

STANDARD BAR SPLICER ASSEMBLY

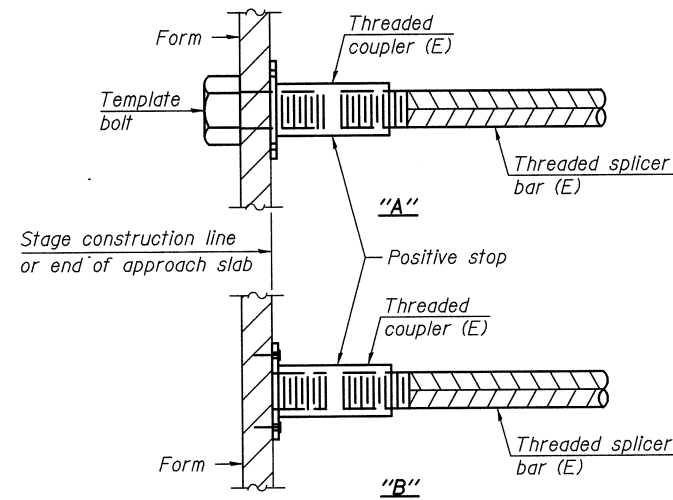
| Minimum Lap Lengths | | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| Bar size to be spliced | Table 1 | Table 2 | Table 3 | Table 4 | Table 5 | Table 6 |
| 3, 4 | 1'-5" | 1'-11" | 2'-1" | 2'-4" | 2'-7" | 2'-11" |
| 5 | 1'-9" | 2'-5" | 2'-7" | 2'-11" | 3'-3" | 3'-8" |
| 6 | 2'-1" | 2'-11" | 3'-1" | 3'-6" | 3'-10" | 4'-5" |
| 7 | 2'-9" | 3'-10" | 4'-2" | 4'-8" | 5'-2" | 5'-10" |
| 8 | 3'-8" | 5'-1" | 5'-5" | 6'-2" | 6'-9" | 7'-8" |
| 9 | 4'-7" | 6'-5" | 6'-10" | 7'-9" | 8'-7" | 9'-8" |

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

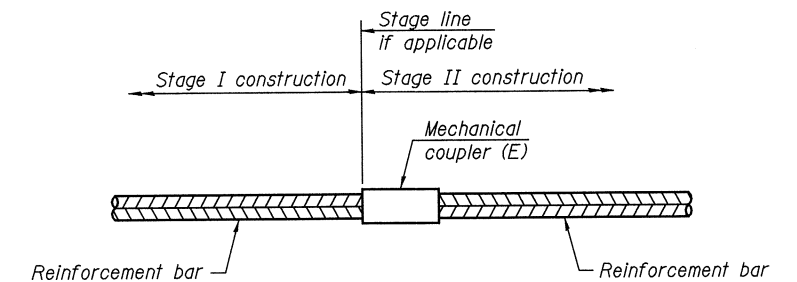
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location | Bar size | No. assemblies required | Table for minimum lap length |
|----------|----------|-------------------------|------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



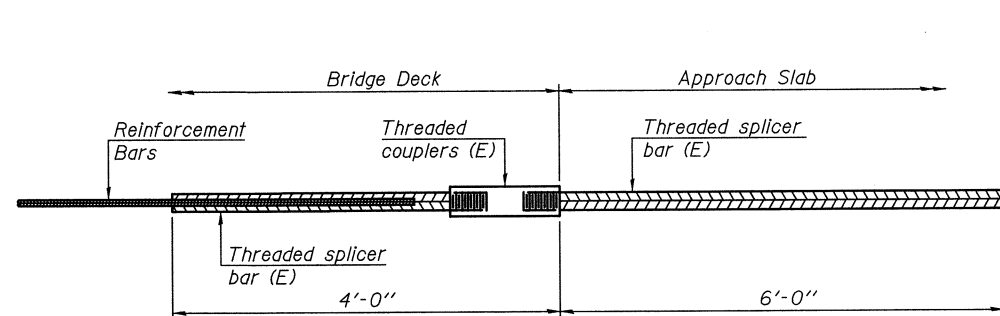
INSTALLATION AND SETTING METHODS

- "A" : Set bar splicer assembly by means of a template bolt.
- "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
- (E) : Indicates epoxy coating.



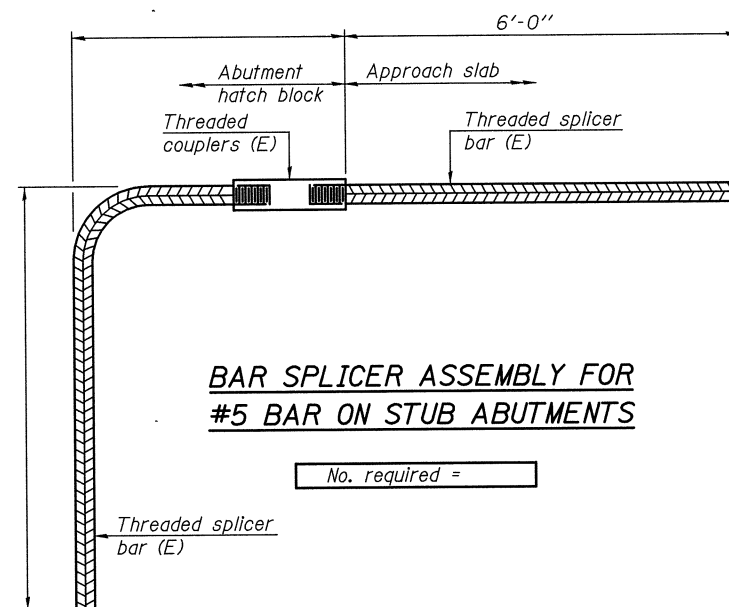
STANDARD MECHANICAL SPLICER

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
| | | |
| | | |
| | | |
| | | |
| | | |



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 68



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

- Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
- All reinforcement shall be lapped and tied to the splicer bars.
- Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
- See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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BSD-1

1-27-12

EFK Moen, LLC
Civil Engineering Design
303 Fountains Parkway, Suite 240
Fairview Heights, IL 62208
Phone 618-206-4250

USER NAME = je
PLOT SCALE = 0:2.0000 '1' / in.
PLOT DATE = 12/5/2014

DESIGNED - CTW
CHECKED - CDL
DRAWN - JAA
DATE - 12/5/2014

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 055-0074**

SHEET NO. 19 OF 23 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|--------------------------|-----------|--------------|-----------|
| 407 | 5513(PV)HB(2-6)B,B-1,B-2 | MCDONOUGH | 874 | 501 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



Illinois Department
of Transportation
Division of Highways
SCI Engineering, Inc.

SOIL BORING LOG

Date 05/17-18/05

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - Emory Road (CR 950 E) Overpass (Emmet Twp) LOGGED BY SCI (TC)
 SECTION 55-3 LOCATION Prop. South Abutment, NE 1/4, SEC. 27, TWP. 6N, RNG. 3W, 4th PM, Latitude 40°29'6.406178" N, Longitude 90°43'26.950571" W
 COUNTY McDonough DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0074
 Station 3012+00.00 (PR)
 BORING NO. B-136
 Station 3011+08 (PR)/16422+00 (EX)
 Offset 15.0 ft LT (EX)
 Ground Surface Elev. 707.30 ft

| DEPTH T W S H S Qu T (ft) (/6") (tsf) (%) | B L O S Qu (ft) (/6") (tsf) (%) | U C S Qu (ft) (/6") (tsf) (%) | M O I S T (ft) (/6") (tsf) (%) | Surface Water Elev. _____ ft | Stream Bed Elev. _____ ft | Groundwater Elev.: | D E P T H (ft) | B L O S Qu (ft) (/6") (tsf) (%) | U C S Qu (ft) (/6") (tsf) (%) | M O I S T (ft) (/6") (tsf) (%) |
|--|--|---|---|---|---------------------------|--------------------|-------------------------------|--|---|---|
| | | | | | | | | | | |
| | | | | | | | | | | |
| TOPSOIL - 5 inches ----- 706.88 | | | | Brown and gray CLAY, A-7 w/gravel (continued) | | | | | | |
| | 3 | | | | | | | 5 | | |
| | 3 | 1.1 | 31 | | | | | 5 | 3.4 | 18 |
| | 4 | B | | | | | | 7 | S | |
| | 2 | | | | | | | 3 | | |
| | 2 | 0.3 | 34 | | | | | 7 | 2.7 | 15 |
| | 2 | B | | | | | | 12 | S | |
| | 2 | | | | | | | 5 | | |
| | 2 | 0.7 | 21 | | | | | 7 | 3.4 | 14 |
| | 3 | B | | | | | | 12 | S | |
| ----- 699.10 | | | | Brown CLAY, A-7 | | | | | | |
| | 1 | | | | | | | 7 | | |
| ----- 698.05 | | | | Gray CLAY, A-7 | | | | | | |
| | 2 | 1.4 | 17 | | | | | 12 | 6.1 | 15 |
| | 5 | B | | | | | | 13 | S | |
| | 3 | | | | | | | | | |
| | 4 | 1.9 | 17 | | | | | | | |
| | 7 | B | | | | | | | | |
| ----- 693.90 | | | | Brown and gray CLAY, A-7 w/gravel | | | | | | |
| | 3 | | | | | | | 6 | | |
| | 6 | 3.3 | 18 | | | | | 8 | 5.0 | 14 |
| | 6 | S | | | | | | 14 | B | |
| | 4 | | | | | | | | | |
| | 7 | 4.3 | 18 | | | | | | | |
| | 9 | B | | | | | | | | |
| | 4 | | | | | | | 10 | | |
| | 6 | 3.3 | 16 | | | | | 12 | 5.9 | 11 |
| | 10 | B | | | | | | 20 | B | |
| ----- 667.30 | | | | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
SCI Engineering, Inc.

SOIL BORING LOG

Date 05/17-18/05

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - Emory Road (CR 950 E) Overpass (Emmet Twp) LOGGED BY SCI (TC)
 SECTION 55-3 LOCATION Prop. South Abutment, NE 1/4, SEC. 27, TWP. 6N, RNG. 3W, 4th PM, Latitude 40°29'6.406178" N, Longitude 90°43'26.950571" W
 COUNTY McDonough DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0074
 Station 3012+00.00 (PR)
 BORING NO. B-136
 Station 3011+08 (PR)/16422+00 (EX)
 Offset 15.0 ft LT (EX)
 Ground Surface Elev. 707.30 ft

| DEPTH T W S H S Qu T (ft) (/6") (tsf) (%) | B L O S Qu (ft) (/6") (tsf) (%) | U C S Qu (ft) (/6") (tsf) (%) | M O I S T (ft) (/6") (tsf) (%) | Surface Water Elev. _____ ft | Stream Bed Elev. _____ ft | Groundwater Elev.: | D E P T H (ft) | B L O S Qu (ft) (/6") (tsf) (%) | U C S Qu (ft) (/6") (tsf) (%) | M O I S T (ft) (/6") (tsf) (%) |
|--|--|---|---|------------------------------|---------------------------|--------------------|-------------------------------|--|---|---|
| | | | | | | | | | | |
| | | | | | | | | | | |
| Gray CLAY, A-7 w/gravel (continued) | | | | Gray CLAY, A-7 (continued) | | | | | | |
| | | | | | | | | | | |
| ----- 644.90 | | | | Gray CLAY LOAM, A-6 | | | | | | |
| | | | | | | | | | | |
| | 6 | | | | | | | 6 | | |
| | 10 | 6.3 | 18 | | | | | 10 | 3.1 | 18 |
| | 14 | B | | | | | | 11 | B | |
| ----- 640.40 | | | | Gray CLAY, A-7 | | | | | | |
| | | | | | | | | | | |
| | 4 | | | | | | | 3 | | |
| | 5 | 3.7 | 15 | | | | | 4 | 2.0 | 29 |
| | 8 | B | | | | | | 6 | B | |
| ----- 654.90 | | | | Gray SAND, A-3 | | | | | | |
| | | | | | | | | | | |
| ----- 653.30 | | | | Gray SAND, A-1 w/gravel | | | | | | |
| | 13 | | | | | | | 4 | | |
| ----- 652.80 | | | | Gray SANDY LOAM, A-2 | | | | | | |
| | 13 | 3.7 | 16 | | | | | 7 | | |
| | 14 | S | | | | | | 14 | | |
| ----- 651.10 | | | | Gray SAND, A-3 | | | | | | |
| | | | | | | | | | | |
| ----- 629.50 | | | | Gray CLAY LOAM, A-6 | | | | | | |
| | | | | | | | | 5 | | |
| | 11 | | | | | | | 9 | 4.4 | 14 |
| | 21 | | | | | | | 18 | S | |
| | 21 | | | | | | | | | |
| ----- 647.50 | | | | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

PRINT DATE: 12/5/2014 12:36:05 PM Y:\10051\Macomb Bypass\IGN\Bridg\Final\Plotsheets\0520074-68B44-020-Soil.Boring.Logs.dgn

EFK Moen, LLC
 Civil Engineering Design
 303 Fountains Parkway, Suite 240
 Fairview Heights, IL 62208
 Phone 618-206-4250

| | | |
|-----------------------------------|------------------|-----------|
| USER NAME = ja | DESIGNED - CTW | REVISED - |
| PLOT SCALE = 0:2.0000" = 1' / in. | CHECKED - CDL | REVISED - |
| PLOT DATE = 12/5/2014 | DRAWN - JAA | REVISED - |
| | DATE - 12/5/2014 | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS (1 OF 4)
 STRUCTURE NO. 055-0074

SHEET NO. 20 OF 23 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|-----------|--------------|-----------|
| 407 | 55E3(PV+HB(2-6)B,B-1,B-2) | MCDONOUGH | 874 | 502 |
| CONTRACT NO. 68B44 | | | | |

ILLINOIS FED. AID PROJECT



Illinois Department
of Transportation
Division of Highways
SCI Engineering, Inc.

SOIL BORING LOG

Page 3 of 3

Date 05/17-18/05

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - Emory Road (CR 950 E) Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Prop. South Abutment, NE 1/4, SEC. 27, TWP. 6N, RNG. 3W, 4th PM, Latitude 40°29'6.406178" N, Longitude 90°43'26.950571" W

COUNTY McDonough DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0074
Station 3012+00.00 (PR)

BORING NO. B-136
Station 3011+08 (PR)/16422+00 (EX)
Offset 15.0 ft LT (EX)
Ground Surface Elev. 707.30 ft

| DEPTH (ft) | SOIL TYPE | UCS (tsf) | MOISTURE (%) | Surface Water Elev. (ft) | Stream Bed Elev. (ft) | Groundwater Elev. (ft) |
|------------|-----------|-----------|--------------|--------------------------|-----------------------|--------------------------------------|
| | | | | | | First Encounter <u>698.3</u> ft |
| | | | | | | Upon Completion <u>687.6</u> ft |
| | | | | | | After <u>24</u> Hrs. <u>704.7</u> ft |

| DEPTH (ft) | SOIL TYPE | UCS (tsf) | MOISTURE (%) |
|------------|---|-----------|--------------|
| 0 | Gray CLAY LOAM, A-6 (continued) | | |
| 624.50 | Gray SAND, A-3 | 21 | |
| 623.30 | Gray SILT, A-4 | 32 | |
| 622.80 | Gray GRAVEL, A-1 | 41 | |
| 619.90 | Gray CLAY, A-7 | | |
| 617.30 | | 19 | 5.9 |
| | | 22 | B |
| | ** Hole collapsed at 10 feet after 24 hours End of Boring | | |
| -95 | | | |
| -100 | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
SCI Engineering, Inc.

SOIL BORING LOG

Page 1 of 2

Date 05/19/05

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - Emory Road (CR 950 E) Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Prop. Pier, NE 1/4, SEC. 22, TWP. 6N, RNG. 3W, 4th PM, Latitude 40°29'7.394399" N, Longitude 90°43'26.679428" W

COUNTY McDonough DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0074
Station 3012+00.00 (PR)

BORING NO. B-137
Station 3012+18 (PR)/16423+00 (EX)
Offset 6.0 ft RT (EX)
Ground Surface Elev. 710.30 ft

| DEPTH (ft) | SOIL TYPE | UCS (tsf) | MOISTURE (%) | Surface Water Elev. (ft) | Stream Bed Elev. (ft) | Groundwater Elev. (ft) |
|------------|-----------|-----------|--------------|--------------------------|-----------------------|---------------------------------------|
| | | | | | | First Encounter <u>703.3</u> ft |
| | | | | | | Upon Completion <u>682.2</u> ft |
| | | | | | | After <u> </u> Hrs. <u> </u> ft |

| DEPTH (ft) | SOIL TYPE | UCS (tsf) | MOISTURE (%) |
|------------|---------------------------------------|-----------|--------------|
| 709.13 | FILL: Crushed rock, cinders, and sand | | |
| | Brown SILTY CLAY, A-6 | 1.7 | 28 |
| | | B | |
| | | 0.6 | 31 |
| | | B | |
| 704.70 | Brown CLAY, A-7 | | |
| | | 0.3 | 27 |
| | | B | |
| | | 0.5 | 17 |
| | | B | |
| 699.30 | Brown and gray CLAY, A-7 | 2.0 | 18 |
| | | B | |
| | | 3.8 | 17 |
| | | B | |
| | | 2.6 | 18 |
| | | B | |
| | | 2.7 | 17 |
| | | B | |
| | | 2.9 | 15 |
| | | B | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, form 137 (Rev. 8-99)

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EFK Moen, LLC
Civil Engineering Design
303 Fountains Parkway, Suite 240
Fairview Heights, IL 62208
Phone 618-206-4250

| | | |
|---------------------------------|------------------|-----------|
| USER NAME = ja | DESIGNED - CTW | REVISED - |
| PLOT SCALE = 0x2.0000 1" / 1ft. | CHECKED - CDL | REVISED - |
| PLOT DATE = 12/5/2014 | DRAWN - JAA | REVISED - |
| | DATE - 12/5/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS (2 OF 4)
STRUCTURE NO. 055-0074
SHEET NO. 21 OF 23 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|--------------------------|-----------|--------------|-----------|
| 407 | 55C3PVJHB(2-6)B,B-1,B-2J | MCDONOUGH | 874 | 503 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



Illinois Department
of Transportation
Division of Highways
SCI Engineering, Inc.

SOIL BORING LOG

Page 2 of 2

Date 05/16/05

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - Emory Road (CR 950 E) Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Prop. North Abutment, NE 1/4, SEC. 22, TWP. 6N, RNG. 3W, 4th PM, Latitude 40°29' 8.382420" N, Longitude 90°43' 26.951827" W

COUNTY McDonough DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0074
Station 3012+00.00 (PR)

BORING NO. B-138
Station 3013+08 (PR)/16424+00 (EX)
Offset 15.0 ft LT
Ground Surface Elev. 707.60 ft

| D E P T H | B L O W S | U C S | M O I S T | Surface Water Elev. _____ ft | D E P T H | B L O W S | U C S | M O I S T |
|-----------------------|-----------------------|-------------|-----------------------|--------------------------------------|-----------------------|-----------------------|-------------|-----------------------|
| (ft) | (/6") | (tsf) | (%) | Stream Bed Elev. _____ ft | (ft) | (/6") | (tsf) | (%) |
| | | | | Groundwater Elev.: | | | | |
| | | | | First Encounter <u>675.6</u> ft | | | | |
| | | | | Upon Completion <u>686.3</u> ft | | | | |
| | | | | After <u>24</u> Hrs. <u>693.5</u> ft | | | | |

| | | | | | | | | | |
|--|----|-----|----|--|--------|----|--|--|--|
| Gray SANDY CLAY, A-6 w/gravel (continued) | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Gray CLAY, A-7 | | | | | | | | | |
| | 5 | | | | | 11 | | | |
| | 5 | 3.3 | 20 | | | 22 | | | |
| | 8 | B | | | 642.60 | 29 | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Gray SANDY CLAY, A-6 | | | | | | | | | |
| | 4 | | | | | | | | |
| | 6 | | 14 | | | | | | |
| | 9 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Gray CLAY, A-7 | | | | | | | | | |
| | 4 | | | | | | | | |
| | 6 | 4.2 | 19 | | | | | | |
| | 10 | B | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Gray SAND, A-3 | | | | | | | | | |
| | 8 | | | | | | | | |
| | 18 | | | | | | | | |
| | 26 | | | | | | | | |

** Hole collapsed at 40.3 feet after 24 hours
End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

PRINT DATE: 12/5/2014 12:36:12 PM Y:\10051 Macomb Bypass\IGN\Brdge\Final\Lot\Sheets\0550074-58844-023-Soil.Boring.Logs.dgn

EFK Moen, LLC
Civil Engineering Design
303 Fountains Parkway, Suite 240
Fairview Heights, IL 62208
Phone 618-206-4250

| | | |
|--------------------------------|------------------|-----------|
| USER NAME = jo | DESIGNED - CTW | REVISED - |
| PLOT SCALE = 0:2.0000 1" = 10' | CHECKED - CDL | REVISED - |
| PLOT DATE = 12/5/2014 | DRAWN - JAA | REVISED - |
| | DATE - 12/5/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOIL BORING LOGS (4 OF 4)
STRUCTURE NO. 055-0074**

| F.A.P RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------------------------|-----------|-----------------|--------------|
| 407 | 55[3(PV)HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 505 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

SHEET NO. 23 OF 23 SHEETS

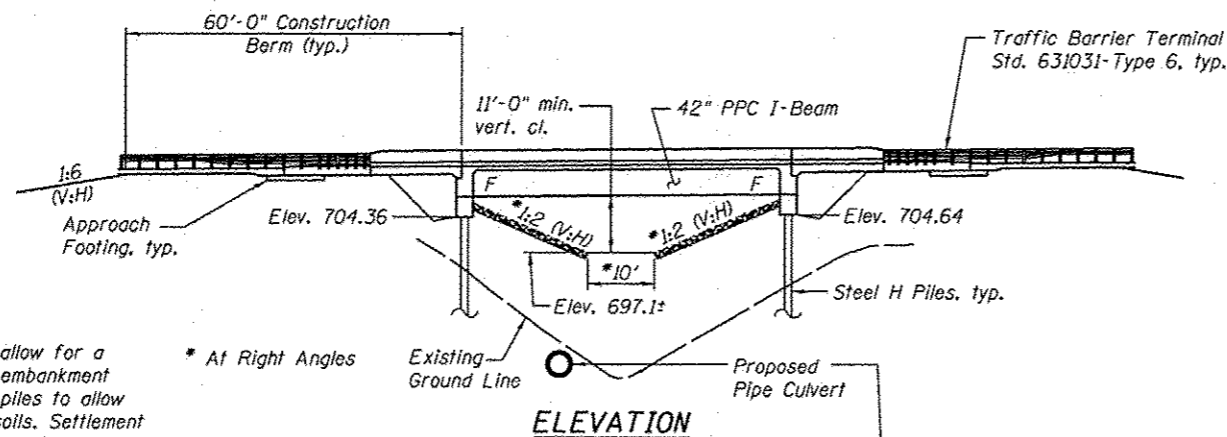
Benchmark: RR spike in 15" tree, sta. 779+90.13, 239.00' LT, Elev. 714.76
 Existing Structure: None

INDEX OF SHEETS

1. General Plan and Elevation
2. General Data
- 3.-4. Top of Slab Elevations
- 5.-6. Top of Approach Slab Elevations
7. Superstructure
8. Superstructure Details
9. Diaphragm Details
- 9A. Concrete Parapet Slipforming Option
- 10.-11. Bridge Approach Slab Details
12. Framing Plan
13. 42" PPC I-Beam
14. 42" PPC I-Beam Details
15. South Abutment Details
16. North Abutment Details
17. HP Pile Details
- 18.-20. Soil Borings

STATION 779+70.00
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.P. RT. 407
 SECTION 55[3(PV,HB(2-6);B.B-1,B-2)]
 LOADING HL-93
 STRUCTURE NO. 055-0075

NAME PLATE
 See Std. 515001



Notes:
 The construction schedule should allow for a 30 day delay between placement of embankment fill and installation of the abutment piles to allow for consolidation of the underlying soils. Settlement of the fill should be monitored during this period to confirm that the settlement is complete. The embankment and riprap for the SB Structure shall be placed in this contract.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interim Revisions

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.08g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.13g
 Soil Site Class = C

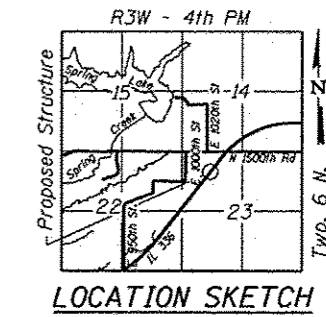
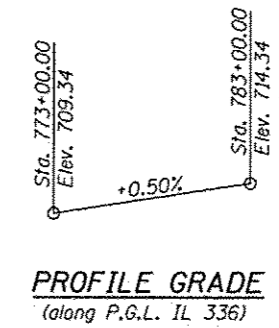
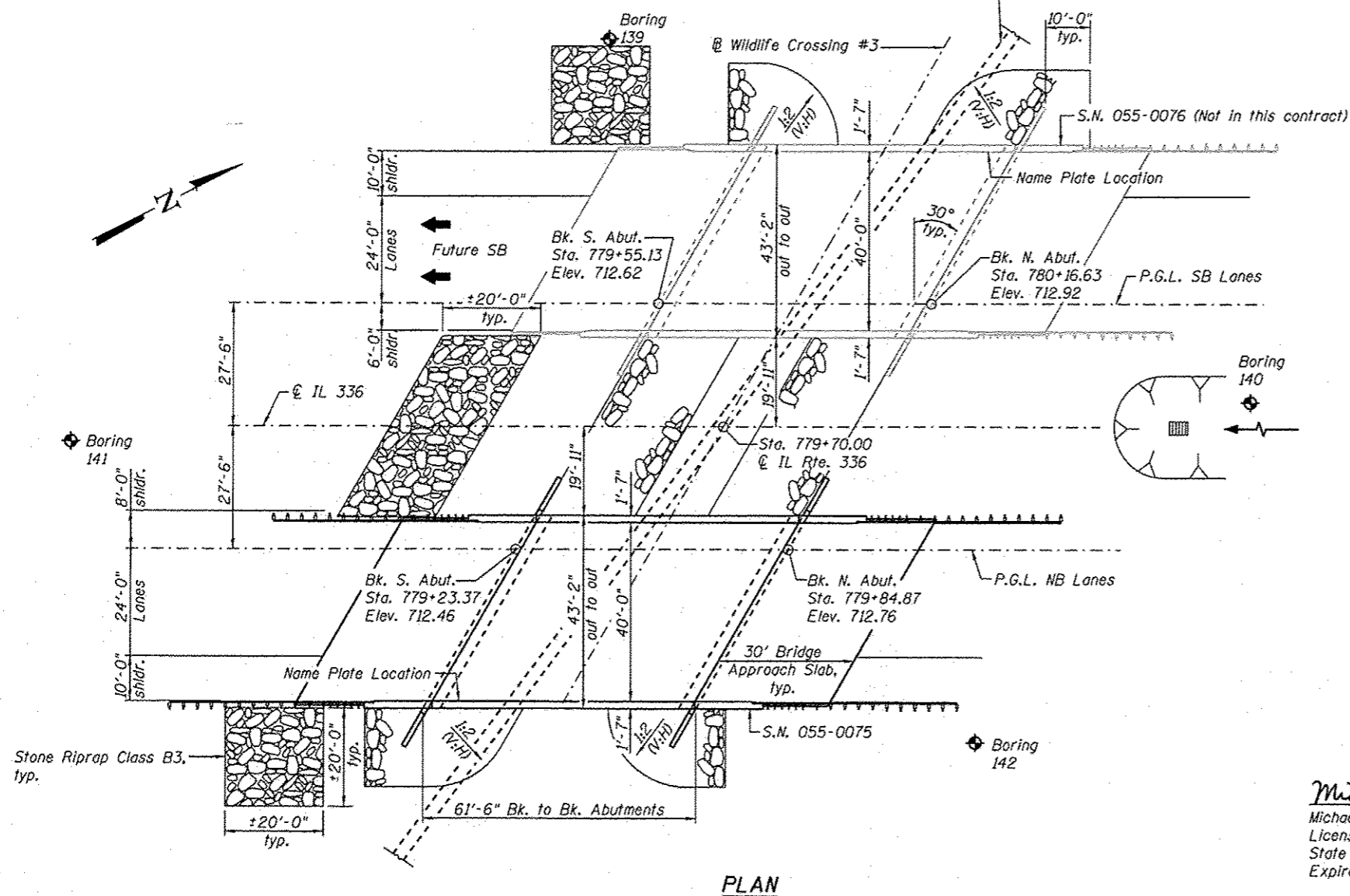
DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi
 f_y = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'_c = 6,000 psi
 f'_ci = 5,000 psi
 f_{pu} = 270,000 psi ($\frac{1}{2}$ " ϕ low lax. strands)
 f_{pbt} = 201,960 psi ($\frac{1}{2}$ " ϕ low lax. strands)



APPROVED
 For Structural Adequacy Only

Michael J. Haley
 Engineer of Bridges & Structures



Michael J. Haley 1-22-15
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2016

GENERAL PLAN AND ELEVATION
 IL 336 OVER WILDLIFE CROSSING #3
 F.A.P. RTE. 407
 SECTION 55[3(PV,HB(2-6);B.B-1,B-2)]
 McDONOUGH COUNTY
 STATION 779+70.00
 STRUCTURE NO. 055-0075



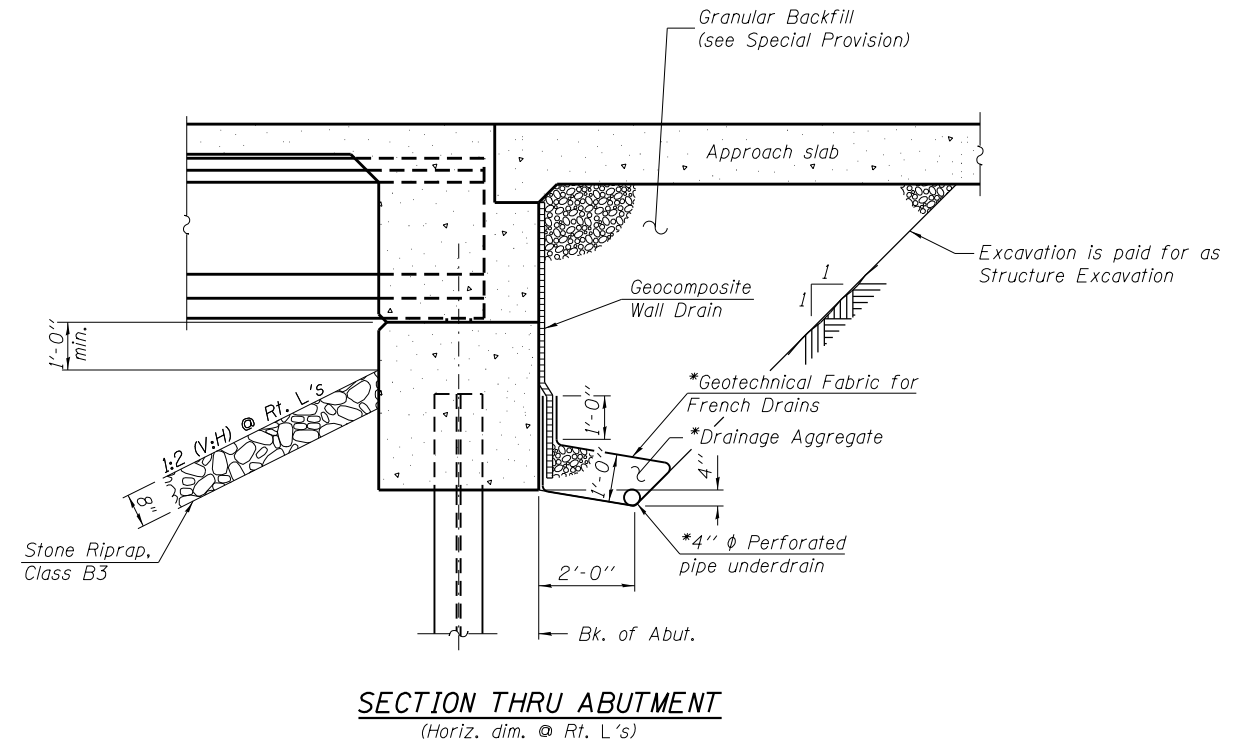
| | | |
|------------|---------------|-----------|
| USER NAME | DESIGNED - HP | REVISED - |
| FILE NAME | CHECKED - RPW | REVISED - |
| PLOT SCALE | DRAWN - AJF | REVISED - |
| PLOT DATE | CHECKED - MTH | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------------------------|-----------|---------------------------|-----------|
| 407 | 55[3(PV,HB(2-6);B.B-1,B-2)] | McDONOUGH | 874 | 506 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.
 Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
 Slip forming of the concrete parapet is not allowed.
 This contract is for the construction of SN 055-0075 (NB) only. SN 055-0076 (SB) is to be built in a future contract and is shown for information only.

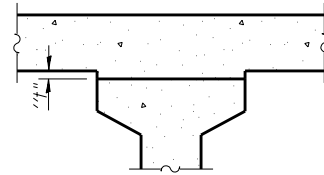


*Included in cost of Pipe Underdrains for Structures (see Special Provisions)

Note:
 All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).

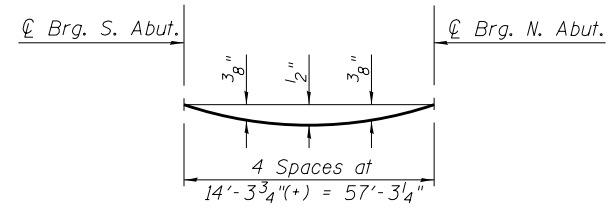
TOTAL BILL OF MATERIAL (SN 055-0075)

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|---------|--------|--------|--------|
| Stone Riprap, Class B3 | Sq. Yd. | - | 1,277 | 1,277 |
| Structure Excavation | Cu. Yd. | - | 214 | 214 |
| Concrete Structures | Cu. Yd. | - | 89.7 | 89.7 |
| Concrete Superstructure | Cu. Yd. | 250.5 | - | 250.5 |
| Bridge Deck Grooving | Sq. Yd. | 504 | - | 504 |
| Protective Coat | Sq. Yd. | 613 | - | 613 |
| Furnishing and Erecting PPC I Beams, 42" | Foot | 350 | - | 350 |
| Reinforcement Bars, Epoxy Coated | Pound | 52,080 | 16,880 | 68,960 |
| Furnishing Steel Piles HP12x63 | Foot | - | 732 | 732 |
| Driving Piles | Foot | - | 732 | 732 |
| Test Pile Steel HP12x63 | Each | - | 2 | 2 |
| Name Plates | Each | 1 | - | 1 |
| Geocomposite Wall Drain | Sq. Yd. | - | 100 | 100 |
| Granular Backfill for Structures | Cu. Yd. | - | 202 | 202 |
| Pipe Underdrains for Structures 4" | Foot | - | 152 | 152 |



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on sheet 4 of 20, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

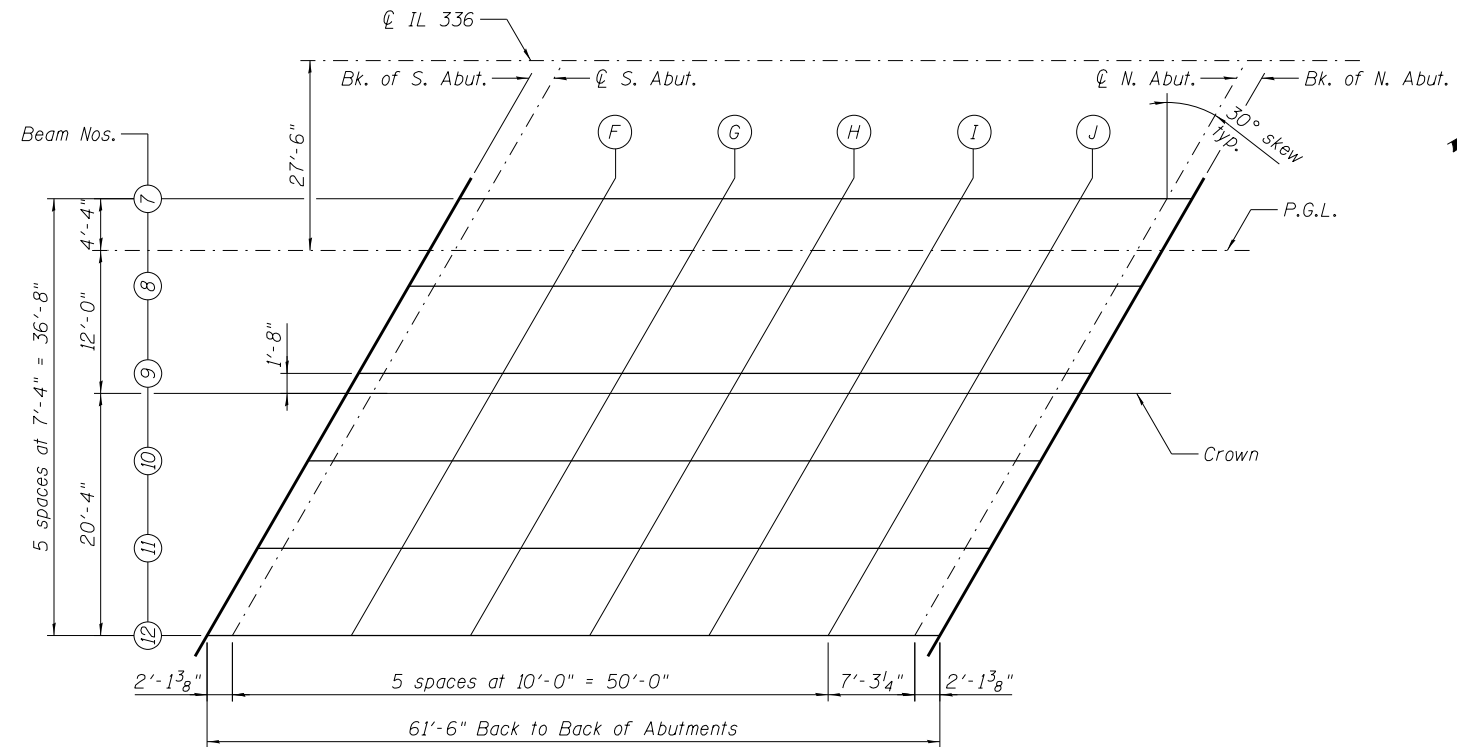


DEAD LOAD DEFLECTION DIAGRAM

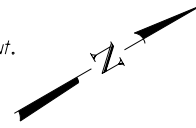
(Includes weight of concrete, excluding beams).

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 4 of 20.



PLAN



(Sheet 1 of 2)



| | | |
|--------------|---------------|-----------|
| USER NAME = | DESIGNED - HP | REVISED - |
| FILE NAME = | CHECKED - RPW | REVISED - |
| PLOT SCALE = | DRAWN - AJF | REVISED - |
| PLOT DATE = | CHECKED - MTH | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS
STRUCTURE NO. 055-0075**

SHEET NO. 3 OF 20 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 508 |
| CONTRACT NO. 68B44 | | | | |

ILLINOIS FED. AID PROJECT

BEAM 7

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+25.87 | -4.33 | 712.38 | 712.38 |
| ☉ S. Abut. | 779+27.99 | -4.33 | 712.39 | 712.39 |
| F | 779+37.99 | -4.33 | 712.44 | 712.46 |
| G | 779+47.99 | -4.33 | 712.49 | 712.52 |
| H | 779+57.99 | -4.33 | 712.54 | 712.58 |
| I | 779+67.99 | -4.33 | 712.59 | 712.62 |
| J | 779+77.99 | -4.33 | 712.64 | 712.65 |
| ☉ N. Abut. | 779+85.26 | -4.33 | 712.68 | 712.68 |
| Bk. N. Abut. | 779+87.37 | -4.33 | 712.69 | 712.69 |

PROFILE GRADE

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+23.37 | 0.00 | 712.46 | 712.46 |
| ☉ S. Abut. | 779+25.49 | 0.00 | 712.47 | 712.47 |
| F | 779+35.49 | 0.00 | 712.52 | 712.54 |
| G | 779+45.49 | 0.00 | 712.57 | 712.60 |
| H | 779+55.49 | 0.00 | 712.62 | 712.65 |
| I | 779+65.49 | 0.00 | 712.67 | 712.70 |
| J | 779+75.49 | 0.00 | 712.72 | 712.73 |
| ☉ N. Abut. | 779+82.76 | 0.00 | 712.75 | 712.75 |
| Bk. N. Abut. | 779+84.87 | 0.00 | 712.76 | 712.76 |

BEAM 8

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+21.64 | 3.00 | 712.50 | 712.50 |
| ☉ S. Abut. | 779+23.76 | 3.00 | 712.51 | 712.51 |
| F | 779+33.76 | 3.00 | 712.56 | 712.58 |
| G | 779+43.76 | 3.00 | 712.61 | 712.64 |
| H | 779+53.76 | 3.00 | 712.66 | 712.69 |
| I | 779+63.76 | 3.00 | 712.71 | 712.74 |
| J | 779+73.76 | 3.00 | 712.76 | 712.77 |
| ☉ N. Abut. | 779+81.03 | 3.00 | 712.79 | 712.79 |
| Bk. N. Abut. | 779+83.14 | 3.00 | 712.80 | 712.80 |

BEAM 9

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+17.41 | 10.33 | 712.59 | 712.59 |
| ☉ S. Abut. | 779+19.52 | 10.33 | 712.60 | 712.60 |
| F | 779+29.52 | 10.33 | 712.65 | 712.67 |
| G | 779+39.52 | 10.33 | 712.70 | 712.73 |
| H | 779+49.52 | 10.33 | 712.75 | 712.79 |
| I | 779+59.52 | 10.33 | 712.80 | 712.83 |
| J | 779+69.52 | 10.33 | 712.85 | 712.86 |
| ☉ N. Abut. | 779+76.79 | 10.33 | 712.89 | 712.89 |
| Bk. N. Abut. | 779+78.91 | 10.33 | 712.90 | 712.90 |

CROWN

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+16.44 | 12.00 | 712.61 | 712.61 |
| ☉ S. Abut. | 779+18.56 | 12.00 | 712.62 | 712.62 |
| F | 779+28.56 | 12.00 | 712.67 | 712.69 |
| G | 779+38.56 | 12.00 | 712.72 | 712.75 |
| H | 779+48.56 | 12.00 | 712.77 | 712.81 |
| I | 779+58.56 | 12.00 | 712.82 | 712.85 |
| J | 779+68.56 | 12.00 | 712.87 | 712.89 |
| ☉ N. Abut. | 779+75.83 | 12.00 | 712.91 | 712.91 |
| Bk. N. Abut. | 779+77.94 | 12.00 | 712.92 | 712.92 |

BEAM 10

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+13.17 | 17.67 | 712.50 | 712.50 |
| ☉ S. Abut. | 779+15.29 | 17.67 | 712.52 | 712.52 |
| F | 779+25.29 | 17.67 | 712.57 | 712.59 |
| G | 779+35.29 | 17.67 | 712.62 | 712.65 |
| H | 779+45.29 | 17.67 | 712.67 | 712.70 |
| I | 779+55.29 | 17.67 | 712.72 | 712.75 |
| J | 779+65.29 | 17.67 | 712.77 | 712.78 |
| ☉ N. Abut. | 779+72.56 | 17.67 | 712.80 | 712.80 |
| Bk. N. Abut. | 779+74.67 | 17.67 | 712.81 | 712.81 |

BEAM 11

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+08.94 | 25.00 | 712.36 | 712.36 |
| ☉ S. Abut. | 779+11.05 | 25.00 | 712.37 | 712.37 |
| F | 779+21.05 | 25.00 | 712.42 | 712.44 |
| G | 779+31.05 | 25.00 | 712.47 | 712.51 |
| H | 779+41.05 | 25.00 | 712.52 | 712.56 |
| I | 779+51.05 | 25.00 | 712.57 | 712.61 |
| J | 779+61.05 | 25.00 | 712.62 | 712.64 |
| ☉ N. Abut. | 779+68.32 | 25.00 | 712.66 | 712.66 |
| Bk. N. Abut. | 779+70.44 | 25.00 | 712.67 | 712.67 |

BEAM 12

| Location | Station | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|--------------|-----------|--------|------------------------------|--|
| Bk. S. Abut. | 779+04.71 | 32.33 | 712.19 | 712.19 |
| ☉ S. Abut. | 779+06.82 | 32.33 | 712.20 | 712.20 |
| F | 779+16.82 | 32.33 | 712.25 | 712.27 |
| G | 779+26.82 | 32.33 | 712.30 | 712.33 |
| H | 779+36.82 | 32.33 | 712.35 | 712.39 |
| I | 779+46.82 | 32.33 | 712.40 | 712.43 |
| J | 779+56.82 | 32.33 | 712.45 | 712.47 |
| ☉ N. Abut. | 779+64.09 | 32.33 | 712.49 | 712.49 |
| Bk. N. Abut. | 779+66.21 | 32.33 | 712.50 | 712.50 |

Note: Offsets measured to PGL.

(Sheet 2 of 2)



| | | |
|--------------|---------------|-----------|
| USER NAME = | DESIGNED - HP | REVISED - |
| FILE NAME = | CHECKED - RPW | REVISED - |
| PLOT SCALE = | DRAWN - AJF | REVISED - |
| PLOT DATE = | CHECKED - MTH | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS
STRUCTURE NO. 055-0075**

SHEET NO. 4 OF 20 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------------------|-----------|--------------|-----------|
| 407 | 55[3]PV,HB[2-6];B,B-1,B-2] | MCDONOUGH | 874 | 509 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

WEST EDGE OF SHOULDER

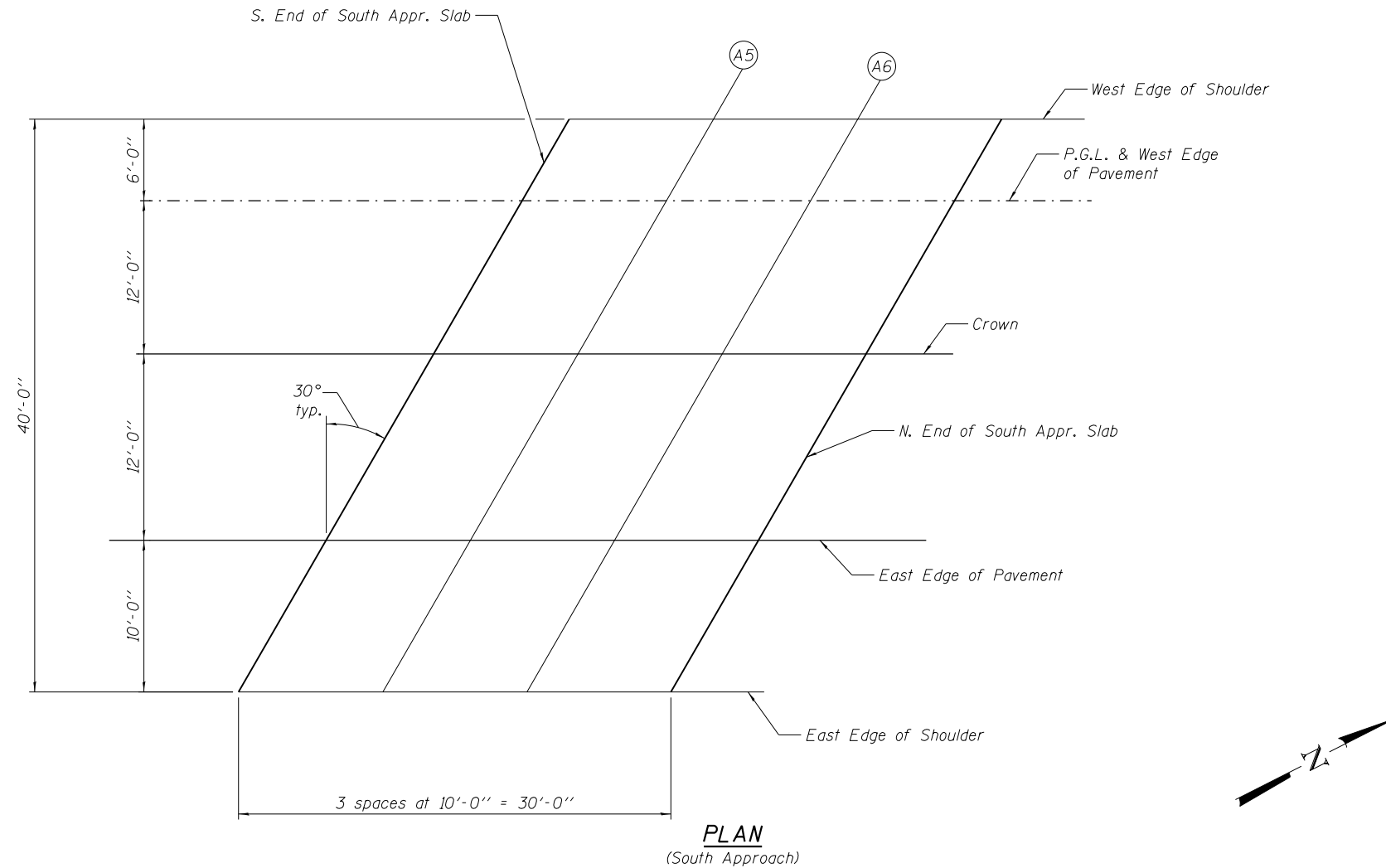
| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of S. Appr. Slab | 778+97.99 | -6.00 | 712.20 |
| A5 | 779+07.99 | -6.00 | 712.25 |
| A6 | 779+17.99 | -6.00 | 712.30 |
| N. End of S. Appr. Slab | 779+27.99 | -6.00 | 712.35 |

PROFILE GRADE & WEST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of S. Appr. Slab | 778+94.52 | 0.00 | 712.31 |
| A5 | 779+04.52 | 0.00 | 712.36 |
| A6 | 779+14.52 | 0.00 | 712.41 |
| N. End of S. Appr. Slab | 779+24.52 | 0.00 | 712.46 |

CROWN

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of S. Appr. Slab | 778+87.60 | 12.00 | 712.47 |
| A5 | 778+97.60 | 12.00 | 712.52 |
| A6 | 779+07.60 | 12.00 | 712.57 |
| N. End of S. Appr. Slab | 779+17.60 | 12.00 | 712.62 |



EAST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of S. Appr. Slab | 778+80.67 | 24.00 | 712.24 |
| A5 | 778+90.67 | 24.00 | 712.29 |
| A6 | 779+00.67 | 24.00 | 712.34 |
| N. End of S. Appr. Slab | 779+10.67 | 24.00 | 712.39 |

EAST EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of S. Appr. Slab | 778+74.89 | 34.00 | 712.01 |
| A5 | 778+84.89 | 34.00 | 712.06 |
| A6 | 778+94.89 | 34.00 | 712.11 |
| N. End of S. Appr. Slab | 779+04.89 | 34.00 | 712.16 |

Note: Offsets measured to P.G.L.

(Sheet 1 of 2)

WEST EDGE OF SHOULDER

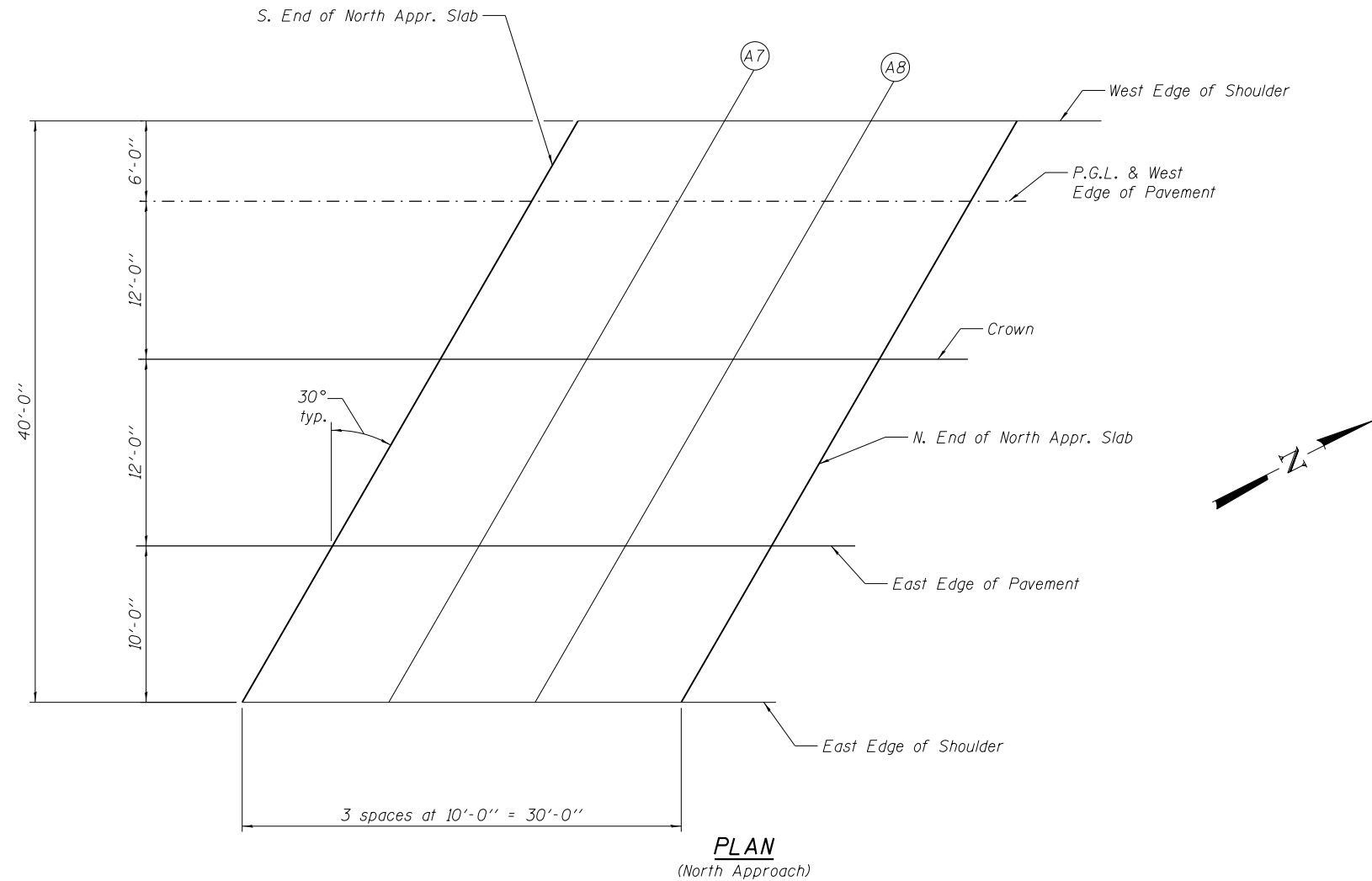
| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of N. Appr. Slab | 779+87.18 | -6.00 | 712.65 |
| A7 | 779+97.18 | -6.00 | 712.70 |
| A8 | 780+07.18 | -6.00 | 712.75 |
| N. End of N. Appr. Slab | 780+17.18 | -6.00 | 712.80 |

PROFILE GRADE & WEST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of N. Appr. Slab | 779+83.72 | 0.00 | 712.76 |
| A7 | 779+93.72 | 0.00 | 712.81 |
| A8 | 780+03.72 | 0.00 | 712.86 |
| N. End of N. Appr. Slab | 780+13.72 | 0.00 | 712.91 |

CROWN

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of N. Appr. Slab | 779+76.79 | 12.00 | 712.91 |
| A7 | 779+86.79 | 12.00 | 712.96 |
| A8 | 779+96.79 | 12.00 | 713.01 |
| N. End of N. Appr. Slab | 780+06.79 | 12.00 | 713.06 |



EAST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of N. Appr. Slab | 779+69.86 | 24.00 | 712.69 |
| A7 | 779+79.86 | 24.00 | 712.74 |
| A8 | 779+89.86 | 24.00 | 712.79 |
| N. End of N. Appr. Slab | 779+99.86 | 24.00 | 712.84 |

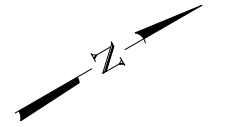
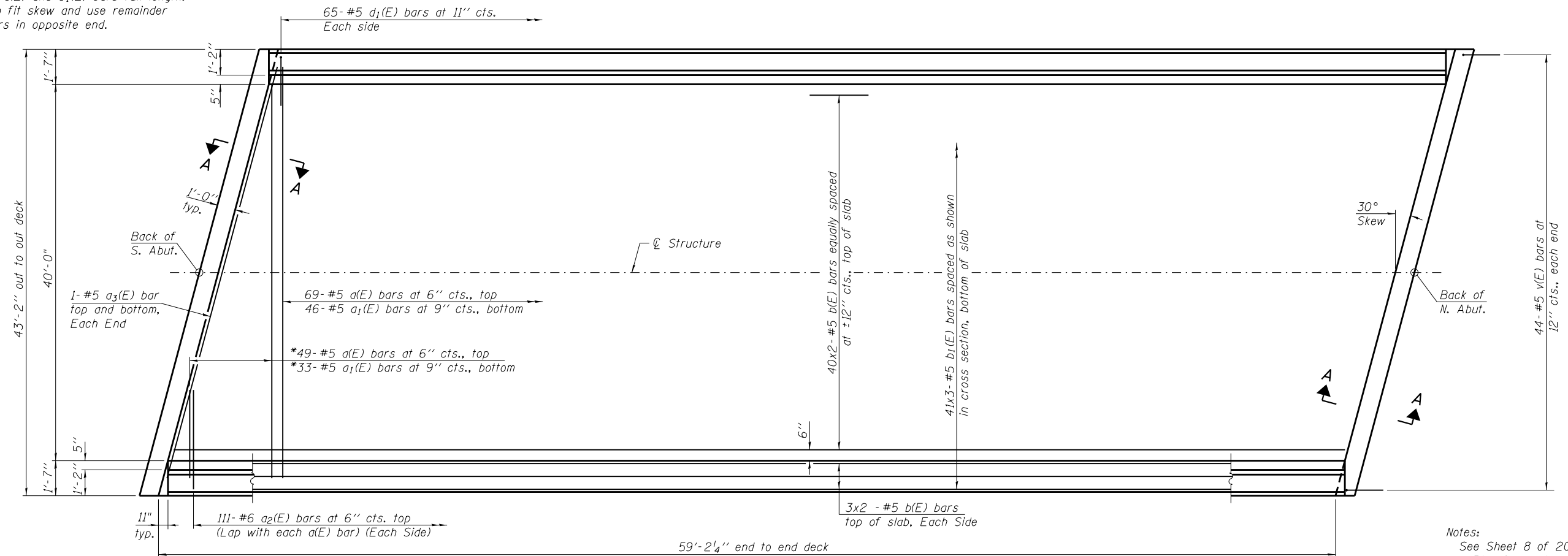
EAST EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------------|-----------|--------|------------------------------|
| S. End of N. Appr. Slab | 779+64.09 | 34.00 | 712.45 |
| A7 | 779+74.09 | 34.00 | 712.50 |
| A8 | 779+84.09 | 34.00 | 712.55 |
| N. End of N. Appr. Slab | 779+94.09 | 34.00 | 712.60 |

Note: Offsets measured to P.G.L.

(Sheet 2 of 2)

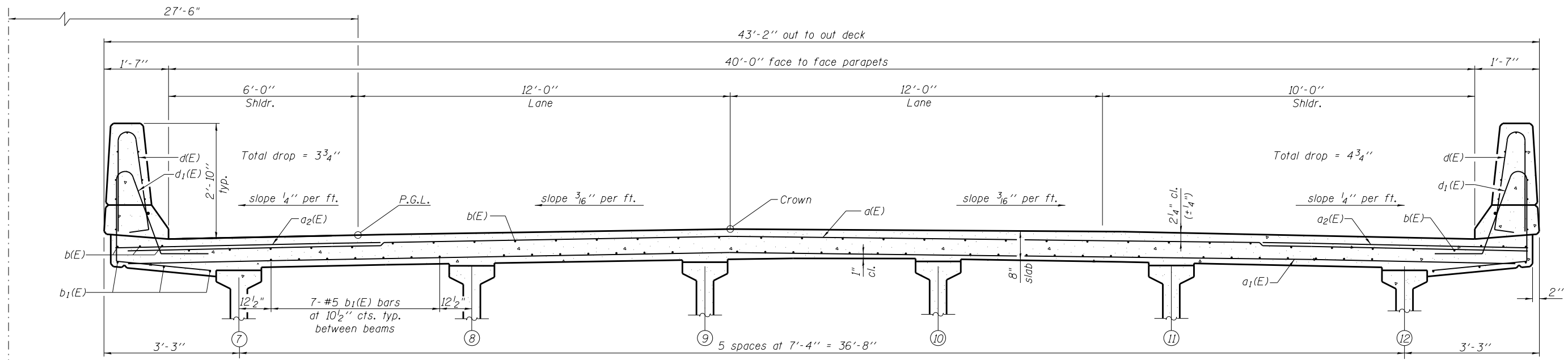
* Order a(E) and a₁(E) bars full length.
Cut to fit skew and use remainder
of bars in opposite end.



MINIMUM BAR LAP
(Deck)
#5 bar = 2'-7"

PLAN

Notes:
See Sheet 8 of 20 for superstructure details
and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates
20 lines of bars with 3 lengths per line.
See Sheet 8 of 20 for parapet reinforcement.
See sheet 9 of 20 for Section A-A.



