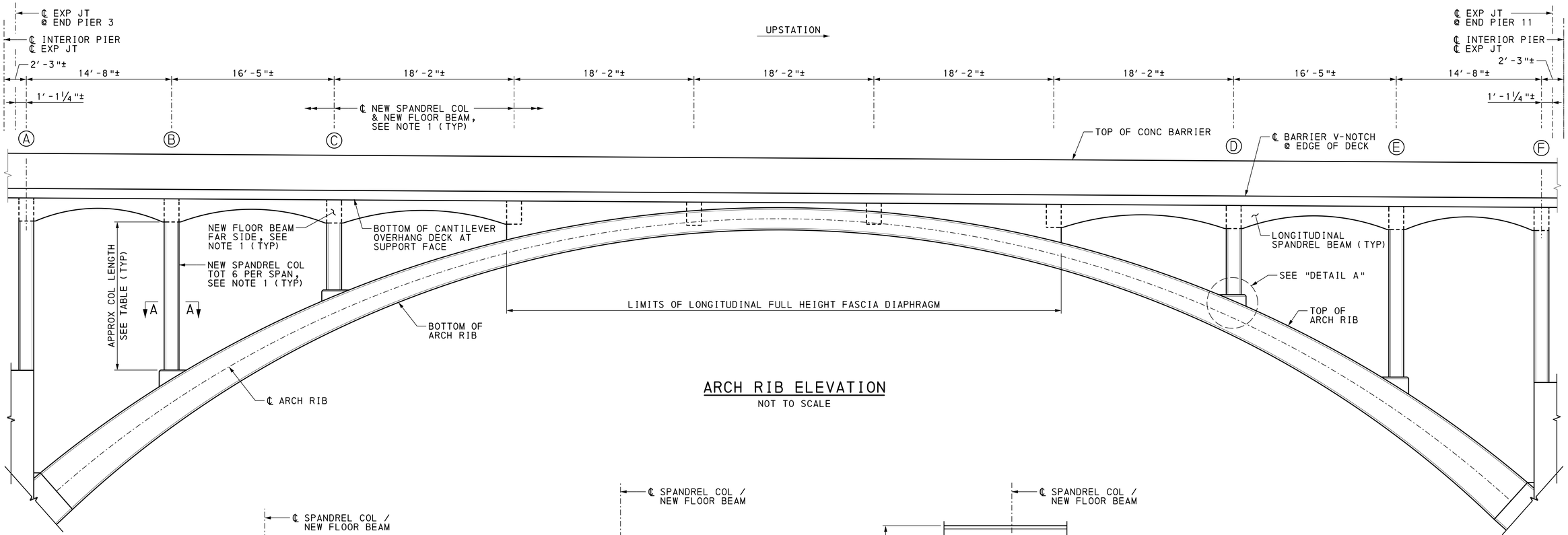
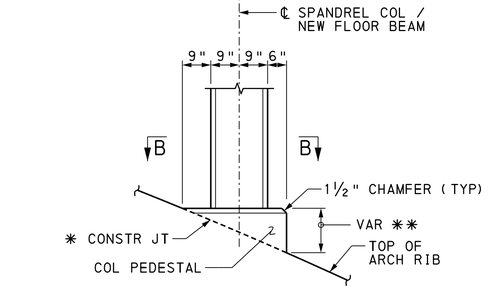


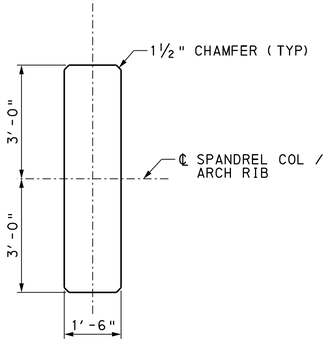

## ARCH RIB ELEVATION
NOT TO SCALE



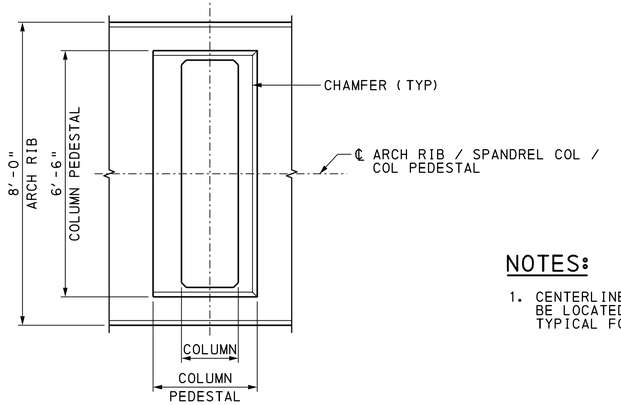

* CONSTRUCTION JOINT SHALL BE ROUGHENED TO ¼" MIN AMPLITUDE

** 1′-2" (MIN), 1′-9" (MAX)

## DETAIL A (COLUMN PEDESTAL)
NOT TO SCALE




## SECTION A-A (SPANDREL COLUMN)
NOT TO SCALE




## SECTION B-B
NOT TO SCALE

| LOCATION | APPROX COLUMN LENGTH (ft) | | | | | |
|---|---|---|---|---|---|---|
| | Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ | Ⓕ |
| NORTH STRUCTURE | 15.80 | 15.31 | 7.12 | 7.06 | 15.29 | 15.85 |
| SOUTH STRUCTURE | 15.73 | 15.24 | 7.05 | 6.99 | 15.22 | 15.78 |

NOTE: COLUMN LENGTHS ARE APPROXIMATE AND SHOWN FOR PURPOSE OF ESTIMATING PAY QUANTITIES ONLY. CONTRACTOR SHALL DETERMINE EXACT COLUMN LENGTHS FOR CONSTRUCTION BASED ON GEOMETRIC AND DIMENSIONAL REQUIREMENTS AS SHOWN ON THE PLANS. EXACT COLUMN LENGTHS VARY FROM SPAN TO SPAN.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

## NOTES:

1. CENTERLINE NEW SPANDREL COLUMN AND NEW FLOOR BEAM SHALL BE LOCATED TO MATCH CENTERLINE EXISTING FLOOR BEAM, TYPICAL FOR NORTH AND SOUTH STRUCTURES.

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW SPANDREL COLUMN LAYOUT

RECOMMENDED 08/30/2019

SHEET 215 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

PLOTTED: 8/26/2019 4:46:47 PM
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OPERATOR: TYLIPWO11CSO1$

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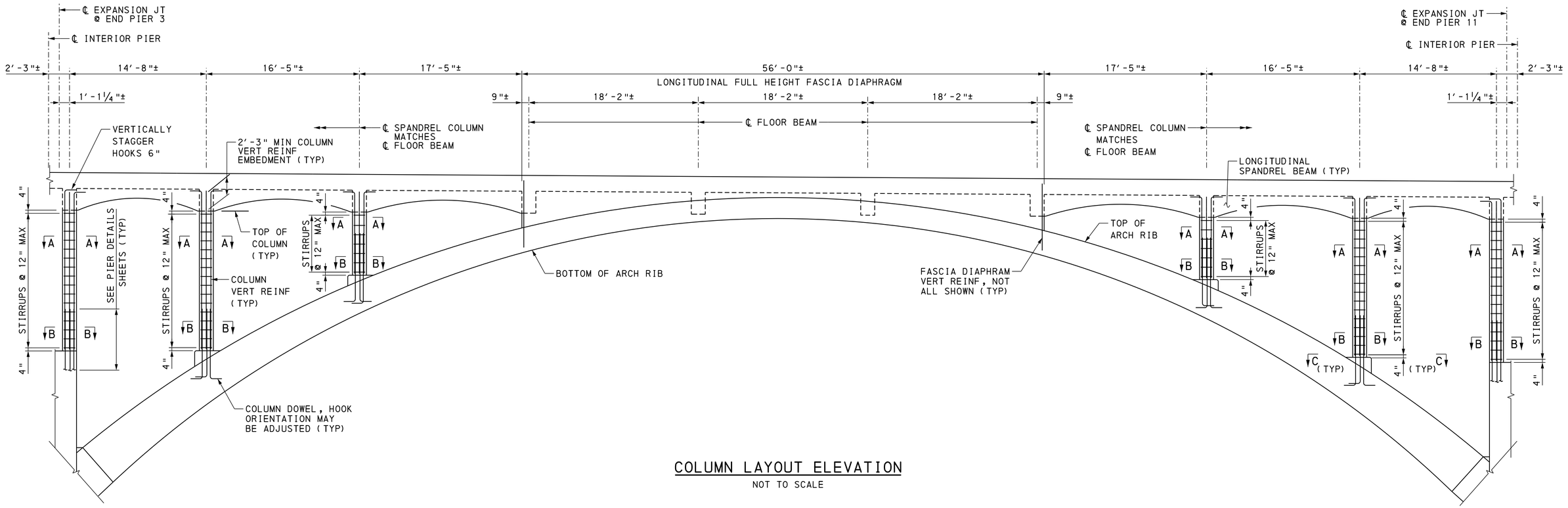
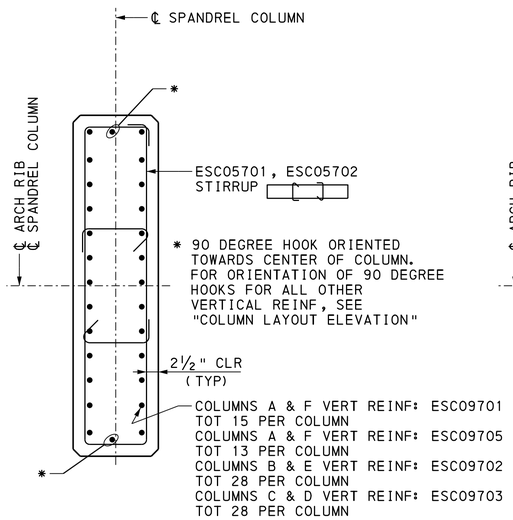


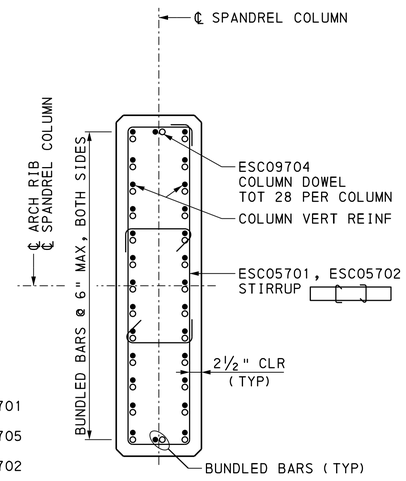

## COLUMN LAYOUT ELEVATION

NOT TO SCALE



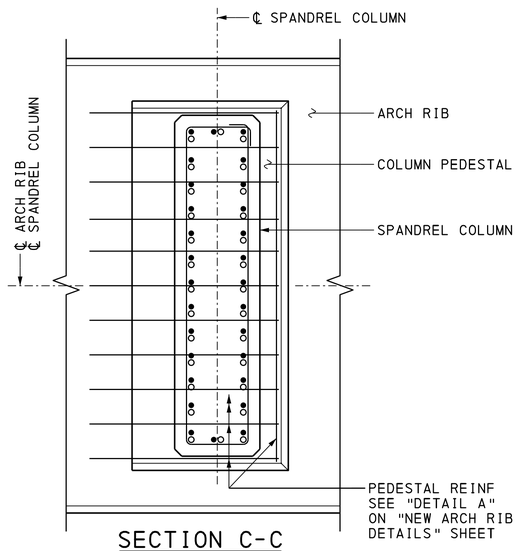

## SECTION A-A

NOT TO SCALE




## SECTION B-B

NOT TO SCALE




## SECTION C-C

NOT TO SCALE

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# NEW SPANDREL COLUMN DETAILS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 216 OF 295

S-38014

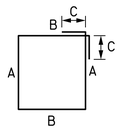
FILENAME: E02657-S38014-BR-DT-421.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:45:38 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

| MARK | SIZE | STAGE 1 | STAGE 2 | STAGE 3 | LENGTH | TYPE | A | B | C | D | E | F | G | H | I | J | R | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ARCH RIBS** | | | | | | | | | | | | | | | | | | |
| EAS11001 | 11 | 104 | 104 | ---- | 60'-0" & VAR. = 179'-3/4" | STR | 179'-3/4" | | | | | | | | | | | NOTE 1 |
| EAS11002 | 11 | 32 | 32 | ---- | 60'-0" & VAR. = 176'-8 2/3" | STR | 176'-8 2/3" | | | | | | | | | | | NOTE 1 |
| EAS11003 | 11 | 104 | 104 | ---- | 60'-0" & VAR. = 174'-5 1/5" | STR | 174'-5 1/5" | | | | | | | | | | | NOTE 1 |
| EAS05001 | 5 | 2576 | 2576 | ---- | 8'-6" | 104 | 0'-5 1/2" | 7'-7" | | | | | | | | | | |
| EAS05002 | 5 | 3200 | 3200 | ---- | 2'-5" | 103 | 0'-5 1/2" | 1'-11 1/2" | | | | | | | | | | |
| EAS05003 | 5 | 4096 | 4096 | ---- | 3'-2" | 103 | 0'-5 1/2" | 2'-8 1/2" | | | | | | | | | | |
| EAS05004 | 5 | 3008 | 3008 | ---- | 3'-5 1/2" | 103 | 0'-5 1/2" | 3'-0" | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **ARCH SEATS** | | | | | | | | | | | | | | | | | | |
| EAS11101 | 11 | 480 | 480 | ---- | 15'-6" | STR | 15'-6" | | | | | | | | | | | |
| EAS05101 | 5 | 88 | 88 | ---- | 6'-1 4/5" | STR | 6'-1 4/5" | | | | | | | | | | | |
| EAS05102 | 5 | 22 | 22 | ---- | 5'-1 1/5" | STR | 5'-1 1/5" | | | | | | | | | | | |
| EAS05103 | 5 | 22 | 22 | ---- | 3'-0" | STR | 3'-0" | | | | | | | | | | | |
| EAS05104 | 5 | 42 | 42 | ---- | 11'-2 2/5" | 4 | 1'-9 3/5" | 7'-7 1/5" | 1'-9 3/5" | | | | | | | | | |
| EAS05105 | 5 | 128 | 128 | ---- | 14'--0" | 4 | 4'-7 1/5" | 4'-9 3/5" | 4'-7 1/5" | | | | | | | | | |
| EAS05106 | 5 | 22 | 22 | ---- | 4'-1 1/2" | STR | 4'-1 1/2" | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **SPANDREL COLUMNS** | | | | | | | | | | | | | | | | | | |
| ESC05701 | 5 | 656 | 656 | ---- | 14'-1 1/2" | 2 | 5'-6 3/8" | 1'-3/8" | 0'-6" | | | | | | | | | |
| ESC05702 | 5 | 1312 | 1312 | ---- | 1'-11 7/8" | 26 | 0'-5 1/2" | 1'-3/8" | 0'-6" | | | | | | | | 0'-1 1/4" | |
| ESC09701 | 9 | 240 | 240 | ---- | 19'-8 1/5" | 10 | 18'-1 1/5" | 1'-7" | | | | | | | | | | |
| ESC09702 | 9 | 448 | 448 | ---- | 19'-1 5/7" | 10 | 17'-6 5/7" | 1'-7" | | | | | | | | | | |
| ESC09703 | 9 | 448 | 448 | ---- | 10'-11 4/9" | 10 | 9'-4 4/9" | 1'-7" | | | | | | | | | | |
| ESC09704 | 9 | 896 | 896 | ---- | 8'-8 1/4" | 10 | 7'-1 1/4" | 1'-7" | | | | | | | | | | |
| ESC09705 | 9 | 208 | 208 | ---- | 20'-2 1/5" | 10 | 18'-7 1/5" | 1'-7" | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **NEW SPANDREL COLUMN PEDESTALS** | | | | | | | | | | | | | | | | | | |
| CP05101 | 5 | 32 | 32 | ---- | 6'-1" | STR | 6'-1" | | | | | | | | | | | |
| CP05102 | 5 | 352 | 352 | ---- | 5'-7 1/5" | 10 | 3'-3 3/5" | 2'-3 3/5" | | | | | | | | | | |

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.



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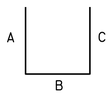

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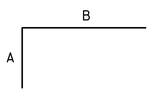

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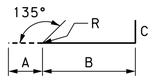

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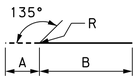
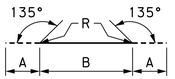


(103)



(104)

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.

| DES: CL | DWN: AR | CKD: CC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 14

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 217 OF 295

S-38014

FILENAME: E02657-S38014-BR-BL-201.dgn
OPERATOR: TYLIPW01ICS01$

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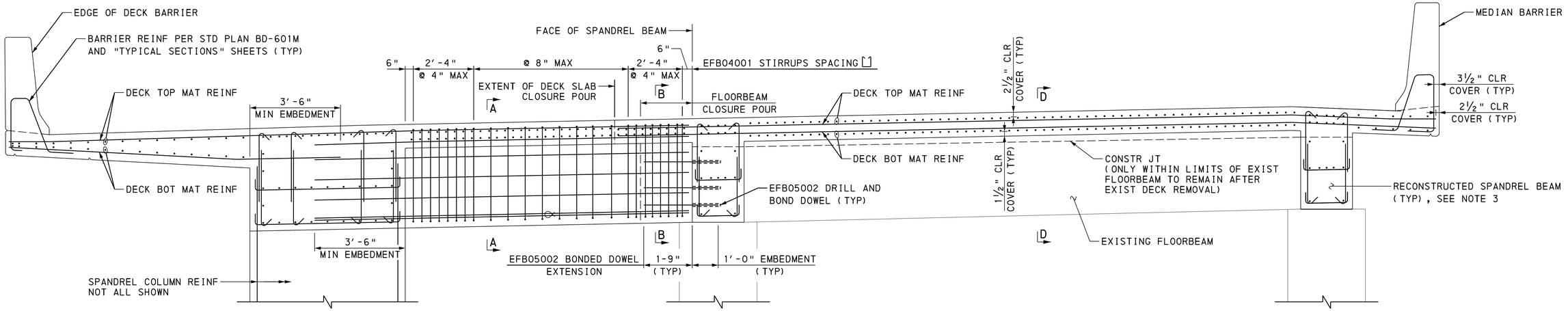
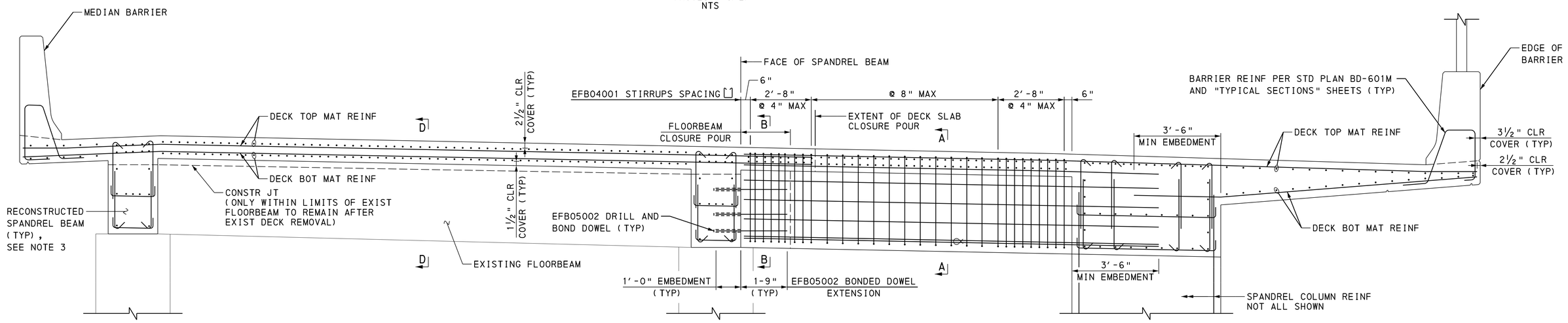



## NORTH STRUCTURE SUPERSTRUCTURE SECTION AT SPANDREL COLUMN FINAL CONDITION

(NOTES 1 & 2)
NTS

## LEGEND:

⊂ INDICATES BUNDLED BARS




## SOUTH STRUCTURE SUPERSTRUCTURE SECTION AT SPANDREL COLUMN FINAL CONDITION

(NOTES 1 & 2)
NTS

## NOTES:

1. DRILL AND BOND DOWELS IN HORIZONTAL HOLES SHALL BE BONDED BY APPROVED RESIN CAPSULES OR APPROVED CHEMICAL ADHESIVES. SEE MANUFACTURER'S REQUIREMENTS FOR DETAILS NOT SHOWN.
2. SEE "NEW FLOORBEAM DETAILS" SHEETS FOR SECTIONS A-A, B-B, AND D-D.
3. RECONSTRUCTED SPANDREL BEAM CONCRETE CONTINUOUSLY CAST WITH DECK SLAB CONCRETE, TYP.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
SUPERSTRUCTURE DETAILS - 1

RECOMMENDED 08/30/2019

SHEET 218 OF 295

S-38014

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-441.dgn

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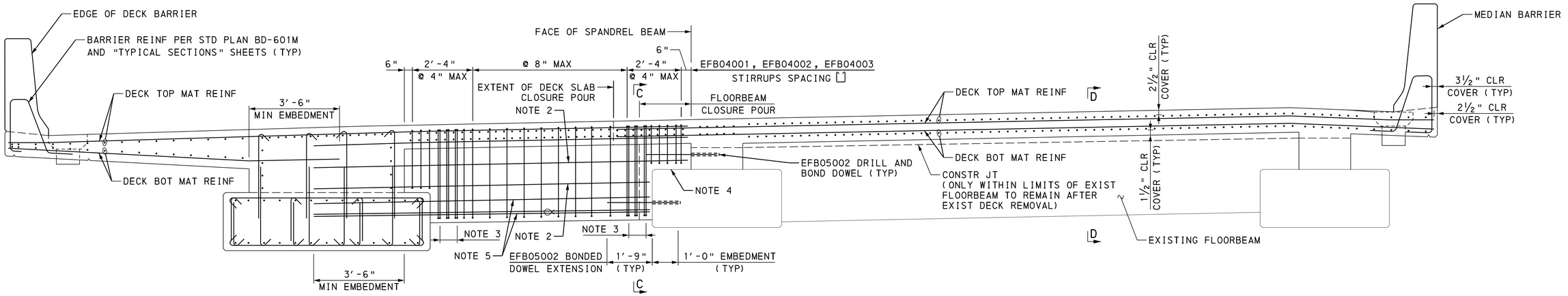
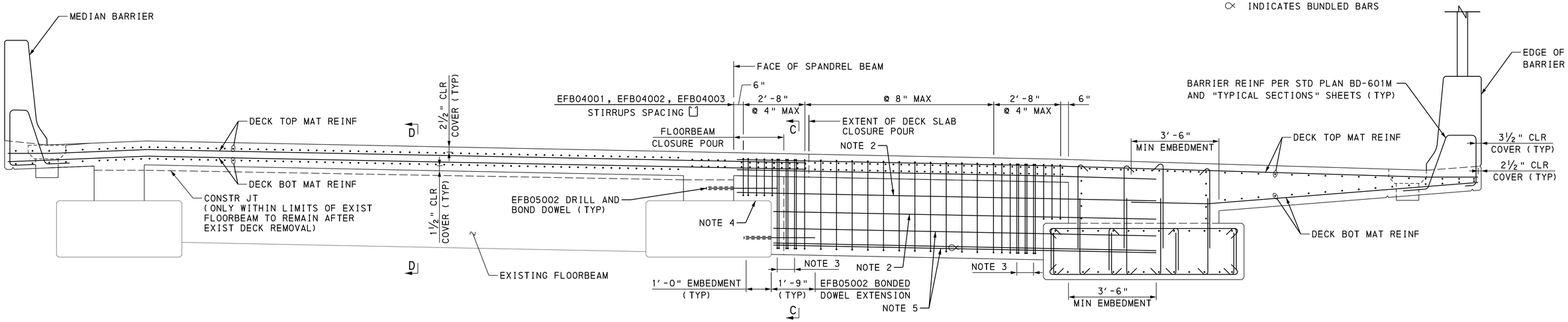



## NORTH STRUCTURE SUPERSTRUCTURE SECTION AT APEX
## FINAL CONDITION
(NOTES 1 THRU 6)
NTS




## SOUTH STRUCTURE SUPERSTRUCTURE SECTION AT APEX
## FINAL CONDITION
(NOTES 1 THRU 6)
NTS

**LEGEND:**

∝ INDICATES BUNDLED BARS

## NOTES:

1. DRILL AND BOND DOWELS IN HORIZONTAL HOLES SHALL BE BONDED BY APPROVED RESIN CAPSULES OR APPROVED CHEMICAL ADHESIVES. SEE MANUFACTURER'S REQUIREMENTS FOR DETAILS NOT SHOWN.
2. LOCATE BAR LAYER 3" CLEAR FROM TOP OF ARCH RIB.
3. ADDITIONAL EFB04001 STIRRUPS TO BE BUNDLED WITH FLOORBEAM STIRRUPS, TOTAL 3.
4. ROUGHEN EXISTING CONCRETE SURFACE THAT WILL BE IN CONTACT WITH NEW CONCRETE TO ¼" MIN AMPLITUDE. TYPICAL AT ALL CONSTRUCTION JOINT INTERFACES.
5. AS AN OPTION TO THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, REINFORCEMENT MAY BE LAP SPLICED, OR MECHANICALLY SPLICED USING FORMSAVER COUPLER AT CONSTRUCTION JOINT BETWEEN ARCH RIB AND FLOORBEAM. OPTIONAL SPLICE SHALL ENSURE REINFORCEMENT CONTINUITY.
6. SEE "NEW FLOORBEAM DETAILS" SHEETS FOR SECTIONS C-C AND D-D.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
SUPERSTRUCTURE DETAILS - 2

RECOMMENDED 08/30/2019

SHEET 219 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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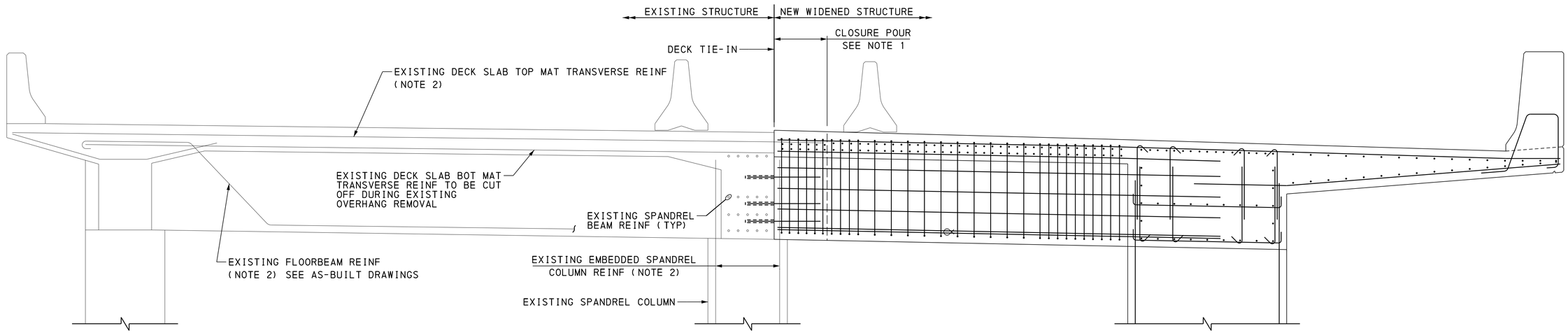
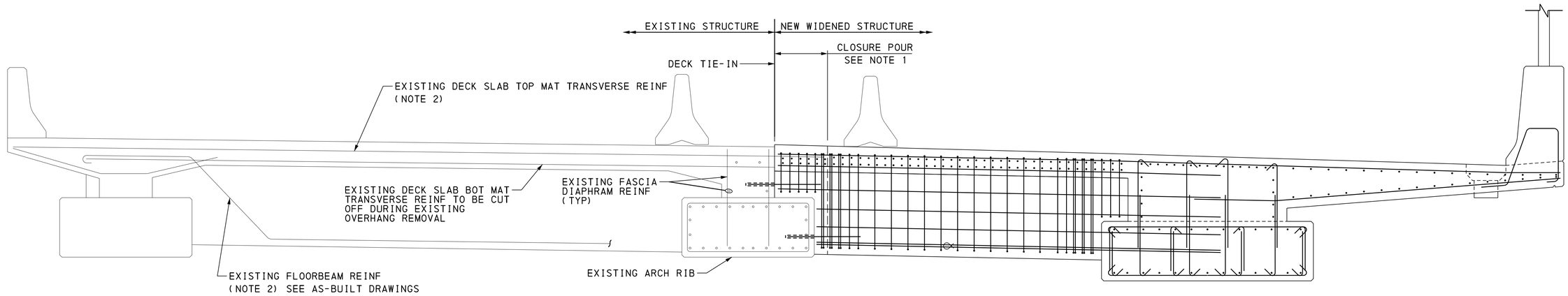



## SOUTH STRUCTURE SUPERSTRUCTURE SECTION AT SPANDREL COLUMN
## TEMPORARY CONDITION

(SEE "FINAL CONDITION" FOR DETAILS OF NEW REINFORCEMENT)
NTS

**LEGEND:**

⊂ INDICATES BUNDLED BARS




## SOUTH STRUCTURE SUPERSTRUCTURE SECTION AT APEX
## TEMPORARY CONDITION

(SEE "FINAL CONDITION" FOR DETAILS OF NEW REINFORCEMENT)
NTS

**NOTES:**

1. FOR LAP SPLICE DETAILS BETWEEN EXISTING AND NEW DECK REINFORCEMENT WITHIN ISOLATION GAP, SEE "DECK SLAB TEMPORARY ISOLATION GAP CLOSURE DETAILS" IN THE "DECK DETAILS" SHEETS.
2. ALL EXISTING EMBEDDED SPANDREL COLUMN, FASCIA DIAPHRAGM, FLOORBEAM, AND TOP MAT TRANSVERSE DECK REINFORCEMENT SHOWN ON PLANS TO REMAIN SHALL BE PRESERVED AND SHALL NOT BE DAMAGED DURING CONCRETE REMOVAL.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
SUPERSTRUCTURE DETAILS - 3

RECOMMENDED 08/30/2019

SHEET 220 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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OPERATOR: TYLIPWO11CS01$

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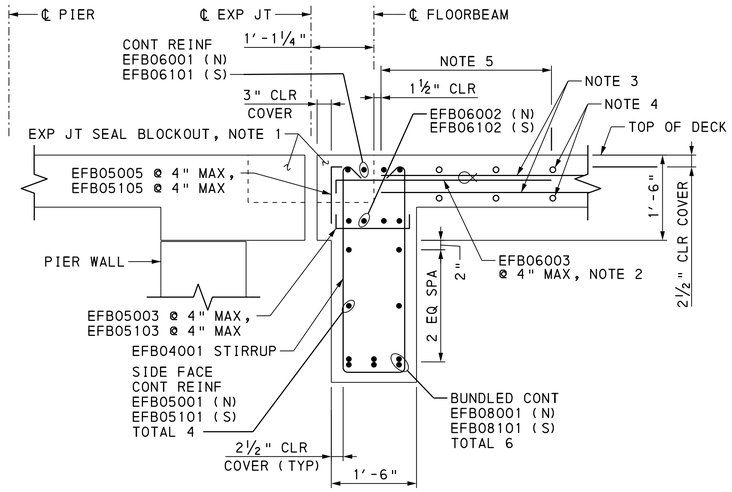
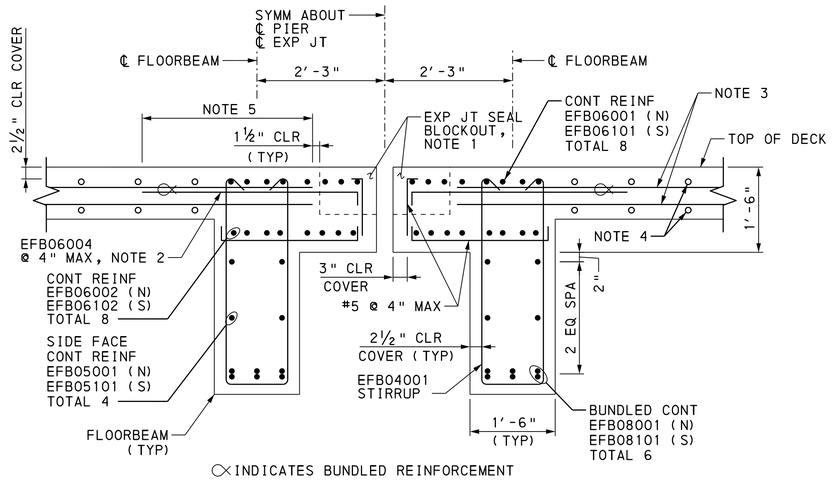


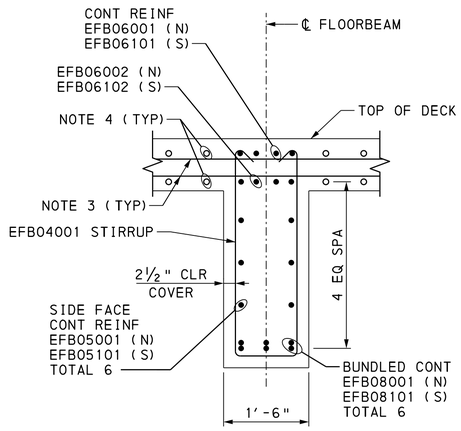

## AT PIERS 3 & 11




## AT PIERS 4, 5, 6, 7, 8, 9 & 10

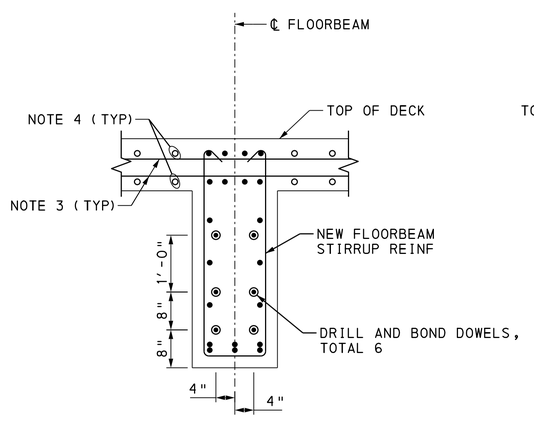
(ALL DETAILS SHOWN TYPICAL FOR EACH SIDE OF EXP JT)

## FLOORBEAM SECTIONS ADJACENT TO PIER
## (REINF DETAILS FOR NEW WIDENED DECK, RECONSTRUCTED DECK SIMILAR)




## SECTION A-A

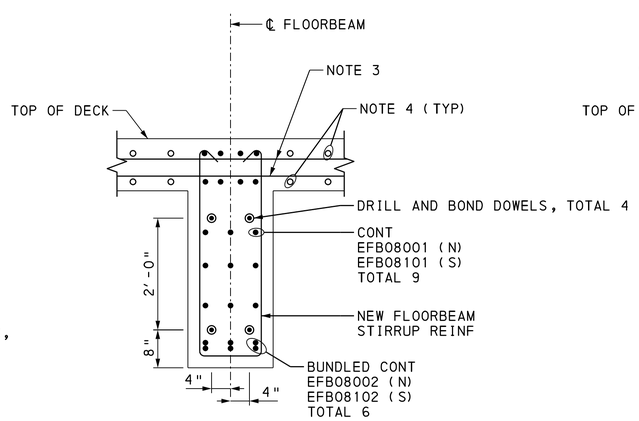
(AT NEW FLOORBEAM)




* SEE SECTION A-A FOR DETAILS NOT SHOWN OR NOTED

## SECTION B-B

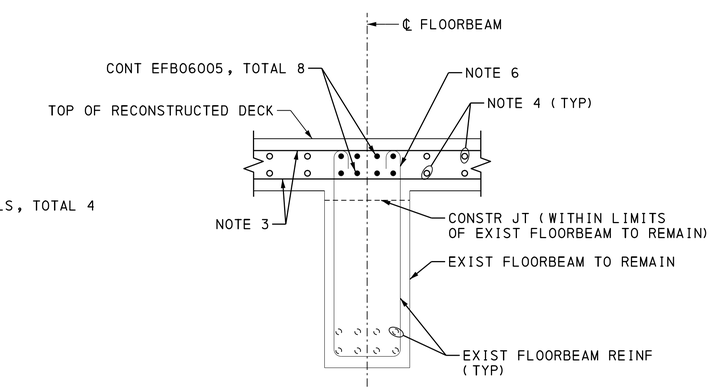
(AT NEW FLOORBEAM)




* SEE SECTION A-A FOR DETAILS NOT SHOWN OR NOTED

## SECTION C-C

(AT NEW FLOORBEAM)




## SECTION D-D

(AT EXISTING FLOORBEAM TO REMAIN)

## TYPICAL INTERIOR FLOORBEAM SECTIONS AWAY FROM ℄ PIER

## NOTES:

1. REINFORCEMENT WITHIN BLOCKOUT MAY BE ADJUSTED TO CLEAR EXPANSION JOINT SEAL DEVICE, SEE "EXP JT SEAL DETAILS" SHEETS. BLOCKOUT TO BE FILLED WITH CONCRETE AFTER PLACING EXPANSION JOINT SEAL ASSEMBLY.
2. REINFORCEMENT BUNDLED WITH FLOORBEAM STIRRUP LEG.
3. DECK TYPICAL TOP AND BOTTOM MAT LONGITUDINAL REINFORCEMENT, SEE "DECK DETAILS" SHEETS.
4. DECK TYPICAL TOP AND BOTTOM MAT TRANSVERSE REINFORCEMENT (NOT ALL SHOWN), SEE "DECK DETAILS" SHEETS.
5. 3′-0" MIN LAP LENGTH. LAPPED BARS TO BE BUNDLED HORIZONTALLY.
6. ALL EXISTING EMBEDDED FLOORBEAM STIRRUP LEGS SHALL BE PRESERVED AND SHALL NOT BE DAMAGED DURING CONCRETE REMOVAL.

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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|

REVISIONS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
FLOORBEAM DETAILS

RECOMMENDED 08/30/2019

SHEET 221 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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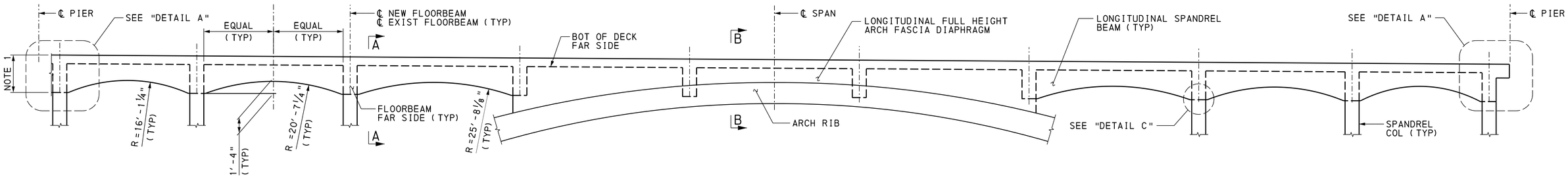
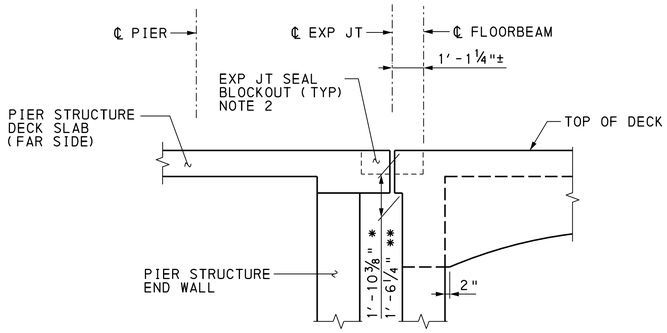
PLOTTED: 8/26/2019 4:52:11 PM




## ELEVATION ALONG NEW ℄ SPANDREL BEAM

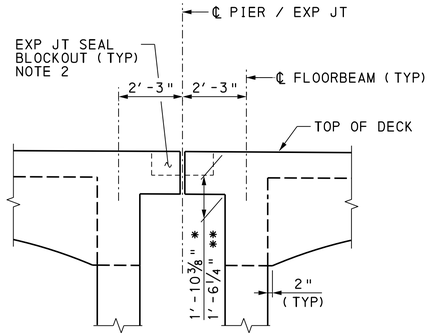
1 0 1 2 3 FEET




* DEPTH AT SOUTH STRUCTURE
** DEPTH AT NORTH STRUCTURE

### DETAIL A
### (AT EXP END PIERS 3 & 11)

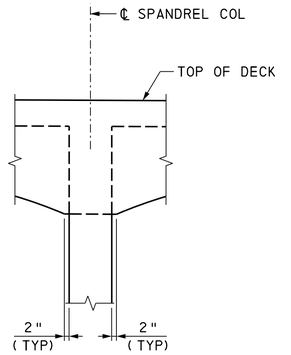
1 0 1 2 3 FEET




* DEPTH AT SOUTH STRUCTURE
** DEPTH AT NORTH STRUCTURE

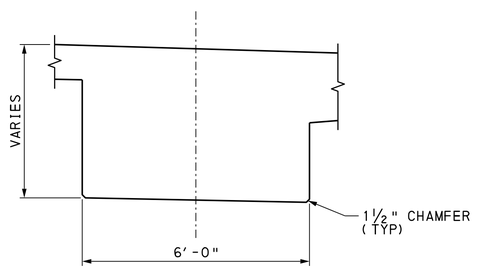
### DETAIL A
### (AT EXP INTERIOR PIERS 4, 5, 6, 7, 8, 9 & 10)

1 0 1 2 3 FEET

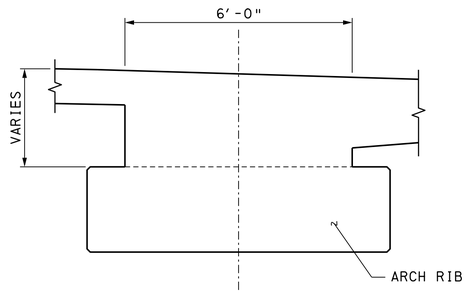



### DETAIL C

1 0 1 2 3 FEET




### SECTION A-A




### SECTION B-B

## NOTES:

1. SEE "TYPICAL SECTION-1" SHEET FOR DIMENSIONS.
2. EXPANSION JOINT SEAL BLOCKOUT TO BE FILLED WITH CONCRETE AFTER PLACING EXPANSION JOINT SEAL DEVICE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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| REVISIONS | | | | | |

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW SPANDREL BEAM LAYOUT

RECOMMENDED 08/30/2019

SHEET 222 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

FILENAME: E02657-S38014-BR-DT-460.dgn
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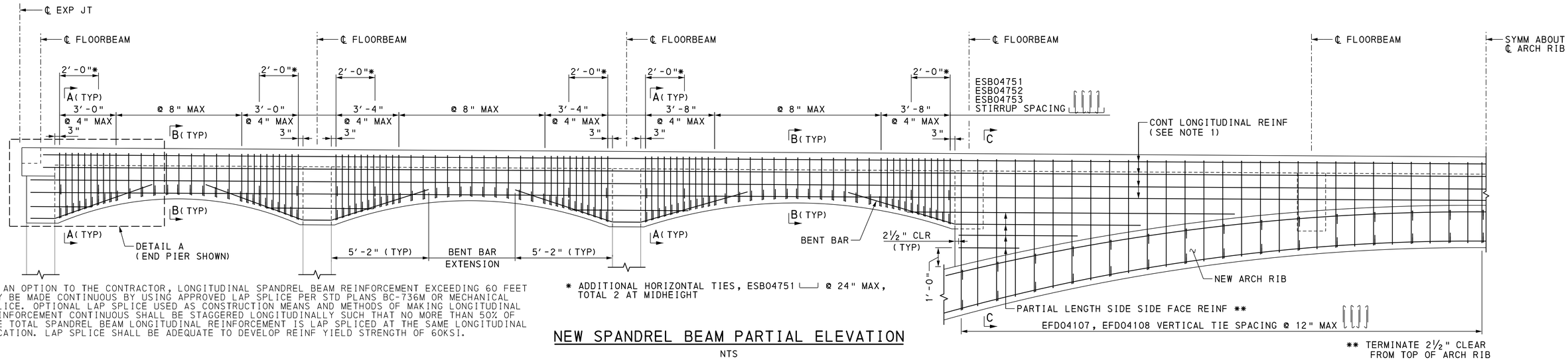



* ADDITIONAL HORIZONTAL TIES, ESB04751 ⌊⌋ @ 24" MAX, TOTAL 2 AT MIDHEIGHT

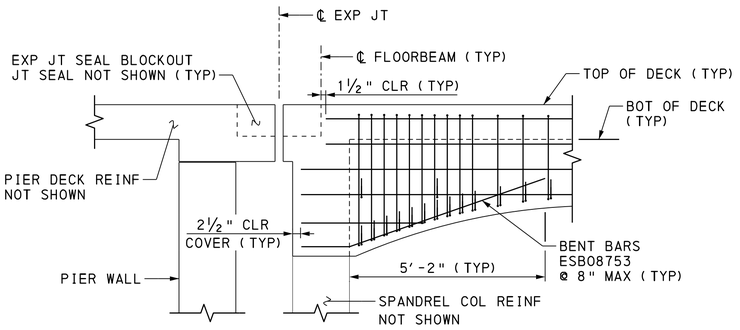
** TERMINATE 2½" CLEAR FROM TOP OF ARCH RIB

## NEW SPANDREL BEAM PARTIAL ELEVATION

NTS

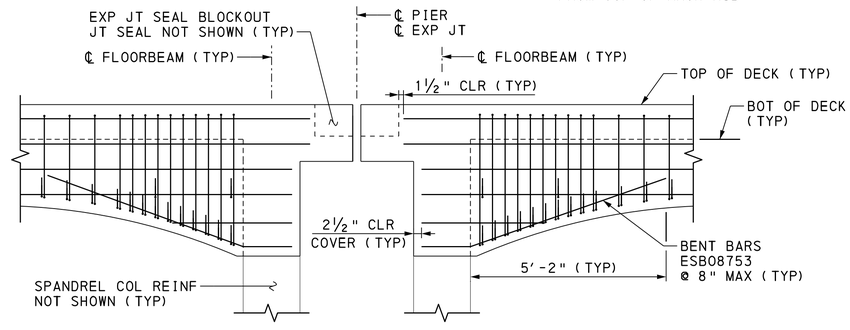
**NOTE:**

1. AS AN OPTION TO THE CONTRACTOR, LONGITUDINAL SPANDREL BEAM REINFORCEMENT EXCEEDING 60 FEET MAY BE MADE CONTINUOUS BY USING APPROVED LAP SPLICE PER STD PLANS BC-736M OR MECHANICAL SPLICE. OPTIONAL LAP SPLICE USED AS CONSTRUCTION MEANS AND METHODS OF MAKING LONGITUDINAL REINFORCEMENT CONTINUOUS SHALL BE STAGGERED LONGITUDINALLY SUCH THAT NO MORE THAN 50% OF THE TOTAL SPANDREL BEAM LONGITUDINAL REINFORCEMENT IS LAP SPLICED AT THE SAME LONGITUDINAL LOCATION. LAP SPLICE SHALL BE ADEQUATE TO DEVELOP REINF YIELD STRENGTH OF 60KSI.



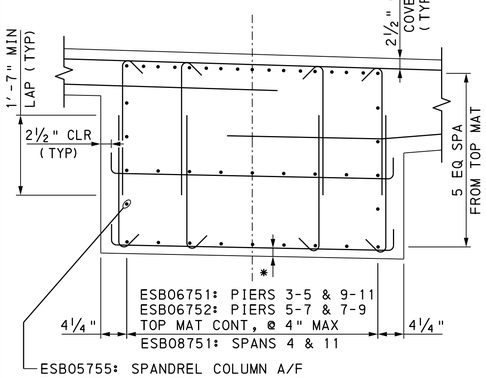

## DETAIL A
## AT END PIERS 3 & 11

NTS



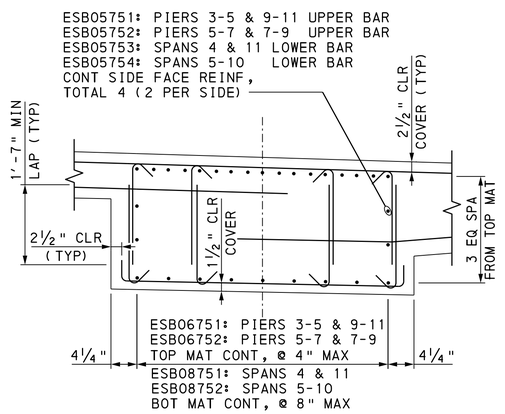

## DETAIL A
## AT PIERS 4, 5, 6, 7, 8, 9 & 10

NTS



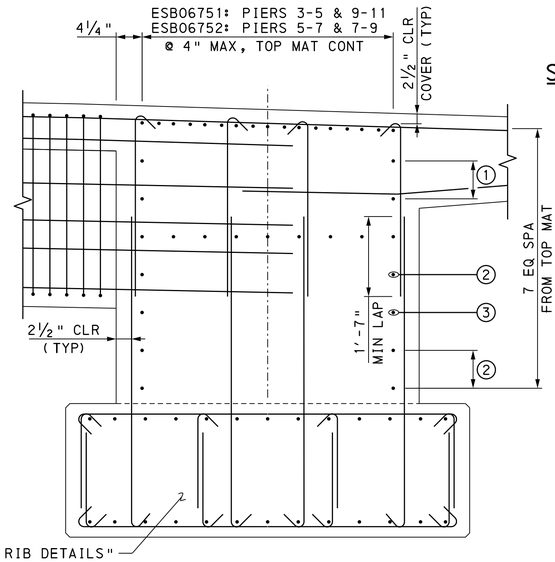

## SECTION A-A

(DECK SLAB TOP & BOT MAT LONGITUDINAL REINF NOT SHOWN)
NTS




## SECTION B-B

(DECK SLAB TOP & BOT MAT LONGITUDINAL REINF NOT SHOWN)
NTS




## SECTION C-C

(DECK SLAB TOP & BOT MAT LONGITUDINAL REINF NOT SHOWN)

## SIDE FACE REINF:

① FULL LENGTH CONT
EFD05101, TOTAL 2
(1 PER SIDE)
EFD05102, TOTAL 2
(1 PER SIDE)

② PARTIAL LENGTH
EFD05103, TOTAL 2
(1 PER SIDE)
EFD05105, TOTAL 2
(1 PER SIDE)
EFD05106, TOTAL 2
(1 PER SIDE)

③ BENT BAR
EFD05104, TOTAL 2
(1 PER SIDE)

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| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
NEW SPANDREL BEAM DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE038208-R

RECOMMENDED 08/30/2019

SHEET 223 OF 295

S-38014

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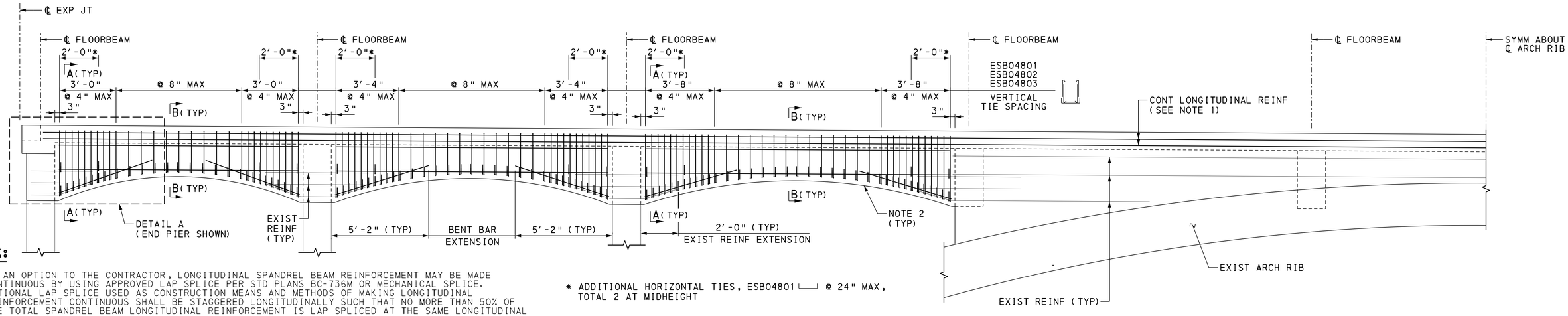


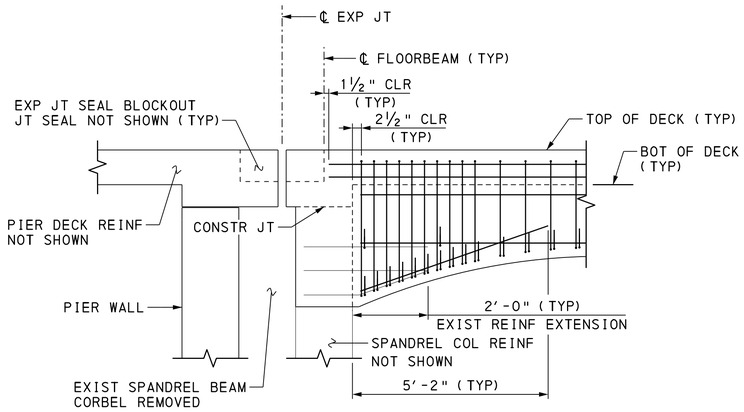

## NOTES:

1. AS AN OPTION TO THE CONTRACTOR, LONGITUDINAL SPANDREL BEAM REINFORCEMENT MAY BE MADE CONTINUOUS BY USING APPROVED LAP SPLICE PER STD PLANS BC-736M OR MECHANICAL SPLICE. OPTIONAL LAP SPLICE USED AS CONSTRUCTION MEANS AND METHODS OF MAKING LONGITUDINAL REINFORCEMENT CONTINUOUS SHALL BE STAGGERED LONGITUDINALLY SUCH THAT NO MORE THAN 50% OF THE TOTAL SPANDREL BEAM LONGITUDINAL REINFORCEMENT IS LAP SPLICED AT THE SAME LONGITUDINAL LOCATION. LAP SPLICE SHALL BE ADEQUATE TO DEVELOP REINF YIELD STRENGTH OF 60KSI.
2. BOTTOM OF RECONSTRUCTED SPANDREL BEAM GEOMETRY TO MATCH EXISTING GEOMETRY.

* ADDITIONAL HORIZONTAL TIES, ESB04801 ⌐ ¬ @ 24" MAX, TOTAL 2 AT MIDHEIGHT

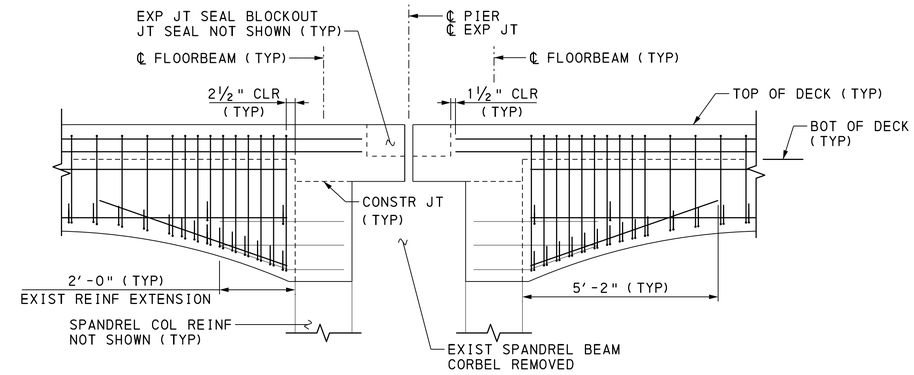
## RECONSTRUCTED SPANDREL BEAM PARTIAL ELEVATION

NTS



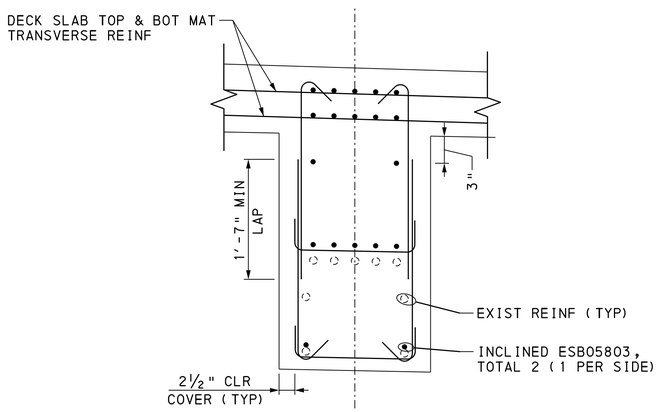

## DETAIL A
## AT PIERS 3 & 11

NTS



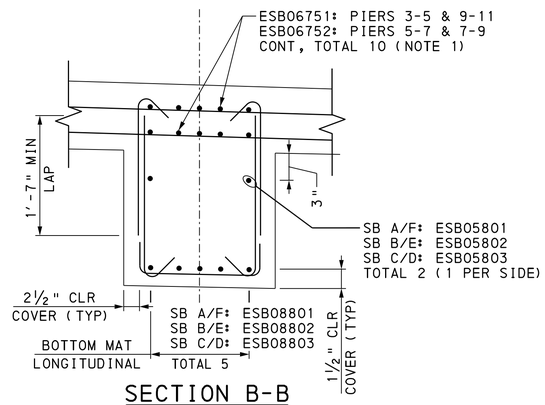

## DETAIL A
## AT PIERS 4, 5, 6, 7, 8, 9 & 10

NTS




## SECTION A-A

(DECK SLAB TOP & BOT MAT LONGITUDINAL REINF NOT SHOWN)
NTS




## SECTION B-B

(DECK SLAB TOP & BOT MAT LONGITUDINAL REINF NOT SHOWN)
NTS

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| Mark | Description | By | Chk'd. | Recm'd. | Date |
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S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
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RECONSTRUCTED SPANDREL BEAM DETAILS

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STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 224 OF 295

S-38014

| DES: CL | DWN: TK | CKD: SC |
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OPERATOR: TYLIPWOIICS01$

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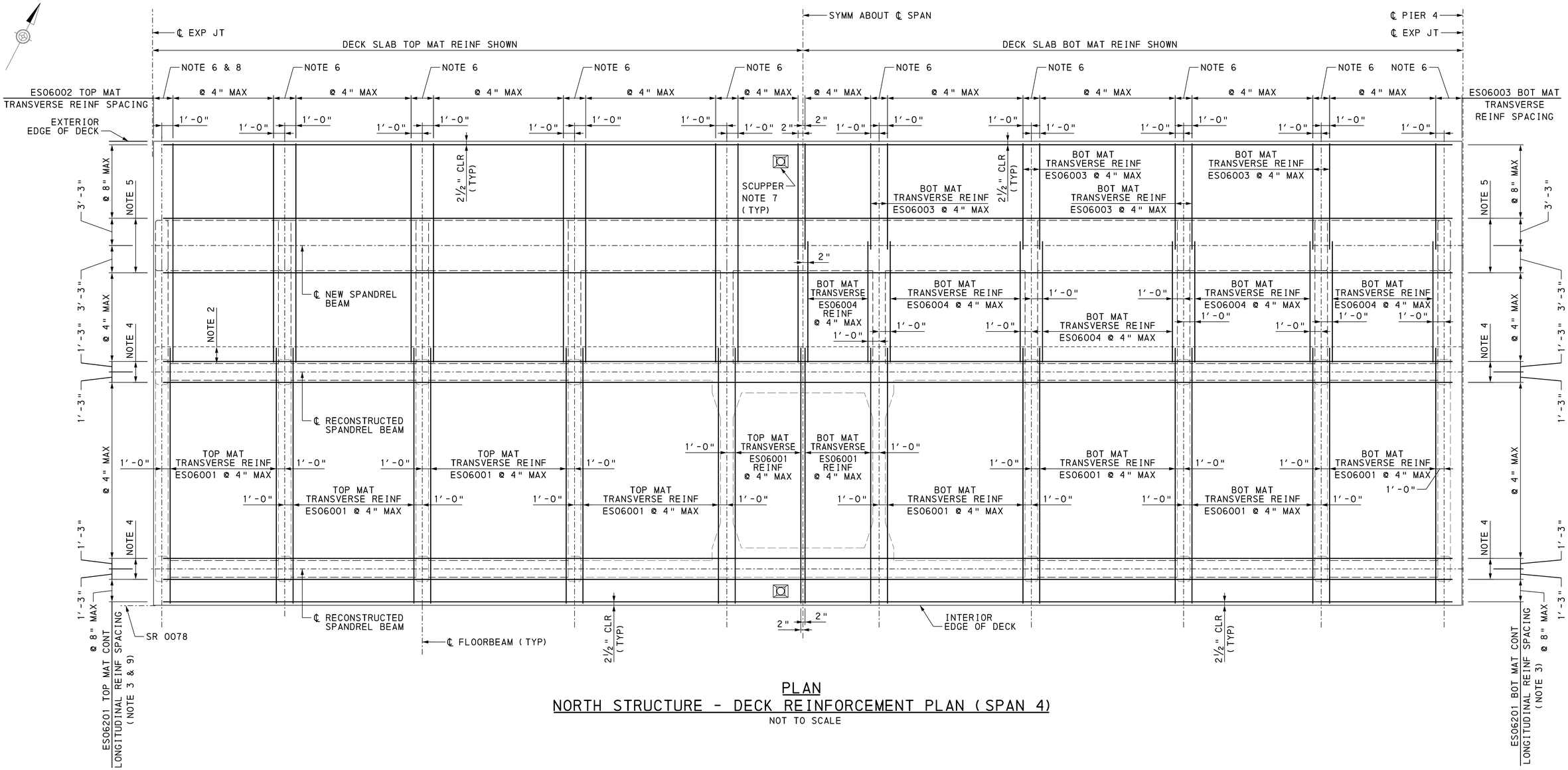


## PLAN
## NORTH STRUCTURE - DECK REINFORCEMENT PLAN (SPAN 4)
NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOORBEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. AS AN OPTION TO THE CONTRACTOR, DECK LONGITDUINAL REINFORCEMENT EXCEEDING 60 FEET MAY BE MADE CONTINUOUS BY USING APPROVED LAP SPLICE PER STD PLANS BC-736M OR MECHANICAL SPLICE. OPTIONAL LAP SPLICE USED AS CONSTRUCTION MEANS AND METHODS OF MAKING LONGITUDINAL REINFORCEMENT CONTINUOUS SHALL BE STAGGERED LONGITUDINALLY SUCH THAT NO MORE THAN 50% OF THE TOTAL DECK LONGITUDINAL REINFORCEMENT IS LAP SPLICED AT THE SAME LONGITUDINAL LOCATION. LAP SPLICE SHALL BE ADEQUATE TO DEVELOP REINF YIELD STRENGTH OF 60 KSI.
4. SEE "RECONSTRUCTED SPANDREL BEAM DETAILS" SHEETS FOR REINFORCEMENT NOT SHOWN.
5. SEE "NEW SPANDREL BEAM DETAILS" SHEET FOR REINFORCEMENT NOT SHOWN.
6. SEE "FLOORBEAM DETAILS" SHEET FOR REINFORCEMENT NOT SHOWN.
7. SEE "DECK DETAILS - 10" SHEET FOR SCUPPER REINFORCING DETAILS.
8. SEE "THICKENED OVERHANG DECK DETAILS" SHEETS FOR REINFORCEMENT NOT SHOWN.
9. TERMINATE DECK TOP AND BOTTOM MAT LONGITUDINAL REINFORCEMENT 1½" CLEAR FROM EXPANSION JOINT SEAL BLOCKOUT.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

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

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 1

RECOMMENDED 08/30/2019

SHEET 225 OF 295

S-38014

FILENAME: E02657-S38014-BR-DT-480.dgn
OPERATOR: TYLIPWOITCS01$

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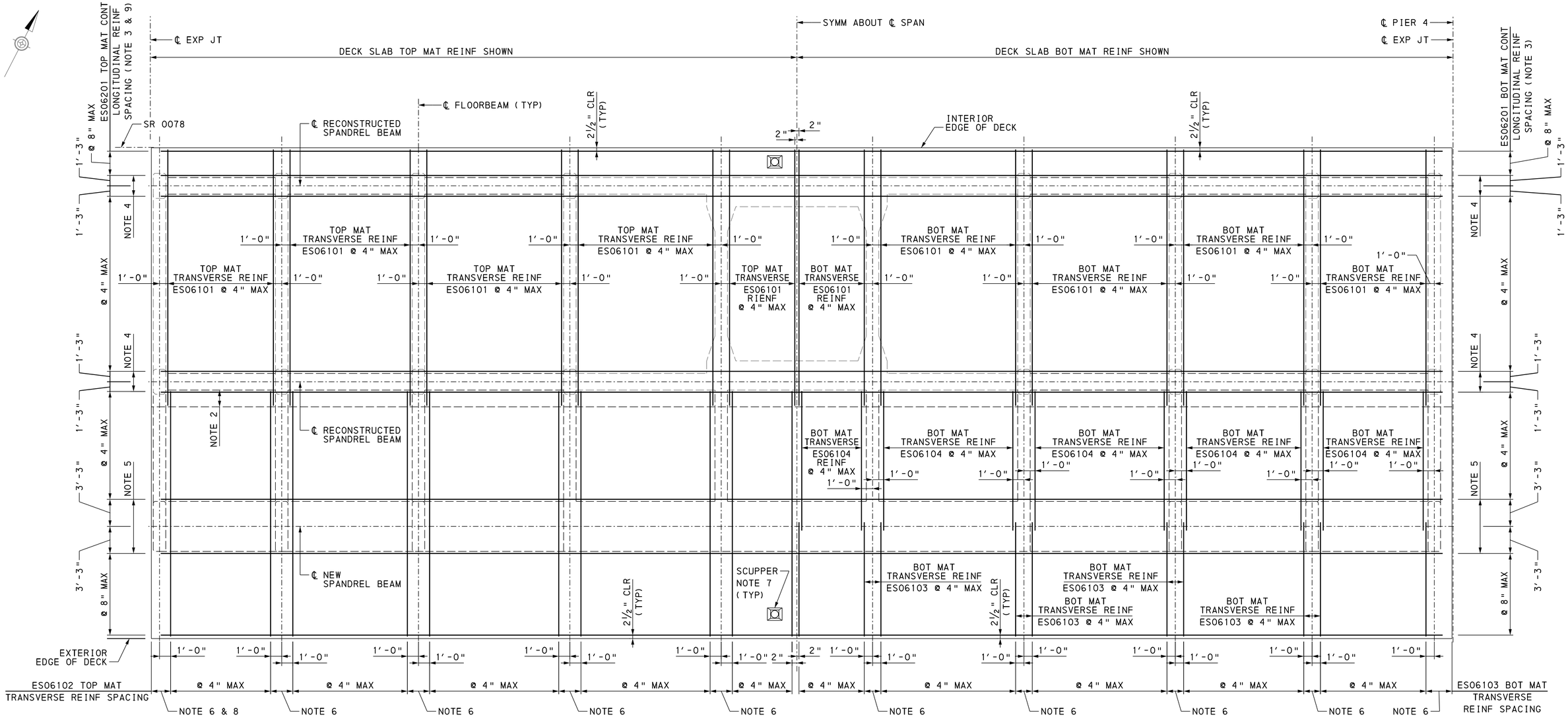


## PLAN
## SOUTH STRUCTURE - DECK REINFORCEMENT PLAN (SPAN 4)

NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOORBEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
3. AS AN OPTION TO THE CONTRACTOR, DECK LONGITDUINAL REINFORCEMENT EXCEEDING 60 FEET MAY BE MADE CONTINUOUS BY USING APPROVED LAP SPLICE PER STD PLANS BC-736M OR MECHANICAL SPLICE. OPTIONAL LAP SPLICE USED AS CONSTRUCTION MEANS AND METHODS OF MAKING LONGITUDINAL REINFORCEMENT CONTINUOUS SHALL BE STAGGERED LONGITUDINALLY SUCH THAT NO MORE THAN 50% OF THE TOTAL DECK LONGITUDINAL REINFORCEMENT IS LAP SPLICED AT THE SAME LONGITUDINAL LOCATION. LAP SPLICE SHALL BE ADEQUATE TO DEVELOP REINF YIELD STRENGTH OF 60 KSI.
4. SEE "RECONSTRUCTED SPANDREL BEAM DETAILS" SHEETS FOR REINFORCEMENT NOT SHOWN.
5. SEE "NEW SPANDREL BEAM DETAILS" SHEET FOR REINFORCEMENT NOT SHOWN.
6. SEE "FLOORBEAM DETAILS" SHEET FOR REINFORCEMENT NOT SHOWN.
7. SEE "DECK DETAILS - 10" SHEET FOR SCUPPER REINFORCING DETAILS.
8. SEE "THICKENED OVERHANG DECK DETAILS" SHEETS FOR REINFORCEMENT NOT SHOWN.
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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| REVISIONS | | | | | |

DES: CL | DWN: TK | CKD: SC

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 226 OF 295

S-38014

FILENAME: E02657-S38014-BR-DT-481.dgn
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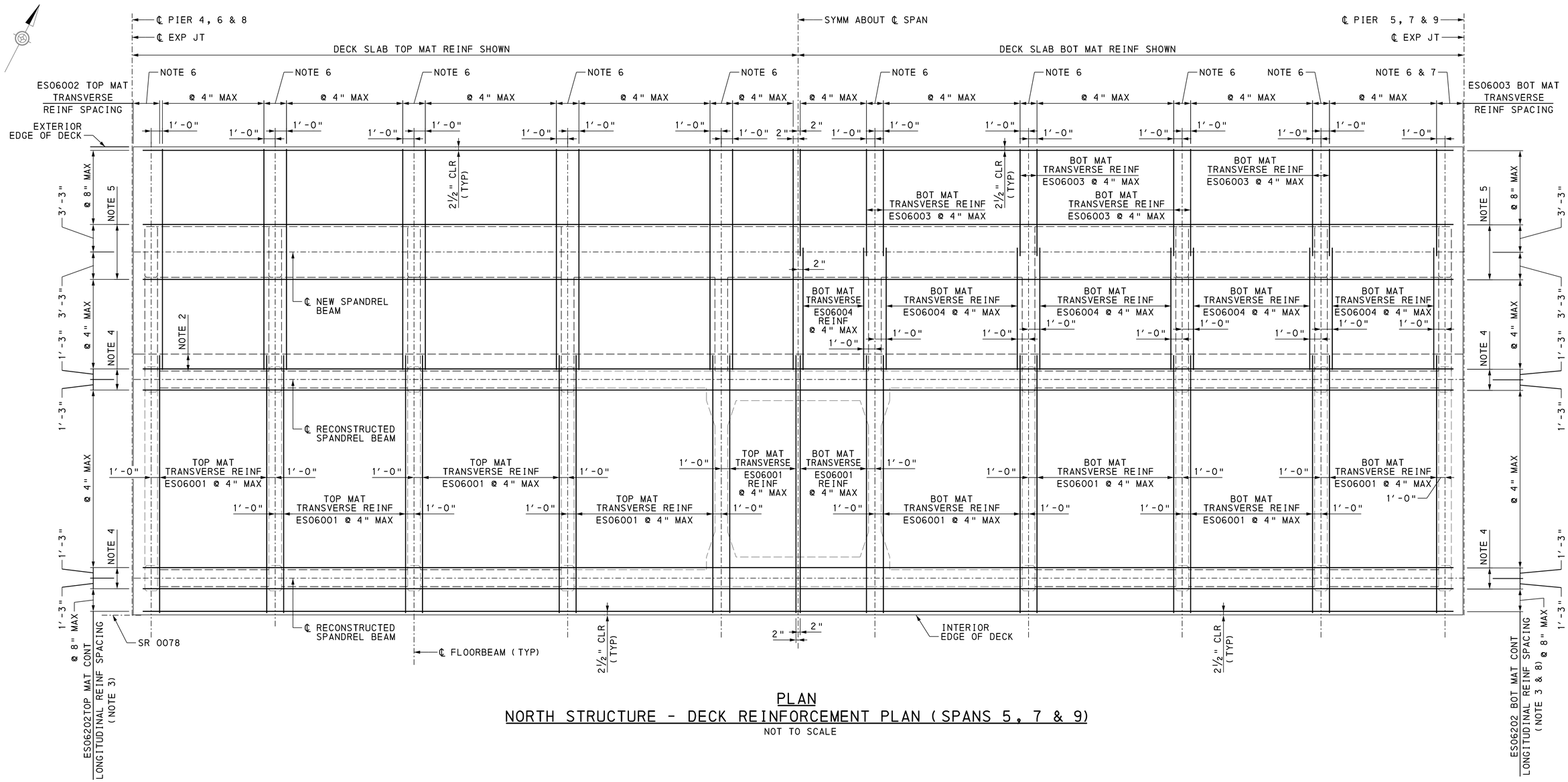


PLAN

NORTH STRUCTURE - DECK REINFORCEMENT PLAN (SPANS 5, 7 & 9)

NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOORBEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
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6. SEE "FLOORBEAM DETAILS" SHEET FOR REINFORCEMENT NOT SHOWN.
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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| REVISIONS | | | | | |

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING

DECK DETAILS - 3

RECOMMENDED 08/30/2019

SHEET 227 OF 295

S-38014

PLOTTED: 8/26/2019 4:52:06 PM
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OPERATOR: TYLIPW01ICSO1$

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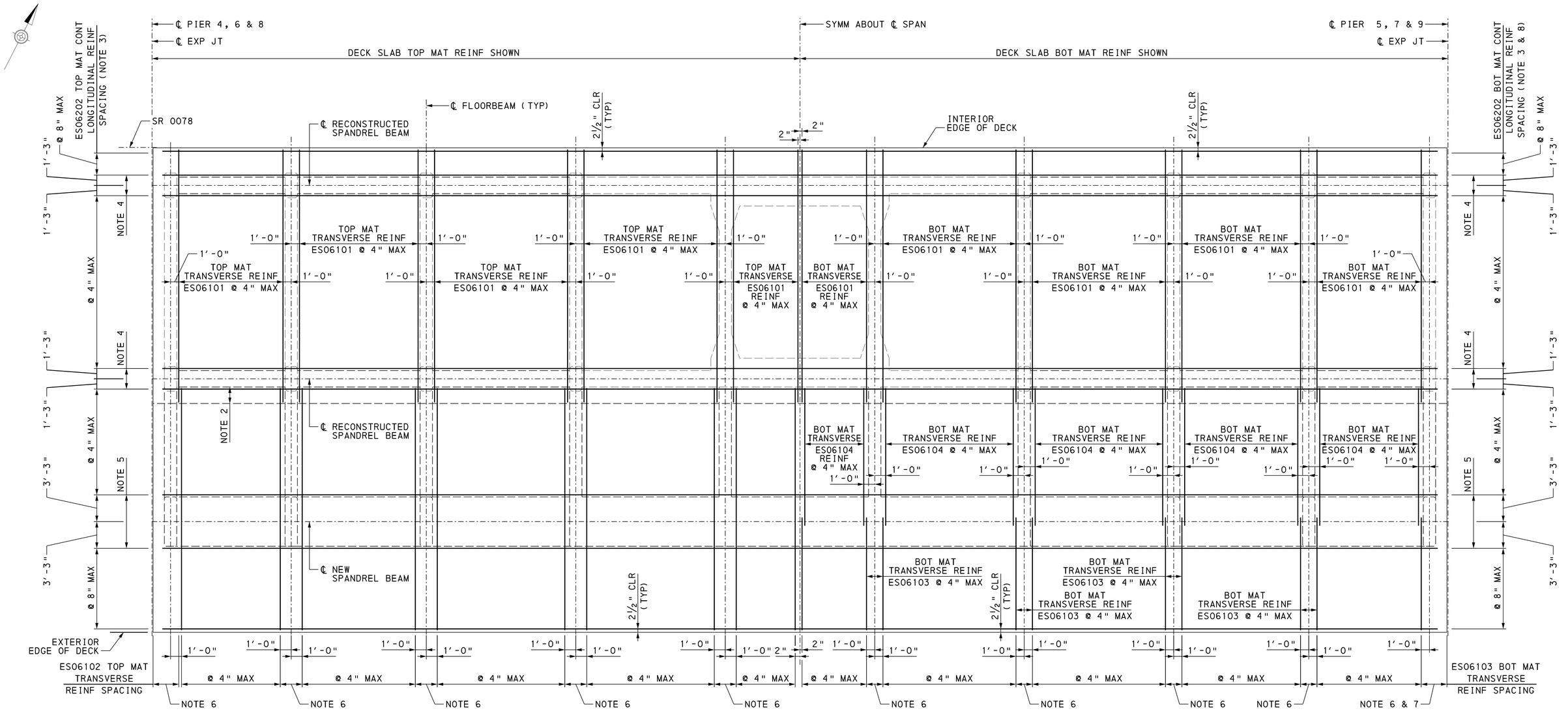


PLAN

SOUTH STRUCTURE - DECK REINFORCEMENT PLAN (SPAN 5, 7 & 9)

NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOORBEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| REVISIONS | | | | | |

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R PENNSYLVANIA

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

BERKS COUNTY

S.R. 0078 SECTION 13B

SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB

S.R. 0078 13B STA. 3054+08.19

OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571

12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING

DECK DETAILS - 4

RECOMMENDED 08/30/2019

SHEET 228 OF 295

S-38014

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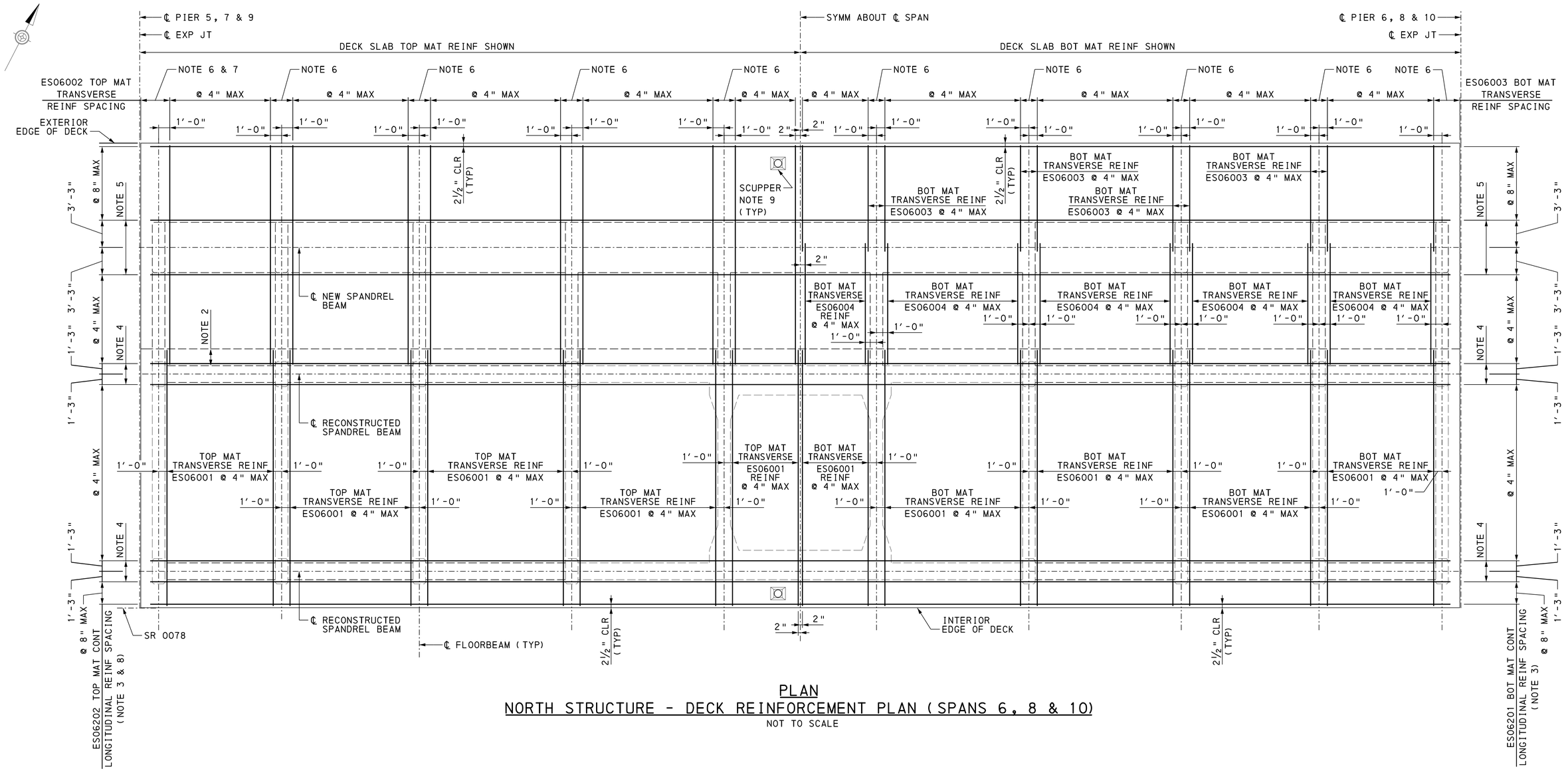


PLAN

NORTH STRUCTURE - DECK REINFORCEMENT PLAN (SPANS 6, 8 & 10)

NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
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6. SEE "FLOORBEAM DETAILS" SHEET FOR REINFORCEMENT NOT SHOWN.
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8. TERMINATE DECK TOP AND BOTTOM MAT LONGITUDINAL REINFORCEMENT 1½" CLEAR FROM EXPANSION JOINT SEAL BLOCKOUT.
9. SEE "DECK DETAILS - 10" SHEET FOR SCUPPER REINFORCING DETAILS.

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| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 5

RECOMMENDED 08/30/2019

SHEET 229 OF 295

S-38014

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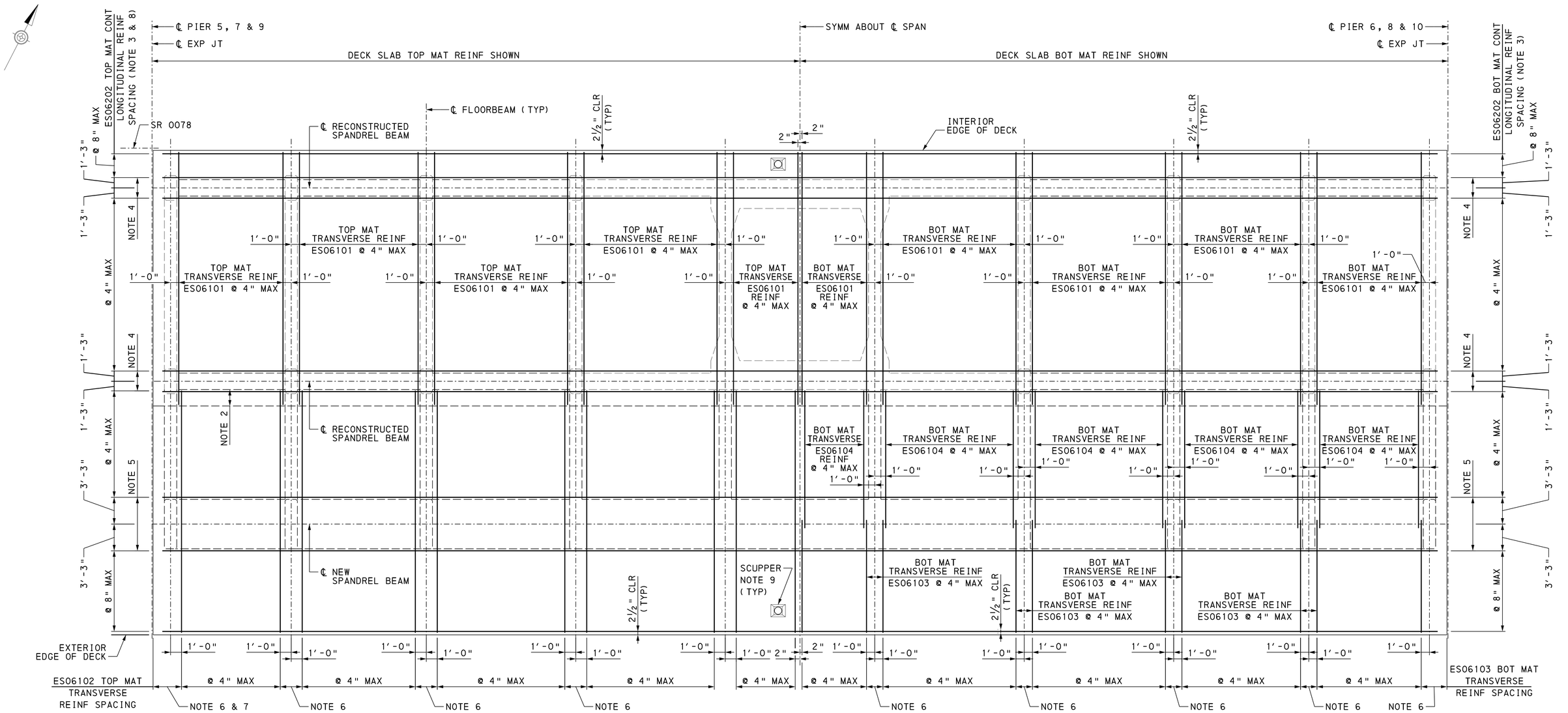


## PLAN
## SOUTH STRUCTURE - DECK REINFORCEMENT PLAN ( SPAN 6, 8 & 10)

NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOORBEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|

REVISIONS

DES: CL | DWN: TK | CKD: SC

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 6

RECOMMENDED 08/30/2019

SHEET 230 OF 295

S-38014

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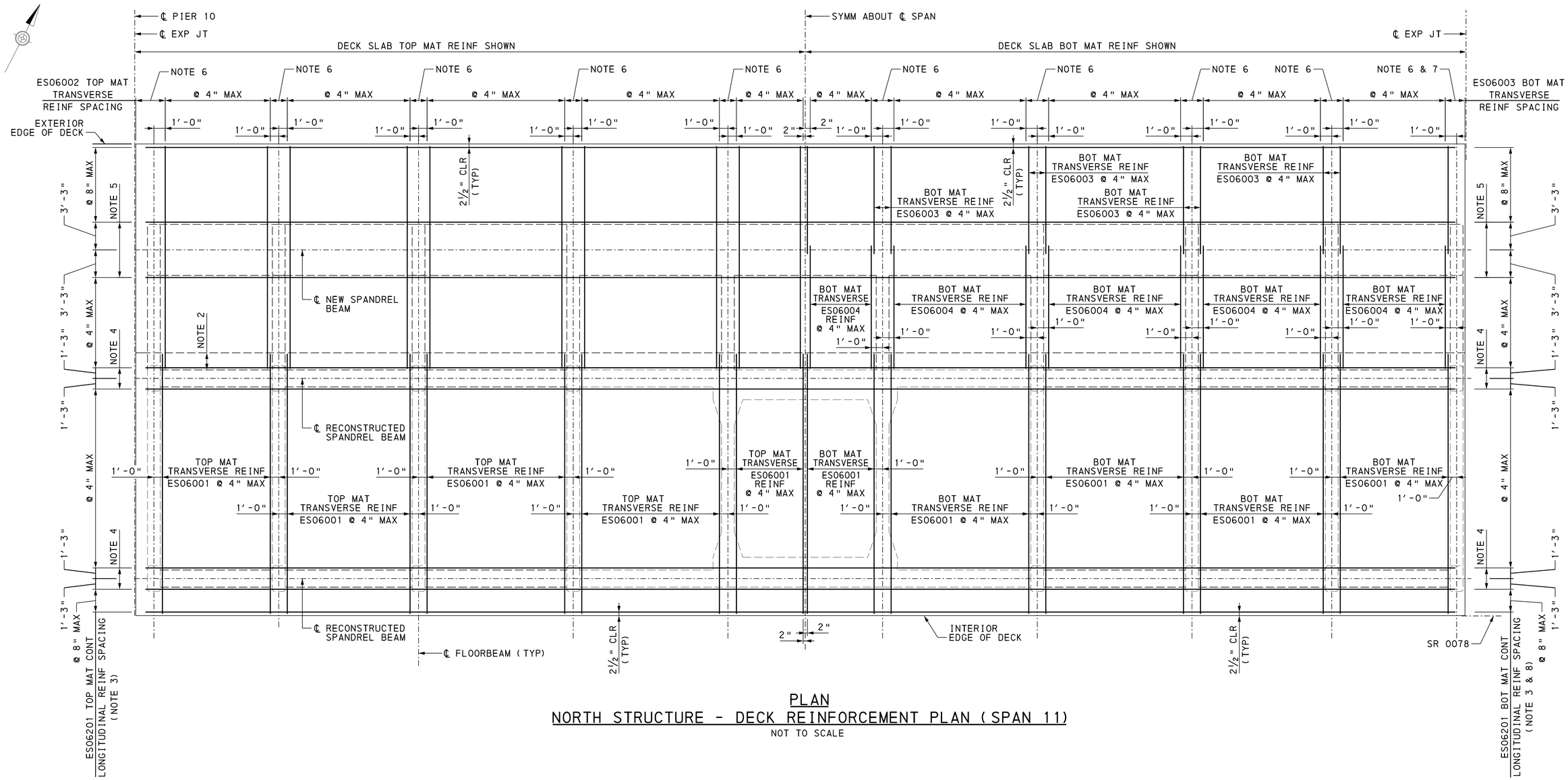


## PLAN
## NORTH STRUCTURE - DECK REINFORCEMENT PLAN (SPAN 11)
NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
2. TEMPORARY ISOLATION GAP FOR DECK SLAB & FLOORBEAM, SEE "CONSTRUCTION STAGING SHEETS" FOR DETAILS.
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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| REVISIONS | | | | | |

DES: CL | DWN: TK | CKD: SC

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 7

RECOMMENDED 08/30/2019

SHEET 231 OF 295

S-38014

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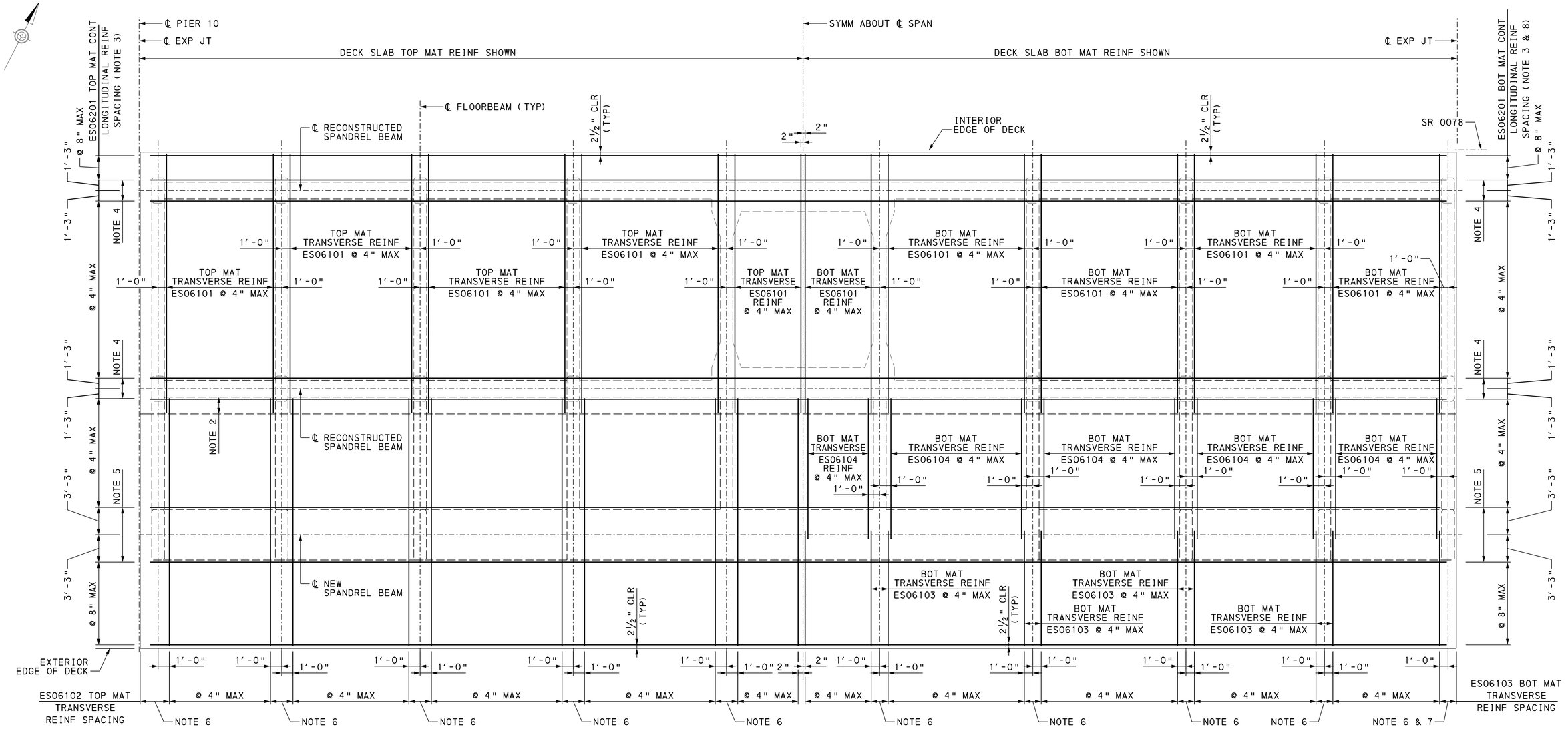


PLAN

SOUTH STRUCTURE - DECK REINFORCEMENT PLAN (SPAN 11)

NOT TO SCALE

## NOTES:

1. CENTER LINE OF NEW FLOORBEAM MATCHES CENTER LINE OF EXISTING FLOORBEAM.
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| REVISIONS | | | | | |

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 8

RECOMMENDED 08/30/2019

SHEET 232 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

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OPERATOR: TYLIPWO1ICSO1

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## NOTES:

1. NEW DECK SLAB TRANSVERSE TOP MAT REINFORCEMENT MAY BE ADJUSTED HORIZONTALLY TO CLEAR CONFLICTS WITH EXISTING TRANSVERSE REINFORCEMENT.

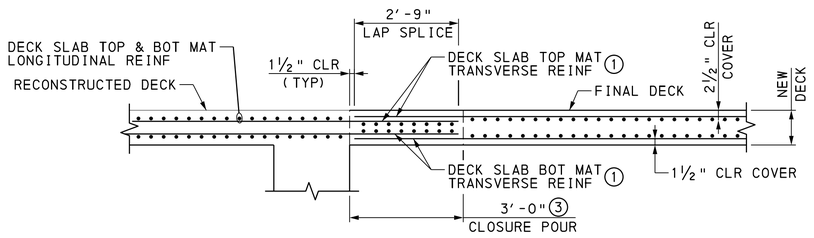
## LEGEND:

① LAP SPLICED TOP AND BOTTOM MAT TRANSVERSE REINFORCEMENT WITHIN CLOSURE SHALL BE BUNDLED VERTICALLY

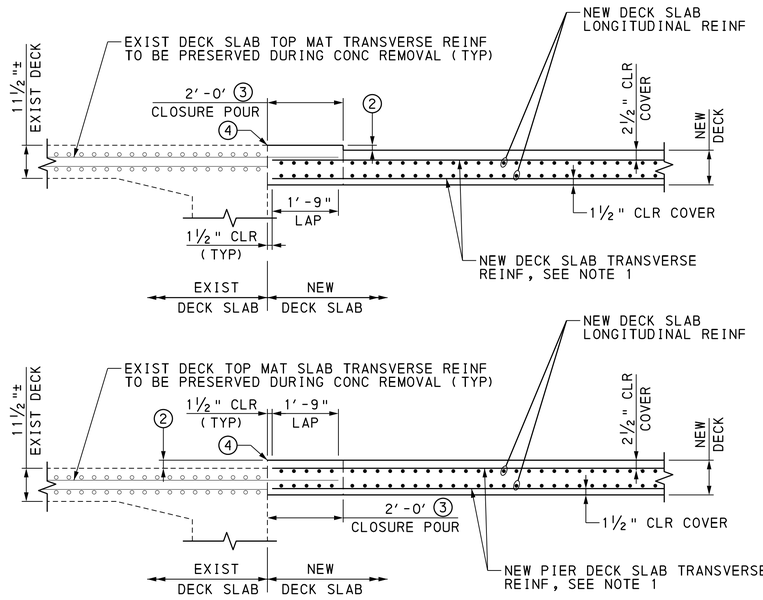
② ADDITIONAL CONCRETE COVER, AS NEEDED, TO PREVENT EXISTING REINFORCEMENT FROM DAYLIGHTING

③ TOP & BOTTOM MAT LONGITUDINAL REINFORCEMENT WITHIN 2'-0" CLOSURE MAY BE ADJUSTED VERTICALLY TO CLEAR REINFORCEMENT CONFLICT AND TO MAINTAIN SUFFICIENT MINIMUM CONCRETE COVER

④ TOP OF DECK CONSTRUCTION TIE-IN INTERFACE, SEE "DECK CONSTRUCTION TIE-IN" AND "TYPICAL SECTIONS" SHEETS




TRANSVERSE SECTION
NORTH & SOUTH STRUCTURES - FINAL CONDITION




TRANSVERSE SECTIONS
SOUTH STRUCTURE ONLY - TEMPORARY STAGE 3 CONSTRUCTION

## DECK SLAB TEMPORARY ISOLATION GAP CLOSURE DETAILS

NOT TO SCALE

| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| | | | | | |

REVISIONS

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 9

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 233 OF 295

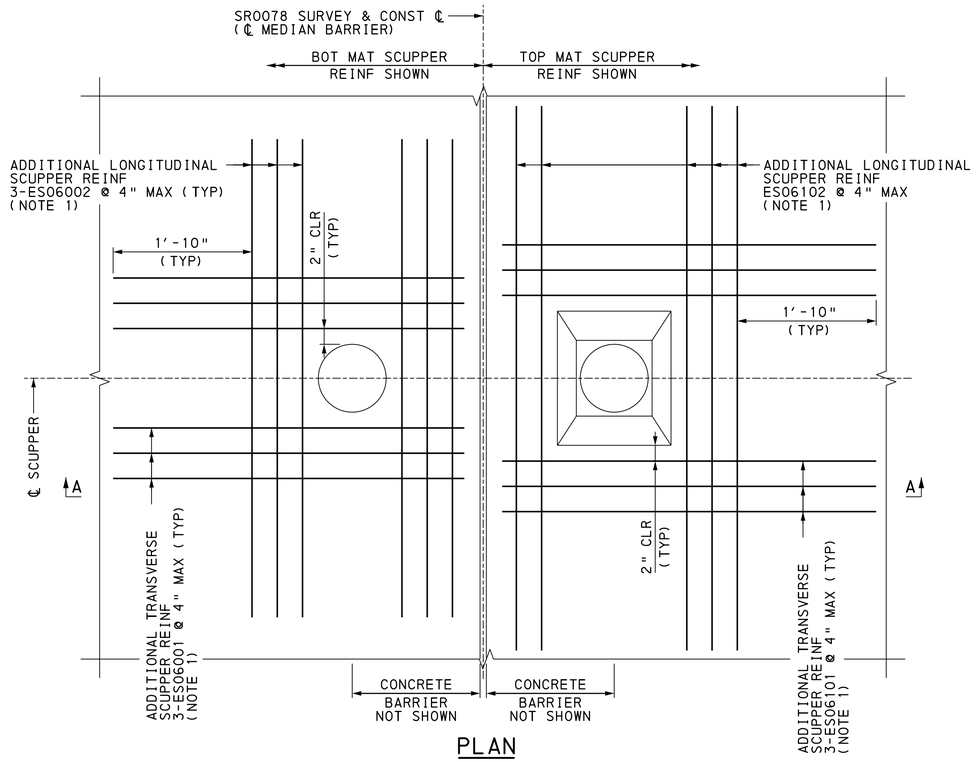
S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: CL | DWN: TK | CKD: SC

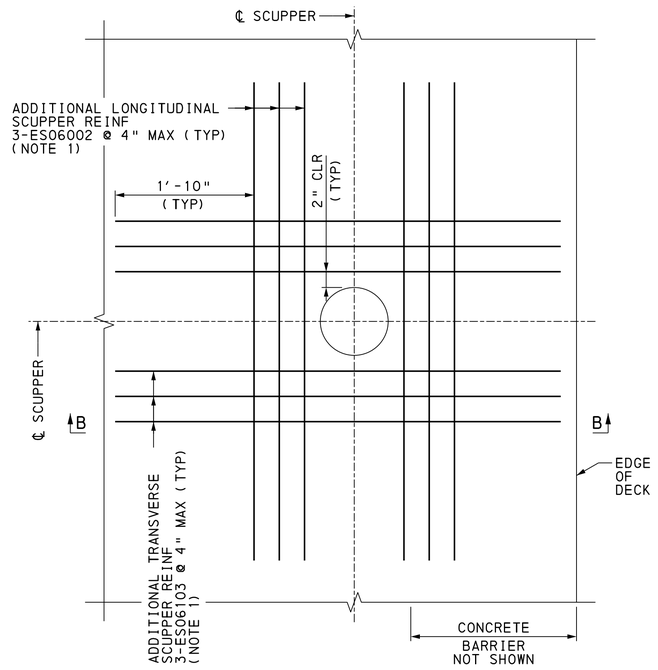
OPERATOR: TYLIPW011CSO1$ FILENAME: E02657-S38014-BR-DT-488.dgn

PLOTTED: 8/26/2019 4:49:27 PM



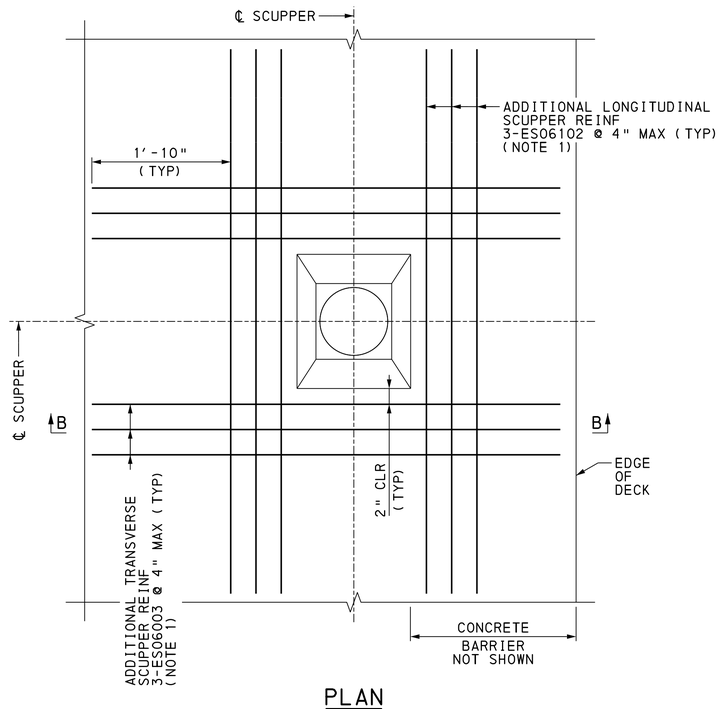

## PLAN

ADDITIONAL SCUPPER REINF SHOWN ONLY
NTS



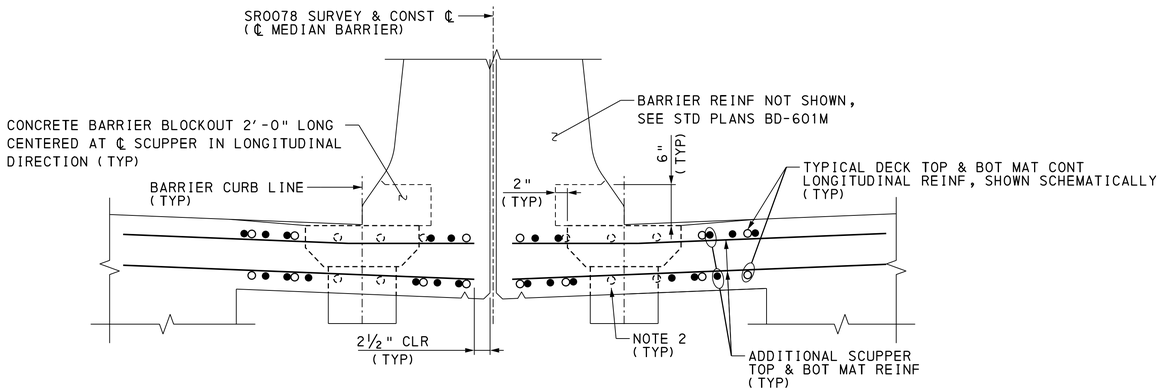

## PLAN

ADDITIONAL SCUPPER BOTTOM MAT REINF SHOWN ONLY
NTS



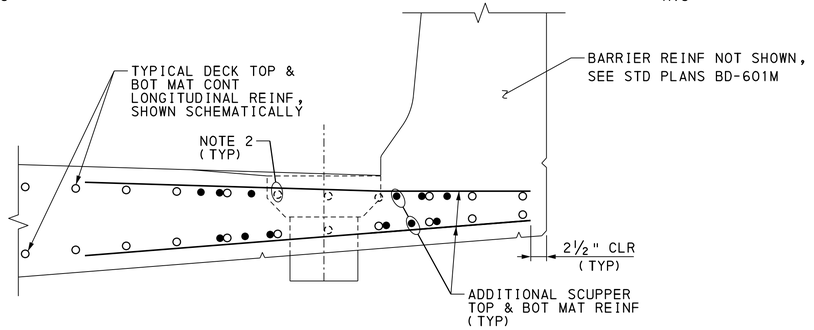

## PLAN

ADDITIONAL SCUPPER TOP MAT REINF SHOWN ONLY
NTS




## SECTION A-A

ADDITIONAL SCUPPER REINFORCEMENT (INTERIOR EDGE OF DECK)
NTS




## SECTION B-B

ADDITIONAL SCUPPER REINFORCEMENT (EXTERIOR EDGE OF DECK)
NTS

## NOTES:

1. ADDITIONAL SCUPPER REINFORCEMENT MAY BE BUNDLED WITH DECK TYPICAL TOP & BOT MAT REINFORCEMENT.
2. TYPICAL CONTINUOUS TOP AND BOTTOM MAT LONGITUDINAL DECK REINFORCEMENT MAY BE TERMINATED 2" CLEAR FROM SCUPPER OPENING (SIMILAR FOR TYPICAL TOP AND BOTTOM MAT TRANSVERSE DECK REINFORCEMENT).

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

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

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
DECK DETAILS - 10

RECOMMENDED 08/30/2019

SHEET 234 OF 295

S-38014

FILENAME: E02657-S38014-BR-DT-489.dgn
OPERATOR: TYLIPWOIICS01$

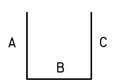
PLOTTED: 8/26/2019 4:45:42 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO STANDARD DRAWING BC-736M.
- FIGURES IN CIRCLES SHOW TYPES.
- "E" - INDICATES EPOXY COATED REBARS.
- FOR ALL BAR TYPES SHOWN, DIMENSIONS A-H AND LENGTH ARE MEASURED ALONG OUTSIDE OF BAR. R IS MEASURED ALONG INSIDE OF BAR.

## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
2. ALTHOUGH THE PLANS INCLUDE REINFORCEMENT BAR SCHEDULES AND BENDING DIAGRAMS, CONTRACTOR SHALL NOT USE THE DIMENSIONS SHOWN ON THE REINFORCEMENT BAR SCHEDULES TO FABRICATE REINFORCING STEEL BARS.
3. DUE TO SHOP FABRICATION AND FIELD CONSTRUCTION TOLERANCES, CONTRACTOR IS SOLELY RESPONSIBLE FOR ACCURATELY FABRICATING, FURNISHING AND PLACING ALL REINFORCING STEEL BARS IN CONFORMANCE TO THE CONFIGURATION OF THE STRUCTURE AND THE DETAILS SHOWN ON THE PLANS.
4. CONTRACTOR SHALL PREPARE REINFORCEMENT SHOP DRAWINGS FOR FABRICATION OF ALL REINFORCING STEEL BARS TO BE FURNISHED AND PLACED.
5. WHEN REQUESTED, CONTRACTOR'S REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER. FURNISHING REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER SHALL NOT BE CONSTRUED TO MEAN THAT THE REINFORCEMENT SHOP DRAWINGS WILL BE REVIEWED FOR ACCURACY.



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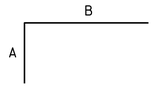

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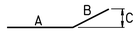

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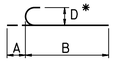

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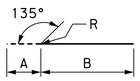

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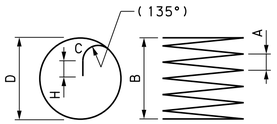

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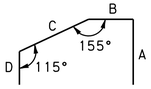
NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED.
135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 15

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 235 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-301.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:45:36 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
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## NOTES:

1. COTINUOUS REINFORCEMENT BAR EXCEEDING 60' IS ASSUMED TO BE LAP SPLICED AT MAXIMUM BAR LENGTH OF 60' PER STANDARD DRAWING BC-736M, TABLE B, TOP BARS AND CLASS B TENSION LAP SPLICE.
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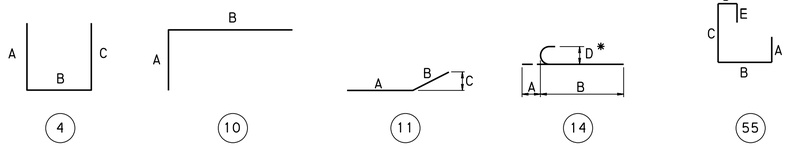


NOTE:
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135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 16

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 236 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

FILENAME: E02657-S38014-BR-BL-302.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:46:01 PM

# SUBSTRUCTURE REINFORCING BAR SCHEDULE

- "*" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
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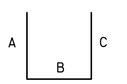

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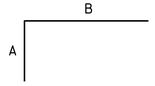

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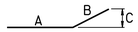

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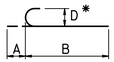

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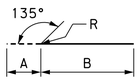

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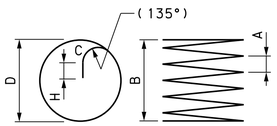
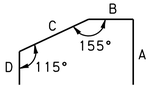


(106)

NOTE:
DIMENSION "B" VERTICAL HEIGHT OF SPIRAL, NOT BAR LENGTH REQUIRED.
135° HOOK OCCURS AT BOTH ENDS OF SPIRAL.



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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BAR SCHEDULE - 17

RECOMMENDED 08/30/2019

SHEET 237 OF 295

S-38014

DES: CL | DWN: AR | CKD: CC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-BL-303.dgn

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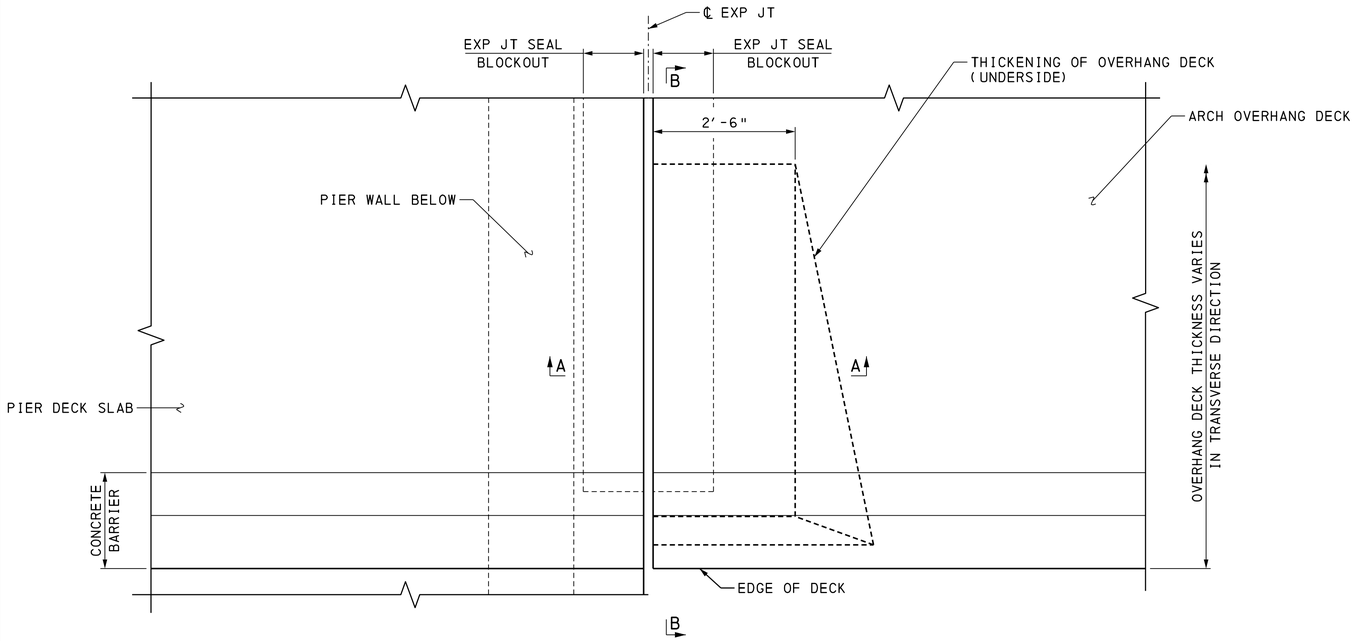
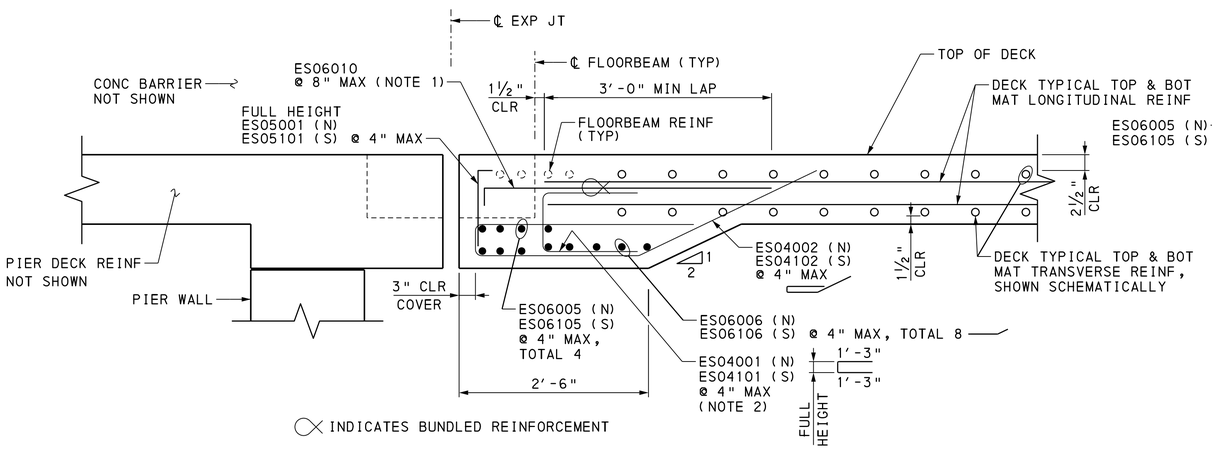



## PLAN
## THICKENED OVERHANG DECK ADJACENT TO PIERS 3 & 11

NTS

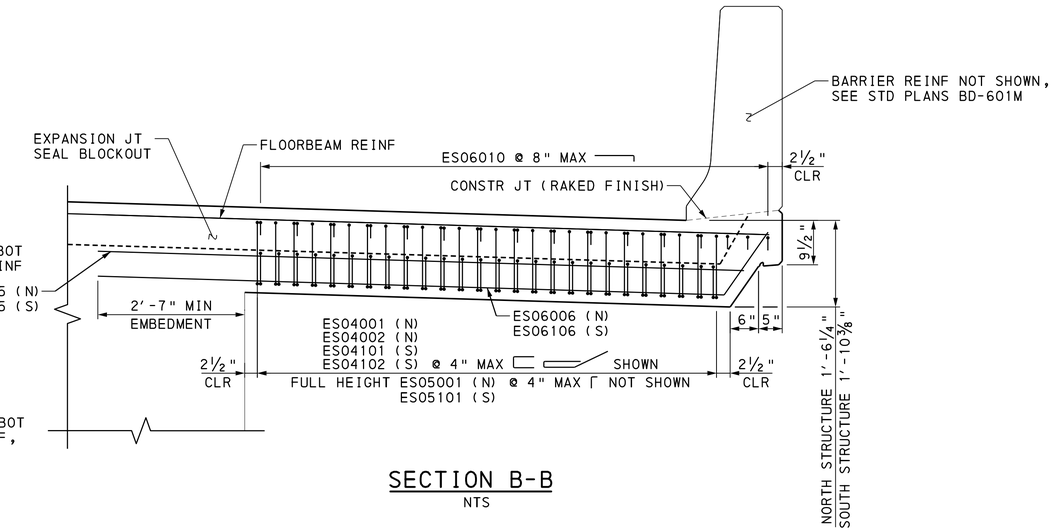



## SECTION A-A

NTS

## NOTES:

1. REINFORCEMENT TO BE BUNDLED HORIZONTALLY WITH DECK TYPICAL LONGITUDINAL REINFORCEMENT.
2. REINFORCEMENT TO BE BUNDLED VERTICALLY WITH DECK TYPICAL LONGITUDINAL REINFORCEMENT.