CROSS SECTION
(Looking North)



| | | |
|--------------|---------------|-----------|
| USER NAME = | DESIGNED - HP | REVISED - |
| FILE NAME = | CHECKED - RPW | REVISED - |
| PLOT SCALE = | DRAWN - AJF | REVISED - |
| PLOT DATE = | CHECKED - MTH | REVISED - |

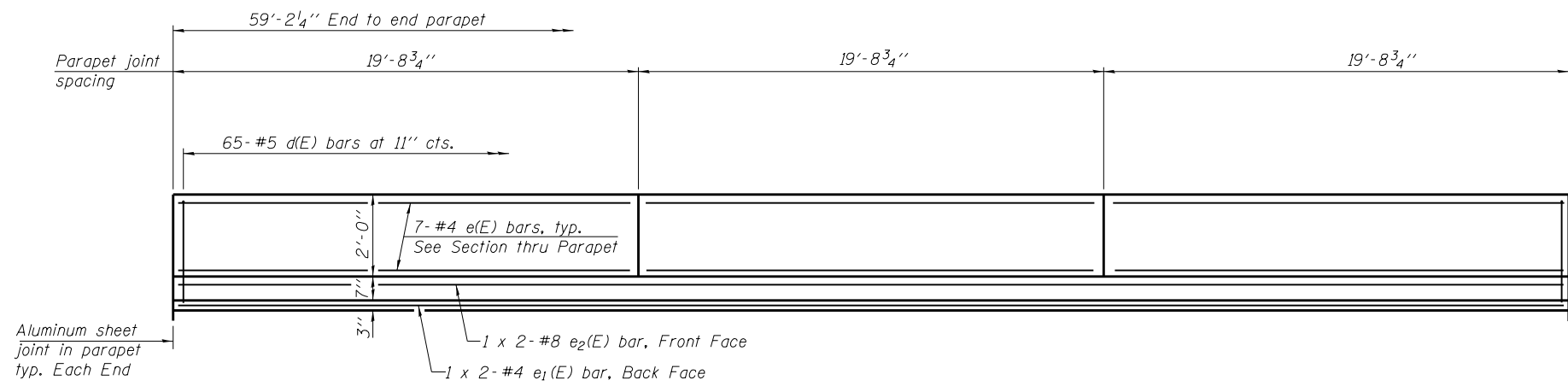
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE
STRUCTURE NO. 055-0075**

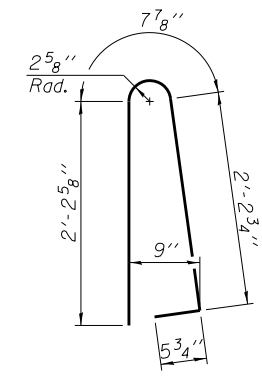
SHEET NO. 7 OF 20 SHEETS

| | | | | |
|--------------------|-----------------------------|-----------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55[3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 512 |
| CONTRACT NO. 68B44 | | | | |

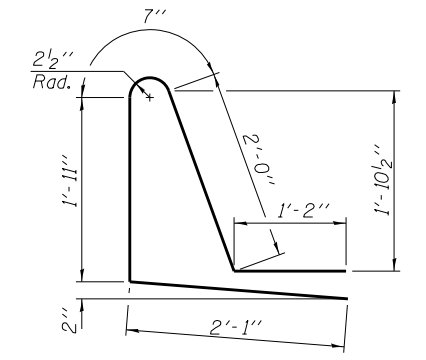
ILLINOIS FED. AID PROJECT



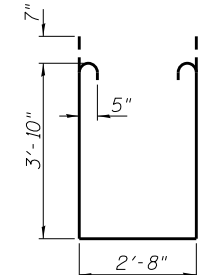
INSIDE ELEVATION OF PARAPET



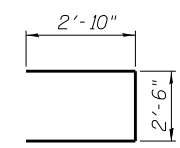
BAR d(E)



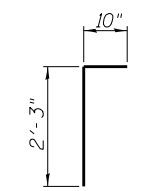
BAR d1(E)



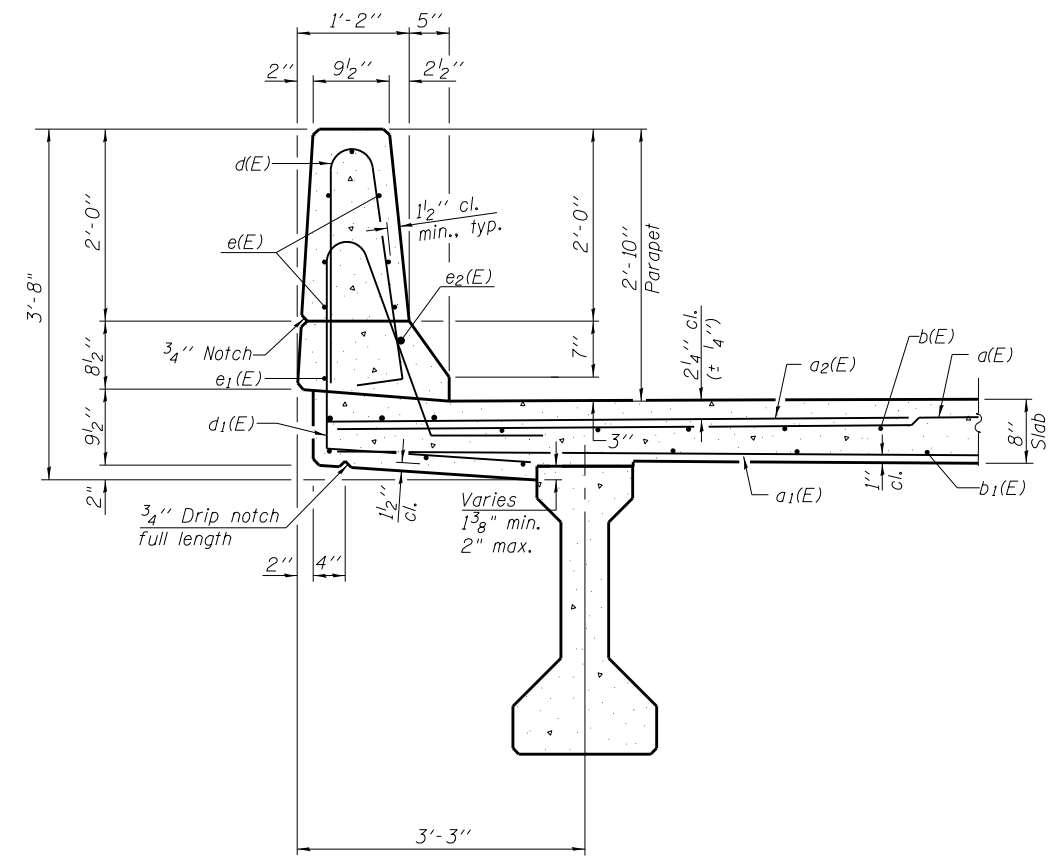
BAR s1(E)



BAR s(E)

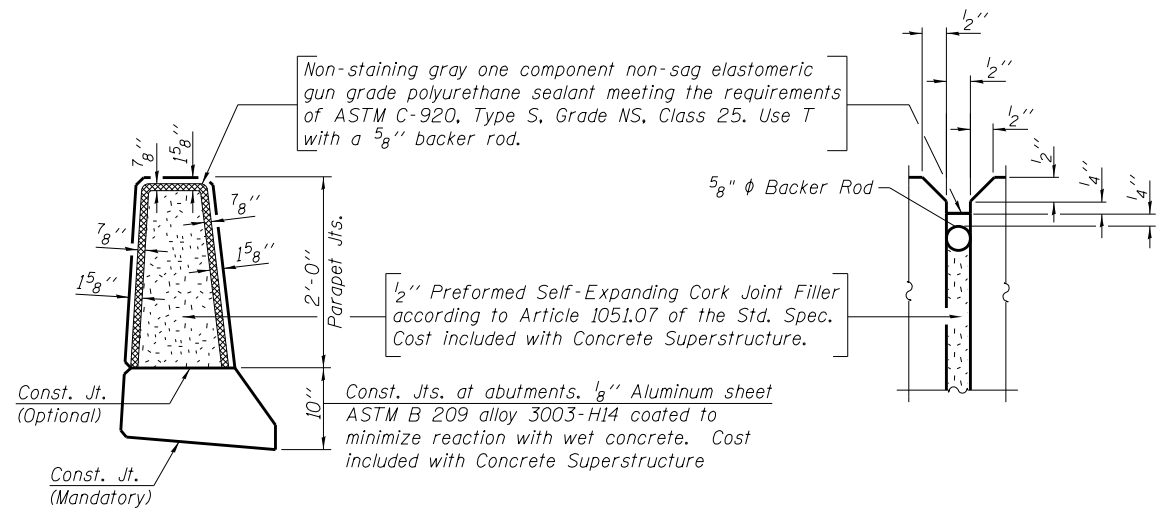


BAR v(E)



SECTION THRU PARAPET

MINIMUM BAR LAP
 (Parapet)
 #4 bar = 2'-0"
 #8 bar = 5'-2"

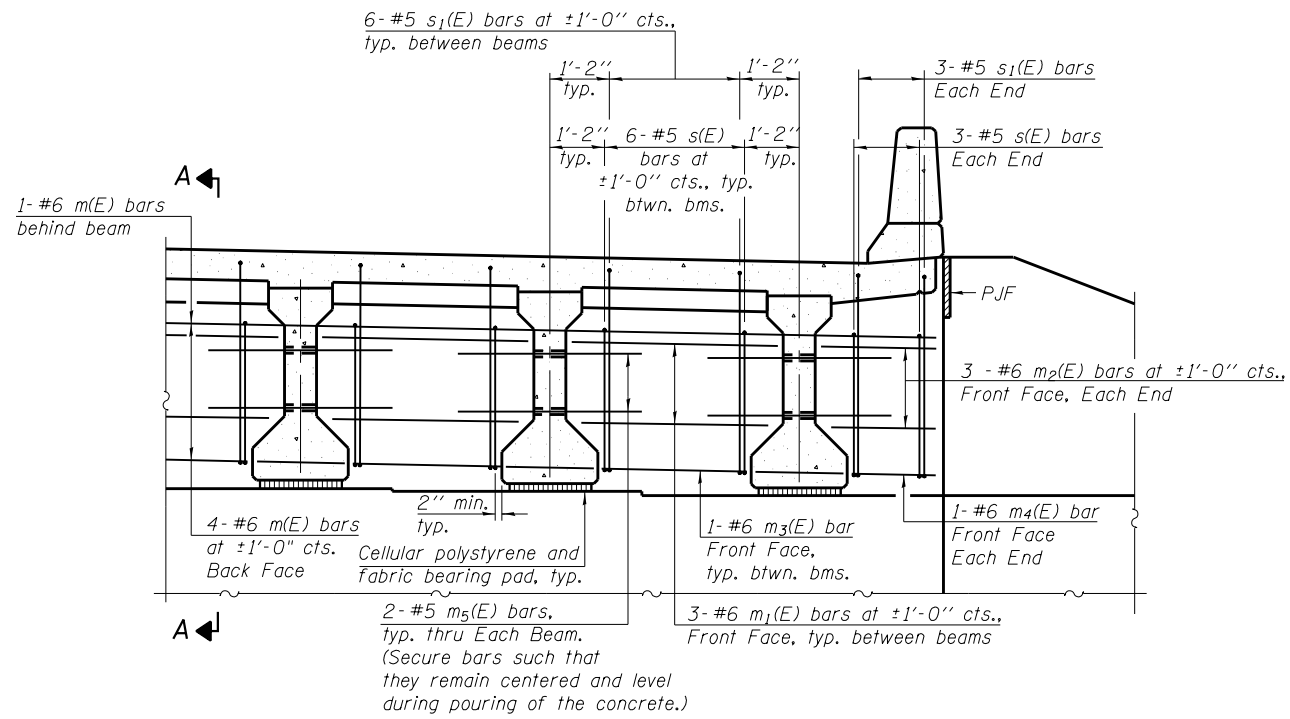


PARAPET JOINT DETAILS

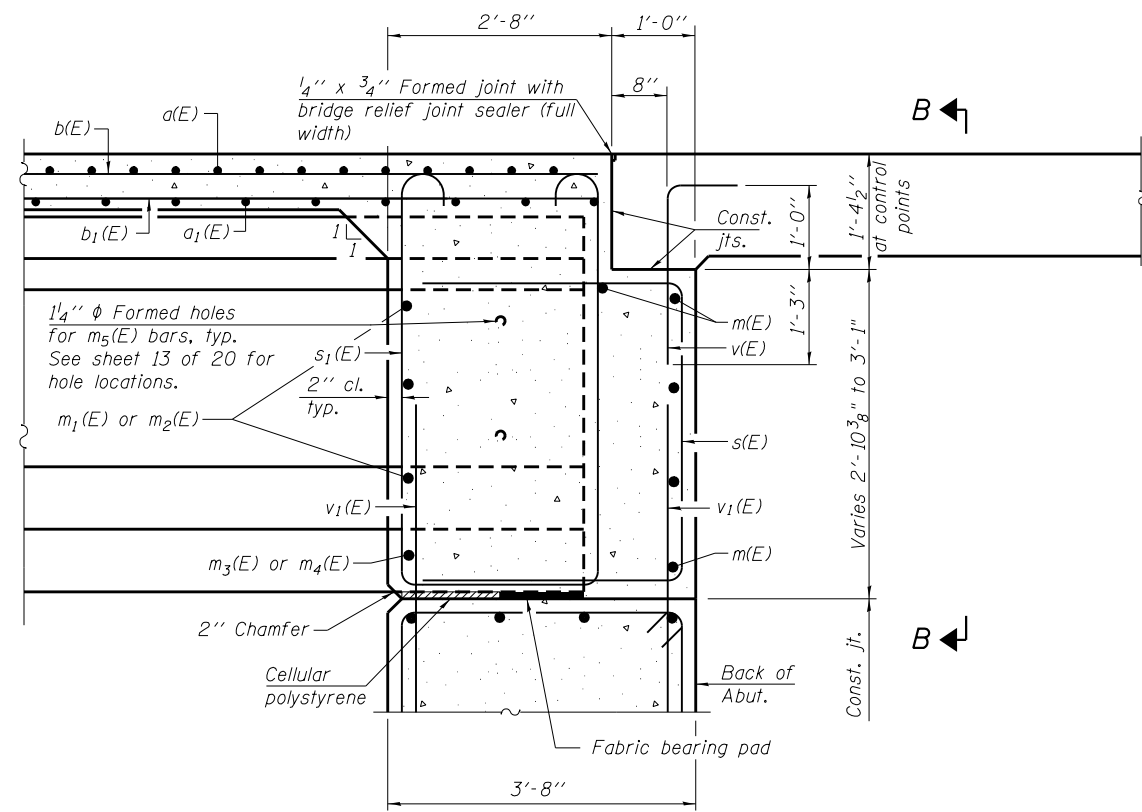
SUPERSTRUCTURE BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|----------|--------|
| d(E) | 118 | #5 | 42'-6" | — |
| a1(E) | 79 | #5 | 41'-10" | — |
| a2(E) | 222 | #6 | 6'-6" | — |
| a3(E) | 4 | #5 | 49'-1" | — |
| b(E) | 92 | #5 | 30'-9" | — |
| b1(E) | 123 | #5 | 21'-5" | — |
| d(E) | 130 | #5 | 5'-7" | ⌒ |
| d1(E) | 130 | #5 | 7'-9" | ⌒ |
| e(E) | 42 | #4 | 19'-4" | — |
| e1(E) | 4 | #4 | 30'-7" | — |
| e2(E) | 4 | #8 | 32'-2" | — |
| m(E) | 10 | #6 | 49'-6" | — |
| m1(E) | 30 | #6 | 7'-6" | — |
| m2(E) | 12 | #6 | 3'-1" | — |
| m3(E) | 10 | #6 | 6'-0" | — |
| m4(E) | 4 | #6 | 2'-4" | — |
| m5(E) | 24 | #5 | 4'-0" | — |
| s(E) | 72 | #5 | 8'-2" | ⌒ |
| s1(E) | 72 | #5 | 11'-6" | ⌒ |
| v(E) | 88 | #5 | 3'-1" | ⌒ |
| Reinforcement Bars, Epoxy Coated | | | Pound | 22,630 |
| Concrete Superstructure | | | Cu. Yds. | 121.8 |

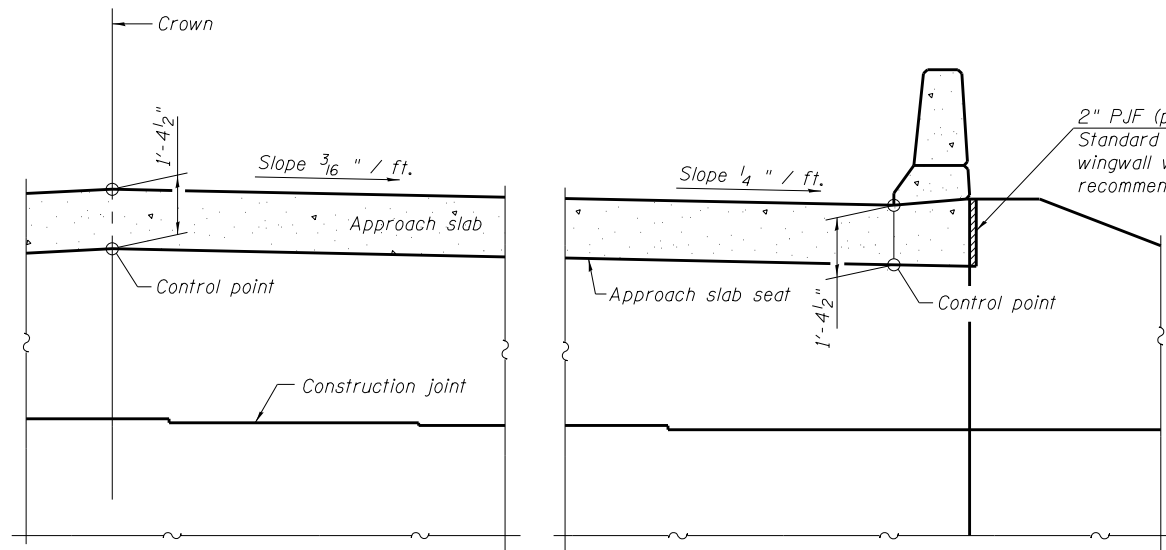
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



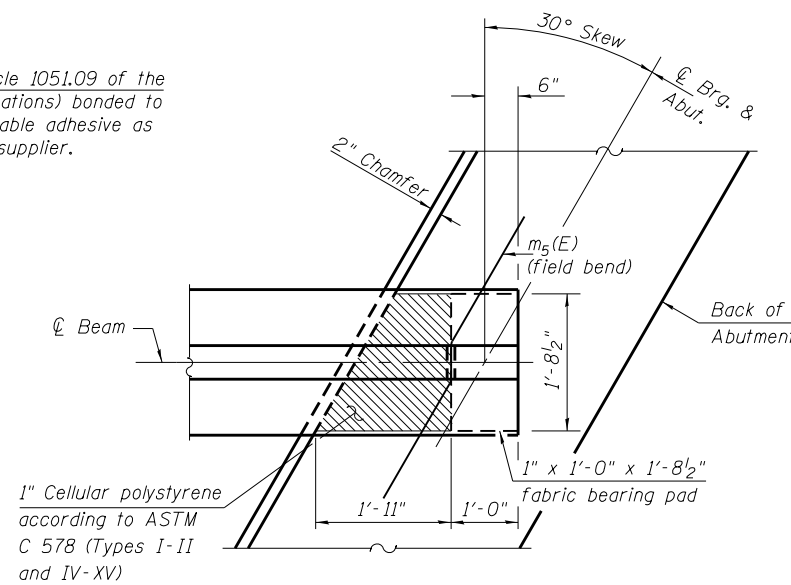
DIAPHRAGM ELEVATION AT ABUTMENT



SECTION A-A
(At Rt. L's)



SECTION B-B

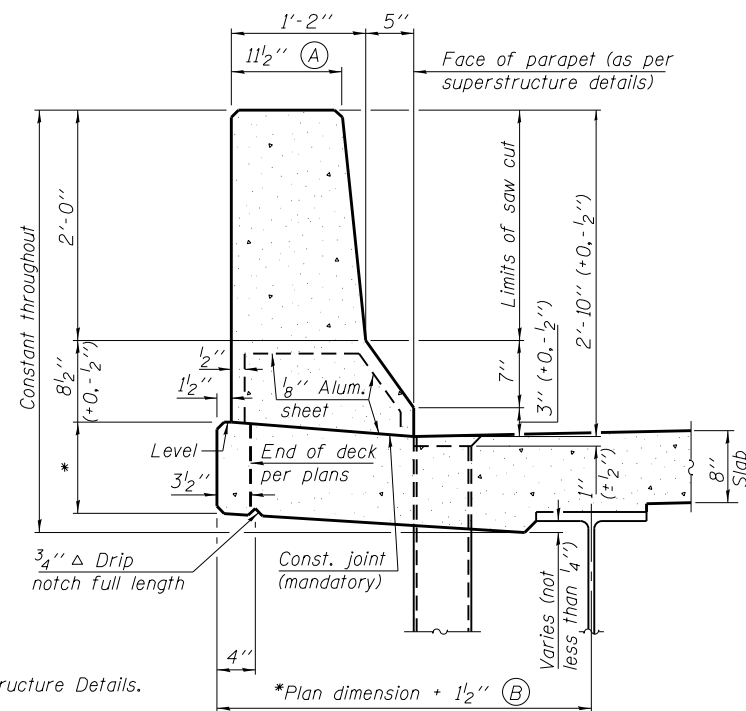


PARTIAL PLAN AT ABUTMENT
(Showing bottom flange of beam)

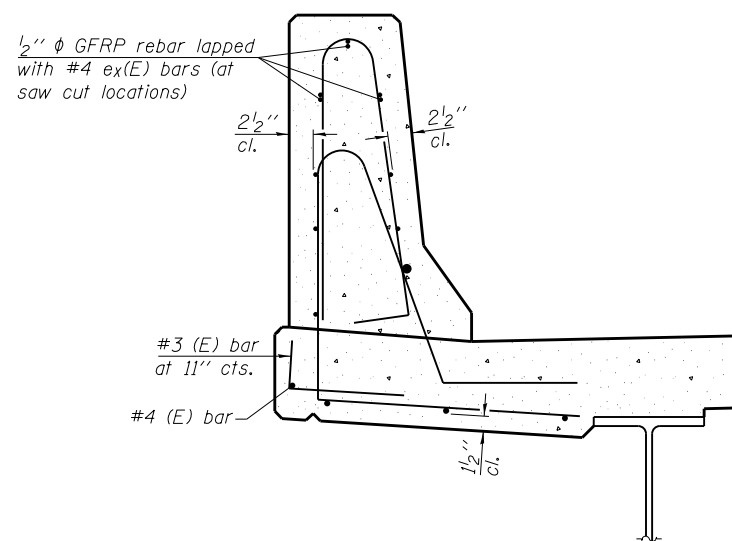
Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 20.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 20.
 For details of bars s(E), s1(E) and v(E) see sheet 8 of 20.
 The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.
 The approach slab seat shall have a constant slope determined from the control points shown.
 Cost of cellular polystyrene is included with Concrete Superstructure.

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

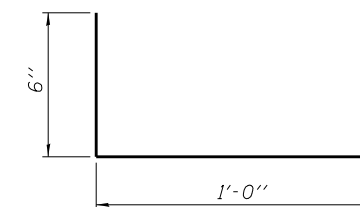


34" F SHAPE PARAPET SECTION
(Showing dimensions)



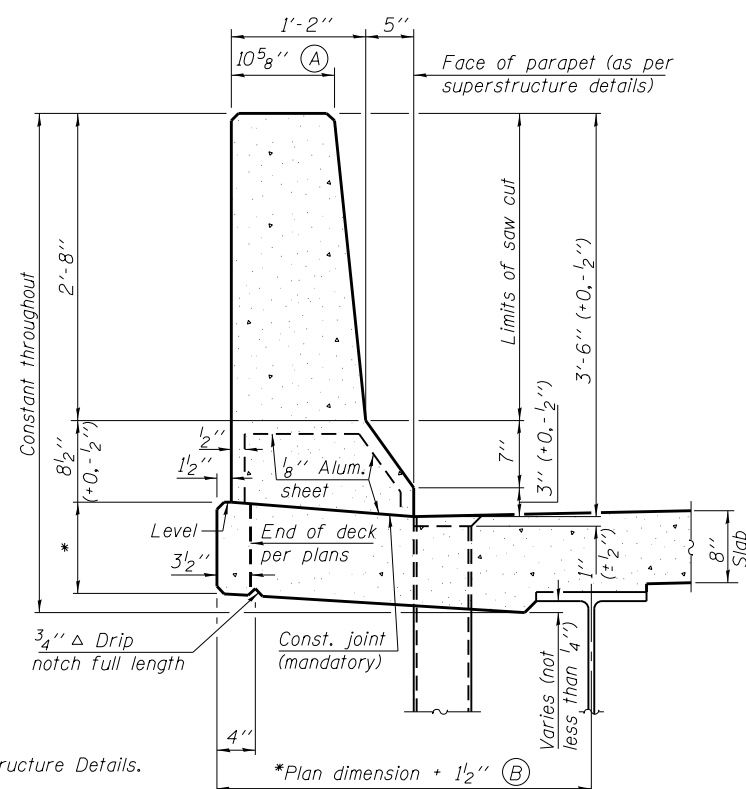
SECTION

(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

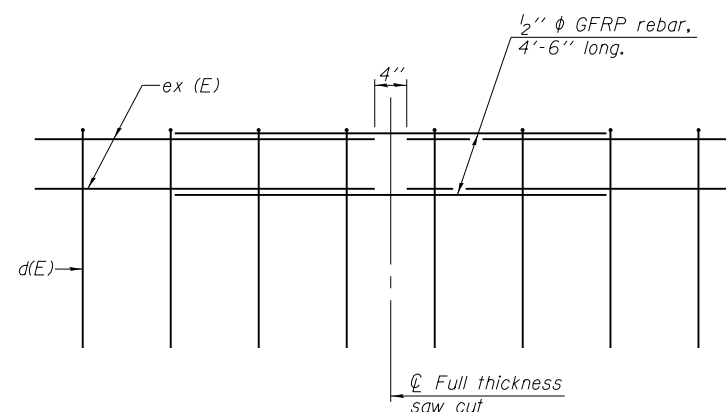


#3 (E) BAR

*See Superstructure Details.



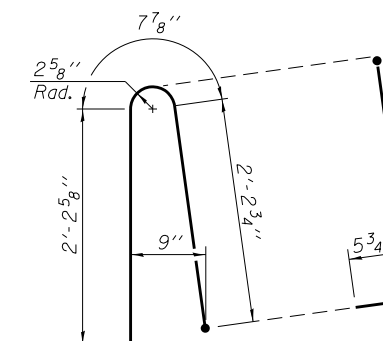
42" F SHAPE PARAPET SECTION
(Showing dimensions)



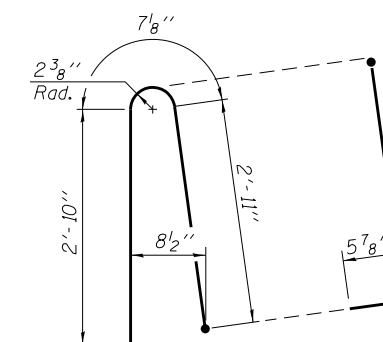
GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

*See Superstructure Details.



ALTERNATE BAR d(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)
(For 42" parapet when conduit is present)

SFP 34-42

8-16-12



| | | |
|--------------|---------------|-----------|
| USER NAME = | DESIGNED - HP | REVISED - |
| FILE NAME = | CHECKED - RPW | REVISED - |
| PLOT SCALE = | DRAWN - AJF | REVISED - |
| PLOT DATE = | CHECKED - MTH | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

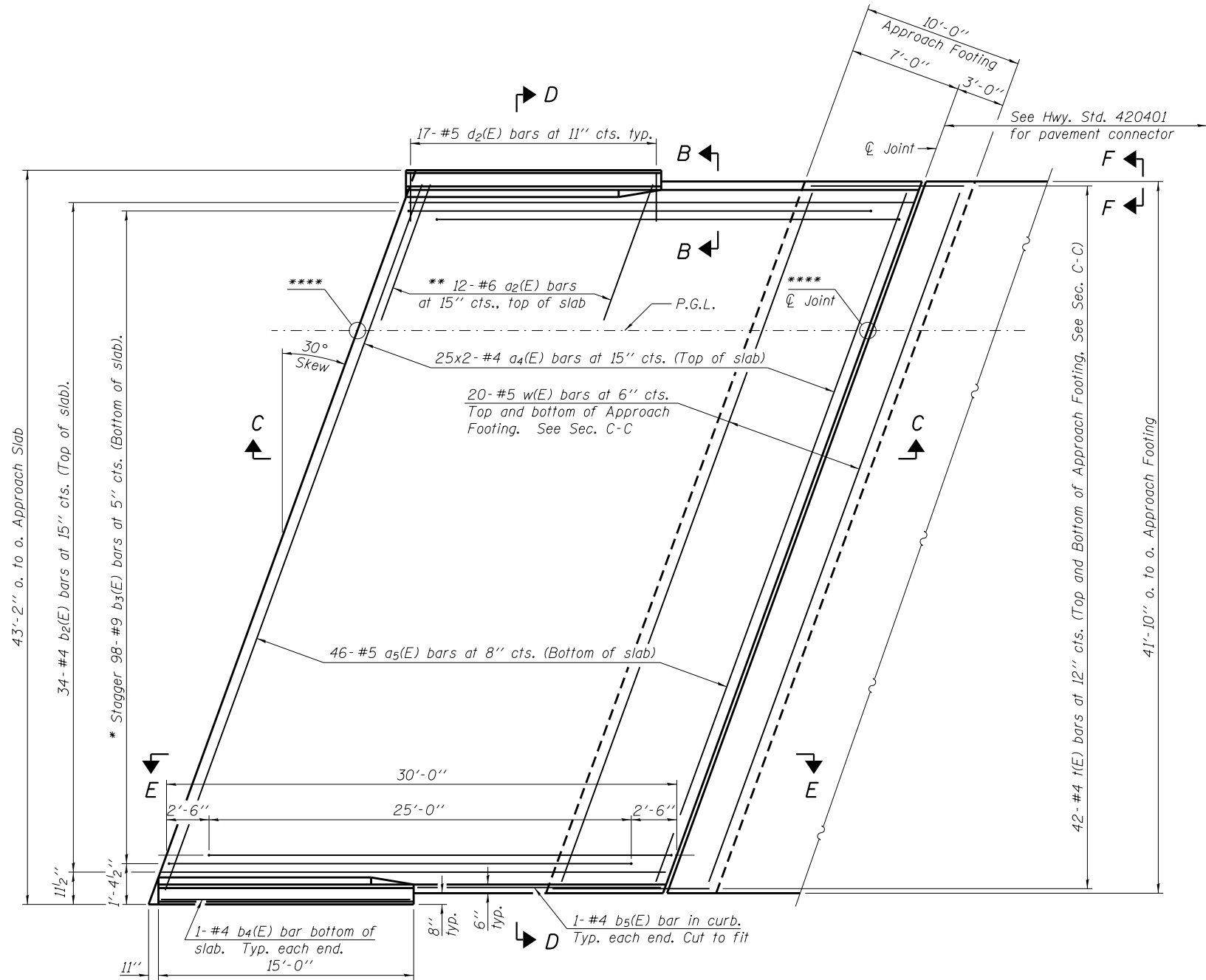
CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 055-0075

SHEET NO. 9A OF 20 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 514A |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

Notes:
 See sheet 11 of 20 for Sections C-C & D-D and View E-E.
 $a_4(E)$ and $a_5(E)$ bar spacings measured along ϕ Structure.
 The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be $1\frac{1}{2}$ " for installation purposes.

*** Cost included with Concrete Superstructure.

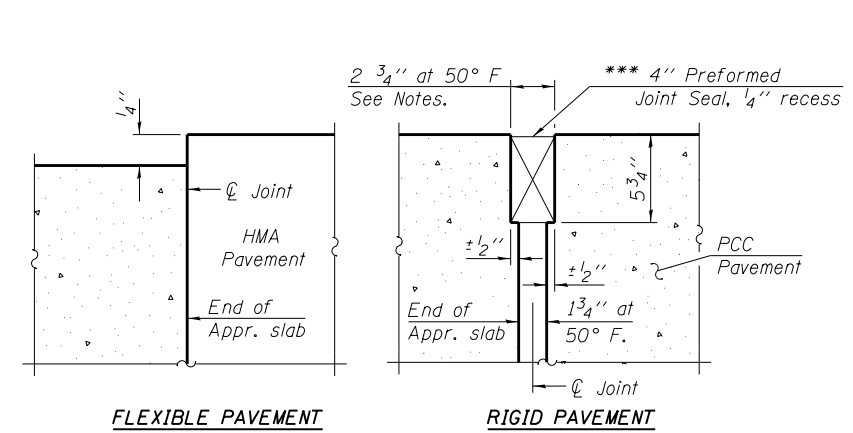


PLAN

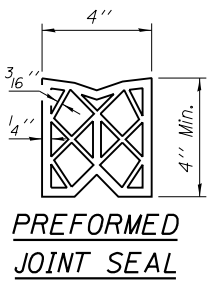
(North Approach shown, South Approach similar)

MINIMUM BAR LAP

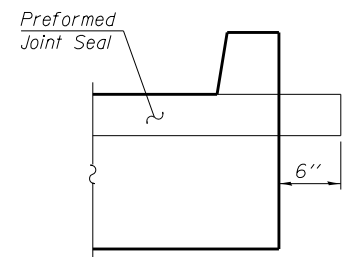
#4 bar = 2'-4"



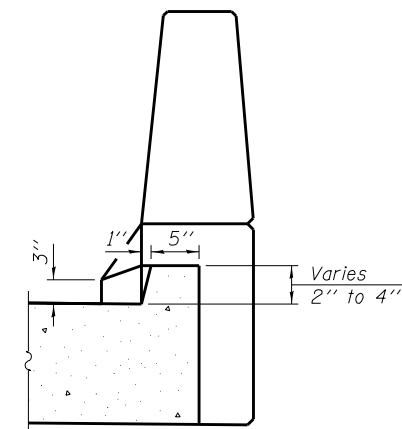
DETAIL A



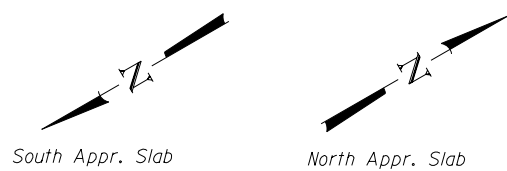
PREFORMED JOINT SEAL



VIEW F-F



VIEW B-B



- * Tilt #9 $b_3(E)$ bars as required to maintain clearance.
- ** Space between $a_4(E)$ bars, typ. each parapet.
- **** See sheets 5 and 6 of 20 for beginning and ending of approach slab stations along P.G.L.

(Sheet 1 of 2)



| | | |
|--------------|---------------|-----------|
| USER NAME = | DESIGNED - HP | REVISED - |
| FILE NAME = | CHECKED - RPW | REVISED - |
| PLOT SCALE = | DRAWN - AJF | REVISED - |
| PLOT DATE = | CHECKED - MTH | REVISED - |

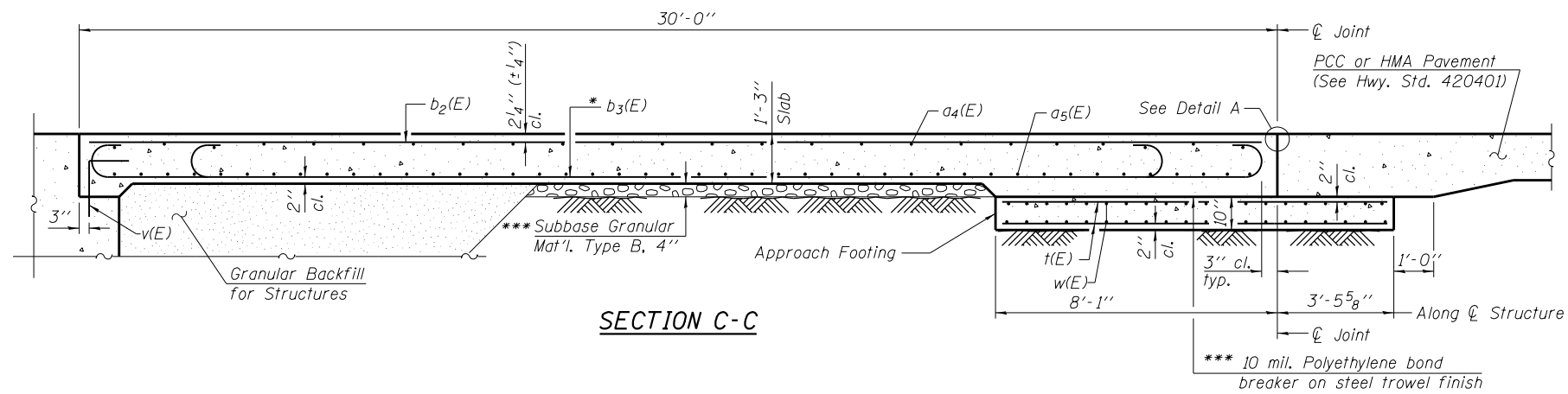
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 055-0075**

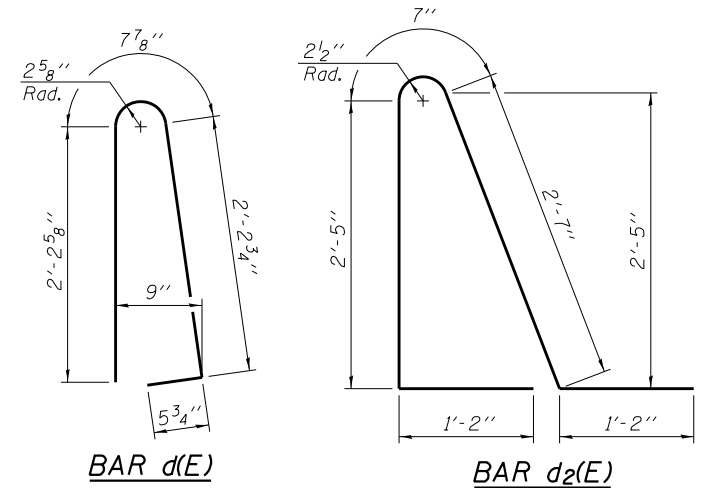
SHEET NO. 10 OF 20 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|-----------|--------------|-----------|
| 407 | 55[3]PV,HB[2-6]B,B-1,B-2] | McDONOUGH | 874 | 515 |
| CONTRACT NO. 68B44 | | | | |

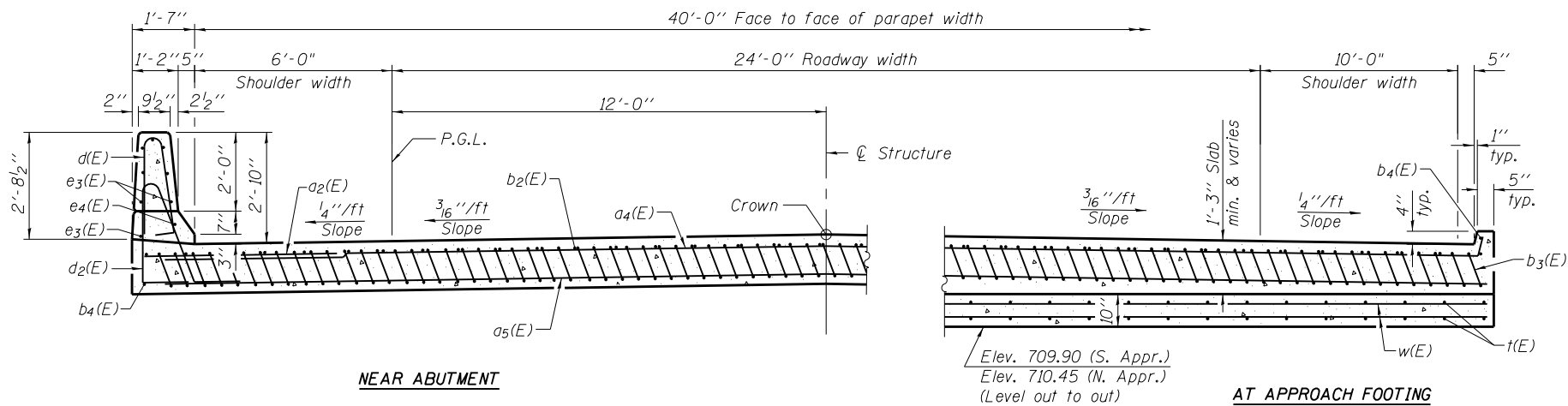
ILLINOIS FED. AID PROJECT



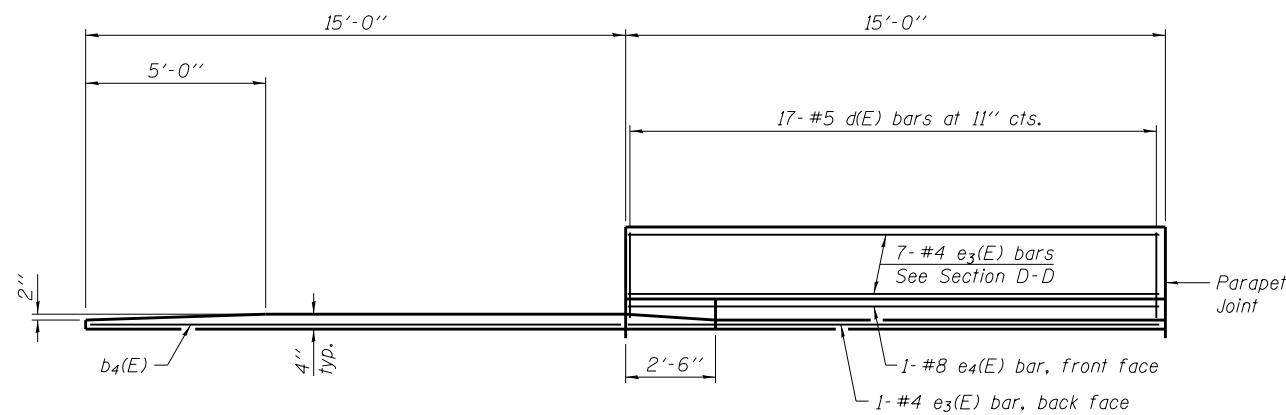
Notes:
 See sheet 10 of 20 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 7 thru 9 of 20.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 20.
 For additional parapet details, see sheet 8 of 20.



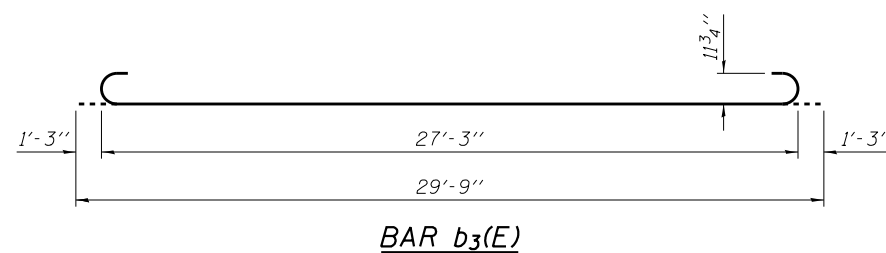
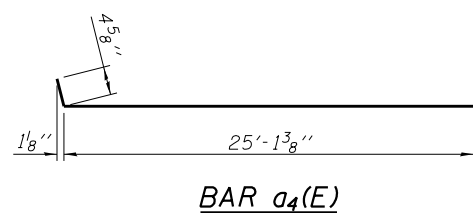
* Tilt #9 b3(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.



SECTION D-D
 (See Plan for dimensions not shown)
 (North Approach shown, South Approach similar)



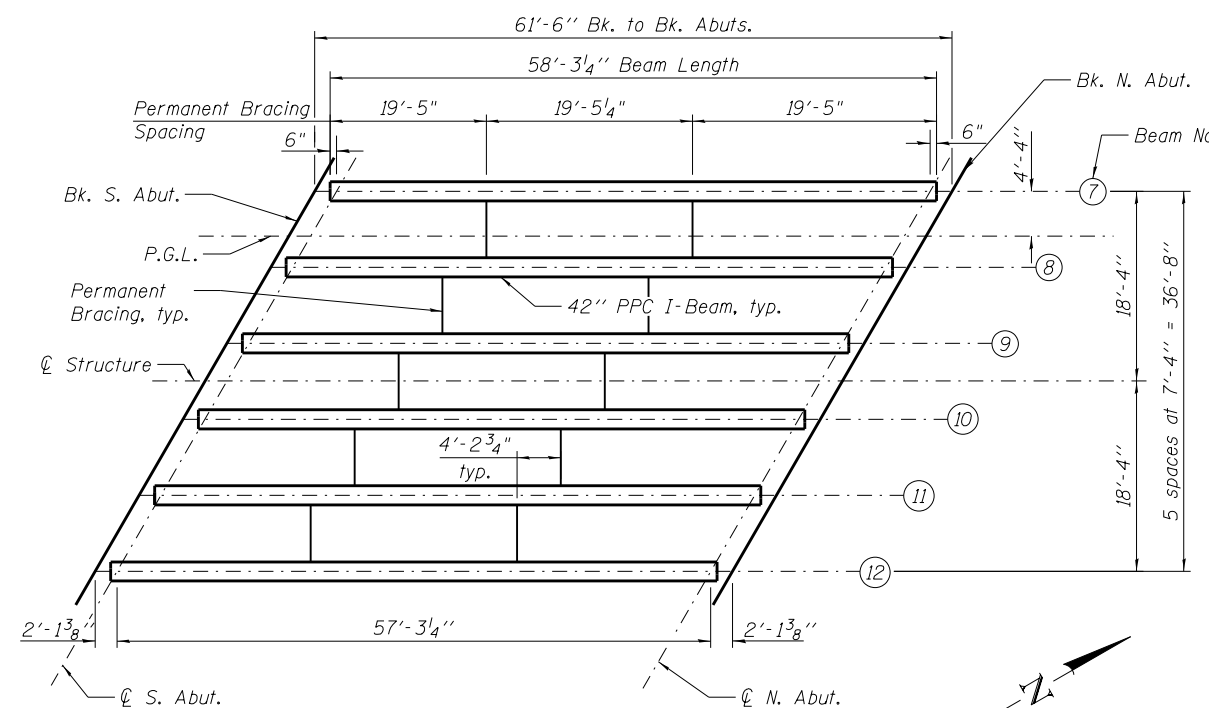
VIEW E-E



TWO APPROACHES
 BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|---------|-------|
| a2(E) | 48 | #6 | 6'-6" | — |
| a4(E) | 100 | #4 | 25'-6" | — |
| a5(E) | 92 | #5 | 47'-11" | — |
| b2(E) | 68 | #4 | 29'-8" | — |
| b3(E) | 196 | #9 | 29'-9" | U |
| b4(E) | 4 | #4 | 14'-8" | — |
| b5(E) | 4 | #4 | 15'-0" | — |
| d(E) | 68 | #5 | 5'-7" | U |
| d2(E) | 68 | #5 | 7'-11" | U |
| e3(E) | 32 | #4 | 14'-8" | — |
| e4(E) | 4 | #8 | 14'-8" | — |
| t(E) | 168 | #4 | 11'-2" | — |
| w(E) | 80 | #5 | 47'-11" | — |
| Concrete Superstructure | | Cu. Yd. | 128.7 | |
| Concrete Structures | | Cu. Yd. | 29.9 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 34,710 | |

(Sheet 2 of 2)

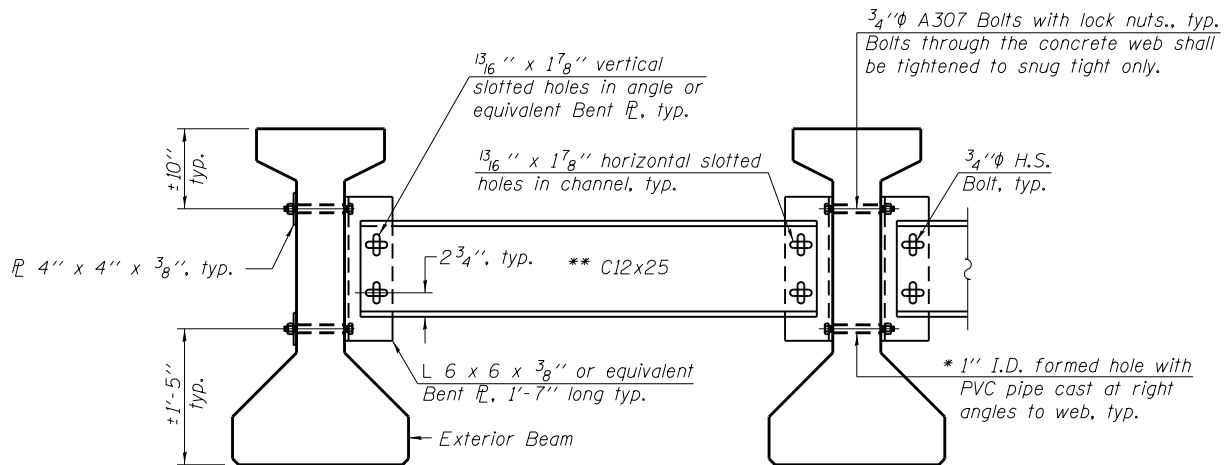


FRAMING PLAN

| INTERIOR BEAM MOMENT TABLE | | |
|----------------------------|--------------------|--------|
| 0.5 Sp. 1 | | |
| I | (in ⁴) | 90956 |
| I' | (in ⁴) | 294120 |
| S_b | (in ³) | 5153 |
| S_b' | (in ³) | 8951 |
| S_t | (in ³) | 3735 |
| S_t' | (in ³) | 32180 |
| $DC1$ | (k/ft) | 1.234 |
| M_{DC1} | (k) | 510 |
| $DC2$ | (k/ft) | 0.150 |
| M_{DC2} | (k) | 62 |
| DW | (k/ft) | 0.333 |
| M_{DW} | (k) | 137 |
| $M_{LL + IM}$ | (k) | 812 |

| INTERIOR BEAM REACTION TABLE | | |
|------------------------------|-----|-------|
| Abut. | | |
| R_{DC1} | (k) | 35.6 |
| R_{DC2} | (k) | 4.3 |
| R_{DW} | (k) | 9.5 |
| $R_{LL + IM}$ | (k) | 83.9 |
| R_{Total} | (k) | 133.3 |

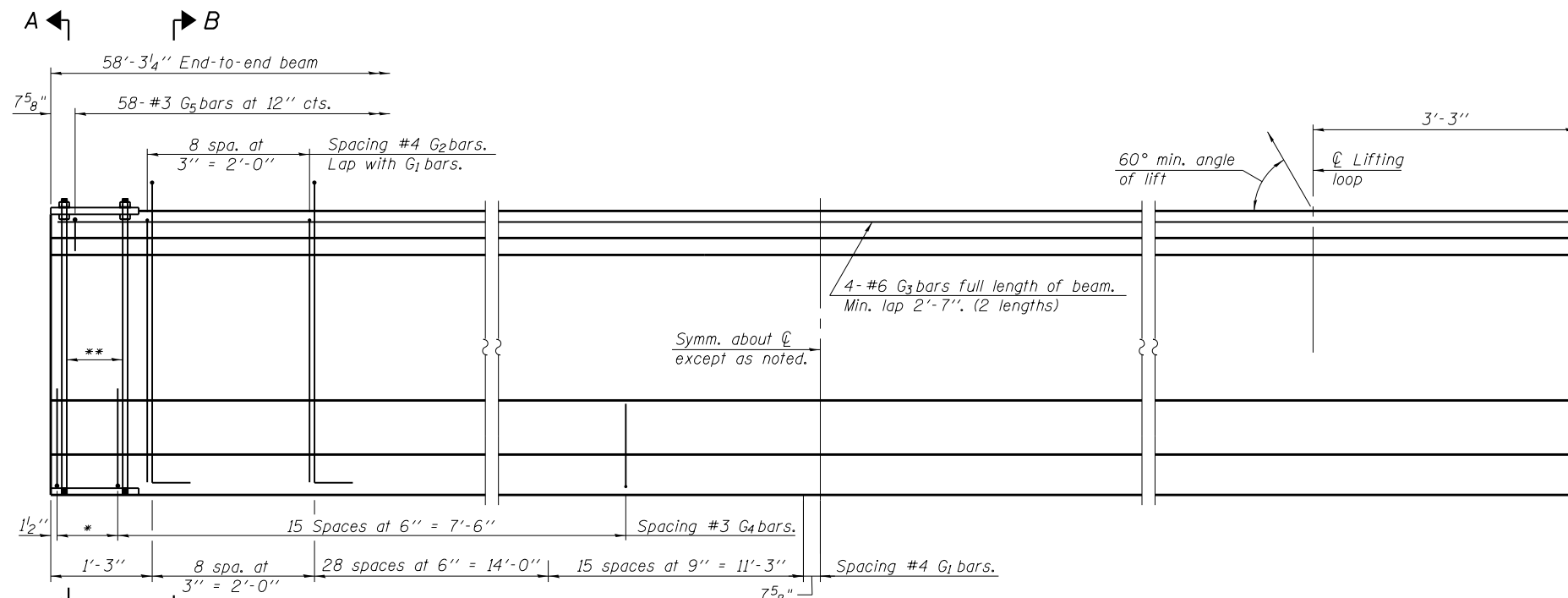
I : Non-composite moment of inertia of beam section (in⁴).
 I' : Composite moment of inertia of beam section (in⁴).
 S_b : Non-composite section modulus for the bottom fiber of the prestressed beam (in³).
 S_b' : Composite section modulus for the bottom fiber of the prestressed beam (in³).
 S_t : Non-composite section modulus for the top fiber of the prestressed beam (in³).
 S_t' : Composite section modulus for the top fiber of the prestressed beam (in³).
 $DC1$: Un-factored non-composite dead load (kips/ft).
 M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft).
 $DC2$: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft).
 M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft).
 DW : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft).
 M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
 $M_{LL + IM}$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft).



Notes:
 All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
 Two hardened washers are required for each set of oversized holes.
 All holes shall be 5/16" ϕ unless otherwise noted.
 5/16" x 3" x 3" plate washers are required over all slotted holes.
 All bolts shall be galvanized according to AASHTO M232.
 Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
 Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

* Fabricator shall locate to miss strands within permissible tolerances.
 ** Alternate C12x30 channels are permitted to facilitate material acquisition.

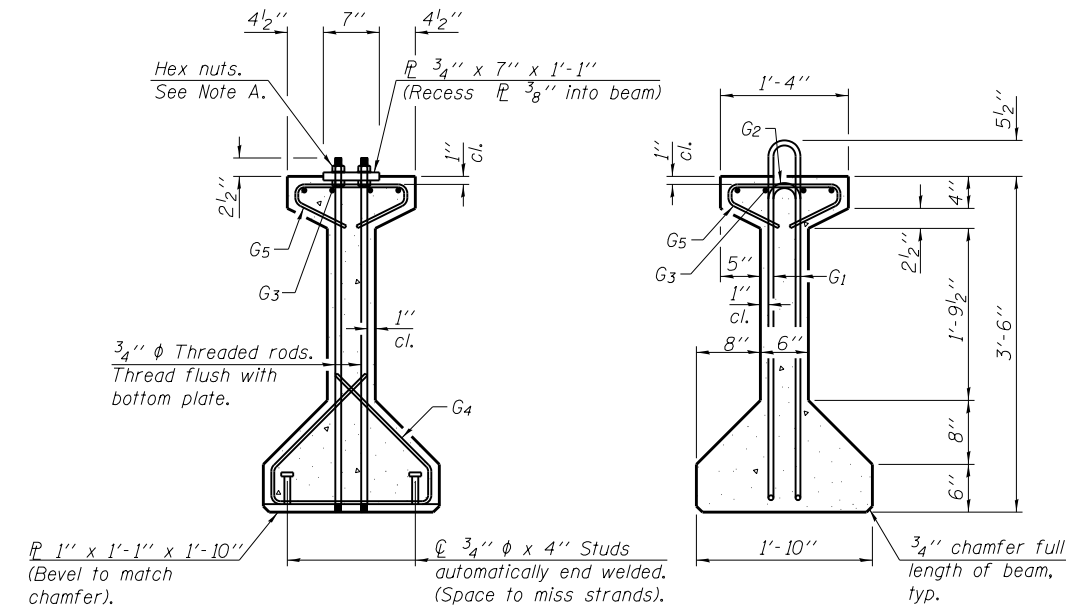
PERMANENT BRACING DETAILS



ELEVATION OF BEAM
(Showing reinforcement & dimensions)

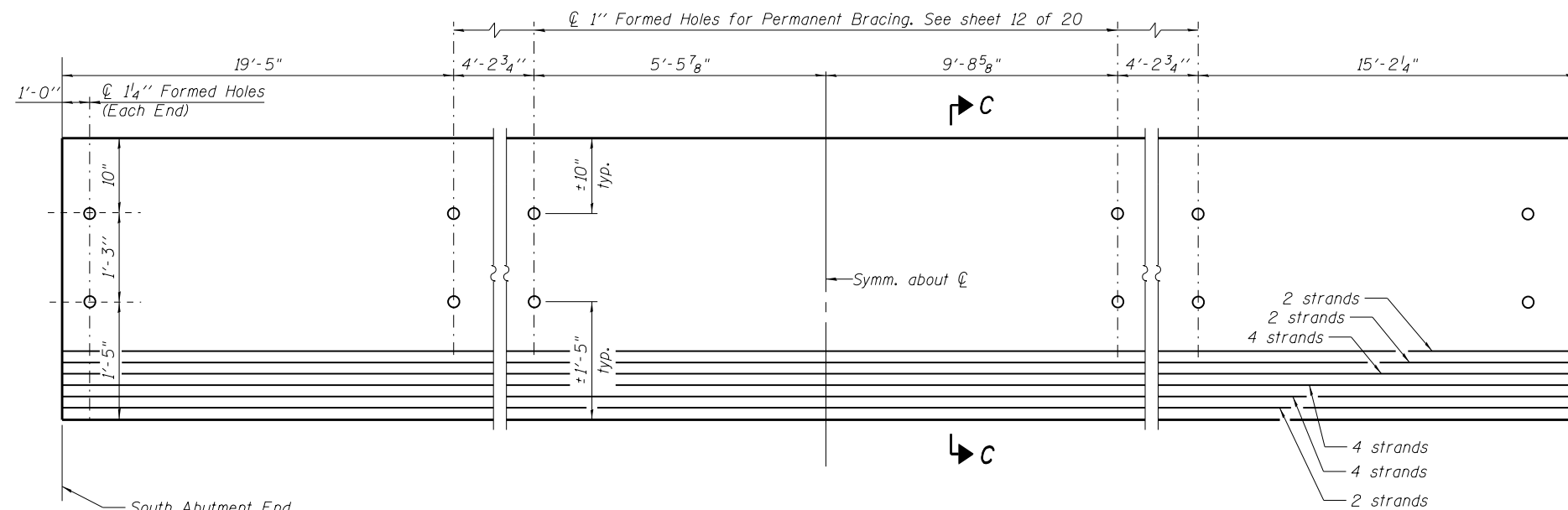
*3 spaces at 3" = 9".
**4-3/4" φ threaded dowel rods at 3" cts., Each Face.

Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

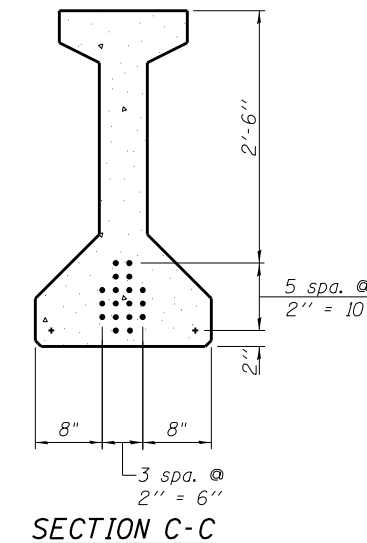


SECTION A-A

SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C

*****BAR LIST
ONE BEAM ONLY**

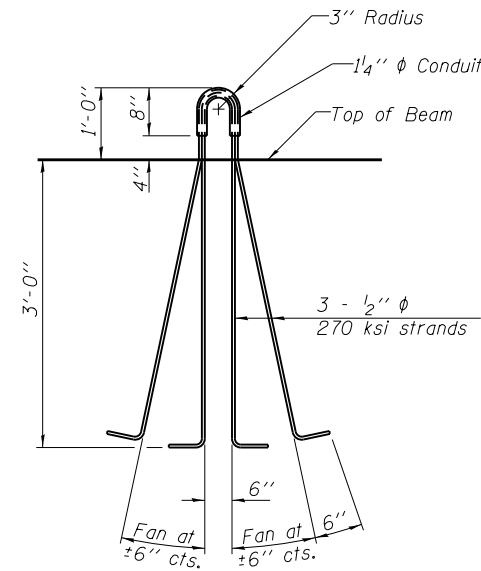
| Bar | No. | Size | Length | Shape |
|----------------|-----|------|--------|-------|
| G ₁ | 105 | #4 | 8'-7" | ∩L |
| G ₂ | 18 | #4 | 6'-8" | ∩ |
| G ₃ | 8 | #6 | 30'-4" | — |
| G ₄ | 38 | #3 | 4'-11" | — |
| G ₅ | 58 | #3 | 2'-6" | ∩ |

***For information only

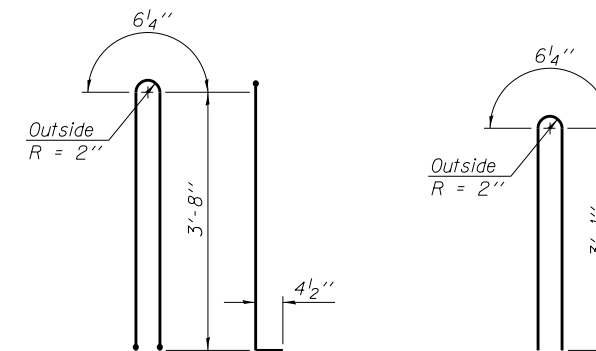
Notes:
See sheet 14 of 20 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5000 psi.

NOTES

Inserts for $\frac{3}{4}$ " ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be $\frac{1}{2}$ " and the nominal cross-sectional area shall be 0.153 sq. in.
 A minimum $2\frac{1}{2}$ " ϕ lifting pin shall be used to engage the lifting loops during handling.
 The top and bottom plates shall be AASHTO M270 Grade 50.
 The bottom plates and studs shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized.
 Threaded rods shall be ASTM F 1554 Grade 55.

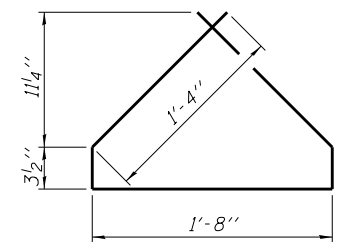


LIFTING LOOP DETAIL

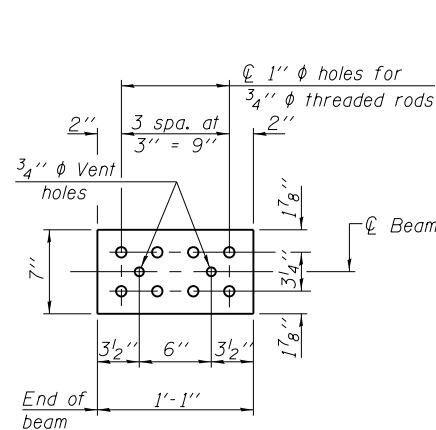


BAR G1

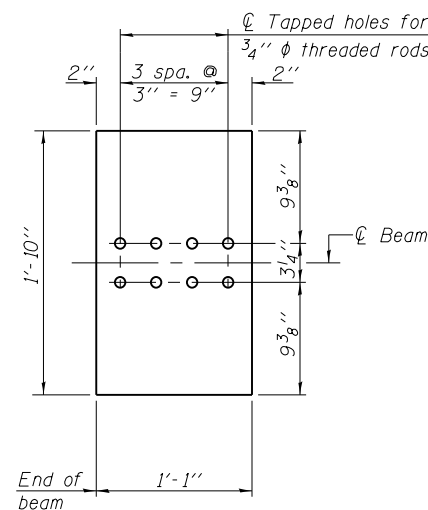
BAR G2



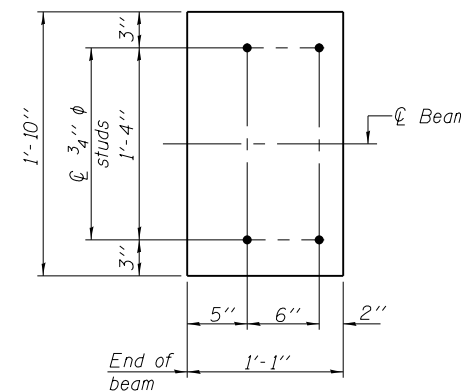
BAR G4



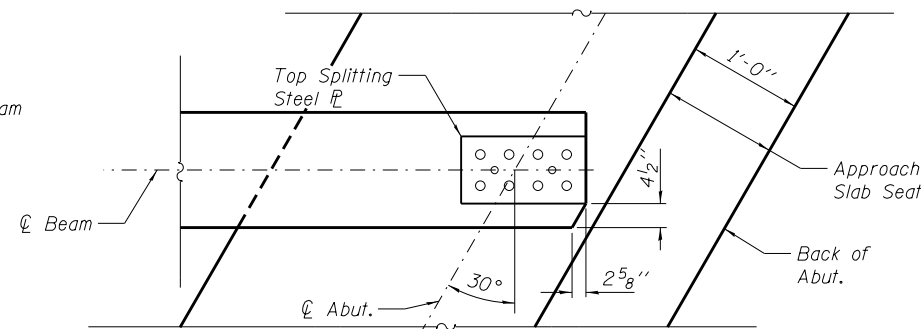
TOP PLATE



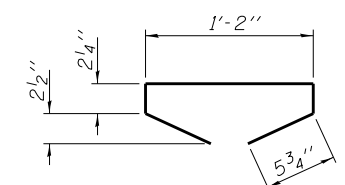
BOTTOM PLATE
(Showing threaded rods)



BOTTOM PLATE
(Showing studs)



TOP FLANGE PLAN - CLIPPED

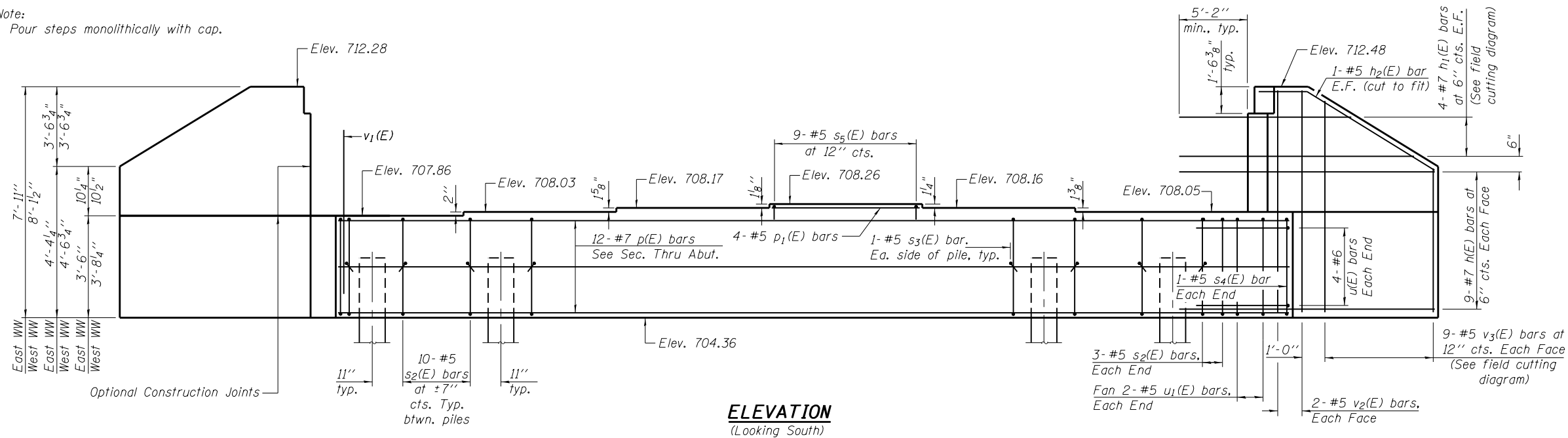


BAR G5

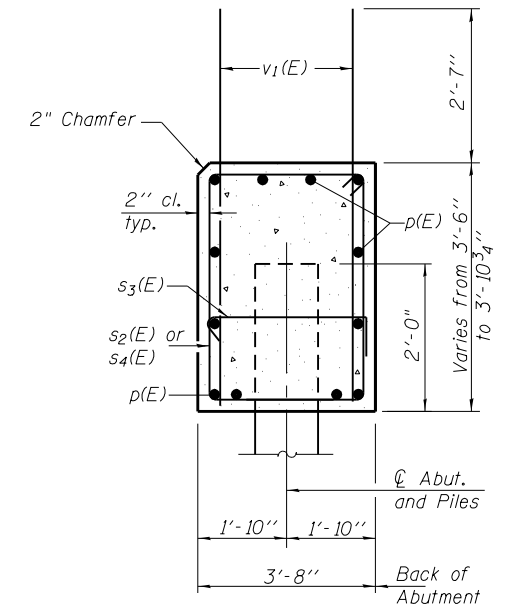
BILL OF MATERIAL

| Item | Unit | Total |
|---|------|-------|
| Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42" | Ft. | 350 |

Note:
Pour steps monolithically with cap.