## SECTION B-B

NTS

## THICKENED OVERHANG DECK DETAILS - NORTH STRUCTURE
## SOUTH STRUCTURE SIMILAR

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
THICKENED OVERHANG DECK DETAILS - 1

RECOMMENDED 08/30/2019

SHEET 238 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-491.dgn

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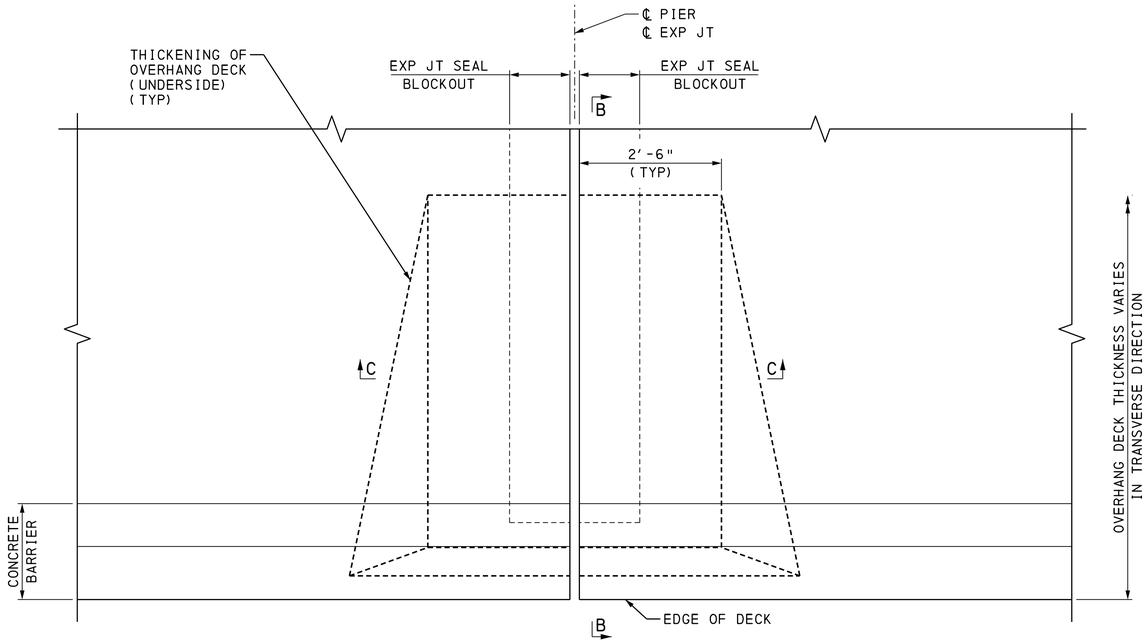
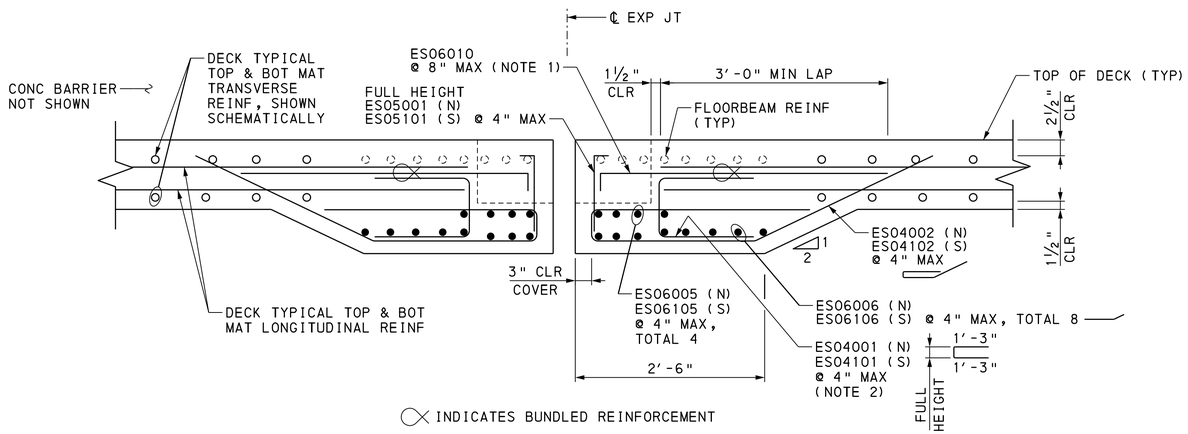



## PLAN
## THICKENED OVERHANG DECK ADJACENT TO PIERS 5, 7 & 9

NTS




## SECTION C-C
DETAILS TYPICAL FOR BOTH SIDES OF ℄ EXPANSION JOINT
NTS

## THICKENED OVERHANG DECK DETAILS - NORTH STRUCTURE
## SOUTH STRUCTURE SIMILAR

### NOTES:

1. REINFORCEMENT TO BE BUNDLED HORIZONTALLY WITH DECK TYPICAL LONGITUDINAL REINFORCEMENT.
2. REINFORCEMENT TO BE BUNDLED VERTICALLY WITH DECK TYPICAL LONGITUDINAL REINFORCEMENT.

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

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12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
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THICKENED OVERHANG DECK DETAILS - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 239 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: CL | DWN: TK | CKD: SC |
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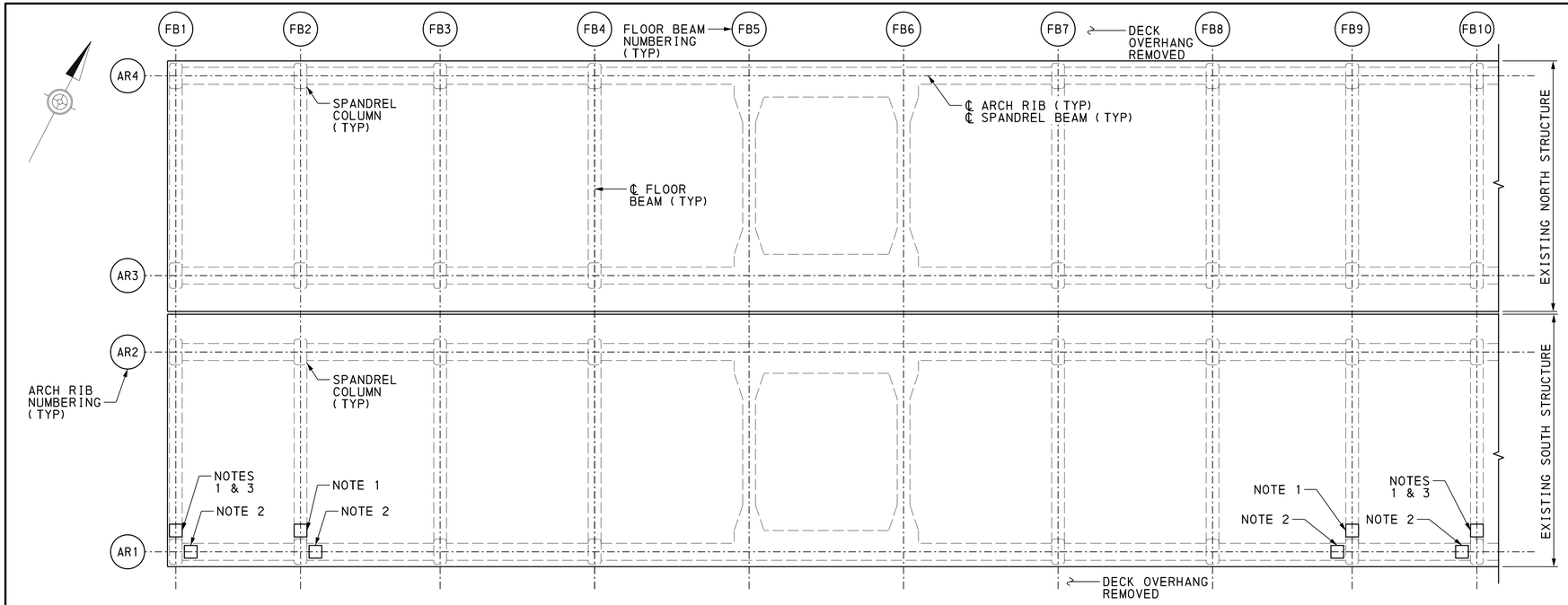
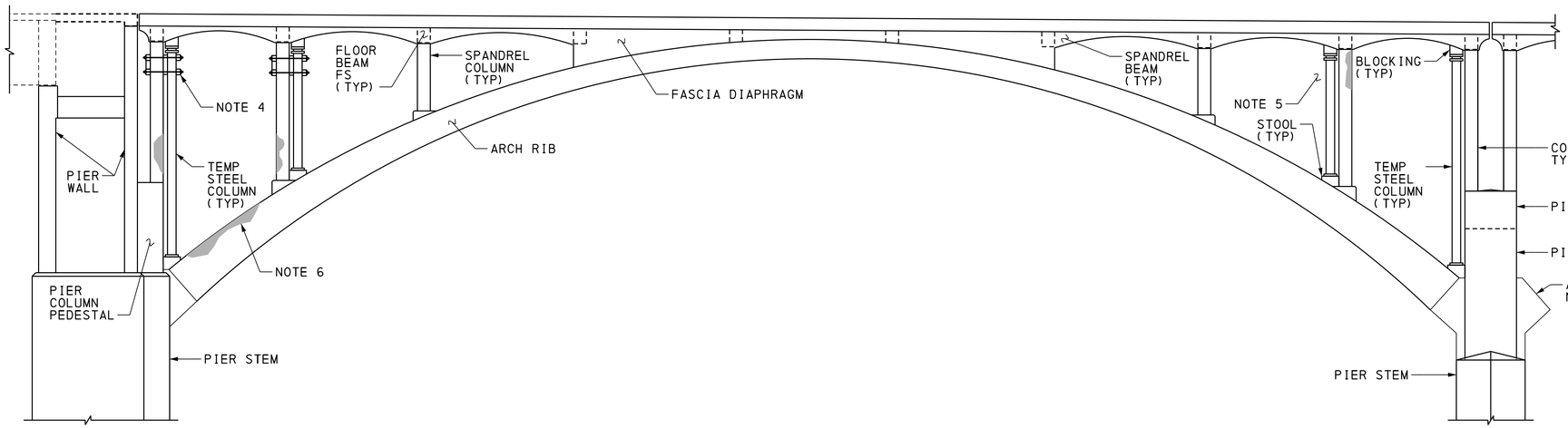
OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-DT-492.dgn




## PLAN - EXISTING ARCH SPAN

(POTENTIAL TEMPORARY STEEL COLUMN LOCATIONS FOR TYPE R REPAIRS, SHOWN SCHEMATICALLY FOR ILLUSTRATIVE PURPOSES)




## ELEVATION - EXISTING ARCH SPAN

(POTENTIAL TEMPORARY STEEL COLUMN LOCATIONS FOR TYPE R1 REPAIR AND R2 REPLACEMENT, SHOWN SCHEMATICALLY.
SEE "REHAB SCHEDULE" & "TYPE R1 & R2 TEMP SUPPORT" SHEETS)

## NOTES:

1. SEE "TYPE R REPAIR TEMP SUPPORT" SHEET FOR TEMPORARY SUPPORT SYSTEM UNDERNEATH FLOOR BEAM.
2. SEE "TYPE R REPAIR TEMP SUPPORT" SHEET FOR TEMPORARY SUPPORT SYSTEM UNDERNEATH SPANDREL BEAM.
3. AT EXTERIOR SPANDREL COLUMN, TEMPORARY STEEL COLUMN SUPPORTING FLOOR BEAM TO BE LOCATED DIRECTLY ON TOP OF PIER STEM AT END PIER OR PIER BENT BEAM AT INTERIOR PIER.
4. SECONDARY COLUMN SUPPORT COLLAR IS AN OPTION TO THE CONTRACTOR AS AN ALTERNATE LOAD PATH TO TRANSFER EXISTING COLUMN LOADS TO TEMPORARY STEEL COLUMN IF COLLAR CAN BE PLACED ABOVE DAMAGED SPALLED SECTION OF COLUMN, AS SHOWN.
5. OMIT SECONDARY COLUMN SUPPORT COLLAR WHEN COLLAR IS NOT FEASIBLE DUE TO LOCATION OF SPALL OR COLUMN IS TO BE REMOVED AND REPLACED FULL HEIGHT (TYPE R2 REPLACEMENT).
6. REPAIR ON ARCH RIB SHALL BE COMPLETED BEFORE PROCEEDING WITH REPAIR OF STRUCTURAL ELEMENTS SUPPORTED ON THE ARCH RIB.

## TYPE R1 REPAIR & TYPE R2 REPLACEMENT - TEMPORARY SUPPORT SYSTEM REQUIREMENTS

- IN ORDER TO PREVENT STRUCTURAL COLLAPSE DURING TYPE R1 REPAIR AND TYPE R2 REPLACEMENT, TEMPORARY SUPPORT SYSTEM SHALL BE PROVIDED AND SHALL BE SNUG TIGHT PRIOR TO BEGINNING CONCRETE REMOVAL WORK. SEE TABLE ON "REHAB SCHEDULE" SHEETS FOR LOCATIONS WHERE TYPE R1 REPAIR AND TYPE R2 REPLACEMENT WITH TEMPORARY SUPPORT SYSTEM IS REQUIRED.
- TEMPORARY SUPPORT SYSTEM COMPONENTS SHALL CONSIST OF ALL STRUCTURAL STEEL ELEMENTS.
- TEMPORARY SUPPORT SYSTEM MAY CONSIST OF BUT NOT LIMITED TO TEMPORARY STEEL COLUMN, SUPPORT STOOL AND BLOCKING, SECONDARY COLUMN SUPPORT COLLAR, FRICTION BRACKET, AS SHOWN SCHEMATICALLY ON THE PLANS.
- PLANS ONLY SHOW STRUCTURAL DESIGN CONCEPTS AND SCHEMATIC DETAILS FOR THE PURPOSE OF FACILITATING CONTRACTOR'S DESIGN AND CONSTRUCTION OF TEMPORARY SUPPORT SYSTEM. NOT ALL CONSTRUCTION DETAILS OF TEMPORARY SUPPORT SYSTEM ARE SHOWN ON THE PLANS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF SAFE AND ADEQUATE TEMPORARY SUPPORT SYSTEM WHICH PROVIDES THE NECESSARY RIGIDITY AND SUPPORTS THE LOADS ACTING ON THE COLUMN OR ARCH RIB WHILE CONCRETE IS BEING REMOVED DURING REHAB. CONTRACTOR'S PROPOSED TEMPORARY SUPPORT SYSTEM SHALL ENSURE GLOBAL STABILITY, BOTH VERTICAL AND LATERAL DIRECTIONS, OF THE SUPPORTED STRUCTURE DURING REHAB WORK.
- CONTRACTOR SHALL SUBMIT TO THE ENGINEER STAMPED WORKING DRAWINGS AND DESIGN CALCULATIONS OF TEMPORARY SUPPORT SYSTEM PROPOSED FOR TYPE R REPAIR OF LOADED EXISTING COLUMNS OR ARCH RIBS.
- NO MORE THAN 1 COLUMN PER FLOORBEAM LINE SHALL UNDERGO SIMULTANEOUS TYPE R1 OR TYPE R2 WORK AT ANY GIVEN TIME
- NO TWO ADJACENT COLUMNS PER ARCH RIB LINE SHALL UNDERGO SIMULTANEOUS TYPE R1 OR TYPE R2 WORK AT ANY GIVEN TIME.

## LEGEND:

INDICATES SPALL, SHOWN FOR ILLUSTRATIVE PURPOSES
(SEE "REHAB SCHEDULE" SHEETS FORR ACTUAL LOCATION OF SPALLS)

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
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REHAB LAYOUT PLAN & ELEVATION

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 240 OF 295

S-38014

DES: PC | DWN: AL | CKD: JC

PLOTTED: 8/26/2019 4:54:28 PM
FILENAME: E02657-S38014-BR-RH-101.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:45:49 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## PRESSURIZED EPOXY INJECTION FOR CONCRETE CRACKS REPAIR - PER STANDARD PLANS BC-783M
(CRACK WIDTHS EXCEEDING 0.014")

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | CRACK DIMENSION | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | LENGTH | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB8/9 | 60 | 0.125 | LF | 5 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 4 | AR3, FB9/10 | 84 | 0.0625 | LF | 7 | NARROW CRACK, NEAR NORTH SIDE |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 4 | AR4, FB9/10 | 84 | 0.0625 | LF | 7 | NARROW CRACK, NEAR SOUTH SIDE |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB8/9 | 48 | 0.0625 | LF | 4 | 1/16" CRACK |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB 9/10 | 24 | 0.0625 | LF | 2 | 1/16" CRACK INTO SPALL |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 4 | AR1, FB9/10 | 24 | 0.0625 | LF | 2 | 1/16" CRACK |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB9/10 | 242 | 0.125 | LF | 20.2 | LARGE CRACK |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB2/3 | 36 | 0.0625 | LF | 3 | NARROW CRACK |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB8/9 | 240 | 0.125 | LF | 20 | LARGE CRACK |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 5 | AR2, FB8/9 | 96 | - | LF | 8 | NARROW CRACK |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 5 | AR2, FB7/8 | 36 | 0.125 | LF | 3 | LARGE CRACK |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB8 | 120 | 0.125 | LF | 10 | LARGE CRACK |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB2/3 | 36 | 0.125 | LF | 3 | LARGE CRACK |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 6 | AR3, FB10 | 48 | HL | LF | 4 | HAIRLINE CRACK |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB1/2 | 72 | 0.125 | LF | 6 | LARGE CRACK |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB2 | 96 | 0.0625 | LF | 8 | NARROW CRACK |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 8 | AR2, FB2/3 | 144 | | LF | 12 | FINE MAPCRACKING (12 SF TOTAL) |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB9/10 | 132 | 0.125 | LF | 11 | CRACK |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 10 | AR1, FB7/8 | 36 | 0.0625 | LF | 3 | LARGE CRACK |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 11 | AR2, FB1/2 | 48 | 0.0625 | LF | 4 | NARROW CRACK |
| | | | | | | | | |
| FLOOR BEAM | SPANDREL BEAM - NORTH FACE | SPAN 4 | AR1, FB3/4 | 36 | 0.0625 | LF | 3 | 2 CRACKS OF 1/16" CONTINUED TO UNDERNEATH THE DECK |
| FLOOR BEAM | SPANDREL BEAM - SOUTH FACE | SPAN 4 | AR4, FB7/8 | 36 | 0.0625 | LF | 3 | 3 CRACKS OF 1/16", CONTINUED TO SOFFIT |
| FLOOR BEAM | SPANDREL BEAM - UNDERSIDE | SPAN 4 | AR2, FB3/4 | 12 | 0.125 | LF | 1 | 1/8" CRACK |
| FLOOR BEAM | SPANDREL BEAM - SOUTH FACE | SPAN 4 | AR1, FB3/4 | 48 | 0.25 | LF | 4 | 1/4" CRACK, CONTINUED TO SOFFIT |
| FLOOR BEAM | FB 1 - EAST FACE (WB) | SPAN 4 | MID SPAN | 60 | 0.0625 | LF | 5 | 1/16" CRACK |
| FLOOR BEAM | SPANDREL BEAM | SPAN 5 | AR2, FB7/8 | 72 | 0.125 | LF | 6 | 1/8" CRACK |
| FLOOR BEAM | SPANDREL BEAM - UNDERSIDE | SPAN 5 | AR1, FB3/4 | 36 | 0.125 | LF | 3 | 1/8" CRACK CONTINUTED TO UNDERSIDE OF DECK |
| FLOOR BEAM | SPANDREL BEAM | SPAN 5 | AR1, FB3/4 | 36 | 0.5 | LF | 3 | 1/2" CRACK |
| FLOOR BEAM | FB 10 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 10 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 10 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 5 | MID SPAN | 48 | | LF | 4 | ALL CRACKS |
| FLOOR BEAM | FB 9 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 9 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 9 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 7 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | FB 7 - WEST FACE (WB) | SPAN 6 | MID SPAN | 48 | | LF | 4 | CRACKS |
| FLOOR BEAM | SPANDREL BEAM - SOUTH FACE | SPAN 7 | AR2, FB7/8 | 36 | 0.125 | LF | 3 | 1/8" CRACK WITH RUST STAIN |
| FLOOR BEAM | SPANDREL BEAM - NORTH FACE | SPAN 7 | AR1, FB7/8 | 36 | 0.125 | LF | 3 | 1/8" CRACK FULL HEIGHT |
| FLOOR BEAM | SPANDREL BEAM - NORTH FACE | SPAN 7 | AR3, FB7/8 | 36 | 0.125 | LF | 3 | FB7 SIDE, CRACK WIDTH NOT SPECIFIED |
| FLOOR BEAM | SPANDREL BEAM - NORTH FACE | SPAN 7 | AR3, FB7/8 | 24 | 0.125 | LF | 2 | CENTER LINE OF BEAM, CRACK WIDTH NOT SPECIFIED |
| FLOOR BEAM | FB 6 - WEST FACE (WB) | SPAN 7 | MID SPAN | 24 | HL | LF | 2 | HAIRLINE CRACK |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 7 | MID SPAN | 24 | HL | LF | 2 | HAIRLINE CRACK |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 7 | MID SPAN | 24 | HL | LF | 2 | HAIRLINE CRACK |

## NOTES:

1. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

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REHAB SCHEDULE - 1

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RECOMMENDED 08/30/2019

SHEET 241 OF 295

S-38014

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-RH-121.dgn

PLOTTED: 8/26/2019 4:49:19 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## PRESSURIZED EPOXY INJECTION FOR CONCRETE CRACKS REPAIR - PER STANDARD PLANS BC-783M
(CRACK WIDTHS EXCEEDING 0.014")

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | CRACK DIMENSION | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | LENGTH | |
| FLOOR BEAM | FB 8 - WEST FACE (WB) | SPAN 7 | MID SPAN | 24 | HL | LF | 2 | HAIRLINE CRACK |
| FLOOR BEAM | FB 5 - WEST FACE (WB) | SPAN 7 | MID SPAN | 24 | HL | LF | 2 | HAIRLINE CRACK |
| FLOOR BEAM | SPANDREL BEAM - NORTH FACE | SPAN 9 | AR4, FB3/4 | 72 | 0.125 | LF | 6 | 1/8" HORIZONTAL CRACK |
| FLOOR BEAM | SPANDREL BEAM - NORTH FACE | SPAN 11 | AR4, FB9/10 | 30 | 0.0625 | LF | 2.5 | 1/16" CRACK |
| FLOOR BEAM | SPANDREL BEAM - SOUTH FACE | SPAN 11 | AR3, FB3/4 | 180 | 0.125 | LF | 15 | 1/8" CRACK |
| FLOOR BEAM | BETWEEN FB-7 & FB-8 - LONGITUDINAL BEAM | SPAN 5 | AR-2 | 72 | 0.125 | LF | 6 | SOUTH FACE - CRACK |
| FLOOR BEAM | BETWEEN FB-3 & FB-4 - LONGITUDINAL BEAM | SPAN 5 | AR-4 | 36 | 0.125 | LF | 3 | SOUTH FACE - CRACK |
| FLOOR BEAM | BETWEEN FB 7 & FB8 - LONGITUDINAL BEAM | SPAN 7 | AR1 | 24 | 0.128 | LF | 2 | CRACK |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 1&2 (EB) | SPAN 4 | FAR | 60 | 0.125 | LF | 5 | CRACK IN UNDERSIDE OF SPANDREL BEAM |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (4) BETWEEN 3&4 (EB) | SPAN 4 | LEFT | 24 | 0.125 | LF | 2 | CRACK, FULL WIDTH BOTTOM FACE TO 6" UP NORTH FACE |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (4) BETWEEN 9&10 (EB) | SPAN 5 | MID SPAN | 24 | 0.0625 | LF | 2 | CRACK |
| | | | | | | | | |
| SPANDREL COLUMN | SOUTH FACE | SPAN 4 | AR1, FB9 | 60 | 0.0625 | LF | 5 | 1/16" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 4 | AR2, FB10 | 24 | 0.0625 | LF | 2 | 1/16" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 4 | AR2,FB10 | 18 | 0.0625 | LF | 1.5 | 1/16" WITH RUST STAINING |
| SPANDREL COLUMN | WEST FACE | SPAN 4 | AR2, FB10 | 24 | 0.0625 | LF | 2 | 1/16" CRACK |
| SPANDREL COLUMN | WEST FACE | SPAN 4 | AR2, FB8 | 24 | 0.25 | LF | 2 | 1/4" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 4 | AR3, FB1 | 12 | 0.0625 | LF | 1 | 2 X 1/16" CRACKS W/ RUST STAINING |
| SPANDREL COLUMN | EAST FACE | SPAN 4 | AR3, FB1 | 18 | 0.0625 | LF | 1.5 | 1/16" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 4 | AR4, FB1 | 36 | 0.125 | LF | 3 | 1/8" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 4 | AR3, FB9 | 24 | 0.125 | LF | 2 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 4 | AR4, FB10 | 36 | 0.125 | LF | 3 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 4 | AR4, FB1 | 36 | 0.25 | LF | 3 | 1/4" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 4 | AR4, FB10 | 12 | 0.0625 | LF | 1 | 1/16" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 4 | AR3, FB1 | 60 | 0.0625 | LF | 5 | 1/16" CRACK |
| SPANDREL COLUMN | WEST FACE | SPAN 4 | AR3, FB10 | 24 | 0.0625 | LF | 2 | 2 X 12" L X 1/16" CRACKS |
| SPANDREL COLUMN | WEST FACE | SPAN 4 | AR3, FB2 | 24 | 0.125 | LF | 2 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 5 | AR2, FB9 | 36 | 0.125 | LF | 3 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 5 | AR2, FB1 | 72 | 0.125 | LF | 6 | 1/8" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 5 | AR2, FB1 | 24 | 0.25 | LF | 2 | 1/4" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 5 | AR1, FB10 | 180 | 0.125 | LF | 15 | 1/8" CRACK FULL HEIGHT |
| SPANDREL COLUMN | NORTH FACE | SPAN 5 | AR1, FB1 | 24 | 0.25 | LF | 2 | 1/4" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 5 | AR1, FB1 | 18 | 0.125 | LF | 1.5 | 1/8" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 5 | AR1, FB10 | 96 | 0.25 | LF | 8 | 1/4" CRACK WITH RUST STAINS |
| SPANDREL COLUMN | EAST FACE | SPAN 5 | AR2, FB10 | 24 | 0.25 | LF | 2 | 1/4" CRACK WITH RUST STAINS |
| SPANDREL COLUMN | NORTH FACE | SPAN 5 | AR4, FB10 | 48 | 0.125 | LF | 4 | 1/8" CRACK WITH RUST STAINS |
| SPANDREL COLUMN | NORTH FACE | SPAN 5 | AR4, FB9 | 96 | 0.25 | LF | 8 | 1/4" CRACK WITH RUST STAINS |
| SPANDREL COLUMN | SOUTH FACE | SPAN 5 | AR4, FB1 | 120 | 0.25 | LF | 10 | 1/4" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 5 | AR3, FB7 | 72 | 0.25 | LF | 6 | 1/4" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 5 | AR4, FB10 | 36 | 0.5 | LF | 3 | 1/2" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 5 | AR3, FB10 | 60 | 0.125 | LF | 5 | 1/8" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 5 | AR4, FB9 | 72 | 0.25 | LF | 6 | 1/4" CRACK |
| SPANDREL COLUMN | WEST FACE | SPAN 5 | AR4, FB3 | 120 | | LF | 10 | NO WIDTH NOTED |
| SPANDREL COLUMN | SOUTH FACE | SPAN 6 | AR2, FB1 | 36 | 0.25 | LF | 3 | 1/4" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 6 | AR2, FB1 | 36 | 0.25 | LF | 3 | 1/4" CRACK ON THE SIDE |
| SPANDREL COLUMN | SOUTH FACE | SPAN 6 | AR2, FB1 | 24 | 0.25 | LF | 2 | 1/4" CRACK IN THE MIDDLE |
| SPANDREL COLUMN | SOUTH FACE | SPAN 6 | AR2, FB10 | 12 | 0.125 | LF | 1 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 6 | AR1, FB10 | 12 | 0.125 | LF | 1 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 6 | AR1, FB1 | 48 | 0.5 | LF | 4 | 1/2" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 6 | AR1, FB1 | 96 | 0.125 | LF | 8 | 1/8" CRACK TO MIDHEIGHT OF COLUMN |
| SPANDREL COLUMN | SOUTH FACE | SPAN 6 | AR1, FB10 | 180 | 0.5 | LF | 15 | 1/2" CRACK FULL HEIGHT |
| SPANDREL COLUMN | EAST FACE | SPAN 6 | AR1, FB10 | 36 | 0.25 | LF | 3 | 1/4" CRACK |
| SPANDREL COLUMN | WEST FACE | SPAN 6 | AR1, FB1 | 48 | 0.0625 | LF | 4 | 1/16" CRACK |
| SPANDREL COLUMN | WEST FACE | SPAN 6 | AR2, FB3 | 36 | 0.25 | LF | 3 | 1/4" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 6 | AR4, FB10 | 30 | 0.25 | LF | 2.5 | 1/4" CRACK |

## NOTES:

1. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 242 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-122-1.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:54:17 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## PRESSURIZED EPOXY INJECTION FOR CONCRETE CRACKS REPAIR - PER STANDARD PLANS BC-783M
(CRACK WIDTHS EXCEEDING 0.014")

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | CRACK DIMENSION | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | LENGTH | |
| SPANDREL COLUMN | NORTH FACE | SPAN 6 | AR4, FB10 | 12 | 0.125 | LF | 1 | 1/8" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 6 | AR4, FB1 | 96 | 0.125 | LF | 8 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 6 | AR3, FB10 | 48 | | LF | 4 | WITH EXPOSED REINFORCEMENT, WIDTH NOT SPECIFIED |
| SPANDREL COLUMN | NORTH FACE | SPAN 6 | AR3, FB1 | 120 | 0.25 | LF | 10 | 1/4" CRACK OF 2/3 HEIGHT OF COLUMN |
| SPANDREL COLUMN | WEST FACE | SPAN 6 | AR3, FB1 | 180 | 0.25 | LF | 15 | 1/4" CRACK OF 3/4 HEIGHT OF COLUMN |
| SPANDREL COLUMN | EAST FACE | SPAN 6 | AR3, FB10 | 24 | | LF | 2 | 3 CRACKS WIDTH NOT SPECIFIED |
| SPANDREL COLUMN | EAST FACE | SPAN 6 | AR4, FB9 | 24 | | LF | 2 | 3 CRACKS WIDTH NOT SPECIFIED |
| SPANDREL COLUMN | NORTH FACE | SPAN 7 | AR1, FB1 | 36 | 0.125 | LF | 3 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 7 | AR1, FB1 | 36 | 0.25 | LF | 3 | 1/4" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 7 | AR4, FB10 | 24 | 0.0625 | LF | 2 | 1/16" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 7 | AR4, FB1 | 108 | | LF | 9 | CRACK WIDTH NOT SPECIFIED |
| SPANDREL COLUMN | NORTH FACE | SPAN 7 | AR4, FB3 | 12 | 0.5 | LF | 1 | 1/2"-3/4" CRACK |
| SPANDREL COLUMN | WEST FACE | SPAN 7 | AR3, FB10 | 24 | 0.125 | LF | 2 | 1/8" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 7 | AR3, FB1 | 36 | 0.1875 | LF | 3 | 3/16" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 7 | AR2, FB1 | 180 | 0.125 | LF | 15 | 3/16" CRACK FULL HEIGHT |
| SPANDREL COLUMN | NORTH FACE | SPAN 7 | AR2, FB2 | 60 | 0.125 | LF | 5 | 1/8" CRACK |
| SPANDREL COLUMN | SOUTH FACE | SPAN 7 | AR2, FB1 | 24 | 0.0625 | LF | 2 | 1/16" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 7 | AR3, FB10 | 48 | 0.125 | LF | 4 | 3/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 7 | AR3, FB10 | 36 | 0.125 | LF | 3 | CRACK WIDTH NOT SPECIFIED |
| SPANDREL COLUMN | NORTH FACE | SPAN 10 | AR1, FB10 | 36 | 0.0625 | LF | 3 | 1/16" CRACK |
| SPANDREL COLUMN | WEST FACE | SPAN 10 | AR1, FB1 | 48 | | LF | 4 | HAIRLINE WIDTH, SOLID |
| SPANDREL COLUMN | NORTH FACE | SPAN 10 | AR4, FB10 | 36 | 0.125 | LF | 3 | 1/8" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 11 | AR2, FB3 | 36 | 0.0625 | LF | 3 | 1/16" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 11 | AR4, FB10 | 72 | 0.125 | LF | 6 | 1/8" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 11 | AR4, FB9 | 36 | 0.25 | LF | 3 | 1/4" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 11 | AR4, FB9 | 24 | 0.25 | LF | 2 | 1/4" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 8 | AR4, FB10 | 48 | 0.0625 | LF | 4 | 1/16" CRACK |
| SPANDREL COLUMN | EAST FACE | SPAN 9 | AR4, FB9 | 36 | 0.125 | LF | 3 | 1/8" CRACK, VERTICAL |
| SPANDREL COLUMN | NORTH FACE | SPAN 11 | AR3, FB10 | 36 | 0.5 | LF | 3 | 1/2" CRACK |
| SPANDREL COLUMN | NORTH FACE | SPAN 11 | AR3, FB10 | 24 | 0.125 | LF | 2 | 1/8" CRACK |
| | | | | | | | | |
| PIER | SOUTH HALF | PIER 3 | WEST FACE - BOTTOM | 268 | 0.0625 | LF | 22.4 | CRACK |
| PIER | SOUTH HALF | PIER 3 | WEST FACE - BOTTOM | 357 | 0.125 | LF | 29.8 | CRACK |
| PIER | SOUTH HALF | PIER 3 | WEST FACE - BOTTOM | 134 | | LF | 11.2 | HAIRLINE CRACK |
| PIER | NORTH HALF | PIER 3 | WEST FACE - BOTTOM | 178 | 0.0625 | LF | 14.9 | CRACK |
| PIER | NORTH HALF | PIER 3 | WEST FACE - BOTTOM | 268 | | LF | 22.4 | HAIRLINE CRACK |
| PIER | NORTH HALF | PIER 3 | EAST FACE - MID | 480 | 0.0625 | LF | 40 | CRACK |
| PIER | SOUTH HALF | PIER 3 | EAST FACE - MID | 480 | 0.0625 | LF | 40 | CRACK W/ EFFLO |
| PIER | RIB 1/2 | PIER 4 | UNDERSIDE - | 72 | 0.125 | LF | 6 | CRACK AT UNDERSIDE OF PIER CAP |
| PIER | RIB 3/4 | PIER 4 | UNDERSIDE - | 72 | | LF | 6 | CRACK AT UNDERSIDE OF PIER CAP |
| PIER | RIB 3/4 | PIER 5 | WEST FACE - CAP | 60 | 0.0625 | LF | 5 | CRACK |
| PIER | RIB 4 | PIER 5 | EAST FACE - MID | 180 | | LF | 15 | NARROW CRACK, HAIRLINE FLEXURE CRACKS - TYPICAL THROUGHOUT THE FBS |
| PIER | RIB 3 | PIER 5 | EAST FACE - TOP | 36 | 0.0625 | LF | 3 | CRACK |
| PIER | RIB 3 | PIER 5 | EAST FACE - TOP | 36 | 0.0625 | LF | 3 | CRACK |
| PIER | RIB 4 | PIER 5 | SOUTH FACE - MID | 240 | 0.125 | LF | 20 | CRACK |
| PIER | RIB 1 | PIER 6 | WEST FACE - TOP | 24 | 0.0625 | LF | 2 | CRACK |
| PIER | RIB 1/2 | PIER 7 | UNDERSIDE - MID | 48 | HL | LF | 4 | HL CRACK ON UNDERSIDE OF CAP |
| PIER | RIB 2/3 | PIER 7 | UNDERSIDE - MID | 48 | HL | LF | 4 | HL CRACK ON UNDERSIDE OF CAP |
| PIER | RIB 1 | PIER 7 | NORTH FACE - TOP | 12 | HL | LF | 1 | HAIRLINE CRACK |
| PIER | RIB 3 | PIER 7 | WEST FACE - TOP | 24 | HL | LF | 2 | HAIRLINE CRACK |
| PIER | RIB 3 | PIER 9 | NORTH FACE - TOP | 30 | 0.125 | LF | 2.5 | CRACK |
| PIER | NEAR RIB 4 | PIER 11 | EAST FACE - TOP | 72 | 0.25 | LF | 6 | LARGE CRACK |
| PIER | BETWEEN RIB 3 AND 4 | PIER 11 | EAST FACE - MID | 480 | 0.125 | LF | 40 | LARGE CRACK |
| PIER | BETWEEN RIB 3 AND 4 | PIER 11 | EAST FACE - BOTTOM | 72 | 0.0625 | LF | 6 | LARGE CRACK (EXTENDS TO BOTTOM) |
| PIER | BETWEEN RIB 1 AND 2 | PIER 11 | EAST FACE - TOP- | 480 | 0.0625 | LF | 40 | LARGE CRACK (FULL HEIGHT CRACK) |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 12 | 0.0625 | LF | 1 | CRACK |
| | | | | | | TOTAL | 972.9 LF | |

NOTES:

1. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 3

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 243 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-122-2.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:52:47 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR2, FB2/3 | 120 | 60 | SF | 50 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR2, FB3/4 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR2, FB3/4 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR1, FB7/8 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR1, FB7/8 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR1, FB9/10 | 18 | 30 | SF | 3.8 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR1, FB9/10 | 18 | 30 | SF | 3.8 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB4/5 | 48 | 12 | SF | 4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB6/7 | 18 | 6 | SF | 0.8 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB7/8 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB7/8 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB9/10 | 120 | 24 | SF | 20 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 4 | AR1, FB2/3 | 60 | 12 | SF | 5 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 4 | AR1,FB3/4 | 60 | 12 | SF | 5 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 4 | AR1,FB3/4 | 48 | 6 | SF | 2 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 4 | AR1, FB4 | 136 | 18 | SF | 17 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 4 | AR1,FB7/8 | 48 | 6 | SF | 2 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2, FB7/8 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2, FB6/7 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2, FB6/7 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2, FB6/7 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2, FB5/6 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2,FB4/5 | 180 | 18 | SF | 22.5 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2, FB2/3 | 72 | 36 | SF | 18 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR1, FB1/2 | 96 | 8 | SF | 5.4 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 4 | AR3, FB2/3 | 48 | 12 | SF | 4 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 4 | AR3, FB2/3 | 36 | 6 | SF | 1.5 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 4 | AR3, FB3/4 | 36 | 60 | SF | 15 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 4 | AR3, FB3/4 | 48 | 48 | SF | 16 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 4 | AR3, FB7/8 | 24 | 36 | SF | 6 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 4 | AR3, FB8/9 | 36 | 12 | SF | 3 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 4 | AR4, FB4/5 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB4/5 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB7/8 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB8/9 | 36 | 48 | SF | 12 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB9/10 | 84 | 60 | SF | 35 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 5 | AR1, FB5/6 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 5 | AR1, FB6/7 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB2/3 | 48 | 60 | SF | 20 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB2/3 | 48 | 60 | SF | 20 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB3/4 | 48 | 60 | SF | 20 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB3/4 | 36 | 60 | SF | 15 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB7/8 | 48 | 60 | SF | 20 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB7/8 | 54 | 60 | SF | 22.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB8/9 | 120 | 60 | SF | 50 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB9/10 | 60 | 60 | SF | 25 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 5 | AR2, FB8/9 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 5 | AR2, FB7/8 | 42 | 16 | SF | 4.7 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 5 | AR3, FB9/10 | 36 | 6 | SF | 1.5 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 5 | AR3, FB7/8 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 5 | AR3, FB6/7 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 5 | AR3, FB1/2 | 12 | 6 | SF | 0.5 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 5 | AR3, FB3/4 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 5 | AR3, FB7/8 | 36 | 36 | SF | 9 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB8/9 | 72 | 60 | SF | 30 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB8/9 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB8/9 | 36 | 36 | SF | 9 | |

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.

2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.

3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 4

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 244 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-1.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:49:35 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB7/8 | 36 | 36 | SF | 9 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB7/8 | 72 | 12 | SF | 6 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB7/8 | 36 | 12 | SF | 3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB3/4 | 48 | 24 | SF | 8 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB2/3 | 48 | 24 | SF | 8 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB2/3 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB1/2 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB7/8 | 60 | 60 | SF | 25 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB3/4 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB1/2 | 84 | 60 | SF | 35 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB1/2 | 96 | 12 | SF | 8 | |
| ARCH RIB | RIB 1 - SOUHTH FACE | SPAN 6 | AR1, FB4/5 | 24 | 6 | SF | 1 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 6 | AR3, FB2/3 | 60 | 24 | SF | 10 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 6 | AR3, FB3/4 | 156 | 60 | SF | 65 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 6 | AR3, FB3/4 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 6 | AR3, FB3/4 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 6 | AR3, FB3/4 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 6 | AR3, FB3/4 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 6 | AR4, FB7/8 | 36 | 24 | SF | 6 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 6 | AR4, FB9/10 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 6 | AR4, FB4/5 | 72 | 3 | SF | 1.5 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 6 | AR3, FB4 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 6 | AR3, FB4/5 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 6 | AR3, FB1/2 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 6 | AR3, FB4/5 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB1/2 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB1/2 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB2/3 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB2/3 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB2/3 | 180 | 12 | SF | 15 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB3/4 | 120 | 36 | SF | 30 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB7/8 | 60 | 60 | SF | 25 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB8/9 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB8/9 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB8/9 | 48 | 6 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB9/10 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 7 | AR2, FB6/7 | 36 | 60 | SF | 15 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 7 | AR1, FB7/8 | 24 | 6 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 7 | AR1, FB6/7 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 7 | AR1, FB1/2 | 60 | 12 | SF | 5 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 7 | AR2, FB2/3 | 96 | 6 | SF | 4 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 7 | AR2, FB4/5 | 1 | 1 | SF | 0.1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 7 | AR4, FB9/10 | 60 | 12 | SF | 5 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 7 | AR3, FB2/3 | 24 | 60 | SF | 10 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 7 | AR3, FB8/9 | 48 | 24 | SF | 8 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 8 | AR2, FB1/2 | 36 | 12 | SF | 3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 8 | AR2, FB3/4 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 8 | AR2, FB8/9 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB2/3 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB2/3 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB2/3 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB7/8 | 48 | 36 | SF | 12 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB8/9 | 36 | 12 | SF | 3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB9/10 | 192 | 12 | SF | 16 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB8 | 24 | 6 | SF | 1 | |

## NOTES:

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DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 5

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 245 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-2.dgn
OPERATOR: TYLIPWO1ICS01$

PLOTTED: 8/26/2019 4:49:22 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB9/10 | 192 | 6 | SF | 8 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 8 | AR4, FB/4 | 48 | 24 | SF | 8 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 8 | AR3, FB3/4 | 48 | 24 | SF | 8 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 8 | AR3, FB3/4 | 72 | 12 | SF | 6 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 8 | AR3,FB10 | 36 | 6 | SF | 1.5 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB1/2 | 48 | 6 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB2/3 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB2/3 | 60 | 60 | SF | 25 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB3/4 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB8/9 | 48 | 48 | SF | 16 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB8/9 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB8/9 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB9/10 | 60 | 36 | SF | 15 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB9/10 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB9/10 | 60 | 9 | SF | 3.8 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB9/10 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB8/9 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB7/8 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB2/3 | 60 | 60 | SF | 25 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB1/2 | 48 | 48 | SF | 16 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB1/2 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB2/3 | 24 | 12 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB3/4 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB3/4 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB8/9 | 60 | 12 | SF | 5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB8/9 | 24 | 9 | SF | 1.5 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 9 | AR2, FB9/10 | 36 | 6 | SF | 1.5 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 9 | AR2, FB8/9 | 96 | 6 | SF | 4 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB3/4 | 120 | 60 | SF | 50 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB4/5 | 96 | 12 | SF | 8 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB5/6 | 72 | 12 | SF | 6 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB5/6 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB6/7 | 120 | 6 | SF | 5 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB7/8 | 60 | 96 | SF | 40 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB7/8 | 24 | 96 | SF | 16 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB8/9 | 120 | 60 | SF | 50 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB8/9 | 72 | 24 | SF | 12 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB9/10 | 60 | 36 | SF | 15 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 9 | AR3, FB9/10 | 24 | 6 | SF | 1 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 9 | AR3, FB7/8 | 60 | 4 | SF | 1.7 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB6/7 | 48 | 3 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB2/3 | 12 | 6 | SF | 0.5 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB8/9 | 96 | 12 | SF | 8 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 10 | AR1, FB9/10 | 12 | 6 | SF | 0.5 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 10 | AR1, FB7/8 | 36 | 6 | SF | 1.5 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 10 | AR1, FB9/10 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB2/3 | 36 | 12 | SF | 3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB8/9 | 24 | 36 | SF | 6 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 10 | AR2, FB8/9 | 96 | 6 | SF | 4 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 10 | AR3, FB1/2 | 60 | 72 | SF | 30 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 10 | AR3, FB2/3 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 10 | AR3, FB7/8 | 84 | 60 | SF | 35 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 10 | AR3, FB8/9 | 18 | 18 | SF | 2.3 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 10 | AR3, FB8/9 | 60 | 48 | SF | 20 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 10 | AR3, FB8/9 | 6 | 12 | SF | 0.5 | |

## NOTES:

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DES: PC | DWN: AL | CKD: JC

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 6

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 246 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-3.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:52:20 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 10 | AR3, FB5/6 | 6 | 144 | SF | 6 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 10 | AR3, FB6/7 | 48 | 6 | SF | 2 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 10 | AR4, FB1/2 | 36 | 36 | SF | 9 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 10 | AR4, FB2/3 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 10 | AR4, FB2/3 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 10 | AR4, FB2/3 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 10 | AR4, FB4/5 | 12 | 6 | SF | 0.5 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB2/3 | 60 | 30 | SF | 12.5 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB7/8 | 12 | 36 | SF | 3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB9 | 18 | 36 | SF | 4.5 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 11 | AR1, FB8/9 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 11 | AR1, FB9 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 11 | AR2, FB2/3 | 60 | 60 | SF | 25 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 11 | AR2, FB1/2 | 36 | 36 | SF | 9 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 11 | AR2, FB2/3 | 36 | 36 | SF | 9 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 11 | AR2, FB3/4 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 11 | AR2, FB8/9 | 72 | 60 | SF | 30 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 11 | AR2, FB3/4 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 11 | AR3, FB3/4 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 11 | AR3, FB7/8 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 11 | AR3, FB8/9 | 96 | 60 | SF | 40 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 11 | AR4, FB6 | 48 | 12 | SF | 4 | |
| | | | | | | | | |
| FLOOR BEAM | FB 7 - WEST FACE (WB) | SPAN 6 | | 24 | 12 | SF | 2 | |
| FLOOR BEAM | FB 5 - WEST FACE | SPAN 9 | | 10 | 3 | SF | 0.3 | |
| | | | | | | | | |
| PIER | MIDPOINT | PIER 3 | WEST FACE - TOP | 15 | 9 | SF | 1 | |
| PIER | SOUTH HALF | PIER 3 | WEST FACE - TOP | 20 | 12 | SF | 1.7 | |
| PIER | SOUTH HALF | PIER 3 | EAST FACE - MID | 36 | 60 | SF | 15 | |
| PIER | SOUTH HALF | PIER 3 | EAST FACE - TOP | 24 | 24 | SF | 4 | |
| PIER | NEAR RIB 1 | PIER 3 | EAST FACE - TOP | 72 | 24 | SF | 12 | |
| PIER | RIB 1 | PIER 4 | SOUTH FACE - MID | 6 | 6 | SF | 0.3 | |
| PIER | RIB 2 | PIER 4 | WEST FACE - TOP | 24 | 12 | SF | 2 | |
| PIER | RIB 3 | PIER 4 | SOUTH FACE - MID | 84 | 12 | SF | 7 | |
| PIER | RIB 4 | PIER 4 | WEST FACE - TOP | 36 | 12 | SF | 3 | |
| PIER | RIB 4 | PIER 4 | SOUTH FACE - TOP | 36 | 36 | SF | 9 | |
| PIER | RIB 2 | PIER 4 | EAST FACE - TOP | 84 | 12 | SF | 7 | |
| PIER | RIB 2 | PIER 4 | EAST FACE - TOP | 84 | 4 | SF | 2.4 | |
| PIER | RIB 3 | PIER 4 | EAST FACE - TOP | 12 | 24 | SF | 2 | |
| PIER | RIB 4 | PIER 4 | EAST FACE - TOP | 36 | 36 | SF | 9 | |
| PIER | RIB 1 | PIER 5 | WEST FACE - MID | 36 | 24 | SF | 6 | |
| PIER | RIB 2 | PIER 6 | WEST FACE - TOP | 12 | 12 | SF | 1 | |
| PIER | RIB 4 | PIER 6 | EAST FACE - TOP | 12 | 5 | SF | 0.5 | |
| PIER | RIB 4 | PIER 6 | EAST FACE - BOTTOM | 6 | 9 | SF | 0.4 | |
| PIER | RIB 4 | PIER 6 | EAST FACE - BOTTOM | 6 | 9 | SF | 0.4 | |
| PIER | RIB 1 | PIER 6 | EAST FACE - TOP | 6 | 6 | SF | 0.3 | |
| PIER | RIB 1 | PIER 7 | WEST FACE - TOP | 24 | 24 | SF | 4 | |
| PIER | RIB 1 | PIER 7 | WEST FACE - TOP | 12 | 24 | SF | 2 | |
| PIER | RIB 4 | PIER 7 | SOUTH FACE - TOP | 12 | 6 | SF | 0.5 | |
| PIER | RIB 2 | PIER 7 | EAST FACE - TOP | 6 | 18 | SF | 0.8 | |
| PIER | RIB 1 | PIER 7 | NORTH FACE - TOP | 6 | 6 | SF | 0.3 | |
| PIER | RIB 2 | PIER 8 | NORTH FACE - TOP | 6 | 12 | SF | 0.5 | |
| PIER | RIB 2 | PIER 8 | SOUTH FACE - TOP | 6 | 6 | SF | 0.3 | |
| PIER | RIB 3 | PIER 8 | WEST FACE - TOP | 36 | 6 | SF | 1.5 | |
| PIER | RIB 3/4 | PIER 8 | WEST FACE - TOP | 6 | 6 | SF | 0.3 | |

## NOTES:

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| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 7

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 247 OF 295

S-38014

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-RH-123-4.dgn

PLOTTED: 8/26/2019 4:52:39 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| PIER | RIB 4 | PIER 8 | EAST FACE - TOP | 12 | 6 | SF | 0.5 | |
| PIER | RIB 4 | PIER 8 | EAST FACE - TOP | 24 | 12 | SF | 2 | |
| PIER | RIB 1 | PIER 8 | NORTH FACE - MID | 12 | 12 | SF | 1 | |
| PIER | RIB 3 | PIER 9 | WEST FACE - TOP | 24 | 12 | SF | 2 | |
| PIER | RIB 4 | PIER 9 | WEST FACE - TOP | 24 | 6 | SF | 1 | |
| PIER | RIB 1 | PIER 10 | WEST FACE - TOP | 12 | 12 | SF | 1 | |
| PIER | RIB 1 | PIER 10 | WEST FACE - TOP | 12 | 12 | SF | 1 | |
| PIER | RIB 2 | PIER 10 | WEST FACE - TOP | 12 | 12 | SF | 1 | |
| PIER | NEAR RIB 1 | PIER 11 | WEST FACE - MID | 36 | 36 | SF | 9 | |
| PIER | BETWEEN RIB 1 AND 2 | PIER 11 | WEST FACE - BOTTOM | 96 | 24 | SF | 16 | |
| PIER | BETWEEN RIB 2 AND 3 | PIER 11 | WEST FACE - BOTTOM | 12 | 36 | SF | 3 | |
| PIER | BETWEEN RIB 2 AND 3 | PIER 11 | WEST FACE - BOTTOM | 12 | 12 | SF | 1 | |
| PIER | BETWEEN RIB 3 AND 4 | PIER 11 | WEST FACE - MID | 12 | 36 | SF | 3 | |
| PIER | BETWEEN RIB 3 AND 4 | PIER 11 | WEST FACE - BOTTOM | 96 | 36 | SF | 24 | |
| PIER | BETWEEN RIB 2 AND 3 | PIER 11 | EAST FACE - MID | 6 | 24 | SF | 1 | |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 24 | 12 | SF | 2 | |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 12 | 12 | SF | 1 | |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 36 | 12 | SF | 3 | |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 6 | 6 | SF | 0.3 | |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 6 | 6 | SF | 0.3 | |
| | | | | | | | | |
| SPANDREL BEAM | FB-7, RIB 1 WEST FACE-EB | SPAN 10 | AR-1 | 18 | 6 | SF | 0.8 | |
| | | | | | | | | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 4 | AR1, FB4 | 20 | 6 | SF | 0.9 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 4 | AR1, FB3 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 4 | AR1, FB1 | 48 | 6 | SF | 2 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 4 | AR1, FB1 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 4 | AR1, FB9 | 72 | 8 | SF | 4 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 4 | AR1, FB10 | 24 | 18 | SF | 3 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 4 | AR1, FB10 | 12 | 18 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 4 | AR2, FB10 | 48 | 4 | SF | 1.4 | |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 4 | AR2, FB7 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 4 | AR1, FB1 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - EAST FACE - EB | SPAN 4 | AR2, FB2 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 4 | AR1, FB 5 | 36 | 12 | SF | 3 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 4 | AR1, FB8 | 24 | 24 | SF | 4 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 4 | AR1, FB9 | 108 | 6 | SF | 4.5 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 4 | AR1, FB10 | 24 | 36 | SF | 6 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 4 | AR2,FB10 | 2 | 4 | SF | 0.1 | |
| SPANDREL COLUMN | RIB 2 - EAST FACE - EB | SPAN 4 | AR2, FB10 | 36 | 36 | SF | 9 | |
| SPANDREL COLUMN | RIB 2 - EAST FACE - EB | SPAN 4 | AR1,FB10 | 60 | 36 | SF | 15 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 4 | AR2, FB2 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 4 | AR2, FB3 | 18 | 6 | SF | 0.8 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 4 | AR2, FB3 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 4 | AR2, FB8 | 6 | 6 | SF | 0.3 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 4 | AR2, FB10 | 24 | 36 | SF | 6 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 4 | AR1,FB10 | 12 | 24 | SF | 2 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 4 | AR4, FB10 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 4 | AR4, FB9 | 192 | 4 | SF | 5.4 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 4 | AR4, FB1 | 36 | 4 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 4 | AR4, FB1 | 12 | 18 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 4 | AR4, FB1 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 4 | AR4, FB10 | 192 | 18 | SF | 24 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 4 | AR4, FB10 | 36 | 8 | SF | 2 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE - EB | SPAN 4 | AR3, FB10 | 36 | 12 | SF | 3 | |