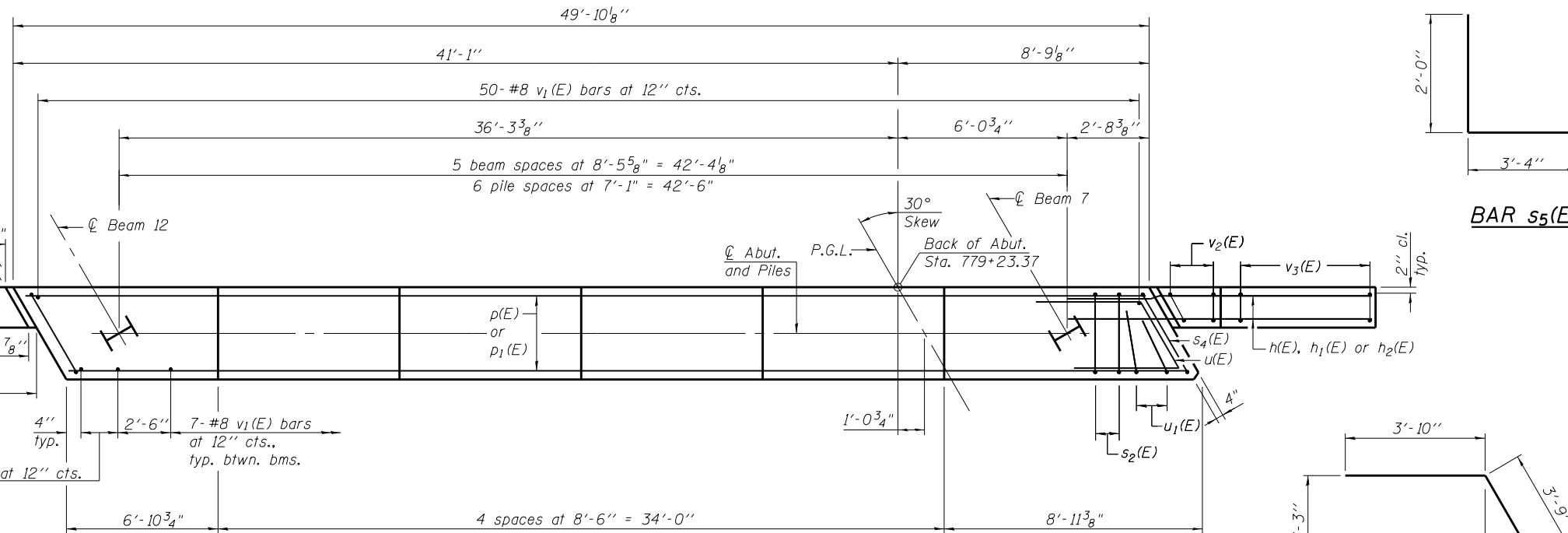
ELEVATION
(Looking South)



SEC. THRU ABUT.

Dimensions at right angles to abutment.

PILE DATA
Type: Steel HP 12x63
Nominal Required Bearing: 458 kips
Factored Resistance Available: 252 kips
Est. Length: 64'
No. Production Piles: 6
No. Test Piles: 1

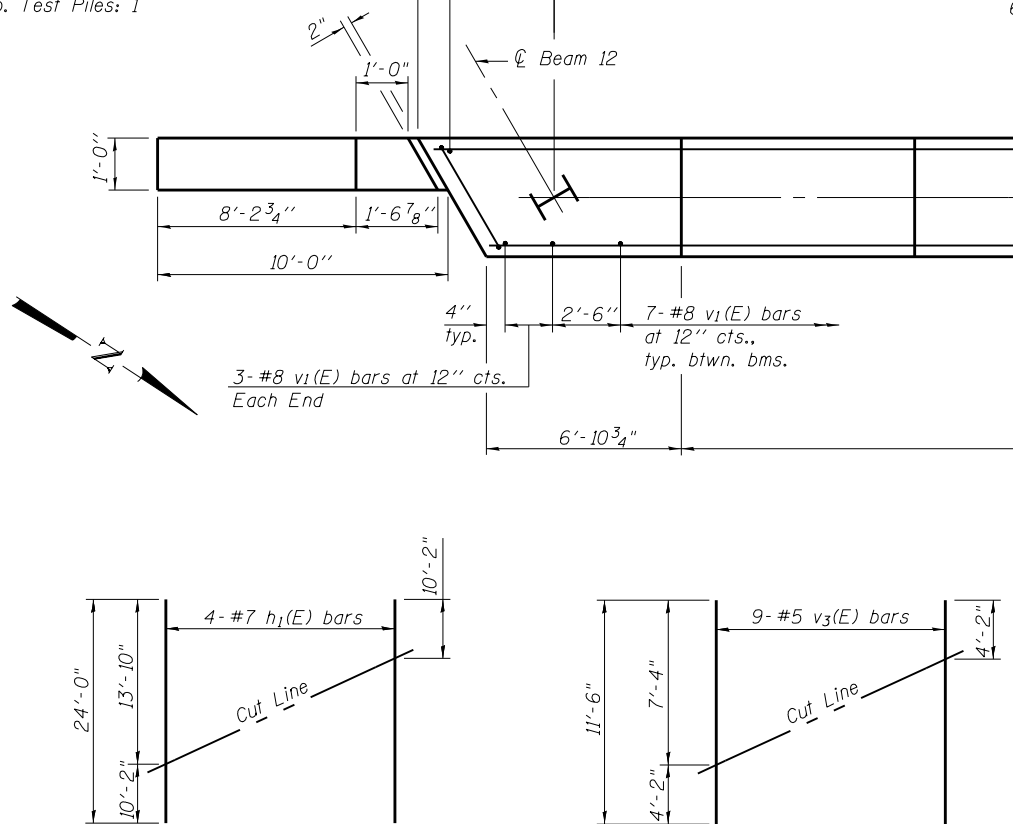


PLAN

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|---------|-------|
| h(E) | 36 | #7 | 15'-2" | — |
| h1(E) | 8 | #7 | 24'-0" | — |
| h2(E) | 4 | #5 | 10'-2" | — |
| p(E) | 12 | #7 | 49'-6" | — |
| p1(E) | 4 | #5 | 8'-2" | — |
| s2(E) | 66 | #5 | 13'-11" | □ |
| s3(E) | 12 | #5 | 4'-4" | □ |
| s4(E) | 2 | #5 | 15'-0" | □ |
| s5(E) | 9 | #5 | 7'-4" | □ |
| u(E) | 8 | #6 | 11'-5" | — |
| u1(E) | 4 | #5 | 9'-10" | — |
| v1(E) | 91 | #8 | 5'-11" | — |
| v2(E) | 8 | #5 | 7'-8" | — |
| v3(E) | 18 | #5 | 11'-6" | — |
| Structure Excavation | | Cu. Yd. | 107 | |
| Concrete Structures | | Cu. Yd. | 29.9 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 5810 | |
| Furnishing Steel Piles, HP 12x63 | | Foot | 384 | |
| Driving Piles | | Foot | 384 | |
| Test Pile, Steel HP 12x63 | | Each | 1 | |

For details of piles see sheet 17 of 20.

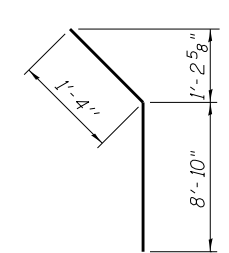


FIELD CUTTING DIAGRAM

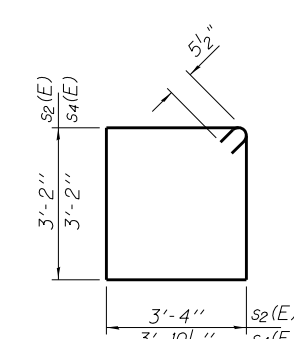
Order h1(E) full length. Cut as shown and use remainder of bars in opposite face.

FIELD CUTTING DIAGRAM

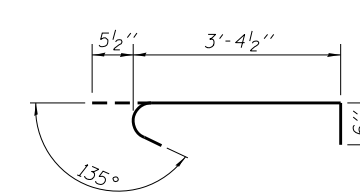
Order v3(E) full length. Cut as shown and use remainder of bars in opposite face.



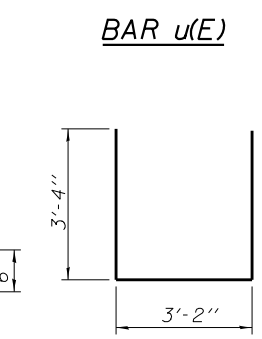
BAR h2(E)



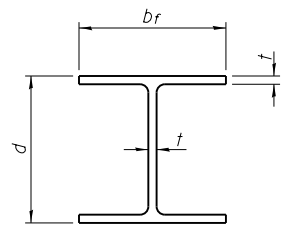
BARS s2(E) & s4(E)



BAR s3(E)

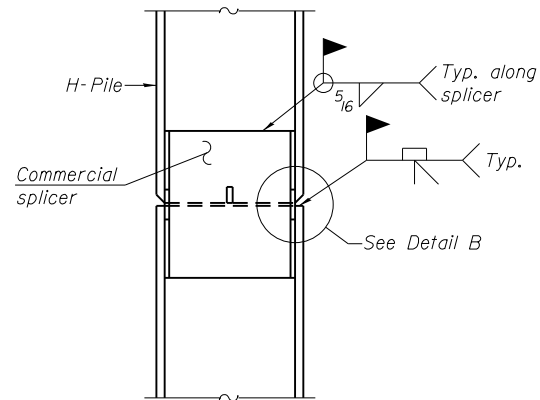


BAR u1(E)

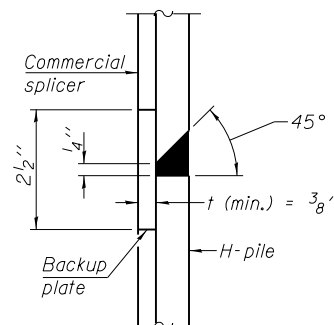


STEEL PILE TABLE

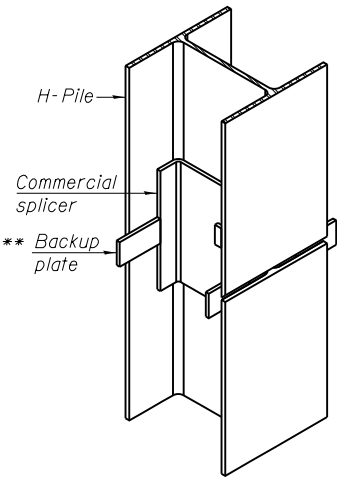
| Designation | Depth d | Flange width br | Web and Flange thickness t | Encasement diameter A |
|-------------|---------|-----------------|----------------------------|-----------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 13/16" | 30" |
| x102 | 14" | 14 3/4" | 1/16" | 30" |
| x89 | 13 7/8" | 14 3/4" | 5/8" | 30" |
| x73 | 13 5/8" | 14 5/8" | 1/2" | 30" |
| HP 12x84 | 12 1/4" | 12 1/4" | 1/16" | 24" |
| x74 | 12 1/8" | 12 1/4" | 5/8" | 24" |
| x63 | 12" | 12 1/8" | 1/2" | 24" |
| x53 | 11 3/4" | 12" | 7/16" | 24" |
| HP 10x57 | 10" | 10 1/4" | 9/16" | 24" |
| x42 | 9 3/4" | 10 1/8" | 7/16" | 24" |
| HP 8x36 | 8" | 8 1/8" | 7/16" | 18" |



ELEVATION

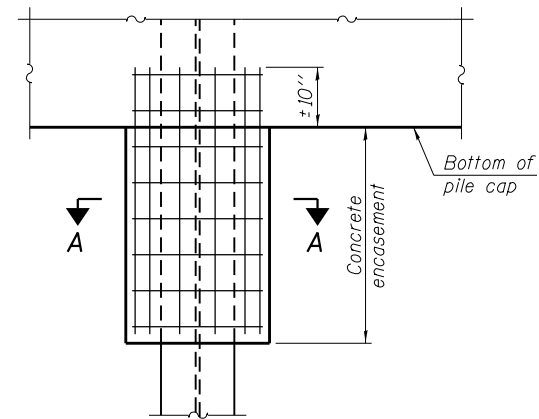


DETAIL "B"



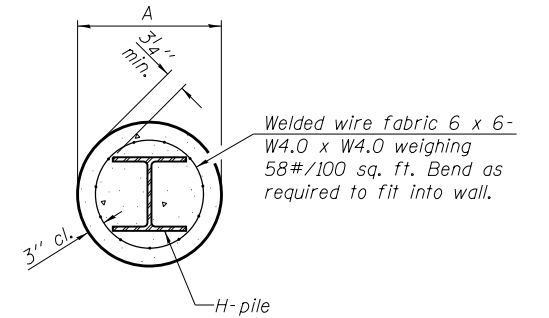
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



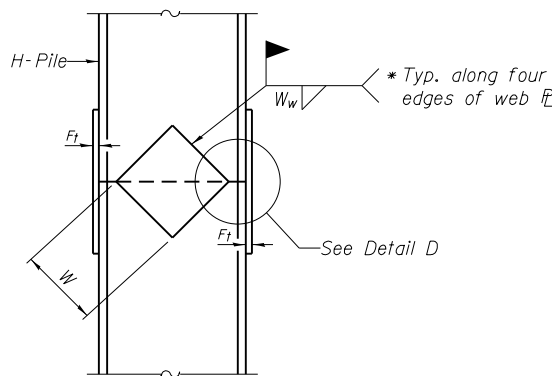
ELEVATION

PILE ENCASEMENT



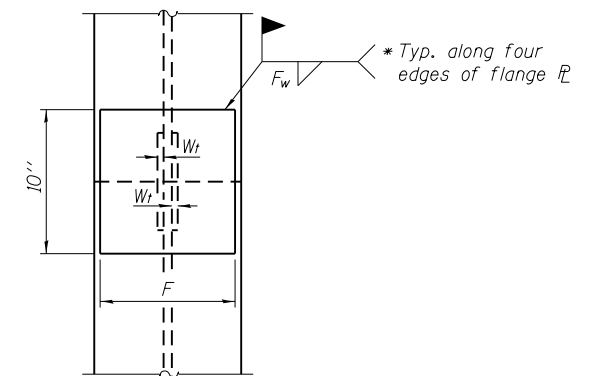
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A



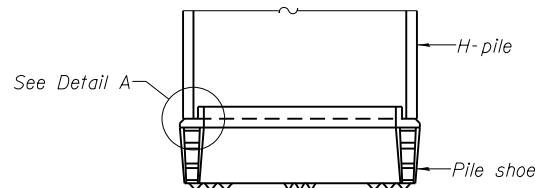
ELEVATION

DETAIL D

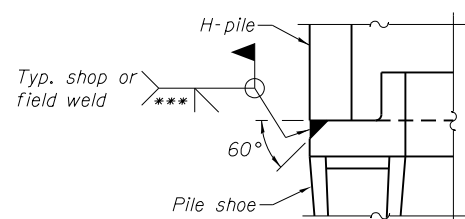


END VIEW

WELDED PLATE FIELD SPLICE

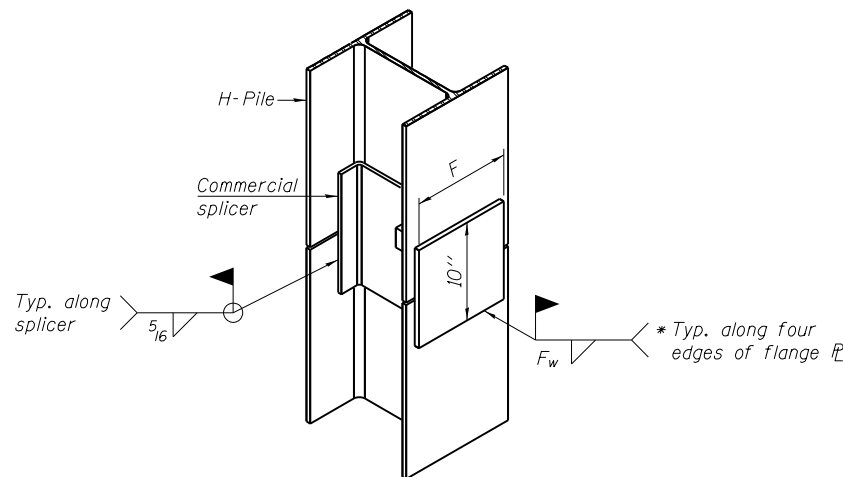


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

| Designation | F | F _t | F _w | W | W _t | W _w |
|-------------|---------|----------------|----------------|--------|----------------|----------------|
| HP 14x117 | 12 1/2" | 1" | 7/8" | 7 3/4" | 5/8" | 1/2" |
| x102 | 12 1/2" | 7/8" | 3/4" | 7 3/4" | 5/8" | 1/2" |
| x89 | 12 1/2" | 3/4" | 1/16" | 7 3/4" | 5/8" | 1/2" |
| x73 | 12 1/2" | 5/8" | 9/16" | 7 3/4" | 5/8" | 1/2" |
| HP 12x84 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x74 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x63 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| x53 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| HP 10x57 | 8" | 3/4" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| x42 | 8" | 5/8" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| HP 8x36 | 7" | 5/8" | 7/16" | 4 1/4" | 1/2" | 3/8" |

F-HP 1-27-12

LE LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

| | | |
|--------------|---------------|-----------|
| USER NAME = | DESIGNED - HP | REVISED - |
| FILE NAME = | CHECKED - RPW | REVISED - |
| PLOT SCALE = | DRAWN - AJF | REVISED - |
| PLOT DATE = | CHECKED - MTH | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**HP PILE DETAILS
STRUCTURE NO. 055-0075**

SHEET NO. 17 OF 20 SHEETS

| | | | | |
|--------------------|-----------------------------|-----------|---------------------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55I3(PV,HB(2-6)+B,B-1,B-2)] | McDONOUGH | 874 | 522 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |



SOIL BORING LOG

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - Proposed Bypass Wildlife Crossing Bridge (Emmet Twp) LOGGED BY SCI (YW)
 SECTION 55-3 LOCATION Prop. Northeast Abutment, NE 1/4, SEC. 23, TWP. 6N, RNG. 3W, 4th PM, Latitude 40° 29' 43.000240" N, Longitude 90° 42' 43.000207" W
 COUNTY McDonough DRILLING METHOD CME 850 w/HSA HAMMER TYPE Automatic

| STRUCT. NO. | Station | D | B | U | M | Surface Water Elev. | ft | D | B | U | M |
|-----------------------------------|---------|-------|-------|-------|-----|---|-----|------|-------|-------|-----|
| BORING NO. | Station | EPH | LWHS | CS | OST | Stream Bed Elev. | ft | EPH | LWHS | CS | OST |
| | | (ft) | (/6") | (tsf) | (%) | Groundwater Elev.: | ft | (ft) | (/6") | (tsf) | (%) |
| TOPSOIL - 2 inches | | 710.8 | | | | Brown and gray CLAY, A-7 w/gravel (continued) | | | | | |
| Brown SILTY CLAY LOAM, A-4 | | 4 | 4.5 | P | 20 | 5 | 3.6 | B | 17 | | |
| Brown SILTY CLAY, A-6 | | 7 | 2.1 | S/5 | 17 | 9 | 3.8 | B | 13 | | |
| Brown CLAY, A-7 | | 11 | 2.4 | S/10 | 25 | 12 | 2.8 | B | 13 | | |
| Brown GRAVEL, A-1 | | 3 | 2.3 | S/15 | 24 | 5 | 3.4 | B | 13 | | |
| Brown SANDY LOAM, A-2 | | 5 | 4.5 | P | 16 | 9 | 4.5 | P | 19 | | |
| Brown and gray CLAY, A-7 w/gravel | | 11 | 1.8 | B | 19 | 13 | 2.9 | B | 14 | | |
| Gray SILT, A-4 | | 15 | 2.3 | B | 18 | 15 | 2.9 | B | 14 | | |
| Brown and gray CLAY, A-7 w/gravel | | 18 | 2.1 | S/10 | 20 | 17 | 2.9 | B | 14 | | |
| Gray CLAY, A-7 | | 19 | 2.1 | S/10 | 20 | 19 | 2.9 | B | 14 | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - Proposed Bypass Wildlife Crossing Bridge (Emmet Twp) LOGGED BY SCI (YW)
 SECTION 55-3 LOCATION Prop. Northeast Abutment, NE 1/4, SEC. 23, TWP. 6N, RNG. 3W, 4th PM, Latitude 40° 29' 43.000240" N, Longitude 90° 42' 43.000207" W
 COUNTY McDonough DRILLING METHOD CME 850 w/HSA HAMMER TYPE Automatic

| STRUCT. NO. | Station | D | B | U | M | Surface Water Elev. | ft | D | B | U | M |
|---|---------|-------|-------|-------|-----|---|----|------|-------|-------|-----|
| BORING NO. | Station | EPH | LWHS | CS | OST | Stream Bed Elev. | ft | EPH | LWHS | CS | OST |
| | | (ft) | (/6") | (tsf) | (%) | Groundwater Elev.: | ft | (ft) | (/6") | (tsf) | (%) |
| Brown and gray CLAY, A-7 w/gravel (continued) | | 5 | 3.6 | B | 17 | Gray CLAY, A-7 (continued) | | | | | |
| Gray SHALE | | 647.4 | | | | 50/0.75" | | | | | |
| Dark gray ORGANIC SILT, A-4 | | 666.2 | 4.5 | P | 12 | 50/0.25" | | | | | |
| Gray SAND, A-3 | | 664.0 | | | | ** Hole collapsed at 37 feet after 24 hours Boring terminated at 63.6 ft. | | | | | |
| Gray SILTY CLAY LOAM, A-4 | | 658.0 | | | | Gray CLAY, A-7 | | | | | |
| Gray CLAY, A-7 | | 653.0 | | | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

(Sheet 3 of 3)



| | | |
|--------------|---------------|-----------|
| USER NAME = | DESIGNED - HP | REVISED - |
| FILE NAME = | CHECKED - RPW | REVISED - |
| PLOT SCALE = | DRAWN - AJF | REVISED - |
| PLOT DATE = | CHECKED - MTH | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SOIL BORINGS
 STRUCTURE NO. 055-0075

SHEET NO. 20 OF 20 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 525 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Structure Data
- 3 Foundation Plan and Details
- 4 Deck Elevations
- 5 Deck Elevations
- 6 Deck Elevations
- 7 Top of West Approach Slab Elevations
- 8 Top of East Approach Slab Elevations
- 9 Superstructure (Plan And Cross Section)
- 10 Superstructure Details
- 11 Bridge Approach Slab Details
- 12 Bridge Approach Slab Details
- 13 Preformed Joint Strip Seal
- 14 Framing Plan and Details
- 15 Framing Details
- 16 Moment Tables
- 17 Bearing Details
- 18 West Abutment Details
- 19 West Abutment Details
- 20 East Abutment Details
- 21 East Abutment Details
- 22 Pier Details
- 23 Steel HP Pile Details
- 24 Bar Splicer Assembly and Mechanical Splicer Details
- 24a Concrete Parapet Slipforming Option
- 25 Soil Boring Logs
- 26 Soil Boring Logs
- 27 Soil Boring Logs

GENERAL NOTES:

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts.
 Bolts $\frac{7}{8}$ " ϕ in holes $\frac{15}{16}$ " ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 392,440 lb (AASHTO M270 Grade 50)
 Calculated weight of Structural Steel = 20,830 lb (AASHTO M270 Grade 36)
 The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Blue, Munsell No. 10B 3/6.
 No field welding is permitted except as specified in the contract documents.
 Reinforcement bars designated (E) shall be epoxy coated.
 All structural steel girders, cross frames and diaphragms within a distance of 10 ft. from the expansion joints shall be metalized and painted with a color matching the Federal Color Standard 595a 20045 as specified in the Special Provisions for Metalizing Structural Steel. All structural steel components of cross frames and diaphragms within a distance of 10 ft. from the expansion joints may be galvanized in lieu of metalizing at the Contractor's option. Galvanizing shall be according to the Special Provision for Hot Dip Galvanizing for Structural Steel. Bearings at the abutments shall be hot dip galvanized.
 Concrete Sealer shall be applied to the designated areas of the abutments.
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|---------|---------|--------|---------|
| GRANULAR BACKFILL FOR STRUCTURES | CU. YD. | --- | 169 | 169 |
| STRUCTURE EXCAVATION | CU. YD. | --- | 406 | 406 |
| CONCRETE STRUCTURES | CU. YD. | --- | 228.2 | 228.2 |
| CONCRETE SUPERSTRUCTURE | CU. YD. | 419.1 | --- | 419.1 |
| BRIDGE DECK GROOVING | SQ. YD. | 1070 | --- | 1070 |
| CONCRETE ENCASEMENT | CU. YD. | --- | 13.4 | 13.4 |
| PROTECTIVE COAT | SQ. YD. | 1416 | --- | 1416 |
| FURNISHING AND ERECTING STRUCTURAL STEEL | L SUM | 0.17 | --- | 0.17 |
| STUD SHEAR CONNECTORS | EACH | 2664 | --- | 2664 |
| REINFORCEMENT BARS, EPOXY COATED | POUND | 105,010 | 24,570 | 129,580 |
| BAR SPLICERS | EACH | 84 | --- | 84 |
| SLOPE WALL 4 INCH | SQ. YD. | --- | 484 | 484 |
| FURNISHING STEEL PILES HP12X53 | FOOT | --- | 1040 | 1040 |
| FURNISHING STEEL PILES HP12X63 | FOOT | --- | 2808 | 2808 |
| DRIVING PILES | FOOT | --- | 3848 | 3848 |
| TEST PILE STEEL HP12X53 | EACH | --- | 1 | 1 |
| TEST PILE STEEL HP12X63 | EACH | --- | 2 | 2 |
| NAME PLATES | EACH | 1 | --- | 1 |
| PREFORMED JOINT STRIP SEAL | FOOT | 88.0 | --- | 88.0 |
| ELASTOMERIC BEARING ASSEMBLY, TYPE II | EACH | --- | 12 | 12 |
| ANCHOR BOLTS, $\frac{5}{8}$ " | EACH | --- | 24 | 24 |
| ANCHOR BOLTS, $\frac{1}{4}$ " | EACH | --- | 12 | 12 |
| CONCRETE SEALER | SQ. FT. | --- | 989 | 989 |
| GEOCOMPOSITE WALL DRAIN | SQ. YD. | --- | 134 | 134 |
| PIPE UNDERDRAINS FOR STRUCTURES 4" | FOOT | --- | 147 | 147 |
| | | | | |
| | | | | |

FILE NAME = I:\IDOT\5606 -HEI\11336\CADD_Structure\1\Springlake Road over 11336\gnbom.dgn



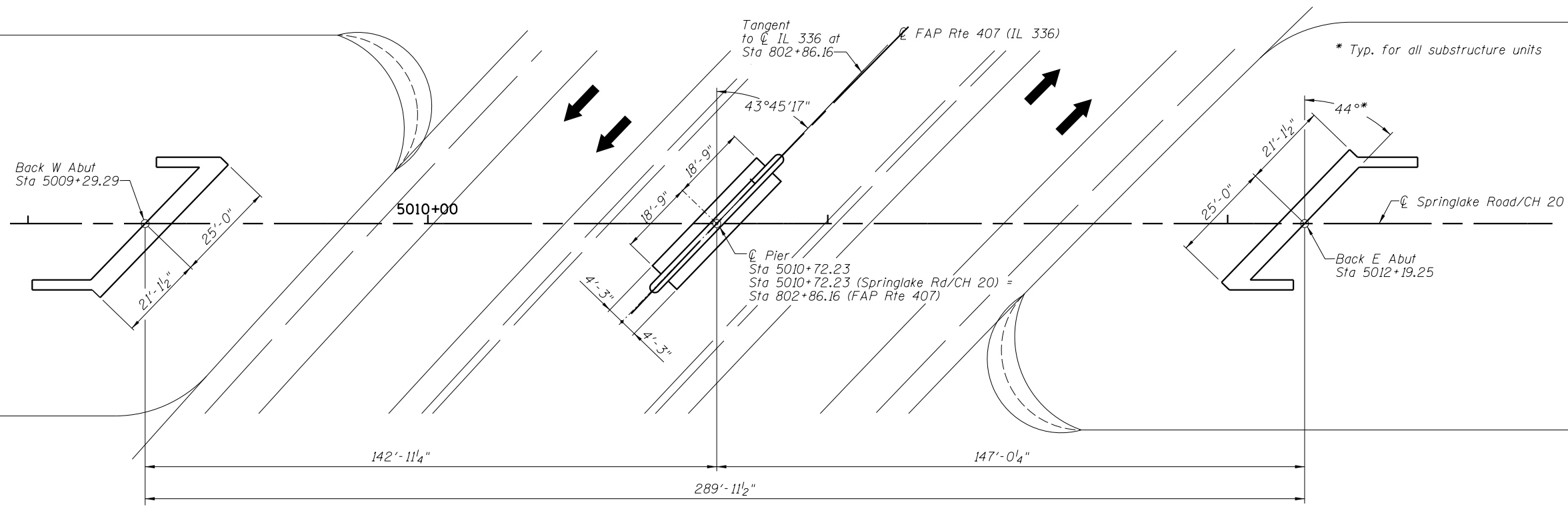
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| PLOT TIME = 9:53:26 AM | CHECKED CMW | REVISED - |
| PLOT SCALE = 2:0.0000 '1' / 1" | DRAWN RLK | REVISED - |
| PLOT DATE = 4/21/2015 | CHECKED CMW | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

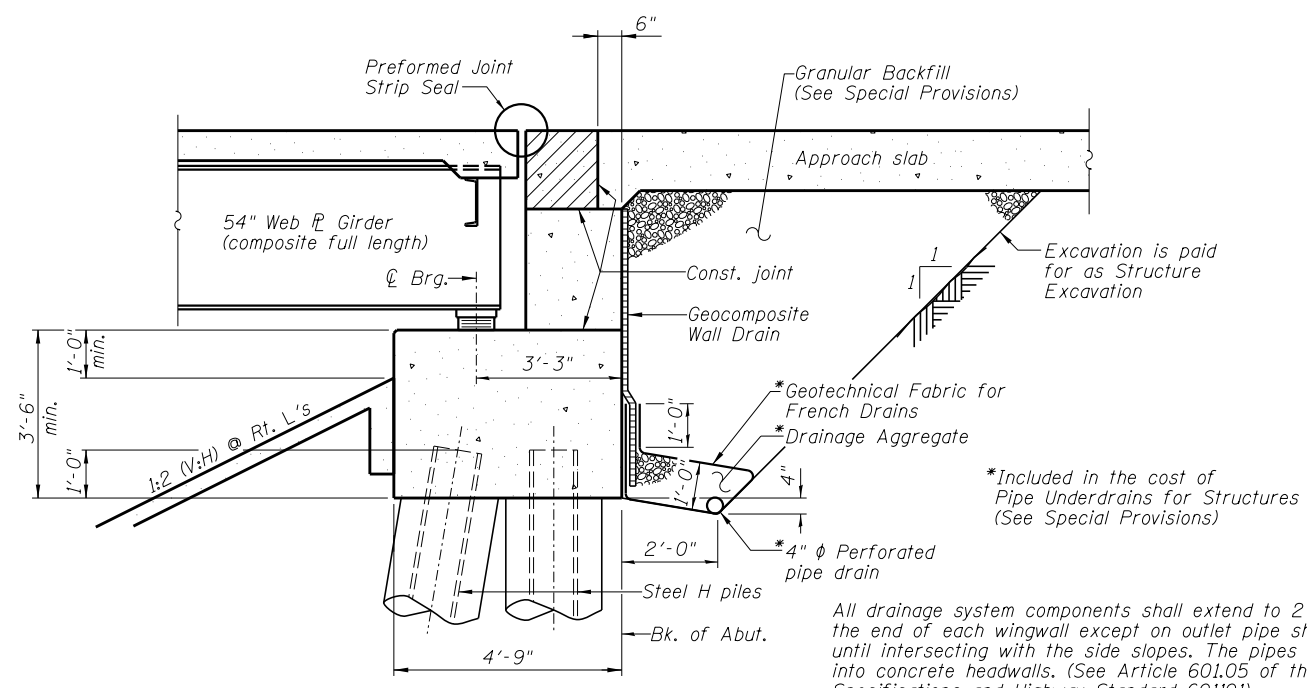
**GENERAL STRUCTURE DATA
STRUCTURE NO. 055-0077**

SHEET NO. 2 OF 27 SHEETS

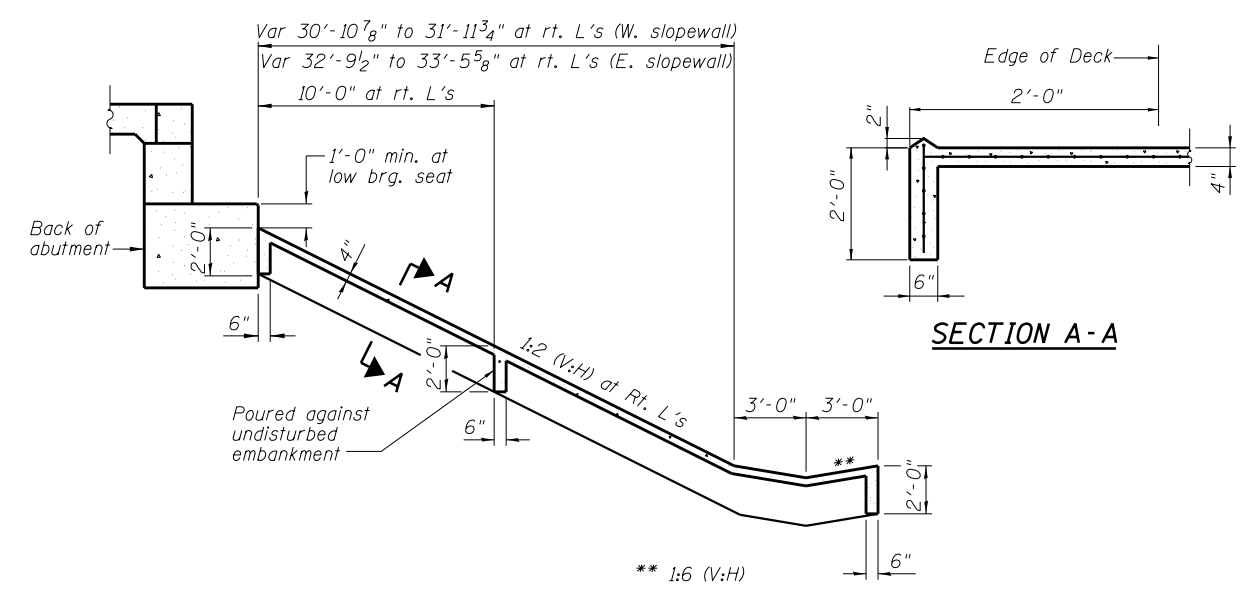
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|-----------|---------------------------|-----------|
| 407 | 55[3]PV[HB]2-6[B.B-1,B-2] | MCDONOUGH | 874 | 527 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |



FOOTING LAYOUT

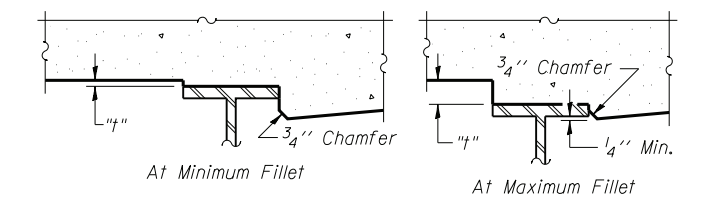
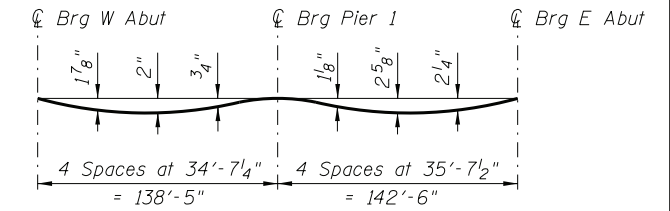
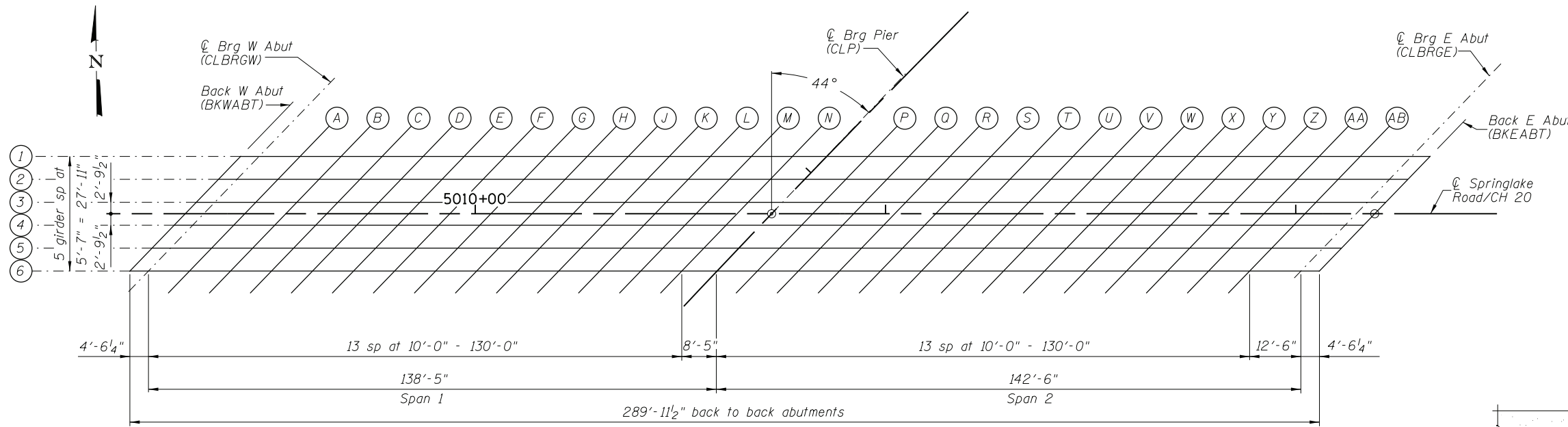


SECTION THRU PILE SUPPORTED STUB ABUTMENT
(Horiz. dim. @ Rt. L's)



SECTION THRU CONCRETE SLOPEWALL
Sloped wall shall be reinforced with galvanized welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

FILE NAME = I:\1001\5606 - HEI, IL336\CADD_Structure\Springlake Road over IL336\Footingplan.dgn



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 4, 5, & 6 of 27, minus slab thickness, equals the fillet heights "t" above top flange of beams.

| GIRDER 1 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKWABUT | 5009+42.77 | -13.96 | 734.75 | 734.75 |
| CLBRGW | 5009+47.29 | -13.96 | 734.79 | 734.79 |
| A | 5009+57.29 | -13.96 | 734.85 | 734.90 |
| B | 5009+67.29 | -13.96 | 734.91 | 735.01 |
| C | 5009+77.29 | -13.96 | 734.96 | 735.10 |
| D | 5009+87.29 | -13.96 | 735.00 | 735.17 |
| E | 5009+97.29 | -13.96 | 735.03 | 735.21 |
| F | 5010+07.29 | -13.96 | 735.06 | 735.24 |
| G | 5010+17.29 | -13.96 | 735.08 | 735.24 |
| H | 5010+27.29 | -13.96 | 735.09 | 735.23 |
| J | 5010+37.29 | -13.96 | 735.09 | 735.20 |
| K | 5010+47.29 | -13.96 | 735.09 | 735.16 |
| L | 5010+57.29 | -13.96 | 735.07 | 735.12 |
| M | 5010+67.29 | -13.96 | 735.05 | 735.07 |
| N | 5010+77.29 | -13.96 | 735.02 | 735.03 |
| CLP | 5010+85.71 | -13.96 | 734.99 | 734.99 |
| P | 5010+95.71 | -13.96 | 734.95 | 734.97 |
| Q | 5011+05.71 | -13.96 | 734.90 | 734.94 |
| R | 5011+15.71 | -13.96 | 734.85 | 734.92 |
| S | 5011+25.71 | -13.96 | 734.78 | 734.89 |
| T | 5011+35.71 | -13.96 | 734.71 | 734.86 |
| U | 5011+45.71 | -13.96 | 734.63 | 734.81 |
| V | 5011+55.71 | -13.96 | 734.54 | 734.75 |
| W | 5011+65.71 | -13.96 | 734.44 | 734.67 |
| X | 5011+75.71 | -13.96 | 734.34 | 734.57 |
| Y | 5011+85.71 | -13.96 | 734.23 | 734.44 |
| Z | 5011+95.71 | -13.96 | 734.11 | 734.29 |
| AA | 5012+05.71 | -13.96 | 733.98 | 734.12 |
| AB | 5012+15.71 | -13.96 | 733.85 | 733.93 |
| CLBRGE | 5012+28.21 | -13.96 | 733.67 | 733.67 |
| BKEABUT | 5012+32.73 | -13.96 | 733.60 | 733.60 |

| GIRDER 2 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKWABUT | 5009+37.38 | -8.37 | 734.82 | 734.82 |
| CLBRGW | 5009+41.90 | -8.37 | 734.85 | 734.85 |
| A | 5009+51.90 | -8.37 | 734.92 | 734.97 |
| B | 5009+61.90 | -8.37 | 734.98 | 735.08 |
| C | 5009+71.90 | -8.37 | 735.03 | 735.18 |
| D | 5009+81.90 | -8.37 | 735.08 | 735.25 |
| E | 5009+91.90 | -8.37 | 735.12 | 735.30 |
| F | 5010+01.90 | -8.37 | 735.15 | 735.33 |
| G | 5010+11.90 | -8.37 | 735.17 | 735.34 |
| H | 5010+21.90 | -8.37 | 735.18 | 735.33 |
| J | 5010+31.90 | -8.37 | 735.19 | 735.30 |
| K | 5010+41.90 | -8.37 | 735.19 | 735.27 |
| L | 5010+51.90 | -8.37 | 735.18 | 735.23 |
| M | 5010+61.90 | -8.37 | 735.17 | 735.19 |
| N | 5010+71.90 | -8.37 | 735.14 | 735.15 |
| CLP | 5010+80.32 | -8.37 | 735.12 | 735.12 |
| P | 5010+90.32 | -8.37 | 735.08 | 735.09 |
| Q | 5011+00.32 | -8.37 | 735.03 | 735.07 |
| R | 5011+10.32 | -8.37 | 734.98 | 735.05 |
| S | 5011+20.32 | -8.37 | 734.92 | 735.03 |
| T | 5011+30.32 | -8.37 | 734.85 | 735.00 |
| U | 5011+40.32 | -8.37 | 734.77 | 734.96 |
| V | 5011+50.32 | -8.37 | 734.69 | 734.90 |
| W | 5011+60.32 | -8.37 | 734.60 | 734.82 |
| X | 5011+70.32 | -8.37 | 734.50 | 734.72 |
| Y | 5011+80.32 | -8.37 | 734.39 | 734.61 |
| Z | 5011+90.32 | -8.37 | 734.28 | 734.46 |
| AA | 5012+00.32 | -8.37 | 734.15 | 734.29 |
| AB | 5012+10.32 | -8.37 | 734.02 | 734.10 |
| CLBRGE | 5012+22.82 | -8.37 | 733.85 | 733.85 |
| BKEABUT | 5012+27.34 | -8.37 | 733.78 | 733.78 |

FILE NAME = I:\1001\5606 - HEI_IL1336\CADD_Structure\Springlake Road over IL1336\deckel1.dgn



USER NAME = rking
 PLOT TIME = 2/28/25 PM
 PLOT SCALE = 16.0000' / in.
 PLOT DATE = 1/7/2015

DESIGNED ACB
 CHECKED CMW
 DRAWN RLK
 CHECKED CMW

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS
 STRUCTURE NO. 055-0077

SHEET NO. 4 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|--------------------------|-----------|---------------------------|-----------|
| 407 | 55[3PV]HB[2-6]B,B-1,B-2] | MCDONOUGH | 874 | 529 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

FILE NAME = I:\1001\5606_HEI_11336\CADD_Structure\11336\deck1.dgn

| GIRDER 3 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKWABUT | 5009+31.99 | -2.79 | 734.86 | 734.86 |
| CLBRGW | 5009+36.51 | -2.79 | 734.90 | 734.90 |
| A | 5009+46.51 | -2.79 | 734.97 | 735.02 |
| B | 5009+56.51 | -2.79 | 735.04 | 735.14 |
| C | 5009+66.51 | -2.79 | 735.09 | 735.23 |
| D | 5009+76.51 | -2.79 | 735.14 | 735.31 |
| E | 5009+86.51 | -2.79 | 735.18 | 735.37 |
| F | 5009+96.51 | -2.79 | 735.22 | 735.40 |
| G | 5010+06.51 | -2.79 | 735.25 | 735.41 |
| H | 5010+16.51 | -2.79 | 735.26 | 735.41 |
| J | 5010+26.51 | -2.79 | 735.28 | 735.39 |
| K | 5010+36.51 | -2.79 | 735.28 | 735.36 |
| L | 5010+46.51 | -2.79 | 735.28 | 735.32 |
| M | 5010+56.51 | -2.79 | 735.26 | 735.28 |
| N | 5010+66.51 | -2.79 | 735.24 | 735.25 |
| CLP | 5010+74.93 | -2.79 | 735.22 | 735.22 |
| P | 5010+84.93 | -2.79 | 735.19 | 735.20 |
| Q | 5010+94.93 | -2.79 | 735.15 | 735.19 |
| R | 5011+04.93 | -2.79 | 735.10 | 735.17 |
| S | 5011+14.93 | -2.79 | 735.04 | 735.15 |
| T | 5011+24.93 | -2.79 | 734.98 | 735.12 |
| U | 5011+34.93 | -2.79 | 734.90 | 735.09 |
| V | 5011+44.93 | -2.79 | 734.82 | 735.04 |
| W | 5011+54.93 | -2.79 | 734.74 | 734.96 |
| X | 5011+64.93 | -2.79 | 734.64 | 734.87 |
| Y | 5011+74.93 | -2.79 | 734.54 | 734.75 |
| Z | 5011+84.93 | -2.79 | 734.43 | 734.61 |
| AA | 5011+94.93 | -2.79 | 734.31 | 734.44 |
| AB | 5012+04.93 | -2.79 | 734.18 | 734.26 |
| CLBRGE | 5012+17.43 | -2.79 | 734.01 | 734.01 |
| BKEABUT | 5012+21.95 | -2.79 | 733.95 | 733.95 |

| PGL | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKWABUT | 5009+29.29 | 0.00 | 734.88 | 734.88 |
| CLBRGW | 5009+33.81 | 0.00 | 734.92 | 734.92 |
| A | 5009+43.81 | 0.00 | 734.99 | 735.05 |
| B | 5009+53.81 | 0.00 | 735.06 | 735.16 |
| C | 5009+63.81 | 0.00 | 735.12 | 735.26 |
| D | 5009+73.81 | 0.00 | 735.17 | 735.34 |
| E | 5009+83.81 | 0.00 | 735.22 | 735.40 |
| F | 5009+93.81 | 0.00 | 735.25 | 735.43 |
| G | 5010+03.81 | 0.00 | 735.28 | 735.45 |
| H | 5010+13.81 | 0.00 | 735.30 | 735.45 |
| J | 5010+23.81 | 0.00 | 735.32 | 735.43 |
| K | 5010+33.81 | 0.00 | 735.32 | 735.40 |
| L | 5010+43.81 | 0.00 | 735.32 | 735.37 |
| M | 5010+53.81 | 0.00 | 735.31 | 735.33 |
| N | 5010+63.81 | 0.00 | 735.29 | 735.30 |
| CLP | 5010+72.23 | 0.00 | 735.27 | 735.27 |
| P | 5010+82.23 | 0.00 | 735.24 | 735.26 |
| Q | 5010+92.23 | 0.00 | 735.20 | 735.24 |
| R | 5011+02.23 | 0.00 | 735.15 | 735.23 |
| S | 5011+12.23 | 0.00 | 735.10 | 735.21 |
| T | 5011+22.23 | 0.00 | 735.04 | 735.19 |
| U | 5011+32.23 | 0.00 | 734.97 | 735.15 |
| V | 5011+42.23 | 0.00 | 734.89 | 735.10 |
| W | 5011+52.23 | 0.00 | 734.80 | 735.03 |
| X | 5011+62.23 | 0.00 | 734.71 | 734.94 |
| Y | 5011+72.23 | 0.00 | 734.61 | 734.82 |
| Z | 5011+82.23 | 0.00 | 734.50 | 734.68 |
| AA | 5011+92.23 | 0.00 | 734.38 | 734.52 |
| AB | 5012+02.23 | 0.00 | 734.26 | 734.34 |
| CLBRGE | 5012+14.73 | 0.00 | 734.09 | 734.09 |
| BKEABUT | 5012+19.25 | 0.00 | 734.03 | 734.03 |

| GIRDER 4 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKWABUT | 5009+26.59 | 2.79 | 734.82 | 734.82 |
| CLBRGW | 5009+31.11 | 2.79 | 734.85 | 734.85 |
| A | 5009+41.11 | 2.79 | 734.93 | 734.99 |
| B | 5009+51.11 | 2.79 | 735.00 | 735.10 |
| C | 5009+61.11 | 2.79 | 735.06 | 735.20 |
| D | 5009+71.11 | 2.79 | 735.12 | 735.29 |
| E | 5009+81.11 | 2.79 | 735.16 | 735.34 |
| F | 5009+91.11 | 2.79 | 735.20 | 735.38 |
| G | 5010+01.11 | 2.79 | 735.23 | 735.40 |
| H | 5010+11.11 | 2.79 | 735.26 | 735.40 |
| J | 5010+21.11 | 2.79 | 735.27 | 735.38 |
| K | 5010+31.11 | 2.79 | 735.28 | 735.36 |
| L | 5010+41.11 | 2.79 | 735.28 | 735.32 |
| M | 5010+51.11 | 2.79 | 735.27 | 735.29 |
| N | 5010+61.11 | 2.79 | 735.26 | 735.26 |
| CLP | 5010+69.53 | 2.79 | 735.24 | 735.24 |
| P | 5010+79.53 | 2.79 | 735.21 | 735.22 |
| Q | 5010+89.53 | 2.79 | 735.17 | 735.21 |
| R | 5010+99.53 | 2.79 | 735.12 | 735.20 |
| S | 5011+09.53 | 2.79 | 735.07 | 735.18 |
| T | 5011+19.53 | 2.79 | 735.01 | 735.16 |
| U | 5011+29.53 | 2.79 | 734.94 | 735.13 |
| V | 5011+39.53 | 2.79 | 734.87 | 735.08 |
| W | 5011+49.53 | 2.79 | 734.78 | 735.01 |
| X | 5011+59.53 | 2.79 | 734.69 | 734.92 |
| Y | 5011+69.53 | 2.79 | 734.59 | 734.81 |
| Z | 5011+79.53 | 2.79 | 734.49 | 734.67 |
| AA | 5011+89.53 | 2.79 | 734.37 | 734.51 |
| AB | 5011+99.53 | 2.79 | 734.25 | 734.33 |
| CLBRGE | 5012+12.03 | 2.79 | 734.09 | 734.09 |
| BKEABUT | 5012+16.55 | 2.79 | 734.02 | 734.02 |



| | | |
|-----------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
| PLOT TIME = 2:28:57 PM | CHECKED CMW | REVISED - |
| PLOT SCALE = 16.0000' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK ELEVATIONS
STRUCTURE NO. 055-0077**

| | | | | |
|---------------------------|----------------------------|-----------|--------------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55[3]PV[HB(2-6)]B[B-1,B-2] | MCDONOUGH | 874 | 530 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |

FILE NAME = I:\DOT\5606_HEI\11336\CADD_Structure\11336\deckel.dgn

| GIRDER 5 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKWABUT | 5009+21.20 | 8.37 | 734.68 | 734.68 |
| CLBRGW | 5009+25.72 | 8.37 | 734.72 | 734.72 |
| A | 5009+35.72 | 8.37 | 734.80 | 734.86 |
| B | 5009+45.72 | 8.37 | 734.88 | 734.98 |
| C | 5009+55.72 | 8.37 | 734.94 | 735.09 |
| D | 5009+65.72 | 8.37 | 735.00 | 735.17 |
| E | 5009+75.72 | 8.37 | 735.05 | 735.23 |
| F | 5009+85.72 | 8.37 | 735.09 | 735.27 |
| G | 5009+95.72 | 8.37 | 735.13 | 735.30 |
| H | 5010+05.72 | 8.37 | 735.16 | 735.30 |
| J | 5010+15.72 | 8.37 | 735.18 | 735.29 |
| K | 5010+25.72 | 8.37 | 735.19 | 735.27 |
| L | 5010+35.72 | 8.37 | 735.19 | 735.24 |
| M | 5010+45.72 | 8.37 | 735.19 | 735.21 |
| N | 5010+55.72 | 8.37 | 735.18 | 735.18 |
| CLP | 5010+64.14 | 8.37 | 735.16 | 735.16 |
| P | 5010+74.14 | 8.37 | 735.14 | 735.15 |
| Q | 5010+84.14 | 8.37 | 735.10 | 735.14 |
| R | 5010+94.14 | 8.37 | 735.06 | 735.13 |
| S | 5011+04.14 | 8.37 | 735.01 | 735.12 |
| T | 5011+14.14 | 8.37 | 734.96 | 735.11 |
| U | 5011+24.14 | 8.37 | 734.89 | 735.08 |
| V | 5011+34.14 | 8.37 | 734.82 | 735.04 |
| W | 5011+44.14 | 8.37 | 734.74 | 734.97 |
| X | 5011+54.14 | 8.37 | 734.66 | 734.88 |
| Y | 5011+64.14 | 8.37 | 734.56 | 734.77 |
| Z | 5011+74.14 | 8.37 | 734.46 | 734.64 |
| AA | 5011+84.14 | 8.37 | 734.35 | 734.48 |
| AB | 5011+94.14 | 8.37 | 734.23 | 734.31 |
| CLBRGE | 5012+06.64 | 8.37 | 734.07 | 734.07 |
| BKEABUT | 5012+11.16 | 8.37 | 734.01 | 734.01 |

| GIRDER 6 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKWABUT | 5009+15.81 | 13.96 | 734.53 | 734.53 |
| CLBRGW | 5009+20.33 | 13.96 | 734.57 | 734.57 |
| A | 5009+30.33 | 13.96 | 734.66 | 734.71 |
| B | 5009+40.33 | 13.96 | 734.74 | 734.84 |
| C | 5009+50.33 | 13.96 | 734.81 | 734.95 |
| D | 5009+60.33 | 13.96 | 734.87 | 735.04 |
| E | 5009+70.33 | 13.96 | 734.92 | 735.10 |
| F | 5009+80.33 | 13.96 | 734.97 | 735.15 |
| G | 5009+90.33 | 13.96 | 735.01 | 735.18 |
| H | 5010+00.33 | 13.96 | 735.04 | 735.18 |
| J | 5010+10.33 | 13.96 | 735.06 | 735.17 |
| K | 5010+20.33 | 13.96 | 735.08 | 735.16 |
| L | 5010+30.33 | 13.96 | 735.09 | 735.13 |
| M | 5010+40.33 | 13.96 | 735.09 | 735.11 |
| N | 5010+50.33 | 13.96 | 735.08 | 735.09 |
| CLP | 5010+58.75 | 13.96 | 735.07 | 735.07 |
| P | 5010+68.75 | 13.96 | 735.05 | 735.06 |
| Q | 5010+78.75 | 13.96 | 735.02 | 735.06 |
| R | 5010+88.75 | 13.96 | 734.98 | 735.05 |
| S | 5010+98.75 | 13.96 | 734.94 | 735.05 |
| T | 5011+08.75 | 13.96 | 734.89 | 735.04 |
| U | 5011+18.75 | 13.96 | 734.83 | 735.01 |
| V | 5011+28.75 | 13.96 | 734.76 | 734.97 |
| W | 5011+38.75 | 13.96 | 734.68 | 734.91 |
| X | 5011+48.75 | 13.96 | 734.60 | 734.83 |
| Y | 5011+58.75 | 13.96 | 734.51 | 734.72 |
| Z | 5011+68.75 | 13.96 | 734.41 | 734.59 |
| AA | 5011+78.75 | 13.96 | 734.31 | 734.44 |
| AB | 5011+88.75 | 13.96 | 734.19 | 734.27 |
| CLBRGE | 5012+01.25 | 13.96 | 734.04 | 734.04 |
| BKEABUT | 5012+05.77 | 13.96 | 733.98 | 733.98 |



| | | |
|-----------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
| PLOT TIME = 2:29:24 PM | CHECKED CMW | REVISED - |
| PLOT SCALE = 16.0000' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS
STRUCTURE NO. 055-0077

SHEET NO. 6 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------------------|-----------|---------------------------|-----------|
| 407 | 55[3]PV[HB(2-6)]B[B-1,B-2] | MCDONOUGH | 874 | 531 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

NORTH EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| W. End of W. Appr. | 5009+14.47 | -15.00 | 734.50 |
| A | 5009+24.47 | -15.00 | 734.59 |
| B | 5009+34.47 | -15.00 | 734.67 |
| E. End of W.Appr. | 5009+44.47 | -15.00 | 734.74 |

NORTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| W. End of W. Appr. | 5009+10.61 | -11.00 | 734.54 |
| A | 5009+20.61 | -11.00 | 734.64 |
| B | 5009+30.61 | -11.00 | 734.72 |
| E. End of W.Appr. | 5009+40.61 | -11.00 | 734.80 |

PGL & C SPRINGLAKE ROAD

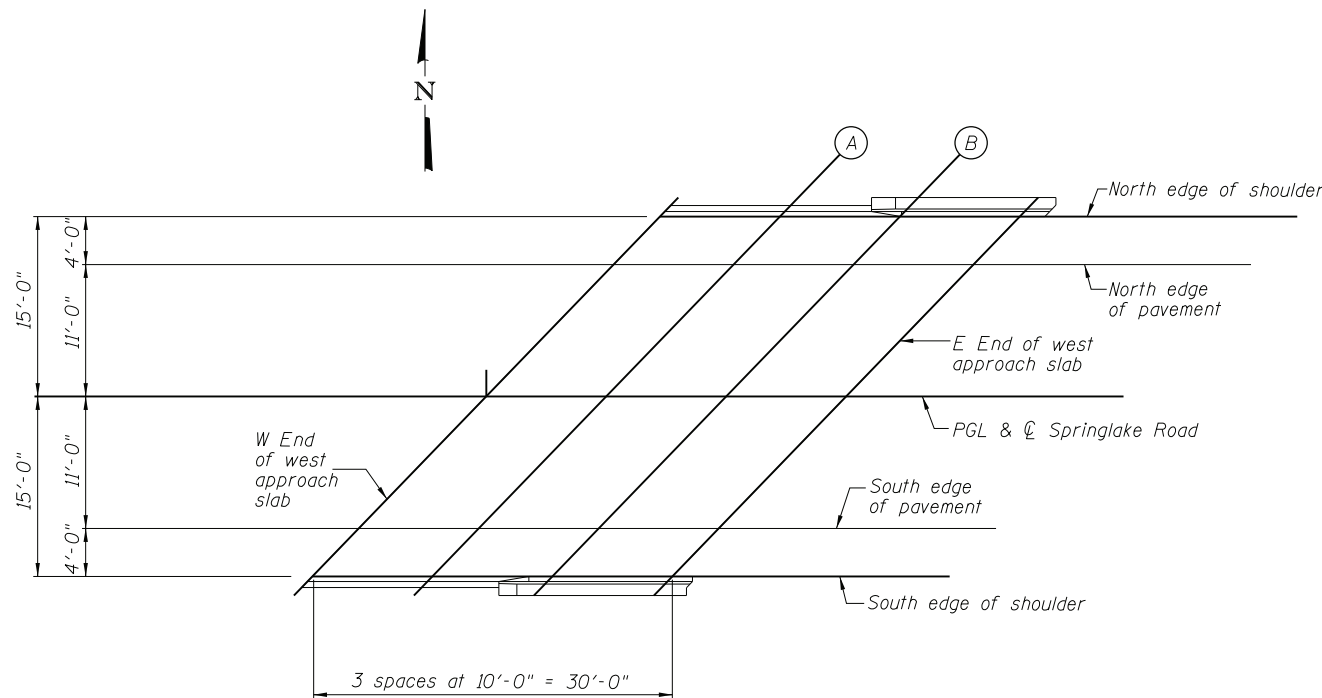
| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| W. End of W. Appr. | 5008+99.99 | 0.00 | 734.61 |
| A | 5009+09.99 | 0.00 | 734.71 |
| B | 5009+19.99 | 0.00 | 734.80 |
| E. End of W.Appr. | 5009+29.99 | 0.00 | 734.89 |

SOUTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| W. End of W. Appr. | 5008+89.36 | 11.00 | 734.32 |
| A | 5008+99.36 | 11.00 | 734.43 |
| B | 5009+09.36 | 11.00 | 734.53 |
| E. End of W.Appr. | 5009+19.36 | 11.00 | 734.63 |

SOUTH EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| W. End of W. Appr. | 5008+85.50 | 15.00 | 734.19 |
| A | 5008+95.50 | 15.00 | 734.31 |
| B | 5009+05.50 | 15.00 | 734.41 |
| E. End of W.Appr. | 5009+15.50 | 15.00 | 734.51 |



PLAN

FILE NAME = I:\1001\5606_HEI_11336\CADD_Structure\1\Springlake_Road over_11336\wapprelevel.dgn

E-AS 7-1-10



| | | |
|-----------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
| PLOT TIME = 2:30:09 PM | CHECKED CMW | REVISED - |
| PLOT SCALE = 8.0000 ' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 055-0077**

SHEET NO. 7 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV;HB(2-6);B,B-1,B-2)] | MCDONOUGH | 874 | 532 |
| CONTRACT NO. 68B44 | | | | |

ILLINOIS FED. AID PROJECT

NORTH EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------|------------|--------|------------------------------|
| W. End of E. Apr. | 5012+33.04 | -15.00 | 733.57 |
| A | 5012+43.04 | -15.00 | 733.42 |
| B | 5012+53.04 | -15.00 | 733.25 |
| E. End of E. Apr. | 5012+63.04 | -15.00 | 733.08 |

NORTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------|------------|--------|------------------------------|
| W. End of E. Apr. | 5012+29.18 | -11.00 | 733.71 |
| A | 5012+39.18 | -11.00 | 733.56 |
| B | 5012+49.18 | -11.00 | 733.40 |
| E. End of E. Apr. | 5012+59.18 | -11.00 | 733.23 |

PGL & C SPRINGLAKE ROAD

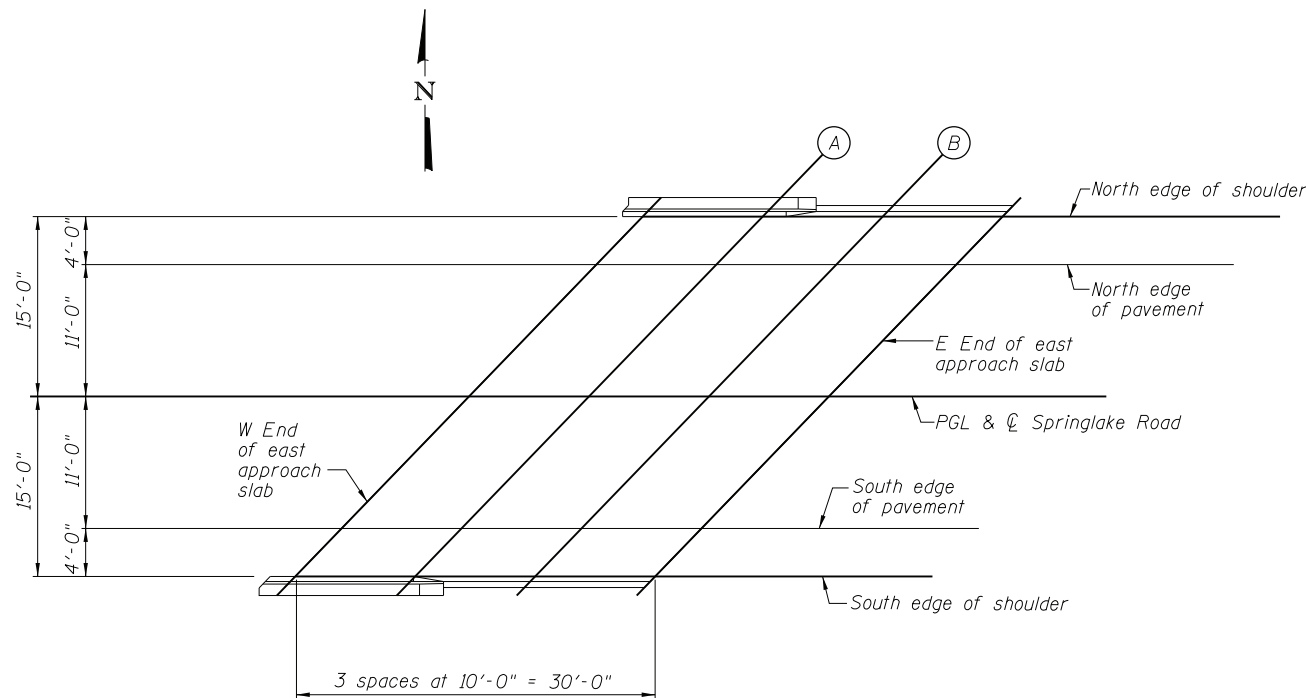
| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------|------------|--------|------------------------------|
| W. End of E. Apr. | 5012+18.55 | 0.00 | 734.04 |
| A | 5012+28.55 | 0.00 | 733.89 |
| B | 5012+38.55 | 0.00 | 733.74 |
| E. End of E. Apr. | 5012+48.55 | 0.00 | 733.58 |

SOUTH EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------|------------|--------|------------------------------|
| W. End of E. Apr. | 5012+07.93 | 11.00 | 734.01 |
| A | 5012+17.93 | 11.00 | 733.88 |
| B | 5012+27.93 | 11.00 | 733.73 |
| E. End of E. Apr. | 5012+37.93 | 11.00 | 733.58 |

SOUTH EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|-------------------|------------|--------|------------------------------|
| W. End of E. Apr. | 5012+04.07 | 15.00 | 733.98 |
| A | 5012+14.07 | 15.00 | 733.85 |
| B | 5012+24.07 | 15.00 | 733.71 |
| E. End of E. Apr. | 5012+34.07 | 15.00 | 733.56 |



PLAN

FILE NAME = I:\1001\5606_HEI\11336\CADD_Structure\1\Springlake_Road over_11336\veapprelev.dgn

E-AS 7-1-10



| | | |
|-----------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
| PLOT TIME = 2:30:48 PM | CHECKED CMW | REVISED - |
| PLOT SCALE = 8.0000 ' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

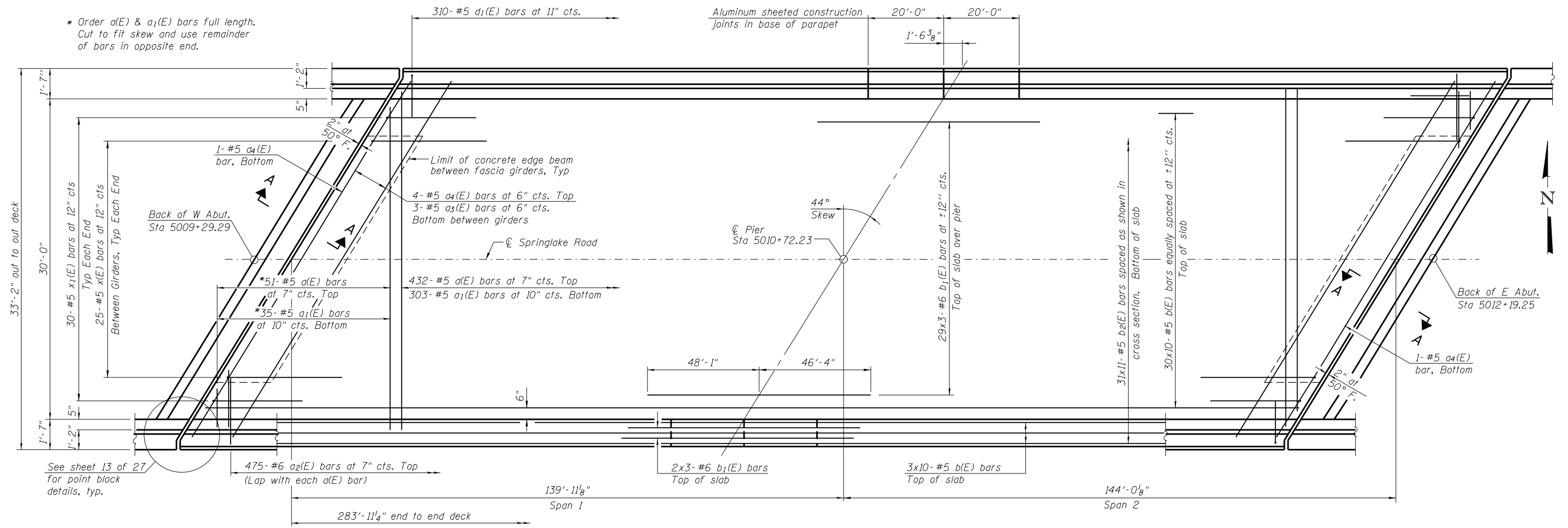
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 055-0077**

SHEET NO. 8 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------------------|-----------|---------------------------|-----------|
| 407 | 55[3(PV)+B(2-6)+B,B-1,B-2] | MCDONOUGH | 874 | 533 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

* Order a(E) & a₁(E) bars full length.
Cut to fit skew and use remainder
of bars in opposite end.

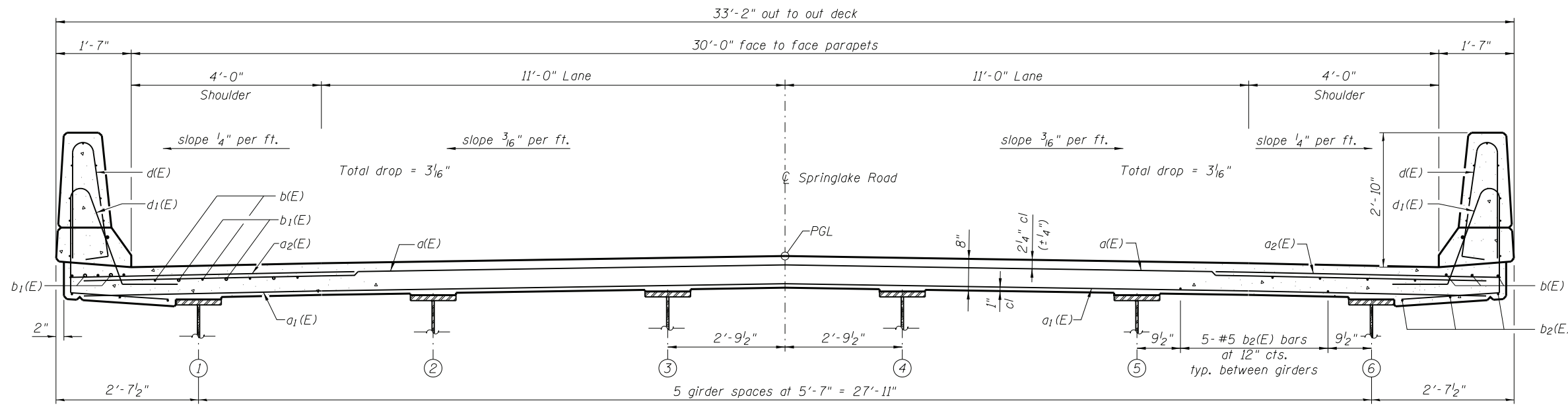


DECK PLAN

MIN BAR LAP

(Deck)
#5 bar = 3'-3"
#6 bar = 3'-10"

Notes:
See Sheet 10 of 27 for superstructure details
and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates
20 lines of bars with 3 lengths per line.
See Sheet 10 of 27 for parapet reinforcement.



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking Up Station)

FILE NAME = I:\1001\5606 - HEI_11.336\CADD_Structure\11.336\deckplan.dgn

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

USER NAME = rking
PLOT TIME = 2:31:29 PM
PLOT SCALE = 1.0000' / in.
PLOT DATE = 1/7/2015

DESIGNED *ACB*
CHECKED *CMW*
DRAWN *RLK*
CHECKED *CMW*

REVISED -
REVISED -
REVISED -
REVISED -

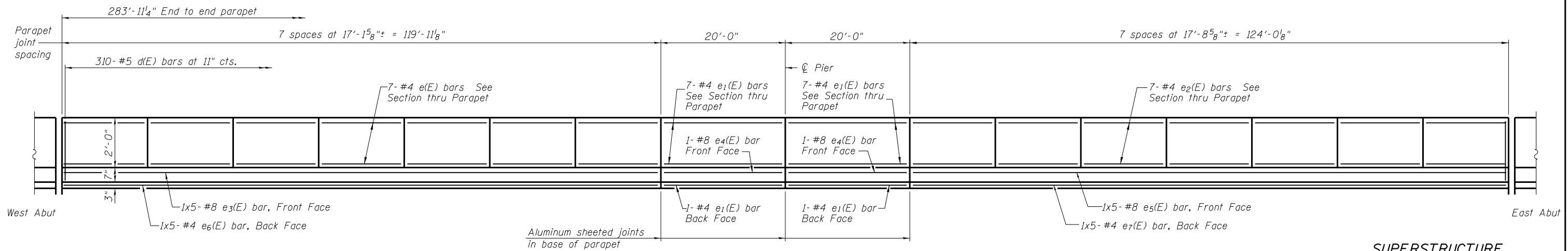
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE (PLAN AND CROSS SECTION)
STRUCTURE NO. 055-0077

SHEET NO. 9 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV)HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 534 |
| CONTRACT NO. 68B44 | | | | |

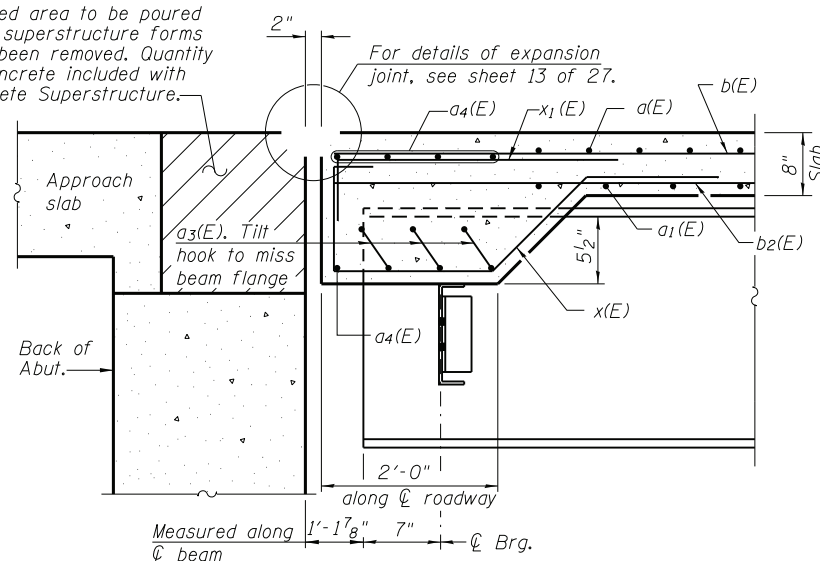
ILLINOIS FED. AID PROJECT



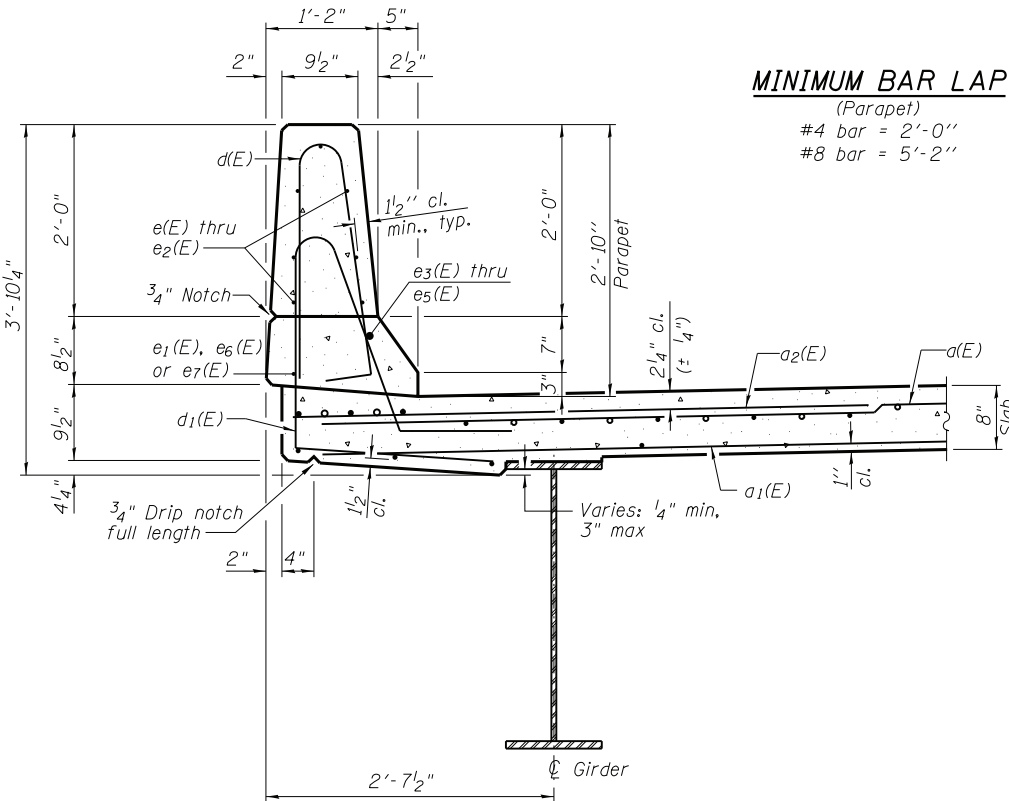
INSIDE ELEVATION OF PARAPET

North parapet shown
(South parapet similar by mirror image)

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.



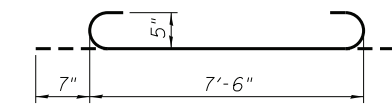
SECTION A-A



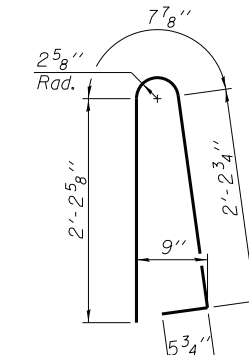
SECTION THRU PARAPET

MINIMUM BAR LAP

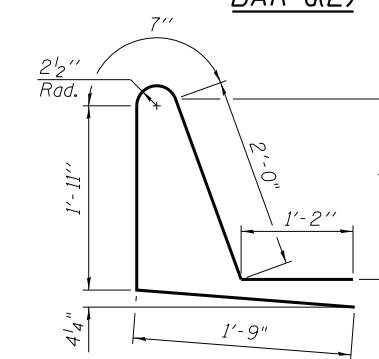
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



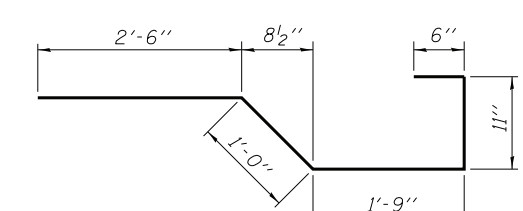
a3(E) BAR



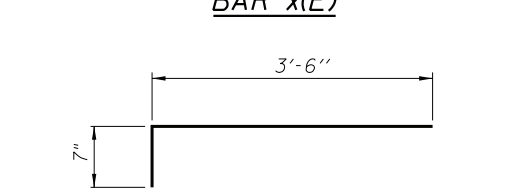
BAR d(E)



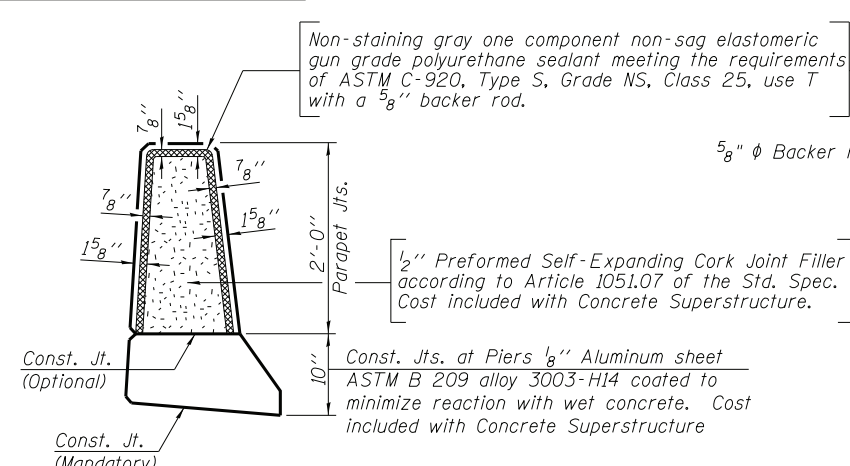
BAR d1(E)



BAR x(E)



BAR x1(E)



PARAPET JOINT DETAILS

SUPERSTRUCTURE BILL OF MATERIAL

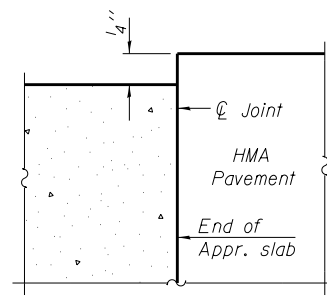
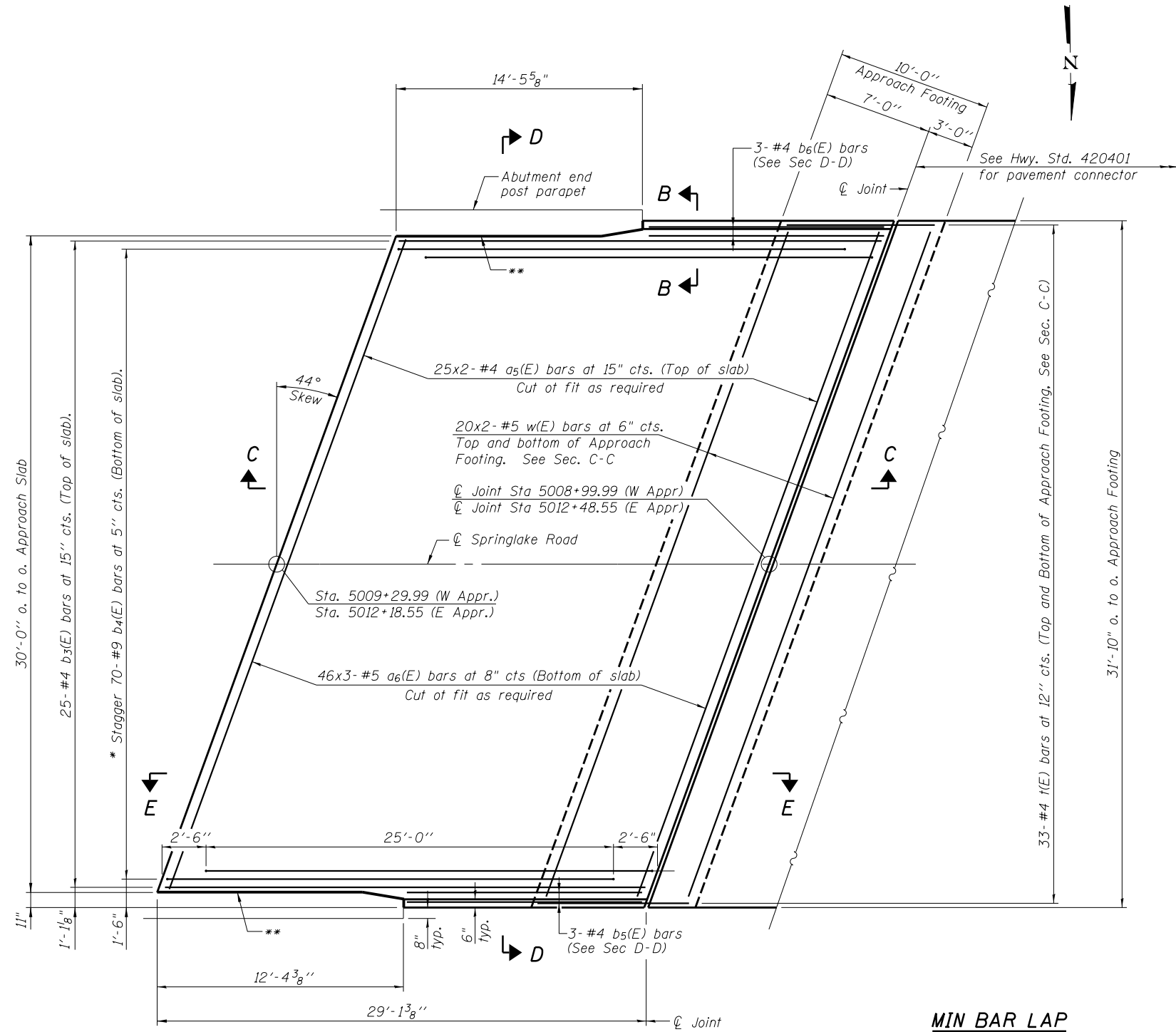
| Bar | No. | Size | Length | Shape |
|-------|-----|------|---------|-------|
| a(E) | 483 | #5 | 32'-6" | — |
| a1(E) | 338 | #5 | 31'-10" | — |
| a2(E) | 950 | #6 | 6'-6" | — |
| a3(E) | 30 | #5 | 8'-8" | U |
| a4(E) | 10 | #5 | 45'-2" | — |
| b(E) | 360 | #5 | 31'-4" | — |
| b1(E) | 99 | #6 | 33'-11" | — |
| b2(E) | 341 | #5 | 28'-9" | — |
| d(E) | 620 | #5 | 5'-7" | L |
| d1(E) | 620 | #5 | 7'-5" | L |
| e(E) | 98 | #4 | 16'-10" | — |
| e1(E) | 32 | #4 | 19'-9" | — |
| e2(E) | 98 | #4 | 17'-5" | — |
| e3(E) | 10 | #8 | 28'-1" | — |
| e4(E) | 4 | #8 | 19'-9" | — |
| e5(E) | 10 | #8 | 28'-11" | — |
| e6(E) | 10 | #4 | 25'-7" | — |
| e7(E) | 10 | #4 | 26'-5" | — |
| x(E) | 50 | #5 | 6'-8" | — |
| x1(E) | 60 | #5 | 4'-1" | — |

| Material | Unit | Quantity |
|----------------------------------|---------|----------|
| Reinforcement Bars, Epoxy Coated | Pound | 78,400 |
| Concrete Superstructure | Cu. Yd. | 325.6 |
| Bridge Deck Grooving | Sq. Yd. | 883 |
| Protective Coat | Sq. Yd. | 1184 |

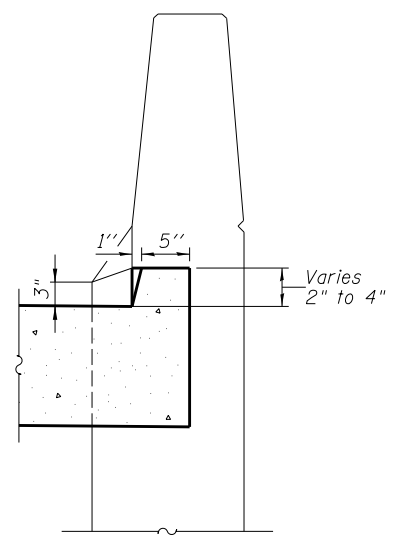
Bars indicated thus 1 x 5 - #8 etc. indicates 1 line of bars with 5 lengths per line.

FILE NAME = I:\1001\5606 - HEI_11336\CADD_Structure\1\Springlake Road over IL336\supdet01.sldgn

Notes:
See sheet 12 of 27 for Sections C-C & D-D and View E-E.
a₅(E) and a₆(E) bar spacings measured along ϕ Rdwy.



FLEXIBLE PAVEMENT
DETAIL A



VIEW B-B

PLAN

West approach shown (East approach similar)

*Tilt #9 b₄(E) bars as required to maintain clearance.

** Closed cell joint filler according to Article 105i.08 of the Standard Specifications, full depth of slab, full length of parapet. Typical each parapet.

MIN BAR LAP

- #4 bar = 2'-3"
- #5 bar = 2'-6"

FILE NAME = I:\DOT\5606 - HEI\11336\CADD_Structure\1\Springlake Road over 11336\appr-slab.dgn

(Sheet 1 of 2)



| | |
|-----------------------------|--------------|
| USER NAME = abenz | DESIGNED ACB |
| PLOT TIME = 9:54:14 AM | CHECKED CMW |
| PLOT SCALE = 2.0000 ' / in. | DRAWN RLK |
| PLOT DATE = 4/21/2015 | CHECKED CMW |

| |
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| REVISD - |
| REVISD - |
| REVISD - |
| REVISD - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 055-0077

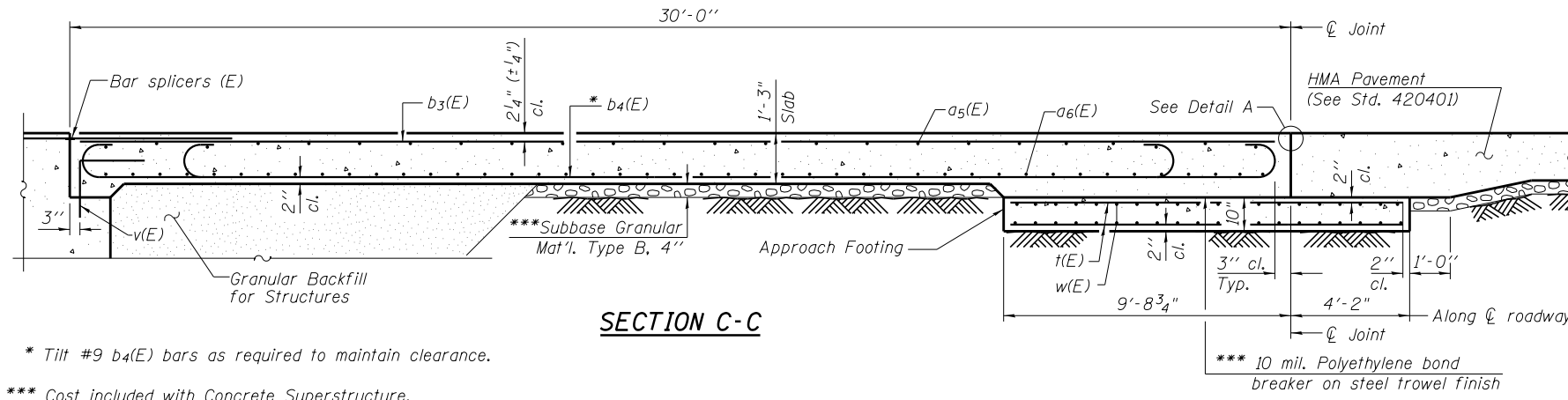
SHEET NO. 11 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV;HB(2-6);B.B-1,B-2)] | MCDONOUGH | 874 | 536 |
| CONTRACT NO. 68B44 | | | | |

ILLINOIS FED. AID PROJECT

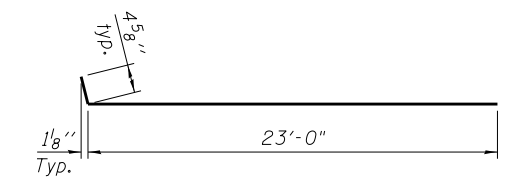
Notes:

See sheet 11 of 27 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheets 18 thru 21 of 27.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 For bar splicer details, see sheet 24 of 27.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 3 of 27.

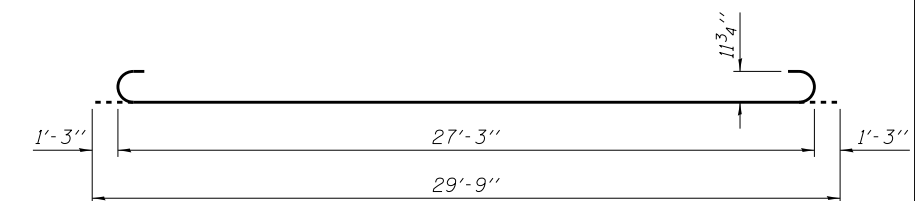


* Tilt #9 b4(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.

*** 10 mil. Polyethylene bond breaker on steel trowel finish



BARS a5(E)

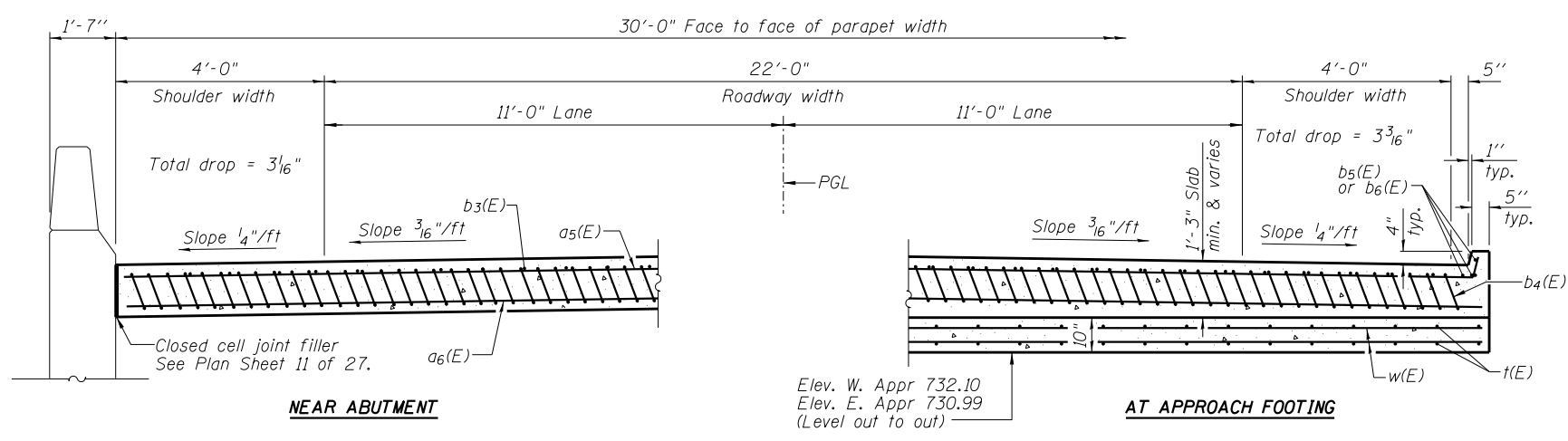


BAR b4(E)

MIN BAR LAP
 #4 bar = 2'-3"
 #5 bar = 2'-6"

TWO APPROACHES
 BILL OF MATERIAL

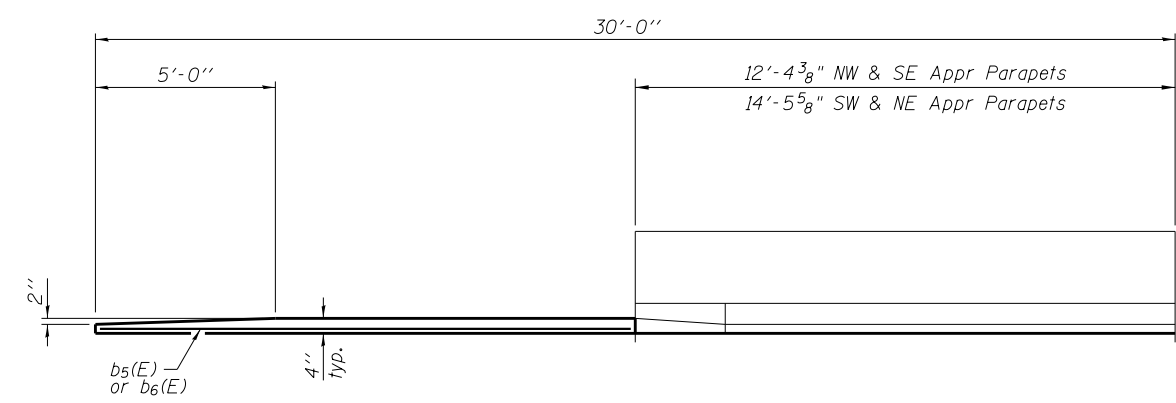
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|--------|
| a5(E) | 100 | #4 | 23'-5" | |
| a6(E) | 276 | #5 | 16'-4" | |
| b3(E) | 50 | #4 | 29'-8" | |
| b4(E) | 140 | #9 | 29'-9" | |
| b5(E) | 6 | #4 | 16'-6" | |
| b6(E) | 6 | #4 | 14'-5" | |
| t(E) | 132 | #4 | 13'-6" | |
| w(E) | 160 | #5 | 23'-3" | |
| Concrete Superstructure | | | Cu. Yd. | 93.5 |
| Concrete Structures | | | Cu. Yd. | 27.3 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 26,610 |
| Bridge Deck Grooving | | | Sq. Yd. | 187 |
| Protective Coat | | | Sq. Yd. | 232 |



NEAR ABUTMENT

AT APPROACH FOOTING

SECTION D-D
 (See Plan for dimensions not shown)



VIEW E-E

FILE NAME = I:\DOT\5606...HEI_11336\CADD_Structure\1\Springlake_Road over IL336\appr-slab.dgn



| | | |
|-----------------------------|--------------|-----------|
| USER NAME = abenz | DESIGNED ACB | REVISED - |
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| PLOT DATE = 4/21/2015 | CHECKED CMW | REVISED - |

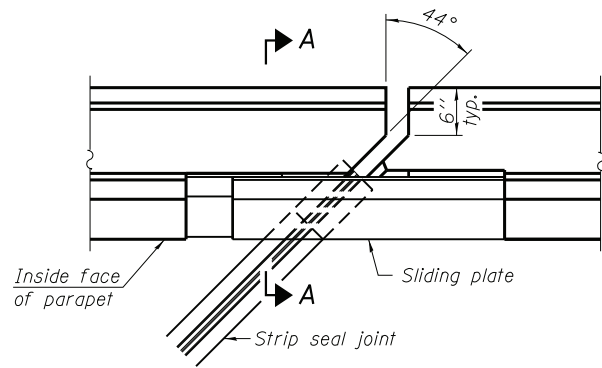
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 055-0077

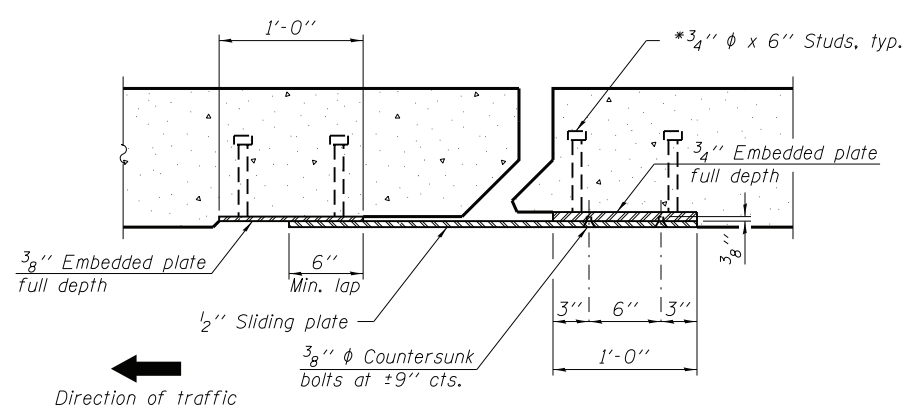
SHEET NO. 12 OF 27 SHEETS

| | | | | |
|--------------------|-------------------------|-----------|---------------------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55[3]PV[2]-6[B,B-1,B-2] | MCDONOUGH | 874 | 537 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

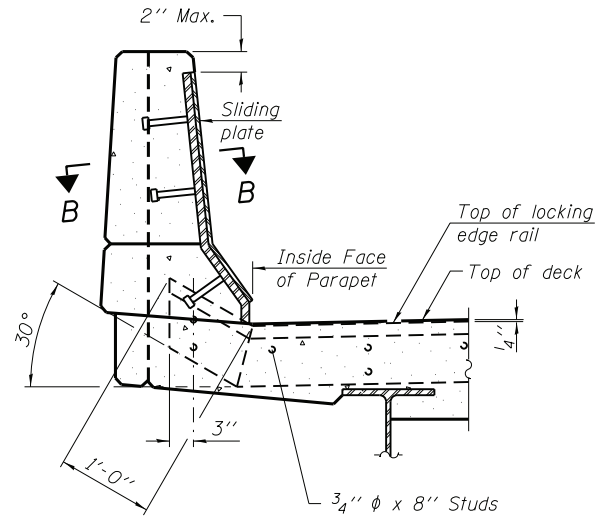
(Sheet 2 of 2)



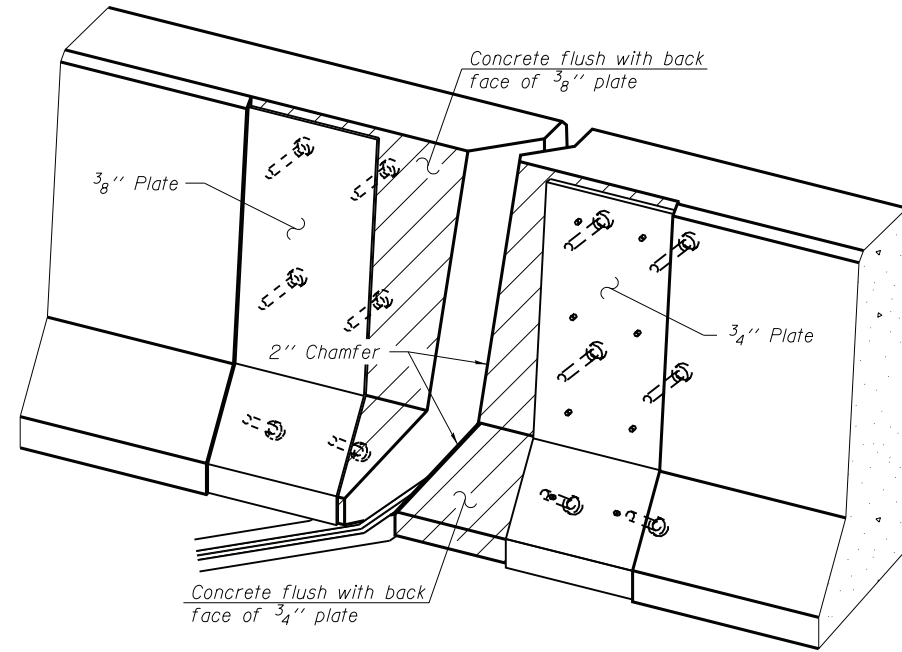
PLAN
(For skews > 30°)
Showing point block



SECTION B-B



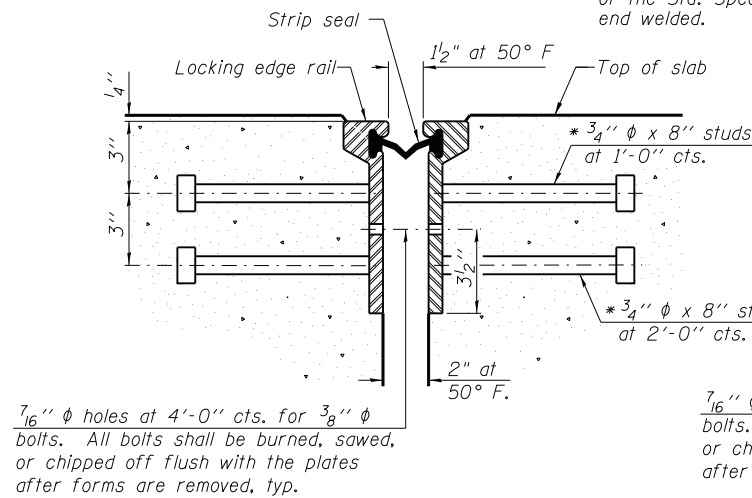
SECTION A-A



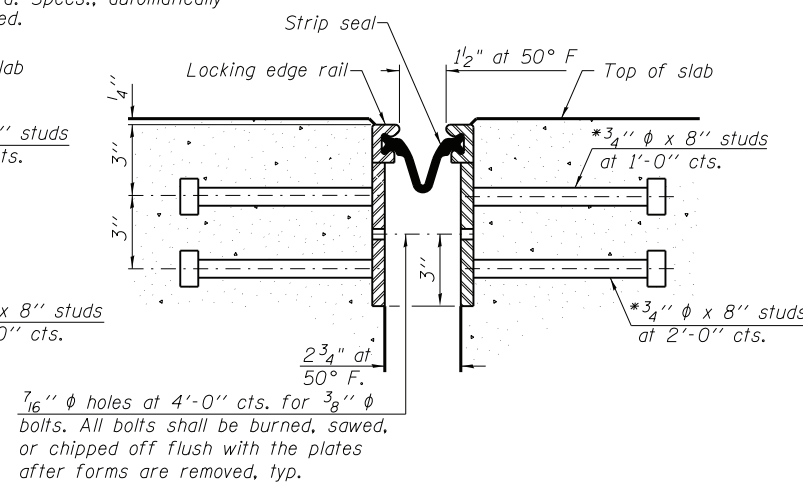
TRIMETRIC VIEW
(Showing back plates only)

Notes:
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.
The manufacturer's recommended installation methods shall be followed.
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.
Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SECTION THRU ROLLED RAIL JOINT



SECTION THRU WELDED RAIL JOINT

ROLLED EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

BILL OF MATERIAL

| Item | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 88.0 |

FILE NAME = I:\1001\5606 - HEI_11336\CADD_Structural\Springlake Road over IL336\str-pparel.dgn

EJ-SSJ

1-27-12

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

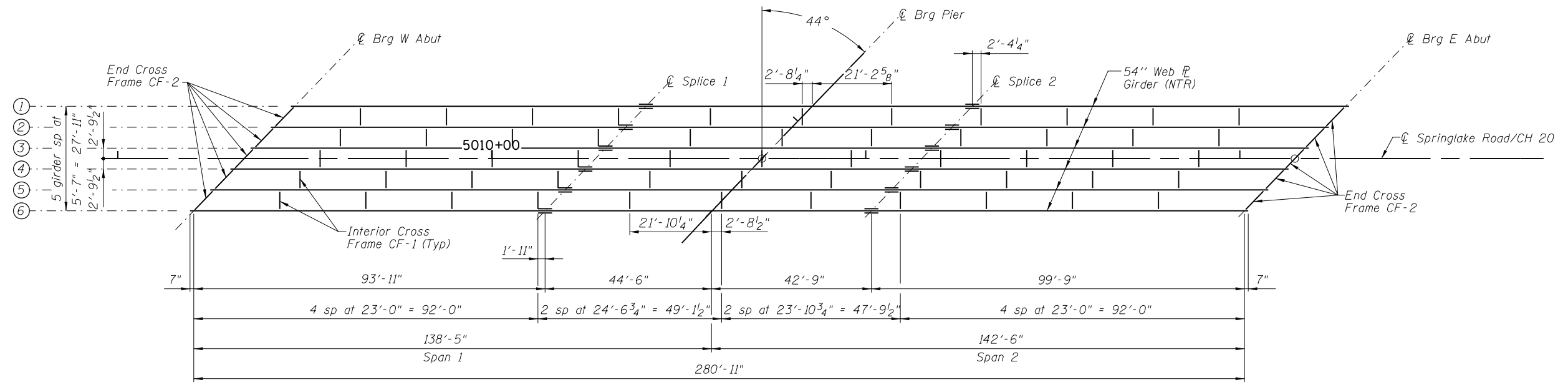
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|----------------------------|--------------|-----------|
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| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

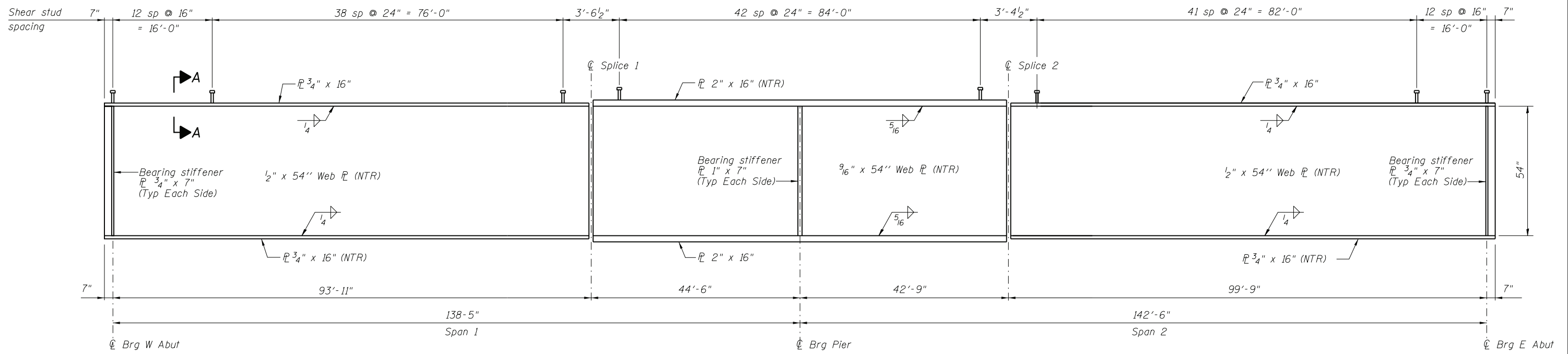
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 055-0077

SHEET NO. 13 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------------------------|-----------|--------------------|-----------|
| 407 | 55[3(PV)HB(2-6)B-B-1,B-2] | MCDONOUGH | 874 | 538 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |

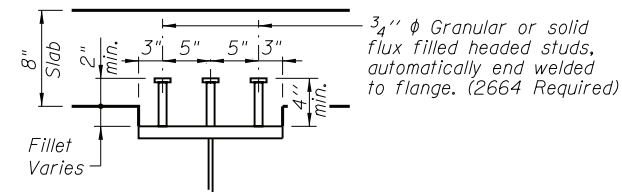


FRAMING PLAN



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.



SECTION A-A

NOTES:

All girders, splice plates and bearing stiffeners shall be AASHTO M270 Grade 50.
Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

FILE NAME = I:\1001\5606 - HEI_11336\CADD_Structure\11336\Framplan.dgn



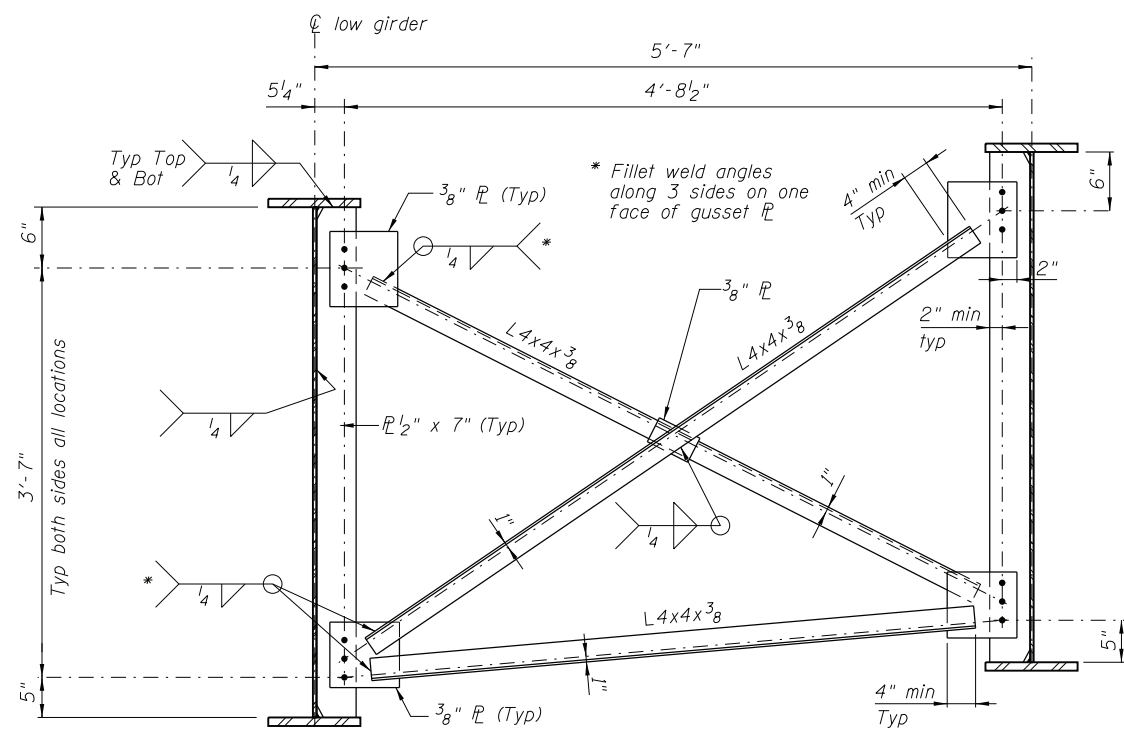
| | | |
|---------------------------|--------------|-----------|
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| PLOT SCALE = 1/8" = 1'-0" | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

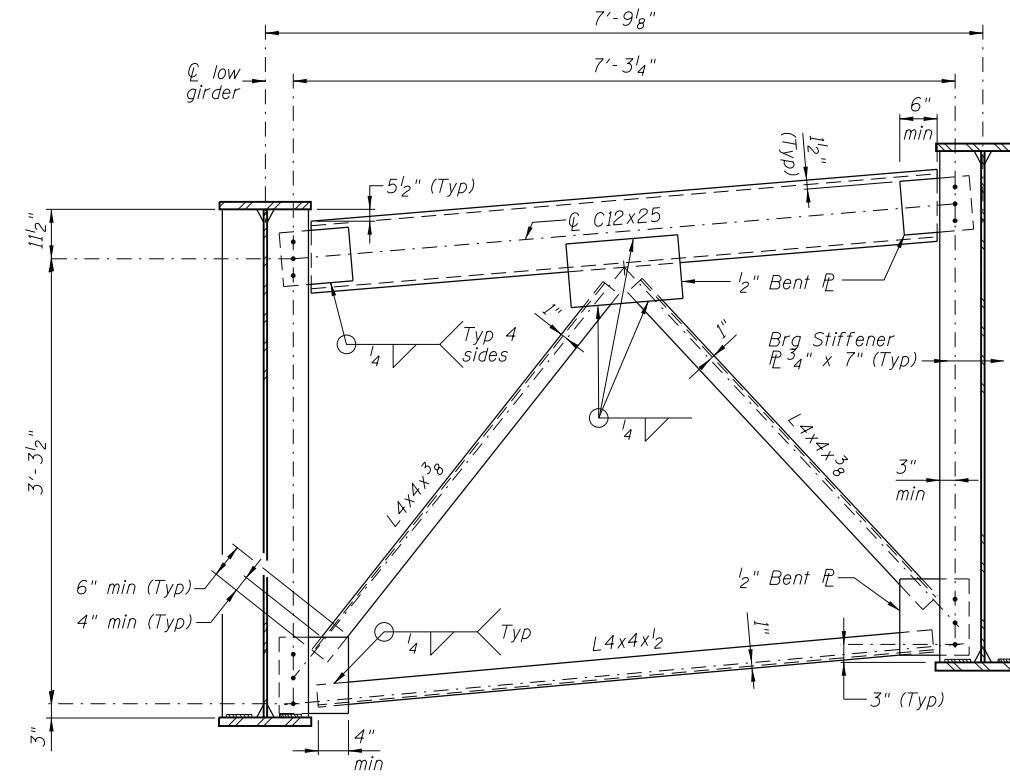
FRAMING PLAN AND DETAILS
STRUCTURE NO. 055-0077

SHEET NO. 14 OF 27 SHEETS

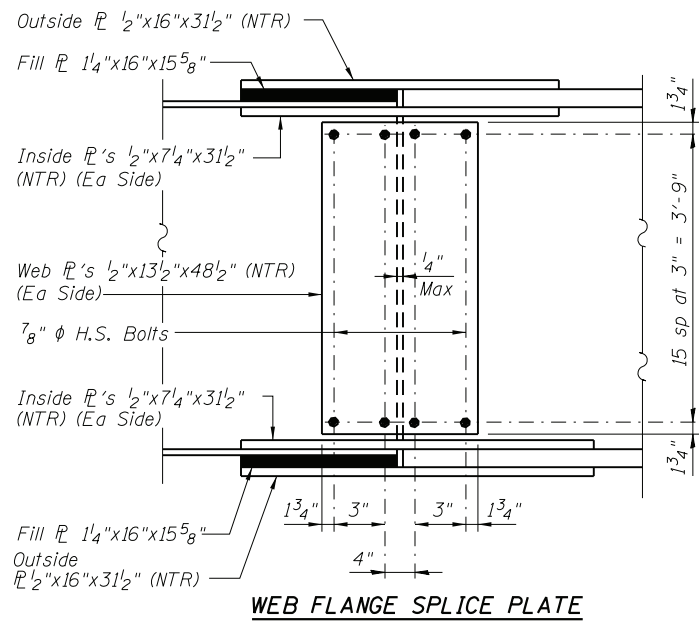
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------------------|-----------|--------------|-----------|
| 407 | 55[3]PV[HB(2-6)]B,B-1,B-2] | MCDONOUGH | 874 | 539 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



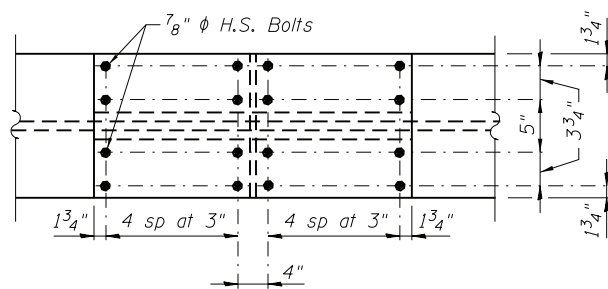
TYPICAL INTERIOR CROSS FRAME - CF-1
(55 required)



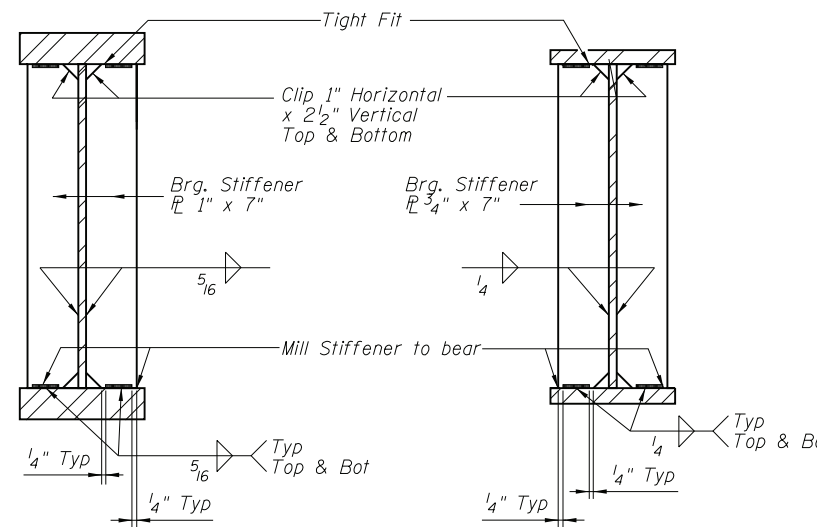
TYPICAL END CROSS FRAME - CF-2
(10 required)



WEB FLANGE SPLICE PLATE

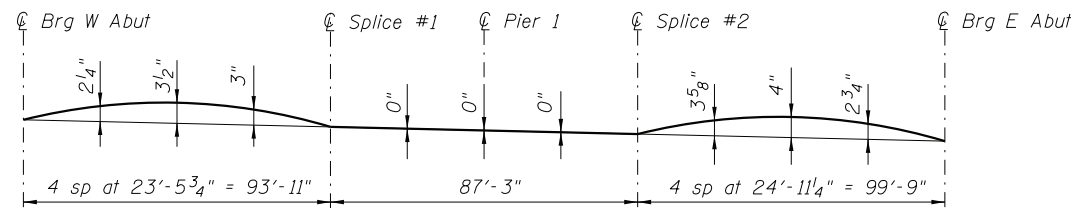


**TOP & BOTTOM FLANGE SPLICE PLATE
FIELD SPLICE DETAILS**
(12 required)



SECTION AT PIER

SECTION AT ABUTMENT



CAMBER DIAGRAM

***TOP OF WEB ELEVATIONS**

| Location | Girder 1 | Girder 2 | Girder 3 | Girder 4 | Girder 5 | Girder 6 |
|-------------------|----------|----------|----------|----------|----------|----------|
| CL Brg at W. Abut | 733.99 | 734.06 | 734.11 | 734.06 | 733.93 | 733.78 |
| CL Splice 1 | 734.24 | 734.35 | 734.43 | 734.43 | 734.34 | 734.23 |
| CL Brg at Pier | 734.10 | 734.22 | 734.33 | 734.34 | 734.27 | 734.17 |
| CL Splice 2 | 733.93 | 734.07 | 734.20 | 734.23 | 734.17 | 734.10 |
| CL Brg at E. Abut | 732.87 | 733.06 | 733.22 | 733.29 | 733.28 | 733.25 |

* For fabrication only

NOTES

All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods. Fasteners for field splices shall be 7/8" ASTM A325 high-strength bolts in 1 5/16" dia holes.

Fasteners for cross frames shall be 3/4" ASTM A325 high-strength bolts in 1 5/16" dia holes.

Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

Two hardened washers shall be required over all oversized holes.

Place end cross frame with channel flange and outstanding angle legs outward from abutment backwall.

All splice plates and bearing stiffeners shall be AASHTO M270 Grade 50.

FILE NAME = I:\1001\5606 - HEI_IL1336\CADD_Structure\Springlake Road over IL1336\Frmgdetails.dgn

| INTERIOR GIRDER MOMENT TABLE | | | | |
|------------------------------------|--------------------|-----------|--------|-----------|
| | | 0.4 Sp. 1 | Pier | 0.6 Sp. 2 |
| I_s | (in ⁴) | 24548 | 57578 | 24548 |
| $I_c(n)$ | (in ⁴) | 53884 | - | 53884 |
| $I_c(3n)$ | (in ⁴) | 39747 | - | 39747 |
| $I_c(cr)$ | (in ⁴) | - | 63752 | - |
| S_s | (in ³) | 884.6 | 1985.5 | 884.6 |
| $S_c(n)$ | (in ³) | 1190.6 | - | 1190.6 |
| $S_c(3n)$ | (in ³) | 1078.4 | - | 1078.4 |
| $S_c(cr)$ | (in ³) | - | 2355.5 | - |
| DC1 | (k/') | 0.77 | 0.94 | 0.77 |
| MDC1 | (k) | 841 | 2492 | 918 |
| DC2 | (k/') | 0.15 | 0.15 | 0.15 |
| MDC2 | (k) | 166 | 446 | 187 |
| DW | (k/') | 0.25 | 0.25 | 0.25 |
| MDW | (k) | 277 | 743 | 312 |
| M _{LL+IM} | (k) | 1554 | 2119 | 1555 |
| M _u (Strength I) | (k) | 4394 | 8495 | 4571 |
| $\phi_r M_n$ | (k) | 5892 | 9272 | 5838 |
| f_s DC1 | (ksi) | 11.4 | 15.1 | 12.5 |
| f_s DC2 | (ksi) | 1.8 | 2.3 | 2.1 |
| f_s DW | (ksi) | 3.1 | 3.8 | 3.5 |
| f_s (LL+IM) | (ksi) | 15.7 | 10.8 | 15.7 |
| f_s (Service II) | (ksi) | 36.7 | 35.2 | 38.4 |
| 0.95R _h F _{yf} | (ksi) | 47.5 | 47.5 | 47.5 |
| f_s (Total)(Strength I) | (ksi) | - | 46.2 | - |
| $\phi_r F_n$ | (ksi) | - | 50.0 | - |
| V _r | (k) | 19.1 | 26.9 | 18.8 |

| INTERIOR GIRDER REACTION TABLE | | | | |
|--------------------------------|----------|--------|----------|-------|
| HL93 Loading | | | | |
| | W. Abut. | Pier 1 | E. Abut. | |
| R _{DC1} | (k) | 37.2 | 154.1 | 38.7 |
| R _{DC2} | (k) | 7.2 | 27.4 | 7.6 |
| R _{DW} | (k) | 11.9 | 45.7 | 12.6 |
| R _{LL+IM} | (k) | 80.4 | 166.2 | 97.1 |
| R _{Total} | (k) | 136.6 | 393.4 | 156.0 |

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).

DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
M_{LL+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
M_u (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_{LL+IM}
 $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
 f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1 / S_{nc}
 f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2 / S_c(3n) or MDC2 / S_c(cr) as applicable.
 f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW / S_c(3n) or MDW / S_c(cr) as applicable.
 f_s (LL+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_{LL+IM} / S_c(n) or M_{LL+IM} / S_c(cr) as applicable.
 f_s (Service II): Sum of stresses as computed below (ksi).
 f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (LL+IM)
0.95R_hF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (LL+IM)
 $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
V_r: Maximum factored shear range in span computed according to Article 6.10.10.

Note:

M_{LL+IM} and R_{LL+IM} include the effects of centrifugal force and superelevation.

FILE NAME = I:\DOT\5606_HEI\11336\CADD_Structure\11336\momtable.dgn



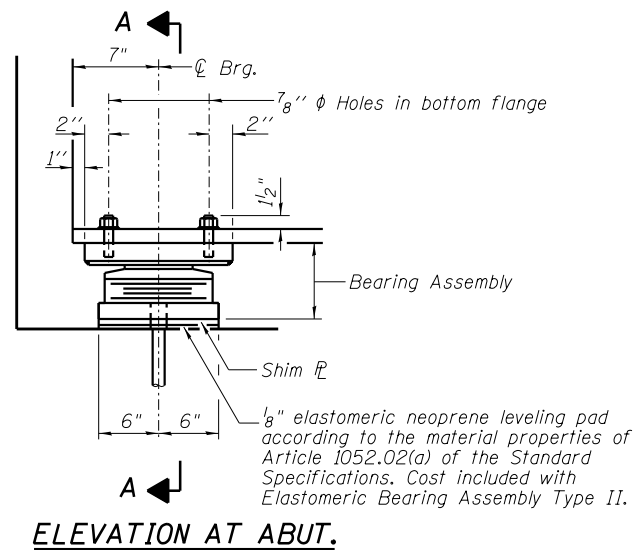
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| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

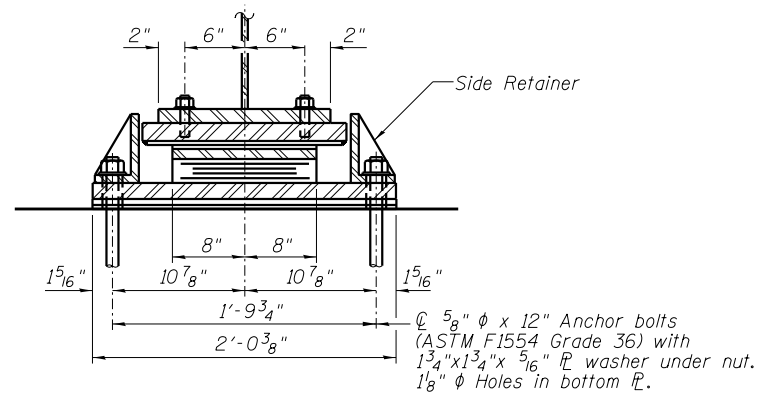
MOMENT TABLES
STRUCTURE NO. 055-0077

SHEET NO. 16 OF 27 SHEETS

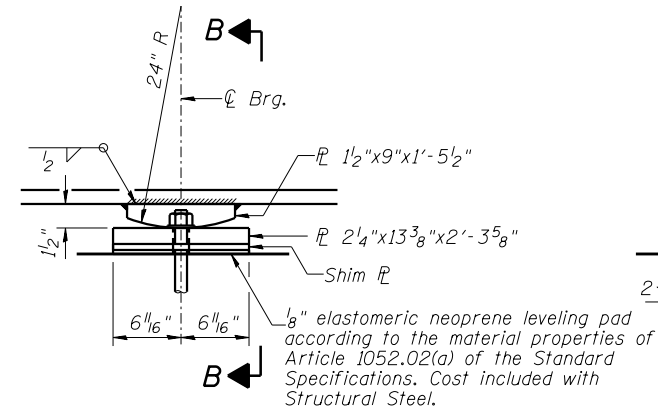
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|--------------------------|-----------|---------------------------|-----------|
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| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |



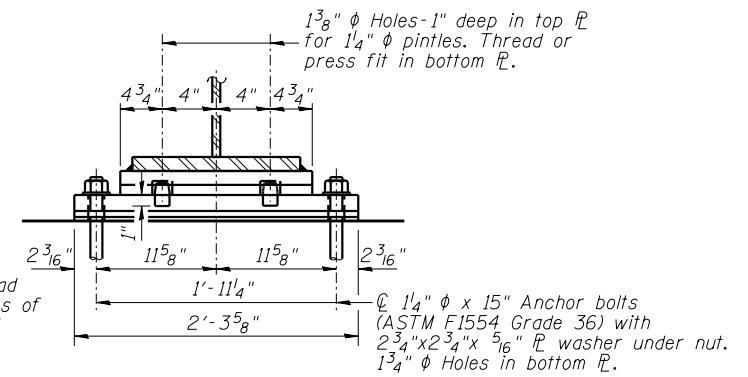
ELEVATION AT ABUT.



SECTION A-A



ELEVATION AT PIER



SECTION B-B

TYPE II ELASTOMERIC EXP. BRG.

FIXED BEARING

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8 inch PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8 inch PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer. The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

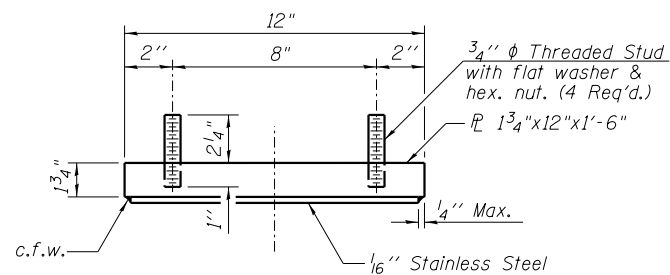
Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

All bearing plates, side retainers, anchor bolts, nuts, adjusting shims, washers and pintles under the expansion joints shall be galvanized according to AASHTO M111 or M232 as applicable.

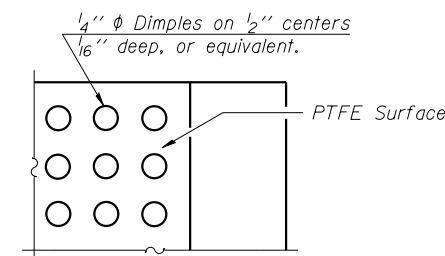
H.S. bolts in bearing assembly shall be galvanized according to AASHTO M298 Class 50.