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 8

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 248 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-5.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:50:06 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE - EB | SPAN 4 | AR3, FB1 | 30 | 16 | SF | 3.4 | |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 4 | AR3, FB10 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 4 | AR4, FB10 | 24 | 12 | SF | 2 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 4 | AR4, FB10 | 48 | 6 | SF | 2 | |
| SPANDREL COLUMN | RIB 3 - EAST FACE - WB | SPAN 4 | AR3, FB10 | 60 | 6 | SF | 2.5 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 4 | AR3, FB3 | 20 | 12 | SF | 1.7 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 5 | AR1, FB10 | 48 | | SF | 0 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 5 | AR1, FB10 | | | SF | 0 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 5 | AR1, FB10 | 60 | 36 | SF | 15 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - EAST FACE - EB | SPAN 5 | AR2, FB10 | 6 | 6 | SF | 0.3 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 5 | AR2, FB10 | 36 | 36 | SF | 9 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 5 | AR2,FB1 | 10 | 14 | SF | 1 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE - WB | SPAN 5 | AR3, FB3 | 96 | 6 | SF | 4 | |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 5 | AR3, FB3 | 24 | 12 | SF | 2 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 5 | AR3, FB9 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 5 | AR4, FB10 | | | SF | 0 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 5 | AR4, FB9 | 24 | 12 | SF | 2 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 5 | AR4, FB4 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 5 | AR4, FB10 | 24 | 6 | SF | 1 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 5 | AR4, FB10 | 48 | 7 | SF | 2.4 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - WEST FACE - EB | SPAN 5 | AR4,FB1 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - WEST FACE - WB | SPAN 5 | AR4, FB4 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 5 | AR4, FB9 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 6 | AR1,FB9 | 36 | 12 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 6 | AR1,FB10 | 72 | 12 | SF | 6 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 6 | AR1,FB9 | 60 | 6 | SF | 2.5 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 6 | AR1,FB10 | 72 | 18 | SF | 9 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 6 | AR1,FB10 | 168 | 12 | SF | 14 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 6 | AR1,FB9 | 18 | 30 | SF | 3.8 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 6 | AR2, FB1 | 18 | 6 | SF | 0.8 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 6 | AR2,FB1 | 36 | 24 | SF | 6 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 6 | AR2,FB8 | 12 | 16 | SF | 1.4 | |
| SPANDREL COLUMN | RIB 3 - EAST FACE - WB | SPAN 6 | AR3, FB1 | 48 | 48 | SF | 16 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE - WB | SPAN 6 | AR3, FB1 | 156 | | SF | 0 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE | SPAN 6 | AR3, FB8 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 6 | AR4, FB9 | 36 | 36 | SF | 9 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 6 | AR4, FB1 | 15 | 5 | SF | 0.6 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE - WB | SPAN 6 | AR4, FB1 | 120 | 0.125 | SF | 0.2 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 6 | AR4, FB3 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 6 | AR4, FB2 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 6 | AR4,FB1 | 6 | 6 | SF | 0.3 | |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 7 | AR2, FB1 | 18 | 18 | SF | 2.3 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 7 | AR2, FB1 | 12 | 18 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 7 | AR2, FB10 | 24 | 4 | SF | 0.7 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 7 | AR1, FB1 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - EAST FACE - EB | SPAN 7 | AR2, FB1 | 192 | 6 | SF | 8 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 7 | AR2, FB1 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 7 | AR1, FB1 | 24 | 48 | SF | 8 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 7 | AR1, FB10 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE - WB | SPAN 7 | AR3, FB1 | 12 | 36 | SF | 3 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE - WB | SPAN 7 | AR3, FB10 | 48 | 6 | SF | 2 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 7 | AR4, FB1 | 12 | 18 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 7 | AR4, FB10 | 192 | 12 | SF | 16 | |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 7 | AR3, FB1 | 48 | 4 | SF | 1.4 | |
| SPANDREL COLUMN | RIB 4 - WEST FACE - WB | SPAN 7 | AR4, FB3 | 12 | 36 | SF | 3 | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 9

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 249 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-6.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:53:12 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 7 | AR3, FB8 | 16 | 20 | SF | 2.3 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB1 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB1 | 60 | 6 | SF | 2.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB9 | 24 | 12 | SF | 2 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 8 | AR1, FB10 | 36 | 18 | SF | 4.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 8 | AR1, FB10 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 8 | AR1, FB1 | 24 | 6 | SF | 1 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 8 | AR1, FB1 | 72 | 6 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE | SPAN 8 | AR2, FB1 | 12 | 6 | SF | 0.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE | SPAN 8 | AR2, FB10 | 60 | 6 | SF | 2.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE | SPAN 8 | AR2, FB9 | 48 | 18 | SF | 6 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE | SPAN 8 | AR2, FB3 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE | SPAN 8 | AR2, FB2 | 72 | 6 | SF | 3 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE | SPAN 8 | AR2, FB1 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE | SPAN 8 | AR2, FB1 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE | SPAN 8 | AR2, FB1 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE | SPAN 8 | AR2, FB1 | 48 | 36 | SF | 12 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE | SPAN 8 | AR1, FB1 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE | SPAN 8 | AR1, FB1 | 84 | 33 | SF | 19.3 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE | SPAN 8 | AR2, FB3 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE | SPAN 8 | AR2, FB8 | 18 | 12 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 2 - EAST FACE | SPAN 8 | AR2, FB10 | 48 | 12 | SF | 4 | |
| SPANDREL COLUMN | RIB 2 - EAST FACE | SPAN 8 | AR2, FB10 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - EAST FACE | SPAN 8 | AR2, FB10 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE | SPAN 8 | AR1, FB1 | 36 | 4 | SF | 1 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB10 | 36 | 12 | SF | 3 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB9 | 72 | 6 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB9 | 72 | 6 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB9 | 24 | 6 | SF | 1 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 8 | AR4, FB1 | 48 | 6 | SF | 2 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 8 | AR4, FB10 | 48 | 12 | SF | 4 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 8 | AR4, FB10 | 120 | 12 | SF | 10 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE | SPAN 8 | AR3, FB10 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - NORTH FACE | SPAN 8 | AR3, FB10 | 12 | 6 | SF | 0.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - NORTH FACE | SPAN 8 | AR3, FB3 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE | SPAN 8 | AR3, FB1 | 72 | 12 | SF | 6 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - NORTH FACE | SPAN 8 | AR3, FB1 | 48 | 18 | SF | 6 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE | SPAN 8 | AR3, FB1 | 96 | 6 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE | SPAN 8 | AR3, FB2 | 12 | 4 | SF | 0.4 | |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE | SPAN 8 | AR3, FB3 | 48 | 12 | SF | 4 | |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE | SPAN 8 | AR3, FB10 | 96 | 6 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE | SPAN 8 | AR3, FB10 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - EAST FACE | SPAN 8 | AR3, FB10 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - EAST FACE | SPAN 8 | AR3, FB10 | 96 | 6 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - EAST FACE | SPAN 8 | AR3, FB10 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - EAST FACE | SPAN 8 | AR3, FB10 | 18 | 12 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - EAST FACE | SPAN 8 | AR4, FB10 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE | SPAN 8 | AR4, FB10 | 48 | 6 | SF | 2 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE | SPAN 8 | AR4, FB10 | 48 | 4 | SF | 1.4 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE | SPAN 8 | AR4, FB9 | 192 | 6 | SF | 8 | |
| SPANDREL COLUMN | RIB 3 - EAST FACE | SPAN 8 | AR3, FB1 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE | SPAN 8 | AR3, FB2 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 4 - WEST FACE | SPAN 8 | AR4, FB1 | 24 | 6 | SF | 1 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - WEST FACE | SPAN 8 | AR3, FB1 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE | SPAN 8 | AR3, FB1 | 48 | 4 | SF | 1.4 | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: PC | DWN: AL | CKD: JC

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 10

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 250 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-7.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:49:52 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| SPANDREL COLUMN | RIB 3 - WEST FACE | SPAN 8 | AR3, FB3 | 48 | 6 | SF | 2 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE | SPAN 9 | AR1, FB2 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE | SPAN 9 | AR1, FB1 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE | SPAN 9 | AR1, FB10 | 108 | 1.5 | SF | 1.2 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - EAST FACE | SPAN 9 | AR1, FB10 | 24 | 24 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB2 | 24 | 24 | SF | 4 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB1 | 192 | 18 | SF | 24 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB1 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB10 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB7 | 6 | 6 | SF | 0.3 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB3 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB9 | 36 | 18 | SF | 4.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB9 | 24 | 18 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB9 | 12 | 3 | SF | 0.3 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB9 | 36 | 18 | SF | 4.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB10 | 120 | 6 | SF | 5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE | SPAN 9 | AR1, FB1 | 120 | 36 | SF | 30 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE | SPAN 9 | AR1, FB2 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE | SPAN 9 | AR1,FB9 | 36 | 9 | SF | 2.3 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE | SPAN 9 | AR1,FB9 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE | SPAN 9 | AR1,FB9 | 12 | 3 | SF | 0.3 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE | SPAN 9 | AR2, FB8 | 8 | 6 | SF | 0.4 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE | SPAN 9 | AR2, FB7 | 6 | 6 | SF | 0.3 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE | SPAN 9 | AR2, FB2 | 120 | 12 | SF | 10 | |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE | SPAN 9 | AR2, FB1 | 60 | 12 | SF | 5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE | SPAN 9 | AR2, FB1 | 24 | 12 | SF | 2 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE | SPAN 9 | AR2, FB1 | 36 | 24 | SF | 6 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE | SPAN 9 | AR4, FB1 | 192 | 4 | SF | 5.4 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB9 | 24 | 4 | SF | 0.7 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB9 | 24 | 4 | SF | 0.7 | |
| SPANDREL COLUMN | RIB 3 - NORTH FACE | SPAN 9 | AR3, FB10 | 36 | 4 | SF | 1 | |
| SPANDREL COLUMN | RIB 3 - EAST FACE | SPAN 9 | AR3, FB10 | 120 | 24 | SF | 20 | |
| SPANDREL COLUMN | RIB 3 - EAST FACE | SPAN 9 | AR3, FB10 | 24 | 12 | SF | 2 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE | SPAN 9 | AR4, FB9 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE | SPAN 9 | AR4, FB9 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE | SPAN 9 | AR4, FB8 | 24 | 24 | SF | 4 | |
| SPANDREL COLUMN | RIB 4 - WEST FACE | SPAN 9 | AR4, FB1 | 96 | 6 | SF | 4 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE | SPAN 9 | AR3, FB1 | 96 | 6 | SF | 4 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE | SPAN 9 | AR3, FB2 | 12 | 4 | SF | 0.4 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE | SPAN 9 | AR3, FB3 | 24 | 4 | SF | 0.7 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 10 | AR1, FB1 | 36 | 12 | SF | 3 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB1 | 72 | 6 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE- EB | SPAN 10 | AR1, FB1 | 48 | 6 | SF | 2 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE- EB | SPAN 10 | AR1, FB1 | 18 | 12 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE- EB | SPAN 10 | AR1, FB1 | 96 | 12 | SF | 8 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB10 | 144 | 18 | SF | 18 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB10 | 24 | 3 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE- EB | SPAN 10 | AR1, FB10 | 48 | 6 | SF | 2 | |
| SPANDREL COLUMN | RIB 1 - WEST FACE- EB | SPAN 10 | AR1, FB10 | 24 | 12 | SF | 2 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB8 | 12 | 18 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 10 | AR2, FB1 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 10 | AR2, FB1 | 36 | 9 | SF | 2.3 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 10 | AR2, FB1 | 48 | 9 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 10 | AR2, FB1 | 60 | 18 | SF | 7.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 10 | AR2, FB10 | 24 | 6 | SF | 1 | TYPE I* |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 11

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 251 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-8.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:53:15 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 10 | AR2, FB10 | 6 | 18 | SF | 0.8 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 10 | AR2, FB10 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 10 | AR2, FB10 | 12 | 6 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 10 | AR2, FB10 | 24 | 6 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 10 | AR2, FB7 | 6 | 18 | SF | 0.8 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 10 | AR3, FB1 | 48 | 12 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 10 | AR3, FB1 | 192 | 6 | SF | 8 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - EAST FACE - WB | SPAN 10 | AR3, FB2 | 168 | 24 | SF | 28 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 10 | AR3, FB2 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 10 | AR3, FB3 | 36 | 18 | SF | 4.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 10 | AR3, FB4 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 10 | AR3, FB4 | 36 | 6 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 3 - WEST FACE - WB | SPAN 10 | AR4, FB1 | 192 | 24 | SF | 32 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 10 | AR4, FB10 | 24 | 12 | SF | 2 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE - WB | SPAN 10 | AR4, FB10 | 96 | 6 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 10 | AR4, FB2 | 36 | 36 | SF | 9 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 10 | AR4, FB8 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 10 | AR4, FB8 | 18 | 12 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 10 | AR4, FB8 | 24 | 12 | SF | 2 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 10 | AR4, FB1 | 180 | 6 | SF | 7.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 11 | AR1, FB9 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 11 | AR1, FB10 | 84 | 18 | SF | 10.5 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 11 | AR1, FB1 | 48 | 12 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 11 | AR1, FB10 | 192 | 12 | SF | 16 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 11 | AR1, FB10 | 132 | 4 | SF | 3.7 | |
| SPANDREL COLUMN | RIB 1 - EAST FACE - EB | SPAN 11 | AR1, FB9 | 192 | 12 | SF | 16 | |
| SPANDREL COLUMN | RIB 1 - NORTH FACE - EB | SPAN 11 | AR1, FB10 | 192 | 3 | SF | 4 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB8 | 18 | 6 | SF | 0.8 | |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB9 | 192 | 18 | SF | 24 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB10 | 132 | 9 | SF | 8.3 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB10 | 24 | 12 | SF | 2 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 11 | AR1,FB1 | 60 | 24 | SF | 10 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 11 | AR1, FB1 | 36 | 6 | SF | 1.5 | TYPE I* |
| SPANDREL COLUMN | RIB 1 - WEST FACE - EB | SPAN 11 | AR1, FB1 | | | | 0 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB9 | 72 | 3 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB9 | 72 | 3 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB8 | 12 | 12 | SF | 1 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB8 | 6 | 12 | SF | 0.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB4 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB2 | 24 | 3 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB2 | 24 | 3 | SF | 0.5 | |
| SPANDREL COLUMN | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB1 | 108 | 18 | SF | 13.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 11 | AR2, FB3 | 12 | 6 | SF | 0.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - SOUTH FACE - EB | SPAN 11 | AR2, FB1 | 12 | 6 | SF | 0.5 | TYPE I* |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB1 | 18 | 36 | SF | 4.5 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB3 | 18 | 12 | SF | 1.5 | |
| SPANDREL COLUMN | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB2 | 12 | 4 | SF | 0.4 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - NORTH FACE - WB | SPAN 11 | AR3, FB10 | 36 | 0.5 | SF | 0.2 | TYPE I* |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 11 | AR3, FB3 | 72 | 12 | SF | 6 | |
| SPANDREL COLUMN | RIB 3 - SOUTH FACE - WB | SPAN 11 | AR3, FB10 | 36 | 18 | SF | 4.5 | TYPE I* |
| SPANDREL COLUMN | RIB 3- NORTH FACE - WB | SPAN 11 | AR3, FB10 | 0.5 | 2 | SF | 0.1 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB1 | 12 | 4 | SF | 0.4 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB9 | 36 | 12 | SF | 3 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB9 | 24 | 24 | SF | 4 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB10 | 48 | 12 | SF | 4 | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 12

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 252 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-9.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:50:10 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB10 | 72 | 30 | SF | 15 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB10 | 48 | 0.5 | SF | 0.2 | |
| SPANDREL COLUMN | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB10 | 168 | 0.5 | SF | 0.6 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 11 | AR4, FB10 | 72 | 6 | SF | 3 | |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 11 | AR4, FB10 | 72 | 12 | SF | 6 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 11 | AR4, FB9 | 48 | 18 | SF | 6 | TYPE I* |
| SPANDREL COLUMN | RIB 4 - NORTH FACE - WB | SPAN 11 | AR4, FB2 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - SOUTH FACE - WB | SPAN 11 | AR4, FB10 | 168 | 6 | SF | 7 | |
| SPANDREL COLUMN | RIB 4 - WEST FACE - WB | SPAN 11 | AR4, FB1 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - WEST FACE - WB | SPAN 11 | AR4, FB1 | 12 | 12 | SF | 1 | |
| SPANDREL COLUMN | RIB 4 - WEST FACE - WB | SPAN 11 | AR4, FB1 | 36 | 12 | SF | 3 | |
| | | | | | | TOTAL | 2757.4 SF | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

FILENAME: E02657-S38014-BR-RH-123-10.dgn
OPERATOR: TYLIPW01ICS01$

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 13

RECOMMENDED 08/30/2019

SHEET 253 OF 295

S-38014

PLOTTED: 8/26/2019 4:52:44 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 OVERHEAD - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 4 | AR2, FB1/2 | 18 | 6 | SF | 0.8 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 4 | AR2,FB6/7 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 4 | AR2, FB8/9 | 48 | 24 | SF | 8 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 4 | AR2,FB8/10 | 60 | 24 | SF | 10 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB8/9 | 12 | 36 | SF | 3 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB9 | 30 | 30 | SF | 6.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 5 | AR2, FB6/7 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 5 | AR2, FB6/7 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 5 | AR2, FB8/9 | 4 | 4 | SF | 0.2 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 5 | AR3, FB8/9 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 5 | AR4, FB9/10 | 108 | 24 | SF | 18 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 5 | AR4, FB9/10 | 48 | 12 | SF | 4 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 6 | AR1, FB9/10 | 48 | 12 | SF | 4 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB2/3 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB2/3 | 30 | 24 | SF | 5 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 6 | AR3, FB3/4 | 168 | 60 | SF | 70 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 6 | AR3, FB2/3 | 168 | 60 | SF | 70 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 6 | AR3, FB1/2 | 96 | 6 | SF | 4 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB3/4 | 24 | 36 | SF | 6 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB8/9 | 36 | 6 | SF | 1.5 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB8/9 | 12 | 6 | SF | 0.5 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB8/9 | 84 | 6 | SF | 3.5 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 7 | AR1, FB8 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 7 | AR1, FB8 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 7 | AR4, FB9/10 | 24 | 96 | SF | 16 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 8 | AR2, FB1/2 | 96 | 12 | SF | 8 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 8 | AR2, FB4/5 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 8 | AR1, FB2/3 | 6 | 6 | SF | 0.3 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 8 | AR4, FB3/4 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 8 | AR4, FB8 | 48 | 6 | SF | 2 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 8 | AR4, FB9/10 | 60 | 60 | SF | 25 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 9 | AR1, FB9/10 | 156 | 36 | SF | 39 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 9 | AR1, FB9/10 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 9 | AR3, FB9/10 | 60 | 6 | SF | 2.5 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 10 | AR1, FB3/4 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 10 | AR1, FB7/8 | 36 | 12 | SF | 3 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 10 | AR1, FB9/10 | 36 | 60 | SF | 15 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 10 | AR3, FB6/7 | 60 | 24 | SF | 10 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 10 | AR3, FB8/9 | 24 | 24 | SF | 4 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 10 | AR3, FB8/9 | 48 | 48 | SF | 16 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 10 | AR4, FB9 | 72 | 6 | SF | 3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 11 | AR2, FB6/7 | 12 | 12 | SF | 1 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 11 | AR2, FB9/10 | 144 | 9 | SF | 9 | |

## NOTES:

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2. FOR DELAMINATION DAMAGE, CONTRACTOR SHALL REMOVE THE UNSOUND CONCRETE AND INSPECT IF ANY REBARS ARE CORRODED. IF THE CORRODED REBARS ARE FOUND TO HAVE 10% OR MORE CROSS SECTIONAL AREA LOSS, THE REPAIR METHOD OF TYPE 2 SHALL BE USED.
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|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 14

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 254 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-11.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:50:32 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 OVERHEAD - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| FLOOR BEAM | DECK UNDERSIDE - TRANSVERSE BEAM 1 (EB) | SPAN 4 | MID | 12 | 6 | SF | 0.5 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 1&2 (EB) | SPAN 4 | NEAR | 60 | 6 | SF | 2.5 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (4) BETWEEN 3&4 (EB) | SPAN 4 | MID | 48 | 18 | SF | 6 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (4) BETWEEN 7&8 (EB) | SPAN 4 | RIGHT | 36 | 18 | SF | 4.5 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (2) BETWEEN 1&2 (WB) | SPAN 4 | MID | 6 | 6 | SF | 0.3 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (2) BETWEEN 8&9 (WB) | SPAN 4 | MID | 8 | 12 | SF | 0.7 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (2) BETWEEN 9&10 (WB) | SPAN 4 | MID | 12 | 24 | SF | 2 | |
| FLOOR BEAM | DECK UNDERSIDE - TRANSVERSE BEAM (1) (WB) | SPAN 4 | MID | 60 | 18 | SF | 7.5 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (4) BETWEEN 3&4 (WB) | SPAN 8 | FAR | 18 | 0.125 | SF | 0.1 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 3&4 (WB) | SPAN 8 | FAR | 18 | 0.125 | SF | 0.1 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 7&8 (WB) | SPAN 8 | MID | 12 | 6 | SF | 0.5 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (2) BETWEEN 3&4 (EB) | SPAN 8 | MID | 96 | 18 | SF | 12 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 7&8 (WB) | SPAN 9 | MID | 36 | 12 | SF | 3 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 9&10 (WB) | SPAN 9 | FAR | 48 | 6 | SF | 2 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 2&3 (WB) | SPAN 10 | MID | 72 | 12 | SF | 6 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (4) BETWEEN 4&5 (WB) | SPAN 10 | MID | 24 | 6 | SF | 1 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 4&5 (WB) | SPAN 11 | MID | 84 | 18 | SF | 10.5 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 8&9 (WB) | SPAN 11 | MID | 96 | 6 | SF | 4 | |
| FLOOR BEAM | DECK UNDERSIDE - LONGITUDINAL BEAM (1) BETWEEN 2&3 (EB) | SPAN 11 | MID | 60 | 18 | SF | 7.5 | |
| | | | | | | | | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 4 | AR-1 | 42 | 16 | SF | 4.7 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 4 | AR-1 | 48 | 16 | SF | 5.4 | |
| SPANDREL BEAM | BETWEEN FB-1 & FB-2 | SPAN 4 | AR-2 | 30 | 8 | SF | 1.7 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 4 | AR-2 | 24 | 4 | SF | 0.7 | |
| SPANDREL BEAM | BETWEEN FB-8 & FB-9 | SPAN 5 | AR-2 | 36 | 8 | SF | 2 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 5 | AR-2 | 18 | 5 | SF | 0.7 | |
| SPANDREL BEAM | BETWEEN FB-2 & FB-3 | SPAN 5 | AR-2 | 18 | 5 | SF | 0.7 | |
| SPANDREL BEAM | FB8/9 | SPAN 6 | AR4 | 36 | 24 | SF | 6 | |
| SPANDREL BEAM | FB9/10 | SPAN 6 | AR4 | 84 | 24 | SF | 14 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 6 | AR-2 | 36 | 8 | SF | 2 | |
| SPANDREL BEAM | BETWEEN FB-2 & FB-3 | SPAN 6 | AR-2 | 36 | 8 | SF | 2 | |
| SPANDREL BEAM | BETWEEN FB-9 & FB-10 | SPAN 6 | AR-4 | 58 | 10 | SF | 4.1 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 6 | AR-4 | 5 | 12 | SF | 0.5 | |
| SPANDREL BEAM | BETWEEN FB-2 & FB-3 | SPAN 6 | AR-4 | 66 | 37.5 | SF | 17.2 | |
| SPANDREL BEAM | BETWEEN FB-9 & FB-10 | SPAN 7 | AR-3 | 27 | 10 | SF | 1.9 | |
| SPANDREL BEAM | BETWEEN FB-9 & FB-10 | SPAN 7 | AR-3 | 18 | 8 | SF | 1 | |
| SPANDREL BEAM | BETWEEN FB-1 & FB-2 | SPAN 7 | AR-2 | 96 | 12 | SF | 8 | |
| SPANDREL BEAM | BETWEEN FB-9 & FB-10 | SPAN 7 | AR-1 | 24 | 12 | SF | 2 | |
| SPANDREL BEAM | BETWEEN FB-9 & FB-10 | SPAN 8 | AR-2 | 72 | 12 | SF | 6 | |
| SPANDREL BEAM | BETWEEN FB-7 & FB-8 | SPAN 8 | AR-2 | 218 | 6 | SF | 9.1 | |

## NOTES:

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| DES: PC | DWN: AL | CKD: JC |
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| Mark | Description | By | Chk'd. | Recm'd. | Date |
|---|---|---|---|---|---|
| REVISIONS | | | | | |

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 15

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 255 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-12.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:53:08 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 1 OVERHEAD - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE COVER, EXISTING REBAR NOT DAMAGE OR EXPOSED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | UNIT | AREA | |
| SPANDREL BEAM | BETWEEN FB-2 & FB-3 | SPAN 8 | AR-2 | 60 | 6 | SF | 2.5 | |
| SPANDREL BEAM | BETWEEN FB-2 & FB-3 | SPAN 8 | AR-2 | 18 | 12 | SF | 1.5 | |
| SPANDREL BEAM | BETWEEN FB-1 & FB-2 | SPAN 8 | AR-2 | 36 | 6 | SF | 1.5 | |
| SPANDREL BEAM | BETWEEN FB-5 & FB-6 | SPAN 9 | AR-2 | 12 | 12 | SF | 1 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 9 | AR-4 | 48 | 6 | SF | 2 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 9 | AR-3 | 36 | 6 | SF | 1.5 | |
| SPANDREL BEAM | BETWEEN FB-9 & FB-10 | SPAN 9 | AR-3 | 36 | 6 | SF | 1.5 | |
| SPANDREL BEAM | BETWEEN FB-1 & FB-2 | SPAN 10 | AR-2 | 18 | 12 | SF | 1.5 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 10 | AR-3 | 72 | 6 | SF | 3 | |
| SPANDREL BEAM | BETWEEN FB-7 & FB-8 | SPAN 10 | AR-3 | 24 | 6 | SF | 1 | |
| SPANDREL BEAM | BETWEEN FB-1 & FB-2 | SPAN 10 | AR-1 | 60 | 6 | SF | 2.5 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 10 | AR-4 | 36 | 12 | SF | 3 | |
| SPANDREL BEAM | BETWEEN FB-2 & FB-3 | SPAN 11 | AR-1 | 36 | 18 | SF | 4.5 | |
| SPANDREL BEAM | BETWEEN FB-2 & FB-3 | SPAN 11 | AR-1 | 60 | 18 | SF | 7.5 | |
| SPANDREL BEAM | BETWEEN FB-3 & FB-4 | SPAN 11 | AR-1 | 24 | 12 | SF | 2 | |
| SPANDREL BEAM | BETWEEN FB-4 & FB-5 | SPAN 11 | AR-1 | 18 | 12 | SF | 1.5 | |
| SPANDREL BEAM | BETWEEN FB-6 & FB-7 | SPAN 11 | AR-1 | 24 | 6 | SF | 1 | |
| SPANDREL BEAM | BETWEEN FB-8 & FB-9 | SPAN 11 | AR-1 | 18 | 12 | SF | 1.5 | |
| SPANDREL BEAM | BETWEEN FB-8 & FB-9 | SPAN 11 | AR-2 | 24 | 6 | SF | 1 | |
| SPANDREL BEAM | BETWEEN FB-5 & FB-6 | SPAN 11 | AR-2 & AR-1 | 12 | 12 | SF | 1 | |
| SPANDREL BEAM | BETWEEN FB-10 & FB-9 | SPAN 11 | AR-2 | 12 | 12 | SF | 1 | |
| SPANDREL BEAM | BETWEEN FB-10 & FB-9 | SPAN 11 | AR-4 | 24 | 30 | SF | 5 | |
| SPANDREL BEAM | BETWEEN FB-7 & FB-8 | SPAN 11 | AR-4 | 48 | 36 | SF | 12 | |
| SPANDREL BEAM | BETWEEN FB-7 & FB-8 | SPAN 11 | AR-3 | 36 | 6 | SF | 1.5 | |
| | | | | | | TOTAL | 607.1 SF | |

## NOTES:

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
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12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 16

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 256 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-123-13.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:52:40 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR2, FB3/4 | 12 | 24 | 1 | 1 | SF | 2.0 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR2, FB3/4 | 12 | 24 | 1 | 1 | SF | 2.0 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 4 | AR1, FB8/9 | 48 | 7 | 1 | 1 | SF | 2.4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB2/3 | 72 | 60 | 2 | 2 | SF | 30.0 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB2/3 | 72 | 24 | | | SF | 12.0 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB3/4 | 36 | 36 | 1 | 1 | SF | 9.0 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB3/4 | 120 | 60 | 2 | 2 | SF | 50.0 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB4/5 | 144 | 19 | 2 | 2 | SF | 19.0 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB7/8 | 12 | 4 | | | SF | 0.4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB8/9 | 24 | 12 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 4 | AR1, FB9/10 | 8 | 8 | 1 | 1 | SF | 0.5 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 4 | AR3, FB6/7 | 24 | 60 | 1 | 1 | SF | 10 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 4 | AR4, FB9/10 | 16 | 16 | 1 | 1 | SF | 1.8 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 4 | AR4, FB9/10 | 16 | 16 | 1 | 1 | SF | 1.8 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 4 | AR4, FB9/10 | 30 | 30 | 1 | 1 | SF | 6.3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB2/3 | 6 | 24 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB3/4 | 120 | 60 | 1 | 1 | SF | 50 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 5 | AR1, FB8/9 | 3 | 8 | 1 | 1 | SF | 0.2 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 5 | AR1, FB3/4 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 5 | AR1, FB3/4 | 72 | 6 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB3/4 | 12 | 24 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 5 | AR2, FB7/8 | 24 | 6 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 5 | AR4, FB3/4 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 5 | AR4, FB3/4 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 5 | AR4, FB3/4 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB8/9 | 6 | 9 | 1 | 1 | SF | 0.4 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB2/3 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB2/3 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 6 | AR1, FB2/3 | 9 | 18 | 1 | 1 | SF | 1.2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB8/9 | 24 | 12 | 2 | 2 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB8/9 | 48 | 6 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB4/5 | 60 | 18 | 2 | 2 | SF | 7.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 6 | AR2, FB2/3 | 192 | 60 | 4 | 4 | SF | 80 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 6 | AR1, FB4/5 | 60 | 12 | 1 | 1 | SF | 5 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 6 | AR3, FB2/3 | 24 | 12 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 6 | AR4, FB4/5 | 132 | 12 | 2 | 2 | SF | 11 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 6 | AR4, FB6/7 | 114 | 6 | 2 | 2 | SF | 4.8 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 6 | AR4, FB8/9 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 6 | AR4, FB6/7 | 15 | 114 | 1 | 1 | SF | 11.9 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 6 | AR4, FB4/5 | 132 | 15 | 4 | 4 | SF | 13.8 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 6 | AR3, FB2/3 | 36 | 9 | 1 | 1 | SF | 2.3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 7 | AR1, FB1/2 | 24 | 12 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 7 | AR1, FB3/4 | 48 | 6 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 7 | AR2, FB8/9 | 60 | 12 | 1 | 1 | SF | 5 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 7 | AR2, FB9/10 | 36 | 12 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 7 | AR2, FB1/2 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 7 | AR1, FB5/6 | 5 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 7 | AR1, FB2/3 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 1 - NORTH FACE | SPAN 7 | AR1, FB2/3 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 7 | AR1, FB9 | 96 | 36 | 8 | 8 | SF | 24 | |
| ARCH RIB | RIB 3 - EXTRADOS | SPAN 7 | AR3, FB2/3 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 7 | AR4, FB1/2 | 6 | 6 | 1 | 1 | SF | 0.3 | |

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. CORRODED REBARS WITH 10 % OR MORE CROSS SECTIONAL AREA LOSS SHALL BE REPLACED. CORRODED REBARS SHALL BE MECHANICALLY SPLICED (MECHNICALLY PINNED LAP OR BUTT SPLICE COUPLER, AS APPROPRIATE) WITH NEW REINFORCEMENT MATCHING CROSS SECTIONAL AREA OF UNDAMAGED EXISTING REBAR TO BE REPLACED, DETAILS SIMILAR TO SPLICING DETAILS SHOWN ON THE STANDARD PLANS FOR TYPE 2 REPAIR. MECHANICAL REBAR COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 17

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 257 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-124-1.dgn
OPERATOR: TYLIPWO11CSO1$

PLOTTED: 8/26/2019 4:49:53 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 7 | AR3, FB2/3 | 36 | 12 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 7 | AR3, FB2/3 | 12 | 24 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB1/2 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB7/8 | 48 | 48 | 4 | 4 | SF | 16 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB7/8 | 24 | 12 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB8/9 | 24 | 12 | 2 | 2 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 8 | AR1, FB8/9 | 60 | 12 | 1 | 1 | SF | 5 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB7/8 | 48 | 6 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB8 | 24 | 6 | 4 | 4 | SF | 1 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 9 | AR1, FB2/3 | 12 | 24 | 2 | 2 | SF | 2 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB9/10 | 24 | 6 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB2/3 | 72 | 6 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB8/9 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB8/9 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB8/9 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 9 | AR2, FB8/9 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 9 | AR2, FB9/10 | 72 | 8 | 1 | 1 | SF | 4 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 9 | AR2, FB3/4 | 36 | 12 | | | SF | 3 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 9 | AR2, FB2/3 | 96 | 12 | 1 | 1 | SF | 8 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 9 | AR4, FB6/7 | 96 | 12 | 1 | 1 | SF | 8 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 9 | AR4, FB7 | 12 | 36 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 9 | AR4, FB7/8 | 36 | 12 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 9 | AR4, FB7/8 | 48 | 30 | 4 | 4 | SF | 10 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 9 | AR4, FB8/9 | 36 | 12 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB7 | 72 | 12 | 1 | 1 | SF | 6 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB6/7 | 96 | 12 | 1 | 1 | SF | 8 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB2/3 | 48 | 36 | 3 | 3 | SF | 12 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB2/3 | 18 | 12 | 1 | 1 | SF | 1.5 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB3/4 | 24 | 12 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB7/8 | 156 | 60 | 7 | 7 | SF | 65 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB8/9 | 72 | 48 | 5 | 5 | SF | 24 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 10 | AR1, FB7/8 | 120 | 12 | 3 | 3 | SF | 10 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 10 | AR1, FB8/10 | 156 | 9 | 1 | 1 | SF | 9.8 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB2/3 | 72 | 6 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB3/4 | 48 | 60 | 2 | 2 | SF | 20 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB3/4 | 36 | 60 | 3 | 3 | SF | 15 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB8/9 | 36 | 12 | 4 | 4 | SF | 3 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB8/9 | 54 | 60 | 2 | 2 | SF | 22.5 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 10 | AR2, FB1/2 | 48 | 6 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 10 | AR2, FB8/9 | 60 | 6 | 2 | 2 | SF | 2.5 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 10 | AR2, FB9/10 | 60 | 12 | 1 | 1 | SF | 5 | |
| ARCH RIB | RIB 3 - NORTH FACE | SPAN 10 | AR3, FB8/9 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 10 | AR3, FB5/6 | 6 | 144 | 1 | 1 | SF | 6 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB3/4 | 60 | 36 | 3 | 3 | SF | 15 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB6/7 | 120 | 18 | 3 | 3 | SF | 15 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB7/8 | 72 | 6 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB7/8 | 60 | 60 | ALL | ALL | SF | 25 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB7/8 | 60 | 48 | ALL | ALL | SF | 20 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 11 | AR1, FB7/8 | 24 | 48 | 8 | 8 | SF | 8 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 11 | AR1, FB6-8 | 240 | 12 | 1 | 1 | SF | 20 | |

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. CORRODED REBARS WITH 10 % OR MORE CROSS SECTIONAL AREA LOSS SHALL BE REPLACED. CORRODED REBARS SHALL BE MECHANICALLY SPLICED (MECHNICALLY PINNED LAP OR BUTT SPLICE COUPLER, AS APPROPRIATE) WITH NEW REINFORCEMENT MATCHING CROSS SECTIONAL AREA OF UNDAMAGED EXISTING REBAR TO BE REPLACED, DETAILS SIMILAR TO SPLICING DETAILS SHOWN ON THE STANDARD PLANS FOR TYPE 2 REPAIR. MECHANICAL REBAR COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 18

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

SHEET 258 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-124-2.dgn
OPERATOR: TYLIPWO1ICSO1$

PLOTTED: 8/26/2019 4:53:43 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 11 | AR1, FB9/10 | 96 | 9 | 1 | 1 | SF | 6 | |
| ARCH RIB | RIB 3 - SOUTH FACE | SPAN 11 | AR3, FB6/7 | 6 | 60 | 1 | 1 | SF | 2.5 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 11 | AR4, FB5/6 | 96 | 12 | 2 | 2 | SF | 8 | |
| ARCH RIB | RIB 4 - EXTRADOS | SPAN 11 | AR4, FB2/3 | 18 | 18 | 2 | 2 | SF | 2.3 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 11 | AR4, FB5/6 | 96 | 12 | 2 | 2 | SF | 8 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 4 | AR2, FB4/5 | 96 | 18 | 1 | 1 | SF | 12 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 4 | AR1, FB3/4 | 247 | 9 | 2 AT LAP | 2 AT LAP | SF | 15.5 | |
| ARCH RIB | RIB 1 - SOUTH FACE | SPAN 4 | AR1, FB4/5 | 123 | 9 | 3 | 3 | SF | 7.7 | |
| ARCH RIB | RIB 2 - NORTH FACE | SPAN 4 | AR2, FB4/5 | 120 | 18 | 1 | 1 | SF | 15 | |
| ARCH RIB | RIB 2 - SOUTH FACE | SPAN 4 | AR2, FB8/9 | 48 | 6 | 7 | 7 | SF | 2 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 7 | AR1, FB9/10 | 180 | 60 | 3 | 3 | SF | 75 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB1/2 | 60 | 12 | 7 | 7 | SF | 5 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB1/2 | 36 | 60 | 5 | 5 | SF | 15 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB9 | 24 | 9 | 5 | 5 | SF | 1.5 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB9/10 | 84 | 42 | 5 | 5 | SF | 24.5 | |
| ARCH RIB | RIB 1 - EXTRADOS | SPAN 10 | AR1, FB9/10 | 48 | 6 | 5 | 5 | SF | 2 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB1/2 | 120 | 60 | 3 | 3 | SF | 50 | |
| ARCH RIB | RIB 2 - EXTRADOS | SPAN 10 | AR2, FB9/10 | 48 | 96 | 4 | 4 | SF | 32 | |
| ARCH RIB | RIB 4 - NORTH FACE | SPAN 11 | AR4, FB6/7 | 144 | 12 | | | SF | 12 | TYPE II* |
| | | | | | | | | | | |
| FLOOR BEAMS | FB 5 - EAST FACE (WB) | 6 | RIGHT | 8 | 1 | 1 | 1 | SF | 0.1 | |
| FLOOR BEAMS | FB 10 - WEST FACE (EB) | 9 | MID | 16 | 6 | 1 | 1 | SF | 0.7 | |
| FLOOR BEAMS | FB 5 - WEST FACE | 11 | | 10 | 6 | 1 | 1 | SF | 0.5 | |
| FLOOR BEAMS | FB 7 - WEST FACE (EB) | 12 | RIGHT | 6 | 18 | 1 | 1 | SF | 0.8 | |
| | | | | | | | | | | |
| PIER | RIB 1 | PIER 4 | WEST FACE - TOP | 6 | 6 | 1 | 1 | SF | 0.3 | |
| PIER | RIB 2 | PIER 4 | WEST FACE - TOP | 24 | 24 | 1 | 1 | SF | 4 | |
| PIER | RIB 3 | PIER 4 | WEST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 4 | PIER 4 | WEST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 4 | PIER 5 | WEST FACE - TOP | 48 | 20 | 1 | 1 | SF | 6.7 | |
| PIER | RIB 4 | PIER 5 | SOUTH FACE - TOP | 12 | 24 | | | SF | 2 | TYPE II* |
| PIER | RIB 4 | PIER 5 | SOUTH FACE - BOT | 6 | 6 | 1 | 1 | SF | 0.3 | |
| PIER | RIB 1 | PIER 6 | WEST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 2 | PIER 6 | WEST FACE - MID | 6 | 12 | 1 | 1 | SF | 0.5 | |
| PIER | RIB | PIER 6 | SOUTH FACE - MID | 12 | 36 | 1 | 1 | SF | 3 | |
| PIER | RIB 3 | PIER 6 | EAST FACE - TOP | 30 | 18 | 1 | 1 | SF | 3.8 | |
| PIER | RIB 3 | PIER 6 | EAST FACE - TOP | 30 | 18 | 1 | 1 | SF | 3.8 | |
| PIER | RIB 2 | PIER 6 | EAST FACE - TOP | 12 | 12 | 1 | 1 | SF | 1 | |
| PIER | RIB 3 | PIER 7 | EAST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 1 | PIER 7 | EAST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 1 | PIER 7 | EAST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 1 | PIER 8 | WEST FACE - TOP | 12 | 12 | 1 | 1 | SF | 1 | |
| PIER | RIB 1 | PIER 8 | WEST FACE - TOP | 36 | 12 | 1 | 1 | SF | 3 | |
| PIER | RIB 1 | PIER 8 | WEST FACE - TOP | 12 | 3 | 1 | 1 | SF | 0.3 | |
| PIER | RIB 4 | PIER 8 | WEST FACE - TOP-MID | 120 | 12 | 1 | 1 | SF | 10 | |
| PIER | RIB 4 | PIER 8 | EAST FACE - TOP | 48 | 12 | 1 | 1 | SF | 4 | |
| PIER | RIB 1 | PIER 8 | EAST FACE - TOP | 12 | 12 | 1 | 1 | SF | 1 | |
| PIER | RIB 1 | PIER 9 | WEST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 3 | PIER 9 | NORTH FACE - BOTTOM | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 3 | PIER 9 | EAST FACE - TOP | 30 | 6 | 1 | 1 | SF | 1.3 | |
| PIER | RIB 4 | PIER 9 | EAST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. CORRODED REBARS WITH 10 % OR MORE CROSS SECTIONAL AREA LOSS SHALL BE REPLACED. CORRODED REBARS SHALL BE MECHANICALLY SPLICED (MECHNICALLY PINNED LAP OR BUTT SPLICE COUPLER, AS APPROPRIATE) WITH NEW REINFORCEMENT MATCHING CROSS SECTIONAL AREA OF UNDAMAGED EXISTING REBAR TO BE REPLACED, DETAILS SIMILAR TO SPLICING DETAILS SHOWN ON THE STANDARD PLANS FOR TYPE 2 REPAIR. MECHANICAL REBAR COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 19

RECOMMENDED 08/30/2019

SHEET 259 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-124-3.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:54:14 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| PIER | RIB 2 | PIER 10 | EAST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | RIB 2 | PIER 10 | EAST FACE - TOP | 24 | 12 | 1 | 1 | SF | 2 | |
| PIER | NEAR RIB 1 | PIER 11 | WEST FACE - TOP | 48 | 48 | 3 | 3 | SF | 16 | |
| PIER | NEAR RIB 1 | PIER 11 | WEST FACE - MID | 36 | 36 | 3 | 3 | SF | 9 | |
| PIER | NEAR RIB 4 | PIER 11 | WEST FACE - TOP | 12 | 72 | 1 | 1 | SF | 6 | |
| PIER | NEAR RIB 4 | PIER 11 | WEST FACE - MID | 24 | 24 | 1 | 1 | SF | 4 | |
| PIER | NEAR RIB 4 | PIER 11 | WEST FACE - BOTTOM | 12 | 36 | 1 | 1 | SF | 3 | |
| PIER | NEAR RIB 4 | PIER 11 | WEST FACE - BOTTOM | 12 | 24 | 1 | 1 | SF | 2 | |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 24 | 24 | 2 | 2 | SF | 4 | |
| PIER | SOUTH FACE | PIER 11 | SOUTH FACE - MID | 24 | 24 | 2 | 2 | SF | 4 | |
| PIER | RIB 1 | PIER 4 | EAST FACE - TOP | 12 | 24 | 2 | 2 | SF | 2 | |
| PIER | RIB 3 | PIER 5 | WEST FACE - TOP | 24 | 24 | 2 | 2 | SF | 4 | |
| PIER | RIB 3 | PIER 5 | EAST FACE - TOP | 36 | 60 | 5 | 5 | SF | 15 | |
| PIER | RIB 4 | PIER 6 | SOUTH FACE - TOP | 48 | 72 | 5 | 5 | SF | 24 | |
| PIER | RIB 2 | PIER 6 | EAST FACE - TOP | 12 | 12 | 2 | 2 | SF | 1 | |
| PIER | RIB 4 | PIER 7 | WEST FACE - TOP | 24 | 24 | 3 | 3 | SF | 4 | |
| PIER | RIB 4 | PIER 7 | SOUTH FACE - TOP | 48 | 36 | 3 | 3 | SF | 12 | |
| PIER | RIB 4 | PIER 7 | EAST FACE - TOP | 48 | 48 | 9 | 9 | SF | 16 | |
| PIER | RIB 1 | PIER 8 | SOUTH FACE - TOP | 24 | 36 | 3 | 3 | SF | 6 | |
| PIER | RIB 4 | PIER 8 | SOUTH FACE - TOP-MID | 120 | 60 | 7 | 7 | SF | 50 | |
| PIER | RIB 1 | PIER 9 | EAST FACE - TOP | 48 | 36 | 6 | 6 | SF | 12 | |
| PIER | RIB 4 | PIER 10 | WEST FACE - MID | 12 | 12 | 2 | 2 | SF | 1 | |
| PIER | RIB 4 | PIER 10 | WEST FACE - MID | 12 | 12 | 2 | 2 | SF | 1 | |
| PIER | RIB 4 | PIER 10 | WEST FACE - MID | 12 | 12 | 2 | 2 | SF | 1 | |
| | | | | | | | | | | |
| SPANDREL COLUMNS | RIB 1 - NORTH FACE - EB | SPAN 4 | AR1, FB10 | 40 | 6 | 1 | 1 | SF | 1.7 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 4 | AR1, FB2 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 4 | AR1, FB4 | 24 | 18 | 2 | 2 | SF | 3 | |
| SPANDREL COLUMNS | RIB 2 - SOUTH FACE - EB | SPAN 4 | AR2,FB7 | 6 | 3 | 1 | 1 | SF | 0.2 | |
| SPANDREL COLUMNS | RIB 2 - SOUTH FACE - EB | SPAN 4 | AR2, FB9 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 4 | AR1, FB3 | 28 | 3 | 1 | 1 | SF | 0.6 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1,FB2 | 12 | 4 | 1 | 1 | SF | 0.4 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1, FB1 | 60 | 12 | 1 | 1 | SF | 5 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1, FB 2 | 12 | 4 | 1 | 1 | SF | 0.4 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1,FB9 | 48 | 6 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1,FB9 | 42 | 5 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1,FB10 | 40 | 6 | 1 | 1 | SF | 1.7 | Laminar rust |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1,FB10 | 18 | 6 | 1 | 1 | SF | 0.8 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 4 | AR1,FB10 | 20 | 12 | 2 | 2 | SF | 1.7 | |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE | SPAN 4 | AR4, FB4 | 3 | 6 | 1 | 1 | SF | 0.2 | |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE | SPAN 4 | AR4, FB9 | 18 | 6 | 1 | 1 | SF | 0.8 | |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE - WB | SPAN 4 | AR3, FB2 | 84 | 18 | ALL | ALL | SF | 10.5 | Assume all bars heavily |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE - WB | SPAN 4 | AR3, FB2 | 3 | 6 | 1 | 1 | SF | 0.2 | |
| SPANDREL COLUMNS | RIB 4 - EAST FACE - WB | SPAN 4 | AR4, FB5 | 1 | 8 | 1 | 1 | SF | 0.1 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 5 | AR1, FB4 | 6 | 3 | 1 | 1 | SF | 0.2 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 5 | AR1, FB9 | 50 | 10 | 1 | 1 | SF | 3.5 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 5 | AR1, FB9 | 36 | 12 | | | SF | 3 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 5 | AR1, FB2 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| SPANDREL COLUMNS | RIB 1 - NORTH FACE - EB | SPAN 5 | AR1, FB1 | 60 | 6 | 1 | 1 | SF | 2.5 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 5 | AR1, FB1 | 36 | 6 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 5 | AR1, FB1 | 30 | 12 | 1 | 1 | SF | 2.5 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 5 | AR2, FB9 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 2 - SOUTH FACE - EB | SPAN 5 | AR2, FB9 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 2 - WEST FACE - EB | SPAN 5 | AR2, FB9 | 12 | 6 | 1 | 1 | SF | 0.5 | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. CORRODED REBARS WITH 10 % OR MORE CROSS SECTIONAL AREA LOSS SHALL BE REPLACED. CORRODED REBARS SHALL BE MECHANICALLY SPLICED (MECHNICALLY PINNED LAP OR BUTT SPLICE COUPLER, AS APPROPRIATE) WITH NEW REINFORCEMENT MATCHING CROSS SECTIONAL AREA OF UNDAMAGED EXISTING REBAR TO BE REPLACED, DETAILS SIMILAR TO SPLICING DETAILS SHOWN ON THE STANDARD PLANS TYPE 2 REPAIR. MECHANICAL REBAR COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS.
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| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 20

RECOMMENDED 08/30/2019

SHEET 260 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-124-4.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:50:19 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 - PER STANDARD PLANS BC-783M

(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE - WB | SPAN 5 | AR3, FB1 | 36 | 18 | 1 | 1 | SF | 4.5 | |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE - WB | SPAN 5 | AR4, FB10 | 36 | 7 | | | SF | 1.8 | TYPE II* |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE | SPAN 5 | AR4, FB9 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE | SPAN 5 | AR4, FB1 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 4 - WEST FACE - EB | SPAN 5 | AR4, FB1 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 6 | AR1, FB1 | 36 | 6 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 2 - SOUTH FACE - EB | SPAN 6 | AR2, FB3 | 18 | 9 | 1 | 1 | SF | 1.2 | |
| SPANDREL COLUMNS | RIB 2 - WEST FACE - EB | SPAN 6 | AR2,FB8 | 16 | 16 | 4 | 4 | SF | 1.8 | |
| SPANDREL COLUMNS | RIB 3 - NORTH FACE - WB | SPAN 6 | AR3, FB10 | 48 | 10 | 1 | 1 | SF | 3.4 | |
| SPANDREL COLUMNS | RIB 3 - NORTH FACE - WB | SPAN 6 | AR3, FB7 | 20 | 6 | 1 | 1 | SF | 0.9 | |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE | SPAN 6 | AR3, FB5 | 18 | 18 | 1 | 1 | SF | 2.3 | |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE | SPAN 6 | AR3, FB7 | 36 | 9 | 1 | 1 | SF | 2.3 | |
| SPANDREL COLUMNS | RIB 3 - EAST FACE - WB | SPAN 6 | AR3, FB1 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE - WB | SPAN 6 | AR4, FB9 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE - WB | SPAN 6 | AR4, FB9 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE - WB | SPAN 6 | AR4, FB10 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE - WB | SPAN 6 | AR4, FB2 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE - WB | SPAN 6 | AR4, FB3 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| SPANDREL COLUMNS | RIB 4 - WEST FACE - WB | SPAN 6 | AR4,FB3 | 15 | 15 | 2 | 2 | SF | 1.6 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 7 | AR2, FB10 | 18 | 18 | 1 | 1 | SF | 2.3 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 7 | AR2, FB9 | 24 | 6 | 1 AT LAP | 1 AT LAP | SF | 1 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 7 | AR2, FB8 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 7 | AR2, FB2 | 14 | 6 | 1 | 1 | SF | 0.6 | |
| SPANDREL COLUMNS | RIB 2 - SOUTH FACE - EB | SPAN 7 | AR2, FB1 | 30 | 5 | | | SF | 1.1 | |
| SPANDREL COLUMNS | RIB 2 - SOUTH FACE - EB | SPAN 7 | AR2, FB8 | 6 | 16 | 1 | 1 | SF | 0.7 | |
| SPANDREL COLUMNS | RIB 1 - NORTH FACE - EB | SPAN 7 | AR1, FB2 | 18 | 12 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 1 - NORTH FACE - EB | SPAN 7 | AR1, FB9 | 96 | | | | SF | 0 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 7 | AR1, FB10 | 36 | 8 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 7 | AR1, FB9 | 60 | 6 | 1 | 1 | SF | 2.5 | |
| SPANDREL COLUMNS | RIB 2 - EAST FACE - EB | SPAN 7 | AR2, FB10 | 12 | 12 | 2 | 2 | SF | 1 | |
| SPANDREL COLUMNS | RIB 2 - WEST FACE - EB | SPAN 7 | AR2, FB1 | 18 | 6 | 1 | 1 | SF | 0.8 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE - EB | SPAN 7 | AR1, FB9 | 192 | 36 | Several | Several | SF | 48 | TYPE II* |
| SPANDREL COLUMNS | RIB 3 - NORTH FACE - WB | SPAN 7 | AR3, FB1 | 48 | 6 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 3 - NORTH FACE - WB | SPAN 7 | AR3, FB2 | 5 | 5 | 1 | 1 | SF | 0.2 | |
| SPANDREL COLUMNS | RIB 4 -SOUTH FACE - WB | SPAN 7 | AR4, FB1 | 128 | 24 | 1 | 1 | SF | 21.4 | |
| SPANDREL COLUMNS | RIB 4 -SOUTH FACE - WB | SPAN 7 | AR4, FB10 | 144 | 24 | 1 | 1 | SF | 24 | |
| SPANDREL COLUMNS | RIB 3 - EAST FACE - WB | SPAN 7 | AR3, FB2 | 9 | 18 | 1 | 1 | SF | 1.2 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE - WB | SPAN 7 | AR3, FB1 | 60 | 6 | 1 | 1 | SF | 2.5 | |
| SPANDREL COLUMNS | RIB 4 - WEST FACE - WB | SPAN 7 | AR4, FB2 | 12 | 12 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - EAST FACE - WB | SPAN 7 | AR4, FB10 | 24 | 12 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB1 | 36 | 12 | | | SF | 3 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB9 | 36 | 6 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB10 | 36 | 12 | | | SF | 3 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB10 | 60 | 6 | | | SF | 2.5 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - NORTH FACE | SPAN 8 | AR1, FB1 | 192 | 12 | | | SF | 16 | TYPE II* |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE | SPAN 8 | AR2, FB9 | 18 | 12 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE | SPAN 8 | AR1, FB1 | 120 | 3 | | | SF | 2.5 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - WEST FACE | SPAN 8 | AR1, FB1 | 60 | 6 | | | SF | 2.5 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - WEST FACE | SPAN 8 | AR1, FB2 | 30 | 6 | 1 | 1 | SF | 1.3 | |
| SPANDREL COLUMNS | RIB 2 - WEST FACE | SPAN 8 | AR2, FB7 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE | SPAN 8 | AR1, FB10 | 4 | 3 | | | SF | 0.1 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - EAST FACE | SPAN 8 | AR1, FB10 | 36 | 3 | | | SF | 0.8 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - EAST FACE | SPAN 8 | AR1, FB10 | 24 | 12 | | | SF | 2 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - EAST FACE | SPAN 8 | AR1, FB1 | 48 | 4 | | | SF | 1.4 | |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE | SPAN 8 | AR4, FB9 | 12 | 6 | 1 | 1 | SF | 0.5 | TYPE II* |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE | SPAN 8 | AR3, FB4 | 12 | 12 | 1 | 1 | SF | 1 | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

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|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
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OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 21

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 261 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-124-5.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:53:41 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| SPANDREL COLUMNS | RIB 4 - EAST FACE | SPAN 8 | AR3, FB9 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 3 - EAST FACE | SPAN 8 | AR3, FB3 | 48 | 6 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE | SPAN 8 | AR3, FB4 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE | SPAN 8 | AR3, FB4 | 36 | 6 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE | SPAN 9 | AR1, FB10 | 48 | 9 | 2 | 2 | SF | 3 | |
| SPANDREL COLUMNS | RIB 1 - NORTH FACE | SPAN 9 | AR1, FB9 | 12 | 12 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB9 | 24 | 3 | | | SF | 0.5 | TYPE II* |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB10 | 48 | 6 | | | SF | 2 | TYPE II* |
| SPANDREL COLUMNS | RIB 2 - WEST FACE | SPAN 9 | AR2, FB2 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 2 - WEST FACE | SPAN 9 | AR2, FB1 | 48 | 12 | | | SF | 4 | TYPE II* |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB10 | 18 | 4 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB8 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB7 | 18 | 6 | 1 | 1 | SF | 0.8 | |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB4 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 3 - NORTH FACE | SPAN 9 | AR3, FB1 | 36 | 6 | | | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE | SPAN 9 | AR3, FB2 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - EAST FACE | SPAN 9 | AR4, FB9 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| SPANDREL COLUMNS | RIB 4 - WEST FACE | SPAN 9 | AR4, FB9 | 24 | 12 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE | SPAN 9 | AR3, FB4 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB1 | 48 | 6 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 1 - WEST FACE- EB | SPAN 10 | AR1, FB1 | 36 | 12 | | | SF | 3 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB2 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 10 | AR1, FB7 | 24 | 36 | 3 | 3 | SF | 6 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 10 | AR2, FB1 | 36 | 3 | | | SF | 0.8 | TYPE II* |
| SPANDREL COLUMNS | RIB 2 - WEST FACE - EB | SPAN 10 | AR2, FB1 | 36 | 9 | | | SF | 2.3 | |
| SPANDREL COLUMNS | RIB 3 - NORTH FACE - WB | SPAN 10 | AR3, FB2 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE - WB | SPAN 10 | AR3, FB10 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 3 - EAST FACE - WB | SPAN 10 | AR3, FB2 | 24 | 6 | | | SF | 1 | TYPE II* |
| SPANDREL COLUMNS | RIB 3 - WEST FACE - WB | SPAN 10 | AR3, FB2 | 48 | 6 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 3- EAST FACE - WB | SPAN 10 | AR3, FB2 | | | | | SF | 0 | TYPE II* |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE - WB | SPAN 10 | AR3, FB7 | 24 | 18 | 2 | 2 | SF | 3 | |
| SPANDREL COLUMNS | RIB 3 - WEST FACE - WB | SPAN 10 | AR3, FB8 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 4 - WEST FACE - WB | SPAN 10 | AR4, FB1 | 24 | 6 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - EAST FACE - WB | SPAN 10 | AR4, FB10 | 36 | 6 | | | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE - WB | SPAN 10 | AR4, FB10 | 36 | 6 | | | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 4 - WEST FACE - WB | SPAN 10 | AR4, FB10 | 96 | 6 | | | SF | 4 | |
| SPANDREL COLUMNS | RIB 4 - WEST FACE - WB | SPAN 10 | AR4, FB10 | 12 | 12 | | | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - NORTH FACE - WB | SPAN 10 | AR4, FB2 | 18 | 6 | 1 | 1 | SF | 0.8 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 11 | AR1,FB10 | 36 | 3 | | | SF | 0.8 | |
| SPANDREL COLUMNS | RIB 1 - EAST FACE - EB | SPAN 11 | AR1, FB10 | 24 | 6 | | | SF | 1 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB1 | 60 | 18 | | | SF | 7.5 | |
| SPANDREL COLUMNS | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB10 | 24 | 6 | | | SF | 1 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB9 | 48 | 6 | | | SF | 2 | TYPE II* |
| SPANDREL COLUMNS | RIB 2 - EAST FACE - EB | SPAN 11 | AR2, FB8 | 12 | 36 | 1 | 1 | SF | 3 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB2 | 24 | 18 | 1 | 1 | SF | 3 | |
| SPANDREL COLUMNS | RIB 2 - NORTH FACE - EB | SPAN 11 | AR2, FB1 | 36 | 6 | 1 | 1 | SF | 1.5 | |
| SPANDREL COLUMNS | RIB 2 - SOUTH FACE - EB | SPAN 11 | AR2, FB3 | 18 | 18 | 1 | 1 | SF | 2.3 | |
| SPANDREL COLUMNS | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB10 | 36 | 12 | 1 | 1 | SF | 3 | |
| SPANDREL COLUMNS | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB2 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE - WB | SPAN 11 | AR3, FB7 | 6 | 48 | 1 | 1 | SF | 2 | |
| SPANDREL COLUMNS | RIB 3 - SOUTH FACE - WB | SPAN 11 | AR3,FB7 | 6 | 24 | 1 | 1 | SF | 1 | |
| SPANDREL COLUMNS | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB4 | 24 | 4 | 1 | 1 | SF | 0.7 | |
| SPANDREL COLUMNS | RIB 4 - EAST FACE - WB | SPAN 11 | AR4, FB9 | 36 | 12 | 1 | 1 | SF | 3 | |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE - WB | SPAN 11 | AR4, FB1 | 156 | 12 | | | SF | 13 | TYPE II* |
| SPANDREL COLUMNS | RIB 4 - SOUTH FACE - WB | SPAN 11 | AR4, FB10 | 48 | 6 | | | SF | 2 | TYPE II* |
| SPANDREL COLUMNS | RIB 4 - WEST FACE - WB | SPAN 11 | AR4, FB1 | 156 | 12 | | | SF | 13 | |
| | | | | | | | TOTAL | | 1712.6 SF | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. CORRODED REBARS WITH 10 % OR MORE CROSS SECTIONAL AREA LOSS SHALL BE REPLACED. CORRODED REBARS SHALL BE MECHANICALLY SPLICED (MECHNICALLY PINNED LAP OR BUTT SPLICE COUPLER, AS APPROPRIATE) WITH NEW REINFORCEMENT MATCHING CROSS SECTIONAL AREA OF UNDAMAGED EXISTING REBAR TO BE REPLACED, DETAILS SIMILAR TO SPLICING DETAILS SHOWN ON THE STANDARD PLANS FOR TYPE 2 REPAIR. MECHANICAL REBAR COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULD - 22

RECOMMENDED 08/30/2019

SHEET 262 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-124-6.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:50:56 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 OVERHEAD - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 4 | AR2,FB6/7 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 4 | AR1, FB1/2 | 60 | 24 | 3 | 3 | SF | 10 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB7/8 | 4 | 4 | 1 | 1 | SF | 0.2 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB7/8 | 4 | 4 | 1 | 1 | SF | 0.2 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB8/9 | 4 | 4 | 1 | 1 | SF | 0.2 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB8/9 | 8 | 16 | 1 | 1 | SF | 0.9 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB8/9 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB9 | 16 | 16 | 1 | 1 | SF | 1.8 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 4 | AR3, FB9 | 12 | 8 | 1 | 1 | SF | 0.7 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 5 | AR2, FB6/7 | 24 | 18 | 2 | 2 | SF | 3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 5 | AR2, FB8/9 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 5 | AR3, FB6/7 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 5 | AR3, FB2/3 | 12 | 24 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 5 | AR3, FB2/3 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 5 | AR3, FB5/6 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 5 | AR4, FB2/3 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 5 | AR4, FB3/4 | 24 | 12 | 2 | 2 | SF | 2 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB7/8 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB2/3 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB2/3 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB2/3 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB1/2 | 36 | 24 | 1 | 1 | SF | 6 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 6 | AR2, FB1/2 | 36 | 24 | 3 | 3 | SF | 6 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 6 | AR3, FB1/2 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB5/6 | 18 | 24 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB5/6 | 16 | 20 | 1 | 1 | SF | 2.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB6 | 18 | 18 | 1 | 1 | SF | 2.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB6/7 | 24 | 60 | 1 | 1 | SF | 10 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 7 | AR2, FB8/9 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 7 | AR1, FB1/2 | 84 | 12 | 2 | 2 | SF | 7 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 8 | AR2, FB2/3 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 8 | AR2, FB2/3 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 8 | AR2, FB9/10 | 24 | 24 | 1 | 1 | SF | 4 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 8 | AR1, FB9/10 | 96 | 48 | 3 | 3 | SF | 32 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 8 | AR3, FB2 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 8 | AR4, FB6/7 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 9 | AR2, FB1 | 24 | 24 | 1 | 1 | SF | 4 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 9 | AR1, FB9/10 | 60 | 60 | 10 | 10 | SF | 25 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 9 | AR2, FB3/4 | 36 | 12 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 9 | AR2, FB9/10 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 9 | AR2, FB9/10 | 24 | 30 | 5 | 5 | SF | 5 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 9 | AR2, FB9/10 | 72 | 30 | 3 | 3 | SF | 15 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 9 | AR2, FB9/10 | 72 | 30 | | | SF | 15 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 9 | AR3, FB4/5 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 10 | AR1, FB9/10 | 48 | 12 | 1 | 1 | SF | 4 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 10 | AR1, FB8/9 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 10 | AR1, FB10 | 36 | 24 | 1 | 1 | SF | 6 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 10 | AR2, DB8/9 | 36 | 12 | 1 | 1 | SF | 3 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 10 | AR3, FB9/10 | 60 | 36 | 4 | 4 | SF | 15 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 10 | AR4, FB2/3 | 36 | 36 | 6 | 6 | SF | 9 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 11 | AR1, FB9/10 | 96 | 9 | 1 | 1 | SF | 6 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 11 | AR2, FB1/2 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 11 | AR2, FB1/2 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 11 | AR2, FB1/2 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 11 | AR2, FB4/5 | 6 | 6 | 1 | 1 | SF | 0.3 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 11 | AR2, FB6/7 | 12 | 9 | 1 | 1 | SF | 0.8 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 11 | AR3, FB9/10 | 120 | 60 | 10 | 10 | SF | 50 | |

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. CORRODED REBARS WITH 10 % OR MORE CROSS SECTIONAL AREA LOSS SHALL BE REPLACED. CORRODED REBARS SHALL BE MECHANICALLY SPLICED (MECHNICALLY PINNED LAP OR BUTT SPLICE COUPLER, AS APPROPRIATE) WITH NEW REINFORCEMENT MATCHING CROSS SECTIONAL AREA OF UNDAMAGED EXISTING REBAR TO BE REPLACED, DETAILS SIMILAR TO SPLICING DETAILS SHOWN ON THE STANDARD PLANS FOR TYPE 2 REPAIR. MECHANICAL REBAR COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: PC | DWN: AL | CKD: JC

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 23

RECOMMENDED 08/30/2019

SHEET 263 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-124-7.dgn
OPERATOR: TYLIPW01ICS01$

PLOTTED: 8/26/2019 4:53:24 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE 2 OVERHEAD - PER STANDARD PLANS BC-783M
(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, TEMPORARY SUPPORT SYSTEM NOT REQUIRED)

| ELEMENT TYPE | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED (2) | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LENGTH (INCHES) | WIDTH (INCHES) | | | UNIT | AREA | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 11 | AR3, FB6/7 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 11 | AR3, FB6/7 | 12 | 48 | 1 | 1 | SF | 4 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 11 | AR3, FB5/6 | 24 | 12 | 1 | 1 | SF | 2 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 11 | AR3, FB1/2 | 72 | 60 | 10 | 10 | SF | 30 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 11 | AR4, FB9/10 | 120 | 24 | 5 | 5 | SF | 20 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 11 | AR4, FB8 | 12 | 12 | 1 | 1 | SF | 1 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 5 | AR2, FB6 | 72 | 48 | 3 | 3 | SF | 24 | |
| ARCH RIB | RIB 1 - INTRADOS | SPAN 6 | AR1, FB9/10 | 24 | 24 | 5 - DEBONDED | 5 - DEBONDED | SF | 4 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 8 | AR2, FB5/6 | 24 | 24 | 3 | 3 | SF | 4 | |
| ARCH RIB | RIB 2 - INTRADOS | SPAN 8 | AR2, FB6/7 | 24 | 24 | 3 | 3 | SF | 4 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 10 | AR3, FB5/6 | 144 | 42 | 6 | 6 | SF | 42 | |
| ARCH RIB | RIB 3 - INTRADOS | SPAN 11 | AR3, FB5 | 216 | 48 | 4 | 4 | SF | 72 | |
| ARCH RIB | RIB 4 - INTRADOS | SPAN 11 | AR4, FB6/7 | 144 | 36 | 4 | 4 | SF | 36 | |
| | | | | | | | | | | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (2) BETWEEN 3&4 (WB) | 6 | MID | 12 | 6 | 1 | 1 | SF | 0.5 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 2&3 (EB) | 7 | RIGHT | 4 | 4 | 1 | 1 | SF | 0.2 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (4) BETWEEN 8&9 (WB) | 10 | NEAR | 12 | 6 | 1 | 1 | SF | 0.5 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 3&4 (WB) | 10 | MID | 24 | 12 | 1 | 1 | SF | 2 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 8&9 (WB) | 10 | MID | 24 | 6 | 1 | 1 | SF | 1 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (2) BETWEEN 2&3 (EB) | 10 | RIGHT | 12 | 18 | 2 | 2 | SF | 1.5 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (1) BETWEEN 7&8 (EB) | 10 | LEFT | 96 | 18 | 3 | 3 | SF | 12 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 5&6 (WB) | 11 | MID | 36 | 24 | 1 | 1 | SF | 6 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (3) BETWEEN 3&4 (WB) | 11 | MID | 24 | 12 | 1 | 1 | SF | 2 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (2) BETWEEN 4&5 (EB) | 11 | MID | 12 | 6 | 1 | 1 | SF | 0.5 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (1) BETWEEN 1&2 (EB) | 12 | MID | 96 | 18 | 5 | 5 | SF | 12 | |
| FLOOR BEAMS | DECK UNDERSIDE - LONGITUDINAL BEAM (1) BETWEEN 7&8 (EB) | 12 | LEFT | 84 | 6 | 2 | 2 | SF | 3.5 | |
| | | | | | | | | | | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 6 | AR-1 | 48 | 18 | 1 at lap | 1 at lap | SF | 6 | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 6 | AR-2 | 30 | 6 | 1 | 1 | SF | 1.3 | |
| SPANDREL BEAMS | Between FB-8 & FB-9 | 6 | AR-2 | 36 | 12 | 1 | 1 | SF | 3 | |
| SPANDREL BEAMS | Between FB-3 & FB-4 | 7 | AR-1 | 48 | 16 | 1 | 1 | SF | 5.4 | |
| SPANDREL BEAMS | Between FB-1 & FB-2 | 7 | AR-1 | 24 | 12 | 2 | 2 | SF | 2 | |
| SPANDREL BEAMS | Between FB-3 & FB-4 | 7 | AR-4 | 18 | 6 | 1 | 1 | SF | 0.8 | |
| SPANDREL BEAMS | FB2/3 | 8 | AR3 | 96 | 24 | 3 | 3 | SF | 16 | |
| SPANDREL BEAMS | Between FB-8 & FB-9 | 8 | AR-2 | 36 | 8 | | | SF | 2 | TYPE II* |
| SPANDREL BEAMS | Between FB-3 & FB-4 | 9 | AR-2 | 24 | 12 | 1 | 1 | SF | 2 | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 9 | AR-2 | 24 | 12 | 1 | 1 | SF | 2 | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 10 | AR-1 | 84 | 18 | 2 | 2 | SF | 10.5 | |
| SPANDREL BEAMS | Between FB-9 & FB-10 | 10 | AR-2 | 12 | 12 | 1 | 1 | SF | 1 | |
| SPANDREL BEAMS | Between FB-8 & FB-9 | 10 | AR-2 | 6 | 12 | 1 | 1 | SF | 0.5 | |
| SPANDREL BEAMS | Between FB-3 & FB-4 | 10 | AR-2 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL BEAMS | Between FB-8 & FB-9 | 10 | AR-3 | 12 | 12 | 1 | 1 | SF | 1 | |
| SPANDREL BEAMS | Between FB-8 & FB-9 | 10 | AR-3 | 24 | 12 | 1 | 1 | SF | 2 | |
| SPANDREL BEAMS | Between FB-5 & FB-6 | 11 | AR-1 | 12 | 12 | 1 | 1 | SF | 1 | |
| SPANDREL BEAMS | Between FB-3 & FB-4 | 11 | AR-3 | 12 | 6 | 1 | 1 | SF | 0.5 | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 11 | AR-3 | 36 | 6 | 1 | 1 | SF | 1.5 | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 12 | AR-3 | 36 | 12 | 1 | 1 | SF | 3 | |
| SPANDREL BEAMS | Between FB-1 & FB-2 | 12 | AR-1 | 96 | 18 | 6 | 6 | SF | 12 | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 12 | AR-1 | 84 | 24 | 2 | 2 | SF | 14 | |
| SPANDREL BEAMS | Between FB-7 & FB-8 | 12 | AR-4 | 24 | 24 | ONLY STIRRUP EXPOSED (1) | ONLY STIRRUP EXPOSED (1) | SF | 4 | |
| SPANDREL BEAMS | Between FB-8 & FB-9 | 13 | AR-2 | 18 | 18 | 1 | 1 | SF | 2.3 | |
| | | | | | | | | TOTAL | 649.7 SF | |

* MORE INFORMATION REQUIRED FOR EVALUATION. REPAIR TYPE SUBJECT TO CHANGE PER ENGINEER'S REVIEW AND APPROVAL

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. CORRODED REBARS WITH 10 % OR MORE CROSS SECTIONAL AREA LOSS SHALL BE REPLACED. CORRODED REBARS SHALL BE MECHANICALLY SPLICED (MECHNICALLY PINNED LAP OR BUTT SPLICE COUPLER, AS APPROPRIATE) WITH NEW REINFORCEMENT MATCHING CROSS SECTIONAL AREA OF UNDAMAGED EXISTING REBAR TO BE REPLACED, DETAILS SIMILAR TO SPLICING DETAILS SHOWN ON THE STANDARD PLANS FOR TYPE 2 REPAIR. MECHANICAL REBAR COUPLERS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S REQUIREMENTS.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 24

RECOMMENDED 08/30/2019

SHEET 264 OF 295

S-38014

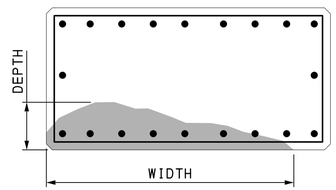
FILENAME: E02657-S38014-BR-RH-124-8.dgn
OPERATOR: TYLIPW01ICSO1$

PLOTTED: 8/26/2019 4:49:49 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE R1

(REPLACE SPALLED AND DELAMINATED CONCRETE, REPLACE CORRODED REBARS AS DIRECTED, EPOXY INJECT CONCRETE CRACKS)
TEMPORARY SUPPORT SYSTEM REQUIRED PRIOR TO PERFORMING WORK

| ELEMENT TYPE | DAMAGE NO. | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL (2) | | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LENGTH (INCHES) | WIDTH (INCHES) | DEPTH (INCHES) | | | UNIT | NUMBER | |
| SPANDREL COLUMN | 1 | RIB 1 - NORTH FACE - EB | SPAN 4 | AR1, FB3 | 12 | 18 | 3 | 3 | 3 | EA | 1 | |
| SPANDREL COLUMN | 2 | RIB 1 - SOUTH FACE - EB | SPAN 4 | AR1, FB9 | 60 | 6 | 4 | 1 | 1 | EA | 1 | |
| SPANDREL COLUMN | 3 | RIB 2 - NORTH FACE - EB | SPAN 4 | AR2, FB8 | 12 | 6 | 2 | 1 | 1 | EA | 1 | |
| SPANDREL COLUMN | 4 | RIB 2 - NORTH FACE - EB | SPAN 4 | AR2, FB8 | 48 | 18 | - | 1 | 1 | EA | | Included in Damage No. 3 |
| SPANDREL COLUMN | 5 | RIB 2 - NORTH FACE - EB | SPAN 4 | AR2, FB8 | 48 | 6 | 2 | 1 | 1 | EA | | Included in Damage No. 3 |
| SPANDREL COLUMN | 6 | RIB 2 - NORTH FACE - EB | SPAN 4 | AR2, FB3 | 8 | 8 | 3 | 1 | 1 | EA | 1 | |
| SPANDREL COLUMN | 7 | RIB 2 - NORTH FACE - EB | SPAN 4 | AR2, FB2 | 84 | 18 | 3 | 3 | 3 | EA | 1 | |
| SPANDREL COLUMN | 8 | RIB 2 - SOUTH FACE - EB | SPAN 4 | AR2, FB3 | 10 | 3 | 3 | 1 | 1 | EA | | Included in Damage No. 6 |
| SPANDREL COLUMN | 9 | RIB 2 - EAST FACE - EB | SPAN 4 | AR2, FB10 | 60 | 36 | 3 | 3 | 3 | EA | 1 | |
| SPANDREL COLUMN | 10 | RIB 3 - SOUTH FACE - WB | SPAN 4 | AR3, FB3 | 48 | 18 | 3 | 3 | 3 | EA | 1 | |
| SPANDREL COLUMN | 11 | RIB 4 - EAST FACE - WB | SPAN 4 | AR4, FB9 | 132 | 24 | 3 | 3 | 3 | EA | 1 | |
| SPANDREL COLUMN | 12 | RIB 1 - SOUTH FACE - EB | SPAN 5 | AR1, FB1 | 60 | 6 | 2 | 2 | 2 | EA | 1 | |
| SPANDREL COLUMN | 13 | RIB 2 - NORTH FACE - EB | SPAN 5 | AR2, FB8 | 24 | 6 | 2 | 1 | 1 | EA | 1 | |
| SPANDREL COLUMN | 14 | RIB 2 - NORTH FACE - EB | SPAN 5 | AR2, FB1 | 60 | 6 | 2 | 2 | 2 | EA | 1 | |
| SPANDREL COLUMN | 15 | RIB 2 - SOUTH FACE - EB | SPAN 5 | AR2, FB8 | 6 | 6 | 1 | 1 | 1 | EA | | Included in Damage No. 13 |
| SPANDREL COLUMN | 16 | RIB 3 - NORTH FACE - WB | SPAN 5 | AR3, FB1 | 144 | 6 | 3 | 2 | 2 | EA | 1 | |
| SPANDREL COLUMN | 17 | RIB 3 - WEST FACE - WB | SPAN 5 | AR3, FB1 | 108 | 24 | 2 | 4 | 4 | EA | | Included in Damage No. 16 |
| SPANDREL COLUMN | 18 | RIB 4 - SOUTH FACE | SPAN 5 | AR4, FB1 | 24 | 6 | 2 | 2 | 2 | EA | 1 | |
| SPANDREL COLUMN | 19 | RIB 1 - NORTH FACE - EB | SPAN 6 | AR1, FB3 | 12 | 12 | 4 | 2 | 2 | EA | 1 | |
| SPANDREL COLUMN | 20 | RIB 1 - WEST FACE - EB | SPAN 6 | AR1,FB3 | 36 | 12 | 1 | 3 | 3 | EA | | Included in Damage No. 19 |
| SPANDREL COLUMN | 21 | RIB 2 - SOUTH FACE - EB | SPAN 6 | AR2, FB 2 | 12 | 12 | 1 | 4 | 4 | EA | 1 | |
| SPANDREL COLUMN | 22 | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB8 | 12 | 9 | 2 | 1 | 1 | EA | 1 | |
| SPANDREL COLUMN | 23 | RIB 2 - WEST FACE | SPAN 8 | AR2, FB9 | 36 | 18 | 2 | 5 | 5 | EA | 1 | |
| SPANDREL COLUMN | 24 | RIB 1 - WEST FACE | SPAN 8 | AR1, FB9 | 36 | 6 | 1.5 | 3 | 3 | EA | 1 | |
| SPANDREL COLUMN | 25 | RIB 3 - SOUTH FACE | SPAN 8 | AR3, FB3 | 48 | 6 | 2 | 1 | 1 | EA | 1 | |
| SPANDREL COLUMN | 26 | RIB 1 - SOUTH FACE | SPAN 9 | AR1, FB8 | 12 | 12 | 2 | 1 | 1 | EA | 1 | |
| SPANDREL COLUMN | 27 | RIB 2 - NORTH FACE | SPAN 9 | AR2, FB2 | 36 | 36 | 2 | 4 | 4 | EA | 1 | |
| SPANDREL COLUMN | 28 | RIB 3 - EAST FACE - WB | SPAN 10 | AR3, FB2 | 30 | 12 | | | | EA | 1 | |
| SPANDREL COLUMN | 29 | RIB 4 - NORTH FACE - WB | SPAN 10 | AR4, FB9 | 84 | 12 | 3 | 2 | 2 | EA | 1 | |
| SPANDREL COLUMN | 30 | RIB 4 - WEST FACE - WB | SPAN 10 | AR4, FB9 | 84 | 12 | 1 | 3 | 3 | EA | | Included in Damage No. 29 |
| SPANDREL COLUMN | 31 | RIB 3 - NORTH FACE - WB | SPAN 10 | AR3, FB3 | 12 | 18 | 3 | 4 | 4 | EA | 1 | |
| SPANDREL COLUMN | 32 | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB1 | 192 | 6 | | | | EA | 1 | |
| SPANDREL COLUMN | 33 | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB9 | 48 | 12 | | | | EA | 1 | |
| SPANDREL COLUMN | 34 | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB9 | 72 | 24 | | | | EA | | Included in Damage No. 33 |
| SPANDREL COLUMN | 35 | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB9 | 144 | 12 | | | | EA | | Included in Damage No. 33 |
| SPANDREL COLUMN | 36 | RIB 2 - WEST FACE - EB | SPAN 11 | AR2, FB1 | 48 | 6 | 3 | 2 | 2 | EA | 1 | |
| | | | | | | | | | TOTAL | | 27 | |




DAMAGED STRUCTURAL SECTION
FIELD MEASUREMENT REQUIREMENTS

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. SEE "DAMAGED STRUCTURAL SECTION" FOR NOMENCLATURE.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.
4. SEE "TYPE R1 REPAIR DETAILS" SHEET.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 25

RECOMMENDED 08/30/2019

SHEET 265 OF 295

S-38014

FILENAME: E02657-S38014-BR-RH-125-1.dgn
OPERATOR: TYLIPWO1ICS01$

PLOTTED: 8/26/2019 4:50:25 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE R2 - COLUMNS WITH EXCESSIVE DAMAGE
(FULL REPLACEMENT OF COLUMN)
TEMPORARY SUPPORT SYSTEM REQUIRED PRIOR TO PERFORMING WORK

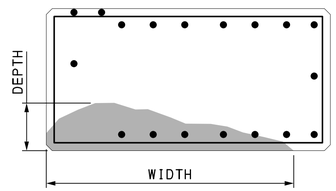
| ELEMENT TYPE | DAMAGE NO. | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL (2) | | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LENGTH (INCHES) | WIDTH (INCHES) | DEPTH (INCHES) | | | UNIT | NUMBER | |
| SPANDREL COLUMN | 1 | RIB 2 - NORTH FACE - EB | SPAN 4 | AR2, FB9 | 18 | 8 | - | | | EA | 1 | |
| SPANDREL COLUMN | 2 | RIB 1 - EAST FACE - EB | SPAN 5 | AR1, FB10 | 168 | 30 | 7 | | | EA | 1 | |
| SPANDREL COLUMN | 3 | RIB 1 - NORTH FACE - EB | SPAN 5 | AR1, FB9 | 12 | 12 | 1 | 2 | 2 | EA | 1 | |
| SPANDREL COLUMN | 4 | RIB 3 - SOUTH FACE - WB | SPAN 5 | AR3, FB10 | 72 | 12 | 2 | | | EA | 1 | |
| SPANDREL COLUMN | 5 | RIB 1 - SOUTH FACE - EB | SPAN 6 | AR1, FB9 | 46 | 18 | 2 | | | EA | 1 | |
| SPANDREL COLUMN | 6 | RIB 1 - WEST FACE - EB | SPAN 6 | AR1,FB9 | 36 | 24 | | | | EA | | Included in Damage No. 5 |
| SPANDREL COLUMN | 7 | RIB 2 - NORTH FACE - EB | SPAN 6 | AR2, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 8 | RIB 1 - SOUTH FACE - EB | SPAN 7 | AR1, FB1 | 192 | 18 | 3 | 4 | 4 | EA | 1 | |
| SPANDREL COLUMN | 9 | RIB 1 - SOUTH FACE - EB | SPAN 7 | AR1, FB9 | 192 | 18 | 4 | | | EA | 1 | |
| SPANDREL COLUMN | 10 | RIB 1 - SOUTH FACE | SPAN 8 | AR1, FB1 | 60 | 12 | | | | EA | 1 | |
| SPANDREL COLUMN | 11 | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB9 | 96 | 12 | | | | EA | 1 | |
| SPANDREL COLUMN | 12 | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB1 | 48 | 6 | | | | EA | 1 | |
| SPANDREL COLUMN | 13 | RIB 4 - NORTH FACE | SPAN 8 | AR4, FB1 | 72 | 6 | | | | EA | | Included in Damage No. 12 |
| SPANDREL COLUMN | 14 | RIB 4 - SOUTH FACE | SPAN 8 | AR4, FB1 | 48 | 6 | | | | EA | | Included in Damage No. 12 |
| SPANDREL COLUMN | 15 | RIB 4 - WEST FACE | SPAN 8 | AR4, FB1 | 48 | 6 | | | | EA | | Included in Damage No. 12 |
| SPANDREL COLUMN | 16 | RIB 4 - WEST FACE | SPAN 8 | AR4, FB1 | 12 | 6 | | | | EA | | Included in Damage No. 12 |
| SPANDREL COLUMN | 17 | RIB 4 - WEST FACE | SPAN 8 | AR4, FB1 | 48 | 12 | | | | EA | | Included in Damage No. 12 |
| SPANDREL COLUMN | 18 | RIB 2 - NORTH FACE | SPAN 9 | AR2, FB1 | 36 | 6 | | | | EA | 1 | |
| SPANDREL COLUMN | 19 | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB1 | 36 | 12 | | | | EA | 1 | |
| SPANDREL COLUMN | 20 | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB1 | 96 | 6 | | | | EA | | Included in Damage No. 19 |
| SPANDREL COLUMN | 21 | RIB 4 - NORTH FACE | SPAN 9 | AR4, FB1 | 48 | 6 | | | | EA | | Included in Damage No. 19 |
| SPANDREL COLUMN | 22 | RIB 3 - NORTH FACE | SPAN 9 | AR3, FB1 | 96 | 12 | | | | EA | 1 | |
| SPANDREL COLUMN | 23 | RIB 4 - WEST FACE | SPAN 9 | AR4, FB1 | 120 | 6 | | | | EA | | Included in Damage No. 19 |
| SPANDREL COLUMN | 24 | RIB 3 - WEST FACE | SPAN 9 | AR3, FB1 | 36 | 6 | | | | EA | | Included in Damage No. 22 |
| SPANDREL COLUMN | 25 | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB10 | 48 | 3 | | | | EA | 1 | |
| SPANDREL COLUMN | 26 | RIB 1 - EAST FACE - EB | SPAN 10 | AR1, FB9 | 36 | 6 | | | | EA | 1 | |
| SPANDREL COLUMN | 27 | RIB 1 - EAST FACE - EB | SPAN 10 | AR1, FB9 | 120 | 6 | | | | EA | | Included in Damage No. 26 |
| SPANDREL COLUMN | 28 | RIB 1 - SOUTH FACE - EB | SPAN 10 | AR1, FB9 | 192 | 18 | | | | EA | | Included in Damage No. 26 |
| SPANDREL COLUMN | 29 | RIB 1 - WEST FACE- EB | SPAN 10 | AR1, FB9 | 192 | 18 | | | | EA | | Included in Damage No. 26 |
| SPANDREL COLUMN | 30 | RIB 1 - SOUTH FACE - EB | SPAN 11 | AR1, FB10 | 36 | 12 | | | | EA | 1 | |
| SPANDREL COLUMN | 31 | RIB 1 | SPAN 4 | AR1, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 32 | RIB 4 | SPAN 5 | AR4, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 33 | RIB 4 | SPAN 7 | AR4, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 34 | RIB 4 | SPAN 7 | AR4, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 35 | RIB 1 | SPAN 8 | AR1, FB2 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 36 | RIB 1 | SPAN 8 | AR1, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 37 | RIB 4 | SPAN 11 | AR4, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 38 | RIB 1 | SPAN 5 | AR1, FB10 | | | | | | EA | | Included in Damage No. 2 |
| SPANDREL COLUMN | 39 | RIB 3 | SPAN 5 | AR3, FB10 | | | | | | EA | | Included in Damage No. 4 |
| SPANDREL COLUMN | 40 | RIB 3 | SPAN 5 | AR4, FB10 | | | | | | EA | | Included in Damage No. 32 |
| SPANDREL COLUMN | 41 | RIB 2 | SPAN 6 | AR2, FB1 | | | | | | EA | | Included in Damage No. 7 |
| SPANDREL COLUMN | 42 | RIB 4 | SPAN 7 | AR4, FB10 | | | | | | EA | | Included in Damage No. 34 |
| SPANDREL COLUMN | 43 | RIB 1 | SPAN 8 | AR1, FB1 | | | | | | EA | | Included in Damage No. 10 |
| SPANDREL COLUMN | 44 | RIB 4 | SPAN 8 | AR4, FB1 | | | | | | EA | | Included in Damage No. 12 |
| SPANDREL COLUMN | 45 | RIB 1 | SPAN 11 | AR1, FB10 | | | | | | EA | | Included in Damage No. 30 |
| SPANDREL COLUMN | 46 | RIB 2 | SPAN 11 | AR4, FB10 | | | | | | EA | | Included in Damage No. 37 |
| | | | | TOTAL | | | | | 24 | | | |

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. SEE "DAMAGED STRUCTURAL SECTION" FOR NOMENCLATURE.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.
4. SEE "TYPE R2 REPAIR DETAILS" SHEET.




DAMAGED STRUCTURAL SECTION
FIELD MEASUREMENT REQUIREMENTS

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 26

RECOMMENDED 08/30/2019

SHEET 266 OF 295

S-38014

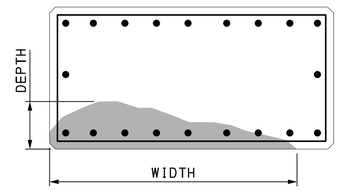
FILENAME: E02657-S38014-BR-RH-125-2.dgn
OPERATOR: TYLIPWOIICS01$

PLOTTED: 8/26/2019 4:50:53 PM

## EXISTING ARCH SPAN REHABILITATION SCHEDULE
## CONCRETE REPAIR TYPE R2 - COLUMNS WITH STRENGTH DEFICIENCY
(FULL REPLACEMENT OF COLUMN)
TEMPORARY SUPPORT SYSTEM REQUIRED PRIOR TO PERFORMING WORK

| ELEMENT TYPE | DAMAGE NO. | DAMAGED ELEMENT NAME | NO. | LOCATION | EXTENT OF EXISTING CONC SPALL (2) | | | NO. OF EXPOSED EXISTING LONGITUDINAL REBAR DUE TO SPALL | NO. OF CORRODED EXISTING LONGITUDINAL REBAR TO BE REPLACED | QUANTITY | | ADDITIONAL COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LENGTH (INCHES) | WIDTH (INCHES) | DEPTH (INCHES) | | | UNIT | QUANTITY | |
| SPANDREL COLUMN | 1 | RIB 1 - SOUTH FACE - EB | SPAN 4 | AR1, FB1 | 192 | 16 | 3 | 4 | 4 | EA | | Included in Damage No. 9 |
| SPANDREL COLUMN | 2 | RIB 1 - NORTH FACE - EB | SPAN 6 | AR1, FB1 | 30 | 12 | 1.5 | 2 | 2 | EA | | Included in Damage No. 14 |
| SPANDREL COLUMN | 3 | RIB 1 - EAST FACE - EB | SPAN 7 | AR1, FB10 | 24 | 12 | 2 | 2 | 2 | EA | | Included in Damage No. 17 |
| SPANDREL COLUMN | 4 | RIB 3 - NORTH FACE | SPAN 9 | AR3, FB10 | 48 | 18 | 3 | 2 | 2 | EA | | Included in Damage No. 24 |
| SPANDREL COLUMN | 5 | RIB 3 - EAST FACE | SPAN 9 | AR3, FB10 | 36 | 24 | | | | EA | | Included in Damage No. 24 |
| SPANDREL COLUMN | 6 | RIB 3 - EAST FACE | SPAN 9 | AR3, FB10 | 48 | 3 | | | | EA | | Included in Damage No. 24 |
| SPANDREL COLUMN | 7 | RIB 4 - WEST FACE | SPAN 9 | AR4, FB10 | 48 | 12 | 2 | 2 | 2 | EA | | Included in Damage No. 25 |
| SPANDREL COLUMN | 8 | RIB 3 - NORTH FACE - WB | SPAN 10 | AR3, FB1 | 168 | 12 | 1 | 2 | 2 | EA | | Included in Damage No. 28 |
| SPANDREL COLUMN | 9 | RIB 1 | SPAN 4 | AR1, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 10 | RIB 2 | SPAN 4 | AR2, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 11 | RIB 1 | SPAN 4 | AR3, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 12 | RIB 2 | SPAN 4 | AR4, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 13 | RIB 2 | SPAN 5 | AR2, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 14 | RIB 1 | SPAN 6 | AR1, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 15 | RIB 3 | SPAN 6 | AR3, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 16 | RIB 3 | SPAN 6 | AR4, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 17 | RIB 1 | SPAN 7 | AR1, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 18 | RIB 2 | SPAN 7 | AR2, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 19 | RIB 3 | SPAN 7 | AR3, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 20 | RIB 2 | SPAN 8 | AR2, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 21 | RIB 3 | SPAN 8 | AR3, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 22 | RIB 1 | SPAN 9 | AR1, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 23 | RIB 2 | SPAN 9 | AR2, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 24 | RIB 3 | SPAN 9 | AR3, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 25 | RIB 4 | SPAN 9 | AR4, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 26 | RIB 1 | SPAN 10 | AR1, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 27 | RIB 2 | SPAN 10 | AR2, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 28 | RIB 3 | SPAN 10 | AR3, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 29 | RIB 4 | SPAN 10 | AR4, FB1 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 30 | RIB 2 | SPAN 11 | AR2, FB10 | | | | | | EA | 1 | |
| SPANDREL COLUMN | 31 | RIB 1 | SPAN 11 | AR3, FB10 | | | | | | EA | 1 | |

| TOTAL | 23 |
|---|---|




DAMAGED STRUCTURAL SECTION
FIELD MEASUREMENT REQUIREMENTS

## NOTES:

1. CONCRETE AND/OR EPOXY SYSTEM USED FOR PATCHING SPALLS, CRACKS, AND SEALING GAPS ON THE EXISTING STRUCTURE SHALL BE STAINED TO MINIMIZE THE VISUAL DIFFERENCE OF THE PATCHING CONCRETE, SEE PROJECT SPECIFICATIONS.
2. SEE "DAMAGED STRUCTURAL SECTION" FOR NOMENCLATURE.
3. DATA SHOWN ARE FROM 2019 INSPECTION REPORT AND IS NOT AN EXHAUSTIVE LIST. CONTRACTOR TO FIELD VERIFY THE EXTENT OF DAMAGE.
4. SEE "TYPE R2 REPAIR DETAILS" SHEET.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL DAMAGES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL DAMAGES PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

| DES: PC | DWN: AL | CKD: JC |
|---|---|---|

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
REHAB SCHEDULE - 27

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 267 OF 295

S-38014

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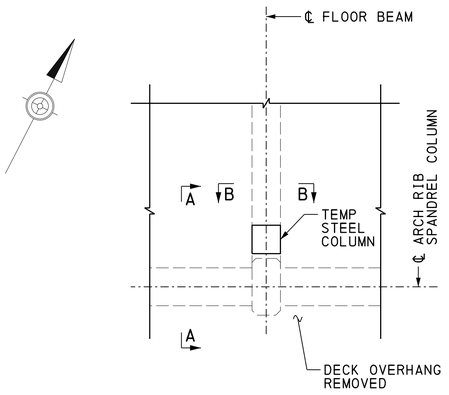
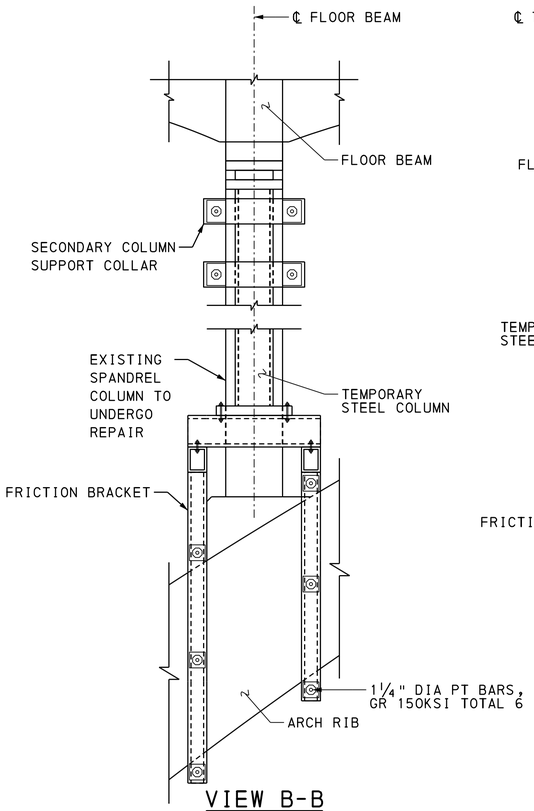
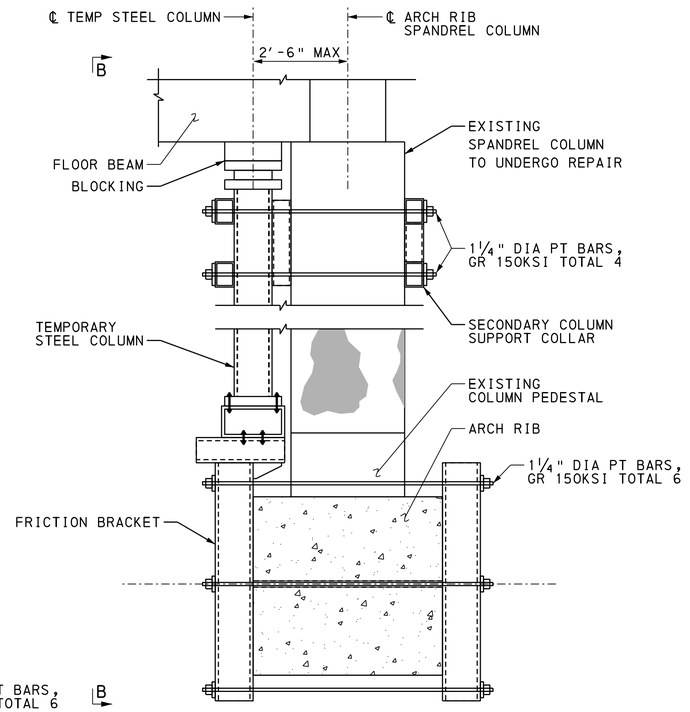



PLAN

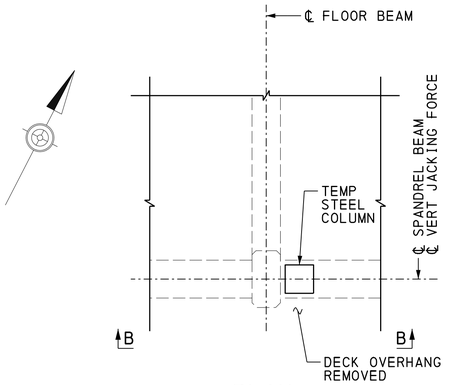



VIEW B-B

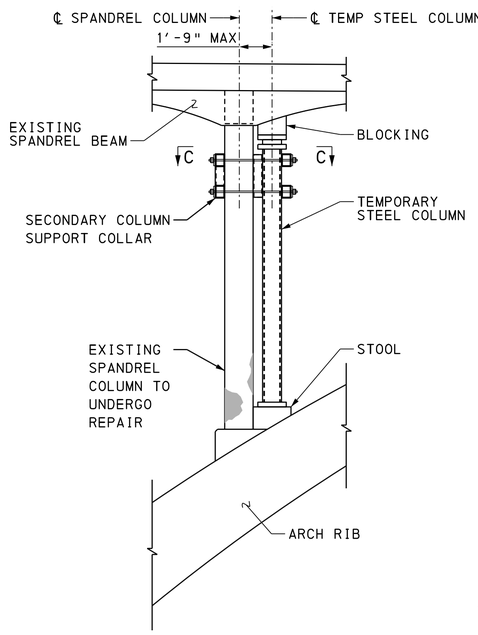



SECTION A-A

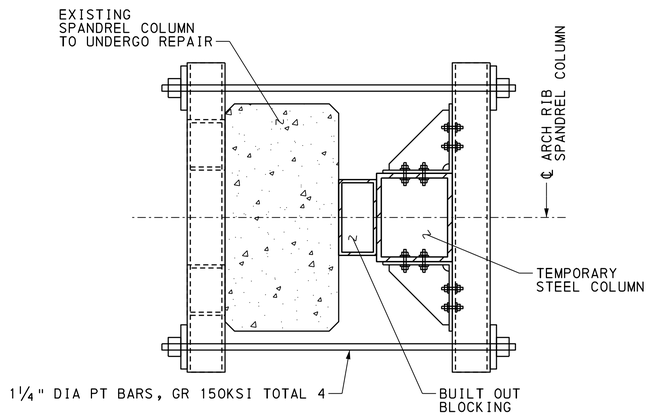
## TEMPORARY STEEL COLUMN SUPPORTING FLOOR BEAM OPTION




PLAN




VIEW B-B




SECTION C-C

## TEMPORARY STEEL COLUMN SUPPORTING SPANDREL BEAM OPTION

## TYPE R REPAIR TEMPORARY SUPPORT SYSTEM COMPONENT DESIGN INTENT

- DESIGN INTENT OF SECONDARY COLUMN SUPPORT COLLAR AND FRICTION BRACKET:

  (a) TO INTRODUCE LATERAL COMPRESSION FORCE ON INTERFACED BEARING SURFACES IN ORDER TO INDUCE SUFFICIENT FRICTION RESISTANCE TO RESIST GRAVITY LOADS ACROSS THE INTERFACED SURFACES.

  (b) SECONDARY COLUMN SUPPORT COLLAR IS USED TO PROVIDE ADDITIONAL LOAD PATH REDUNDANCY FOR EXISTING COLUMN LOADS TO TRAVEL TO THE TEMPORARY STEEL COLUMN WITHOUT GOING THROUGH THE JACK ON TOP OF THE TEMPORARY STEEL COLUMN (SECONDARY COLUMN SUPPORT COLLAR IS ALWAYS INSTALLED ABOVE DAMAGED SECTION OF EXISTING COLUMN).

- SECONDARY COLUMN SUPPORT COLLAR LATERAL COMPRESSION FORCE MAY BE ACHIEVED BY STRESSING FOUR (4) - 1¼" DIAMETER 150 KSI HIGH-STRENGTH PRESTRESSING BARS TO 75% OF THE GUARANTEED ULTIMATE TENSILE STRENGTH (GUTS) OF THE PRESTRESSING BARS. LATERAL COMPRESSION FORCE RESULTANT SHALL COINCIDE WITH THE CENTROID OF INTERFACED BEARING SURFACES WHERE SHEAR FRICTION RESISTANCE IS NEEDED.
- WHEN SECONDARY COLUMN SUPPORT COLLAR IS INSTALLED ON EXISTING DAMAGED COLUMN, STEEL COLLAR PRESTRESSING BARS SHALL NOT BE STRESSED UNTIL VERTICAL JACKING ON TOP OF TEMPORARY STEEL COLUMN IS COMPLETE.
- FRICTION BRACKET LATERAL COMPRESSION FORCE MAY BE ACHIEVED BY STRESSING SIX (6) - 1¼" DIAMETER 150 KSI HIGH-STRENGTH PRESTRESSING BARS TO 75% OF THE GUARANTEED ULTIMATE TENSILE STRENGTH (GUTS) OF THE PRESTRESSING BARS. LATERAL COMPRESSION FORCE RESULTANT SHALL COINCIDE WITH THE CENTROID OF INTERFACED BEARING SURFACES BETWEEN FRICTION BRACKET AND ARCH RIB WHERE SHEAR FRICTION RESISTANCE IS REQUIRED.

## LEGEND:

INDICATES SPALL, SHOWN FOR ILLUSTRATIVE PURPOSES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
TYPE R1 & R2 TEMP SUPPORT

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 268 OF 295

S-38014

DES: PC | DWN: AL | CKD: JC

FILENAME: E02657-S38014-BR-RH-151.dgn
OPERATOR: TYLIPWOIICS01$

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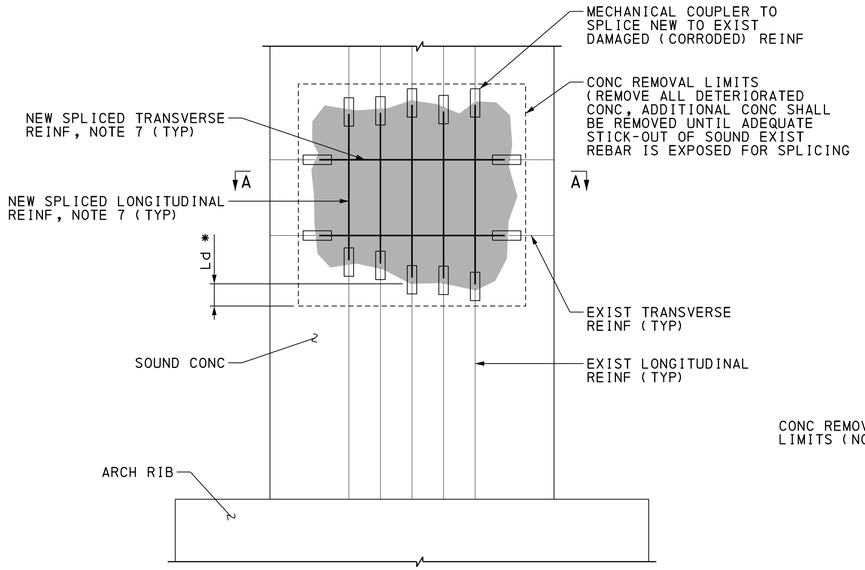


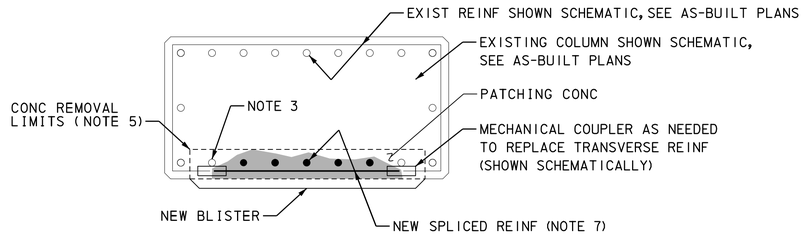

* Ld, SOUND EXISTING REINF STICK-OUT, SHALL BE IN ACCORDANCE WITH MECHANICAL COUPLER MANUFACTURER'S INSTALLATION RECOMMENDATION

## ELEVATION

(NOT ALL REINFORCEMENT SHOWN)

## NOTES:

1. SEE STANDARD PLANS BC-783M, FOR ADDITONAL DETAILS AND REQUIREMENTS FOR REPAIRING AND REPLACING SPALLED CONCRETE AND CORRODED REINFORCEMENT.
2. TYPE R1 TEMPORARY SUPPORT COLUMN(S) SHALL BE INSTALLED SNUG TIGHT PRIOR TO STARTING CONCRETE REMOVAL WORK.
3. APPLY EPOXY PAINT ON EXISTING REINF STICK-OUT AND COUPLER ASSEMBLY PRIOR TO CONCRETE PLACEMENT TO PREVENT CORROSION.
4. FIELD ADJUST LOCATION OF EXISTING REINF TO CLEAR COUPLERS, AS NEEDED.
5. EXTEND CONCRETE REMOVAL LIMIT AS NEEDED TO HAVE SUFFICIENT ACCESS FOR COUPLER INSTALLATION AND TO EXPOSE SOUND CONCRETE.
6. NEW REINFORCEMENT SHALL BE EPOXY COATED, GRADE 60.
7. NEW REINFORCEMENT TO REPLACE CORRODED EXISTING REINFORCEMENT SHALL BE OF THE SAME AREA AND QUANTITY AS CORRODED REINFORCEMENT.

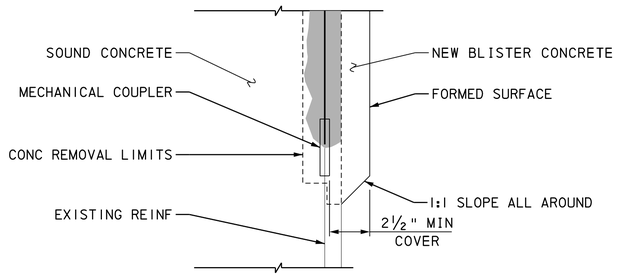



## SECTION A-A

(COLUMN REINFORCEMENT SHOWN SCHEMATICALLY)

# TYPE R1 - PARTIAL CROSS SECTION REPAIR/PATCHING

(SCHEMATIC DETAILS SHOWN FOR ILLUSTRATIVE PURPOSES)




## BLISTER DETAIL

NOTE: BLISTER DETAILS FOR TYPE R REPAIRS AT AREAS HAVING LESS THAN 2½" OF CONCRETE COVER EMBEDDED STEEL.

## LEGEND:

INDICATES SPALL, SHOWN FOR ILLUSTRATIVE PURPOSES

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
TYPE R1 REPAIR DETAILS

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

RECOMMENDED 08/30/2019

SHEET 269 OF 295

S-38014

DES: PC | DWN: AL | CKD: JC

OPERATOR: TYLIPW01ICSO1$ FILENAME: E02657-S38014-BR-RH-152.dgn

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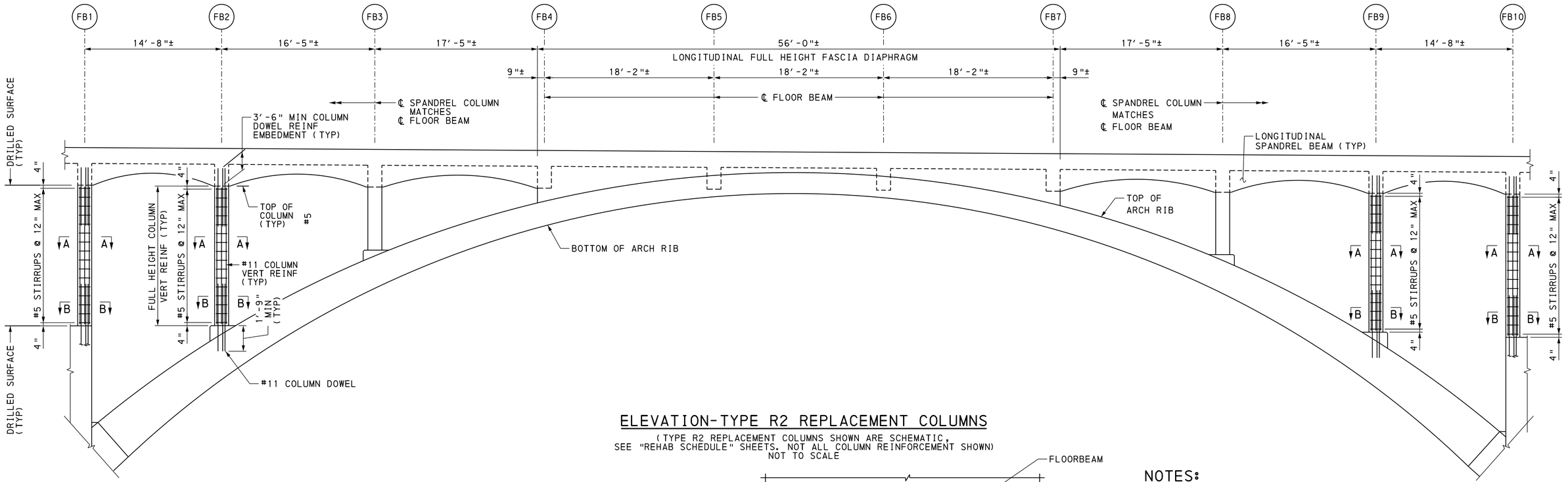
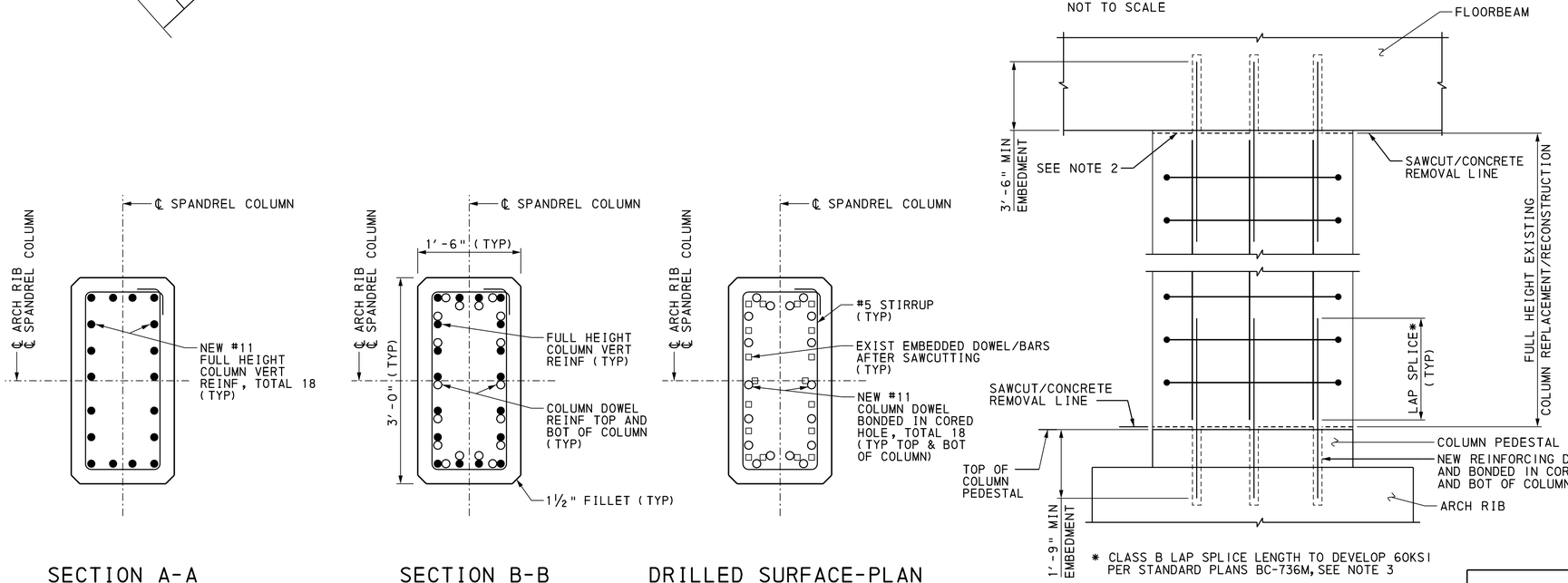



## ELEVATION-TYPE R2 REPLACEMENT COLUMNS

(TYPE R2 REPLACEMENT COLUMNS SHOWN ARE SCHEMATIC, SEE "REHAB SCHEDULE" SHEETS. NOT ALL COLUMN REINFORCEMENT SHOWN)
NOT TO SCALE




* CLASS B LAP SPLICE LENGTH TO DEVELOP 60KSI PER STANDARD PLANS BC-736M, SEE NOTE 3

## ELEVATION

(NOT ALL REINFORCEMENT SHOWN)
NOT TO SCALE

## NOTES:

1. CORED HOLE DIAMETER SHALL BE ½" LARGER THAN DIAMETER OF DOWEL, UNLESS RECOMMENDED OTHERWISE BY PROPIETARY BONDING SYSTEM MANUFACTURER. BONDING SYSTEM COMPOUND SHALL BE MAGNESIUM PHOSPHATE CONCRETE EXCEPT FOR OVERHEAD BONDING APPLICATION. FOR OVERHEAD BONDING, USE APPROVED PROPRIETARY CHEMICAL ADHESIVE OR APPROVED CHEMICAL RESIN CAPSULE BONDING SYSTEM.
2. ENSURE NEW CONCRETE IS COMPLETELY BONDED TO EXISTING CONCRETE AT CONSTRUCTION JOINT. USE PRESSURIZED EPOXY INJECTION TO SEAL GAP PRIOR TO RELEASING TEMPORARY VERTICAL JACKING FORCE IF SEPARATION GAP WIDTH EXCEEDS 0.014" (DUE TO CONSOLIDATION OF NEWLY PLACED CONCRETE).
3. IN LIEU OF LAP SPLICE, CONTRACTOR MAY OPT TO USE APPROVED MECHANICAL SPLICE AT NO ADDITIONAL COST TO THE STATE.