BILL OF MATERIAL

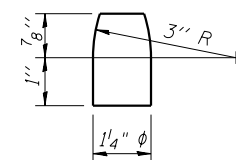
| Item | Unit | Total |
|---------------------------------------|------|-------|
| Elastomeric Bearing Assembly, Type II | Each | 12 |
| Anchor Bolts, 5/8" | Each | 24 |
| Anchor Bolts, 1/4" | Each | 12 |



TOP BEARING ASSEMBLY



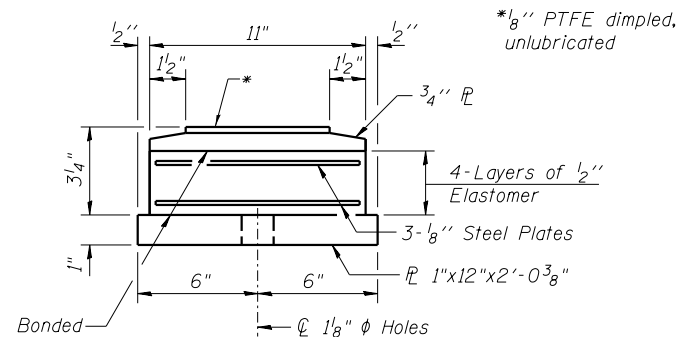
PLAN-PTFE SURFACE



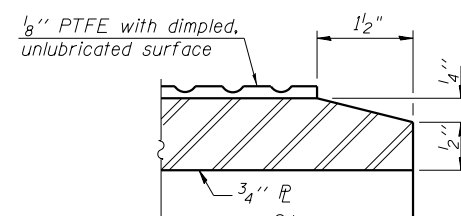
PINTLE

TABLE OF SHIM PLATES

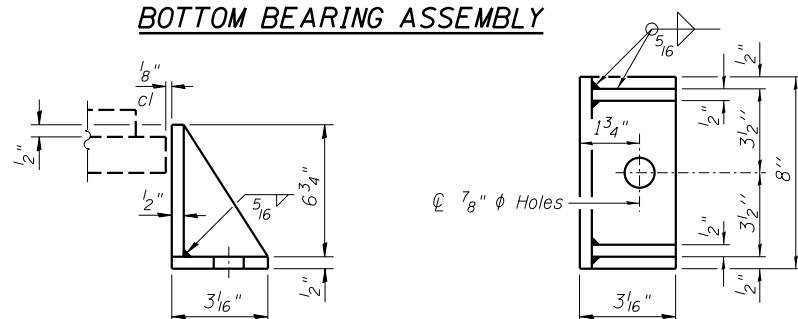
| Location | Girder | Size |
|----------|--------|------------------------|
| W Abut | 3 | 1/2"x12"x2'-0 3/8" |
| E Abut | 5 | 1/2"x12"x2'-0 3/8" |
| Pier | 4 | 1/4"x13 3/8"x2'-3 5/8" |



BOTTOM BEARING ASSEMBLY

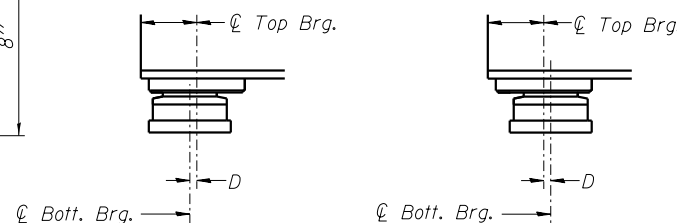


SECTION THRU PTFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F. (Move bott. brg. away from fixed brg.)
ABOVE 50°F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

FILE NAME = I:\DOT\5606...HEI_IL1336\CADD_Structural\Springlake Road over IL1336\brgdet01a.dgn

I-2E-2

1-27-12

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

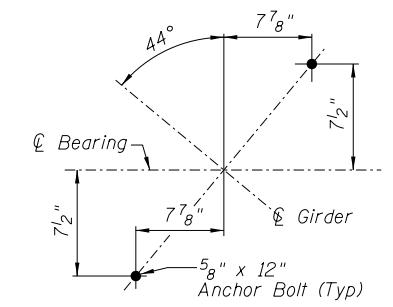
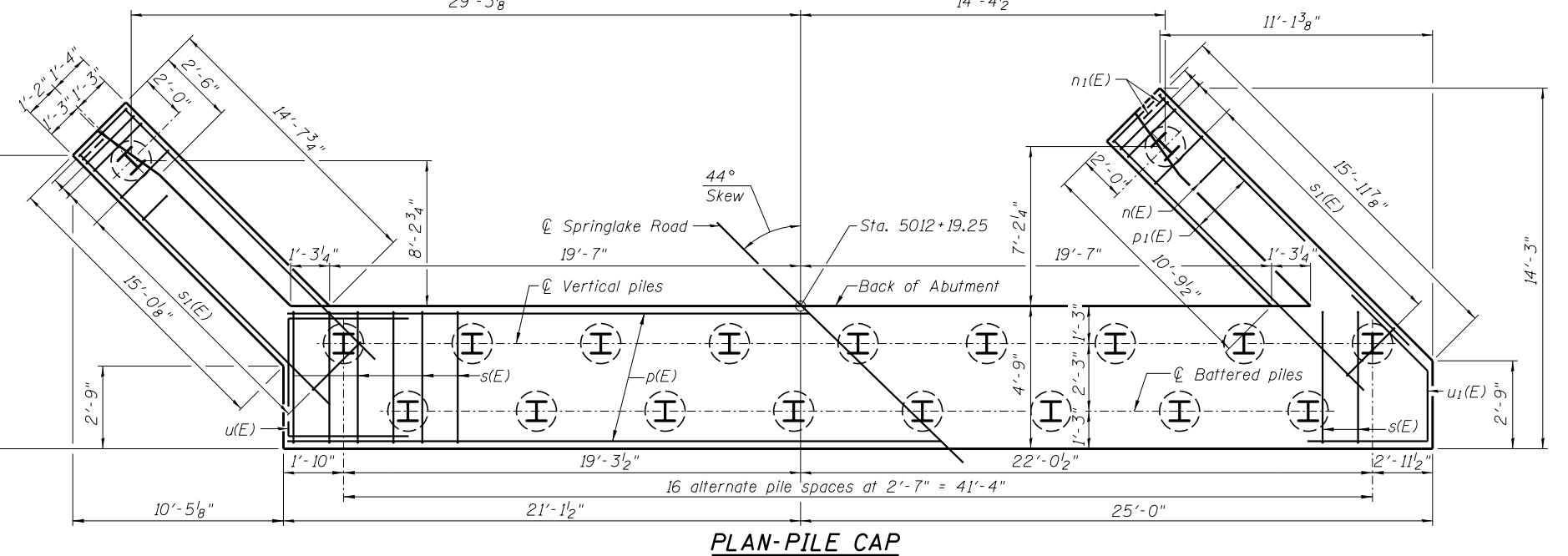
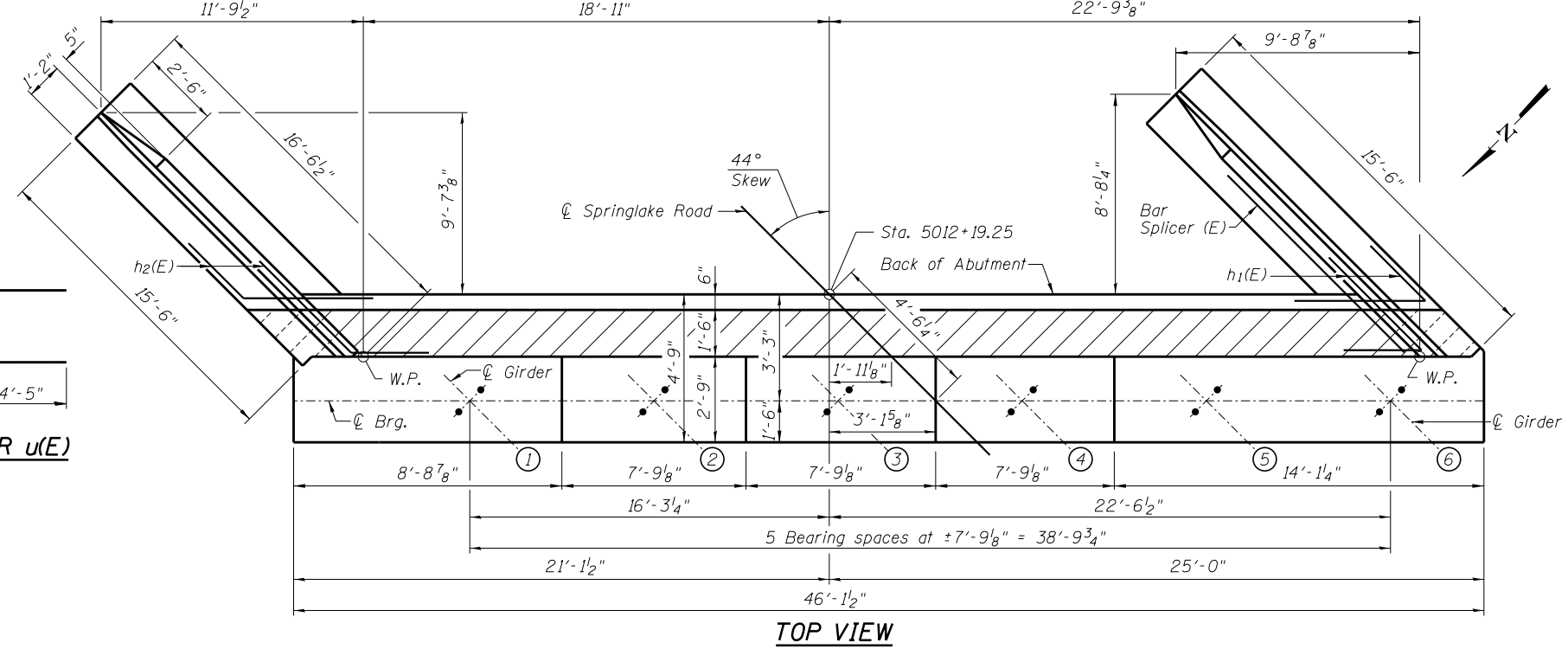
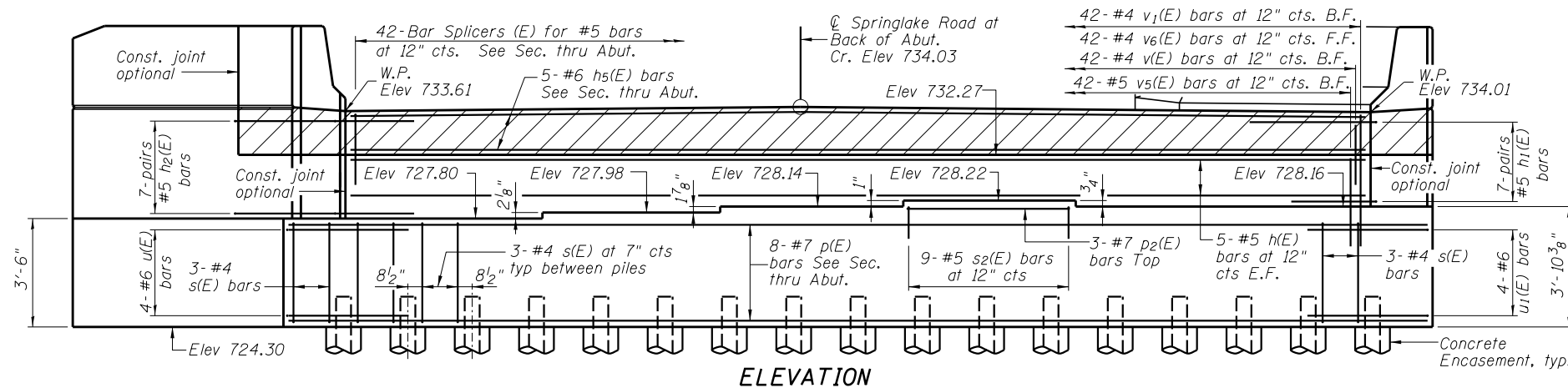
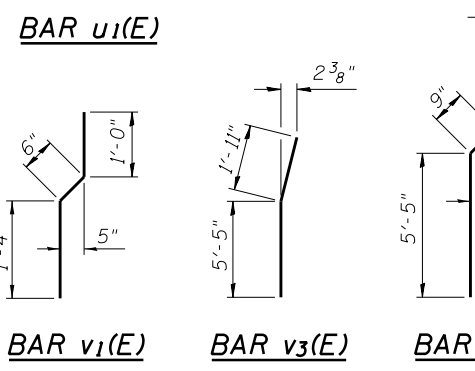
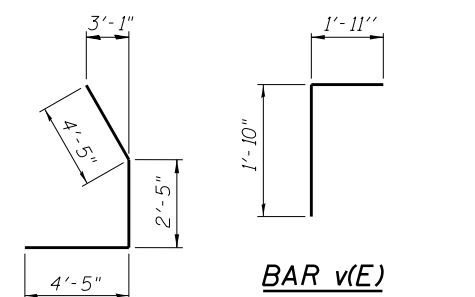
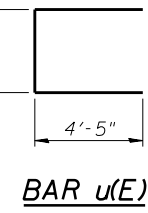
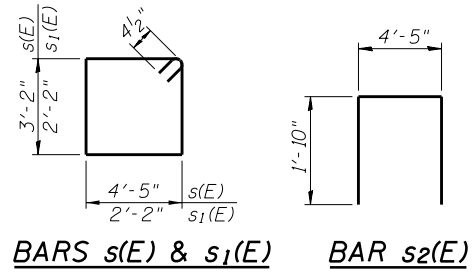
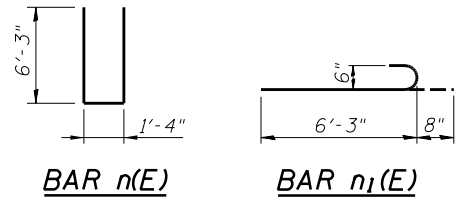
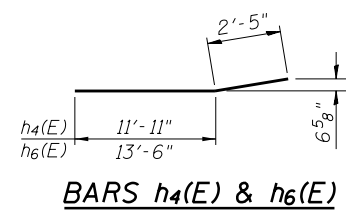
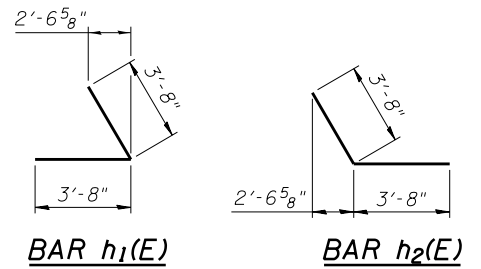
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| PLOT DATE = 1/27/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 055-0077

SHEET NO. 17 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------|---------------------------|
| 407 | 55[3]PVY#B[2-6]B.B-1.B-2[1] | MCDONOUGH | 874 | 542 |
| | | | | CONTRACT NO. 68B44 |
| ILLINOIS FED. AID PROJECT | | | | |



EAST ABUTMENT BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|---------|------|---------|-------|
| $h(E)$ | 10 | #5 | 41'-5" | |
| $h_1(E)$ | 14 | #5 | 7'-4" | |
| $h_2(E)$ | 14 | #5 | 7'-4" | |
| $h_3(E)$ | 26 | #4 | 15'-3" | |
| $h_4(E)$ | 9 | #4 | 14'-4" | |
| $h_5(E)$ | 5 | #6 | 15'-2" | |
| $h_6(E)$ | 9 | #4 | 15'-11" | |
| $n(E)$ | 27 | #6 | 13'-10" | |
| $n_1(E)$ | 12 | #6 | 6'-11" | |
| $p(E)$ | 8 | #7 | 45'-10" | |
| $p_1(E)$ | 12 | #7 | 15'-2" | |
| $p_2(E)$ | 3 | #7 | 7'-6" | |
| $s(E)$ | 54 | #4 | 15'-11" | |
| $s_1(E)$ | 32 | #4 | 9'-5" | |
| $s_2(E)$ | 9 | #4 | 8'-1" | |
| $u(E)$ | 4 | #6 | 13'-2" | |
| $u_1(E)$ | 4 | #6 | 11'-3" | |
| $v(E)$ | 42 | #4 | 3'-9" | |
| $v_1(E)$ | 42 | #4 | 2'-10" | |
| $v_2(E)$ | 32 | #6 | 8'-3" | |
| $v_3(E)$ | 6 | #6 | 7'-4" | |
| $v_4(E)$ | 27 | #6 | 8'-1" | |
| $v_5(E)$ | 42 | #4 | 6'-10" | |
| $v_6(E)$ | 42 | #4 | 7'-10" | |
| Structure Excavation | Cu. Yd. | | 133 | |
| Concrete Structures | Cu. Yd. | | 61.3 | |
| Reinforcement Bars, Epoxy Coated | Pound | | 5610 | |
| Furnishing Steel Piles, HP12x63 | Foot | | 1476 | |
| Driving Piles | Foot | | 1476 | |
| Test Pile Steel HP 12x63 | Each | | 1 | |
| Concrete Encasement | Cu. Yd. | | 6.7 | |
| Concrete Sealer | Sq. Ft. | | 494 | |

For details of Bar Splicers, see sheet 24 of 27.
 For details of piles and Concrete Encasement, see sheet 23 of 27.

PILE DATA

Type: HP12x63
 Nominal Required Bearing: 355 kips
 Factored Resistance Available: 148 kips
 Est. Length: 82'
 No. Production Piles: 18
 No. Test Piles: 1

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CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 184-001397

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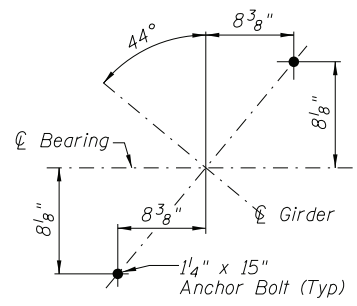
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 DRAWN RLK
 CHECKED CMW

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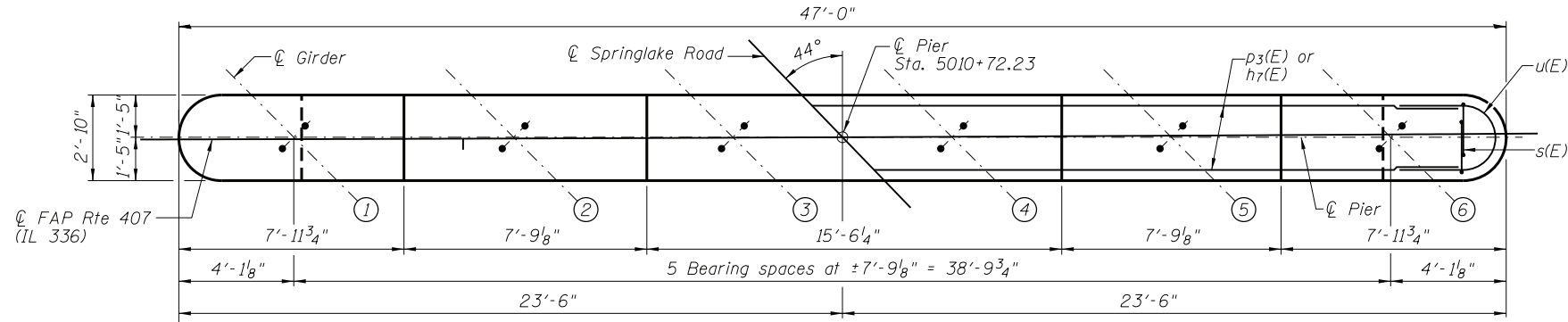
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS
STRUCTURE NO. 055-0077
 SHEET NO. 20 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|--------------------------------|-----------|--------------|--------------------|
| 407 | 55[3]PV[4]B[2]-6[B]B-1[B]-2[1] | MCDONOUGH | 874 | 545 |
| | | | | CONTRACT NO. 68B44 |
| ILLINOIS FED. AID PROJECT | | | | |

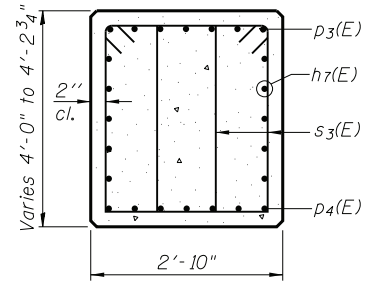


ANCHOR BOLT LAYOUT

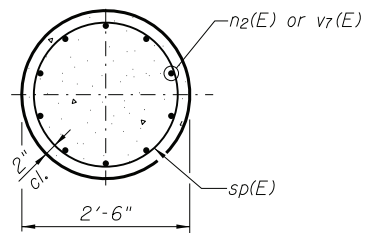


TOP PLAN

BAR v7(E)



SECTION A-A



SECTION B-B

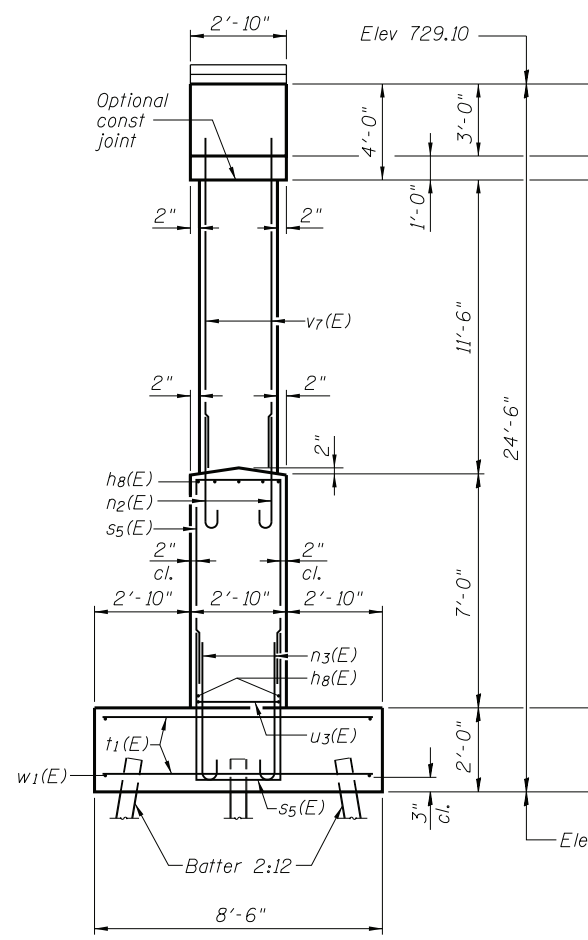
PILE DATA

Type: HP12x53
 Nominal Required Bearing: 330 kips
 Factored Resistance Available: 181 kips
 Est. Length: 52'
 No. Production Piles: 20
 No. Test Piles: 1

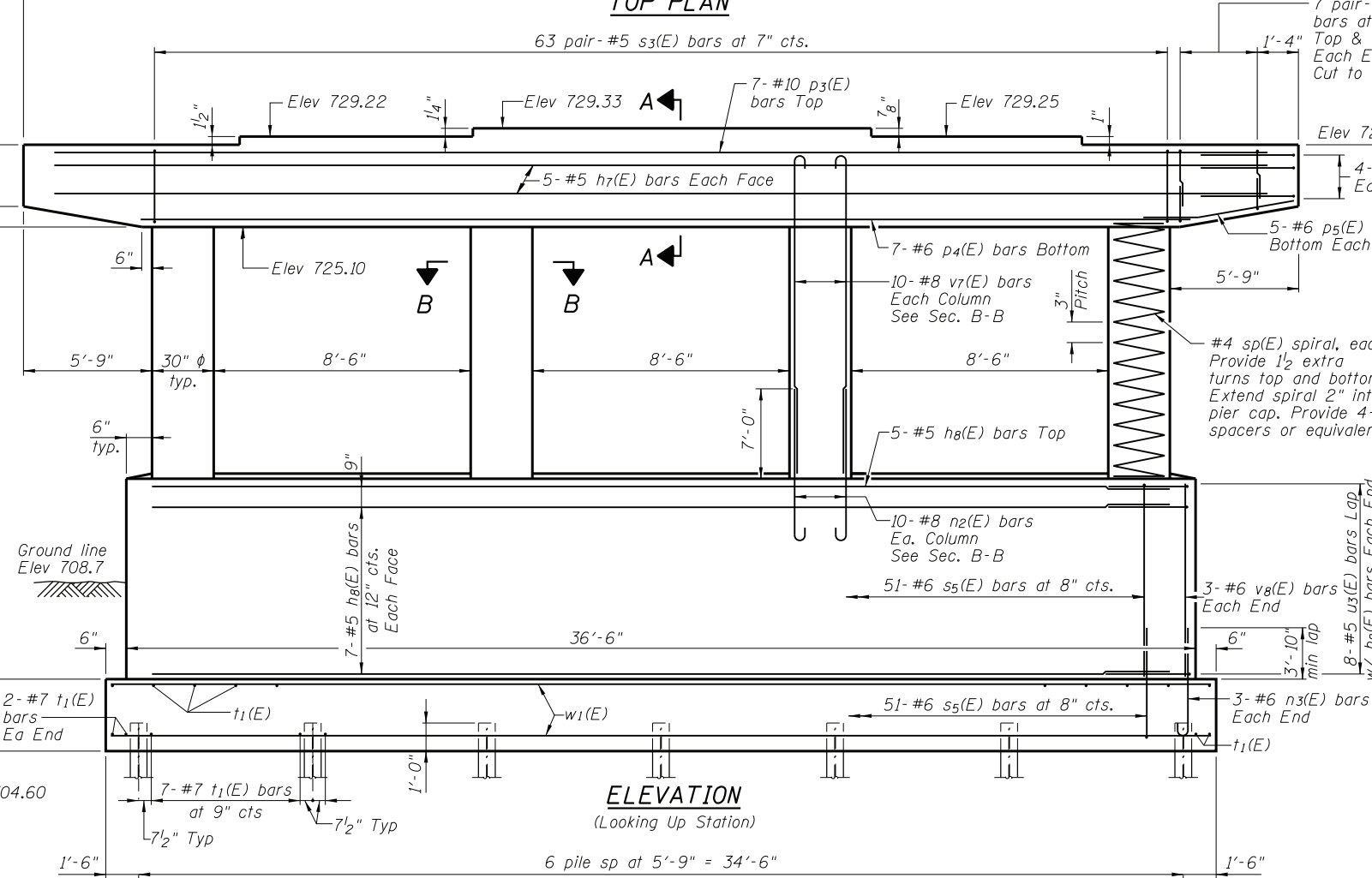
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h7(E) | 10 | #5 | 44'-2" | — |
| h8(E) | 19 | #5 | 33'-8" | — |
| n2(E) | 40 | #8 | 9'-5" | U |
| n3(E) | 6 | #6 | 6'-5" | U |
| p3(E) | 7 | #10 | 44'-2" | — |
| p4(E) | 7 | #6 | 36'-5" | — |
| p5(E) | 10 | #6 | 7'-10" | — |
| s3(E) | 126 | #5 | 11'-7" | □ |
| s4(E) | 28 | #5 | 7'-10" | U |
| s5(E) | 102 | #6 | 15'-0" | U |
| sp(E) | 4 | #4 | 11'-8" | ~ |
| t1(E) | 97 | #7 | 8'-3" | — |
| u2(E) | 8 | #6 | 11'-7" | U |
| u3(E) | 16 | #5 | 10'-5" | U |
| v7(E) | 40 | #8 | 15'-7" | U |
| v8(E) | 6 | #6 | 6'-6" | — |
| w1(E) | 20 | #5 | 37'-2" | — |
| Structure Excavation | | | Cu. Yd. | 140 |
| Concrete Structures | | | Cu. Yd. | 78.7 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 13440 |
| Furnishing Steel Piles HP 12x53 | | | Foot | 1040 |
| Driving Piles | | | Foot | 1040 |
| Test Pile Steel HP 12x53 | | | Each | 1 |

** Length is height of spiral.



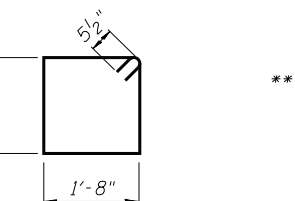
END VIEW



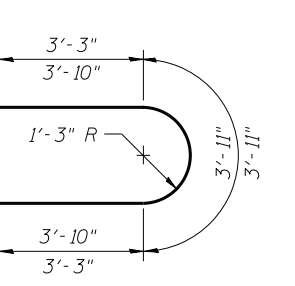
ELEVATION

(Looking Up Station)

BARS n2(E) & n3(E)



BAR s3(E)



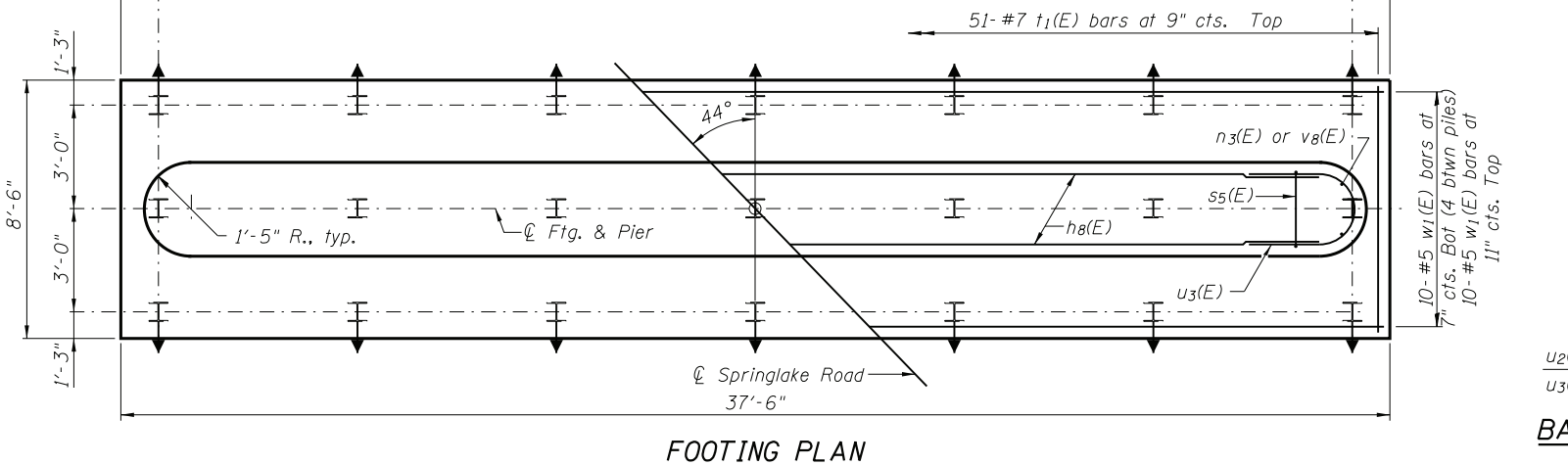
BARS u2(E) & u3(E)

A & B DIMENSIONS

| Bar | A | B |
|-------|-------|-------|
| s4(E) | 1'-8" | 3'-1" |
| s5(E) | 2'-6" | 6'-3" |

BARS s4(E) & s5(E)

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 23 of 27.



FOOTING PLAN

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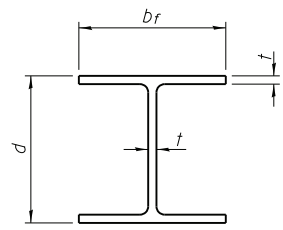
CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 184-001397

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

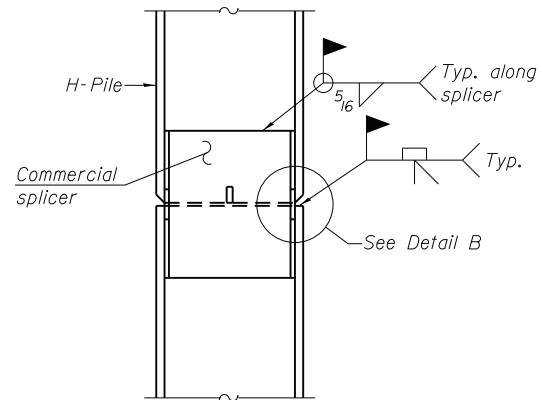
PIER DETAILS
STRUCTURE NO. 055-0077
 SHEET NO. 22 OF 27 SHEETS

| | | | | |
|---------------------------|---------------------------|-----------|--------------|--------------------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55I3P(V)HB(2-6)B,B-1,B-2J | MCDONOUGH | 874 | 547 |
| | | | | CONTRACT NO. 68B44 |
| ILLINOIS FED. AID PROJECT | | | | |

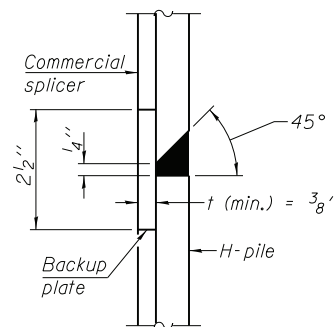


STEEL PILE TABLE

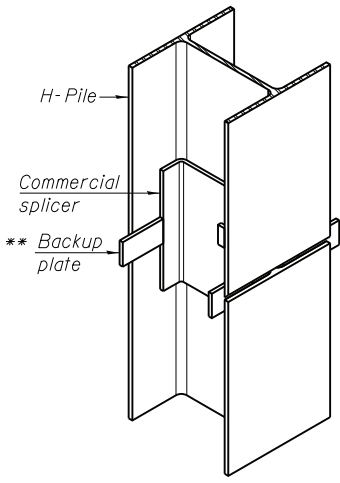
| Designation | Depth d | Flange width br | Web and Flange thickness t | Encasement diameter A |
|-------------|---------|-----------------|----------------------------|-----------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 1 3/16" | 30" |
| x102 | 14" | 14 3/4" | 1/16" | 30" |
| x89 | 13 7/8" | 14 3/4" | 5/8" | 30" |
| x73 | 13 5/8" | 14 5/8" | 1/2" | 30" |
| HP 12x84 | 12 1/4" | 12 1/4" | 1/16" | 24" |
| x74 | 12 1/8" | 12 1/4" | 5/8" | 24" |
| x63 | 12" | 12 1/8" | 1/2" | 24" |
| x53 | 11 3/4" | 12" | 7/16" | 24" |
| HP 10x57 | 10" | 10 1/4" | 9/16" | 24" |
| x42 | 9 3/4" | 10 1/8" | 7/16" | 24" |
| HP 8x36 | 8" | 8 1/8" | 7/16" | 18" |



ELEVATION

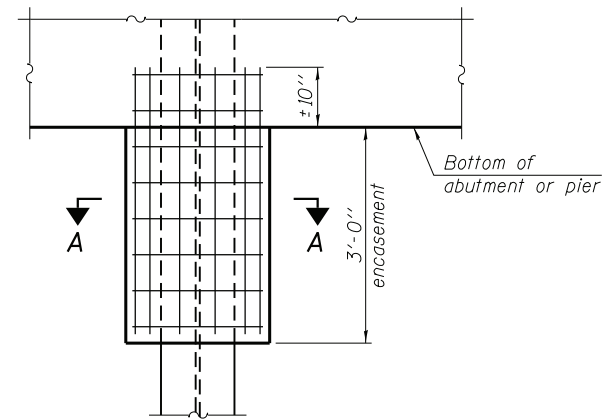


DETAIL "B"



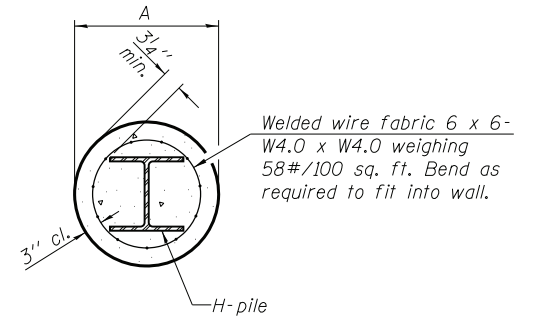
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



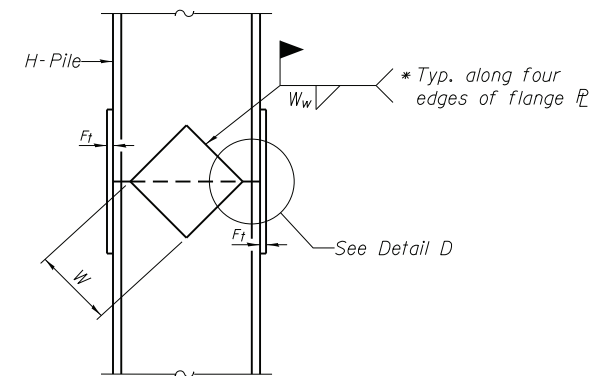
ELEVATION

PILE ENCASEMENT

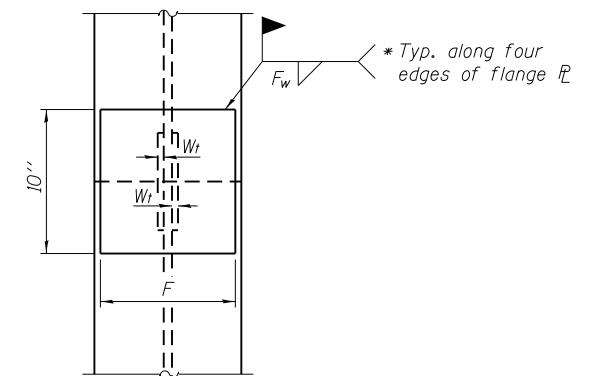


SECTION A-A

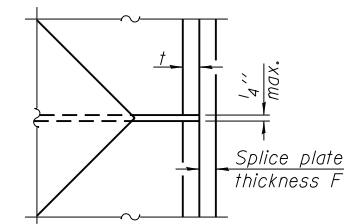
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



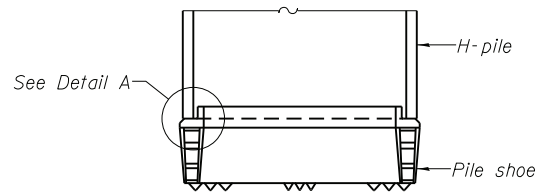
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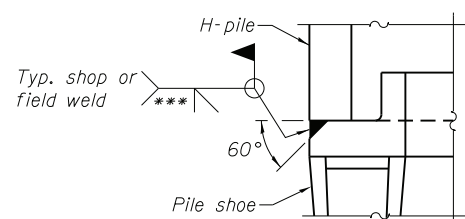
DETAIL D

WELDED PLATE FIELD SPLICE

| Designation | F | F _t | F _w | W | W _t | W _w |
|-------------|---------|----------------|----------------|--------|----------------|----------------|
| HP 14x117 | 12 1/2" | 1" | 7/8" | 7 3/4" | 5/8" | 1/2" |
| x102 | 12 1/2" | 7/8" | 3/4" | 7 3/4" | 5/8" | 1/2" |
| x89 | 12 1/2" | 3/4" | 1/16" | 7 3/4" | 5/8" | 1/2" |
| x73 | 12 1/2" | 5/8" | 9/16" | 7 3/4" | 5/8" | 1/2" |
| HP 12x84 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x74 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x63 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| x53 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| HP 10x57 | 8" | 3/4" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| x42 | 8" | 5/8" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| HP 8x36 | 7" | 5/8" | 7/16" | 4 1/4" | 1/2" | 3/8" |

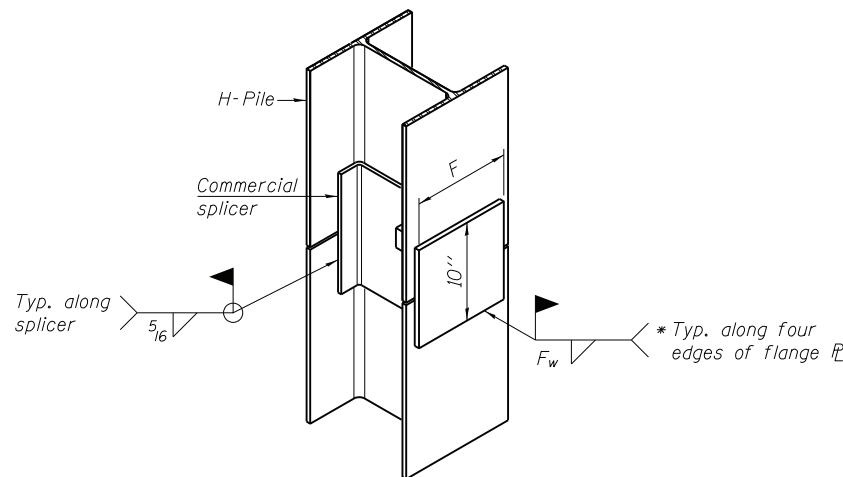


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

FILE NAME = I:\1001\5606 - HEI_IL1336\CADD_Structure\1\Springlake Road over IL1336\piles.dgn

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

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DESIGNED ACB
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DRAWN RLK
CHECKED CMW

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REVISED -

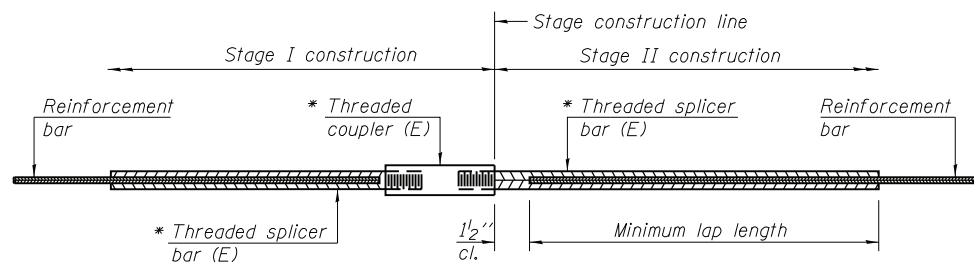
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STEEL HP PILE DETAILS
STRUCTURE NO. 055-0077**

SHEET NO. 23 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV)+B(2-6)+B,B-1,B-2] | MCDONOUGH | 874 | 548 |

CONTRACT NO. 68B44
ILLINOIS FED. AID PROJECT



STANDARD BAR SPLICER ASSEMBLY

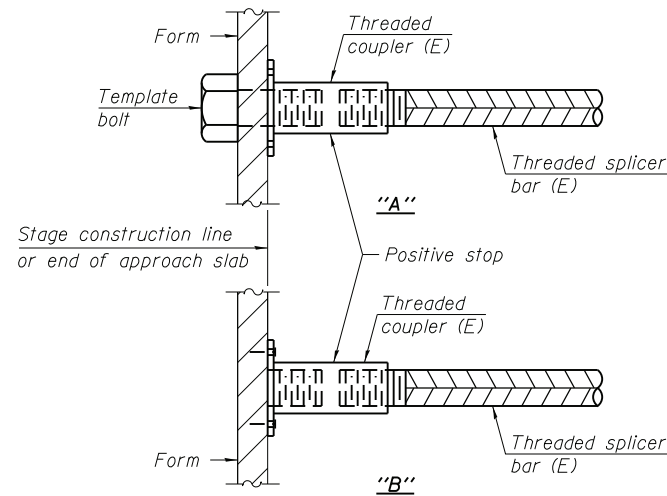
| Minimum Lap Lengths | | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| Bar size to be spliced | Table 1 | Table 2 | Table 3 | Table 4 | Table 5 | Table 6 |
| 3, 4 | 1'-5" | 1'-11" | 2'-1" | 2'-4" | 2'-7" | 2'-11" |
| 5 | 1'-9" | 2'-5" | 2'-7" | 2'-11" | 3'-3" | 3'-8" |
| 6 | 2'-1" | 2'-11" | 3'-1" | 3'-6" | 3'-10" | 4'-5" |
| 7 | 2'-9" | 3'-10" | 4'-2" | 4'-8" | 5'-2" | 5'-10" |
| 8 | 3'-8" | 5'-1" | 5'-5" | 6'-2" | 6'-9" | 7'-8" |
| 9 | 4'-7" | 6'-5" | 6'-10" | 7'-9" | 8'-7" | 9'-8" |

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

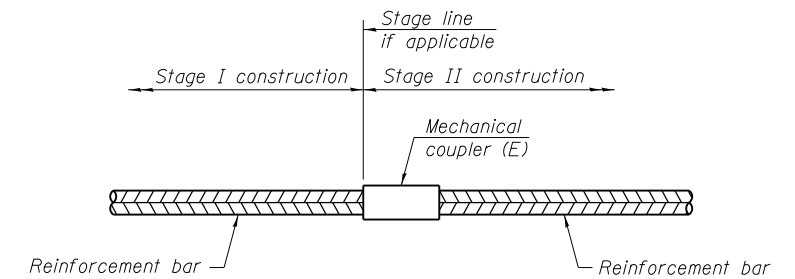
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location | Bar size | No. assemblies required | Table for minimum lap length |
|----------|----------|-------------------------|------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |



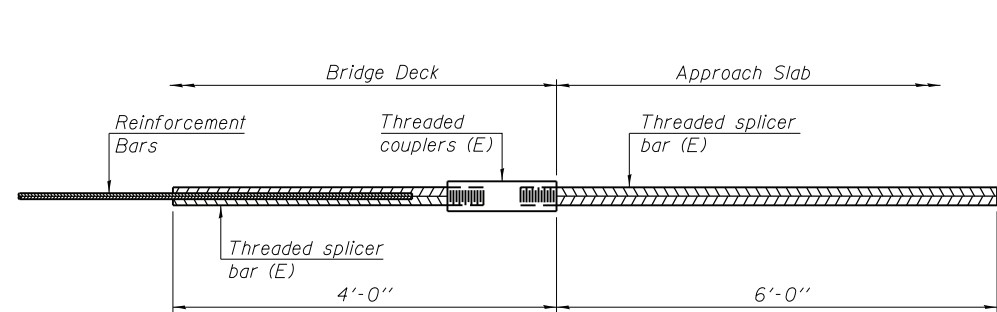
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



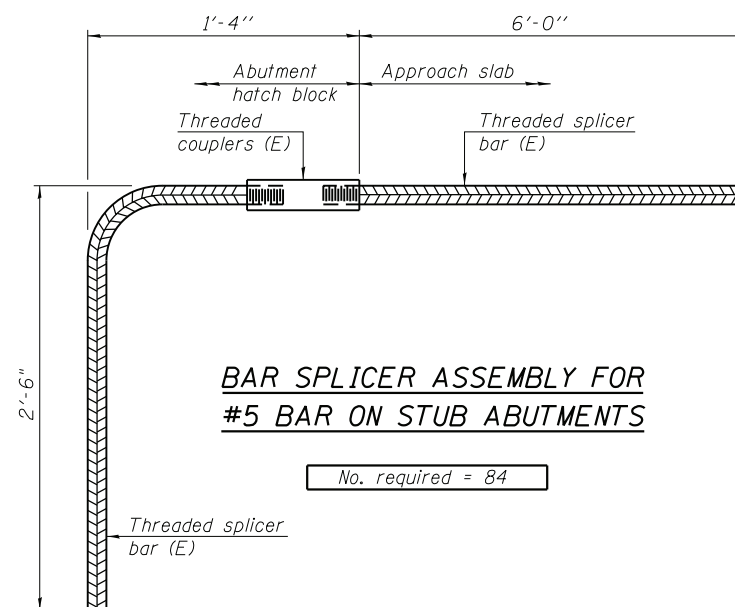
STANDARD MECHANICAL SPLICER

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
| | | |
| | | |
| | | |
| | | |



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 84

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

FILE NAME = I:\1001\5606 - HEI\11336\CADD\Structural\Springlake Road over IL336\bar-splacers.dgn

BSD-1

1-27-12



| | | |
|----------------------------|--------------|-----------|
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

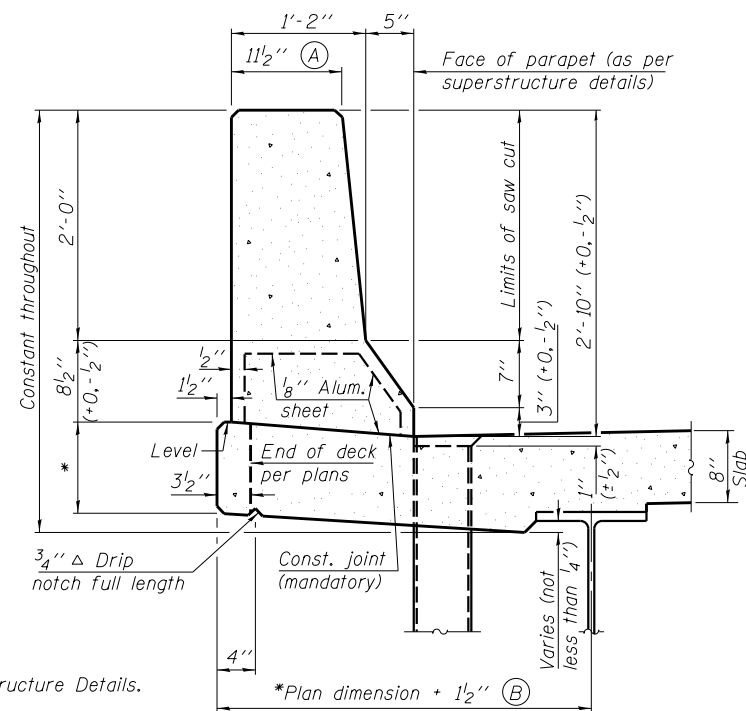
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 055-0077

SHEET NO. 24 OF 27 SHEETS

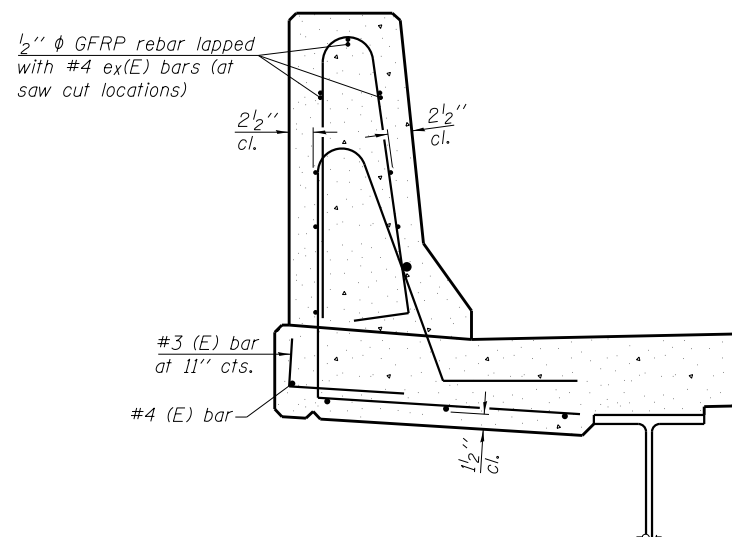
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV+HB(2-6)+B,B-1,B-2)] | MCDONOUGH | 874 | 549 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

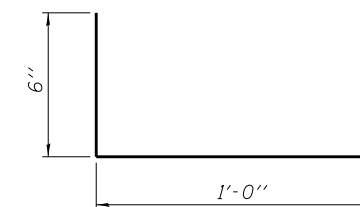


34" F SHAPE PARAPET SECTION
(Showing dimensions)

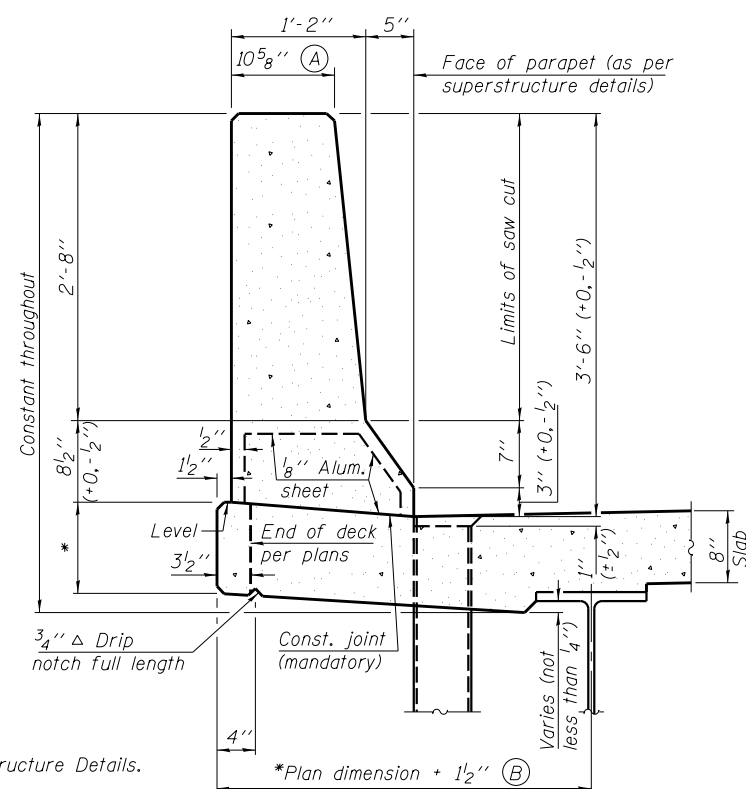


SECTION

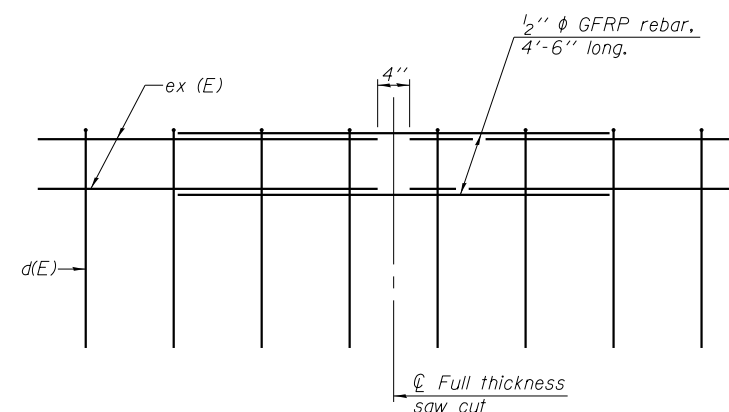
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



#3 (E) BAR

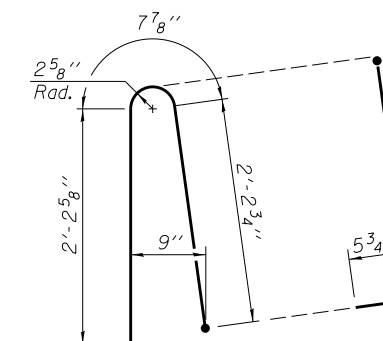


42" F SHAPE PARAPET SECTION
(Showing dimensions)

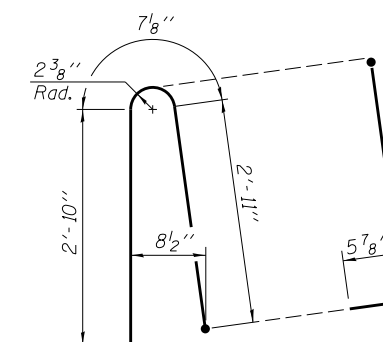


GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)



ALTERNATE BAR d(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)
(For 42" parapet when conduit is present)

FILE NAME = I:\DOT\5606 - HEI\11336\CADD\Structure\Springlake Road over IL336\slipForm.dgn

SFP 34-42

8-16-12



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| PLOT DATE = 1/22/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 055-0077

SHEET NO. 24 of 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|-----------|---------------------------|-----------|
| 407 | 55[3IPV]HB[2-6]B.B-1,B-2] | MCDONOUGH | 874 | 549A |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |



Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Page 1 of 2

ROUTE FAP 315 & 310 DESCRIPTION IL 336 Macomb Bypass - Springlake Road (N 1500 Road) Overpass (Emmet Twp) LOGGED BY SCI (BCR)
SECTION 55-3 LOCATION Prop. East Abutment, NE 1/4

COUNTY McDonough DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

| STRUCT. NO. | Station | BORING NO. | Station | Offset | Ground Surface Elev. | D | B | U | M | Surface Water Elev. | Stream Bed Elev. | D | B | U | M |
|----------------------------------|-----------------|------------|--------------------------|----------------|----------------------|-------|------|-------|-----|---|------------------|------|------|-------|-----|
| 055-0077 | 5010+72.25 (PR) | B-145 | 5011+77 (PR)/653+75 (EX) | 7.0 ft RT (EX) | 711.1 | (ft) | (6") | (tsf) | (%) | ft | ft | (ft) | (6") | (tsf) | (%) |
| BITUMINOUS MIXTURE - 2 Inches | | | | | | 710.9 | | | | Brown and gray CLAY, A-7 (continued) | | | | | |
| FILL: Clay and crushed rock | | | | | | 710.1 | 2 | | | Gray SILT, A-4 | | | | | |
| FILL: Dark brown silty clay, A-6 | | | | | | 708.1 | 3 | 0.8 | 29 | | | | | | |
| Brown and gray CLAY, A-7 | | | | | | 705.8 | 3 | 1.3 | 31 | Gray CLAY LOAM, A-4 | | | | | |
| Brown and gray SILTY CLAY, A-6 | | | | | | 703.1 | 2 | 1.2 | 28 | Gray SAND, A-3 | | | | | |
| Brown and gray SILTY CLAY, A-7 | | | | | | 700.8 | 2 | 0.5 | 29 | Gray SILTY LOAM, A-4 | | | | | |
| Brown and gray CLAY, A-7 | | | | | | 697.1 | 3 | 0.8 | 15 | Gray SANDY CLAY LOAM, A-2 | | | | | |
| Brown and gray CLAY, A-7 | | | | | | 679.1 | 3 | 0.8 | 20 | Gray SANDY LOAM, A-2 | | | | | |
| Brown and gray CLAY, A-7 | | | | | | 677.1 | 1 | 0.8 | 20 | Dark gray CLAY LOAM, A-4 | | | | | |
| Brown and gray CLAY, A-7 | | | | | | 674.1 | 2 | 1.3 | 20 | Dark gray CLAY, A-7 | | | | | |
| Brown and gray CLAY, A-7 | | | | | | 654.1 | 3 | 0.3 | 19 | Dark gray CLAY, A-7 | | | | | |
| Brown and gray CLAY, A-7 | | | | | | 640.1 | 2 | 0.3 | 19 | Dark gray CLAY, A-7 | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Page 2 of 2

ROUTE FAP 315 & 310 DESCRIPTION IL 336 Macomb Bypass - Springlake Road (N 1500 Road) Overpass (Emmet Twp) LOGGED BY SCI (BCR)
SECTION 55-3 LOCATION Prop. East Abutment, NE 1/4

COUNTY McDonough DRILLING METHOD CME 55 w/HSA HAMMER TYPE Automatic

| STRUCT. NO. | Station | BORING NO. | Station | Offset | Ground Surface Elev. | D | B | U | M | Surface Water Elev. | Stream Bed Elev. | D | B | U | M |
|---------------------------------|-----------------|------------|--------------------------|----------------|----------------------|-------|------|-------|-----|---------------------------------|------------------|------|------|-------|-----|
| 055-0077 | 5010+72.25 (PR) | B-145 | 5011+77 (PR)/653+75 (EX) | 7.0 ft RT (EX) | 711.1 | (ft) | (6") | (tsf) | (%) | ft | ft | (ft) | (6") | (tsf) | (%) |
| Dark gray CLAY, A-7 (continued) | | | | | | 666.5 | 10 | 4.8 | 13 | Dark gray CLAY, A-7 (continued) | | | | | |
| Brown and gray SILT, A-4 | | | | | | 646.1 | 8 | 3.5 | 24 | Boring terminated at 65.0 ft. | | | | | |
| Dark gray CLAY, A-7 | | | | | | 630.1 | 9 | 2.5 | 30 | | | | | | |
| Dark gray CLAY, A-7 | | | | | | 618.1 | 14 | 4.6 | 19 | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

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PLOT DATE = 1/7/2015

DESIGNED ACB
CHECKED CMW
DRAWN RLK
CHECKED CMW

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REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 055-0077

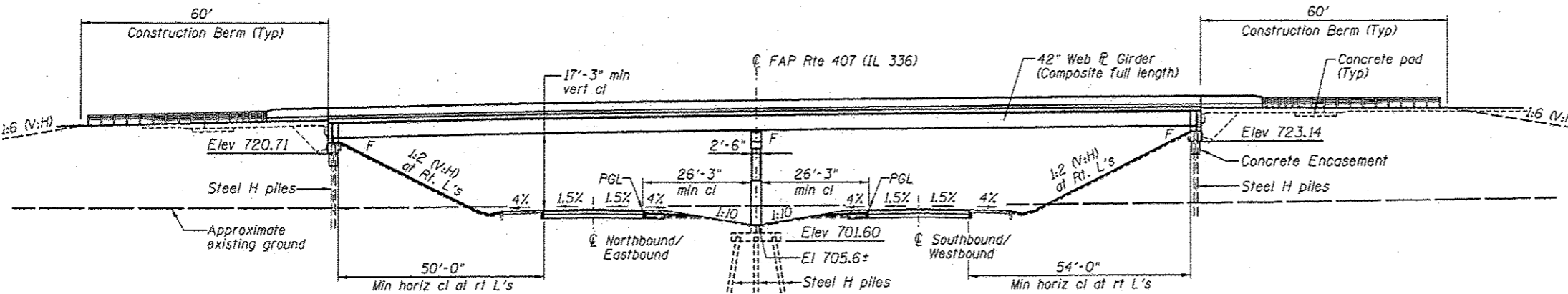
SHEET NO. 27 OF 27 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------------------------|-----------|---------------------------|-----------|
| 407 | 55[3(PV;HB(2-6);B,B-1,B-2)] | MCDONOUGH | 874 | 552 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

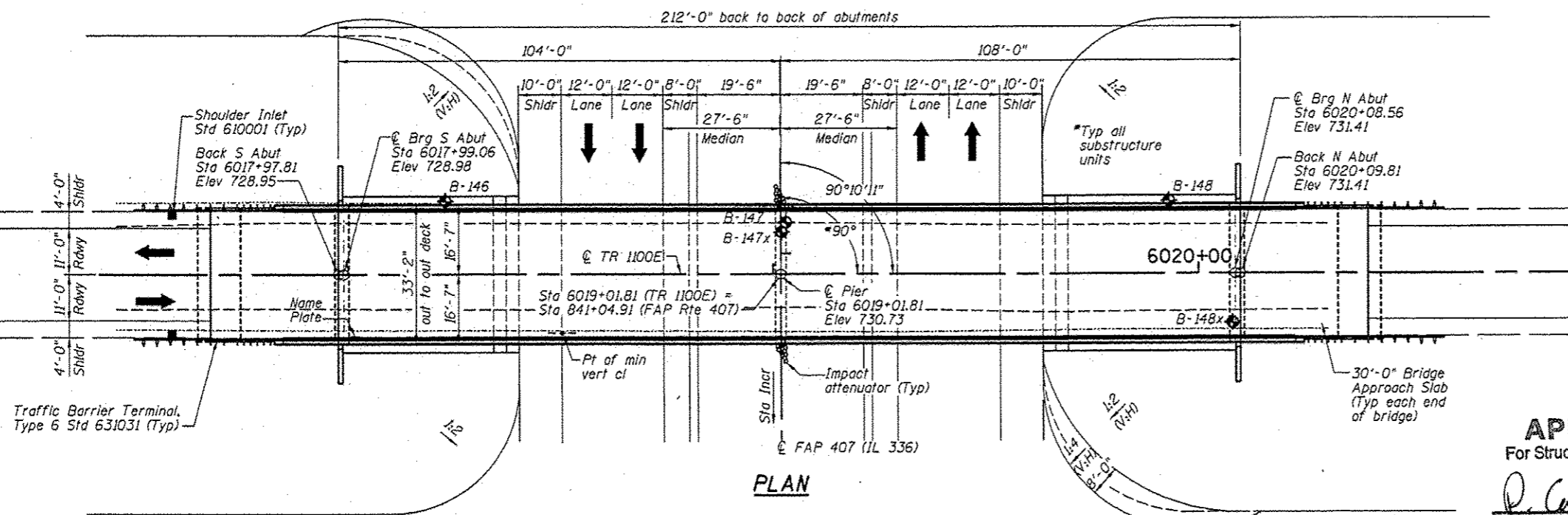
BM HE1 2: R.R. spike in 9th P.P. (4th large-tall P.P.)
 from 1500 Rd., E. side of Ember Rd.
 Sta 6025+15, 24' Rt., Elev. 714.88

Existing Structure: None

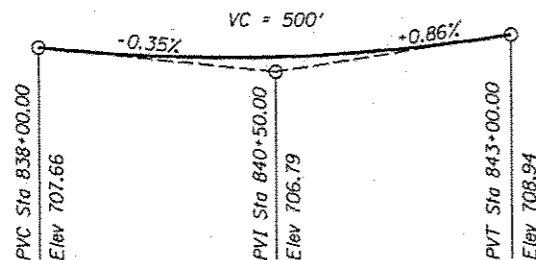
TR 1100E shall be closed to traffic
 during construction.



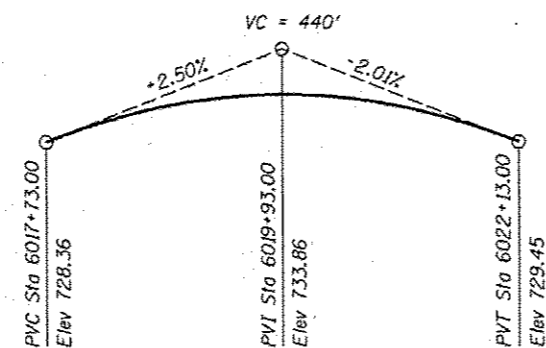
ELEVATION



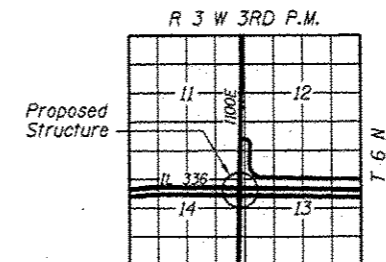
PLAN



PROFILE GRADE - IL 336



PROFILE GRADE - 1100 E



LOCATION SKETCH

DESIGN SPECIFICATIONS
 2010 AASHTO LRFD Bridge Design Specifications
 5th Edition with 2010 Interims

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

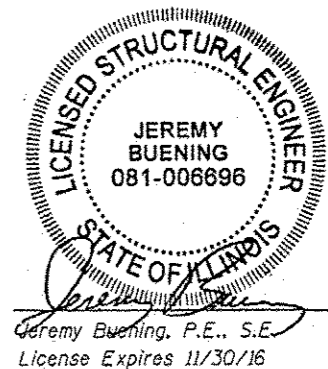
Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.11 g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.17 g
 Soil Site Class = D

STATION 6019+01.81
 BUILT 20 BY
 STATE OF ILLINOIS
 FAP ROUTE 407
 SEC. 55L3(PV;HB(2-6);B.B-1.B-2)]
 LOADING HL-93
 STRUCTURE NO. 055-0078

NAME PLATE
 See Std. 515001

APPROVED
 For Structural Adequacy Only

Jeremy Buening
 Engineer of Bridges & Structures



Jeremy Buening, P.E., S.E.
 License Expires 11/30/16

1/7/15
 Date

GENERAL PLAN AND ELEVATION
TR 1100E OVER
FAP ROUTE 407 (IL336)
SECTION 55L3(PV;HB(2-6);B.B-1.B-2)]
MCDONOUGH COUNTY
STA 6019+01.81
STRUCTURE NO. 055-0078

FILE NAME = I:\2015\1100E_IL336\0000_Structure\1100E over IL336.dgn

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 184-001397

| | | |
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| PLOT DATE: 1/7/2015 | CHECKED: CMW | REVISED: - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 055-0078
 SHEET NO. 1 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| 407 | 55L3(PV;HB(2-6);B.B-1.B-2)] | MCDONOUGH | 874 | 533 |
| | | | CONTRACT NO. 68844 | |
| ILLINOIS FED. AID PROJECT | | | | |

INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 General Structure Data
- 3 Footing Layout and Details
- 4 Top of Deck Elevations
- 5 Top of Deck Elevations
- 6 Top of Deck Elevations
- 7 Top of South Approach Slab Elevations
- 8 Top of North Approach Slab Elevations
- 9 Superstructure (Plan And Cross Section)
- 10 Superstructure Details
- 11 Integral Abutment Diaphragm Details
- 12 Bridge Approach Slab Details
- 13 Bridge Approach Slab Details
- 14 Framing Plan and Details
- 15 Framing Details
- 16 Moment Tables
- 17 Bearing Details
- 18 South Abutment Details
- 19 North Abutment Details
- 20 Pier Details
- 21 Steel HP Pile Details
- 22 Bar Splicer Assembly And Mechanical Splicer Details
- 22a Concrete Parapet Slipforming Option
- 23 Soil Boring Logs
- 24 Soil Boring Logs
- 25 Soil Boring Logs
- 26 Soil Boring Logs

GENERAL NOTES:

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 7/8" φ in holes 15/16" φ, unless otherwise noted.