## SECTION A-A

NOT TO SCALE




## SECTION B-B

NOT TO SCALE




## DRILLED SURFACE-PLAN

(BOTTOM OF COLUMN SHOWN, TOP OF COLUMN SIMILAR)
NOT TO SCALE

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

# ARCH SPANS REHAB & WIDENING
# TYPE R2 REPLACEMENT DETAILS

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SHEET 270 OF 295

S-38014

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

DES: CL | DWN: TK | CKD: SC

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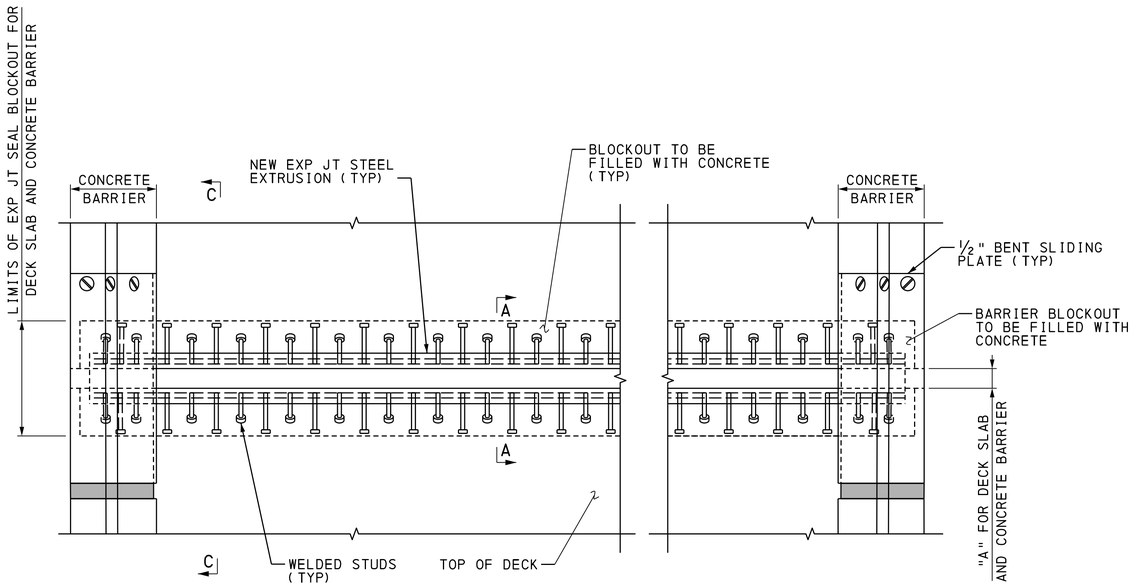
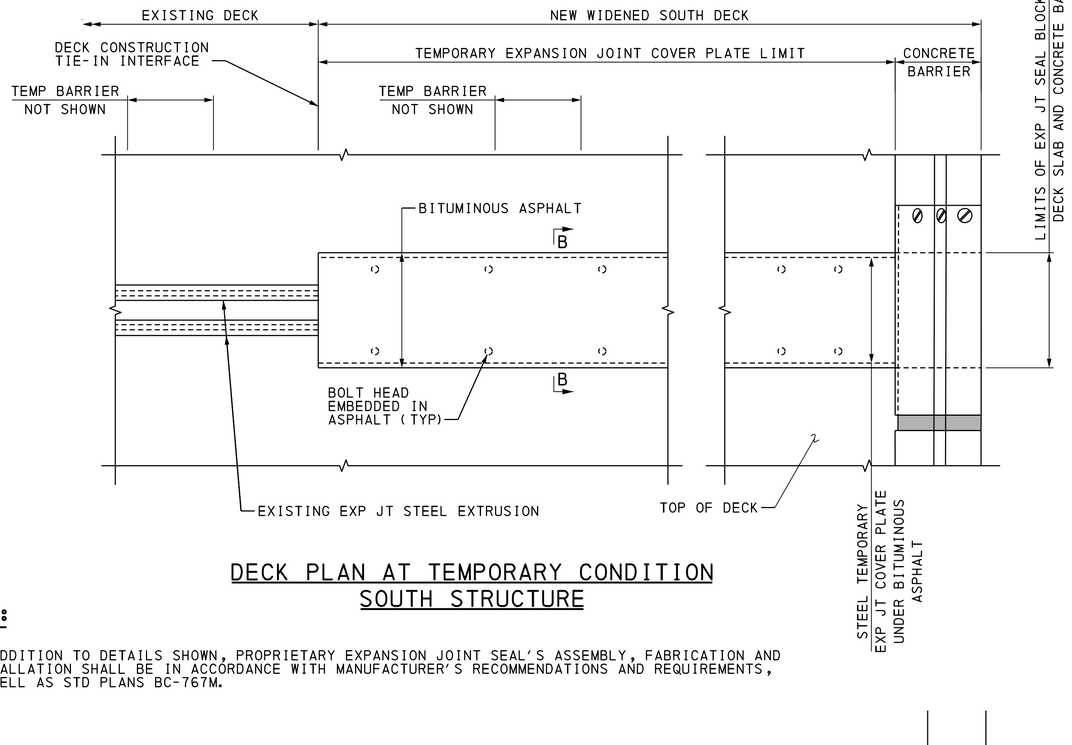



## DECK PLAN AT FINAL CONDITION NORTH & SOUTH STRUCTURE

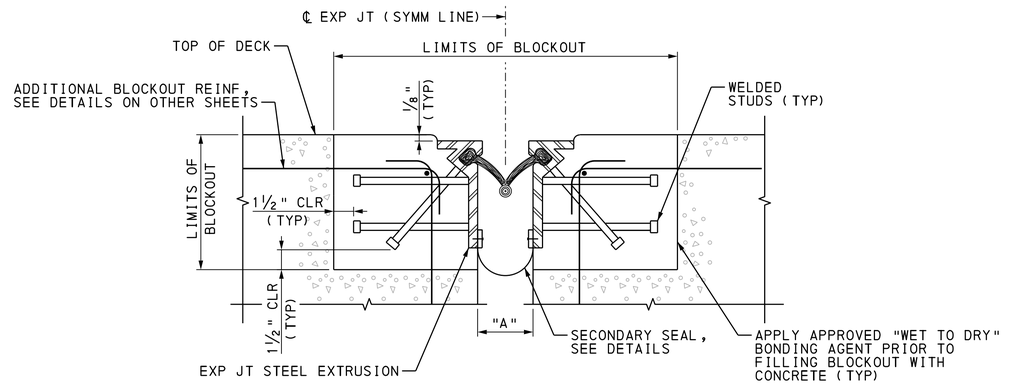
SEE NOTE 1




## DECK PLAN AT TEMPORARY CONDITION SOUTH STRUCTURE

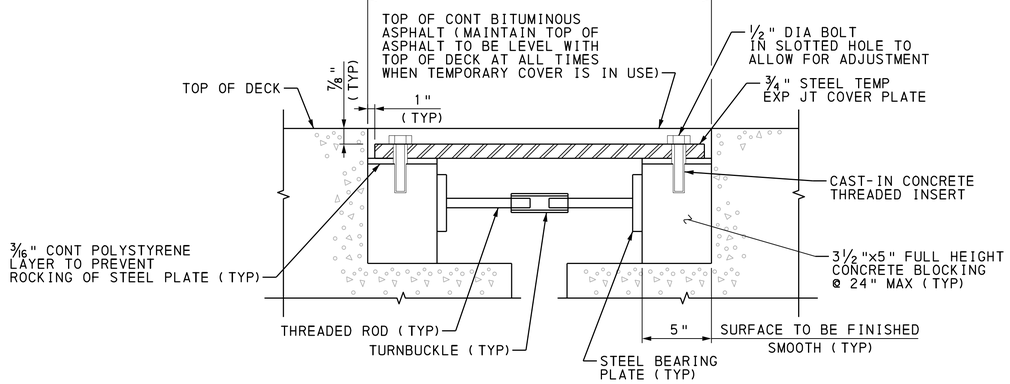
| EXP JT GAP ISTALLATION WIDTH "A" AT VARIOUS INSTALLATION TEMPERATURES @ ALL EXP JT LOCATIONS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TEMPERATURE (°F) | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| WIDTH "A" | 3.23" | 3.00" | 2.78" | 2.55" | 2.32" | 2.10" | 1.87" | 1.67" | 1.42" | 1.19" |

NOTE: FOR TEMPERATURES NOT SHOWN, JOINT GAP OPENING MAY BE LINEARLY INTERPOLATED




## SECTION A-A

SEE NOTE 1




## SECTION B-B

### NOTES:

1. IN ADDITION TO DETAILS SHOWN, PROPRIETARY EXPANSION JOINT SEAL'S ASSEMBLY, FABRICATION AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS, AS WELL AS STD PLANS BC-767M.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL STEVEN B. BOLT ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285

BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
EXPANSION JOINT DETAILS - 1

RECOMMENDED 08/30/2019

SHEET 271 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW011CS01$ FILENAME: E02657-S38014-BR-DT-510.dgn

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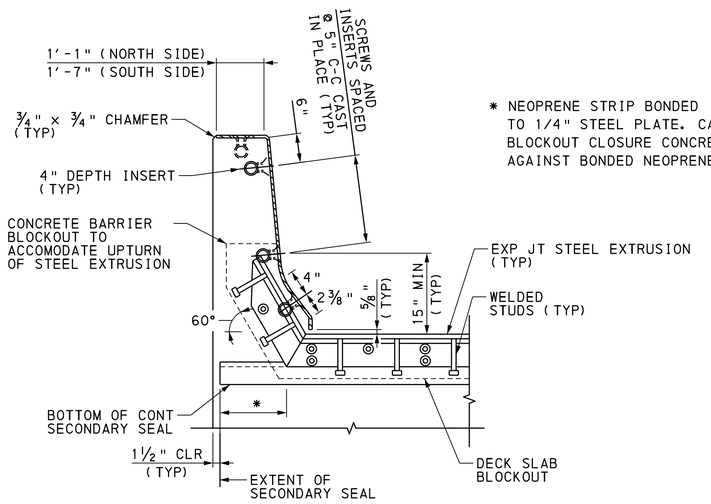
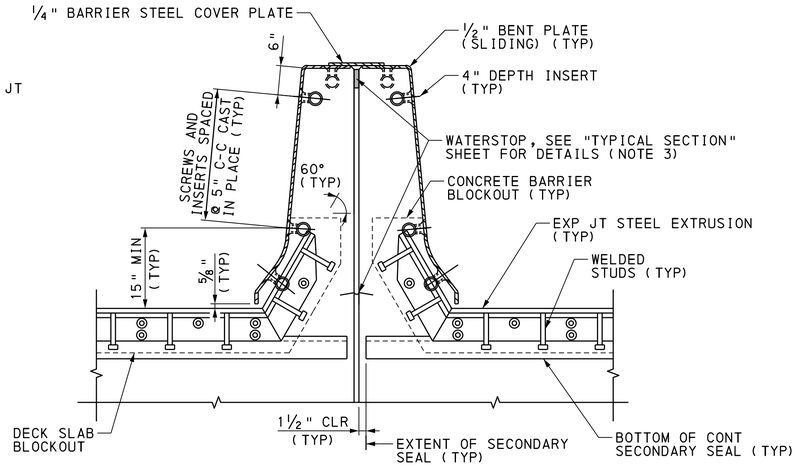


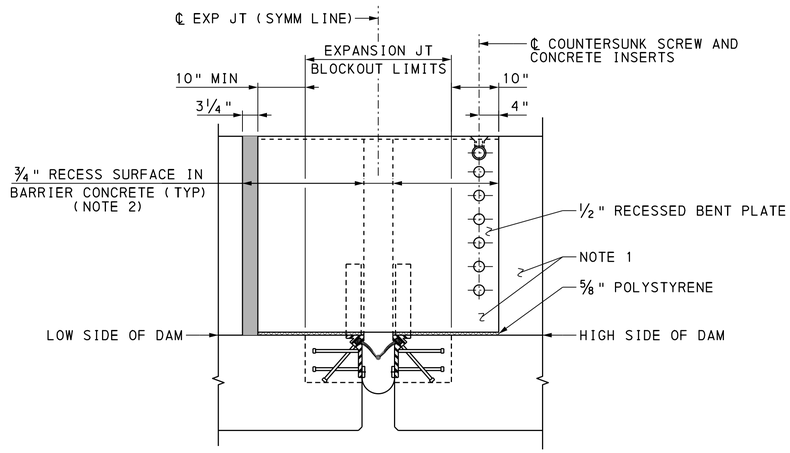

* NEOPRENE STRIP BONDED TO 1/4" STEEL PLATE. CAST EXP JT BLOCKOUT CLOSURE CONCRETE AGAINST BONDED NEOPRENE

## SECTION AT FASCIA BARRIER




## SECTION AT MEDIAN BARRIER

ALL DIMENSIONS SHOWN TYPICAL FOR EACH SIDE OF BARRIER




## SECTION C-C




## PLAN AT FASCIA BARRIER

(SECONDARY SEAL NOT SHOWN)




## PLAN AT MEDIAN BARRIER

(SECONDARY SEAL NOT SHOWN)




## SECONDARY SEAL DETAILS

## BARRIER STEEL COVER PLATE DETAILS AT DECK EXPANSION JOINT

NOTE: FOR DETAILS OF EXPANSION JOINT SEAL HARDWARE AND BARRIER COVER PLATE NOT SHOWN, SEE STD PLAN BC-767M

## NOTES:

1. EXTERIOR SURFACE OF BENT PLATE SHALL NOT EXTEND BEYOND EXTERIOR SURFACE OF CONCRETE BARRIER.
2. FORM CONCRETE RECESS AREA IN BARRIER AND GRIND TO PROVIDE SMOOTH SURFACE. APPLY ONE COAT OF ASPHALT CEMENT PAINT WA-1 OR PERFORMANCE GRADED ASPHALT CEMENT PG 64-22 TO ALLOW BENT SLIDING PLATE TO MOVE FREELY WITHOUT FRICTION.
3. TERMINATE WATERSTOPS AT DECK EXPANSION JOINT INTERFACE.

DIMENSIONS AND LOCATIONS OF EXISTING STRUCTURAL ELEMENTS SHOWN ON THE PLANS ARE APPROXIMATE AND SHOWN WITH "±". THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, SURVEYING AND MAKING MEASUREMENTS OF EXISTING STRUCTURAL ELEMENTS PRIOR TO ORDERING ANY MATERIALS AND PERFORMING CONSTRUCTION WORK.

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

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

**COMMONWEALTH OF PENNSYLVANIA**
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
EXPANSION JOINT DETAILS - 2

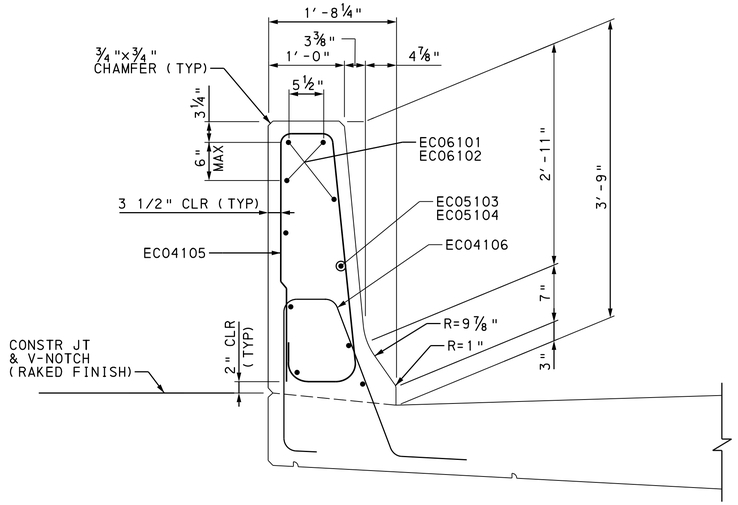
RECOMMENDED 08/30/2019



S-38014

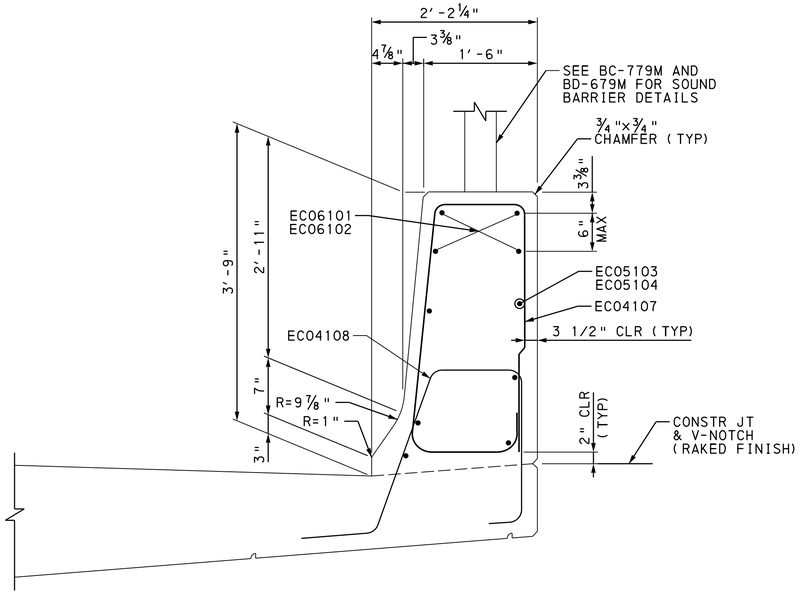
FILENAME: E02657-S38014-BR-DT-511.dgn
OPERATOR: TYLIPWO1ICS01$

PLOTTED: 8/26/2019 4:44:00 PM



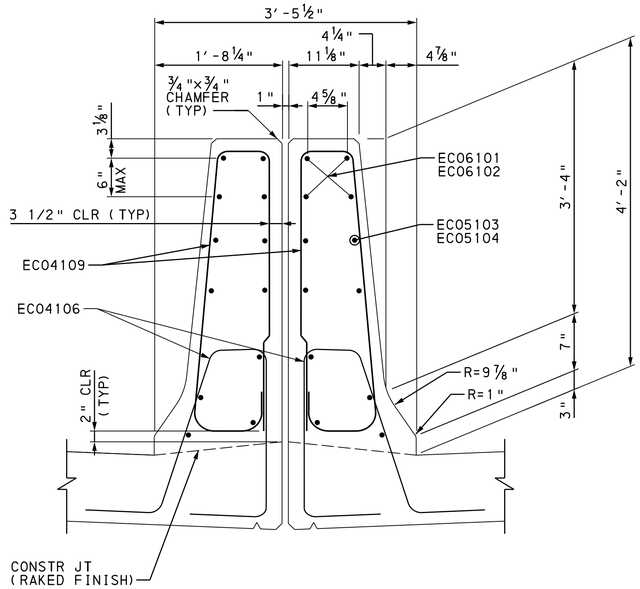

CONCRETE FASCIA BARRIER DETAIL
NORTH SIDE

12 0 12 INCHES




CONCRETE FASCIA BARRIER DETAIL
SOUTH SIDE

12 0 12 INCHES




MEDIAN CONCRETE BARRIER DETAIL

12 0 12 INCHES

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
BARRIER DETAILS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
STEVEN B. BOLT
ENGINEER
PE38208-R

RECOMMENDED 08/30/2019

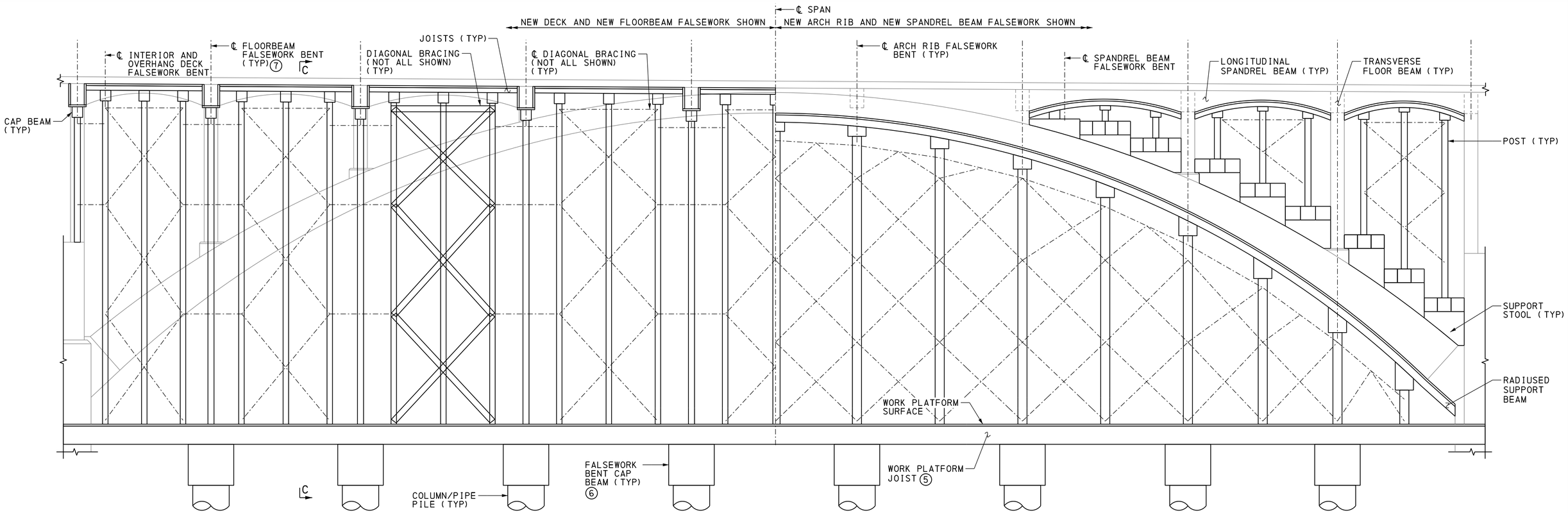
SHEET 273 OF 295

S-38014

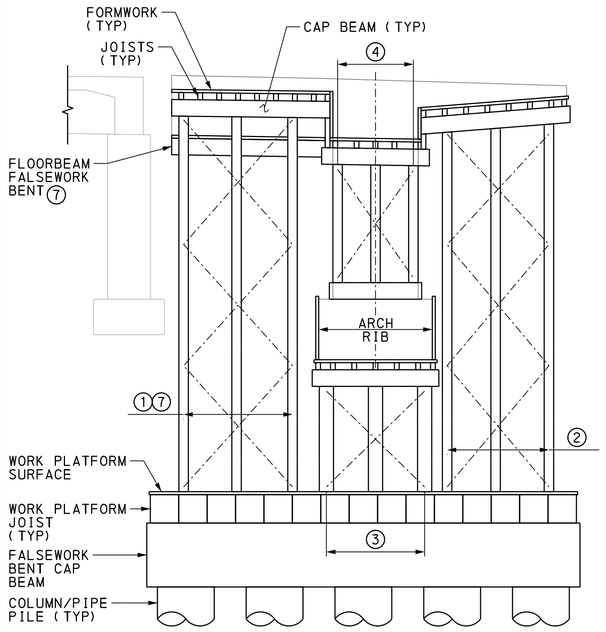
DES: CL | DWN: TK | CKD: SC

OPERATOR: TYLIPW01ICS01$ FILENAME: E02657-S38014-BR-DT-515.dgn

PLOTTED: 8/26/2019 4:49:31 PM




## ELEVATION
## NEW CIP STRUCTURE CONSTRUCTION-FALSEWORRK SCHEMATIC
NOT TO SCALE




## SECTION C-C
NOT TO SCALE

## FALSEWORK SYSTEM REQUIREMENTS FOR NEW CIP STRUCTURE:

1. IN ORDER TO PREVENT STRUCTURAL COLLAPSE DURING CIP CONCRETE CONSTRUCTION, COMPLETE FALSEWORK SYSTEM SHALL BE INSTALLED PRIOR TO CIP CONCRETE CONSTRUCTION. COMPLETE FALSEWORK SYSTEM SHALL BE IN PLACE UNTIL THE FOLLOWING NEW CONCRETE IN SPANS 4 THROUGH 11 HAS REACHED MINIMUM AGE AS FOLLOWS: (1) ARCH RIB CONCRETE IS AT LEAST 150 DAYS OLD, AND (2) DECK SLAB CONCRETE IS AT LEAST 30 DAYS OLD.
2. FALSEWORK SYSTEM MAY CONSIST OF BUT NOT LIMITED TO FALSEWORK ELEMENTS SHOWN SCHEMATICALLY ON THE PLANS.
3. PLANS ONLY SHOW STRUCTURAL DESIGN CONCEPTS AND SCHEMATIC DETAILS FOR THE PURPOSE OF FACILITATING CONTRACTOR'S DESIGN AND CONSTRUCTION OF FALSEWORK SYSTEM. NUMBER OF ELEMENTS, MEMBER SIZES, AND ACTUAL DETAILS OF FALSEWORK SYSTEM ARE CONTRACTOR'S RESPONSIBILITY.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF SAFE AND ADEQUATE FALSEWORK SYSTEM WHICH PROVIDES THE NECESSARY RIGIDITY AND SUPPORTS LOADS DURING CIP CONCRETE CONSTRUCTION. CONTRACTOR'S PROPOSED FALSEWORK SYSTEM SHALL ENSURE GLOBAL STABILITY DURING CIP CONCRETE CONSTRUCTION.
5. CONTRACTOR SHALL SUBMIT TO THE ENGINEER STAMPED WORKING DRAWINGS AND DESIGN CALCULATIONS FOR FALSEWORK SYSTEM.
6. IN ORDER TO PREVENT UNBALANCED HORIZONTAL LONGITUDINAL SHEAR ON INTERIOR PIER FOUNDATION, FALSEWORK SUPPORTING ARCH RIBS SHALL NOT BE RELEASED UNTIL ARCH RIBS IN SPANS 4 THROUGH 11 ARE CONSTRUCTED AND HAVE REACHED MINIMUM REQUIRED AGE.

## DECK SLAB & DECK BEAMS CONCRETE CASTING REQUIREMENTS:

1. CONCRETE FOR NEW DECK SLAB AND NEW DECK BEAMS SHALL BE PLACED IN ONE CONTINUOUS CONCRETE CASTING OPERATION WITHOUT STOPPAGE FROM DECK EXPANSION JOINT TO DECK EXPANSION JOINT. VERTICAL CONSTRUCTION JOINT SHALL BE AVOIDED ON THE DECK SLAB.
2. CONTRACTOR WILL NOT BE ALLOWED TO COMMENCE CONCRETE CASTING WORK UNLESS SUFFICIENT CONCRETE CAN BE TRANSPORTED TO THE SITE CONTINUOUSLY DURING CONCRETE POUR, AND SUFFICIENT WORKERS AND EQUIPMENT ARE ON HAND TO COMPLETE THE WORK WITHOUT STOPPAGE.
3. CONTRACTOR'S CONCRETE CASTING OPERATIONAL PLAN SHALL INCLUDE CONTINGENCY FOR UNFORESEEN EQUIPMENT BREAKDOWN. VERTICAL CONCRETE CONSTRUCTION JOINTS IN THE DECK SLAB DUE TO UNFORESEEN EQUIPMENT BREAKDOWN DURING CONCRETE POUR SHALL BE AVOIDED AS FAR AS POSSIBLE. SUCH CONSTRUCTION JOINTS, WHEN NECESSARY DUE TO UNFORESEEN EQUIPMENT BREAKDOWN SHALL BE CONSTRUCTED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

## LEGEND:

① INTERIOR DECK FALSEWORK BENT
② OVERHANG DECK FALSEWORK BENT
③ ARCH RIB FALSEWORK BENT
④ SPANDREL BEAM FALSEWORK BENT
⑤ DEPTH OF WORK PLATFORM JOIST DEPENDS ON SPAN LENGTH BETWEEN FALSEWORK BENTS
⑥ NUMBER AND LOCATION OF FALSEWORK BENTS SHOWN SCHEMATICALLY. ACTUAL NUMBER OF FALSEWORK BENTS USED SHALL DEPEND ON CONTRACTOR'S FALSEWORK DESIGN CALCULATIONS. SEE "CATEGORICAL EXCLUSION EVALUATION" REPORT FOR RIVER ACCESS LIMITATIONS DURING CONSTRUCTION
⑦ FALSEWORK BENT SUPPORTING FLOORBEAM SIMILAR TO INTERIOR DECK FALSEWORK BENT, EXCEPT FOR CAP BEAM LOCATION

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

| DES: CL | DWN: TK | CKD: SC |
|---|---|---|

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER PE38208-R

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE

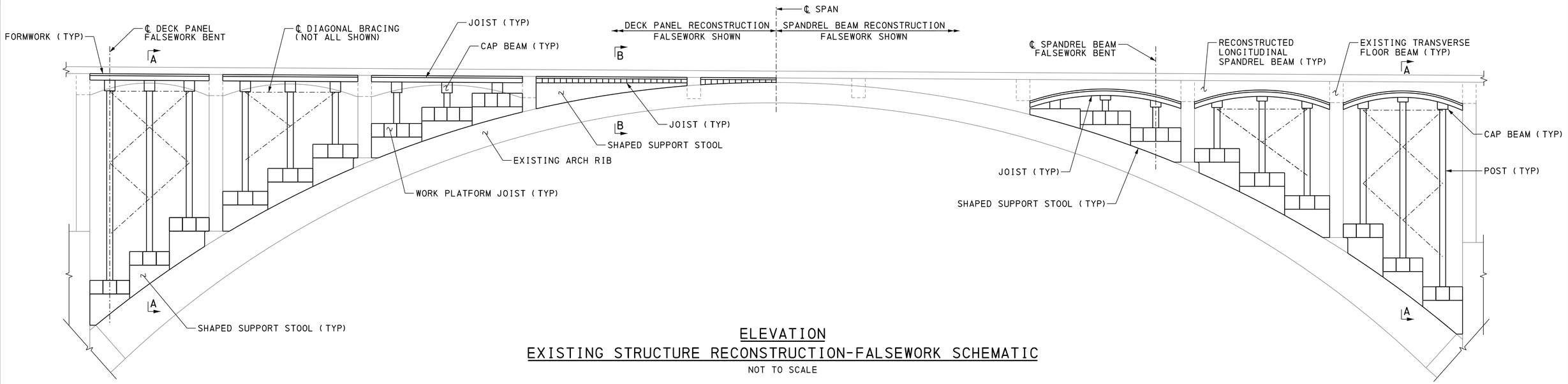
# ARCH SPANS REHAB & WIDENING
# CIP FALSEWORK SCHEMATIC - 1

RECOMMENDED 08/30/2019

SHEET 274 OF 295

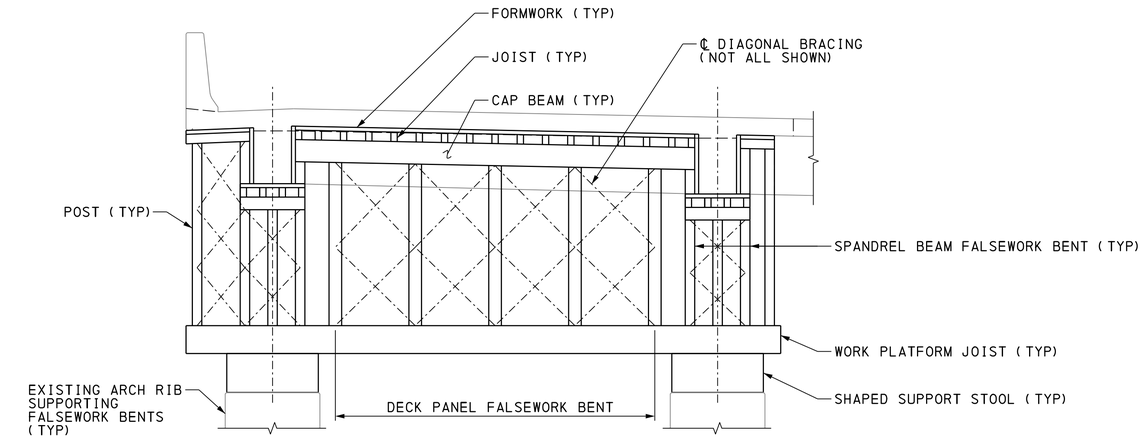
S-38014

FILENAME: E02657-S38014-BR-DT-550.dgn
OPERATOR: TYLIPWO11CS01$



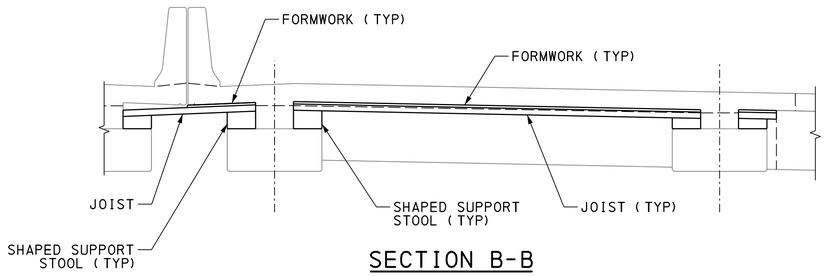

## ELEVATION
## EXISTING STRUCTURE RECONSTRUCTION-FALSEWORK SCHEMATIC

NOT TO SCALE




## SECTION A-A

NOT TO SCALE




## SECTION B-B

NOT TO SCALE

## FALSEWORK SYSTEM REQUIREMENTS FOR RECONSTRUCTION OF EXISTING STRUCTURE

1. IN ORDER TO PREVENT STRUCTURAL COLLAPSE DURING CIP CONCRETE CONSTRUCTION, COMPLETE FALSEWORK SYSTEM SHALL BE INSTALLED PRIOR TO CIP CONCRETE CONSTRUCTION. COMPLETE FALSEWORK SYSTEM SHALL BE IN PLACE UNTIL ALL NEW CONCRETE IN SPANS 4 THROUGH 11 HAS REACHED REQUIRED STRENGTH AND IS AT LEAST 14 DAYS OLD.
2. FALSEWORK SYSTEM MAY CONSIST OF BUT NOT LIMITED TO FALSEWORK ELEMENTS SHOWN SCHEMATICALLY ON THE PLANS.
3. PLANS ONLY SHOW STRUCTURAL DESIGN CONCEPTS AND SCHEMATIC DETAILS FOR THE PURPOSE OF FACILITATING CONTRACTOR'S DESIGN AND CONSTRUCTION OF FALSEWORK SYSTEM. NUMBER OF ELEMENTS, MEMBER SIZES, AND ACTUAL DETAILS OF FALSEWORK SYSTEM ARE CONTRACTOR'S RESPONSIBILITY.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF SAFE AND ADEQUATE FALSEWORK SYSTEM WHICH PROVIDES THE NECESSARY RIGIDITY AND SUPPORTS LOADS DURING CIP CONCRETE CONSTRUCTION. CONTRACTOR'S PROPOSED FALSEWORK SYSTEM SHALL ENSURE GLOBAL STABILITY DURING CIP CONCRETE CONSTRUCTION.
5. CONTRACTOR SHALL SUBMIT TO THE ENGINEER STAMPED WORKING DRAWINGS AND DESIGN CALCULATIONS FOR FALSEWORK SYSTEM.
6. IF CONTRACTOR OPTS TO REMOVE AND RECONSTRUCT EXISTING FLOORBEAMS TO MATCH ORIGINAL AS-BUILT CONCRETE DIMENSIONS AND REINFORCEMENT DETAILS, SCHEMATIC FALSEWORK SYSTEM AS SHOWN SHALL BE MODIFIED AS NEEDED TO ENSURE GLOBAL STABILITY DURING CONCRETE CASTING. SEE "EXISTING FLOORBEAM REMOVAL OPTION" ON DECK AND SPANDREL BEAM REMOVAL SHEETS.
7. EXISTING FLOOR BEAMS SHOWN TO REMAIN ON THE PLANS DO NOT HAVE TOP FIBER NEGATIVE MOMENT REINFORCEMENT AFTER EXISTING DECK SLAB IS REMOVED. AS SUCH, EXISTING FLOOR BEAMS WITHOUT COMPOSITE DECK SLAB SHALL NOT BE USED TO SUPPORT DECK SLAB CONCRETE PLACEMENT. WEIGHT OF WET DECK SLAB CONCRETE SHALL BE SUPPORTED ON EXTERNAL FALSEWORK IN ORDER TO PREVENT TOP FIBER CRACKING OF EXISTING FLOORBEAMS NEAR SPANDREL COLUMN SUPPORTS (NEGATIVE MOMENT REGIONS).

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

S.R. 0078 PREVIOUSLY KNOWN AS L.R. 285
BMS STR ID: 06-0078-0294-1480 MPMS/ECMS PROJ: 93494 BRKEY: 4661

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

BERKS COUNTY
S.R. 0078 SECTION 13B
SEGMENT 0294 OFFSET 1480 EB, SEGMENT 0295 OFFSET 1485 WB
S.R. 0078 13B STA. 3054+08.19
OVER SCHUYLKILL RIVER, RBMN RAILROAD & T571
12-SPAN CONC. OPEN SPANDREL DECK ARCH BRIDGE
ARCH SPANS REHAB & WIDENING
CIP FALSEWORK SCHEMATIC - 2

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — STEVEN B. BOLT — ENGINEER — PE38208-R

RECOMMENDED 08/30/2019

SHEET 275 OF 295

S-38014

DES: CL | DWN: TK | CKD: SC

PLOTTED: 8/26/2019 4:52:12 PM
FILENAME: E02657-S38014-BR-DT-551.dgn
OPERATOR: TYLIPWO11CS01$

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 10 OF 33 |

TILDEN TOWNSHIP

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |

NOTES:
FOR GROUND MOUNTED TYPE GM-2 DELINEATOR SPACING REFER TO PENDOT PUBLICATION 111 STANDARD DRAWING NO. TC-8604.

PLOTTED: 8/20/2019 7:59:57 AM

BEGIN W/8"
STA 307+72.61

D1-2
12"x24"
STA 307+22

M3-1
30"x15"
M1-5
36"x36"
M6-2R
30"x18"

M3-3
30"x15"
M1-5
36"x36"
M6-2L
30"x18"

W/8"

15'
14'

W/4"
Y/4"

TYPE GM-2
DELINEATOR ( W/B)

RAMP C SURVEY &
CONSTRUCTION ℄

15'

TYPE GM-2
DELINEATOR ( Y/B)

W/4"
BWT/6"
Y/4"

TYPE R DELINEATOR ( Y/Y)
TYPE O DELINEATOR ( Y/B)
[BOTH SIDES]
@ 80'( TYP)

SOS

RAMP C

SR 0078 CONSTR ℄
STA 303+29
E5-1A
78"x60"

EXIT 29

OM1-3
18"x18"

END W/4"
BEGIN SWT/6"
STA 3041+73.58

END SWT/6"
BEGIN Y/4"
STA 302+72.93

W13-2
48"x60"
STA 301+17

Exit
40
M.P.H.

EXIT 29
61
Pottsville
Reading
EXIT ONLY

SWT/6"

TYPE A & D
DELINEATOR ( W/B)
@ 75'( TYP)

END SWT/6"
BEGIN AW/8"
STA 3044+47.67

TYPE O & R
DELINEATOR ( W/B)
@ 80'( TYP)

SR 0078 SURVEY &
CONSTRUCTION ℄

INDUSTRIAL DR

W/4"
AW/8"
BWT/6"
Y/4"

12'
15'
300

3040
3045
3050

SR 0078 WESTBOUND
SR 0078 EASTBOUND

Y/4"
BWT/6"
AW/8"
W/4"

TYPE A & D
DELINEATOR ( W/B)
@ 75'( TYP)

D10-2A
12"x48"
STA 3040+81

D10-2A
12"x48"
STA 3043+03

℄ SIGN STRUCTURE
SR 0078 CONSTR ℄
STA 3043+82.65
SEE SHEETS 24-25 FOR
STRUCTURE DETAILS
FAB SIGNS #3 & #4

EXIT 30
Hamburg
1/2 MILE
EXIT ONLY

I10-6
36"x12"

BOROUGH OF
SCHUYLKILL
RIVER

I10-2
36"x12"
STA 3044+50

D10-2A
12"x48"
STA 3046+09

D10-2A
12"x48"
STA 3046+09

TYPE O
DELINEATOR ( W/B)
@ 80'( TYP)

STRUCTURE MOUNTED SOUND BARRIER

REMOVE EXISTING SIGNS
AND SIGN STRUCTURE

W8-13
36"x36"
STA 3040+06

D10-2A
12"x48"
STA 3051+37

D10-2A
12"x48"
STA 3051+37

Y/4"
BWT/6"
AW/8"
W/4"

INDUSTRIAL DR

SCALE
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

SEE SHEET 11

SEE SHEET 9

FILENAME: E02657-SM-PL-004.dgn

OPERATOR: DTAYLOR

PLOTTED: 8/20/2019 8:00:03 AM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 0078 | 13B | 11 OF 33 |

TILDEN TOWNSHIP / HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

TILDEN TOWNSHIP
HAMBURG BOROUGH

SCHUYKILL RIVER

PORT CLINTON AVE

W/4"
AW/8"
BWT/6"
Y/4"

TYPE R DELINEATOR (Y/Y)
TYPE O DELINEATOR (Y/B)
[BOTH SIDES]
@ 80'(TYP)

SR 0078 SURVEY & CONSTRUCTION ℄

I10-4
36"X12"
STA 3061+50

I10-6
36"X12"

TYPE O & R
DELINEATOR (W/B)
@ 80'(TYP)

D10-2A
12"X48"
STA 3061+93

TYPE A & D
DELINEATOR (W/B)
@ 75'(TYP)

EXIT 29
61
Pottsville
Reading
½ MILE
EXIT ONLY

3055
3060
3065

SR 0078 WESTBOUND
SR 0078 EASTBOUND

12'
15'

Y/4"
BWT/6"
AW/8"
W/4"

TYPE O
DELINEATOR (W/B)
@ 80'(TYP)

STRUCTURE MOUNTED SOUND BARRIER

D10-5
18"X60"
STA 3056+65

MILE 0.0 WEST
MILE 0.1 EAST

END AW/8"
BEGIN SWT/6"
STA 3063+43.81

REMOVE EXISTING SIGNS
AND SIGN STRUCTURE

SWT/6"
W/4"

SWT/6"
W/24"@
16'C-C
(TYP)

D10-2A
12"X48"
STA 3067+21

EXIT 30
Hamburg
EXIT ONLY

℄ SIGN STRUCTURE
SR 0078 CONSTR ℄
STA 3066+87.00
SEE SHEETS 26-27 FOR
STRUCTURE DETAILS
FAB SIGNS #5 & #6

SCALE
0 25 50 FEET

SIGNING AND PAVEMENT MARKING PLAN

SEE SHEET 10

SEE SHEET 12

FILENAME: E02657-SM-PL-005.dgn

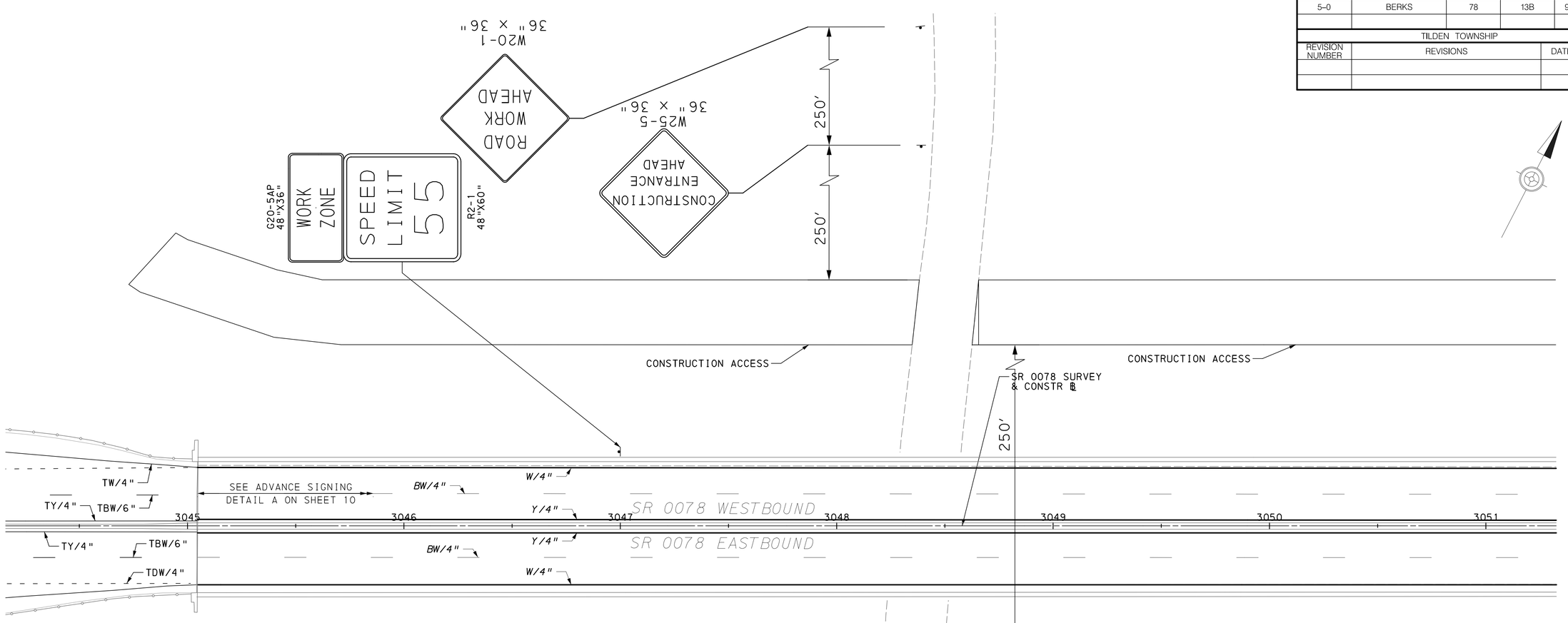
OPERATOR: DTAYLOR

PLOTTED: 8/20/2019 4:58:02 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 97 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 96




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 1

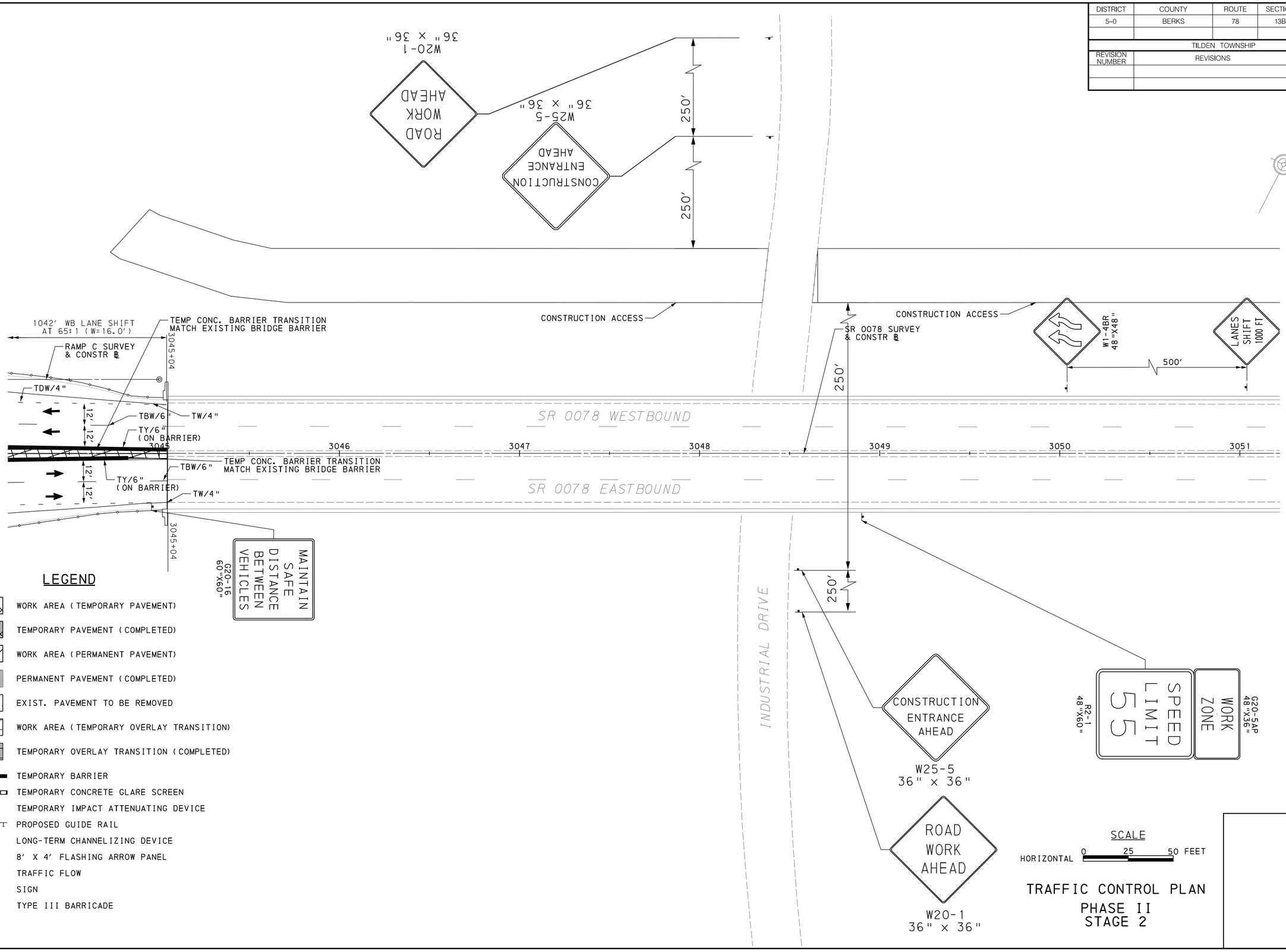
FILENAME: TC-PL-SR78-S1-09.dgn
OPERATOR: EThomas

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 106 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 105

SEE SHEET 107




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 2

PLOTTED: 8/20/2019 4:58:18 PM

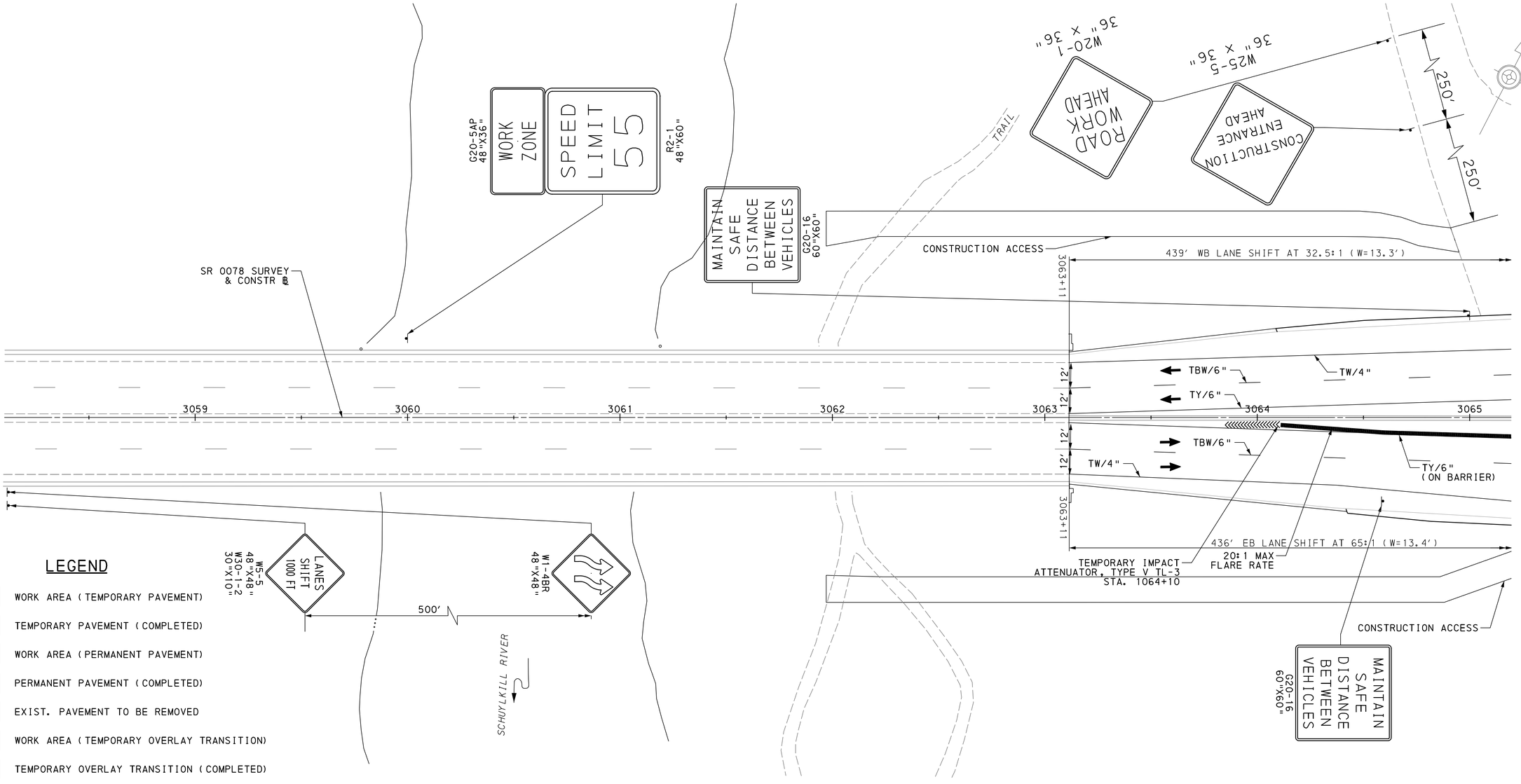
| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 107 OF 254 |
| | | | | |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 106