Calculated weight of Structural Steel = 221,370 lb (AASHTO M270 Grade 50)
 Calculated weight of Structural Steel = 19,230 lb (AASHTO M270 Grade 36)

The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Blue, Munsell No. 10B 3/6.

No field welding is permitted except as specified in the contract documents.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

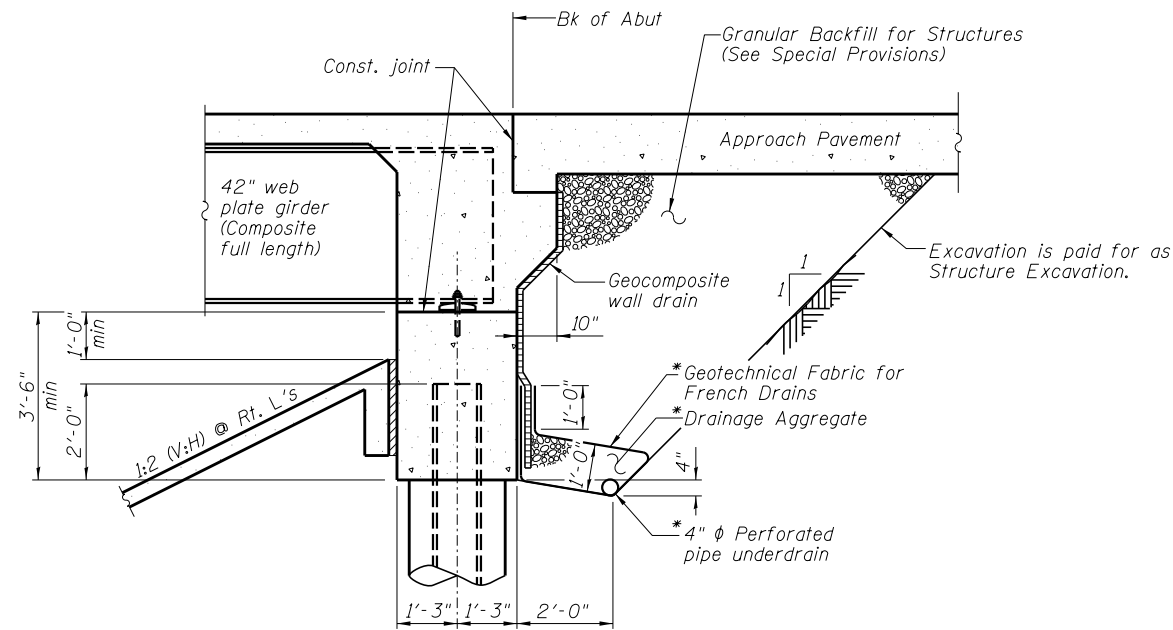
Reinforcement bars designated (E) shall be epoxy coated.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

The Contractor shall wait a minimum of 60 days after the embankment has been placed and compacted to allow most of the embankment settlement to occur prior to pile driving.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|---------|-------|-------|--------|
| GRANULAR BACKFILL FOR STRUCTURES | CU. YD. | | 134 | 134 |
| STRUCTURE EXCAVATION | CU. YD. | | 360 | 360 |
| CONCRETE STRUCTURES | CU. YD. | | 106.0 | 106.0 |
| CONCRETE SUPERSTRUCTURE | CU. YD. | 354.0 | | 354.0 |
| BRIDGE DECK GROOVING | SQ. YD. | 846 | | 846 |
| CONCRETE ENCASEMENT | CU. YD. | | 4.0 | 4.0 |
| PROTECTIVE COAT | SQ. YD. | 1116 | | 1116 |
| FURNISHING & ERECTING STRUCTURAL STEEL | L SUM | 0.10 | | 0.10 |
| STUD SHEAR CONNECTORS | EACH | 2484 | | 2484 |
| REINFORCEMENT BARS, EPOXY COATED | POUND | 85650 | 15700 | 101350 |
| BAR SPLICERS | EACH | 72 | | 72 |
| SLOPE WALL 4 INCH | SQ. YD. | | 384 | 384 |
| FURNISHING STEEL PILES HP 12X53 | FOOT | | 1885 | 1885 |
| DRIVING PILES | FOOT | | 1885 | 1885 |
| TEST PILE STEEL HP 12X53 | EACH | | 3 | 3 |
| NAME PLATES | EACH | 1 | | 1 |
| ANCHOR BOLTS, 1" | EACH | | 36 | 36 |
| GEOCOMPOSITE WALL DRAIN | SQ. YD. | | 77 | 77 |
| PIPE UNDERDRAINS FOR STRUCTURES 4" | FOOT | | 134 | 134 |
| | | | | |
| | | | | |



SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.

Note:
 All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

FILE NAME = I:\DOT\5606 - HEI\11336\CADD_Structure\1100E over- IL336.igbom.dgn



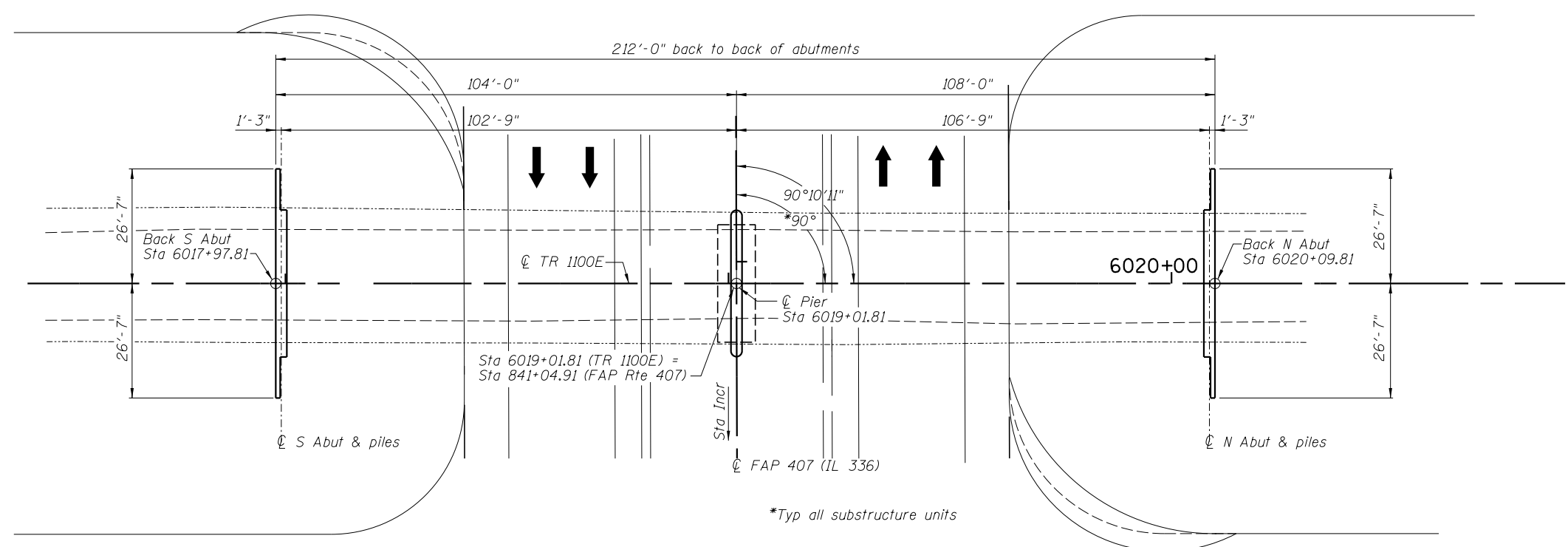
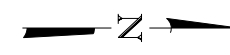
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|----------------------------|--------------|-----------|
| USER NAME = abenz | DESIGNED ACB | REVISED - |
| PLOT TIME = 9:57:30 AM | CHECKED CMW | REVISED - |
| PLOT SCALE = 2.0000' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 4/21/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

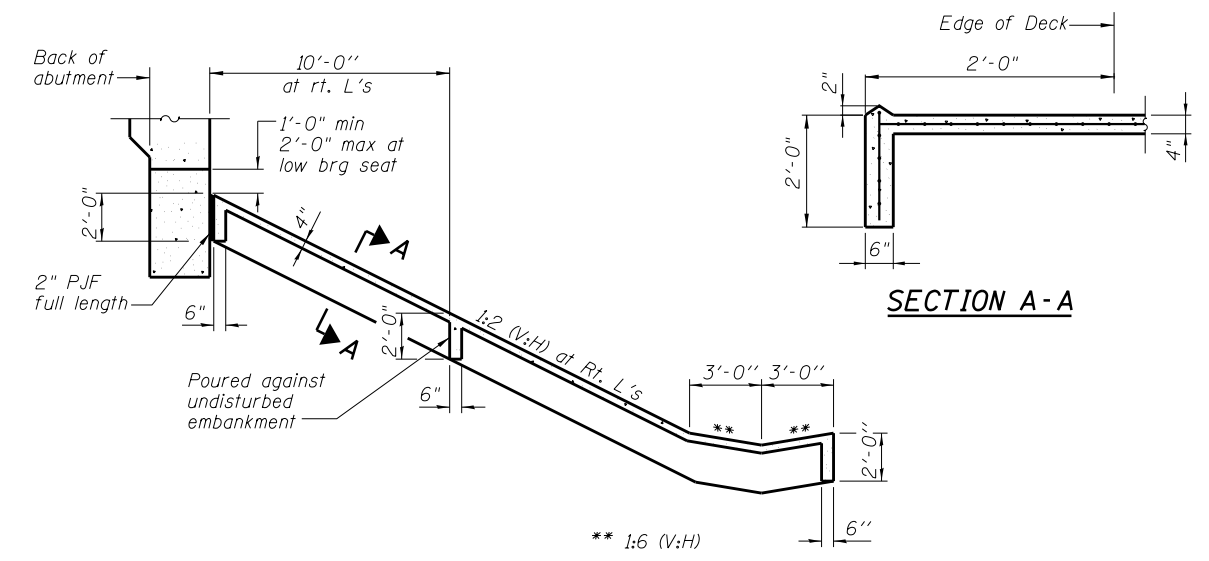
GENERAL STRUCTURE DATA
 STRUCTURE NO. 055-0078

SHEET NO. 2 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------------------------|-----------|--------------|-----------|
| 407 | 55[3]PV[HB]2-6[B.B-1,B-2] | MCDONOUGH | 874 | 554 |
| | | | CONTRACT NO. | 68B44 |
| ILLINOIS FED. AID PROJECT | | | | |



FOOTING LAYOUT



SECTION THRU CONCRETE SLOPEWALL
 Slope wall shall be reinforced with galvanized welded wire fabric,
 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

FILE NAME = I:\DOT\5606_06_HEL\11336\CADD_Structure\1100E over IL336\Footingplan.dgn

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 184-001397

| | | |
|----------------------------|--------------|-----------|
| USER NAME = abenz | DESIGNED ACB | REVISED - |
| PLOT TIME = 8:33:24 AM | CHECKED CMW | REVISED - |
| PLOT SCALE = 32.0000' / 1" | DRAWN RLK | REVISED - |
| PLOT DATE = 1/27/2015 | CHECKED CMW | REVISED - |

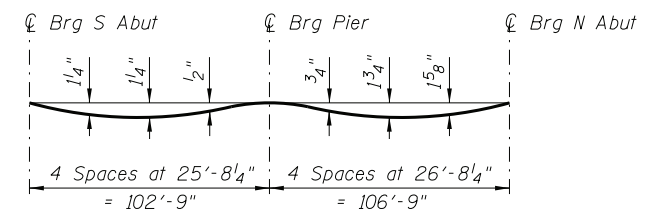
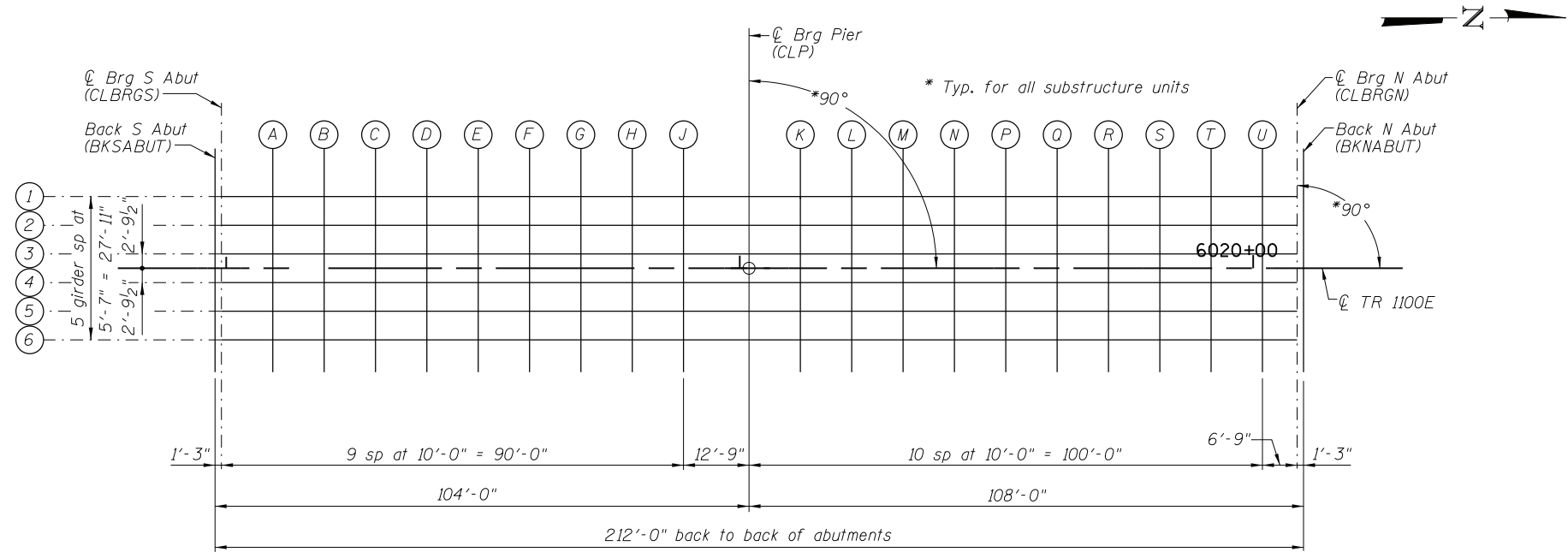
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOOTING LAYOUT AND DETAILS
STRUCTURE NO. 055-0078

SHEET NO. 3 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------------------|-----------|--------------|-----------|
| 407 | 55[3]PV;HB[2-6];B.B-1,B-2] | MCDONOUGH | 874 | 555 |
| CONTRACT NO. 68B44 | | | | |

ILLINOIS FED. AID PROJECT

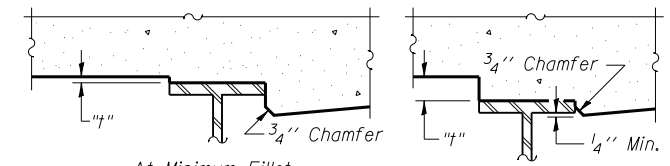


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in the tables on Sheets 4, 5, & 6 of 26.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 4, 5, & 6 of 26, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

| GIRDER 1 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKSABUT | 6017+97.81 | -13.96 | 728.72 | 728.72 |
| CLBRGS | 6017+99.06 | -13.96 | 728.74 | 728.74 |
| A | 6018+09.06 | -13.96 | 728.96 | 729.01 |
| B | 6018+19.06 | -13.96 | 729.17 | 729.25 |
| C | 6018+29.06 | -13.96 | 729.37 | 729.48 |
| D | 6018+39.06 | -13.96 | 729.55 | 729.67 |
| E | 6018+49.06 | -13.96 | 729.73 | 729.84 |
| F | 6018+59.06 | -13.96 | 729.90 | 729.99 |
| G | 6018+69.06 | -13.96 | 730.06 | 730.12 |
| H | 6018+79.06 | -13.96 | 730.20 | 730.23 |
| J | 6018+89.06 | -13.96 | 730.34 | 730.35 |
| CLP | 6019+01.81 | -13.96 | 730.50 | 730.50 |
| K | 6019+11.81 | -13.96 | 730.61 | 730.62 |
| L | 6019+21.81 | -13.96 | 730.71 | 730.75 |
| M | 6019+31.81 | -13.96 | 730.80 | 730.88 |
| N | 6019+41.81 | -13.96 | 730.89 | 731.00 |
| P | 6019+51.81 | -13.96 | 730.96 | 731.10 |
| Q | 6019+61.81 | -13.96 | 731.02 | 731.17 |
| R | 6019+71.81 | -13.96 | 731.07 | 731.22 |
| S | 6019+81.81 | -13.96 | 731.11 | 731.24 |
| T | 6019+91.81 | -13.96 | 731.14 | 731.23 |
| U | 6020+01.81 | -13.96 | 731.16 | 731.20 |
| CLBRGN | 6020+08.56 | -13.96 | 731.17 | 731.17 |
| BKNABUT | 6020+09.81 | -13.96 | 731.17 | 731.17 |

| GIRDER 2 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKSABUT | 6017+97.81 | -8.38 | 728.82 | 728.82 |
| CLBRGS | 6017+99.06 | -8.38 | 728.85 | 728.85 |
| A | 6018+09.06 | -8.38 | 729.06 | 729.11 |
| B | 6018+19.06 | -8.38 | 729.27 | 729.36 |
| C | 6018+29.06 | -8.38 | 729.47 | 729.58 |
| D | 6018+39.06 | -8.38 | 729.66 | 729.77 |
| E | 6018+49.06 | -8.38 | 729.83 | 729.94 |
| F | 6018+59.06 | -8.38 | 730.00 | 730.09 |
| G | 6018+69.06 | -8.38 | 730.16 | 730.22 |
| H | 6018+79.06 | -8.38 | 730.30 | 730.34 |
| J | 6018+89.06 | -8.38 | 730.44 | 730.45 |
| CLP | 6019+01.81 | -8.38 | 730.60 | 730.60 |
| K | 6019+11.81 | -8.38 | 730.71 | 730.73 |
| L | 6019+21.81 | -8.38 | 730.81 | 730.86 |
| M | 6019+31.81 | -8.38 | 730.91 | 730.98 |
| N | 6019+41.81 | -8.38 | 730.99 | 731.10 |
| P | 6019+51.81 | -8.38 | 731.06 | 731.20 |
| Q | 6019+61.81 | -8.38 | 731.12 | 731.28 |
| R | 6019+71.81 | -8.38 | 731.17 | 731.33 |
| S | 6019+81.81 | -8.38 | 731.21 | 731.35 |
| T | 6019+91.81 | -8.38 | 731.25 | 731.34 |
| U | 6020+01.81 | -8.38 | 731.27 | 731.31 |
| CLBRGN | 6020+08.56 | -8.38 | 731.27 | 731.27 |
| BKNABUT | 6020+09.81 | -8.38 | 731.28 | 731.28 |

FILE NAME = I:\DOT\5606 - HEI_IL1336\CADD_Structure\1100E over_IL1336\deckel.dgn

FILE NAME = I:\DOT\5606_HEI_IL1336\CADD_Structure\1100E_over_IL1336_deckel.dgn

| GIRDER 3 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKSABUT | 6017+97.81 | -2.79 | 728.91 | 728.91 |
| CLBRGS | 6017+99.06 | -2.79 | 728.93 | 728.93 |
| A | 6018+09.06 | -2.79 | 729.15 | 729.20 |
| B | 6018+19.06 | -2.79 | 729.36 | 729.44 |
| C | 6018+29.06 | -2.79 | 729.56 | 729.67 |
| D | 6018+39.06 | -2.79 | 729.74 | 729.86 |
| E | 6018+49.06 | -2.79 | 729.92 | 730.03 |
| F | 6018+59.06 | -2.79 | 730.09 | 730.18 |
| G | 6018+69.06 | -2.79 | 730.24 | 730.30 |
| H | 6018+79.06 | -2.79 | 730.39 | 730.42 |
| J | 6018+89.06 | -2.79 | 730.53 | 730.54 |
| CLP | 6019+01.81 | -2.79 | 730.69 | 730.69 |
| K | 6019+11.81 | -2.79 | 730.80 | 730.81 |
| L | 6019+21.81 | -2.79 | 730.90 | 730.94 |
| M | 6019+31.81 | -2.79 | 730.99 | 731.07 |
| N | 6019+41.81 | -2.79 | 731.08 | 731.19 |
| P | 6019+51.81 | -2.79 | 731.15 | 731.29 |
| Q | 6019+61.81 | -2.79 | 731.21 | 731.36 |
| R | 6019+71.81 | -2.79 | 731.26 | 731.41 |
| S | 6019+81.81 | -2.79 | 731.30 | 731.43 |
| T | 6019+91.81 | -2.79 | 731.33 | 731.42 |
| U | 6020+01.81 | -2.79 | 731.35 | 731.39 |
| CLBRGN | 6020+08.56 | -2.79 | 731.36 | 731.36 |
| BKNABUT | 6020+09.81 | -2.79 | 731.36 | 731.36 |

| PGL | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKSABUT | 6017+97.81 | 0.00 | 728.95 | 728.95 |
| CLBRGS | 6017+99.06 | 0.00 | 728.98 | 728.98 |
| A | 6018+09.06 | 0.00 | 729.19 | 729.24 |
| B | 6018+19.06 | 0.00 | 729.40 | 729.49 |
| C | 6018+29.06 | 0.00 | 729.60 | 729.71 |
| D | 6018+39.06 | 0.00 | 729.79 | 729.90 |
| E | 6018+49.06 | 0.00 | 729.97 | 730.07 |
| F | 6018+59.06 | 0.00 | 730.13 | 730.22 |
| G | 6018+69.06 | 0.00 | 730.29 | 730.35 |
| H | 6018+79.06 | 0.00 | 730.44 | 730.47 |
| J | 6018+89.06 | 0.00 | 730.57 | 730.58 |
| CLP | 6019+01.81 | 0.00 | 730.73 | 730.73 |
| K | 6019+11.81 | 0.00 | 730.84 | 730.86 |
| L | 6019+21.81 | 0.00 | 730.95 | 730.99 |
| M | 6019+31.81 | 0.00 | 731.04 | 731.11 |
| N | 6019+41.81 | 0.00 | 731.12 | 731.23 |
| P | 6019+51.81 | 0.00 | 731.19 | 731.33 |
| Q | 6019+61.81 | 0.00 | 731.25 | 731.41 |
| R | 6019+71.81 | 0.00 | 731.30 | 731.46 |
| S | 6019+81.81 | 0.00 | 731.35 | 731.48 |
| T | 6019+91.81 | 0.00 | 731.38 | 731.47 |
| U | 6020+01.81 | 0.00 | 731.40 | 731.44 |
| CLBRGN | 6020+08.56 | 0.00 | 731.41 | 731.41 |
| BKNABUT | 6020+09.81 | 0.00 | 731.41 | 731.41 |

| GIRDER 4 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKSABUT | 6017+97.81 | 2.79 | 728.91 | 728.91 |
| CLBRGS | 6017+99.06 | 2.79 | 728.93 | 728.93 |
| A | 6018+09.06 | 2.79 | 729.15 | 729.20 |
| B | 6018+19.06 | 2.79 | 729.36 | 729.44 |
| C | 6018+29.06 | 2.79 | 729.56 | 729.67 |
| D | 6018+39.06 | 2.79 | 729.74 | 729.86 |
| E | 6018+49.06 | 2.79 | 729.92 | 730.03 |
| F | 6018+59.06 | 2.79 | 730.09 | 730.18 |
| G | 6018+69.06 | 2.79 | 730.24 | 730.30 |
| H | 6018+79.06 | 2.79 | 730.39 | 730.42 |
| J | 6018+89.06 | 2.79 | 730.53 | 730.54 |
| CLP | 6019+01.81 | 2.79 | 730.69 | 730.69 |
| K | 6019+11.81 | 2.79 | 730.80 | 730.81 |
| L | 6019+21.81 | 2.79 | 730.90 | 730.94 |
| M | 6019+31.81 | 2.79 | 730.99 | 731.07 |
| N | 6019+41.81 | 2.79 | 731.08 | 731.19 |
| P | 6019+51.81 | 2.79 | 731.15 | 731.29 |
| Q | 6019+61.81 | 2.79 | 731.21 | 731.36 |
| R | 6019+71.81 | 2.79 | 731.26 | 731.41 |
| S | 6019+81.81 | 2.79 | 731.30 | 731.43 |
| T | 6019+91.81 | 2.79 | 731.33 | 731.42 |
| U | 6020+01.81 | 2.79 | 731.35 | 731.39 |
| CLBRGN | 6020+08.56 | 2.79 | 731.36 | 731.36 |
| BKNABUT | 6020+09.81 | 2.79 | 731.36 | 731.36 |



| | | |
|-----------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
| PLOT TIME = 1:45:33 PM | CHECKED CMW | REVISED - |
| PLOT SCALE = 16.0000' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS
STRUCTURE NO. 055-0078

SHEET NO. 5 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV)+B(2-6)+B,B-1,B-2] | MCDONOUGH | 874 | 557 |
| | | | CONTRACT NO. | 68B44 |
| ILLINOIS FED. AID PROJECT | | | | |

FILE NAME = I:\DOT\5606_HEI_IL1336\CADD_Structure\1100E over_IL1336\deckel.dgn

| GIRDER 5 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKSABUT | 6017+97.81 | 8.38 | 728.82 | 728.82 |
| CLBRGS | 6017+99.06 | 8.38 | 728.85 | 728.85 |
| A | 6018+09.06 | 8.38 | 729.06 | 729.11 |
| B | 6018+19.06 | 8.38 | 729.27 | 729.36 |
| C | 6018+29.06 | 8.38 | 729.47 | 729.58 |
| D | 6018+39.06 | 8.38 | 729.66 | 729.77 |
| E | 6018+49.06 | 8.38 | 729.83 | 729.94 |
| F | 6018+59.06 | 8.38 | 730.00 | 730.09 |
| G | 6018+69.06 | 8.38 | 730.16 | 730.22 |
| H | 6018+79.06 | 8.38 | 730.30 | 730.34 |
| J | 6018+89.06 | 8.38 | 730.44 | 730.45 |
| CLP | 6019+01.81 | 8.38 | 730.60 | 730.60 |
| K | 6019+11.81 | 8.38 | 730.71 | 730.73 |
| L | 6019+21.81 | 8.38 | 730.81 | 730.86 |
| M | 6019+31.81 | 8.38 | 730.91 | 730.98 |
| N | 6019+41.81 | 8.38 | 730.99 | 731.10 |
| P | 6019+51.81 | 8.38 | 731.06 | 731.20 |
| Q | 6019+61.81 | 8.38 | 731.12 | 731.28 |
| R | 6019+71.81 | 8.38 | 731.17 | 731.33 |
| S | 6019+81.81 | 8.38 | 731.21 | 731.35 |
| T | 6019+91.81 | 8.38 | 731.25 | 731.34 |
| U | 6020+01.81 | 8.38 | 731.27 | 731.31 |
| CLBRGN | 6020+08.56 | 8.38 | 731.27 | 731.27 |
| BKNABUT | 6020+09.81 | 8.38 | 731.28 | 731.28 |

| GIRDER 6 | | | | |
|----------|------------|--------|-----------------------------|--|
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION |
| BKSABUT | 6017+97.81 | 13.96 | 728.72 | 728.72 |
| CLBRGS | 6017+99.06 | 13.96 | 728.74 | 728.74 |
| A | 6018+09.06 | 13.96 | 728.96 | 729.01 |
| B | 6018+19.06 | 13.96 | 729.17 | 729.25 |
| C | 6018+29.06 | 13.96 | 729.37 | 729.48 |
| D | 6018+39.06 | 13.96 | 729.55 | 729.67 |
| E | 6018+49.06 | 13.96 | 729.73 | 729.84 |
| F | 6018+59.06 | 13.96 | 729.90 | 729.99 |
| G | 6018+69.06 | 13.96 | 730.06 | 730.12 |
| H | 6018+79.06 | 13.96 | 730.20 | 730.23 |
| J | 6018+89.06 | 13.96 | 730.34 | 730.35 |
| CLP | 6019+01.81 | 13.96 | 730.50 | 730.50 |
| K | 6019+11.81 | 13.96 | 730.61 | 730.62 |
| L | 6019+21.81 | 13.96 | 730.71 | 730.75 |
| M | 6019+31.81 | 13.96 | 730.80 | 730.88 |
| N | 6019+41.81 | 13.96 | 730.89 | 731.00 |
| P | 6019+51.81 | 13.96 | 730.96 | 731.10 |
| Q | 6019+61.81 | 13.96 | 731.02 | 731.17 |
| R | 6019+71.81 | 13.96 | 731.07 | 731.22 |
| S | 6019+81.81 | 13.96 | 731.11 | 731.24 |
| T | 6019+91.81 | 13.96 | 731.14 | 731.23 |
| U | 6020+01.81 | 13.96 | 731.16 | 731.20 |
| CLBRGN | 6020+08.56 | 13.96 | 731.17 | 731.17 |
| BKNABUT | 6020+09.81 | 13.96 | 731.17 | 731.17 |



| | | |
|------------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
| PLOT TIME = 1:45:56 PM | CHECKED CMW | REVISED - |
| PLOT SCALE = 16.0000' / 1in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF DECK ELEVATIONS
STRUCTURE NO. 055-0078

SHEET NO. 6 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|-----------|---------------------------|-----------|
| 407 | 55[3]PV[HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 558 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

WEST EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of S. Appr. | 6017+67.81 | -15.00 | 727.98 |
| A | 6017+77.81 | -15.00 | 728.22 |
| B | 6017+87.81 | -15.00 | 728.46 |
| N. End of S. Appr. | 6017+97.81 | -15.00 | 728.69 |

WEST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of S. Appr. | 6017+67.81 | -11.00 | 728.06 |
| A | 6017+77.81 | -11.00 | 728.31 |
| B | 6017+87.81 | -11.00 | 728.55 |
| N. End of S. Appr. | 6017+97.81 | -11.00 | 728.78 |

CL TR 1100E & PGL

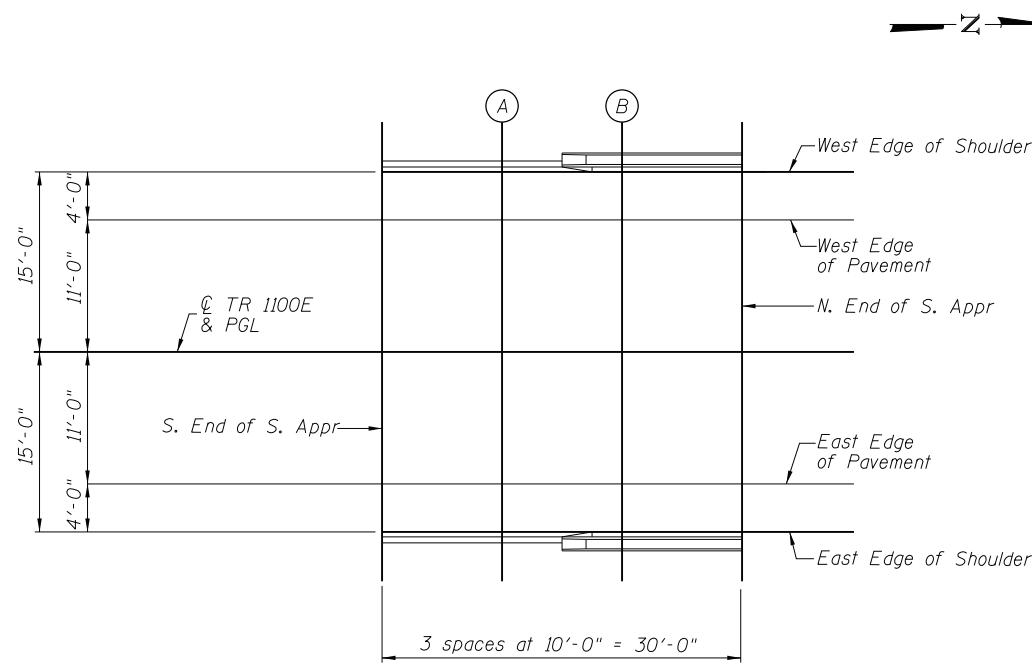
| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of S. Appr. | 6017+67.81 | 0.00 | 728.23 |
| A | 6017+77.81 | 0.00 | 728.48 |
| B | 6017+87.81 | 0.00 | 728.72 |
| N. End of S. Appr. | 6017+97.81 | 0.00 | 728.95 |

EAST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of S. Appr. | 6017+67.81 | 11.00 | 728.06 |
| A | 6017+77.81 | 11.00 | 728.31 |
| B | 6017+87.81 | 11.00 | 728.55 |
| N. End of S. Appr. | 6017+97.81 | 11.00 | 728.78 |

EAST EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of S. Appr. | 6017+67.81 | 15.00 | 727.98 |
| A | 6017+77.81 | 15.00 | 728.22 |
| B | 6017+87.81 | 15.00 | 728.46 |
| N. End of S. Appr. | 6017+97.81 | 15.00 | 728.69 |



PLAN

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WEST EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of N. Appr. | 6020+09.81 | -15.00 | 731.15 |
| A | 6020+19.81 | -15.00 | 731.15 |
| B | 6020+29.81 | -15.00 | 731.15 |
| N. End of N. Appr. | 6020+39.81 | -15.00 | 731.13 |

WEST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of N. Appr. | 6020+09.81 | -11.00 | 731.23 |
| A | 6020+19.81 | -11.00 | 731.24 |
| B | 6020+29.81 | -11.00 | 731.23 |
| N. End of N. Appr. | 6020+39.81 | -11.00 | 731.21 |

CL TR 1100E & PGL

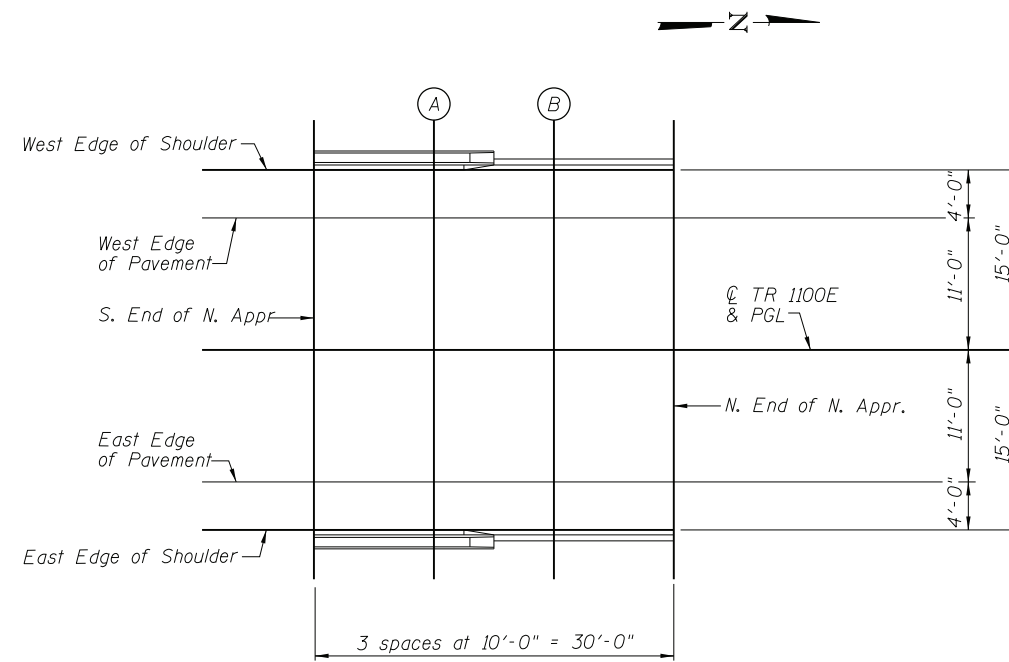
| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of N. Appr. | 6020+09.81 | 0.00 | 731.41 |
| A | 6020+19.81 | 0.00 | 731.41 |
| B | 6020+29.81 | 0.00 | 731.40 |
| N. End of N. Appr. | 6020+39.81 | 0.00 | 731.38 |

EAST EDGE OF PAVEMENT

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of N. Appr. | 6020+09.81 | 11.00 | 731.23 |
| A | 6020+19.81 | 11.00 | 731.24 |
| B | 6020+29.81 | 11.00 | 731.23 |
| N. End of N. Appr. | 6020+39.81 | 11.00 | 731.21 |

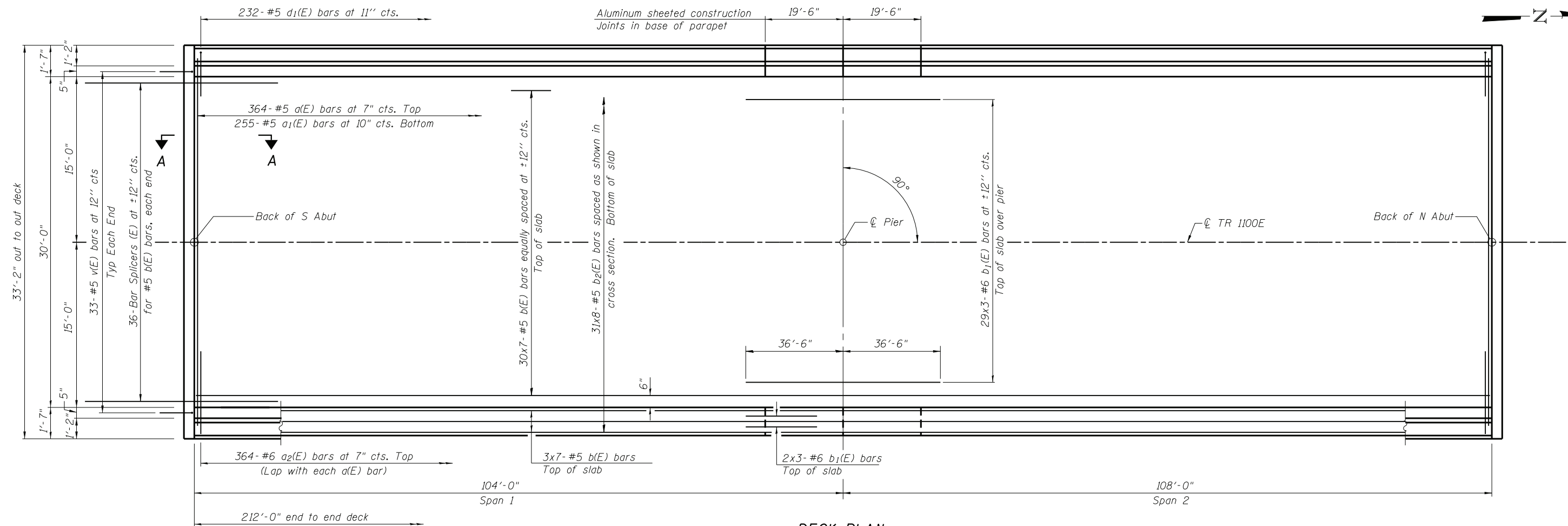
EAST EDGE OF SHOULDER

| Location | Station | Offset | Theoretical Grade Elevations |
|--------------------|------------|--------|------------------------------|
| S. End of N. Appr. | 6020+09.81 | 15.00 | 731.15 |
| A | 6020+19.81 | 15.00 | 731.15 |
| B | 6020+29.81 | 15.00 | 731.15 |
| N. End of N. Appr. | 6020+39.81 | 15.00 | 731.13 |

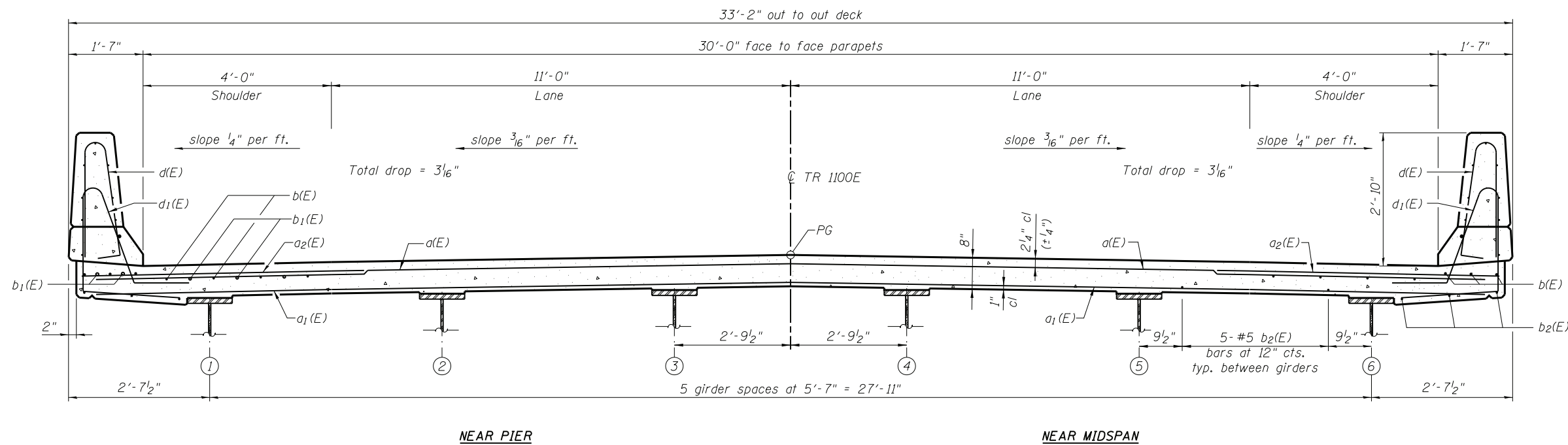


PLAN

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DECK PLAN



CROSS SECTION
(Looking Up Station)

MIN BAR LAP

(Deck)
 #5 bar = 2'-7"
 #6 bar = 3'-3"

Notes:
 See Sheet 10 of 26 for superstructure details and Bill of Material.
 Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
 See Sheet 10 of 26 for parapet reinforcement.
 See Sheet 11 of 26 for Section A-A.

FILE NAME = I:\1001\5606 - HEI_IL1336\CADD_Structure\1100E over_IL1336\deckplan.dgn

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 184-001397

| | |
|----------------------------|--------------|
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| PLOT SCALE = 1.0000' / in. | DRAWN RLK |
| PLOT DATE = 1/7/2015 | CHECKED CMW |

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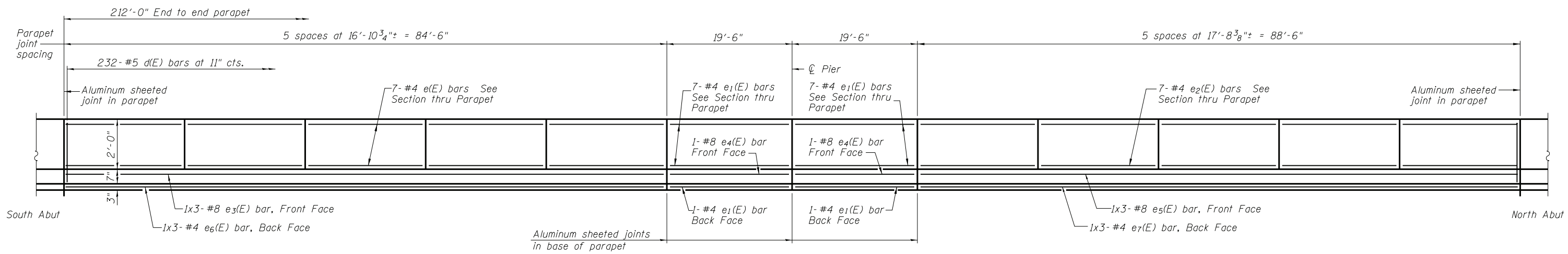
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE (PLAN AND CROSS SECTION)
 STRUCTURE NO. 055-0078

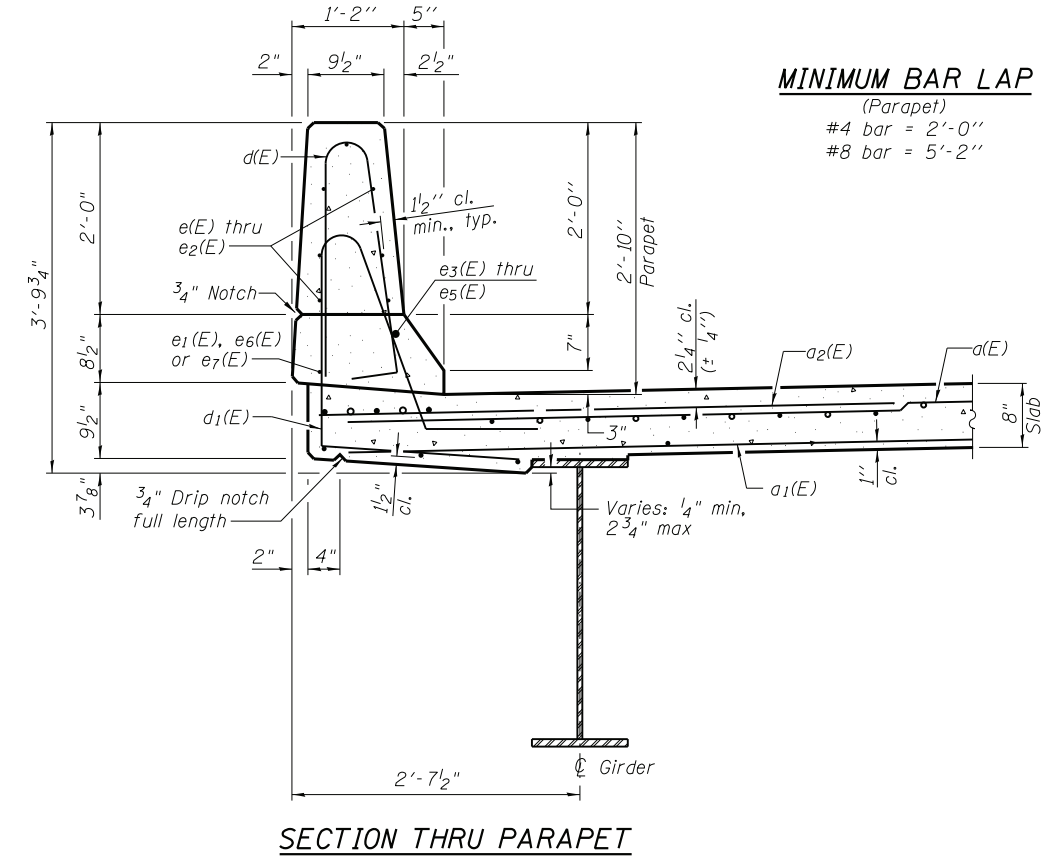
SHEET NO. 9 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|---------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV)HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 561 |
| | | | CONTRACT NO. | 68B44 |

ILLINOIS FED. AID PROJECT

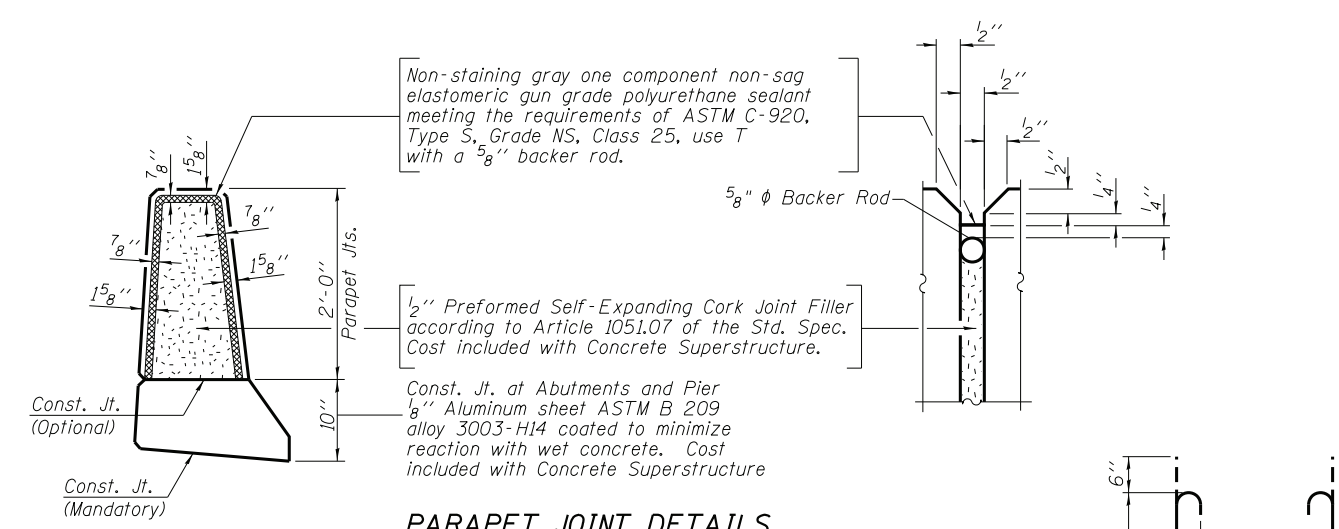


INSIDE ELEVATION OF PARAPET
West parapet shown (East parapet similar by mirror image)



SECTION THRU PARAPET

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

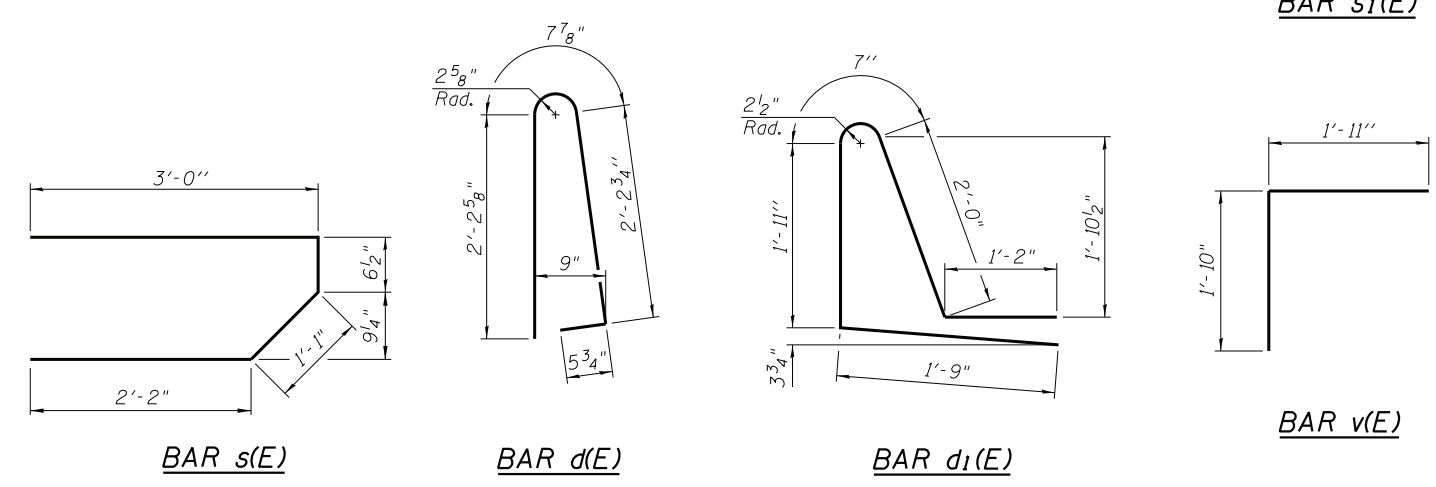


PARAPET JOINT DETAILS

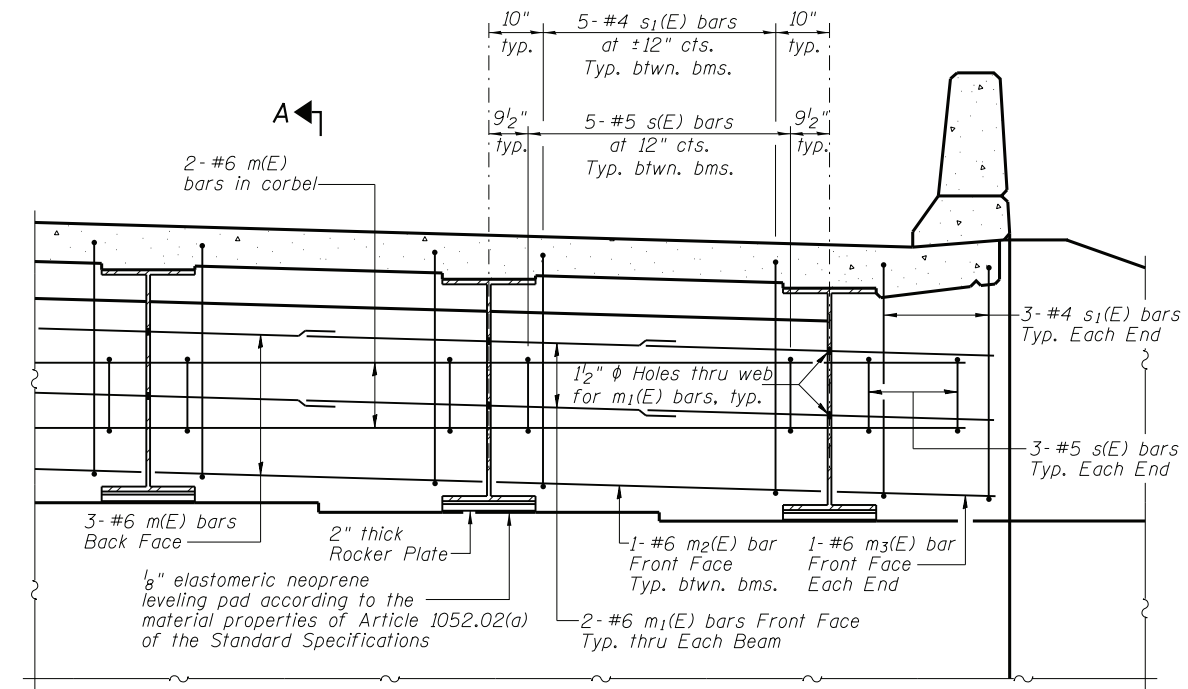
SUPERSTRUCTURE BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|---------|-------|
| d(E) | 364 | #5 | 32'-6" | — |
| a1(E) | 255 | #5 | 31'-10" | — |
| a2(E) | 728 | #6 | 6'-6" | — |
| b(E) | 252 | #5 | 32'-6" | — |
| b1(E) | 99 | #6 | 26'-6" | — |
| b2(E) | 248 | #5 | 28'-9" | — |
| d(E) | 464 | #5 | 5'-7" | ┘ |
| d1(E) | 464 | #5 | 7'-5" | ┘ |
| e(E) | 70 | #4 | 16'-7" | — |
| e1(E) | 32 | #4 | 19'-3" | — |
| e2(E) | 70 | #4 | 17'-5" | — |
| e3(E) | 6 | #8 | 31'-7" | — |
| e4(E) | 4 | #8 | 19'-3" | — |
| e5(E) | 6 | #8 | 32'-11" | — |
| e6(E) | 6 | #4 | 29'-5" | — |
| e7(E) | 6 | #4 | 30'-9" | — |
| m(E) | 10 | #6 | 32'-11" | — |
| m1(E) | 24 | #6 | 8'-4" | — |
| m2(E) | 10 | #6 | 5'-4" | — |
| m3(E) | 4 | #6 | 2'-4" | — |
| s(E) | 62 | #5 | 6'-10" | ┘ |
| s1(E) | 62 | #4 | 11'-10" | ┘ |
| v(E) | 66 | #5 | 3'-9" | ┘ |
| Reinforcement Bars, Epoxy Coated | | Pound | 59,680 | |
| Concrete Superstructure | | Cu. Yd. | 254.7 | |
| Bridge Deck Grooving | | Sq. Yd. | 660 | |
| Protective Coat | | Sq. Yd. | 885 | |

Bars indicated thus 1x3-#8 etc. indicates 1 line of bars with 3 lengths per line.



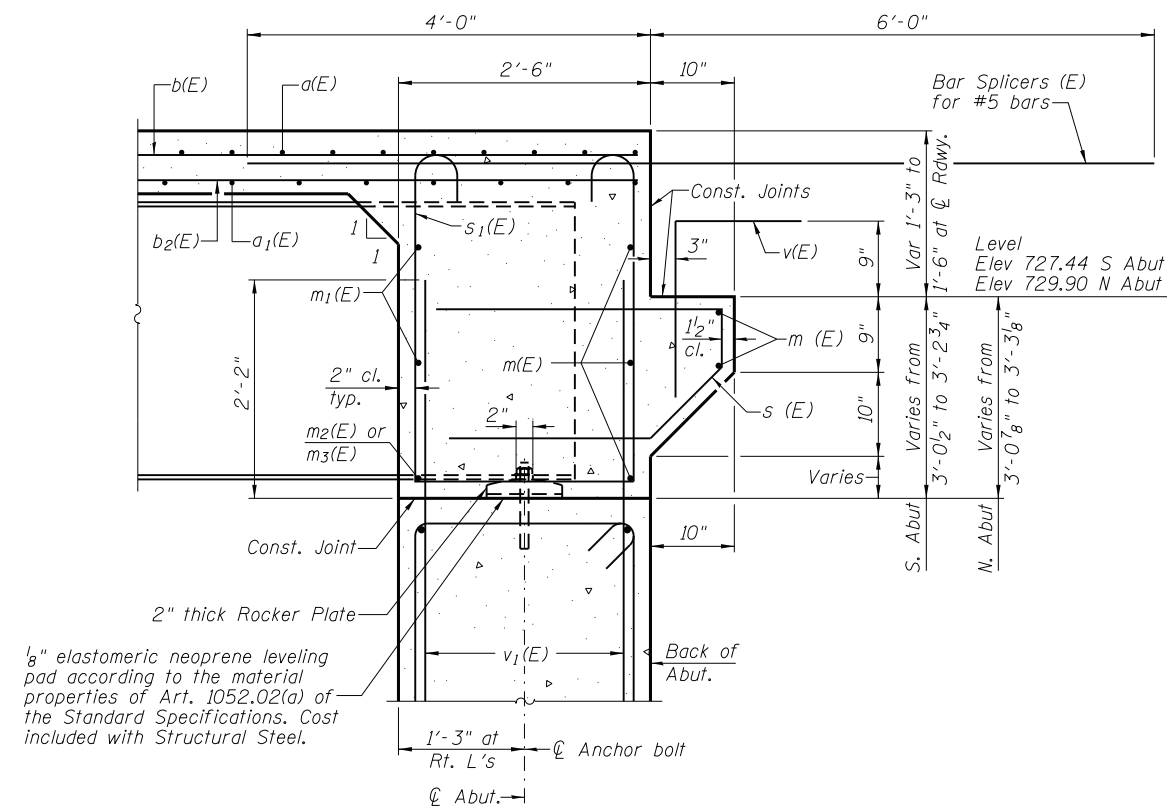
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DIAPHRAGM ELEVATION AT ABUTMENT

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 26.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 26.
 For details of bars s(E) & s₁(E) see sheet 10 of 26.
 The s(E) and s₁(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

MIN. BAR LAP
 #6 bar = 3'-4"



SECTION A-A

FILE NAME = I:\DOT\5606 - HEI\11336\CADD\Structure\1100E over- IL336\diaphragm.dwg

SI-DS1

1-27-12

CHASTAIN & ASSOCIATES LLC
 CONSULTING ENGINEERS
 184-001397

| | | |
|-----------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
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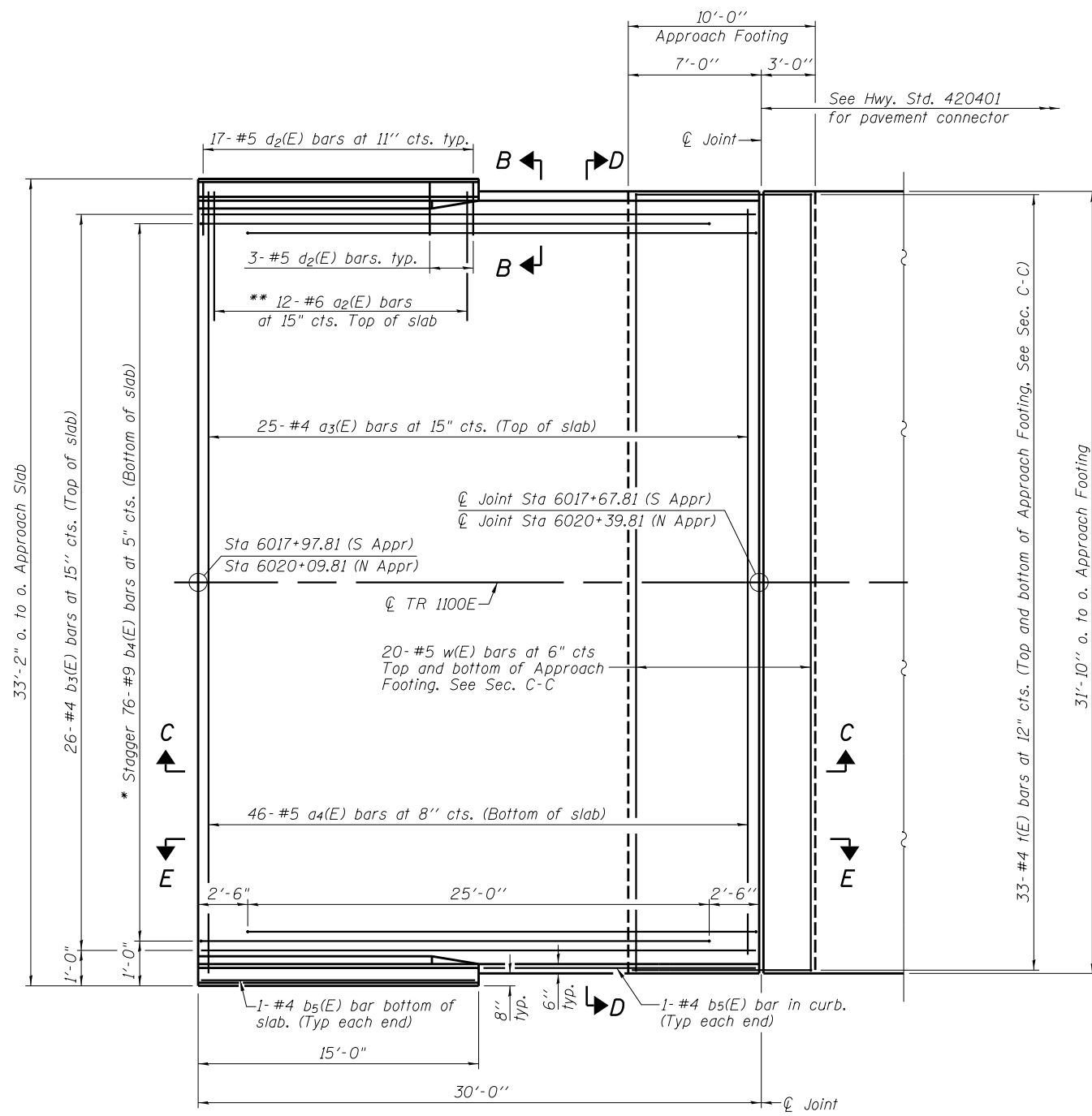
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTEGRAL ABUTMENT DIAPHRAGM DETAILS
STRUCTURE NO. 055-0078

SHEET NO. 11 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|--------------------------|-----------|---------------------------|-----------|
| 407 | 55I3(PV)HB(2-6)B,B-1,B-2 | MCDONOUGH | 874 | 563 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

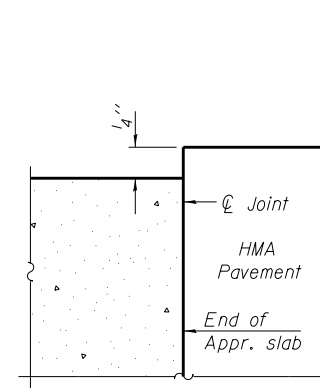
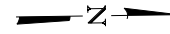
Notes:
See sheet 13 of 26 for Sections C-C & D-D and View E-E.
a3(E) and a4(E) bar spacings measured along \varnothing Rdwy.



PLAN

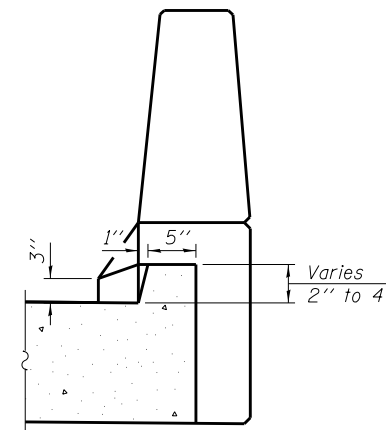
North approach shown (South approach similar)

- * Tilt #9 b4(E) bars as required to maintain clearance.
- ** Space between a3(E) bars, typ. ea. parapet.