SEE SHEET 108




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 2

FILENAME: TC-PL-SR78-S2-10.dgn
OPERATOR: EThomas

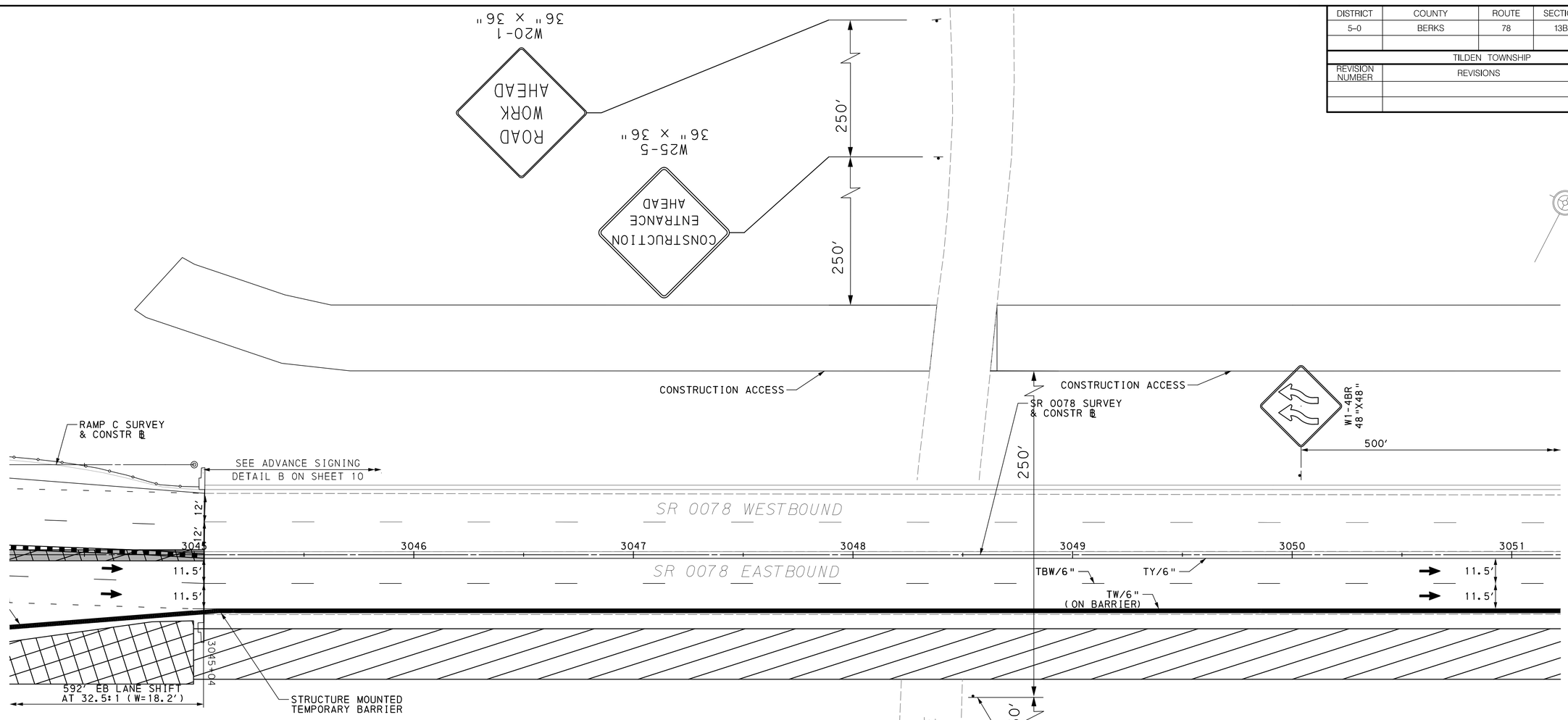
PLOTTED: 8/20/2019 4:58:30 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 119 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 118

SEE SHEET 120




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 3A

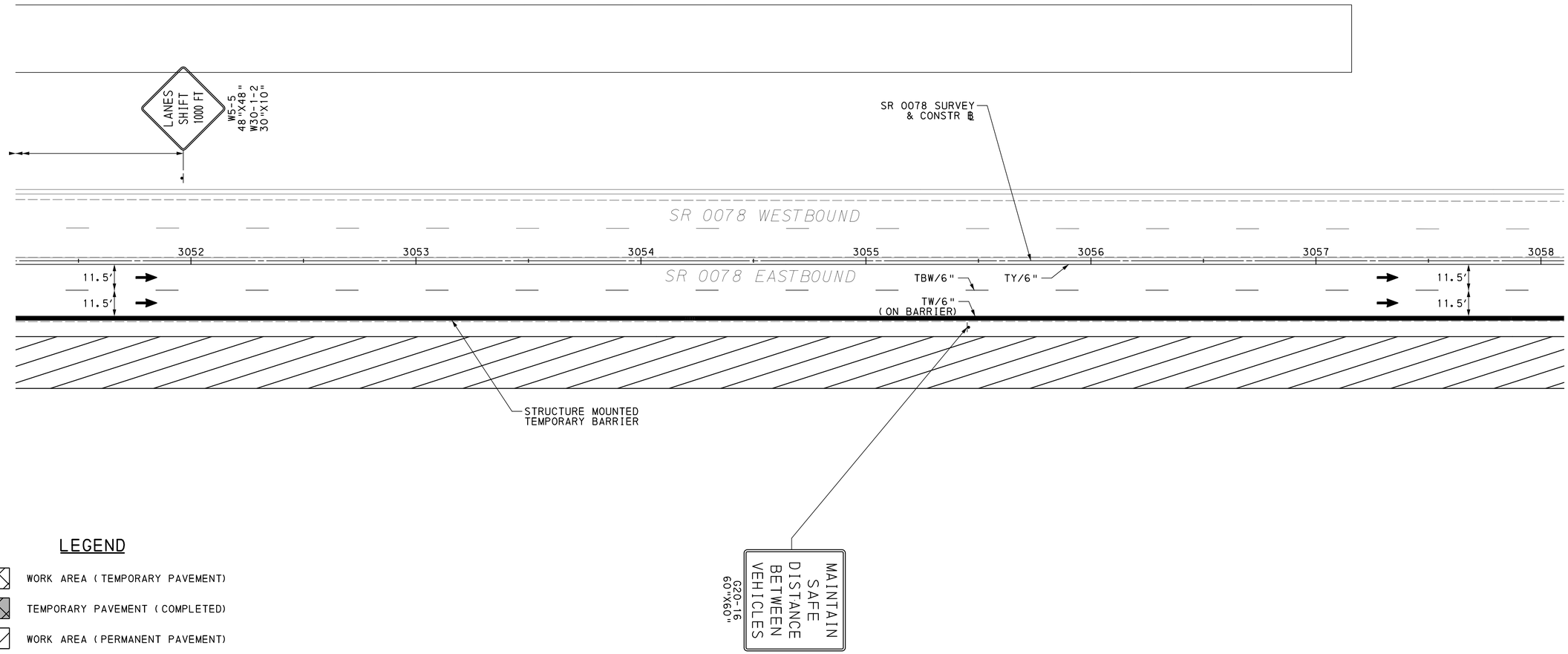
FILENAME: TC-PL-SR78-S3A-09.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 4:58:31 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 120 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 119




SEE SHEET 121

## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 3A

FILENAME: TC-PL-SR78-S3A-10.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 4:58:32 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 121 OF 254 |
| | | | | |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 120

SEE SHEET 122

SCHUYLKILL RIVER

SR 0078 SURVEY & CONSTR ℄

TRAIL

W20-1 36" x 36" ROAD WORK AHEAD

W25-5 36" x 36" CONSTRUCTION ENTRANCE AHEAD

250'

250'

CONSTRUCTION ACCESS

293' TAPER
(END 12' ACCELERATION LANE)

3063+12

SR 0078 WESTBOUND

SR 0078 EASTBOUND

3059 3060 3061 3062 3063 3064 3065

11.5'
11.5'
11.5'
11.5'

TY/6"

TBW/6"

TW/6" (ON BARRIER)

STRUCTURE MOUNTED TEMPORARY BARRIER

W5-5 48"X48" W30-1-2 30"X10" LANES SHIFT 1000 FT

R2-1 48"X60" SPEED LIMIT 55

G20-5AP 48"X36" WORK ZONE

CONSTRUCTION ACCESS

W1-4BR 48"X48"

## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 3A

FILENAME: TC-PL-SR78-S3A-11.dgn

OPERATOR: EThomas

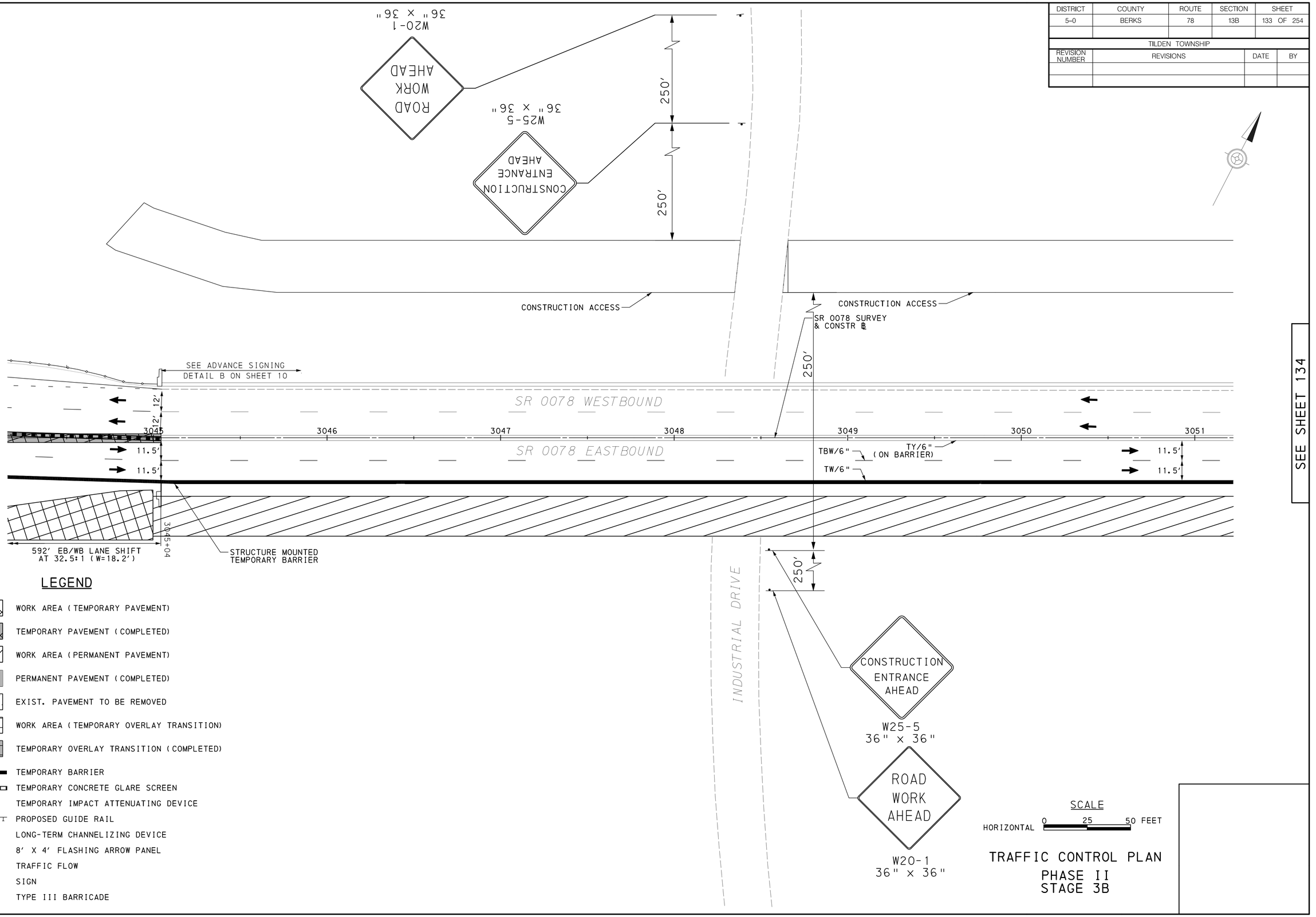
PLOTTED: 8/20/2019 4:58:44 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 133 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 132

SEE SHEET 134




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 3B

FILENAME: TC-PL-SR78-S3B-09.dgn
OPERATOR: EThomas

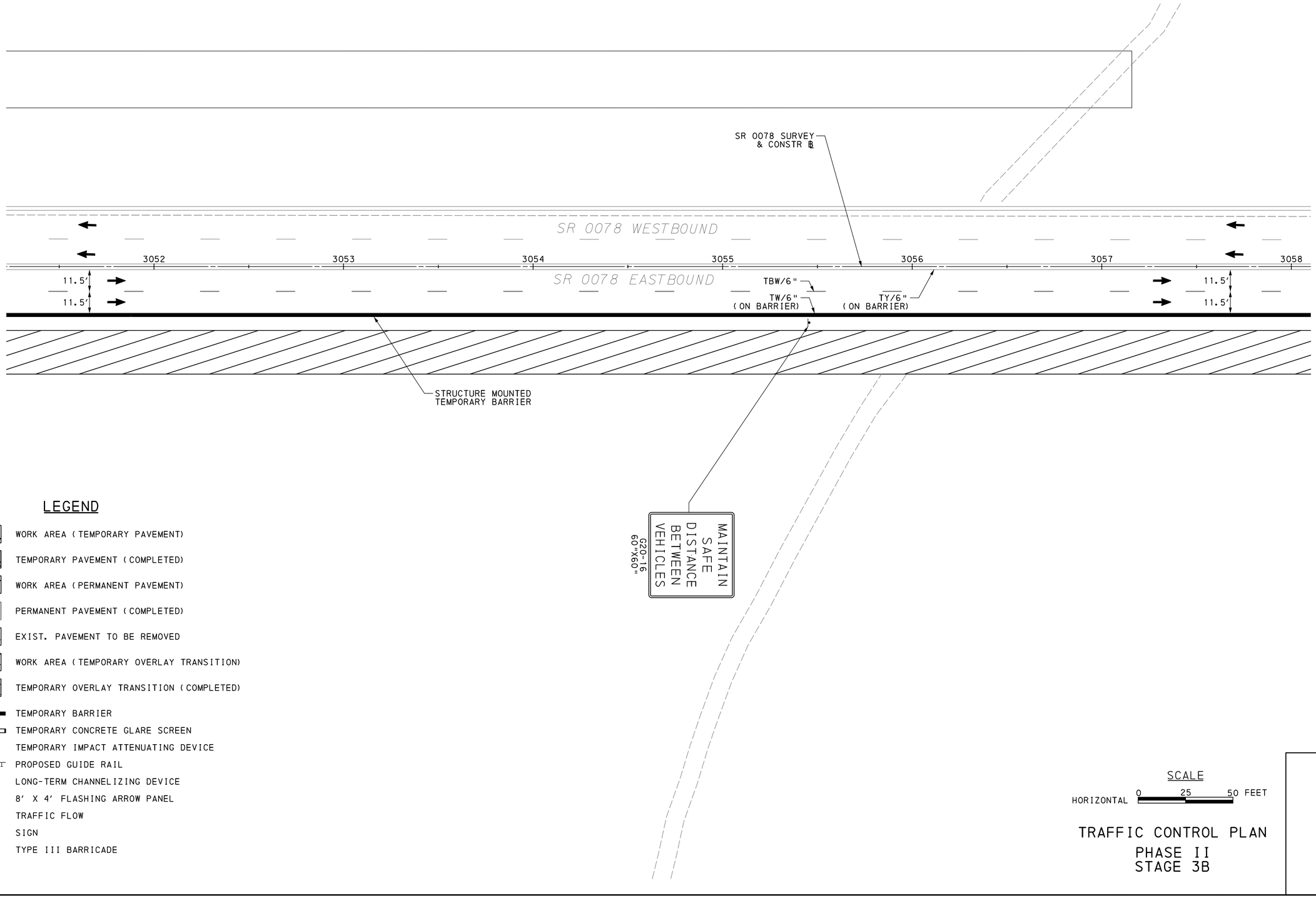
PLOTTED: 8/20/2019 4:58:45 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 134 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 133

SEE SHEET 135




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8′ X 4′ FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 3B

FILENAME: TC-PL-SR78-S3B-10.dgn
OPERATOR: EThomas

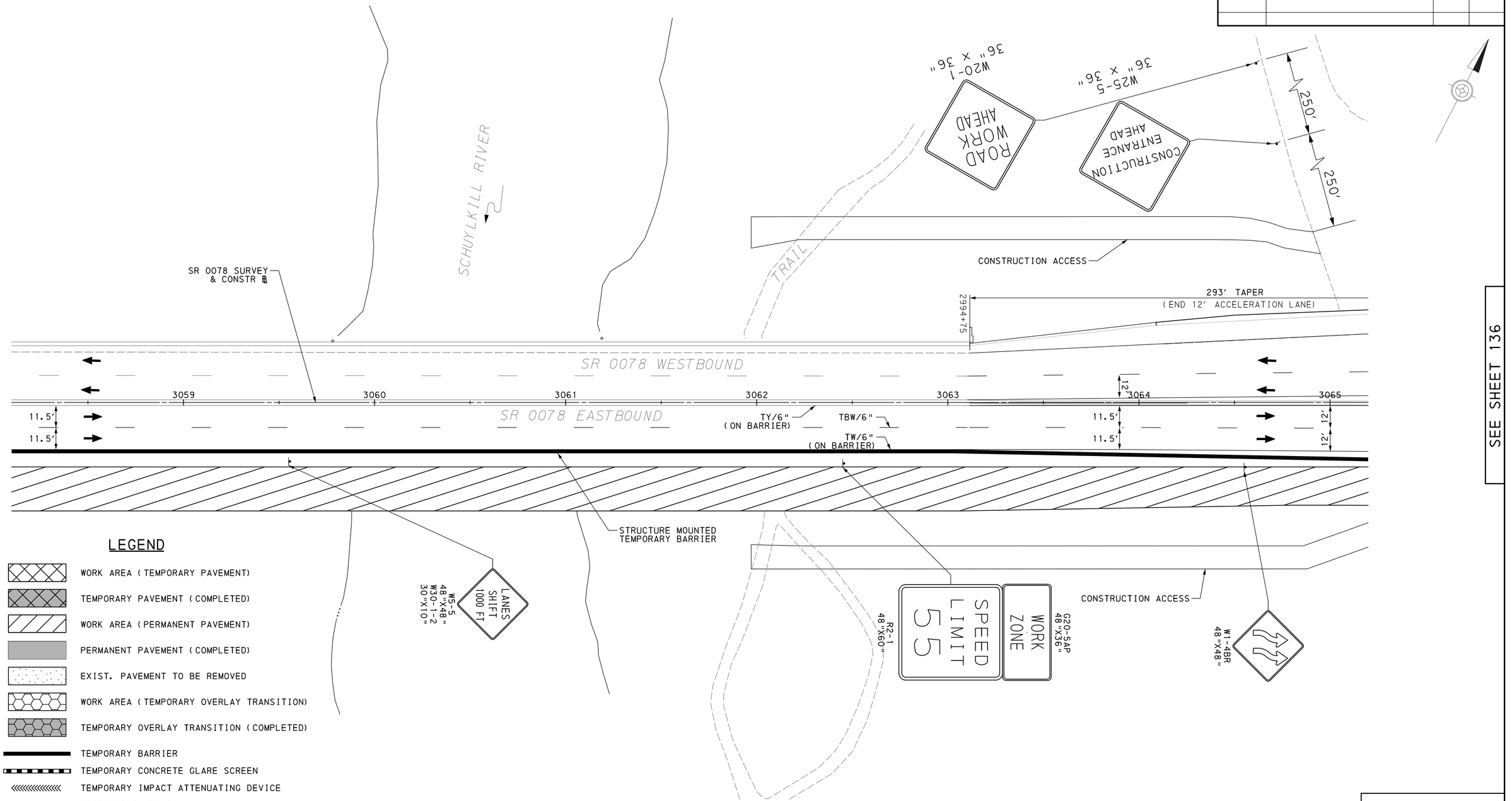
PLOTTED: 8/20/2019 4:58:46 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 135 OF 254 |
| | | | | |
| HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 134

SEE SHEET 136




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8′ X 4′ FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 3B

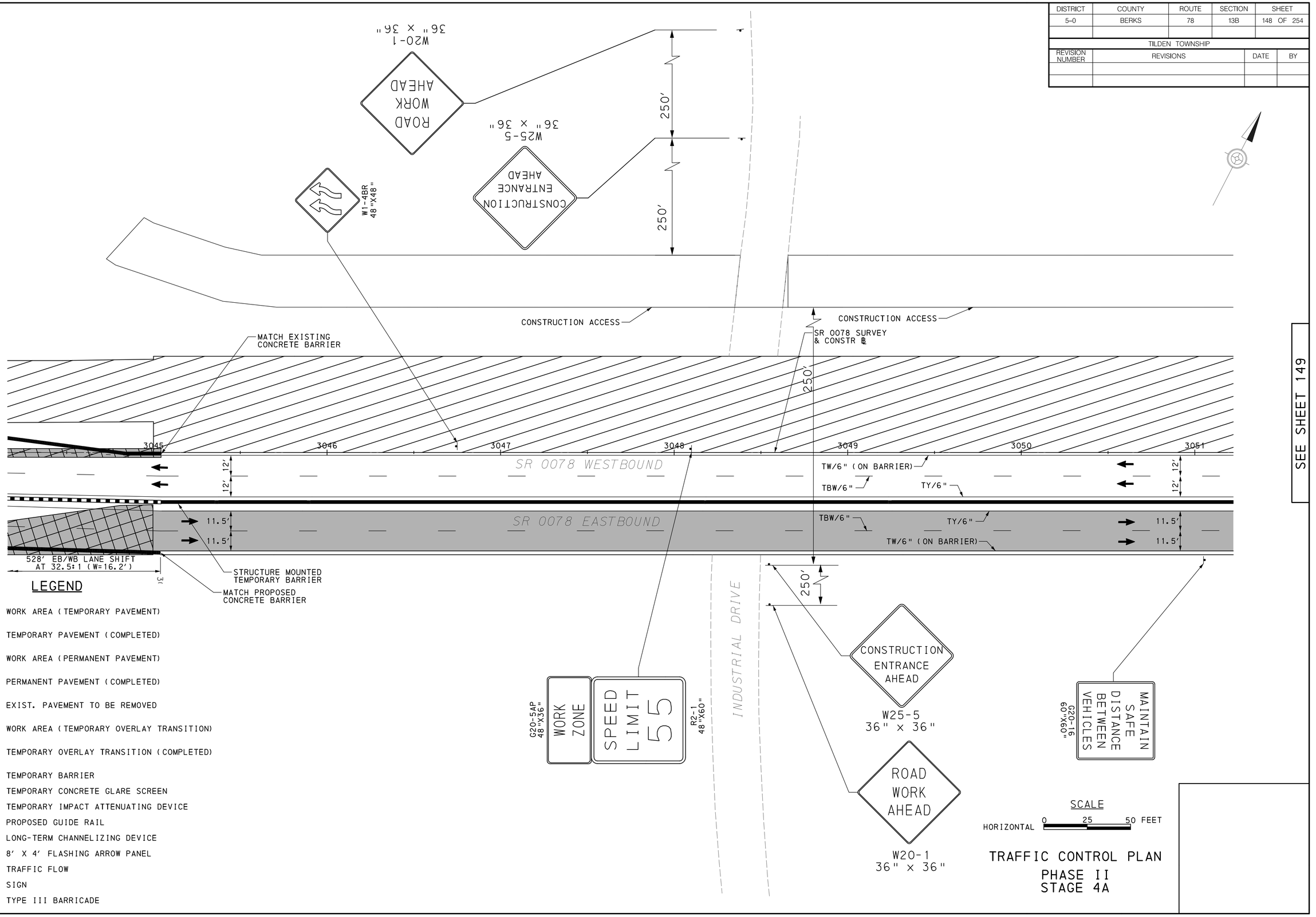
FILENAME: TC-PL-SR78-S3B-11.dgn
OPERATOR: EThomas

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 148 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 147

SEE SHEET 149




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 4A

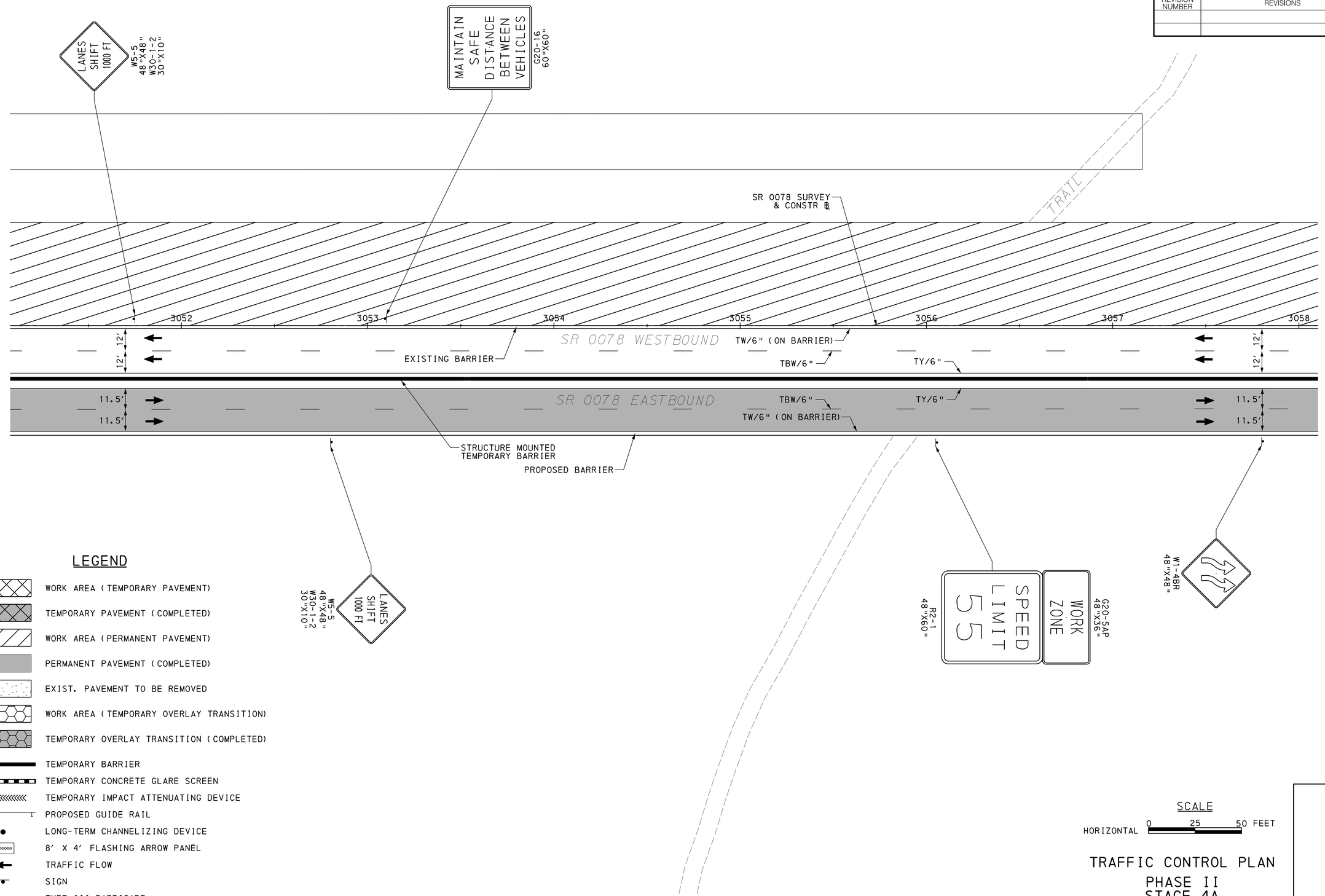
PLOTTED: 8/20/2019 4:59:00 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 149 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 148

SEE SHEET 150




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 4A

FILENAME: TC-PL-SR78-S4A-10.dgn
OPERATOR: EThomas

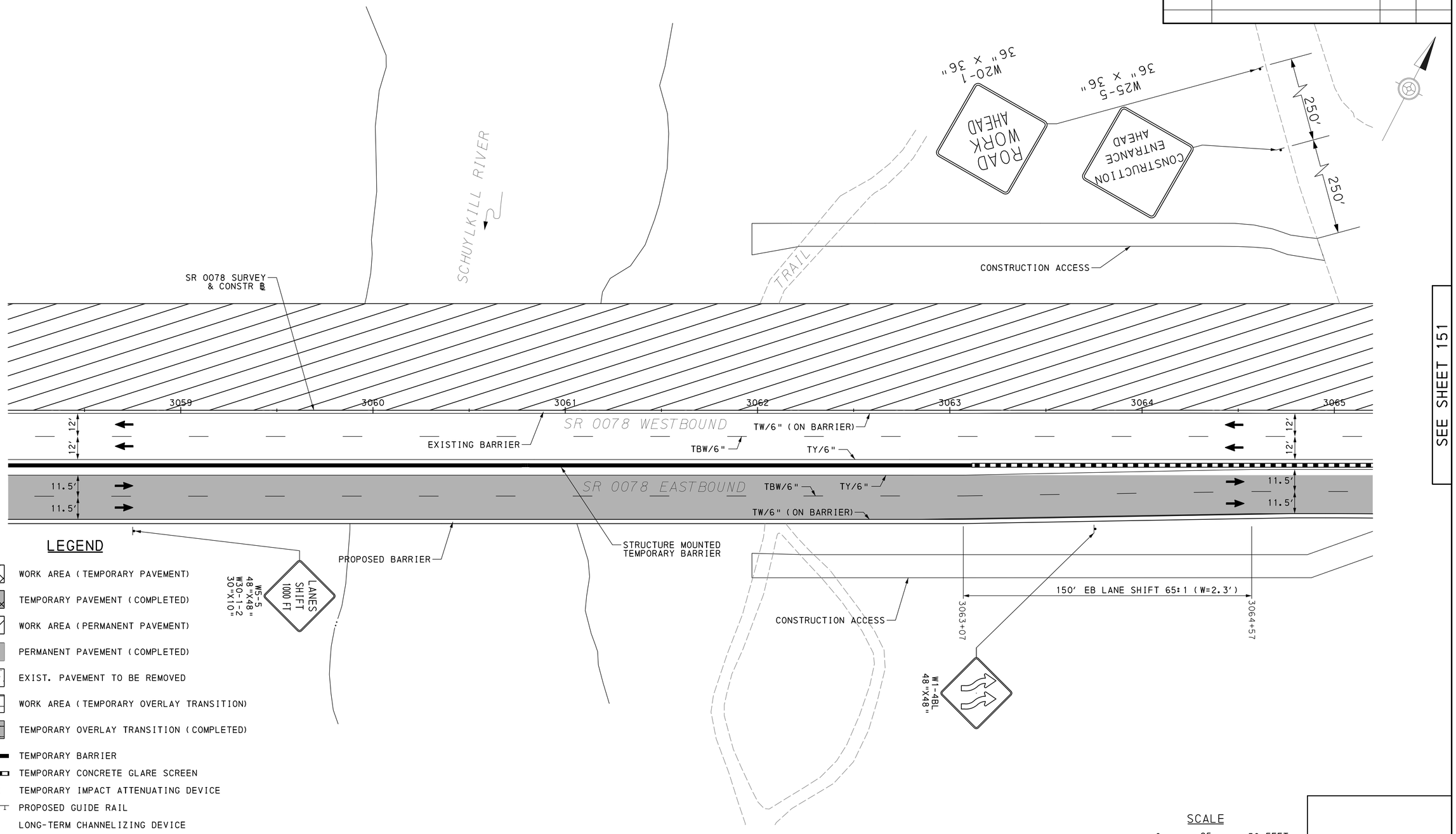
PLOTTED: 8/20/2019 4:59:01 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 150 OF 254 |
| | | | | |
| HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 149

SEE SHEET 151




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 4A

FILENAME: TC-PL-SR78-S4A-11.dgn
OPERATOR: EThomas

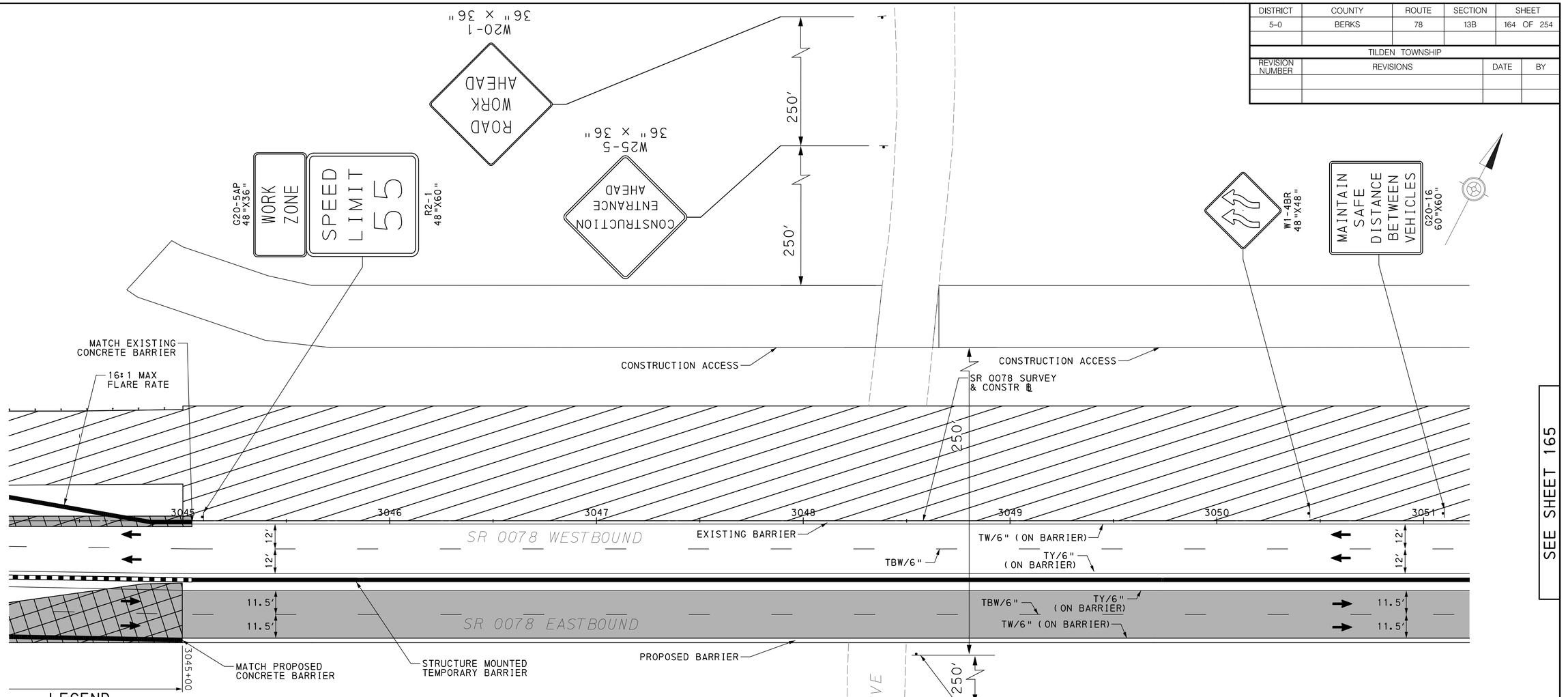
PLOTTED: 8/20/2019 4:59:19 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 164 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 163

SEE SHEET 165




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 4B

FILENAME: TC-PL-SR78-S4B-09.dgn
OPERATOR: EThomas

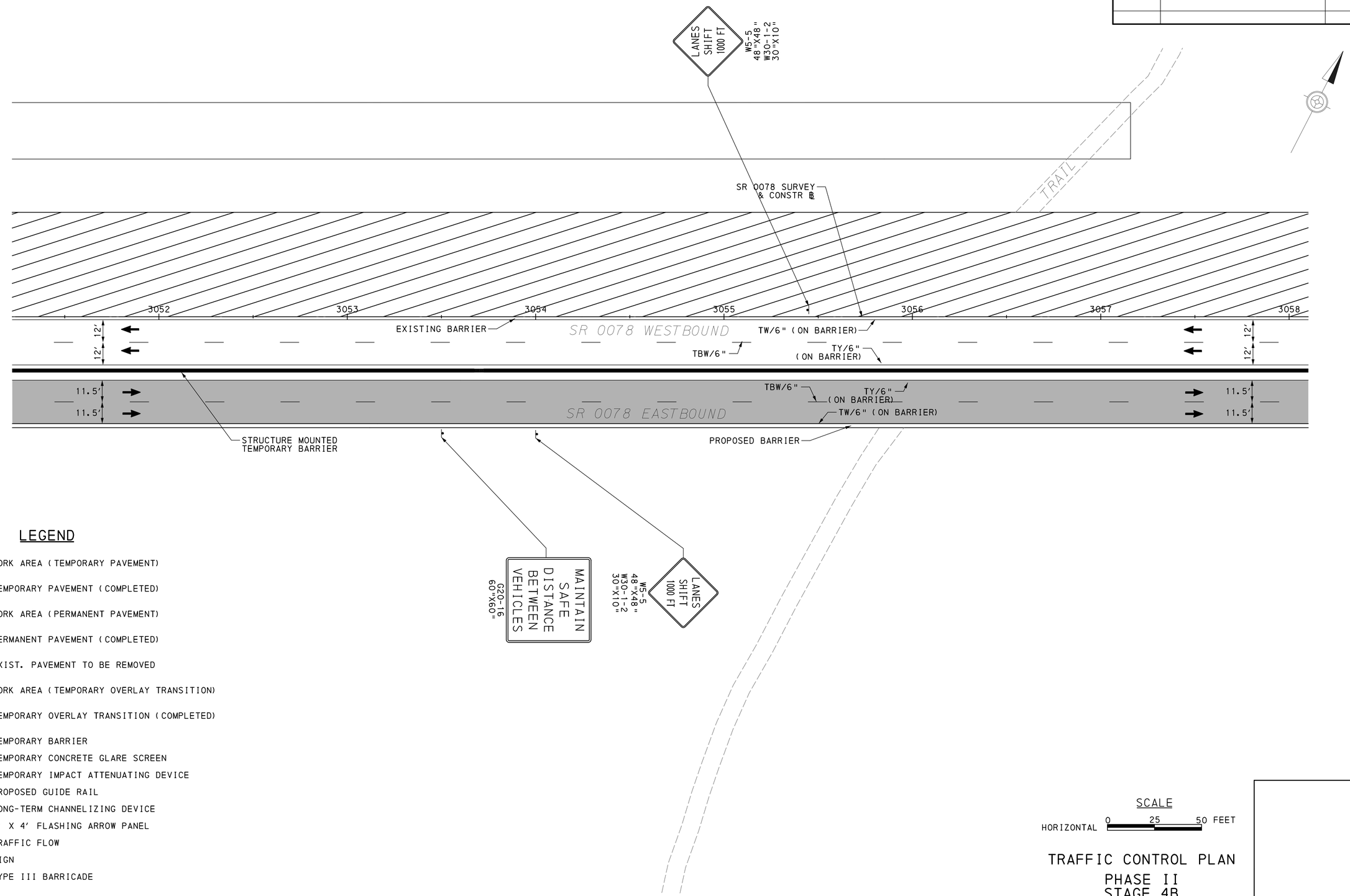
PLOTTED: 8/20/2019 4:59:20 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 165 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 164

SEE SHEET 166




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 4B

FILENAME: TC-PL-SR78-S4B-10.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 4:59:20 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 166 OF 254 |
| | | | | |
| HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 165

SEE SHEET 167

SCHUYLKILL RIVER

TRAIL

W20-1 36" x 36" ROAD WORK AHEAD

W25-5 36" x 36" CONSTRUCTION ENTRANCE AHEAD

250'

250'

CONSTRUCTION ACCESS

SR 0078 SURVEY & CONSTR ℄

3059 3060 3061 3062 3063 3064 3065

EXISTING BARRIER

SR 0078 WESTBOUND

TW/6" (ON BARRIER)

TY/6" (ON BARRIER)

TBW/6"

12' 12'

11.5' 11.5'

SR 0078 EASTBOUND

TY/6" (ON BARRIER)

TBW/6"

TY/6"

TW/6" (ON BARRIER)

PROPOSED BARRIER

STRUCTURE MOUNTED TEMPORARY BARRIER

W1-4BL 48"X48"

R2-1 48"X60" SPEED LIMIT 55

G20-5AP 48"X36" WORK ZONE

150' EB LANE SHIFT 65:1 (W=2.3')

3063+07

3064+57

CONSTRUCTION ACCESS

## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 4B

FILENAME: TC-PL-SR78-S4B-11.dgn

OPERATOR: EThomas

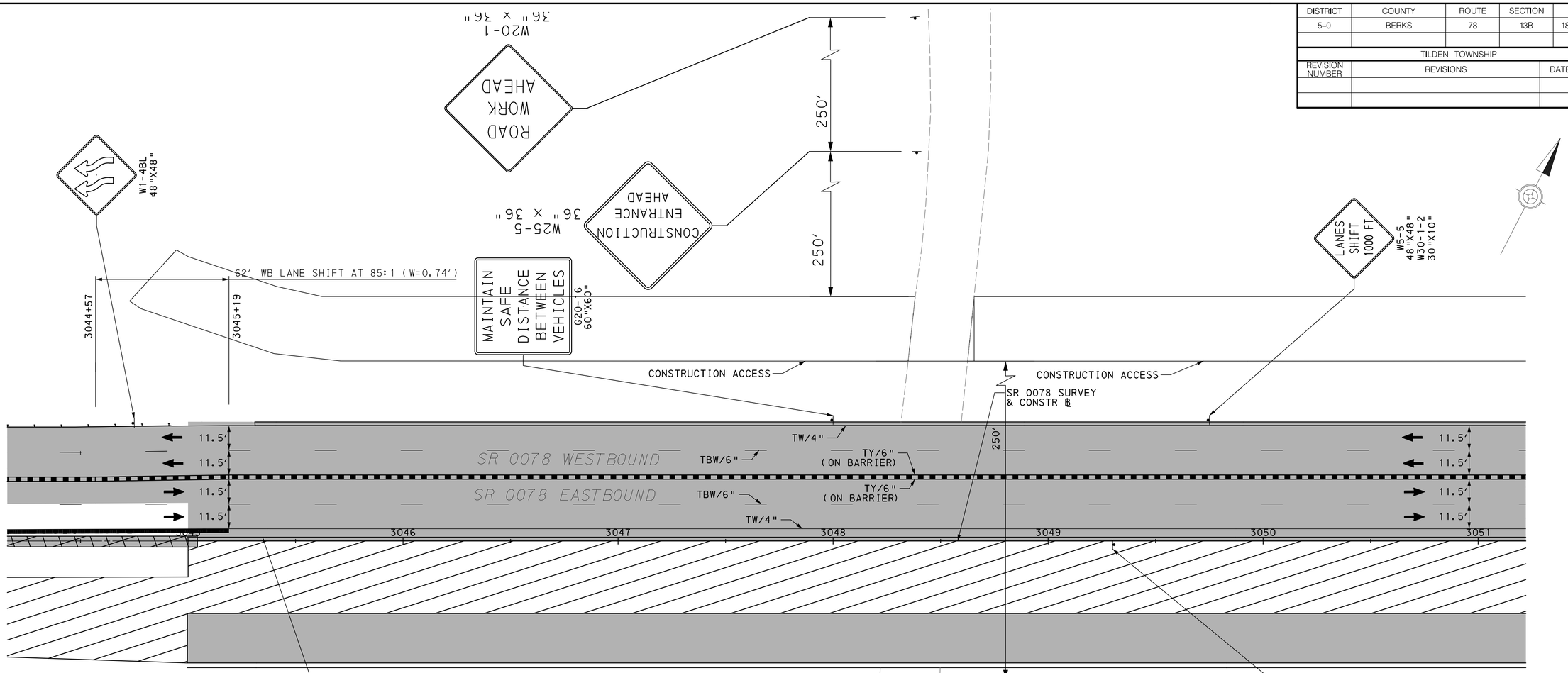
PLOTTED: 8/20/2019 4:59:34 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 180 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 179

SEE SHEET 181




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 5

FILENAME: TC-PL-SR78-S5-10.dgn
OPERATOR: EThomas

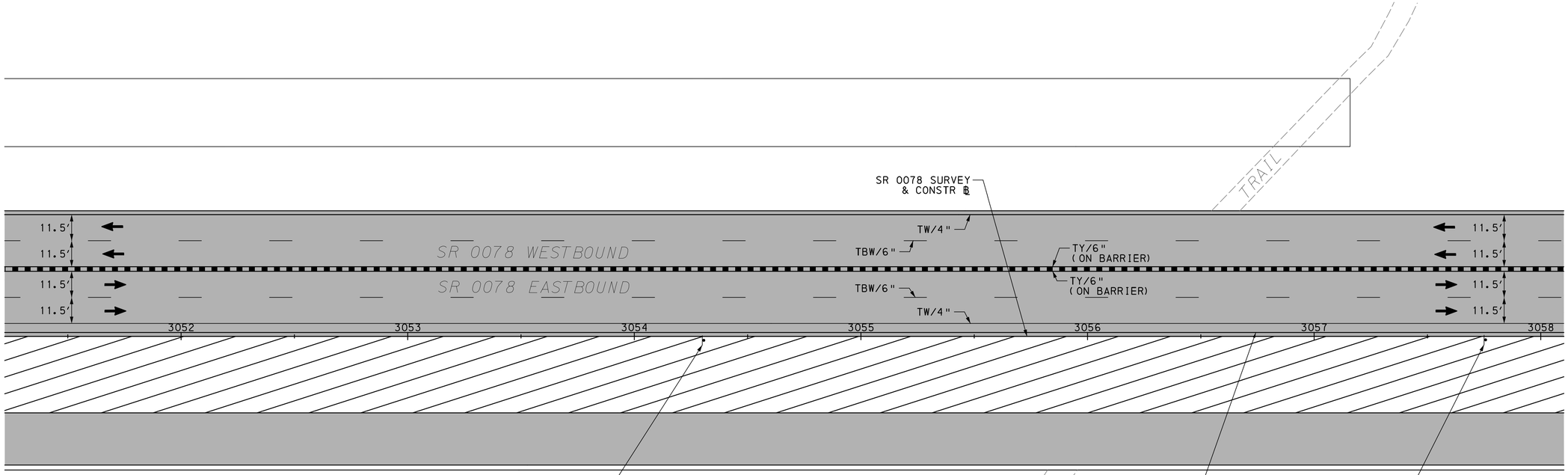
PLOTTED: 8/20/2019 4:59:35 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 181 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 180

SEE SHEET 182




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8′ X 4′ FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

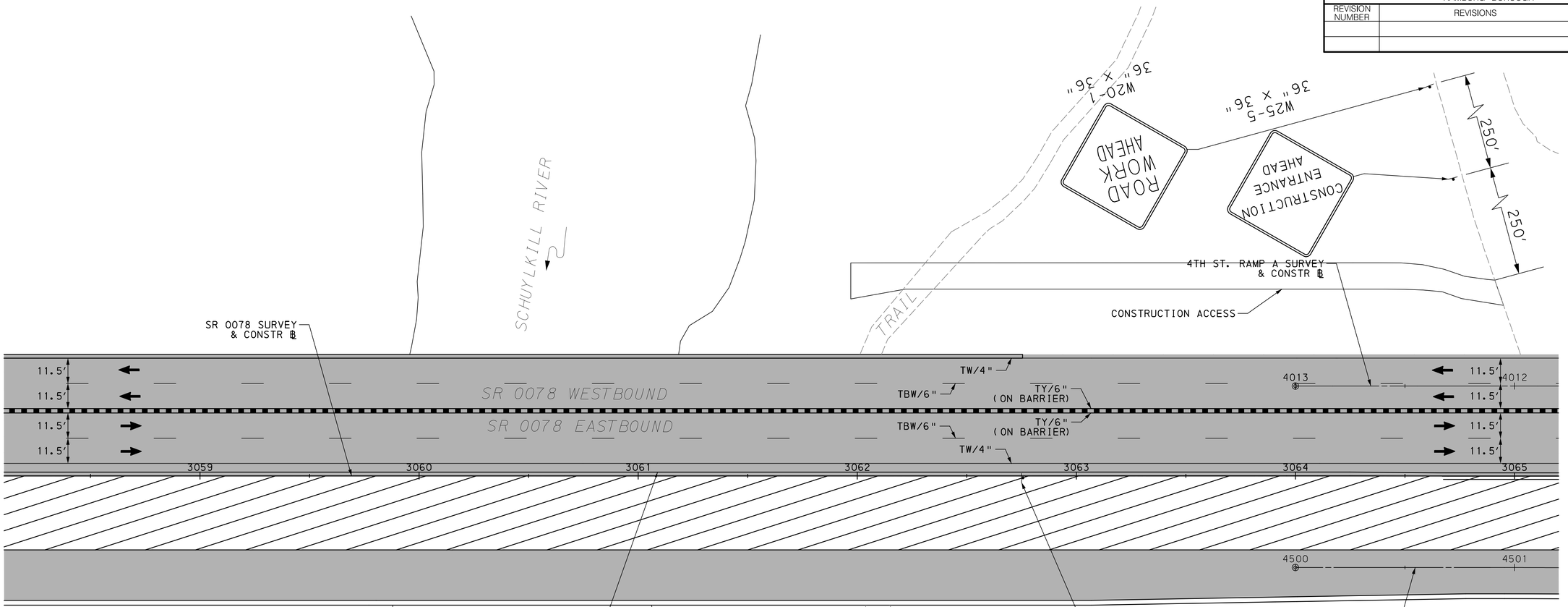
HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 5

FILENAME: TC-PL-SR78-55-11.dgn
OPERATOR: EThomas

SEE SHEET 181

SEE SHEET 183




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8′ X 4′ FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 5

PLOTTED: 8/20/2019 4:59:36 PM
FILENAME: TC-PL-SR78-S5-12.dgn
OPERATOR: EThomas

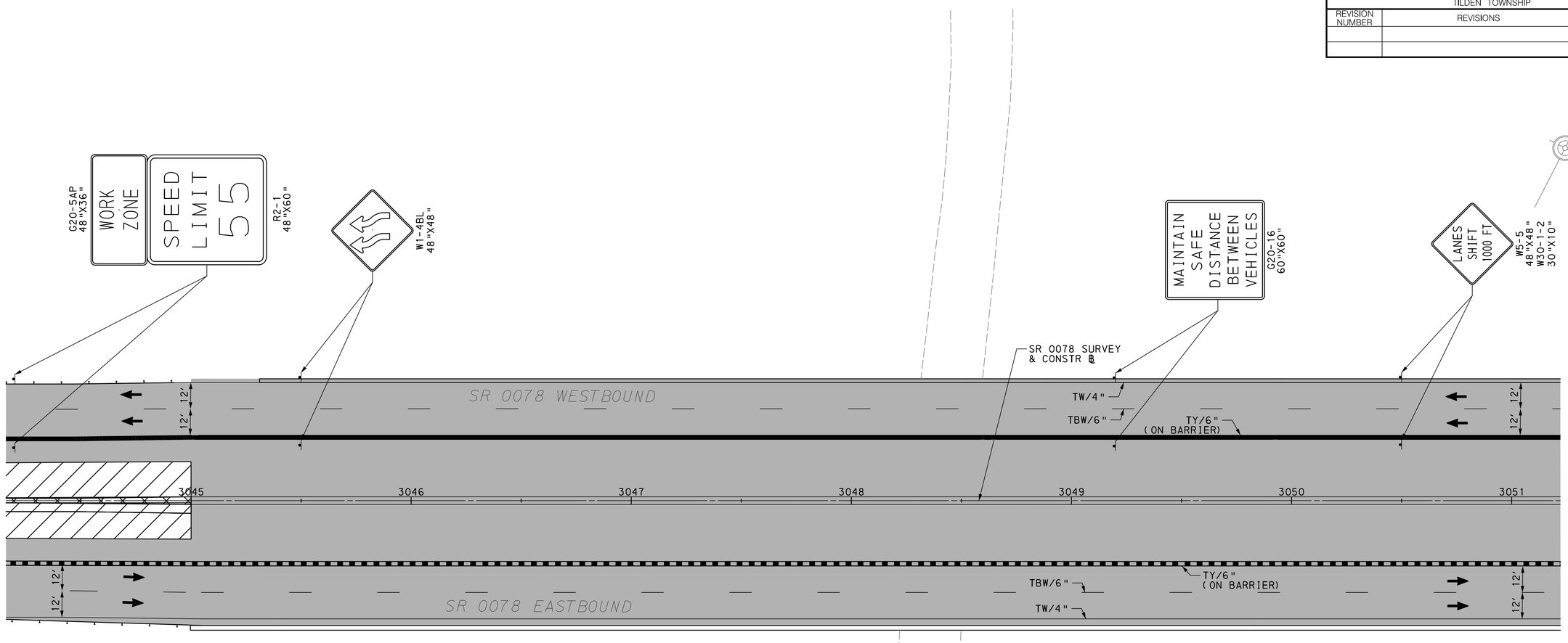
PLOTTED: 8/20/2019 4:59:48 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 195 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 194

SEE SHEET 196




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 6

FILENAME: TC-PL-SR78-S6-09.dgn
OPERATOR: EThomas

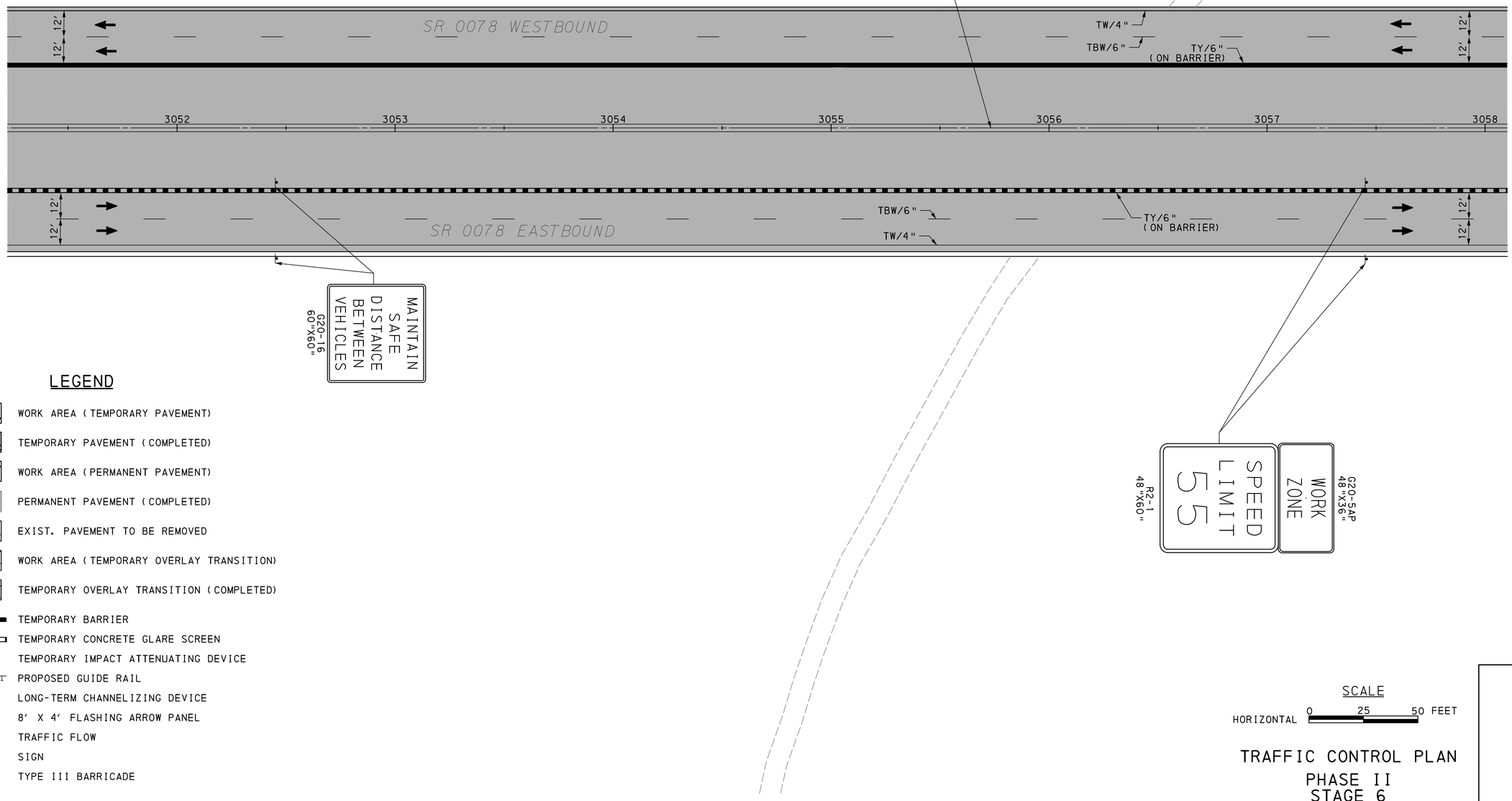
PLOTTED: 8/20/2019 4:59:49 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 196 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 195

SEE SHEET 197




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 6

FILENAME: TC-PL-SR78-S6-10.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 4:59:50 PM

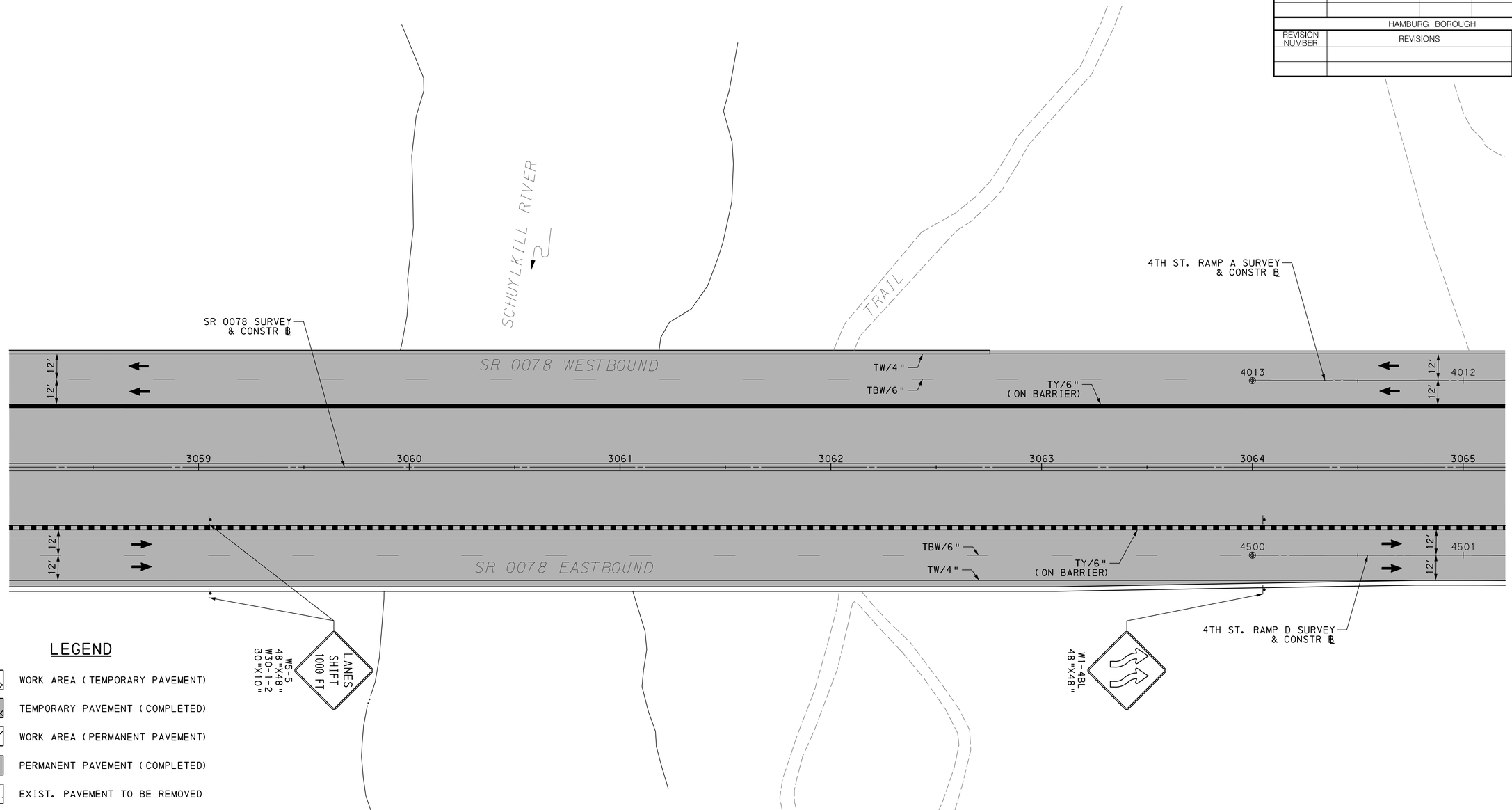
| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 197 OF 254 |
| | | | | |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 196

SEE SHEET 198




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 6

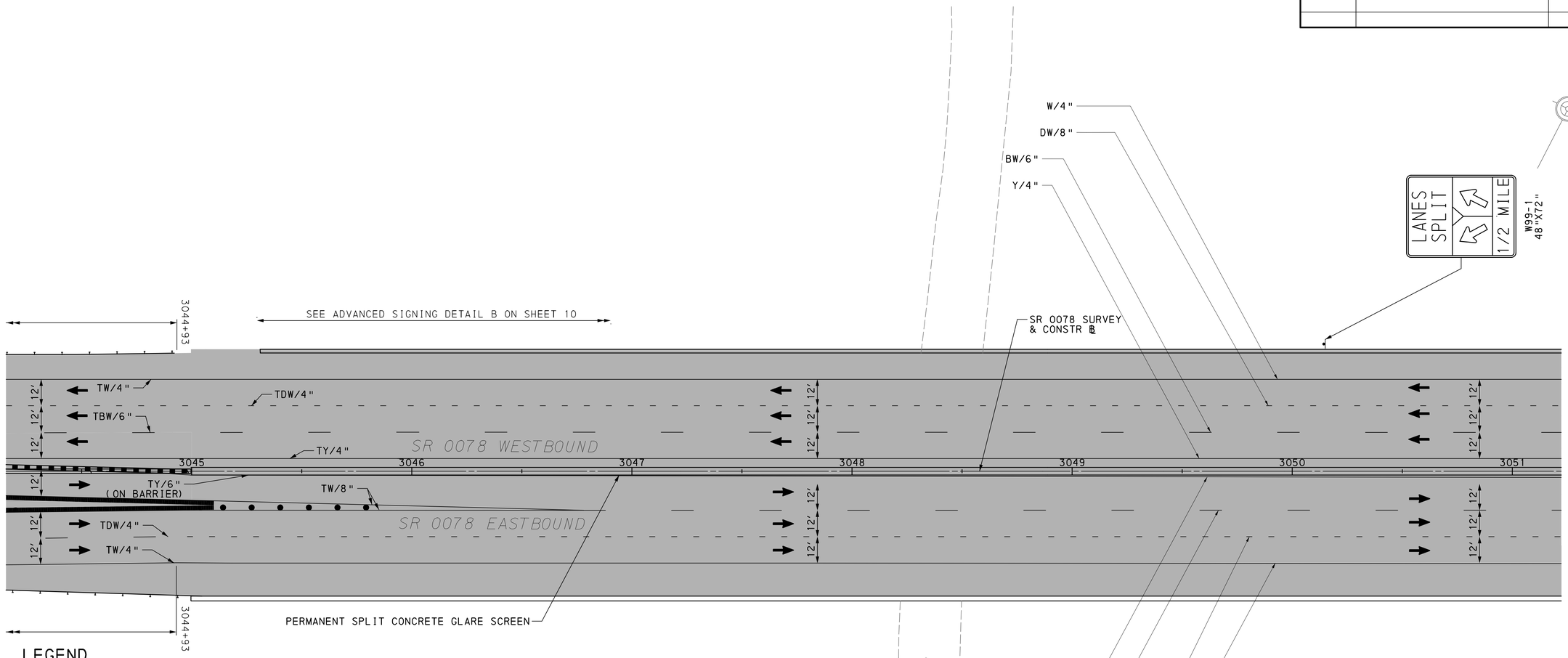
FILENAME: TC-PL-SR78-S6-11.dgn
OPERATOR: EThomas

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 210 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 209

SEE SHEET 211




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7A

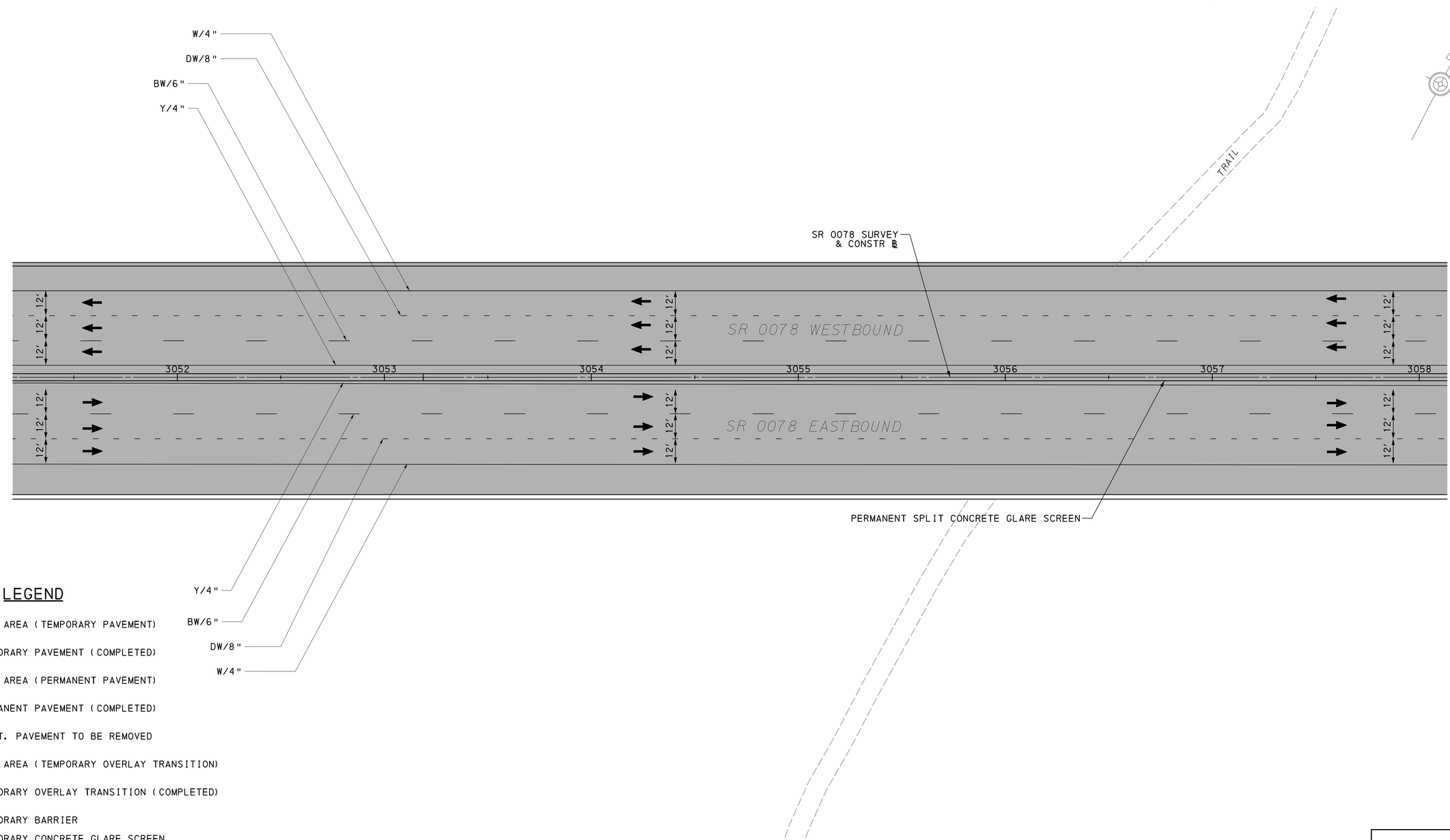
PLOTTED: 8/20/2019 5:00:10 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 211 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 210

SEE SHEET 212




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7A

FILENAME: TC-PL-SR78-S7A-11.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 5:00:11 PM

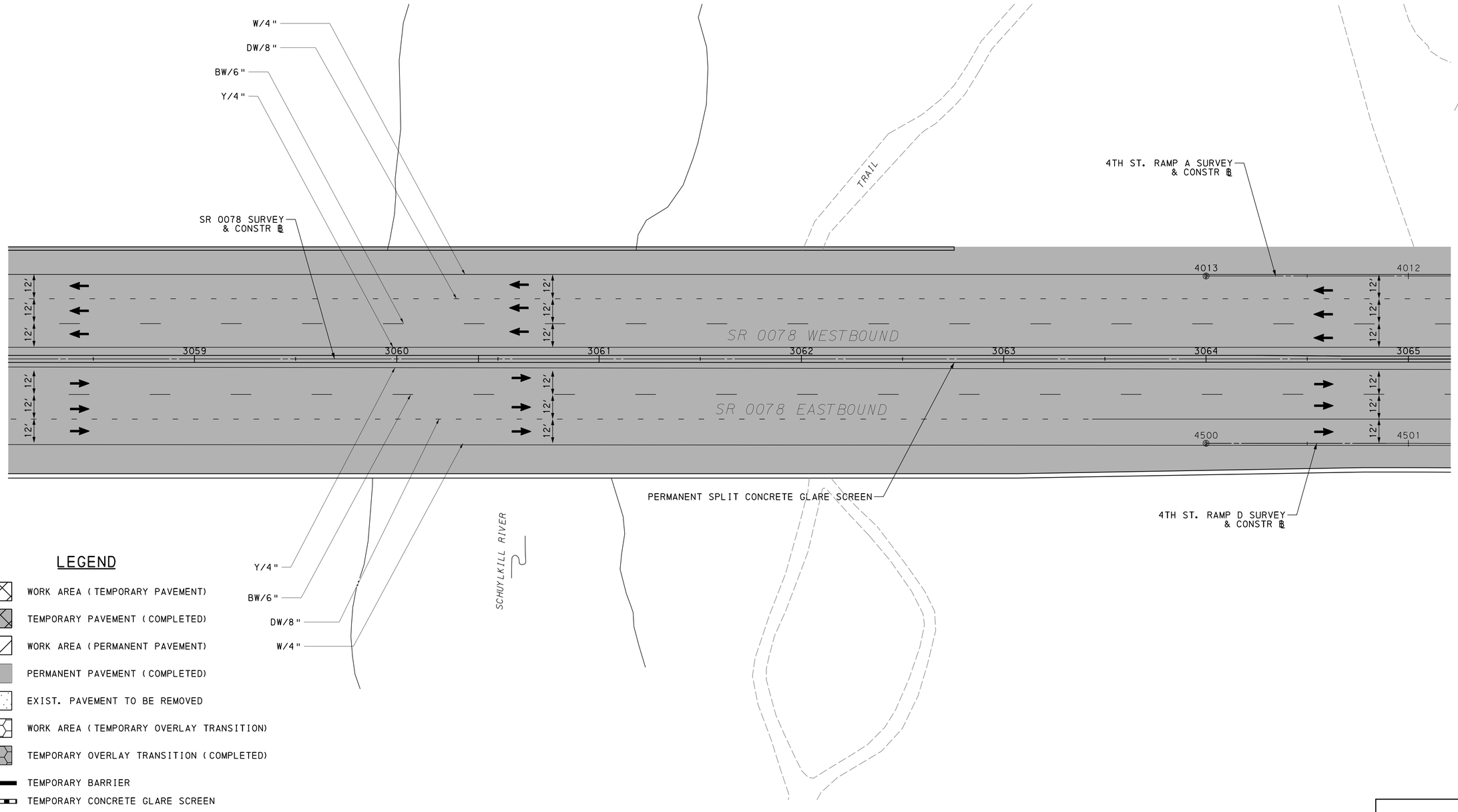
| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 212 OF 254 |
| | | | | |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 211

SEE SHEET 213




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7A

FILENAME: TC-PL-SR78-S7A-12.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 5:00:21 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 223 OF 254 |
| | | | | |

TILDEN TOWNSHIP

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 222

SEE SHEET 224

SEE ADVANCED SIGNING DETAIL B ON SHEET 10

SR 0078 SURVEY & CONSTR ℄

W/4"
DW/8"
BW/6"
Y/4"

TW/4"
TDW/4"
TBW/6"
TY/4"

SR 0078 WESTBOUND

SR 0078 EASTBOUND

3045 3046 3047 3048 3049 3050 3051

12' 12' 12'

300' EB LANE TRANSITION TAPER

3045+00

PERMANENT SPLIT CONCRETE GLARE SCREEN

INDUSTRIAL DRIVE

## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7B

FILENAME: TC-PL-SR78-S7B-09.dgn
OPERATOR: EThomas

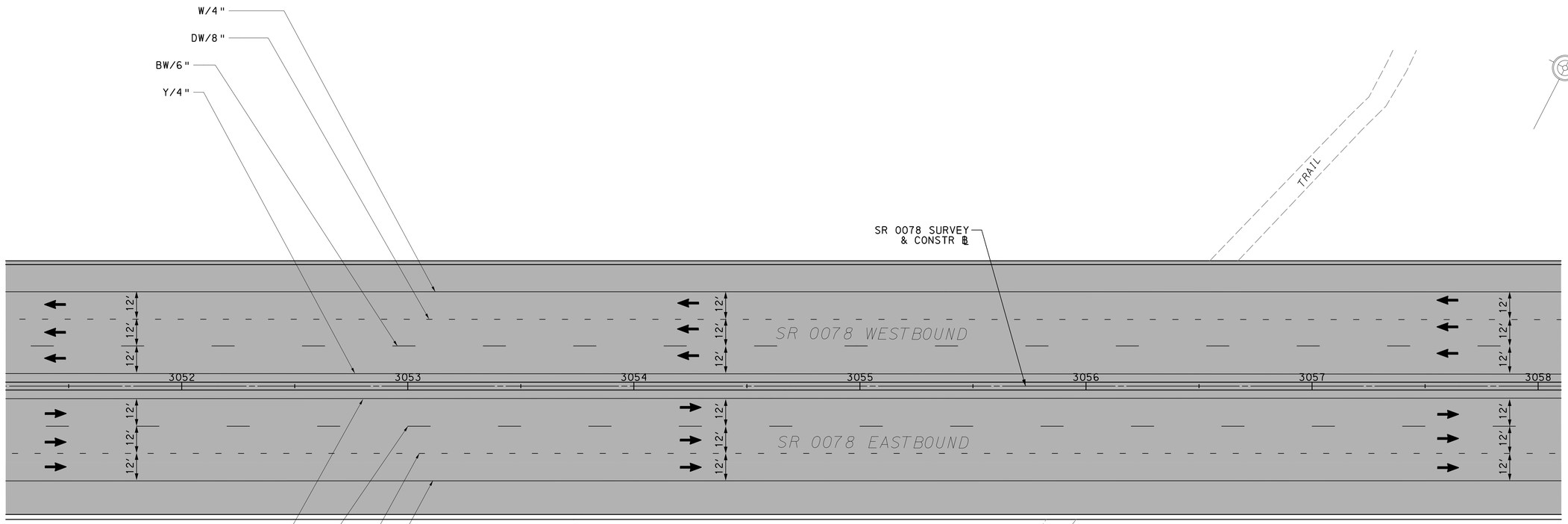
PLOTTED: 8/20/2019 5:00:22 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 224 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 223

SEE SHEET 225




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7B

FILENAME: TC-PL-SR78-S7B-10.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 5:00:23 PM

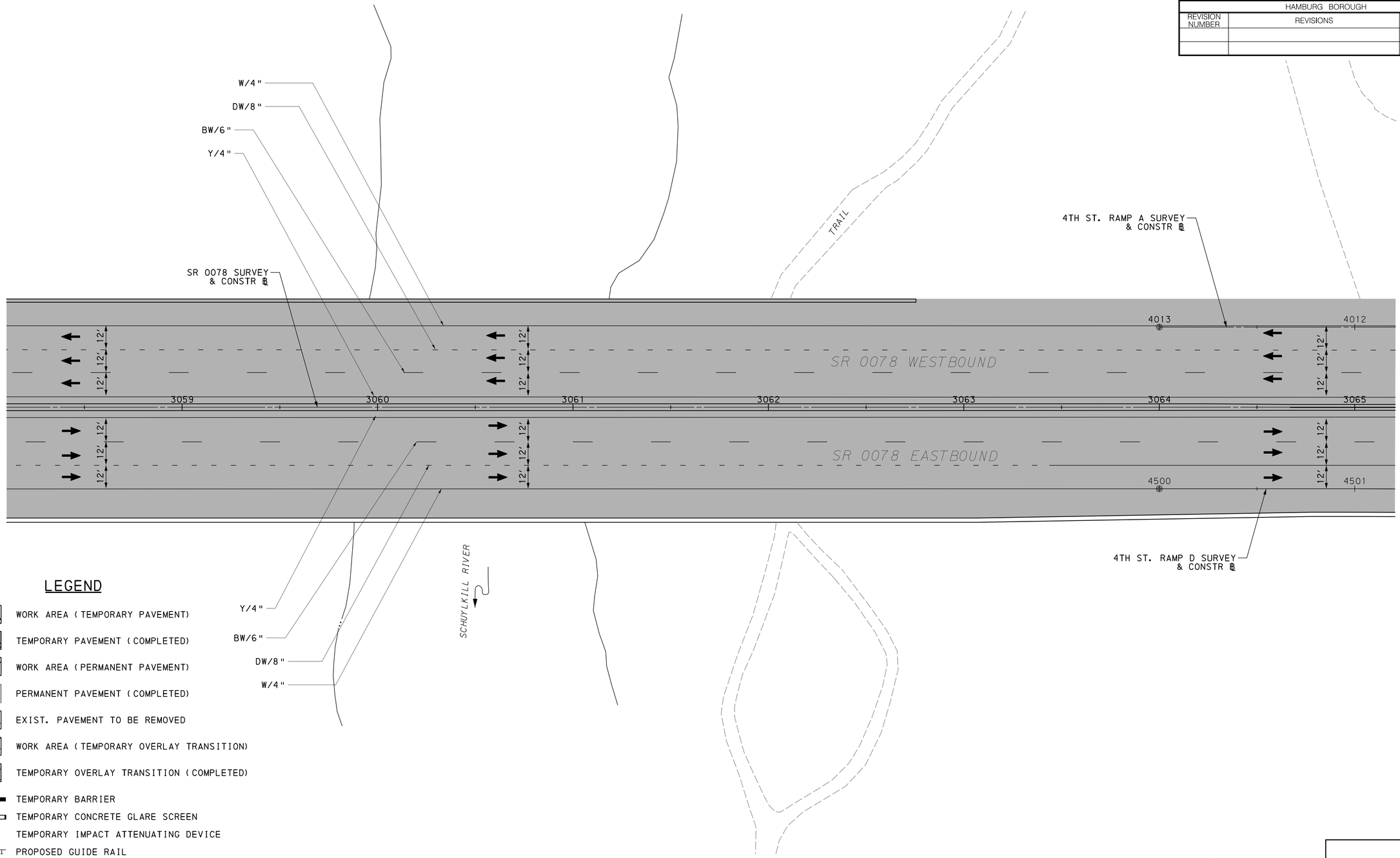
| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 225 OF 254 |
| | | | | |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 224

SEE SHEET 226




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

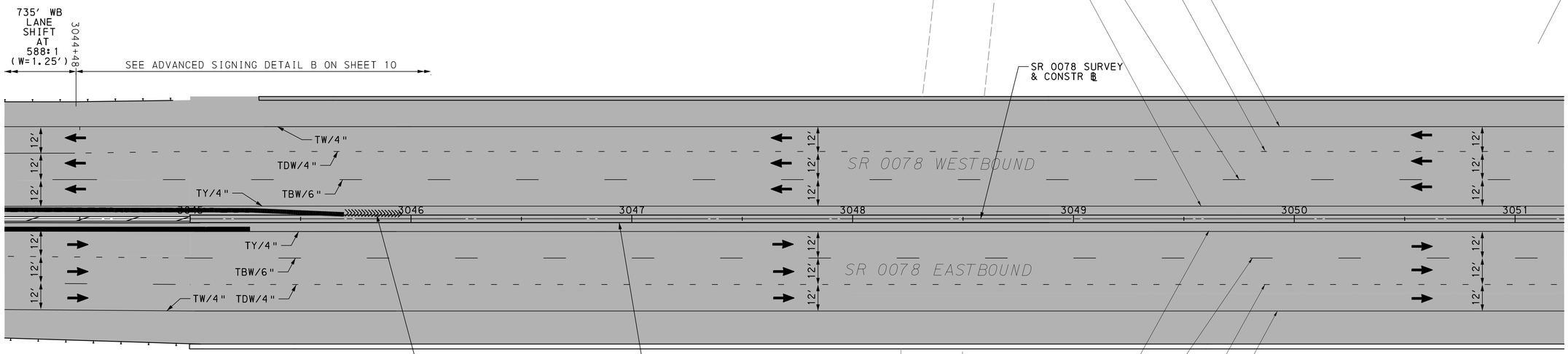
# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7B

FILENAME: TC-PL-SR78-S7B-11.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 5:00:34 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 236 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |




SEE SHEET 235

SEE SHEET 237

## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7C

FILENAME: TC-PL-SR78-S7C-09.dgn
OPERATOR: EThomas

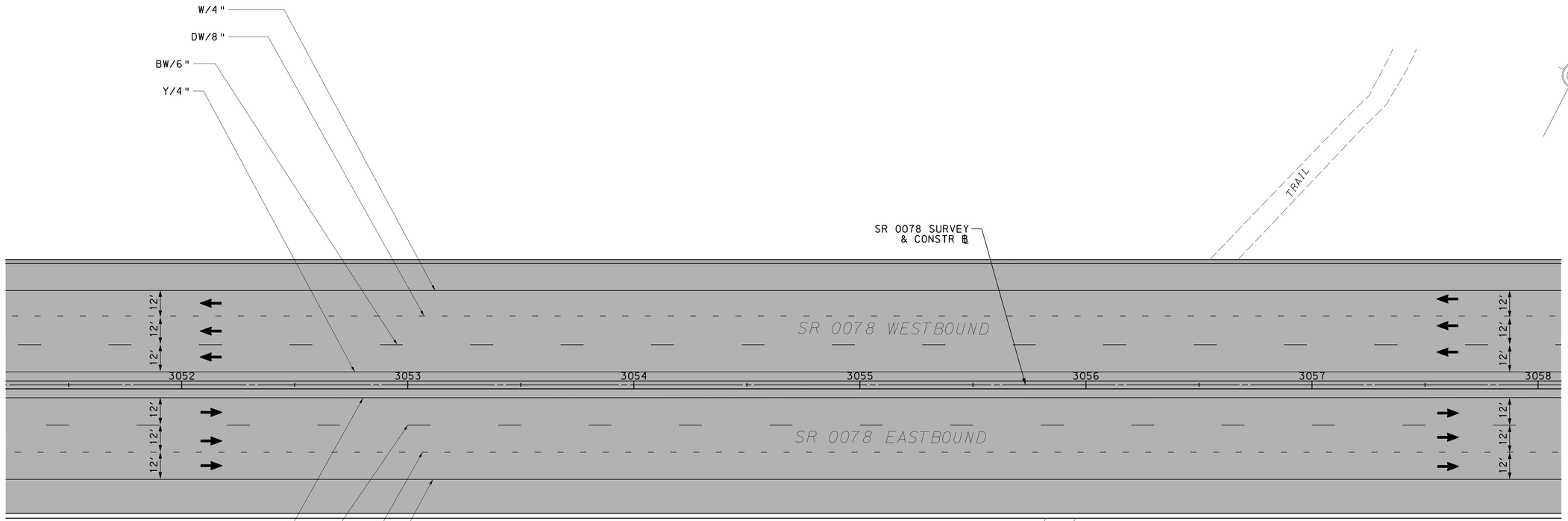
PLOTTED: 8/20/2019 5:00:35 PM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 237 OF 254 |
| | | | | |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 236

SEE SHEET 238




## LEGEND

- WORK AREA (TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT (COMPLETED)
- WORK AREA (PERMANENT PAVEMENT)
- PERMANENT PAVEMENT (COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA (TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION (COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7C

FILENAME: TC-PL-SR78-STC-10.dgn
OPERATOR: EThomas

PLOTTED: 8/20/2019 5:00:36 PM

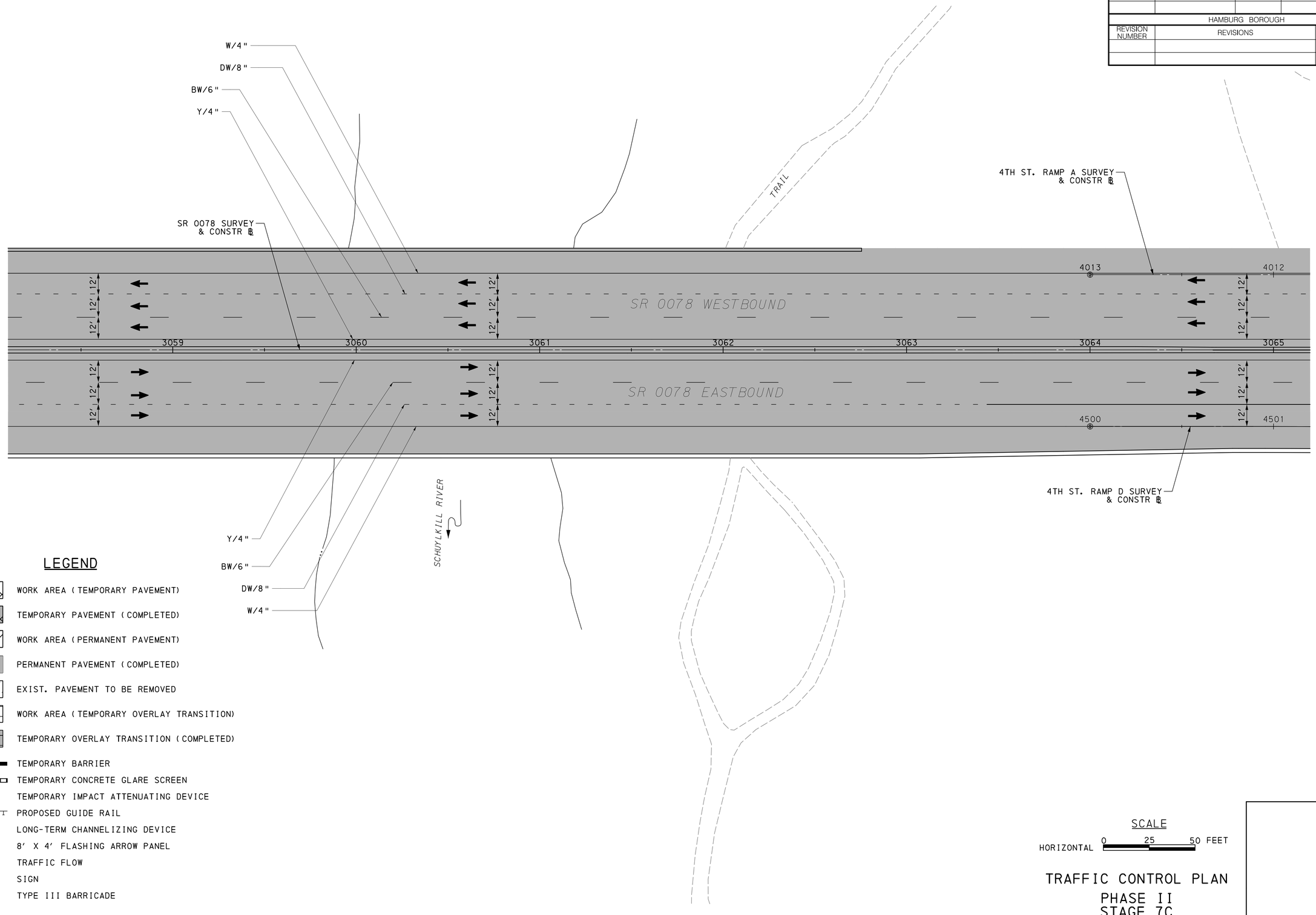
| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 238 OF 254 |
| | | | | |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 237

SEE SHEET 239




## LEGEND

- WORK AREA ( TEMPORARY PAVEMENT)
- TEMPORARY PAVEMENT ( COMPLETED)
- WORK AREA ( PERMANENT PAVEMENT)
- PERMANENT PAVEMENT ( COMPLETED)
- EXIST. PAVEMENT TO BE REMOVED
- WORK AREA ( TEMPORARY OVERLAY TRANSITION)
- TEMPORARY OVERLAY TRANSITION ( COMPLETED)
- TEMPORARY BARRIER
- TEMPORARY CONCRETE GLARE SCREEN
- TEMPORARY IMPACT ATTENUATING DEVICE
- PROPOSED GUIDE RAIL
- LONG-TERM CHANNELIZING DEVICE
- 8' X 4' FLASHING ARROW PANEL
- TRAFFIC FLOW
- SIGN
- TYPE III BARRICADE

SCALE

HORIZONTAL 0 25 50 FEET

# TRAFFIC CONTROL PLAN
## PHASE II
## STAGE 7C

FILENAME: TC-PL-SR78-S7C-11.dgn
OPERATOR: EThomas

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 60 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 74

SEE SHEET 59

SR 0078 WESTBOUND

SR 0078 EASTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

RAMP C

RAMP C SURVEY & CONSTRUCTION ℄

EXISTING RAMP C (TO BE REMOVED)

EXISTING RAMP A (TO BE REMOVED)

TEMPORARY DRAINAGE PIPE

18" PIPE

ROCK EMBANKMENT

11-FES72

11-INT2

T-IN320

UNT W6 TO SCHUYLKILL RIVER

REQUIRED SLOPE EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED AERIAL EASEMENT

TOPSOIL STOCKPILE

POB STA 300+00.00

PC

EXIT 29A SR 61 SOUTH READING 1/4 MILE

EXIT 29B SR 61 NORTH POTTSVILLE RT

EXIT 29B RT

EXIT 30 HAMBURG 1/2 MILE

READING BLUE MOUNTAIN & NORTHERN RAILROAD CO., A CORPORATION OF THE COMMONWEALTH

READING BLUE MOUNTAIN & NORTHERN RAILROAD CO.

SCHUYKILL RIVER

RIGHT-OF-WAY FENCE

DENSE BRUSH AND TREES

RIPRAP

MILE 29.7

REFLR (TYP)

MERGE RIGHT

YIELD/ SR 8014 760 END RAMP

YIELD

LINE F

15'±

T-IN320
STA 304+43 57.1' LT
1 EA TYPE M TOP UNIT AND GRATE
1 EA STANDARD INLET BOX, HEIGHT </=10'
TG ELEV 409.00
INVERT ELEV 404.50(N)

SCALE
0 25 50 FEET

# STAGE 1 EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
QINGYUAN LIU
PE059920

\\usphltp002\data\Projects\60284095 178-SR61(90) CADD\005_Hydrology-Drainage\Sheets\ESPC\Stage 1\E02657-ES_ST01-PL-008.dgn
7/23/2019 11:01:30 AM
User:onella
AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 80 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 94

SEE SHEET 79

SEE SHEET 95

SR 0078 WESTBOUND

SR 0078 EASTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

RAMP C SURVEY & CONSTRUCTION ℄

RAMP C

EXISTING RAMP C (TO BE REMOVED)

EXISTING RAMP A (TO BE REMOVED)

UNT W6 TO SCHUYLKILL RIVER

RIGHT-OF-WAY FENCE

ROCK EMBANKMENT

REQUIRED SLOPE EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED AERIAL EASEMENT

READING BLUE MOUNTAIN & NORTHERN RAILROAD CO., A CORPORATION OF THE COMMONWEALTH

POB STA 300+00.00

PC

EXIT 29A SR 61 SOUTH READING 1/4 MILE
EXIT 29B SR 61 NORTH POTTSVILLE RT

EXIT 29B RT

EXIT 30 HAMBURG 1/2 MILE

SCHUYKILL RIVER

MILE 29.7

TOPSOIL STOCKPILE

SCALE
0 25 50 FEET

# STAGE 2
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

AECOM User:onella \\usphltp002\data\Projects\60284095 178-SR61(90) CADD\(05_Hydrology-Drainage\Sheets\ESPC\Stage 2\E02657-ES_ST02-PL-008.dgn 7/23/2019 11:02:45 AM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 100 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 114

SEE SHEET 99

SEE SHEET 115

SR 0078 WESTBOUND

SR 0078 EASTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

RAMP C SURVEY & CONSTRUCTION ℄

RAMP C

EXISTING RAMP C (TO BE REMOVED)

EXISTING RAMP A (TO BE REMOVED)

EXIT 29B RT

EXIT 29A SR 61 SOUTH READING 1/4 MILE
EXIT 29B SR 61 NORTH POTTSVILLE RT

EXIT 30 HAMBURG 1/2 MILE

MILE 29.7

REFLR (TYP)

MERGE RIGHT

YIELD/ SR 8014 760 END RAMP

YIELD

RIGHT-OF-WAY FENCE

UNT W6 TO SCHUYLKILL RIVER

SCHUYKILL RIVER

ROCK EMBANKMENT

RIPRAP

DENSE BRUSH AND TREES

READING BLUE MOUNTAIN & NORTHERN RAILROAD CO., A CORPORATION OF THE COMMONWEALTH

READING BLUE MOUNTAIN & NORTHERN RAILROAD CO.

LINE F

15'±

POB STA 300+00.00

PC

REQUIRED SLOPE EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED AERIAL EASEMENT

TOPSOIL STOCKPILE

CFS

LOD

NPDES

SCALE
0 25 50 FEET

# STAGE 3
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
QINGYUAN LIU
PE059920

\\usphlfp002\data\Projects\60284095 178-SR61(90) CADD\(05_Hydrology-Drainage\Sheets\ESPC\Stage 3\E02657-ES_ST03-PL-008.dgn
7/23/2019 11:04:06 AM
User:onella
AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 123 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 133

SEE SHEET 122

SEE SHEET 124

SEE SHEET 134

NPDES
LOD
CFS
SJS
RAMP C SURVEY & CONSTRUCTION ℄
EXISTING RAMP C (TO BE REMOVED)
RAMP C
EXISTING RAMP A (TO BE REMOVED)
RAMP A
SR 0078 WESTBOUND
SR 0078 EASTBOUND
SR 0078 SURVEY & CONSTRUCTION ℄
UNT W6 TO SCHUYLKILL RIVER
RIGHT-OF-WAY FENCE
REQUIRED SLOPE EASEMENT
TEMPORARY CONSTRUCTION EASEMENT
REQUIRED AERIAL EASEMENT
ROCK EMBANKMENT
RIPRAP
REFLR (TYP)
MERGE RIGHT
YIELD
TOPSOIL STOCKPILE
EXIT 29A SR 61 SOUTH READING 1/4 MILE
EXIT 29B SR 61 NORTH POTTSVILLE RT
READING BLUE MOUNTAIN & NORTHERN RAILROAD CO., A CORPORATION OF THE COMMONWEALTH
PC
PCS 1+30+00.00
300
301
302
303
304
305
3040
3041
3042
3043
3044
3045
3046
3047

SCALE
0 25 50 FEET

# STAGE 4
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

11:06:00 AM 7/23/2019 \\uspnlfp0002\data\Projects\60284095 I78-SR61)(00 CADD\005_Hydrology-Drainage\Sheets\ESPC\Stage 4\E02657-ES_ST04-PL-008.dgn User:onella AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 124 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 123

SEE SHEET 125

TEMPORARY CONSTRUCTION EASEMENT

TEMPORARY STREAM CROSSING WITH PIPES

WETLAND E

WETLAND C

WETLAND B

WETLAND D

LOW SHOULDER/NO PARKING

LEFT TURN WITH SIDE ROAD RIGHT

20 MPHO PARKING

SSMH 7

SSMH ORIM EL. 376.63

10" PVC

DENSE BRUSH AND TREES

RIPRAP

SR 0078 WESTBOUND

SR 0078 EASTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

UNDERGROUND UTIL

TOPSOIL STOCKPILE

REQUIRED AERIAL EASEMENT

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

100-YR FLOODPLAIN BOUNDARY

SPEED LIMIT 40 NO PARKING THIS SIDE/NO PARKING

NO PARKING THIS SIDE/NO PARKING

EXISTING RIGHT-OF-WAY FOR TILDEN TOWNSHIP

SSMH ORIM EL. 360.12

3047 3048 3049 3050 3051 3052 3053 3054

SCALE

0 25 50 FEET

# STAGE 4
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
QINGYUAN LIU
PE059920

11:06:05 AM 7/23/2019 \\uspHIfp002\data\Projects\60284085 I78-SR81\800 CADD\005_Hydrology-Drainage\Sheets\ESPC\Stage 4\E60657-ES_STG4-PL-009.dgn Userconnella AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 125 OF 170 |
| TILDEN TOWNSHIP AND HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
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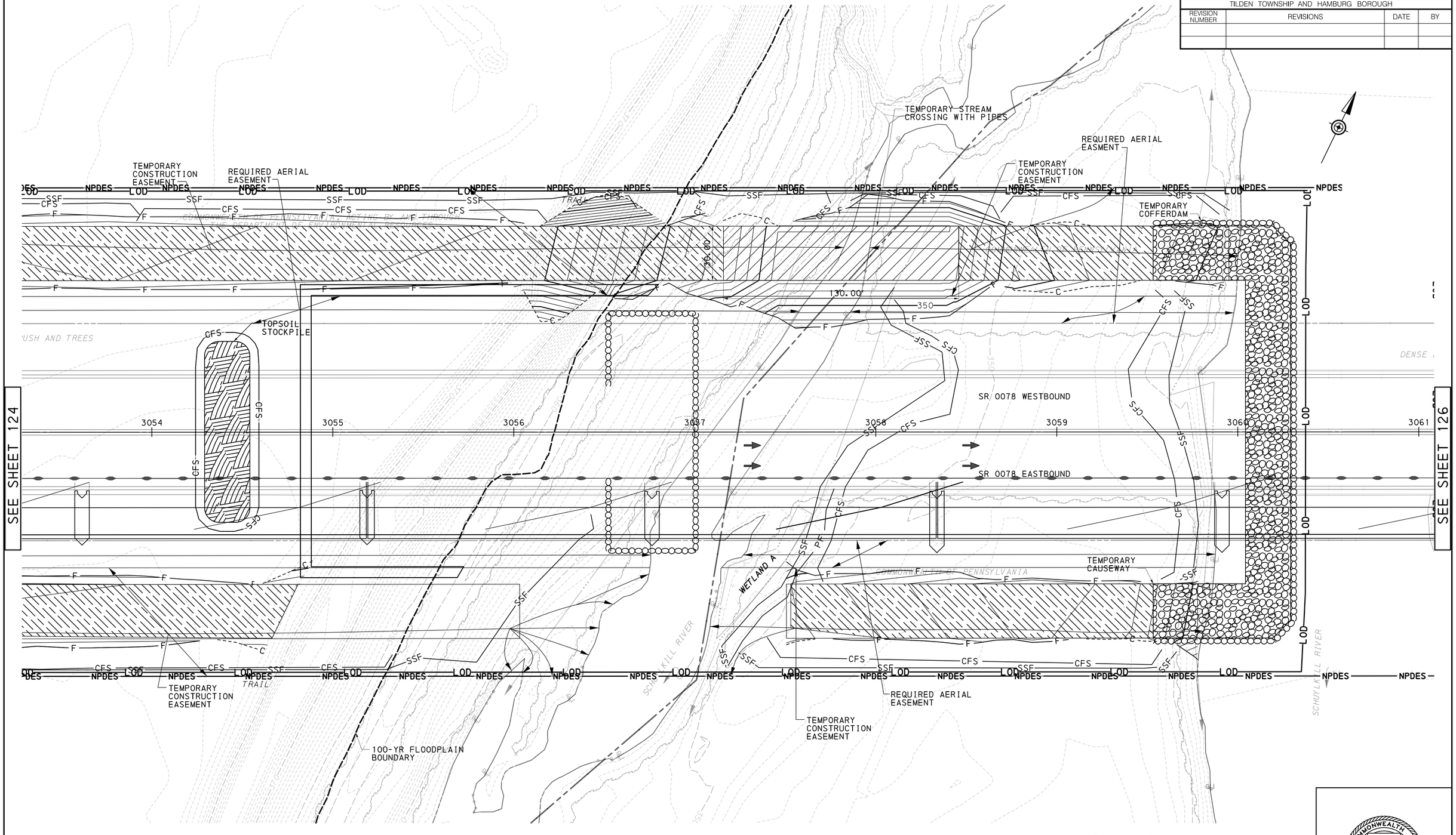


SCALE
0 25 50 FEET

# STAGE 4
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

AECOM User:cornelia \\usphlfpx002\data\Projects\60284095 178-SR61\900 CADD\005_Hydrology-Drainage\Sheets\ESPC\Stage 4\E02657-ES_ST04-PL-010.dgn 7/23/2019 11:06:11 AM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 126 OF 170 |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 125

SEE SHEET 127

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED DRAINAGE EASEMENT

REQUIRED SLOPE EASEMENT

100-YR FLOODPLAIN BOUNDARY

TO BE RELOCATED BY OTHERS

REQUIRED AERIAL EASEMENT

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

REMOVE

30-IES200

END FULL DEPTH RECONSTRUCTION
STA 3067+00.00
SR 0078

TEMPORARY CAUSEWAY

POE STA 4013+00.00

SR 0078 WESTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

SR 0078 EASTBOUND

GRADE ADJUST

TEMPORARY DRAINAGE PIPE

TEMPORARY CONNECTION

31-IN213

31-IN203

31-IN202

32-IN215

31-MH220

31-MH221

REMOVE

REMOVE EXISTING INLET. CONNECT PROPOSED PIPE TO EXISTING PIPE.

CONNECT PROPOSED PIPE TO EXISTING PIPE WITH CONCRETE COLLAR

TEMPORARY COFFERDAM

REMOVE CFS ENDWALL

30-OES200

31-FES201

ROCK EMBANKMENT

ROCK APRON

BEGIN SHOULDER RECONSTRUCTION
STA 4503+00.00
SR 0078

WETLAND F

REQUIRED DRAINAGE EASEMENT

REQUIRED SLOPE EASEMENT

100-YR FLOODPLAIN BOUNDARY

SCALE
0 25 50 FEET

# STAGE 4
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

AECOM User:cnolla \\usphlfpd02\data\Projects\60284099 178-SR61\900 CADD\005_Hydrology-Drainage\Sheets\ESPC\Stage 4\E02657-ES_ST04-PL-011.dgn 7/23/2019 11:06:16 AM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 141 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 151

SEE SHEET 140

SEE SHEET 142

SEE SHEET 152

SR 0078 WESTBOUND

SR 0078 EASTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

RAMP C SURVEY & CONSTRUCTION ℄

RAMP C

EXISTING RAMP C (TO BE REMOVED)

EXISTING RAMP A (TO BE REMOVED)

TEMPORARY DRAINAGE PIPE

TOPSOIL STOCKPILE

UNT W6 TO SCHUYLKILL RIVER

RIGHT-OF-WAY FENCE

ROCK EMBANKMENT

REQUIRED SLOPE EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED AERIAL EASEMENT

READING BLUE MOUNTAIN & NORTHERN RAILROAD CO., A CORPORATION OF THE COMMONWEALTH

POB STA 1400+00 LOD

LINE F

SCALE
0 25 50 FEET

# STAGE 5
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

AECOM Userconsilla \\uspHIfp002\data\Projects\60284096 I78-SRet\900 CADD\005_Hydrology-Drainage\Sheets\ESPC\Stage 5\E060657-ES_STG5-PL-008.dgn 7/23/2019 11:07:31 AM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 142 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 141

SEE SHEET 143

TEMPORARY CONSTRUCTION EASEMENT

SSMH ORIM EL. 376.63

10" PVC

LOW SHOULDER/NO PARKING

LEFT TURN WITH SIDE ROAD RIGHT 20 MPHO PARKING

WETLAND E

SSMH 7

TEMPORARY STREAM CROSSING WITH PIPES

AIN & CO., COMMONWEALTH

CABLE INC., A PENNSYLVANIA BUSINESS CORPORATION

30.00'

DENSE BRUSH AND TREES

96.00'

RIPRAP

WETLAND C

SR 0078 WESTBOUND

TOPSOIL STOCKPILE

SR 0078 SURVEY & CONSTRUCTION B

DENSE BRUSH AND TREES

3047 3048 3049 3050 3051 3052 3053 3054

UNDERGROUND UTIL

SR 0078 EASTBOUND

RIPRAP

WETLAND B

WETLAND D

LINE F

SPEED LIMIT 40 NO PARKING THIS SIDE/NO PARKING

NO PARKING THIS SIDE/NO PARKING

COMMONWEALTH OF PENNSYLVANIA, ACTING BY AND THROUGH THE DEPARTMENT OF ENVIRONMENTAL RESOURCES

REQUIRED AERIAL EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

100-YR FLOODPLAIN BOUNDARY

REQUIRED AERIAL EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

SSMH ORIM EL. 370.58 EXISTING MANHOLE FOR EASTON TOWNSHIP

SCALE

0 25 50 FEET

# STAGE 5
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

11/07:36 AM 7/23/2019 \\usphlfpd02\data\Projects\60284095 178-SR61\900 CADD\005_Hydrology-Drainage\Sheets\ESPC\Stage 5\E02657-ES_ST05-PL-008.dgn User:cnella AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 143 OF 170 |
| TILDEN TOWNSHIP AND HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
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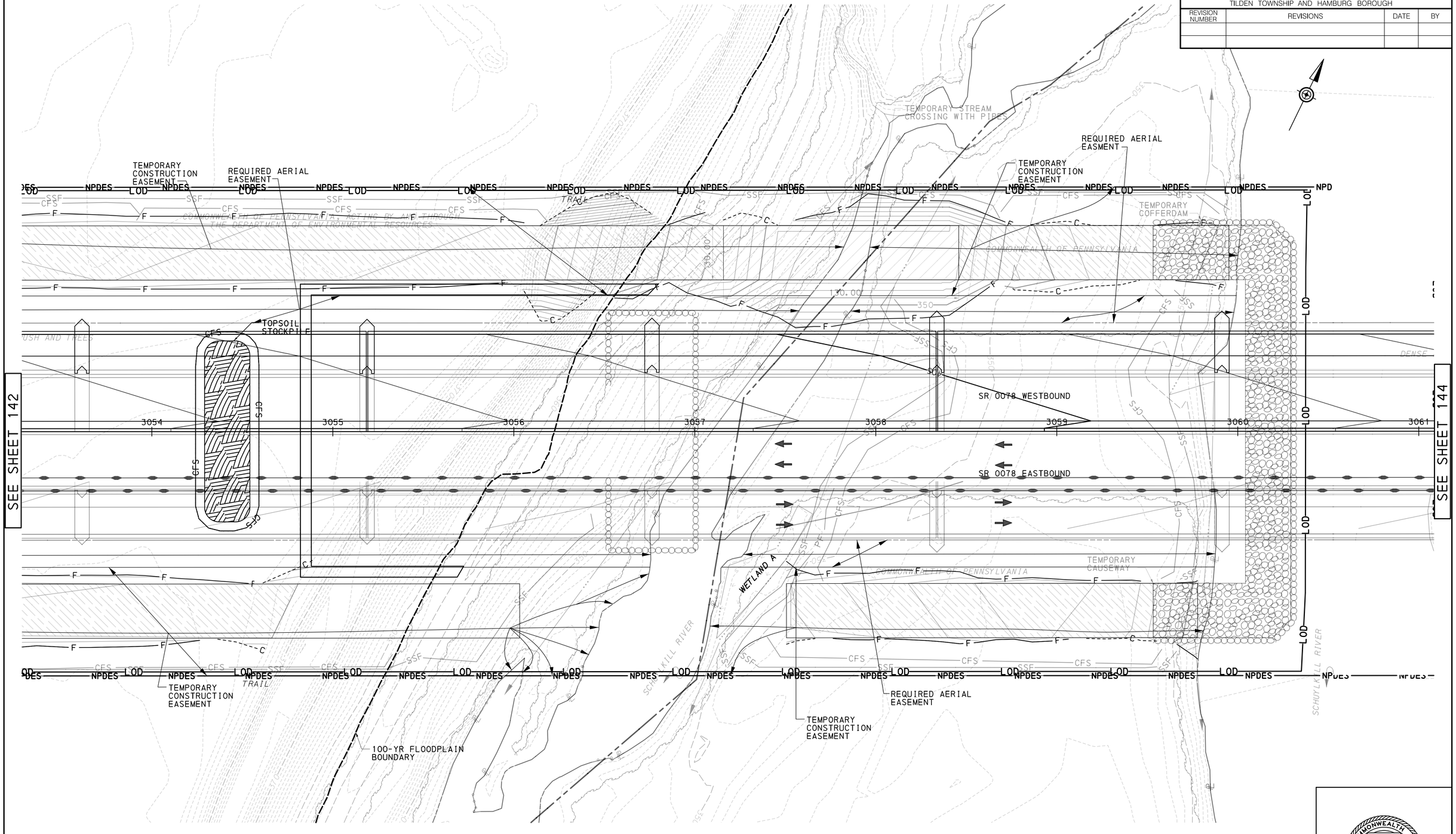


SCALE
0 25 50 FEET

# STAGE 5
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 144 OF 170 |

HAMBURG BOROUGH

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 143

SEE SHEET 145

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED DRAINAGE EASEMENT

REQUIRED SLOPE EASEMENT

REQUIRED AERIAL EASMENT

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

TEMPORARY CAUSEWAY

SR 0078 WESTBOUND
SR 0078 SURVEY & CONSTRUCTION B

SR 0078 EASTBOUND

TEMPORARY DRAINAGE PIPE FILL AND ABANDON

TEMPORARY COFFERDAM

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

REQUIRED AERIAL EASEMENT

REQUIRED DRAINAGE EASEMENT

REQUIRED SLOPE EASEMENT

100-YR FLOODPLAIN BOUNDARY

GUY WIRE TO BE RELOCATED BY OTHERS

END FULL DEPTH RECONSTRUCTION
STA 3067+00.00
SR 0078

REMOVE EXISTING INLET. CONNECT PROPOSED PIPE TO EXSITING PIPE

CONNECT PROPOSED PIPE TO EXISTING PIPE WITH CONCRETE COLLAR

REMOVE EXISTING INLET. CONNECT PROPOSED PIPE TO EXISTING PIPE

BEGIN SHOULDER RECONSTRUCTION
STA 4503+00.00
SR 0078

POE STA 4013+00.00

POB STA 4500+00.00

SCALE
0 25 50 FEET

# STAGE 5
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

User:cnella \\usphl1fp002\data\Projects\60284085 (78-SR61\900 CADD\05_Hydrology-Drainage\Sheets\ESPC\Stage 5\E60857-ES_STG5-PL-011.dgn 7/23/2019 11:07:48 AM AECOM

| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 159 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 169

SEE SHEET 158

SEE SHEET 160

SEE SHEET 170

LOD
NPDES
RAMP C SURVEY & CONSTRUCTION ℄
REMOVE TEMPORARY INLET. CAP DOWNSTREAM PIPE.
TEMPORARY DRAINAGE PIPE
EXISTING RAMP C (TO BE REMOVED)
RAMP C
UNT W6 TO SCHUYLKILL RIVER
RIGHT-OF-WAY FENCE
ROCK EMBANKMENT
REQUIRED SLOPE EASEMENT
TEMPORARY CONSTRUCTION EASEMENT
POB STA 1300+00 -L-
PC
SR 0078 WESTBOUND
SR 0078 EASTBOUND
SR 0078 SURVEY & CONSTRUCTION ℄
18" PIPE
6-IN63
6-IN62
TOPSOIL STOCKPILE
EXISTING RAMP A (TO BE REMOVED)
READING BLUE MOUNTAIN & NORTHERN RAILROAD CO., A CORPORATION OF THE COMMONWEALTH
REQUIRED AERIAL EASEMENT
TEMPORARY CONSTRUCTION EASEMENT
EXIT 29B NB
EXIT 30 HAMBURG 1/2 MILE
MERGE RIGHT
YIELD
REFLR (TYP)
RIPRAP
CFS
F

SCALE
0 25 50 FEET

# STAGE 6
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
QINGYUAN LIU
PE059920

7/23/2019 11:09:07 AM
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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 160 OF 170 |
| TILDEN TOWNSHIP | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 159

SEE SHEET 161

TEMPORARY CONSTRUCTION EASEMENT

TOPSOIL STOCKPILE

SR 0078 WESTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

SR 0078 EASTBOUND

WETLAND E

WETLAND D

WETLAND B

LOW SHOULDER/NO PARKING

LEFT TURN WITH SIDE ROAD RIGHT

TEMPORARY STREAM CROSSING WITH PIPES

DENSE BRUSH AND TREES

RIPRAP

UNDERGROUND UTILITIES

SPEED LIMIT 40 NO PARKING THIS SIDE/NO PARKING

NO PARKING THIS SIDE/NO PARKING

COMMONWEALTH OF PENNSYLVANIA, ACTING BY AND THROUGH THE DEPARTMENT OF ENVIRONMENTAL RESOURCES

REQUIRED AERIAL EASEMENT

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

100-YR FLOODPLAIN BOUNDARY

SCALE

0 25 50 FEET

# STAGE 6
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 161 OF 170 |
| TILDEN TOWNSHIP AND HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |

SEE SHEET 160

SEE SHEET 162

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED AERIAL EASEMENT

TEMPORARY STREAM CROSSING WITH PIPES

TEMPORARY COFFERDAM

TEMPORARY CAUSEWAY

TOPSOIL STOCKPILE

COMMONWEALTH OF PENNSYLVANIA, ACTING BY AND THROUGH THE DEPARTMENT OF ENVIRONMENTAL RESOURCES

COMMONWEALTH OF PENNSYLVANIA

SR 0078 WESTBOUND

SR 0078 EASTBOUND

WETLAND A

SCHUYLKILL RIVER

100-YR FLOODPLAIN BOUNDARY

TRAIL

3054 3055 3056 3057 3058 3059 3060 3061

# STAGE 6
# EROSION & SEDIMENT POLLUTION CONTROL

SCALE
0 25 50 FEET

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

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| DISTRICT | COUNTY | ROUTE | SECTION | SHEET |
|---|---|---|---|---|
| 5-0 | BERKS | 78 | 13B | 162 OF 170 |
| HAMBURG BOROUGH | | | | |

| REVISION NUMBER | REVISIONS | DATE | BY |
|---|---|---|---|
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| | | | |

SEE SHEET 161

SEE SHEET 163

TEMPORARY CONSTRUCTION EASEMENT

REQUIRED DRAINAGE EASEMENT

REQUIRED SLOPE EASEMENT

REQUIRED AERIAL EASMENT

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

TEMPORARY CAUSEWAY

SR 0078 WESTBOUND

SR 0078 SURVEY & CONSTRUCTION ℄

SR 0078 EASTBOUND

TEMPORARY DRAINAGE PIPE

FILL AND ABANDON 31-IN209 18" PIPE

31-IN211 18" PIPE

31-IN204 @18" PIPE

31-IN212 18" PIPE

TEMPORARY COFFERDAM

REMOVE

REMOVE CFS ENDWALL

ENDWALL

ROCK APRON

ROCK EMBANKMENT

RIPRAP

WETLAND F

REQUIRED DRAINAGE EASEMENT

REQUIRED SLOPE EASEMENT

100-YR FLOODPLAIN BOUNDARY

TO BE RELOCATED BY OTHERS

END FULL DEPTH RECONSTRUCTION
STA 3067+00.00
SR 0078

REMOVE EXISTING INLET. CONNECT PROPOSED PIPE TO EXSITING PIPE

TO REMAIN

REMOVE EXISTING INLET. CONNECT PROPOSED PIPE TO EXISTING RIPRAP

BEGIN SHOULDER RECONSTRUCTION
STA 4503+00.00
SR 0078

POB STA 4013+00.00

POB STA 4500+00.00

SCALE
0 25 50 FEET

# STAGE 6
# EROSION & SEDIMENT POLLUTION CONTROL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
QINGYUAN LIU
ENGINEER
PE059920

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User:cnella
AECOM