FLEXIBLE PAVEMENT

DETAIL A



VIEW B-B

FILE NAME = I:\DOT\5606...HEI\11336\CADD_Structure\1100E over IL336.apprslab.dgn

(Sheet 1 of 2)



USER NAME = abenz
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PLOT SCALE = 2.0000' / in.
PLOT DATE = 4/21/2015

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CHECKED CMW
DRAWN RLK
CHECKED CMW

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REVISED -

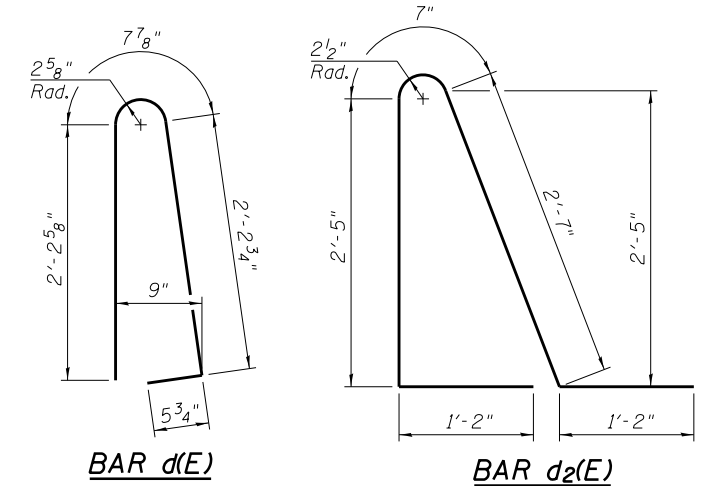
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 055-0078

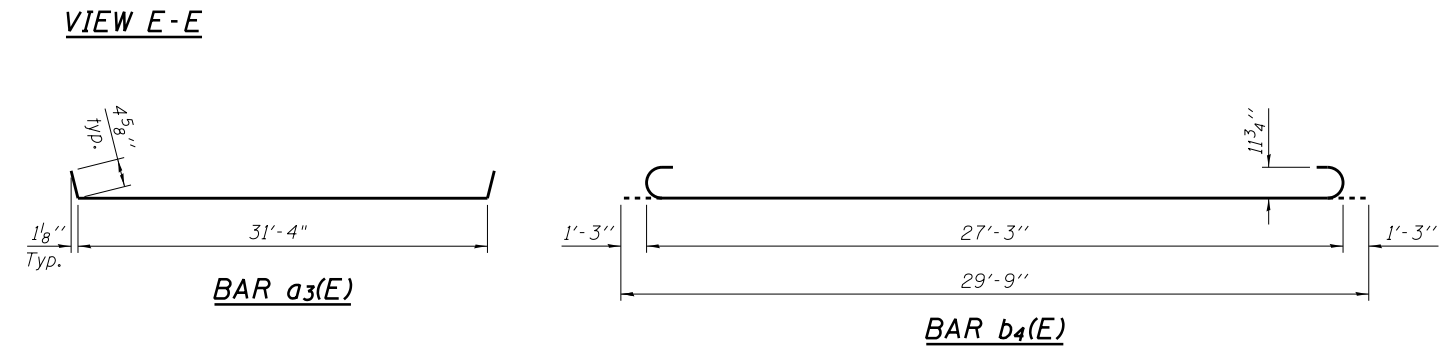
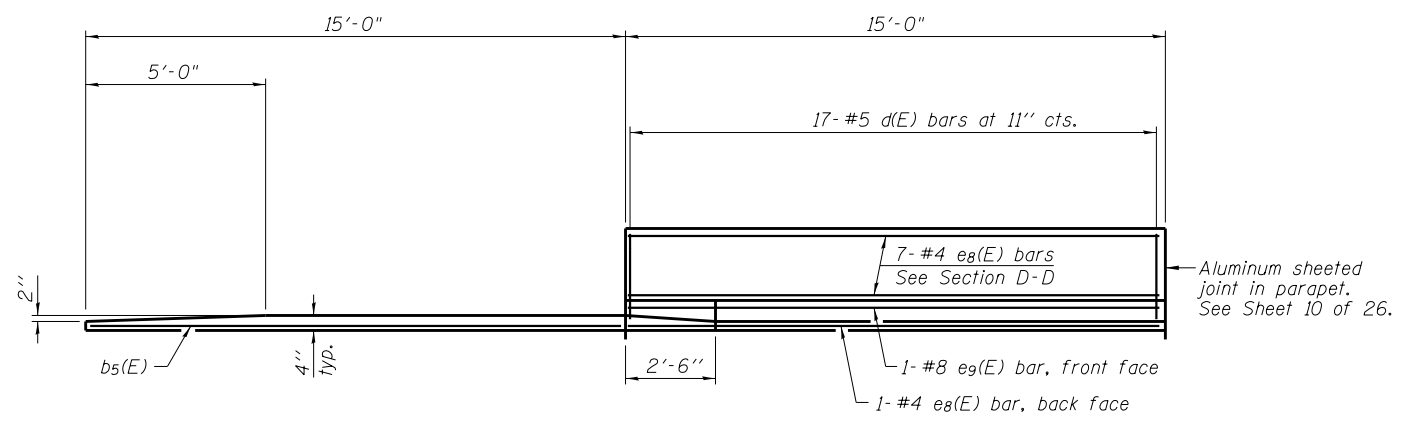
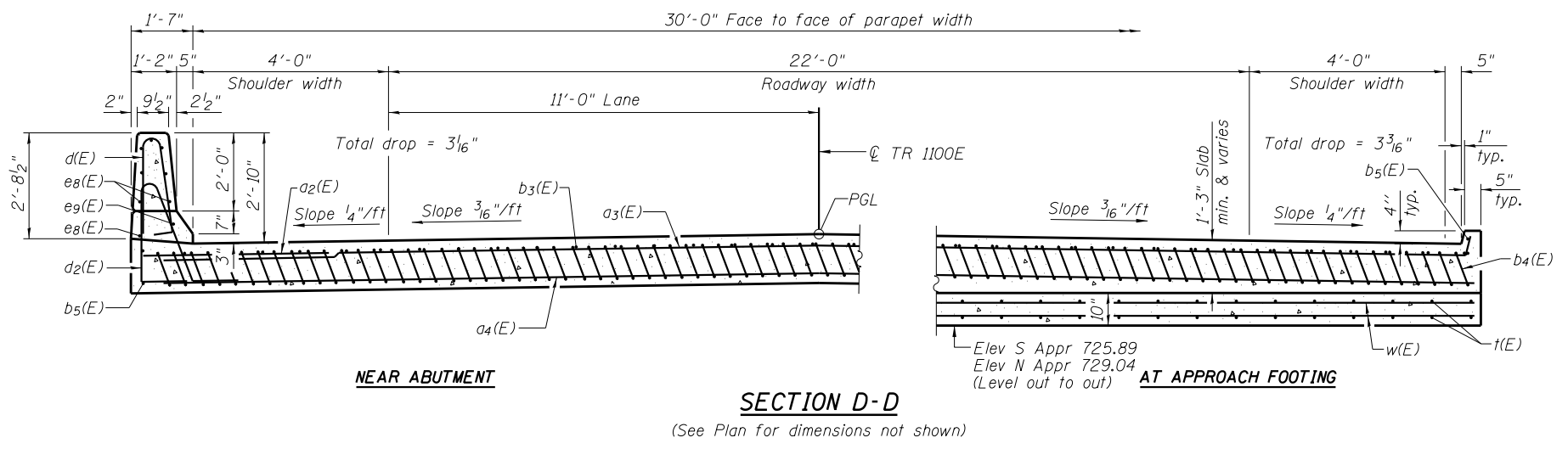
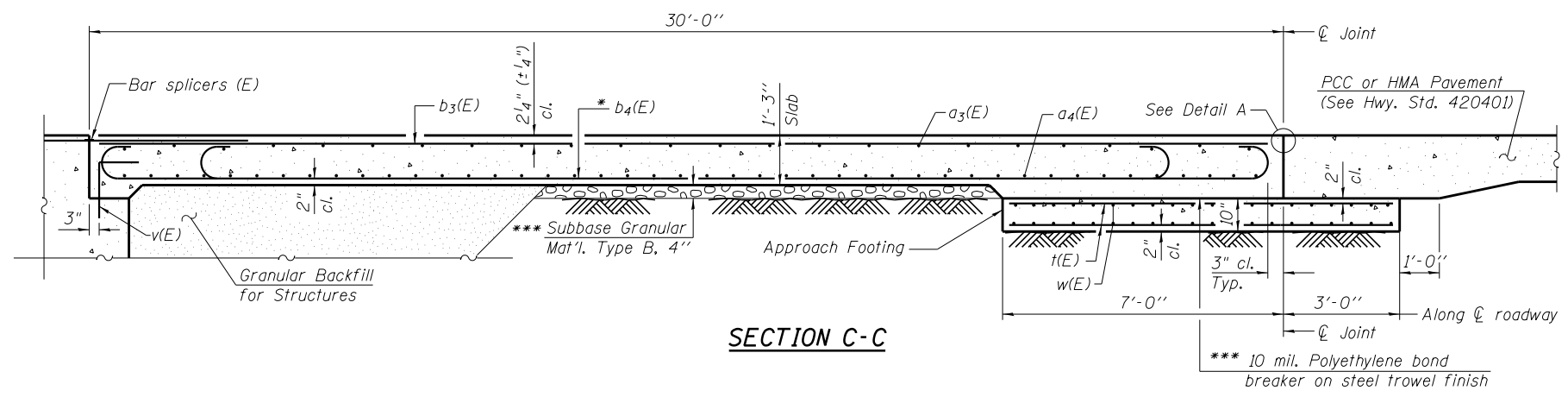
SHEET NO. 12 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------------------|-----------|---------------------------|-----------|
| 407 | 55[3]PV;HB[2-6];B,B-1,B-2] | MCDONOUGH | 874 | 564 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |

Notes:
 See sheet 12 of 26 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 10 of 26.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 26.
 For additional parapet details, see sheet 10 of 26.



* Tilt #9 b₄(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.



**TWO APPROACHES
 BILL OF MATERIAL**

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|--------|-------|
| a ₂ (E) | 48 | #6 | 6'-6" | — |
| a ₃ (E) | 50 | #4 | 32'-2" | — |
| a ₄ (E) | 92 | #5 | 31'-7" | — |
| b ₃ (E) | 52 | #4 | 29'-8" | — |
| b ₄ (E) | 152 | #9 | 29'-9" | — |
| b ₅ (E) | 8 | #4 | 14'-8" | — |
| d(E) | 68 | #5 | 5'-7" | ⌒ |
| d ₂ (E) | 68 | #5 | 7'-11" | ⌒ |
| e ₈ (E) | 32 | #4 | 14'-8" | — |
| e ₉ (E) | 4 | #8 | 14'-8" | — |
| t(E) | 132 | #4 | 9'-8" | — |
| w(E) | 80 | #5 | 31'-7" | — |
| Concrete Superstructure | | Cu. Yd. | 99.3 | |
| Concrete Structures | | Cu. Yd. | 19.7 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 25,970 | |
| Bridge Deck Grooving | | Sq. Yd. | 186 | |
| Protective Coat | | Sq. Yd. | 231 | |

(Sheet 2 of 2)

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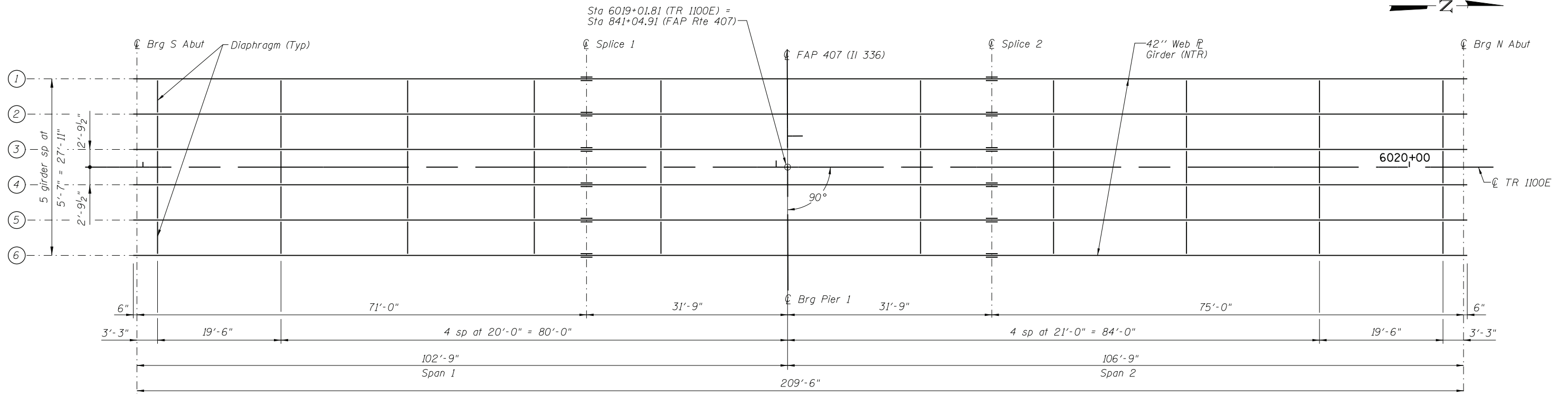
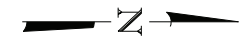
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

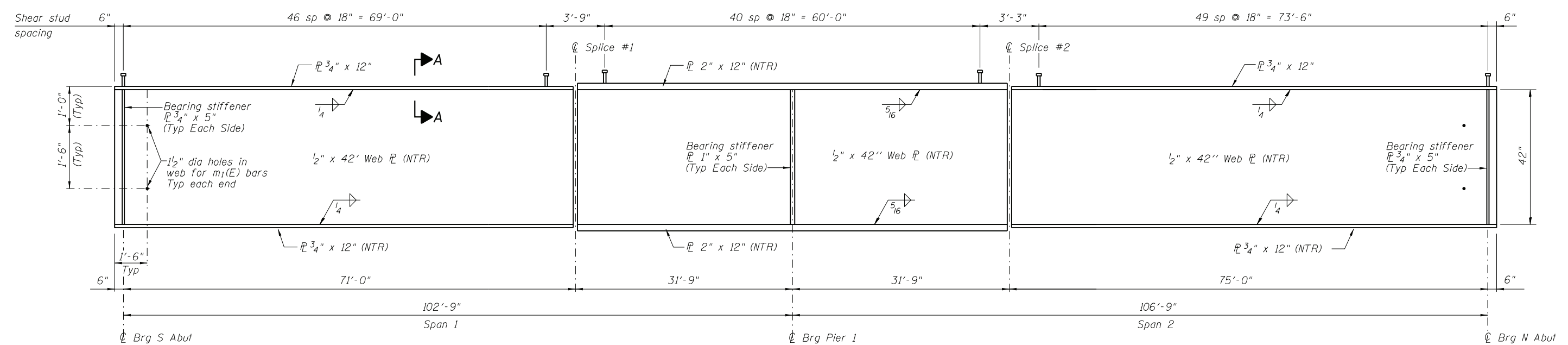
BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 055-0078
 SHEET NO. 13 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|--------------------------------|-----------|--------------|-----------|
| 407 | 55[3]PV[4]B[2]-6[B]B-1[B]-2[1] | MCDONOUGH | 874 | 565 |
| | | | CONTRACT NO. | 68844 |

ILLINOIS FED. AID PROJECT

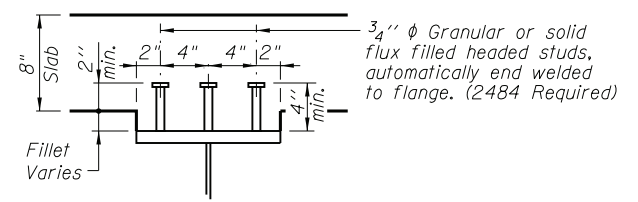


FRAMING PLAN



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.



SECTION A-A

NOTES:

- All girders, splice plates and bearing stiffeners shall be AASHTO M270 Grade 50.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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CONSULTING ENGINEERS
184-001397

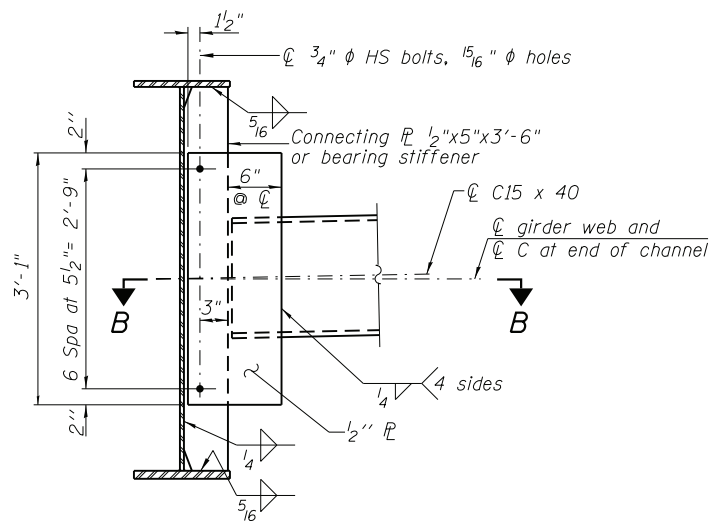
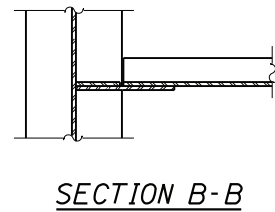
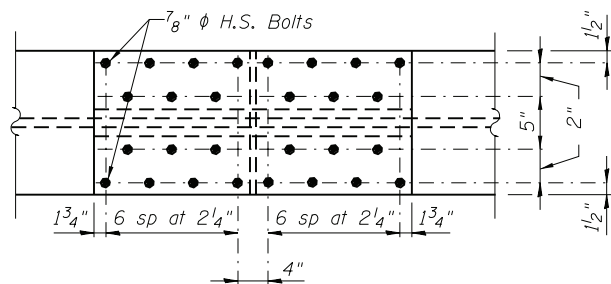
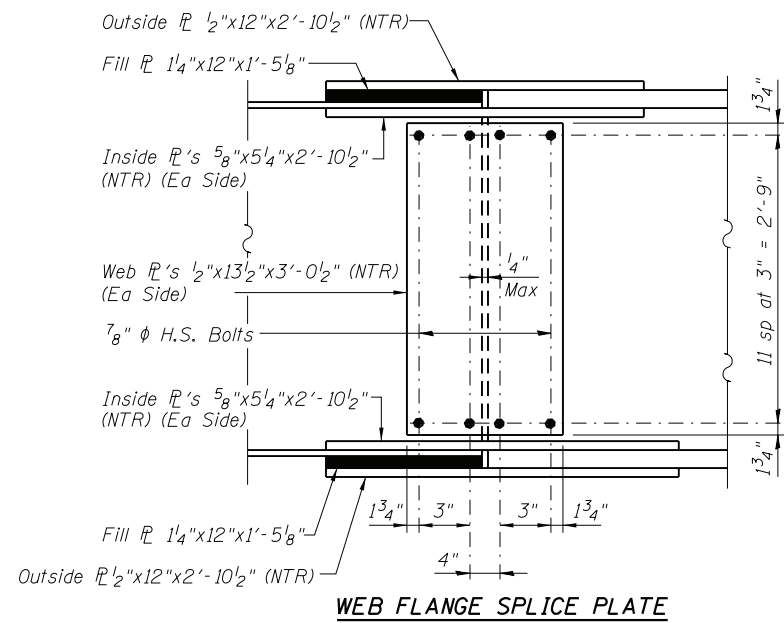
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| PLOT SCALE = 8.0000' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND DETAILS
STRUCTURE NO. 055-0078

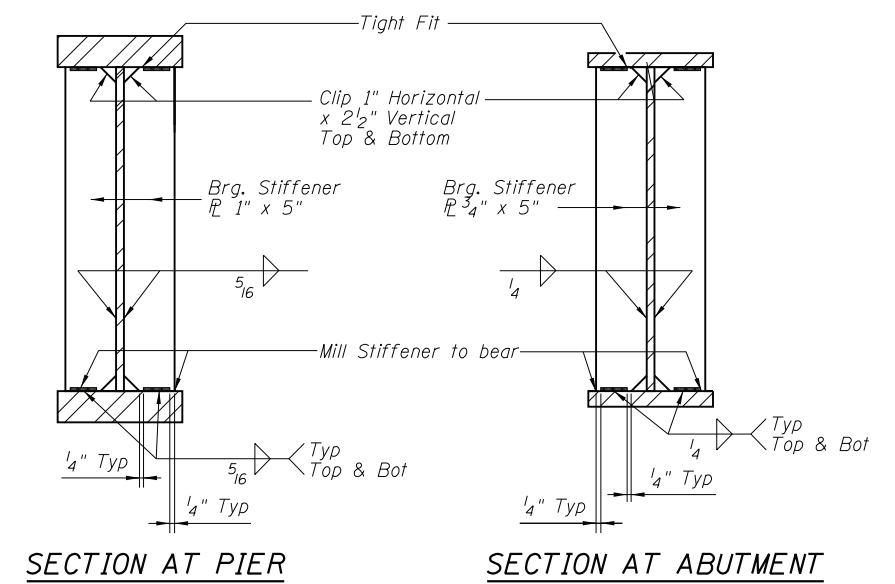
SHEET NO. 14 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------------------|-----------|---------------------------|-----------|
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| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |



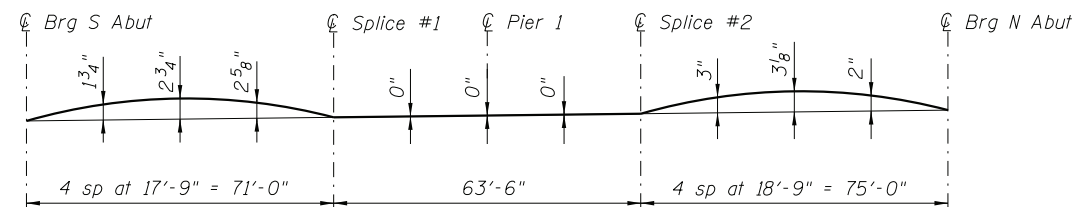
DIAPHRAGM
(See section at pier for bearing stiffener detail)

Note:
Two hardened washers required for each set of oversized holes.
Alternate channels C15x50 are permitted to facilitate material acquisition.
Calculated weight of structural steel is based on C15x40 sections. The alternate, if utilized, shall be provided at no extra cost to the Department.



| * Top of Web Elevations | | | | | | |
|-------------------------|----------|----------|----------|----------|----------|----------|
| Location | Girder 1 | Girder 2 | Girder 3 | Girder 4 | Girder 5 | Girder 6 |
| CL Brg at S. Abut | 727.95 | 728.05 | 728.14 | 728.14 | 728.05 | 727.95 |
| Splice 1 | 729.20 | 729.30 | 729.39 | 729.39 | 729.30 | 729.20 |
| CL Brg at Pier 1 | 729.58 | 729.69 | 729.77 | 729.77 | 729.69 | 729.58 |
| Splice 2 | 729.97 | 730.07 | 730.16 | 730.16 | 730.07 | 729.97 |
| CL Brg at N. Abut | 730.38 | 730.48 | 730.57 | 730.57 | 730.48 | 730.38 |

* For fabrication only



CAMBER DIAGRAM

NOTES

All diaphragm shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods. Fasteners for field splices shall be 7/8" ASTM A325 high-strength bolts in 15/16" dia holes. Fasteners for diaphragms shall be 3/4" ASTM A325 high-strength bolts in 15/16" dia holes. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2. Two hardened washers shall be required over all oversized holes. All splice plates and bearing stiffeners shall be AASHTO M270 Grade 50.

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| INTERIOR GIRDER MOMENT TABLE | | | | |
|------------------------------------|--------------------|-----------|--------|-----------|
| | | 0.4 Sp. 1 | Pier 1 | 0.6 Sp. 2 |
| I_s | (in ⁴) | 11312 | 24694 | 11312 |
| $I_c(n)$ | (in ⁴) | 28179 | - | 28179 |
| $I_c(3n)$ | (in ⁴) | 20656 | - | 20656 |
| $I_c(cr)$ | (in ⁴) | - | 28420 | - |
| S_s | (in ³) | 520.1 | 1038.0 | 520.1 |
| $S_c(n)$ | (in ³) | 746.2 | - | 746.2 |
| $S_c(3n)$ | (in ³) | 673.1 | - | 673.1 |
| $S_c(cr)$ | (in ³) | - | 1432.6 | - |
| DC1 | (k/') | 0.711 | 0.814 | 0.711 |
| MDC1 | (k) | 428 | 1286 | 488 |
| DC2 | (k/') | 0.15 | 0.15 | 0.15 |
| MDC2 | (k) | 92 | 246 | 107 |
| DW | (k/') | 0.25 | 0.25 | 0.25 |
| MDW | (k) | 153 | 410 | 178 |
| M _{LL+IM} | (k) | 1039 | 1420 | 1047 |
| M _u (Strength I) | (k) | 2698 | 5015 | 2843 |
| $\phi_r M_n$ | (k) | 3691 | 5589 | 3640 |
| f_s DC1 | (ksi) | 9.9 | 14.9 | 11.3 |
| f_s DC2 | (ksi) | 1.6 | 2.1 | 1.9 |
| f_s DW | (ksi) | 2.7 | 3.4 | 3.2 |
| f_s (LL+IM) | (ksi) | 16.7 | 11.9 | 16.8 |
| f_s (Service II) | (ksi) | 35.9 | 35.9 | 38.2 |
| 0.95R _n F _{yf} | (ksi) | 47.5 | 47.5 | 47.5 |
| f_s (Total)(Strength I) | (ksi) | - | 47.2 | - |
| $\phi_r F_n$ | (ksi) | - | 50.0 | - |
| V _r | (k) | 18.0 | 26.3 | 17.5 |

| INTERIOR GIRDER REACTION TABLE | | | | |
|--------------------------------|-----|----------|--------|----------|
| HL93 Loading | | | | |
| | | S. Abut. | Pier 1 | N. Abut. |
| RDC1 | (k) | 25.9 | 105.7 | 27.5 |
| RDC2 | (k) | 5.3 | 20.4 | 5.7 |
| RDW | (k) | 8.9 | 34.0 | 9.5 |
| R _{LL+IM} | (k) | 72.3 | 142.5 | 72.6 |
| R _{Total} | (k) | 112.4 | 302.6 | 115.3 |

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in⁴ and in³).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{LL+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_{LL+IM}

$\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1 / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2 / S_c(3n) or MDC2 / S_c(cr) as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW / S_c(3n) or MDW / S_c(cr) as applicable.

f_s (LL+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_{LL+IM} / S_c(n) or MDW / S_c(cr) as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s(\text{LL+IM})$

0.95R_nF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s(LL+IM)

$\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_r: Maximum factored shear range in span computed according to Article 6.10.10.

FILE NAME = I:\DOT\5606_HEI_IL336\CADD_Structure\1100E_over_IL336\momtable.dgn



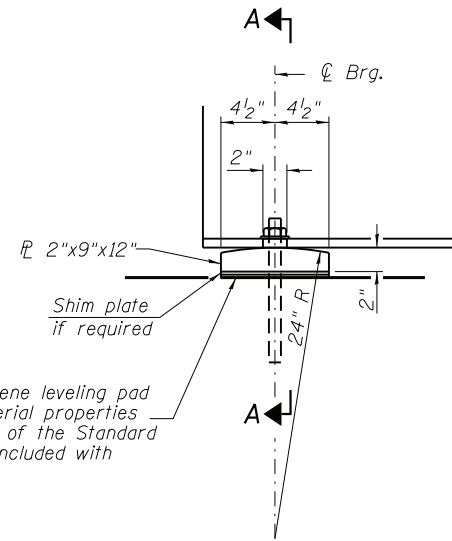
| | | |
|-----------------------------|--------------|-----------|
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| PLOT SCALE = 1.0000 ' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT TABLES
STRUCTURE NO. 055-0078

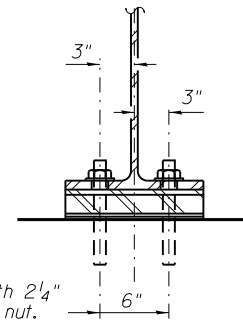
SHEET NO. 16 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV)HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 568 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. | 68B44 |



1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

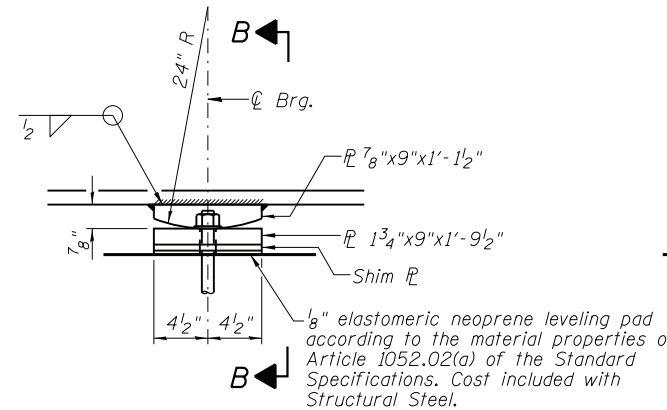
ELEVATION AT ABUTMENT



1" ϕ x 12" anchor bolts with 2 1/4" x 2 1/4" x 5/16" plate washer under nut. 1 3/8" x 2" slotted hole in flange. 1 1/2" ϕ holes in bearing plate.

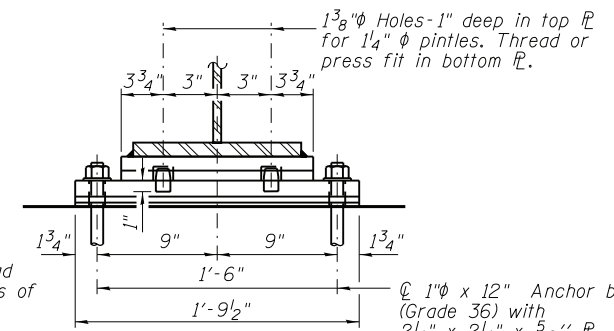
SECTION A-A

FIXED BEARING

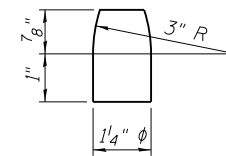


ELEVATION AT PIER

FIXED BEARING



SECTION B-B



PINTLE

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shapes and placed as shown in bearing details.

BILL OF MATERIAL

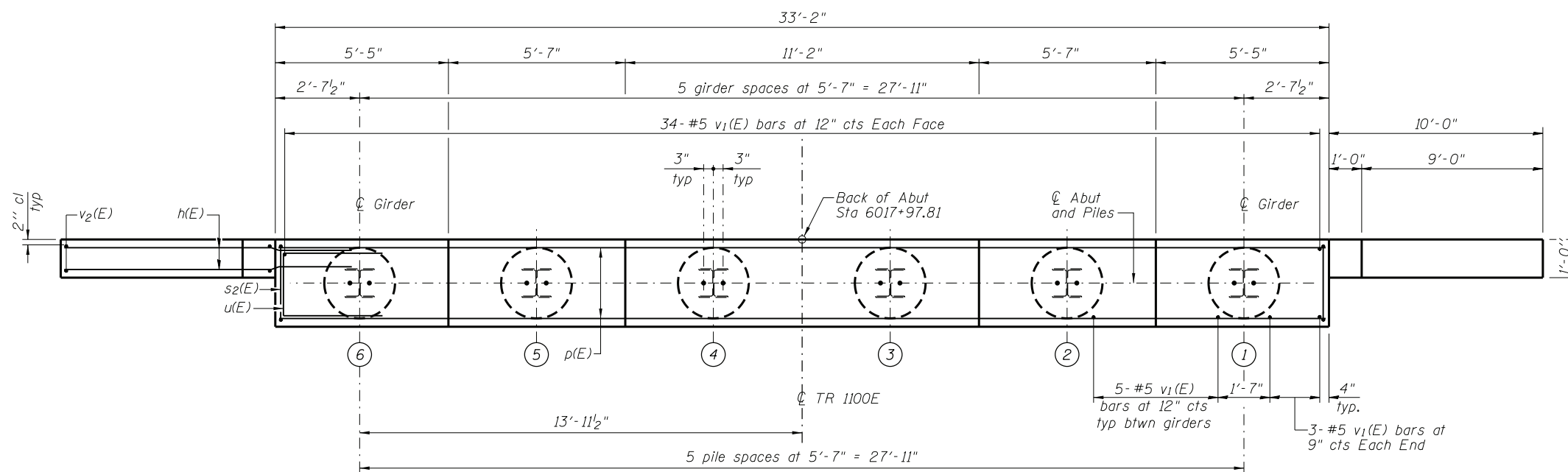
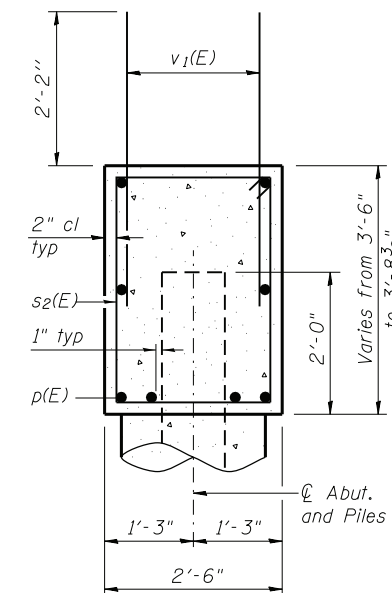
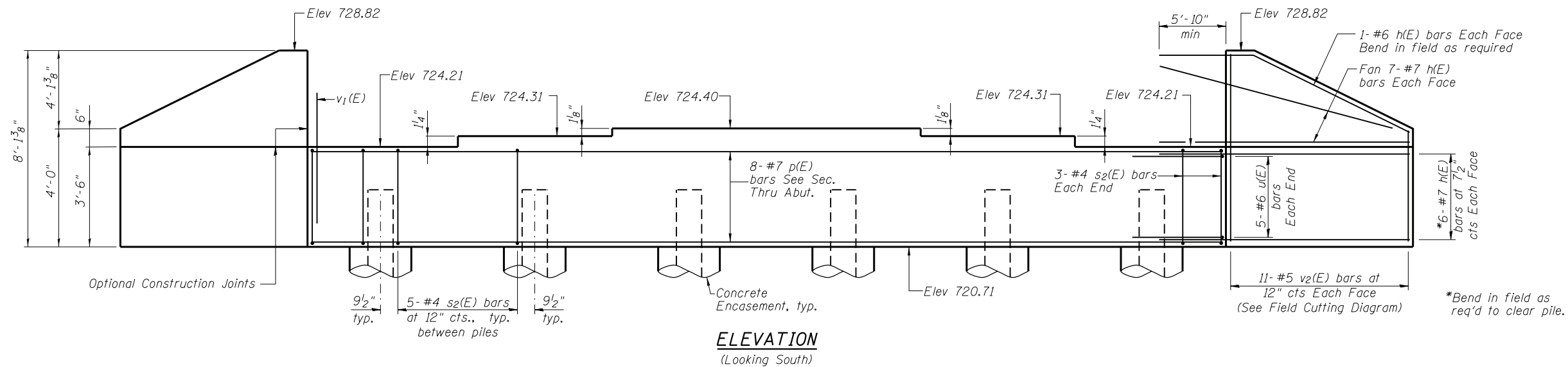
| Item | Unit | Total |
|------------------|------|-------|
| Anchor Bolts, 1" | Each | 36 |

FILE NAME = I:\DOT\5606_HEI_IL336\CADD_Structure\1100E over_IL336_brgdtls.dgn

| | | |
|-----------------------------|--------------|-----------|
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| PLOT SCALE = 1.0000 ' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|---------------------------|-----------|---------------------|--------------|
| 407 | 55[3(PV)HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 569 |
| | | | CONTRACT NO. | 68B44 |

Notes: Four steps monolithically with cap.



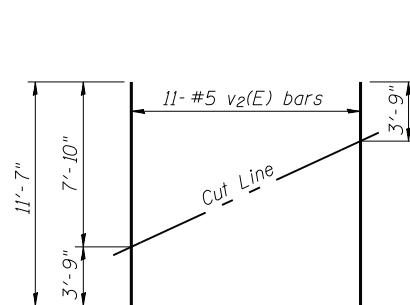
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|---------|-------|
| h(E) | 56 | #7 | 16'-7" | — |
| p(E) | 8 | #7 | 32'-10" | — |
| s2(E) | 31 | #4 | 11'-5" | □ |
| u(E) | 10 | #6 | 8'-7" | □ |
| v1(E) | 68 | #5 | 4'-4" | — |
| v2(E) | 22 | #5 | 11'-7" | — |
| Structure Excavation | | Cu. Yd. | 152 | |
| Concrete Structures | | Cu. Yd. | 15.7 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 3370 | |
| Furnishing Steel Piles HP12x53 | | Foot | 435 | |
| Driving Piles | | Foot | 435 | |
| Test Pile Steel HP12x53 | | Each | 1 | |
| Concrete Encasement | | Cu. Yd. | 2.0 | |

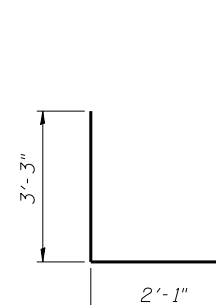
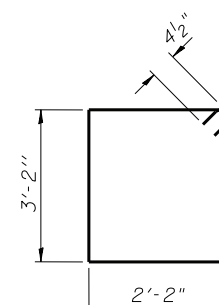
For details of piles and concrete Encasement, see sheet 21 of 26.

PILE DATA

Type: HP12x53
 Nominal Required Bearing: 392 k
 Factored Resistance Available: 215 k
 Est. Length: 87'
 No. Production Piles: 5
 No. Test Piles: 1

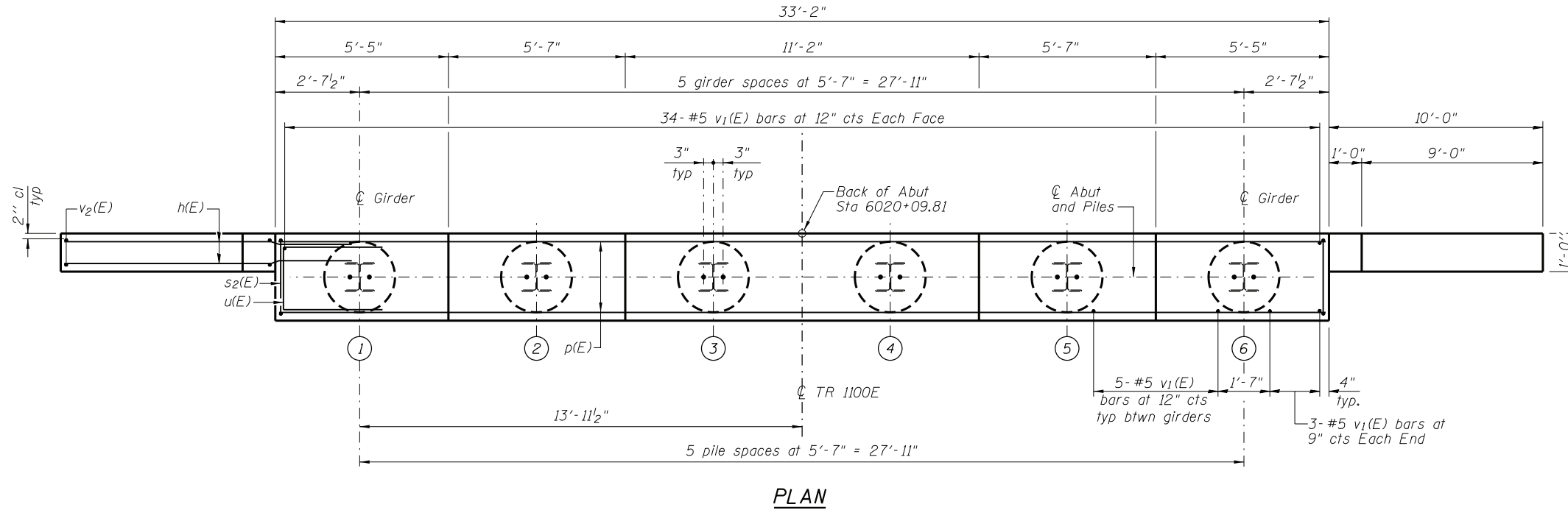
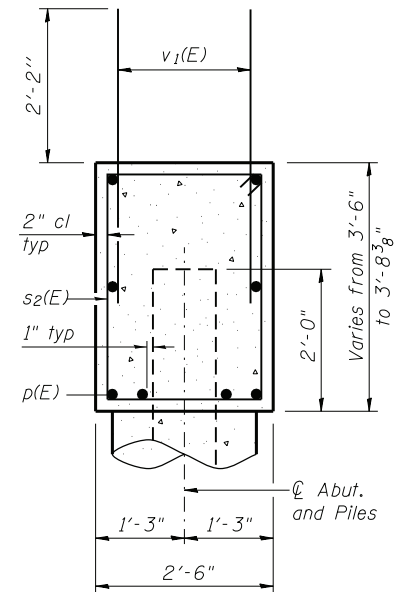
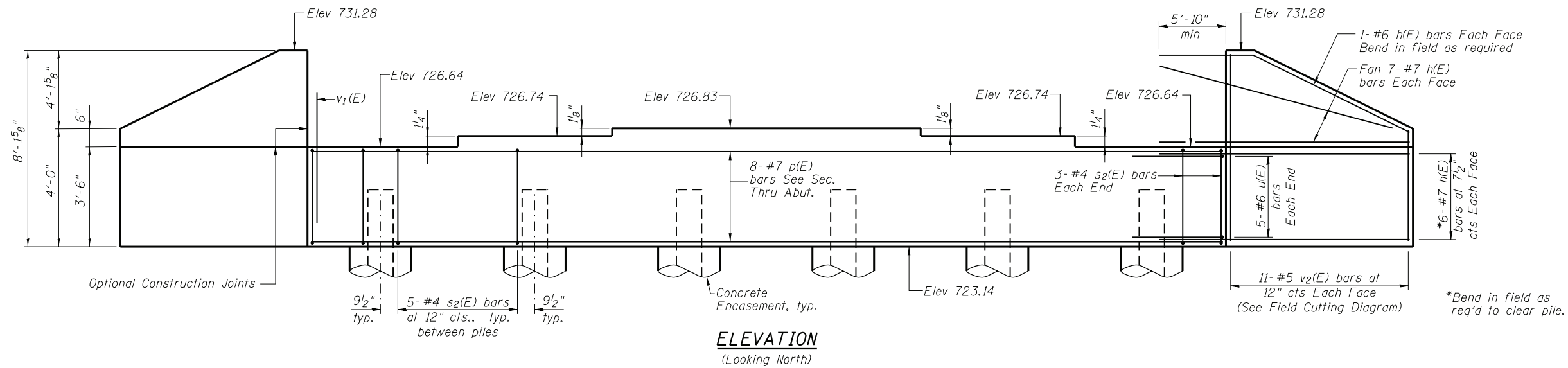


Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



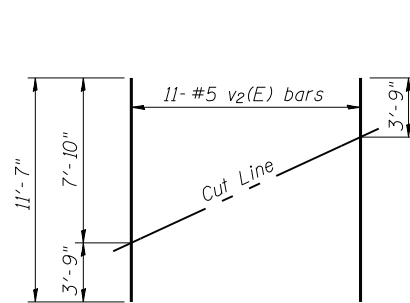
FILE NAME = I:\1001\5606 - HEI_IL1336\CADD_Structure\1100E over_IL1336\abut.dgn

Notes: Four steps monolithically with cap.

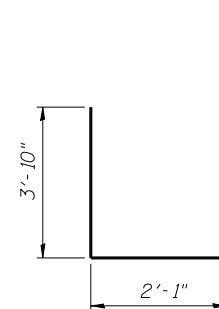
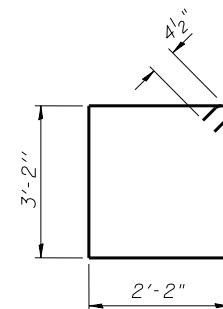


PILE DATA

Type: HP12x53
 Nominal Required Bearing: 413 k
 Factored Resistance Available: 228 k
 Est. Length: 94'
 No. Production Piles: 5
 No. Test Piles: 1



Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.

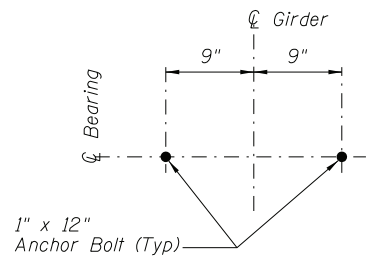


BILL OF MATERIAL

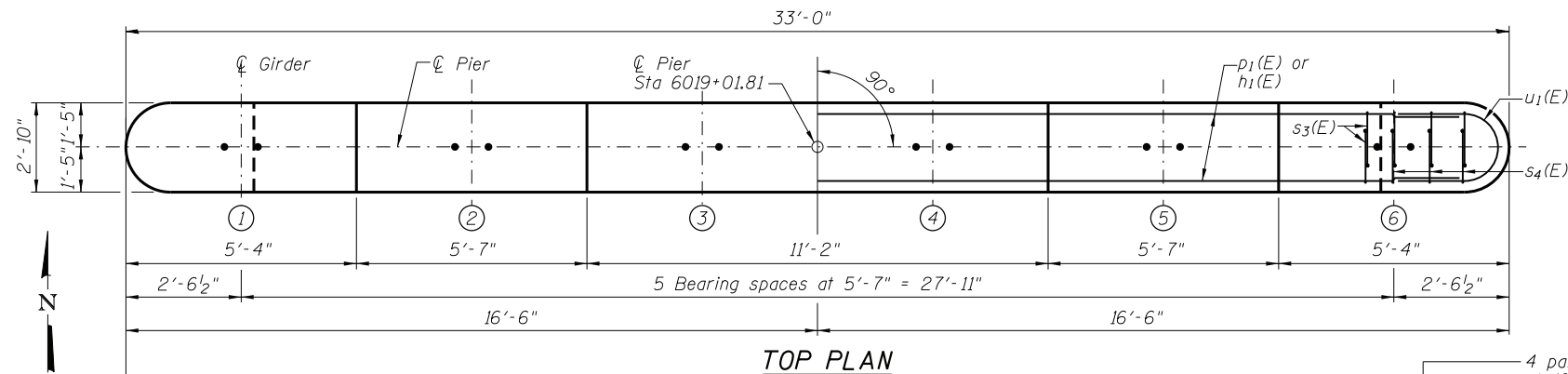
| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|---------|---------|-------|
| h(E) | 56 | #7 | 16'-7" | — |
| p(E) | 8 | #7 | 32'-10" | — |
| s2(E) | 31 | #4 | 11'-5" | □ |
| u(E) | 10 | #6 | 8'-7" | □ |
| v1(E) | 68 | #5 | 4'-4" | — |
| v2(E) | 22 | #5 | 11'-7" | — |
| Structure Excavation | | Cu. Yd. | 152 | |
| Concrete Structures | | Cu. Yd. | 15.7 | |
| Reinforcement Bars, Epoxy Coated | | Pound | 3370 | |
| Furnishing Steel Piles HP12x53 | | Foot | 470 | |
| Driving Piles | | Foot | 470 | |
| Test Pile Steel HP12x53 | | Each | 1 | |
| Concrete Encasement | | Cu. Yd. | 2.0 | |

For details of piles and concrete encasement, see sheet 21 of 26.

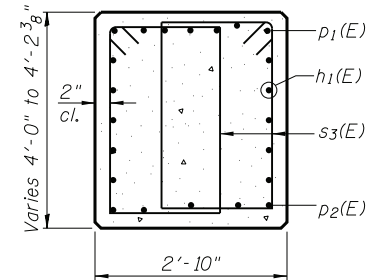
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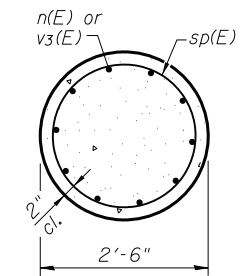
ANCHOR BOLT LAYOUT



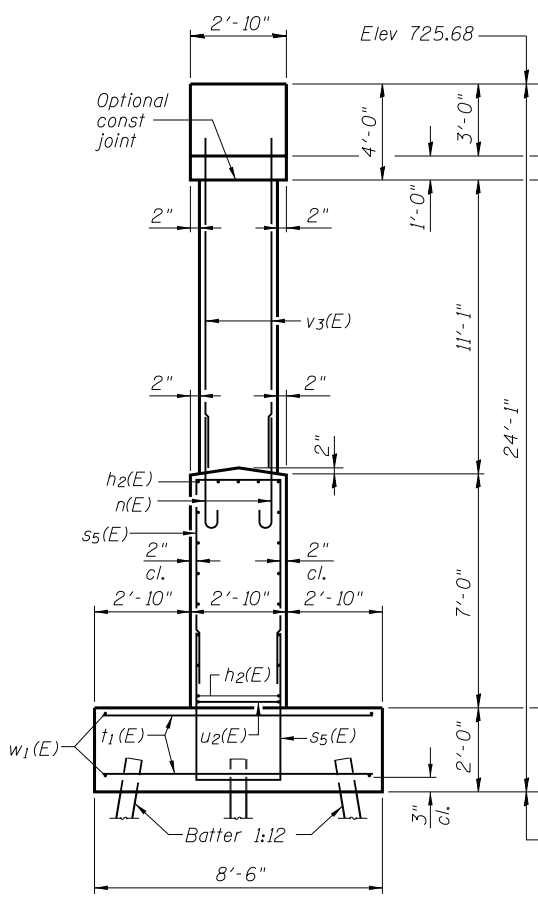
TOP PLAN



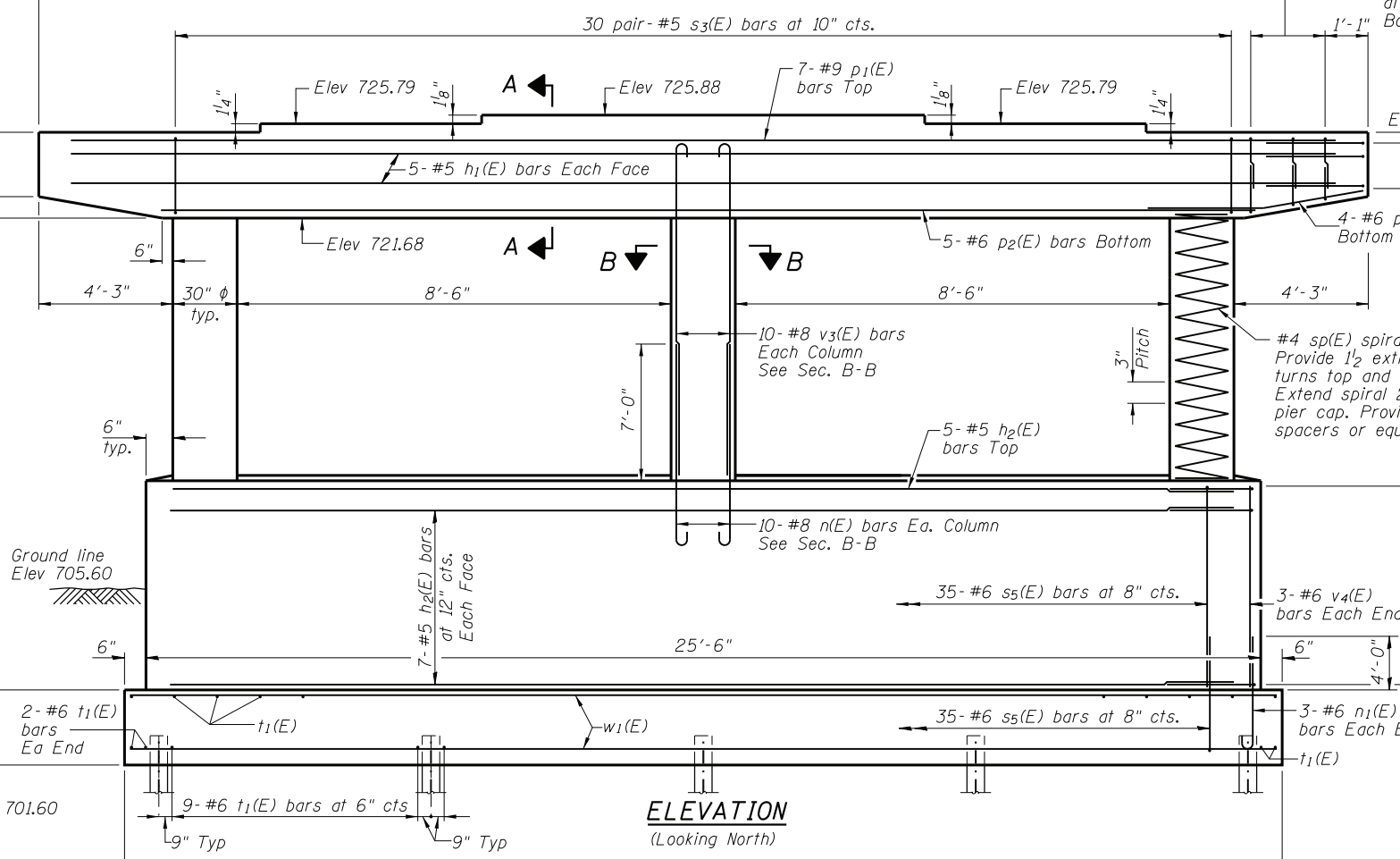
SECTION A-A



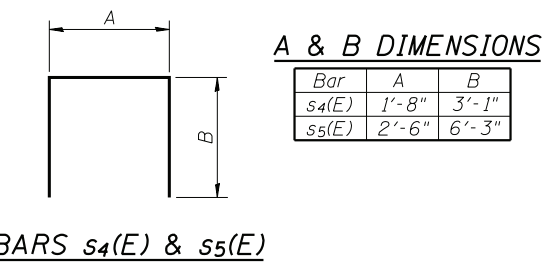
SECTION B-B



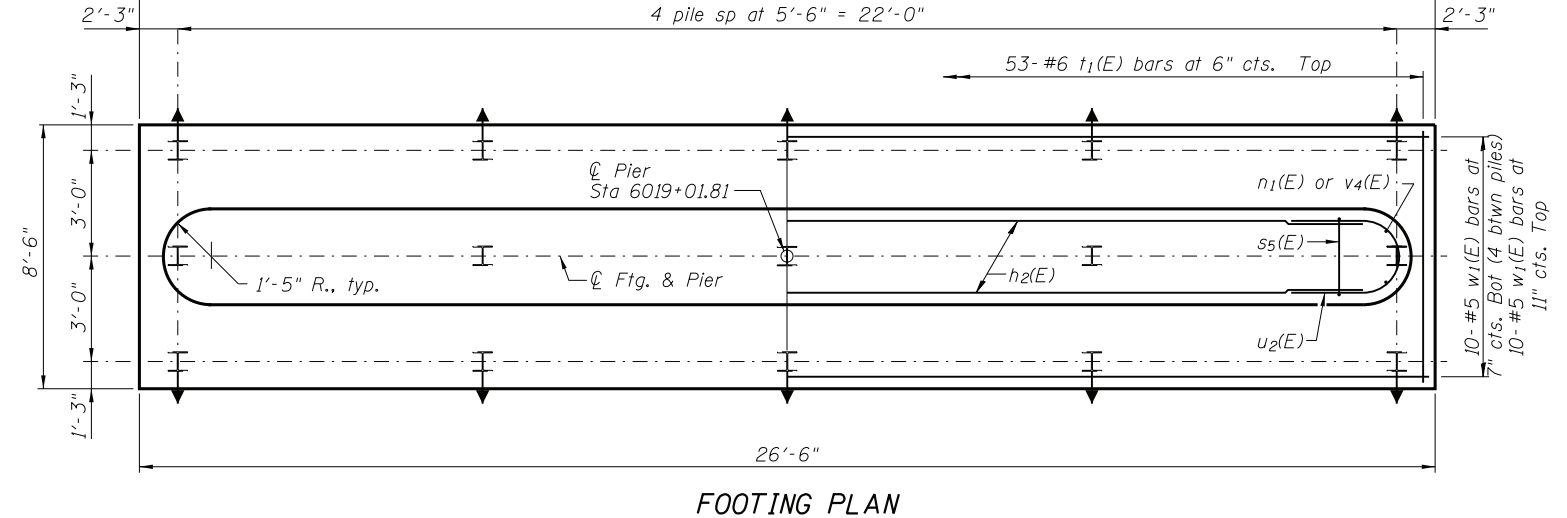
END VIEW



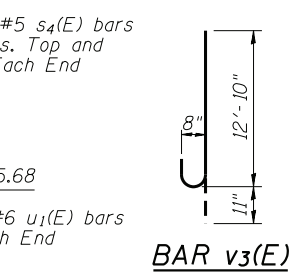
ELEVATION
(Looking North)



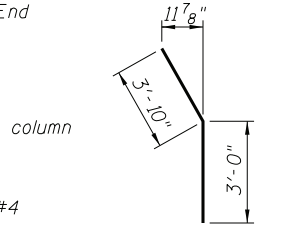
A & B DIMENSIONS



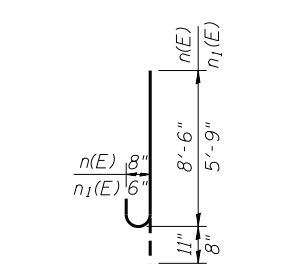
FOOTING PLAN



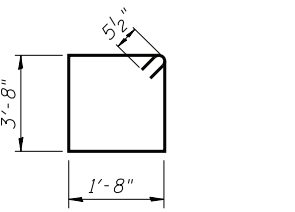
BAR v3(E)



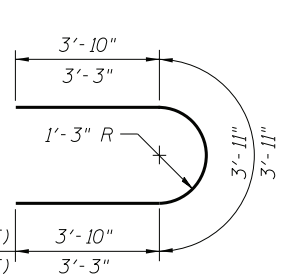
BAR p2(E)



BARS n(E) & n1(E)



BAR s3(E)



BARS u1(E) & u2(E)

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------------|-----|------|---------|-------|
| h1(E) | 10 | #5 | 30'-2" | — |
| h2(E) | 19 | #5 | 22'-8" | — |
| n(E) | 30 | #8 | 9'-5" | U |
| n1(E) | 6 | #6 | 6'-5" | U |
| p1(E) | 7 | #9 | 30'-2" | — |
| p2(E) | 5 | #6 | 25'-6" | — |
| p3(E) | 8 | #6 | 6'-10" | — |
| s3(E) | 60 | #5 | 11'-7" | U |
| s4(E) | 32 | #5 | 7'-10" | U |
| s5(E) | 70 | #6 | 15'-0" | U |
| sp(E) | 3 | #4 | 11'-3" | W |
| t1(E) | 93 | #6 | 8'-2" | — |
| u1(E) | 8 | #6 | 11'-7" | U |
| u2(E) | 16 | #5 | 10'-5" | U |
| v3(E) | 30 | #8 | 13'-9" | U |
| v4(E) | 6 | #6 | 6'-8" | — |
| w1(E) | 20 | #5 | 26'-2" | — |
| Structure Excavation | | | Cu. Yd. | 56 |
| Concrete Structures | | | Cu. Yd. | 54.9 |
| Reinforcement Bars, Epoxy Coated | | | Pound | 8960 |
| Furnishing Steel Piles HP12x53 | | | Foot | 980 |
| Driving Piles | | | Foot | 980 |
| Test Pile Steel HP12x53 | | | Each | 1 |

** Length is height of spiral.
LLH = Long Leg Horizontal

PILE DATA

Type: HP12x53
Nominal Required Bearing: 365 k
Factored Resistance Available: 201 k
Est. Length: 70'
No. Production Piles: 14
No. Test Piles: 1

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 21 of 26.

FILE NAME = I:\1001\5606 - HEI_IL1336\CADD_Structure\11100E over_IL1336\pier.dwg



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PLOT SCALE = 1:10000 ' / in.
PLOT DATE = 1/7/2015

DESIGNED ACB
CHECKED CMW
DRAWN RLK
CHECKED CMW

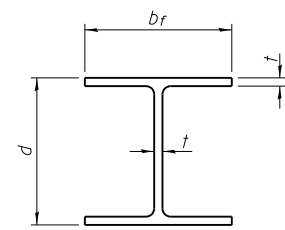
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER DETAILS
STRUCTURE NO. 055-0078
SHEET NO. 20 OF 26 SHEETS

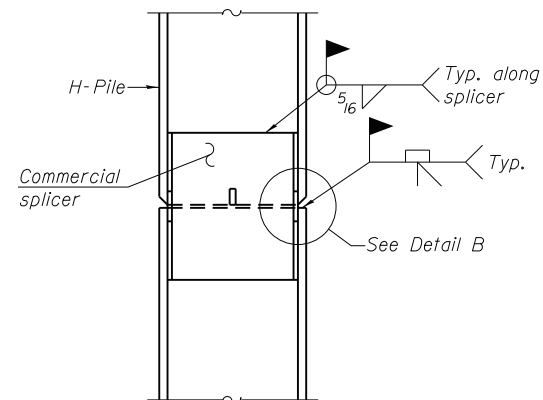
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------|----------------------------|-----------|--------------|-----------|
| 407 | 55[3]PV[4]B[2-6]B[B-1,B-2] | MCDONOUGH | 874 | 572 |
| CONTRACT NO. | | | 68B44 | |

ILLINOIS FED. AID PROJECT

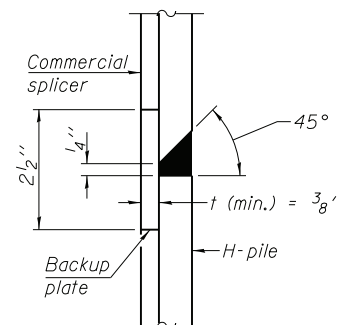


STEEL PILE TABLE

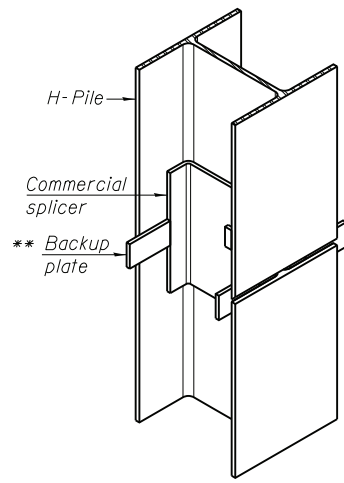
| Designation | Depth d | Flange width br | Web and Flange thickness t | Encasement diameter A |
|-------------|---------|-----------------|----------------------------|-----------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 13/16" | 30" |
| x102 | 14" | 14 3/4" | 1/16" | 30" |
| x89 | 13 7/8" | 14 3/4" | 5/8" | 30" |
| x73 | 13 5/8" | 14 5/8" | 1/2" | 30" |
| HP 12x84 | 12 1/4" | 12 1/4" | 1/16" | 24" |
| x74 | 12 1/8" | 12 1/4" | 5/8" | 24" |
| x63 | 12" | 12 1/8" | 1/2" | 24" |
| x53 | 11 3/4" | 12" | 7/16" | 24" |
| HP 10x57 | 10" | 10 1/4" | 9/16" | 24" |
| x42 | 9 3/4" | 10 1/8" | 7/16" | 24" |
| HP 8x36 | 8" | 8 1/8" | 7/16" | 18" |



ELEVATION

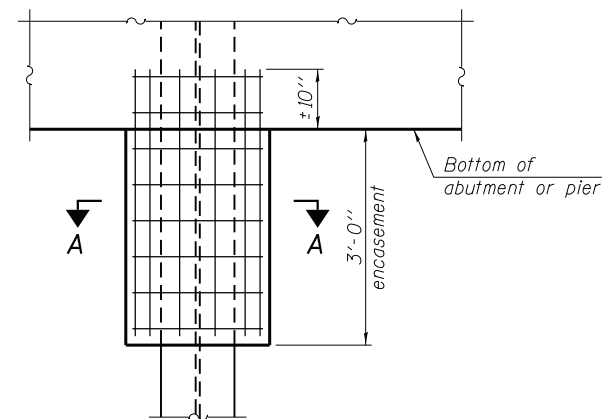


DETAIL "B"



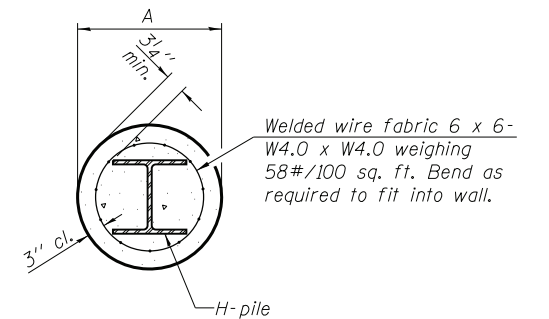
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



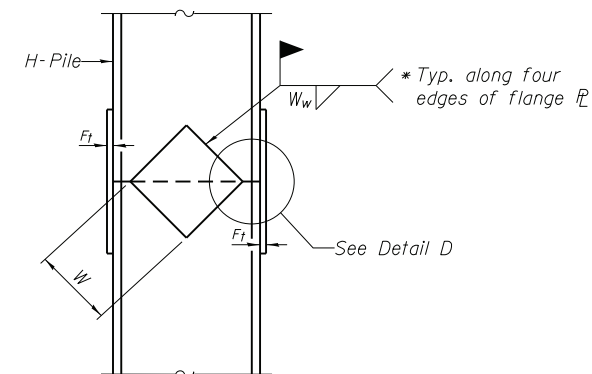
ELEVATION

PILE ENCASEMENT

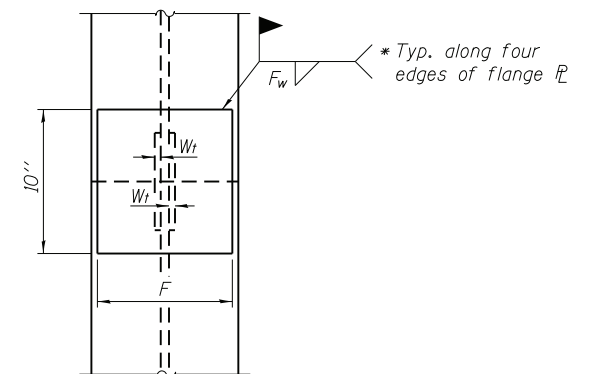


SECTION A-A

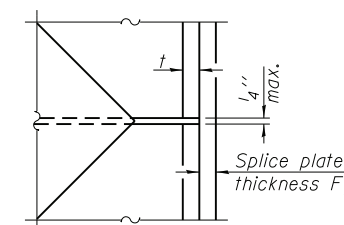
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



END VIEW



DETAIL D

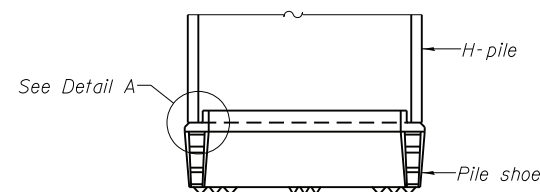
WELDED PLATE FIELD SPLICE

| Designation | F | Ft | Fw | W | Wt | Ww |
|-------------|---------|------|-------|--------|------|------|
| HP 14x117 | 12 1/2" | 1" | 7/8" | 7 3/4" | 5/8" | 1/2" |
| x102 | 12 1/2" | 7/8" | 3/4" | 7 3/4" | 5/8" | 1/2" |
| x89 | 12 1/2" | 3/4" | 1/16" | 7 3/4" | 5/8" | 1/2" |
| x73 | 12 1/2" | 5/8" | 9/16" | 7 3/4" | 5/8" | 1/2" |
| HP 12x84 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x74 | 10" | 7/8" | 1/16" | 6 1/2" | 5/8" | 1/2" |
| x63 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| x53 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| HP 10x57 | 8" | 3/4" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| x42 | 8" | 5/8" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| HP 8x36 | 7" | 5/8" | 7/16" | 4 1/4" | 1/2" | 3/8" |

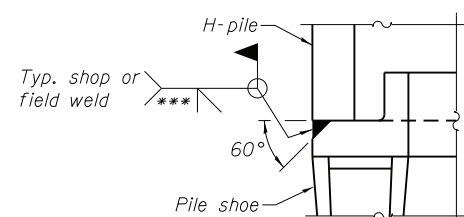
WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

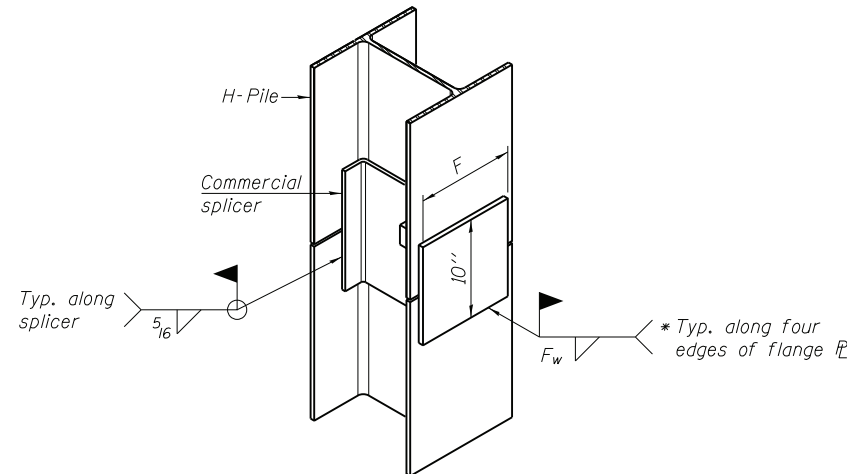


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

FILE NAME = I:\DOT\5606 - HEI_IL1336\CADD_Structure\1100E over_IL1336\plns.dgn

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

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PLOT TIME = 1:57:10 PM
PLOT SCALE = 1.0000' / in.
PLOT DATE = 1/7/2015

DESIGNED ACB
CHECKED CMW
DRAWN RLK
CHECKED CMW

REVISED -
REVISED -
REVISED -
REVISED -

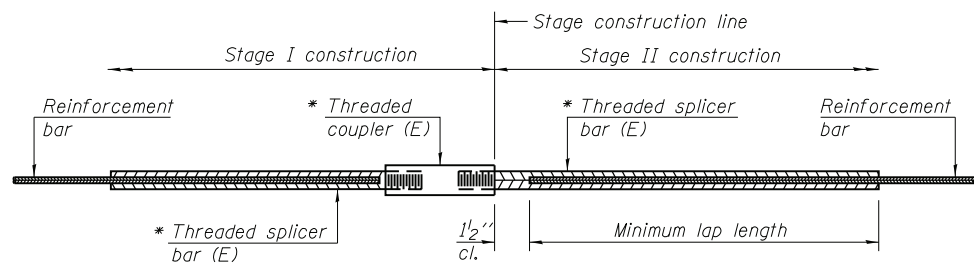
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL HP PILE DETAILS
STRUCTURE NO. 055-0078

SHEET NO. 21 OF 26 SHEETS

| | | | | |
|--------------|----------------------------|-----------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55[3(PV)+B(2-6)+B,B-1,B-2] | MCDONOUGH | 874 | 573 |
| CONTRACT NO. | | | 68B44 | |

ILLINOIS FED. AID PROJECT



STANDARD BAR SPLICER ASSEMBLY

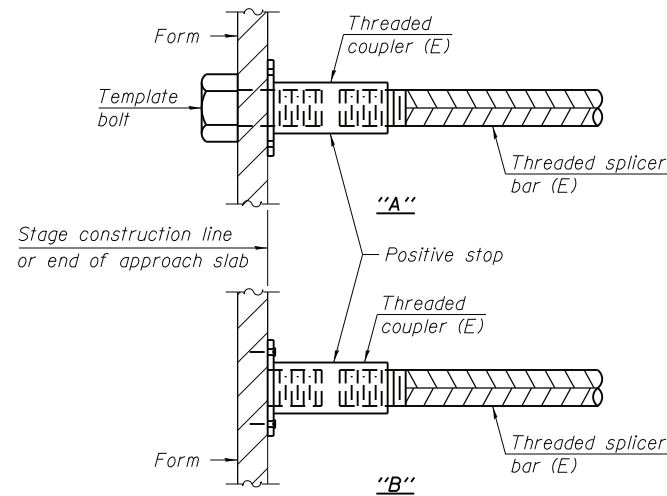
| Minimum Lap Lengths | | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| Bar size to be spliced | Table 1 | Table 2 | Table 3 | Table 4 | Table 5 | Table 6 |
| 3, 4 | 1'-5" | 1'-11" | 2'-1" | 2'-4" | 2'-7" | 2'-11" |
| 5 | 1'-9" | 2'-5" | 2'-7" | 2'-11" | 3'-3" | 3'-8" |
| 6 | 2'-1" | 2'-11" | 3'-1" | 3'-6" | 3'-10" | 4'-5" |
| 7 | 2'-9" | 3'-10" | 4'-2" | 4'-8" | 5'-2" | 5'-10" |
| 8 | 3'-8" | 5'-1" | 5'-5" | 6'-2" | 6'-9" | 7'-8" |
| 9 | 4'-7" | 6'-5" | 6'-10" | 7'-9" | 8'-7" | 9'-8" |

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

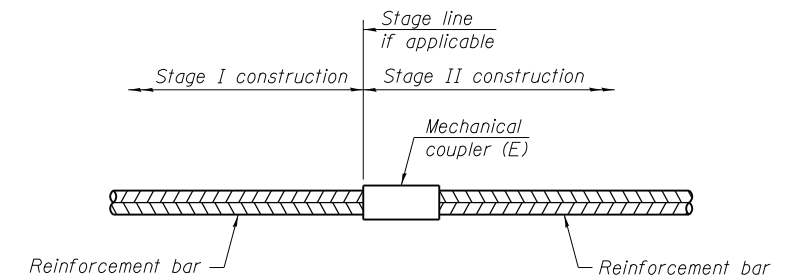
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location | Bar size | No. assemblies required | Table for minimum lap length |
|----------|----------|-------------------------|------------------------------|
| | | | |
| | | | |
| | | | |
| | | | |



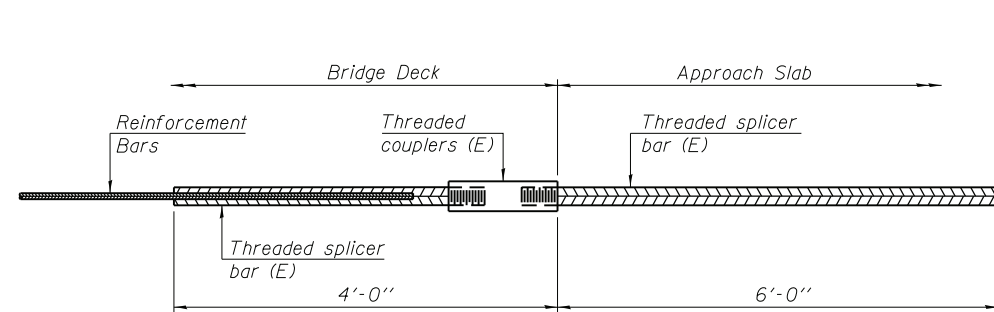
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E): Indicates epoxy coating.



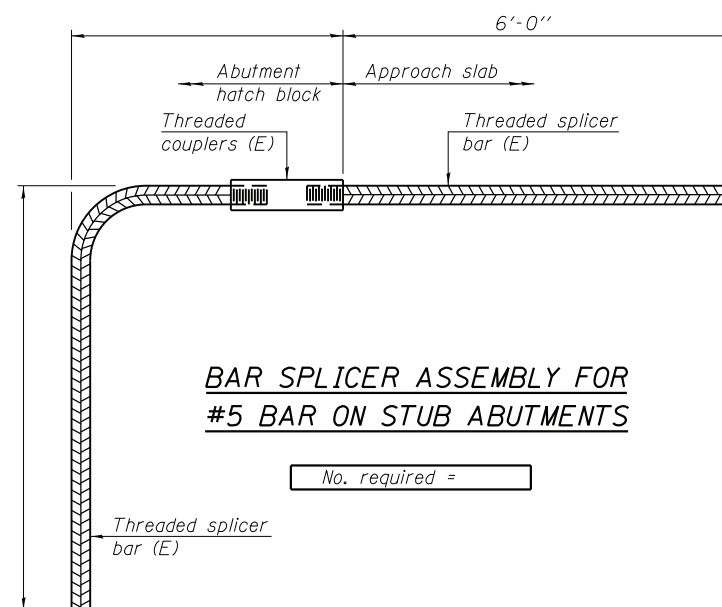
STANDARD MECHANICAL SPLICER

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
| | | |
| | | |
| | | |
| | | |



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 72



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

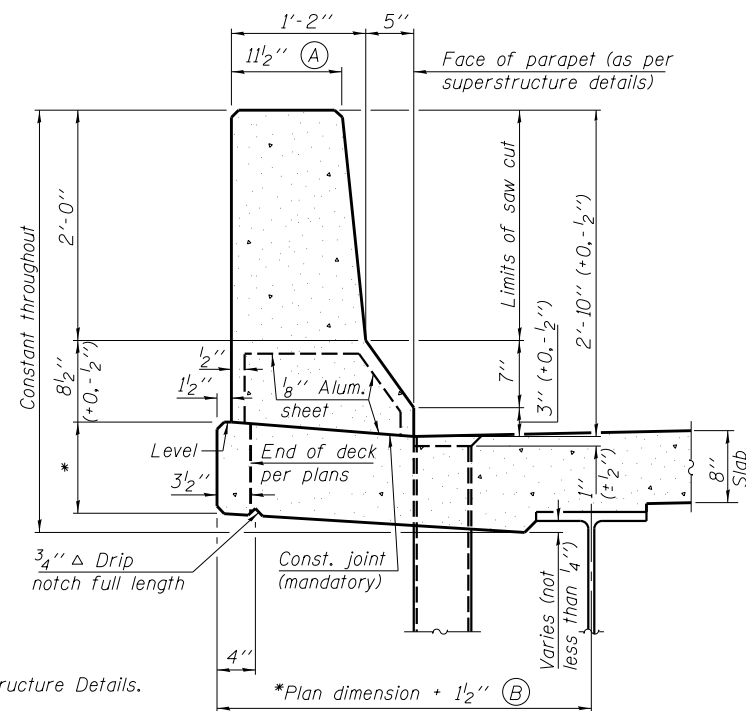
NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

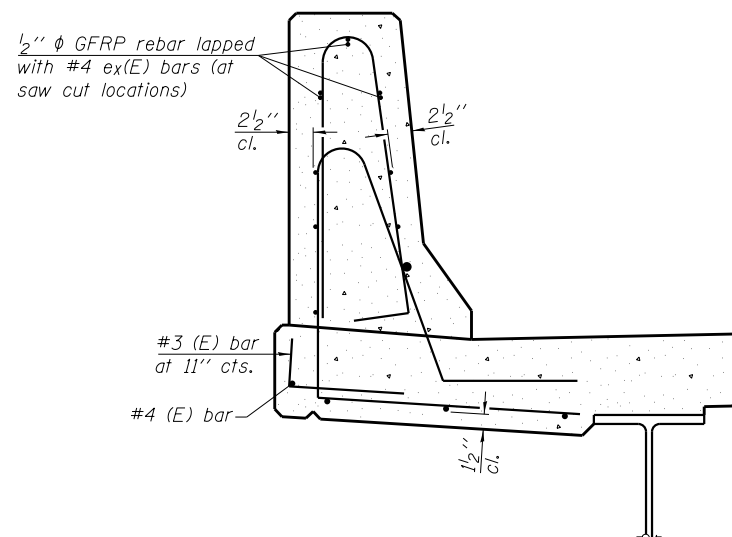
FILE NAME = I:\DOT\5606...HEI_IL1336\CADD_Structure\1100E_over_IL1336\bar-splicers.dgn

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

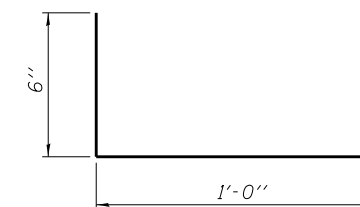


34" F SHAPE PARAPET SECTION
(Showing dimensions)

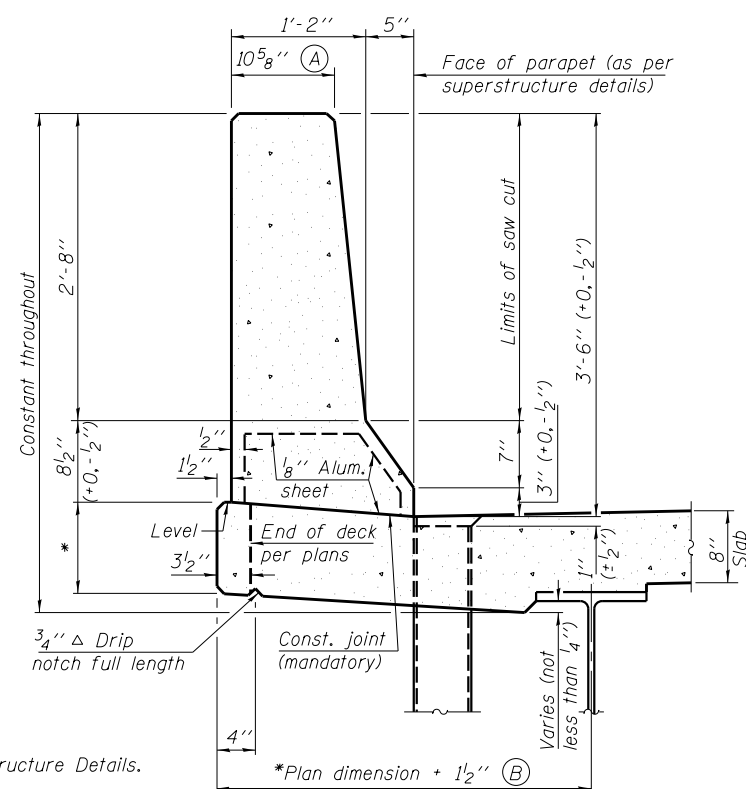


SECTION

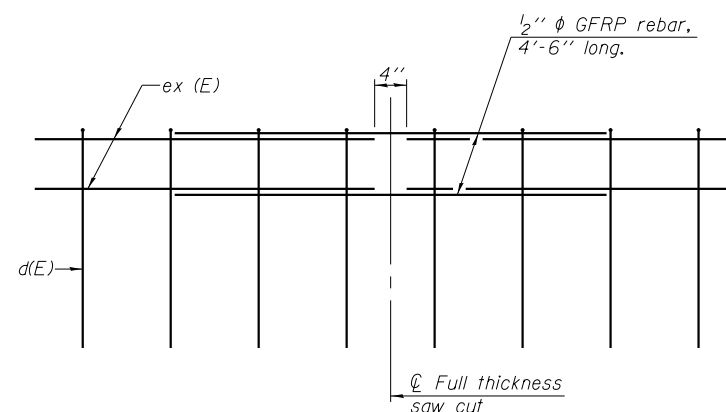
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



#3 (E) BAR

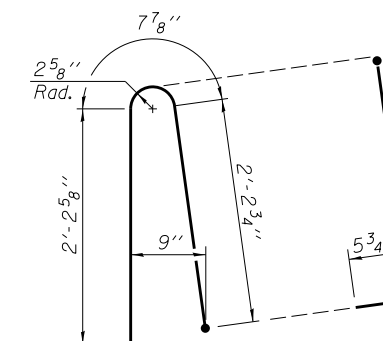


42" F SHAPE PARAPET SECTION
(Showing dimensions)

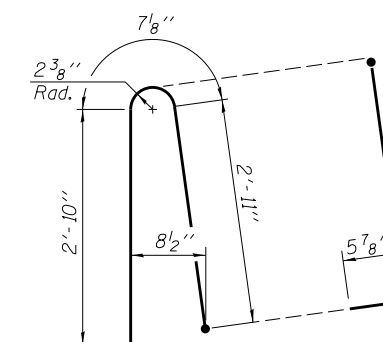


GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)



ALTERNATE BAR d(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)
(For 42" parapet when conduit is present)

FILE NAME = I:\DOT\5606 - HEI\11336\CADD\Structure\1100E over-IL336\slipform.dgn

SFP 34-42

8-16-12

CHASTAIN & ASSOCIATES LLC
CONSULTING ENGINEERS
184-001397

| | | |
|----------------------------|--------------|-----------|
| USER NAME = jbuening | DESIGNED ACB | REVISED - |
| PLOT TIME = 11:24:57 AM | CHECKED CMW | REVISED - |
| PLOT SCALE = 2.0000' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/22/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 055-0078

SHEET NO. 22 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------------------------|-----------|--------------------|-----------|
| 407 | 55[3IPV]HB[2-6]B.B-1,B-2] | MCDONOUGH | 874 | 574A |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 68B44 | |



Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Page 1 of 2

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC) Date 06/21/05

SECTION 55-3 LOCATION Prop. South Abutment, NE 1/4

COUNTY McDonough DRILLING METHOD CME 1050 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0078 Station 6019+01.81 (PR)

BORING NO. B-146 Station 6018+23 (PR) / 371+50 (EX) Offset 17.4 ft LT (PR) Ground Surface Elev. 705.7 ft

| DEPTH (ft) | DESCRIPTION | DEPT (ft) | BULGE | UCS | MOIST |
|------------|--------------------------------|-----------|-------|-----|-------|
| 0 | TOPSOIL - 8.3 inches | | | | |
| 3 | Brown and gray SILTY CLAY, A-6 | 5 | | 3.5 | 13 |
| 3 | | 11 | | | |
| 3 | | 18 | | | |
| 1 | | 12 | | | |
| 1 | | 15 | 5.3 | | 11 |
| 2 | | 22 | | | |
| 2 | | 20 | | | |
| 2 | Brown and gray CLAY, A-7 | 23 | | 9.2 | 11 |
| 2 | | 29 | | | |
| 2 | | 15 | | | |
| 2 | | 28 | 4.1 | | 11 |
| 4 | | 40 | | | |
| 3 | | 14 | | | |
| 3 | | 23 | 9.7 | | 11 |
| 4 | | 34 | | | |
| 4 | | 40 | | | |
| 3 | | 23 | | | |
| 4 | | 34 | | | |
| 4 | | 49 | | | |
| 0 | | 14 | | | |
| 1 | | 23 | 9.7 | | 11 |
| 2 | | 34 | | | |
| 2 | | 40 | | | |
| 2 | | 13 | | | |
| 2 | | 22 | 9.2 | | 11 |
| 2 | | 40 | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Page 2 of 2

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC) Date 06/21/05

SECTION 55-3 LOCATION Prop. South Abutment, NE 1/4

COUNTY McDonough DRILLING METHOD CME 1050 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0078 Station 6019+01.81 (PR)

BORING NO. B-146 Station 6018+23 (PR) / 371+50 (EX) Offset 17.4 ft LT (PR) Ground Surface Elev. 705.7 ft

| DEPTH (ft) | DESCRIPTION | DEPT (ft) | BULGE | UCS | MOIST |
|------------|-------------------------------------|-----------|-------|-----|-------|
| 0 | Gray CLAY, A-7 w/gravel (continued) | | | | |
| 5 | | 11 | | 3.5 | 13 |
| 11 | | 18 | | | |
| 12 | | 12 | | | |
| 15 | | 15 | 5.3 | | 11 |
| 22 | | 22 | | | |
| 20 | | 20 | | | |
| 23 | | 23 | | 9.2 | 11 |
| 29 | | 29 | | | |
| 15 | | 15 | | | |
| 34 | | 34 | 4.1 | | 11 |
| 49 | | 49 | | | |
| 0 | | 14 | | | |
| 23 | | 23 | 9.7 | | 11 |
| 34 | | 34 | | | |
| 49 | | 49 | | | |
| 0 | | 14 | | | |
| 23 | | 23 | 9.7 | | 11 |
| 34 | | 34 | | | |
| 49 | | 49 | | | |
| 0 | | 14 | | | |
| 23 | | 23 | 9.7 | | 11 |
| 34 | | 34 | | | |
| 49 | | 49 | | | |
| 11 | | 11 | | | |
| 25 | | 25 | 1.4 | | 26 |
| 33 | | 33 | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Page 1 of 2

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC) Date 06/22/05

SECTION 55-3 LOCATION Prop. Pier, NE 1/4

COUNTY McDonough DRILLING METHOD CME 1050 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0078 Station 6019+01.81 (PR)

BORING NO. B-147 Station 6019+03 (PR) / 372+30 (EX) Offset 12.3 ft LT (PR) Ground Surface Elev. 706.6 ft

| DEPTH (ft) | DESCRIPTION | DEPT (ft) | BULGE | UCS | MOIST |
|------------|--------------------------------|-----------|-------|-----|-------|
| 0 | TOPSOIL - 7.75 inches | | | | |
| 2 | Brown and gray SILTY CLAY, A-6 | 4 | | 3.0 | 11 |
| 3 | | 11 | | | |
| 3 | | 18 | | | |
| 1 | | 8 | | | |
| 2 | | 13 | 3.5 | | 12 |
| 2 | | 21 | | | |
| 2 | | 12 | | | |
| 2 | Brown and gray CLAY, A-7 | 17 | | 8.2 | 11 |
| 2 | | 28 | | | |
| 2 | | 20 | 4.7 | | 12 |
| 3 | | 34 | | | |
| 3 | | 41 | | | |
| 2 | | 15 | | | |
| 3 | | 26 | 9.7 | | 11 |
| 4 | | 52 | | | |
| 2 | | 30 | | | |
| 2 | | 2 | | | |
| 2 | | 8 | | | |
| 3 | | 13 | 4.3 | | 19 |
| 4 | | 24 | | | |
| 0 | | 8 | | | |
| 13 | | 13 | 4.3 | | 19 |
| 24 | | 24 | | | |
| 0 | | 8 | | | |
| 2 | | 2 | | | |
| 2 | | 8 | | | |
| 2 | | 15 | | | |
| 2 | | 22 | | | |
| 2 | | 29 | 9.2 | | 11 |
| 3 | | 36 | | | |
| 3 | | 43 | | | |
| 5 | | 50 | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

FILE NAME = I:\DOT\5606...HEI_IL336\CADD_Structure\N1100E over_IL336\borings\01.dgn

(SHEET 1 OF 4)



| | | |
|-----------------------------|--------------|-----------|
| USER NAME = rking | DESIGNED ACB | REVISED - |
| PLOT TIME = 1:58:54 PM | CHECKED CMW | REVISED - |
| PLOT SCALE = 1.0000 ' / in. | DRAWN RLK | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED CMW | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 055-0078
SHEET NO. 23 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|-----------|---------------------------|-----------|
| 407 | 55[3]PV+HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 575 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |



Illinois Department of Transportation
Division of Highways
SCI Engineering

SOIL BORING LOG

Page 2 of 2

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Prop. Pier, NE 1/4

COUNTY McDonough DRILLING METHOD CME 1050 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0078
Station 6019+01.81 (PR)
BORING NO. B-147
Station 6019+03 (PR) / 372+30 (EX)
Offset 12.3 ft LT (PR)
Ground Surface Elev. 706.6 ft

| DEPTH | B | L | U | M | Surface Water Elev. | Stream Bed Elev. | Groundwater Elev.: | First Encounter | Upon Completion | After |
|-------|------|------|-------|-----|---------------------|------------------|--------------------|-----------------|-----------------|-------|
| (ft) | (ft) | (6") | (tsf) | (%) | ft | ft | ft | ft | ft | Hrs. |
| 0 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 82 | | | | | | | | | | |
| 50.2 | | | | | | | | | | |
| 66.1 | | | | | | | | | | |
| 42.5 | | | | | | | | | | |
| 48 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 55 | | | | | | | | | | |
| 60 | | | | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways
SCI Engineering, Inc.

SOIL BORING LOG

Page 1 of 3

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass (Northwest Corridor) - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Proposed Ctr Pier - S Bound; SE 1/4, SEC. 14, TWP. 6N, RNG. 3W, 4th PM, Latitude, Longitude

COUNTY McDonough DRILLING METHOD CME 75 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0078
Station 6019+01.81
BORING NO. B-147 X
Station 6019+02 (PR) / 372+30 (EX)
Offset 10.0 ft LT (PR)
Ground Surface Elev. 706.60 ft

| DEPTH | B | L | U | M | Surface Water Elev. | Stream Bed Elev. | Groundwater Elev.: | First Encounter | Upon Completion | After |
|-------|------|------|-------|-----|---------------------|------------------|--------------------|-----------------|-----------------|-------|
| (ft) | (ft) | (6") | (tsf) | (%) | ft | ft | ft | ft | ft | Hrs. |
| 0 | | | | | | | | | | |
| 706.4 | | | | | | | | | | |
| 705.5 | | | | | | | | | | |
| 1.9 | | | | | | | | | | |
| 1.3 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 701.6 | | | | | | | | | | |
| 1.1 | | | | | | | | | | |
| 26 | | | | | | | | | | |
| 1.5 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 697.6 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 1.0 | | | | | | | | | | |
| 29 | | | | | | | | | | |
| 27 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 0.9 | | | | | | | | | | |
| 27 | | | | | | | | | | |
| 688.1 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)



Illinois Department of Transportation
Division of Highways
SCI Engineering, Inc.

SOIL BORING LOG

Page 2 of 3

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass (Northwest Corridor) - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Proposed Ctr Pier - S Bound; SE 1/4, SEC. 14, TWP. 6N, RNG. 3W, 4th PM, Latitude, Longitude

COUNTY McDonough DRILLING METHOD CME 75 w/HSA HAMMER TYPE Automatic

STRUCT. NO. 055-0078
Station 6019+01.81
BORING NO. B-147 X
Station 6019+02 (PR) / 372+30 (EX)
Offset 10.0 ft LT (PR)
Ground Surface Elev. 706.60 ft

| DEPTH | B | L | U | M | Surface Water Elev. | Stream Bed Elev. | Groundwater Elev.: | First Encounter | Upon Completion | After |
|-------|------|------|-------|-----|---------------------|------------------|--------------------|-----------------|-----------------|-------|
| (ft) | (ft) | (6") | (tsf) | (%) | ft | ft | ft | ft | ft | Hrs. |
| 0 | | | | | | | | | | |
| 663.1 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 40 | | | | | | | | | | |
| 45 | | | | | | | | | | |
| 659.6 | | | | | | | | | | |
| 16 | | | | | | | | | | |
| 28 | | | | | | | | | | |
| 33 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 24 | | | | | | | | | | |
| 649.6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 10 | | | | | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
AASHTO Classifications are based on visual classifications unless otherwise noted BBS, form 137 (Rev. 8-99)

FILE NAME = I:\DOT\5606 - HEI_IL336\CADD_Structure\1100E over_IL336_boring02.dgn

(SHEET 2 OF 4)



USER NAME = rking
PLOT TIME = 2:00:09 PM
PLOT SCALE = 1.0000' / in.
PLOT DATE = 1/7/2015

DESIGNED ACB
CHECKED CMW
DRAWN RLK
CHECKED CMW

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 055-0078

SHEET NO. 24 OF 26 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------------------------|-----------|--------------|-----------|
| 407 | 55[3(PV)HB(2-6)B,B-1,B-2] | MCDONOUGH | 874 | 576 |
| | | | CONTRACT NO. | 68B44 |
| ILLINOIS FED. AID PROJECT | | | | |

SOIL BORING LOG

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass (Northwest Corridor) - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Proposed Ctr Pier - S Bound: SE 1/4, SEC. 14, TWP. 6N, RNG. 3W, 4th PM, Latitude, Longitude

COUNTY McDonough DRILLING METHOD CME 75 w/HSA HAMMER TYPE Automatic

| STRUCT. NO. | DEPTHS | BL | UCS | M | SOIL | Surface Water Elev. |
|--|--------|-------|-------|-----|------|---------------------|
| 055-0078 | | | | | | ft |
| Station 6019+01.81 | | | | | | ft |
| BORING NO. B-147 X | | | | | | ft |
| Station 6019+02 (PR) / 372+30 (EX) | | | | | | ft |
| Offset 10.0 ft LT (PR) | | | | | | ft |
| Ground Surface Elev. 706.60 | | | | | | ft |
| | (ft) | (/6") | (tsf) | (%) | | |
| CLAY: Gray, trace gravel (A-7) (continued) 625.6 | | | | | | |
| SHALE: Gray | | | | | | |
| Weathered limestone partings (No recovery) 50/1" | | | | | | |
| Limestone partings 50/0.5" | | | | | | |
| Auger and sampler refusal at 88.46 feet. Sampler refusal was 100 blows in a half inch. 618.1 | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). AASHTO Classifications are based on visual classifications unless otherwise noted. BBS, form 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Prop. North Abutment, NE 1/4

COUNTY McDonough DRILLING METHOD CME 1050 w/HSA HAMMER TYPE Automatic

| STRUCT. NO. | DEPTHS | BL | UCS | M | SOIL | Surface Water Elev. |
|--|--------|-------|-------|-----|------|---------------------|
| 055-0078 | | | | | | ft |
| Station 6019+01.81 (PR) | | | | | | ft |
| BORING NO. B-148 | | | | | | ft |
| Station 6019+93 (PR) / 373+20 (EX) | | | | | | ft |
| Offset 17.1 ft LT (PR) | | | | | | ft |
| Ground Surface Elev. 706.4 | | | | | | ft |
| | (ft) | (/6") | (tsf) | (%) | | |
| Brown and gray SILTY CLAY, A-6 | | | | | | |
| Gray CLAY, A-7 w/gravel | | | | | | |
| Split spoon refusal at 23.5 ft. | | | | | | |
| Brown and gray CLAY, A-7 700.8 | | | | | | |
| Gray SANDY CLAY LOAM, A-2 676.7 | | | | | | |
| Gray SAND, A-3 674.3 | | | | | | |
| Brown and gray CLAY LOAM, A-6 691.1 | | | | | | |
| Gray CLAY, A-7 w/gravel 668.8 | | | | | | |
| Gray SANDY CLAY LOAM, A-2 w/gravel 687.3 | | | | | | |
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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). AASHTO Classifications are based on visual classifications unless otherwise noted. BBS, form 137 (Rev. 8-99)

SOIL BORING LOG

ROUTE FAP 315 DESCRIPTION IL 336 Macomb Bypass - TR1100E Street Overpass (Emmet Twp) LOGGED BY SCI (TC)

SECTION 55-3 LOCATION Prop. North Abutment, NE 1/4

COUNTY McDonough DRILLING METHOD CME 1050 w/HSA HAMMER TYPE Automatic

| STRUCT. NO. | DEPTHS | BL | UCS | M | SOIL | Surface Water Elev. |
|---|--------|-------|-------|-----|------|---------------------|
| 055-0078 | | | | | | ft |
| Station 6019+01.81 (PR) | | | | | | ft |
| BORING NO. B-148 | | | | | | ft |
| Station 6019+93 (PR) / 373+20 (EX) | | | | | | ft |
| Offset 17.1 ft LT (PR) | | | | | | ft |
| Ground Surface Elev. 706.4 | | | | | | ft |
| | (ft) | (/6") | (tsf) | (%) | | |
| Gray CLAY, A-7 w/gravel (continued) 664.4 | | | | | | |
| Gray SAND, A-3 | | | | | | |
| Boring terminated at 45.0 ft. 661.4 | | | | | | |
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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer). AASHTO Classifications are based on visual classifications unless otherwise noted. BBS, form 137 (Rev. 8-99)

FILE NAME = I:\IDOT\5606 - HEI_IL336\CADD_Structure\N1100E over_IL336\Boring03.dgn

(SHEET 3 OF 4)

| | | |
|-----------------------------|---------------------|-----------|
| USER NAME = rking | DESIGNED <u>ACB</u> | REVISED - |
| PLOT TIME = 2:01:23 PM | CHECKED <u>CMW</u> | REVISED - |
| PLOT SCALE = 1.0000 ' / in. | DRAWN <u>RLK</u> | REVISED - |
| PLOT DATE = 1/7/2015 | CHECKED <u>CMW</u> | REVISED - |

| | | | | |
|---------------------------|-----------------------------|-----------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55[3]PV(HB(2-6);B,B-1,B-2)] | MCDONOUGH | 874 | 577 |
| CONTRACT NO. | | | | 68B44 |
| ILLINOIS FED. AID PROJECT | | | | |

Benchmark: Railroad spike in 4th power pole north of 1500N Rd., 114.87' Lt. Elev. 697.98.
 Existing Structure: No Structure Number previously assigned. Built as a 4-cell 4'x2' precast box culvert, 174'-7" out to out length. Existing Structure to be extended at west end. All four lanes of traffic shall be maintained during construction.
 No Salvage.

Index of Sheets

- 01. General Plan and Elevation
- 02.-04. Culvert Details
- 05. Soil Borings

DESIGN SPECIFICATIONS

2002 AASHTO LFD Bridge Design Specifications, 17th Edition

LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.

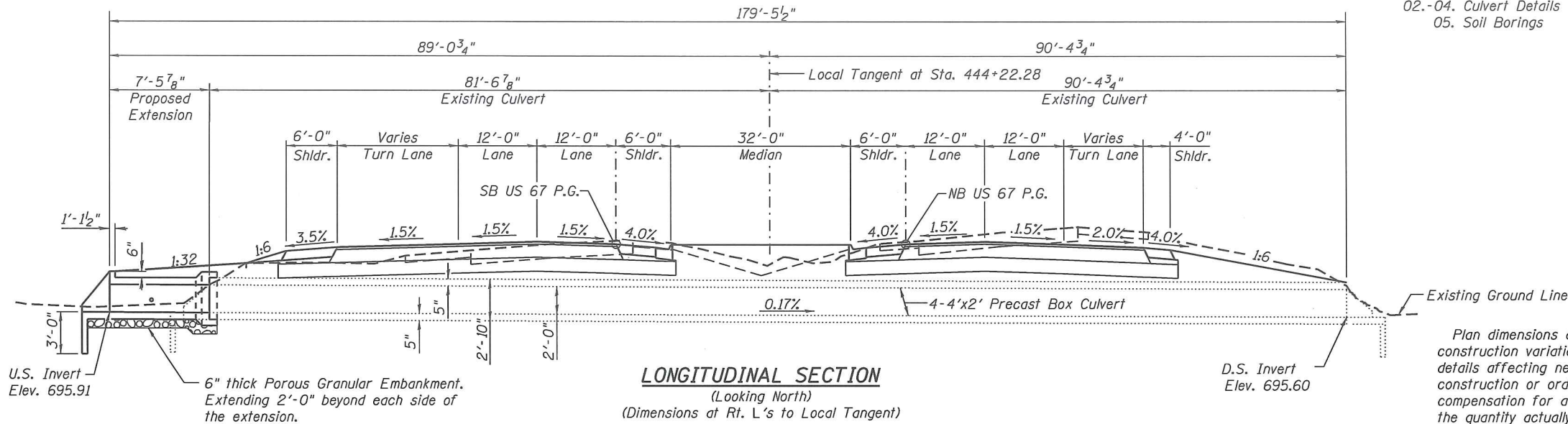
DESIGN STRESSES

(FIELD UNITS) NEW CONSTRUCTION

f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)

EXISTING CONSTRUCTION

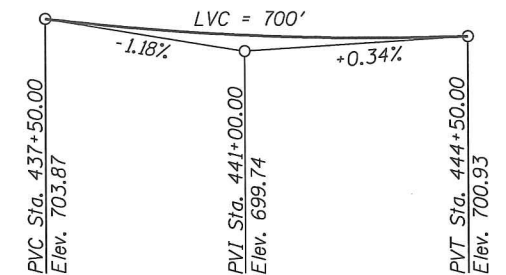
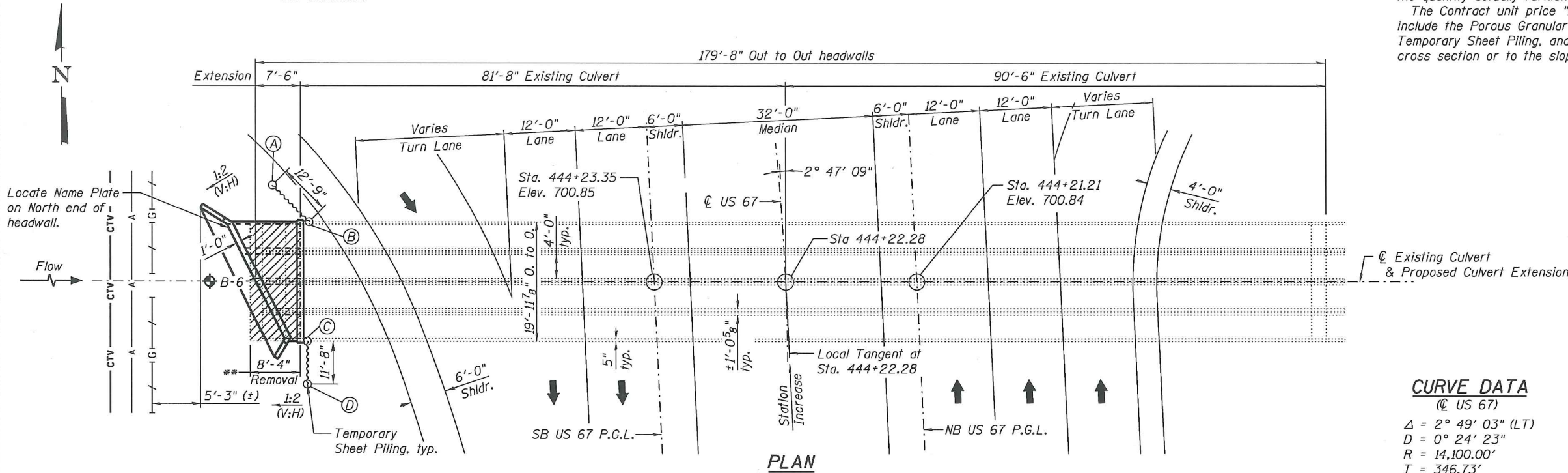
Existing Plans not Available



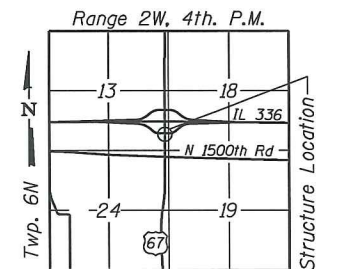
General Notes

Plan dimensions and details relative to existing structure are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Contract unit price "EACH" for Box Culvert End Sections, Culvert No. 1 shall include the Porous Granular Embankment, Reinforcement Bars, Concrete Box Culverts, Temporary Sheet Piling, and necessary grading to fit the end section as shown in the cross section or to the slope.



PROFILE GRADE
(P.G.L. NB & SB US 67)



LOCATION SKETCH

CURVE DATA

(@ US 67)
 Δ = 2° 49' 03" (LT)
 D = 0° 24' 23"
 R = 14,100.00'
 T = 346.73'
 L = 693.33'
 E = 4.26'
 S.E. = N/A
 P.I. = STA. 441+35.48
 P.C. = STA. 437+88.75
 P.T. = STA. 444+82.08

TOTAL BILL OF MATERIAL

(For Information Only)

| Item | No. | Total |
|----------------------------|---------|-------|
| Porous Granular Embankment | Cu. Yd. | 5 |
| Reinforcement Bars | Pound | 2,820 |
| Concrete Box Culverts | Cu. Yd. | 14.3 |
| Temporary Sheet Piling | Sq. Ft. | 477 |

**Remove end section completely to male or female joint of the box culvert to stay in place.

STATION 444+22.28
 BUILT 20 BY
 STATE OF ILLINOIS
 F.A.P. RTE. 310
 SEC. 55[3(PV,HB(2-6);B,B-1,B-2)]
 LOADING HS20-44
 STRUCTURE NO. 055-2508

NAME PLATE

See Std. 515001



Michael J. Haley 2-4-15
 Michael T. Haley
 Licensed Structural Engineer
 State of Illinois No. 81-5991
 Expires 11/30/2016

DESIGN SCOUR ELEVATION TABLE

| Design Scour Elevation (ft.) | U.S. Invert | D.S. Invert |
|------------------------------|-------------|-------------|
| | 692.91 | 692.60 |

GENERAL PLAN & ELEVATION
US RTE. 67 (FAP RTE. 310)
OVER DRAINAGE DITCH
SECTION 55[3(PV,HB(2-6);B,B-1,B-2)]
MCDONOUGH COUNTY
STA. 444+22.28
S.N. 055-2508



| | | |
|--------------|----------------|-----------|
| USER NAME = | DESIGNED - JJA | REVISED - |
| FILE NAME = | CHECKED - VPT | REVISED - |
| PLOT SCALE = | DRAWN - CGY | REVISED - |
| PLOT DATE = | CHECKED - VPT | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

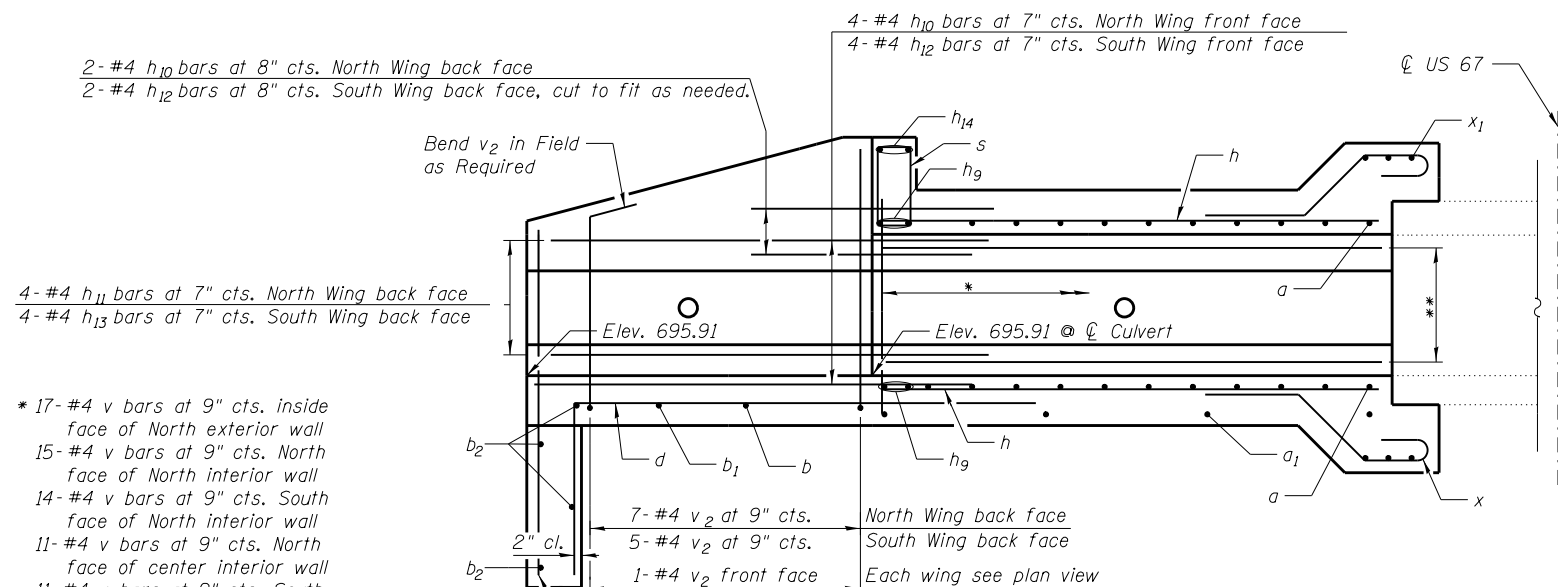
GENERAL PLAN & ELEVATION
 STRUCTURE NO. 055-2508

SHEET NO. 1 OF 5 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|-----------------------------|-----------|--------------|-----------|
| 310 | 55[3(PV,HB(2-6);B,B-1,B-2)] | MCDONOUGH | 874 | 579 |

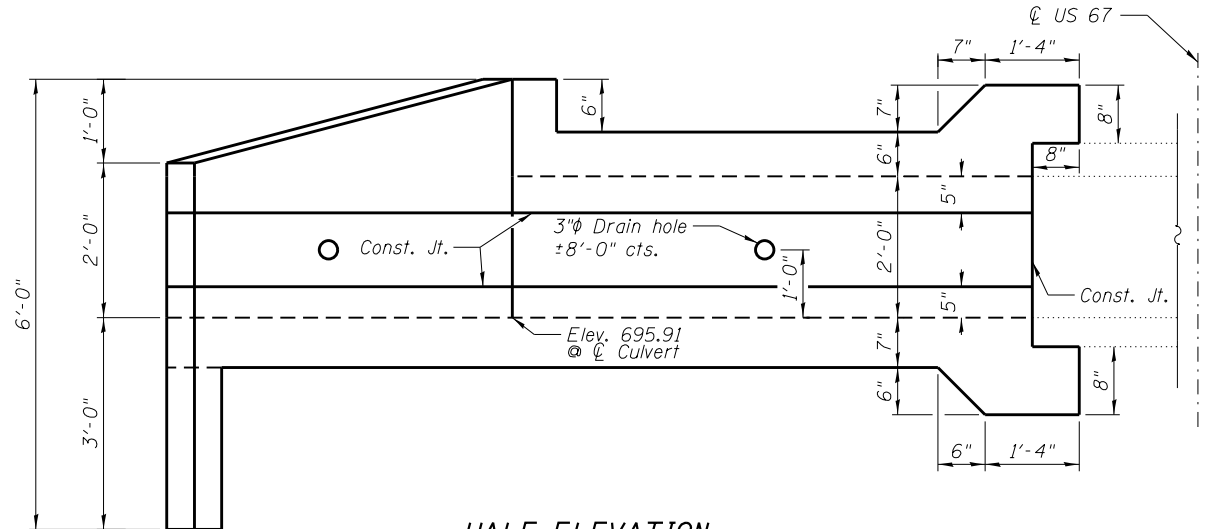
CONTRACT NO. 68B44

[ILLINOIS] FED. AID PROJECT - D-94-036-11

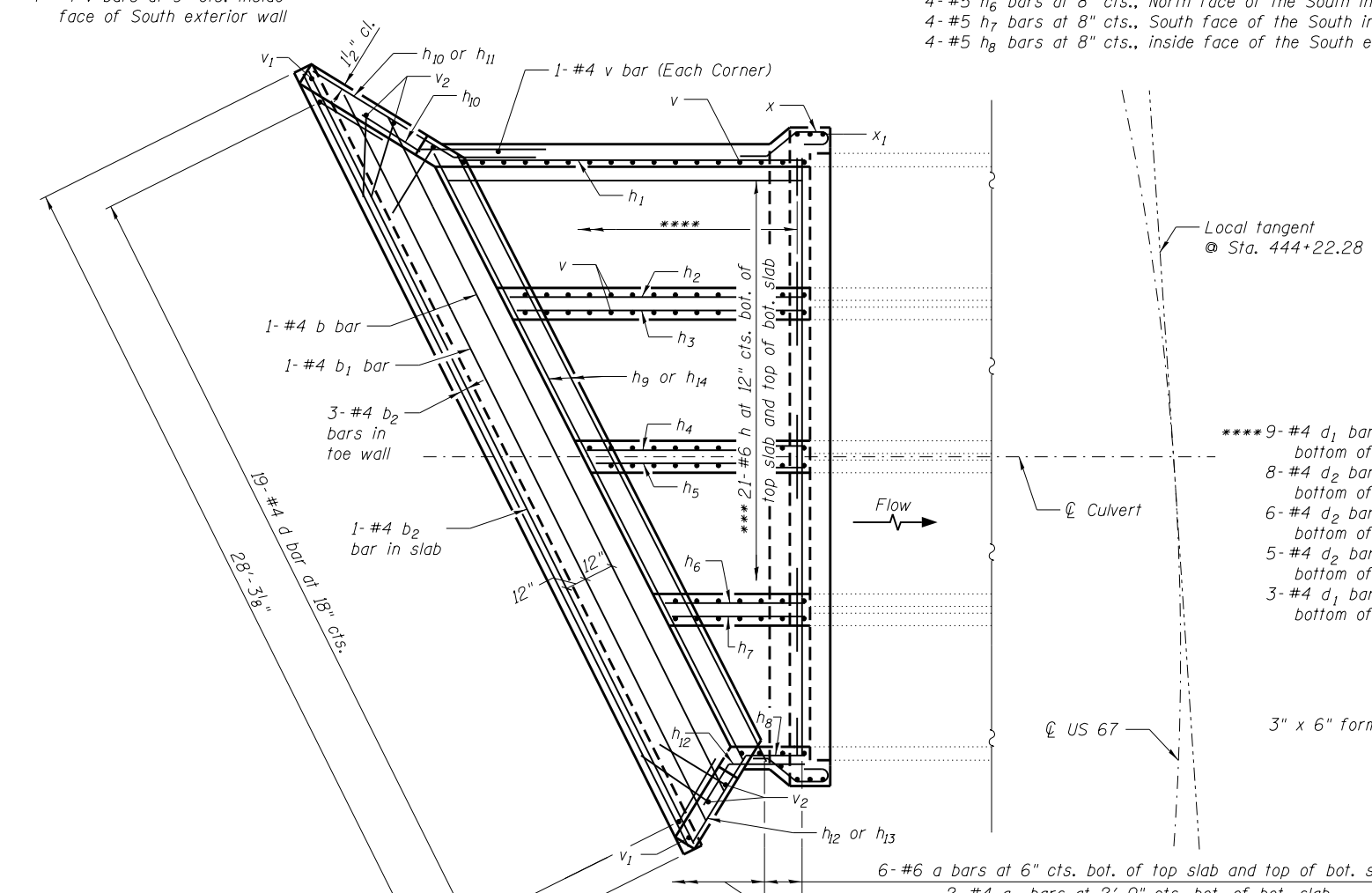


HALF LONG. SECTION

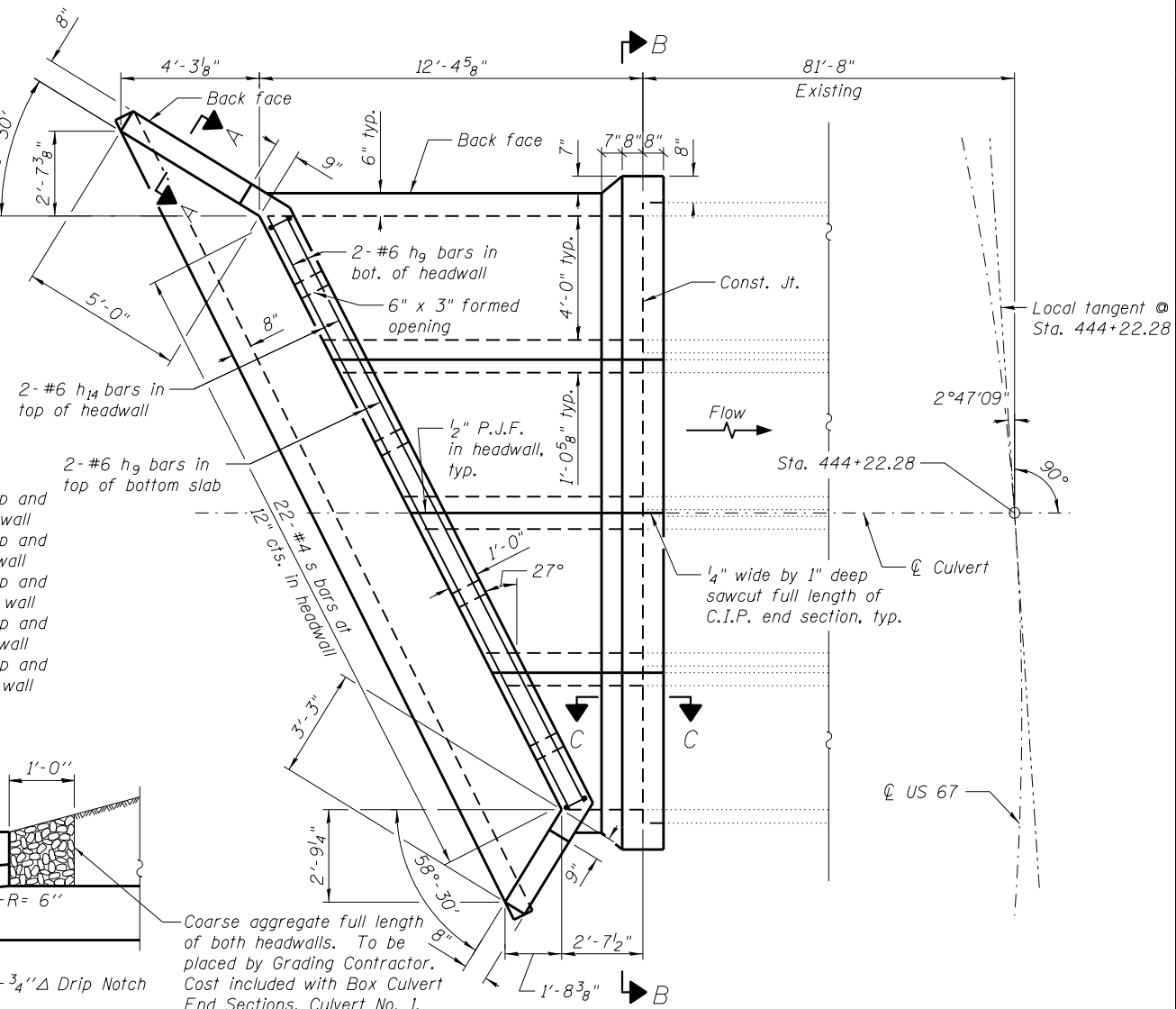
- **4-#5 h₁ bars at 8" cts., inside face of the North exterior wall
- 4-#5 h₂ bars at 8" cts., North face of the North interior wall
- 4-#5 h₃ bars at 8" cts., South face of the North interior wall
- 4-#5 h₄ bars at 8" cts., North face of the center wall
- 4-#5 h₅ bars at 8" cts., South face of the center wall
- 4-#5 h₆ bars at 8" cts., North face of the South interior wall
- 4-#5 h₇ bars at 8" cts., South face of the South interior wall
- 4-#5 h₈ bars at 8" cts., inside face of the South exterior wall



HALF ELEVATION



PLAN SHOWING REINFORCEMENT

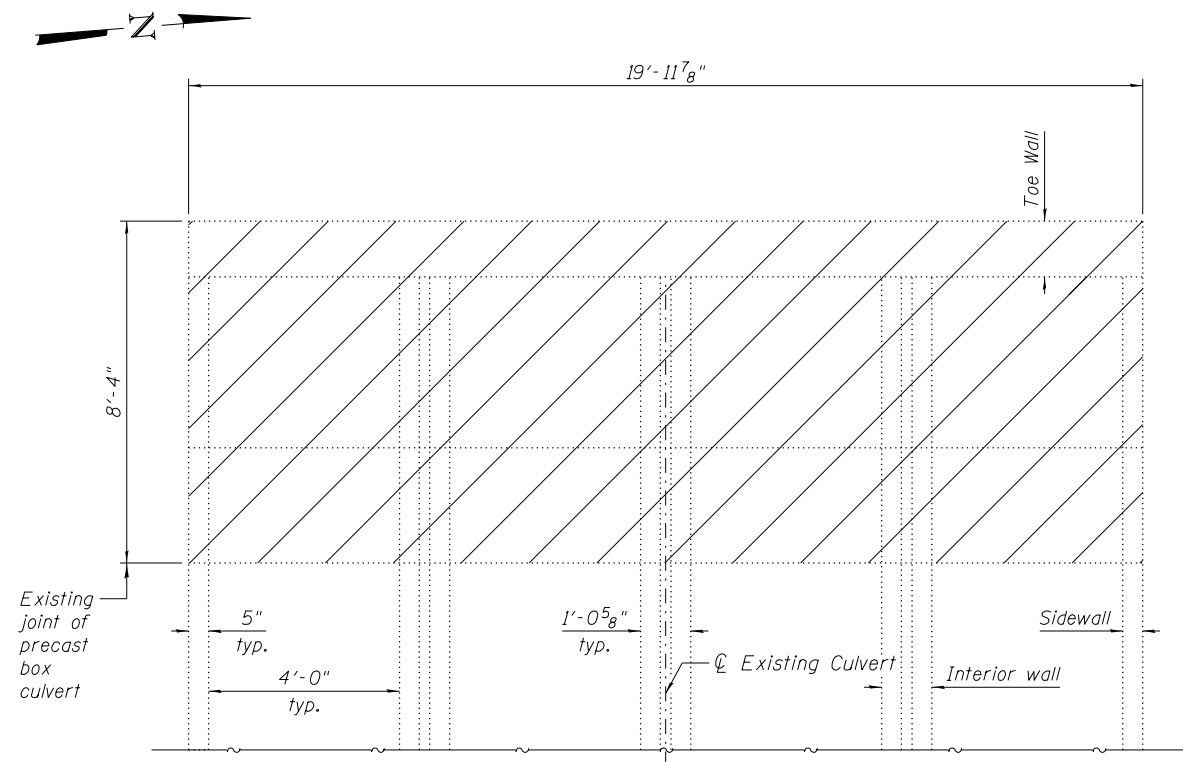
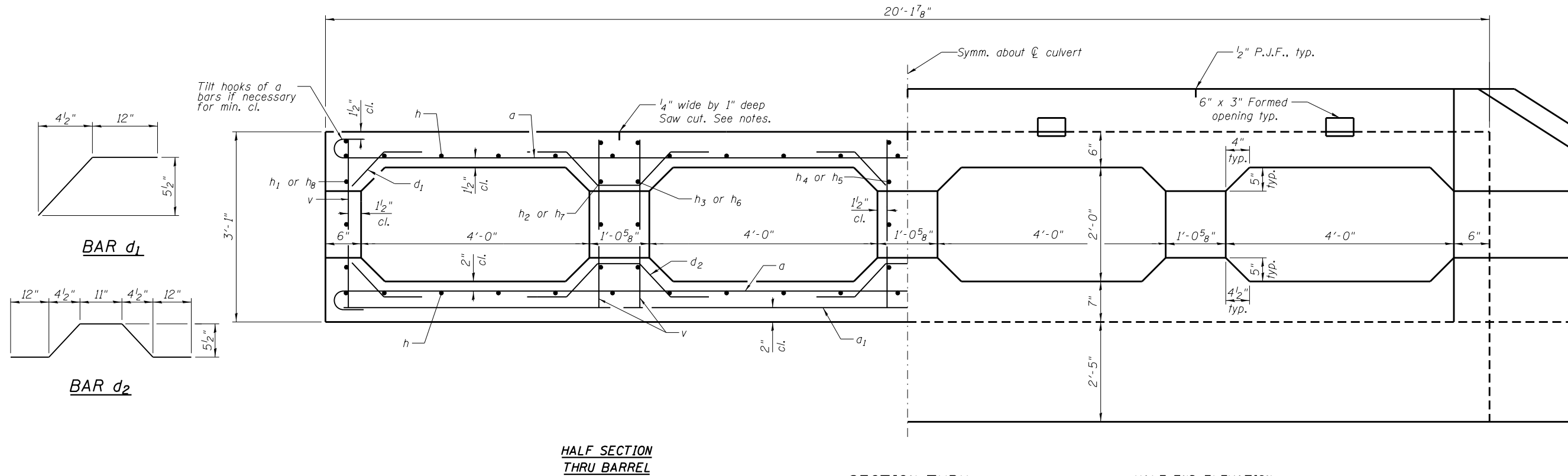


SECTION THRU HEADWALL

Notes:
See sheet 3 of 5 for bar details and bar cutting diagrams.
See sheet 4 of 5 for section A-A, Bill of Material, section B-B, and section C-C.

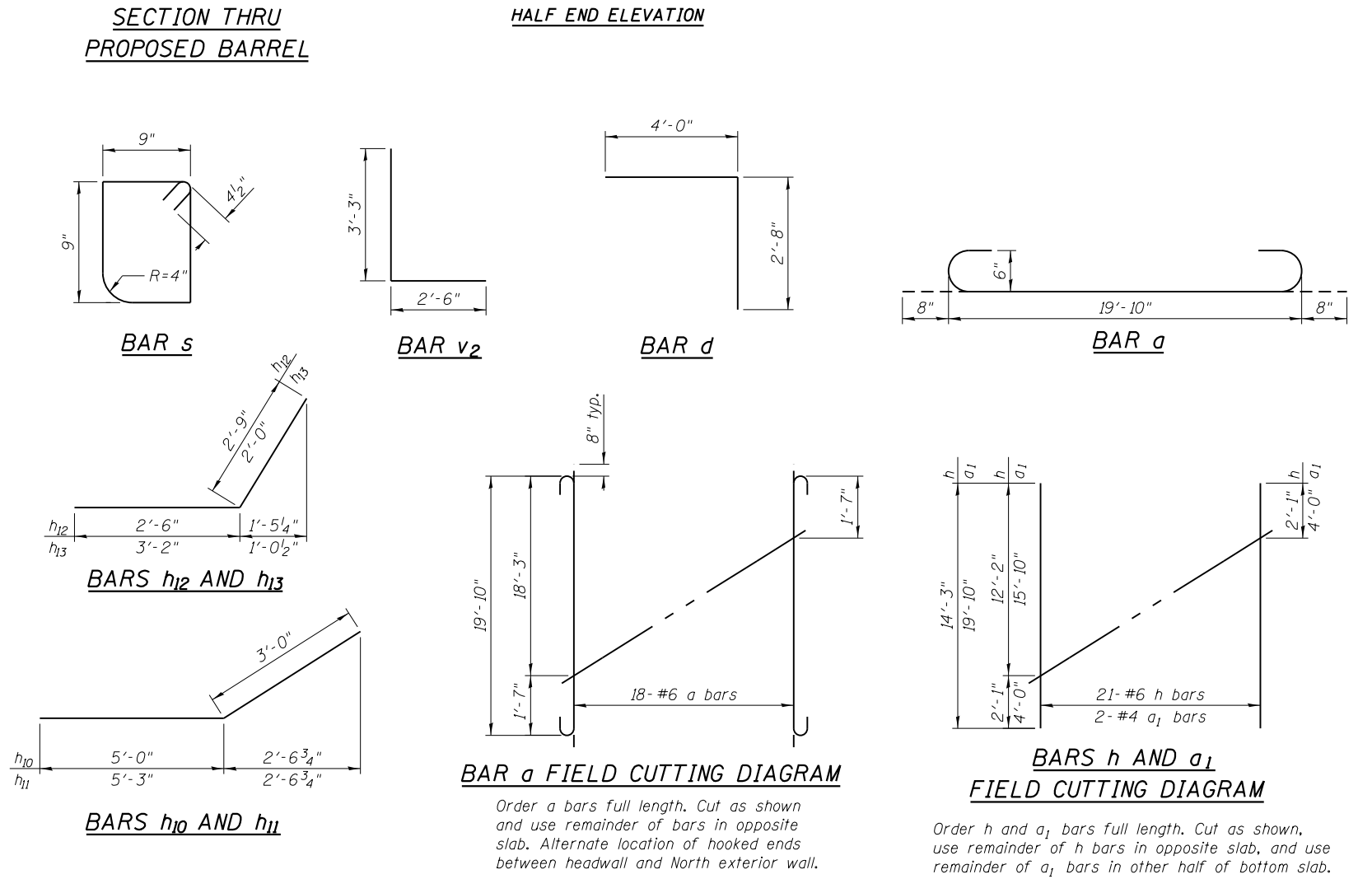
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| USER NAME = | DESIGNED - JJA | REVISED - |
| FILE NAME = | CHECKED - VPT | REVISED - |
| PLOT SCALE = | DRAWN - CGY | REVISED - |
| PLOT DATE | CHECKED - VPT | REVISED - |

| | | | | |
|--------------------|----------------------------|-----------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 310 | 55[3/PV,HB(2-6);B,B-1,B-2] | MCDONOUGH | 874 | 580 |
| CONTRACT NO. 68B44 | | | | |



Notes:
 See sheet 4 of 5 for Bill of Material.
 1/4" wide by 1" deep saw cut over the center of the interior walls along the full length of cast-in-place end section. One-half inch P.J.F. shall also be placed in the headwall at these locations. Cost included in Box Culvert End Sections, Culvert No. 1.

PLAN
LIMITS OF REMOVAL OF EXISTING STRUCTURES
 Hatched areas indicate removal.

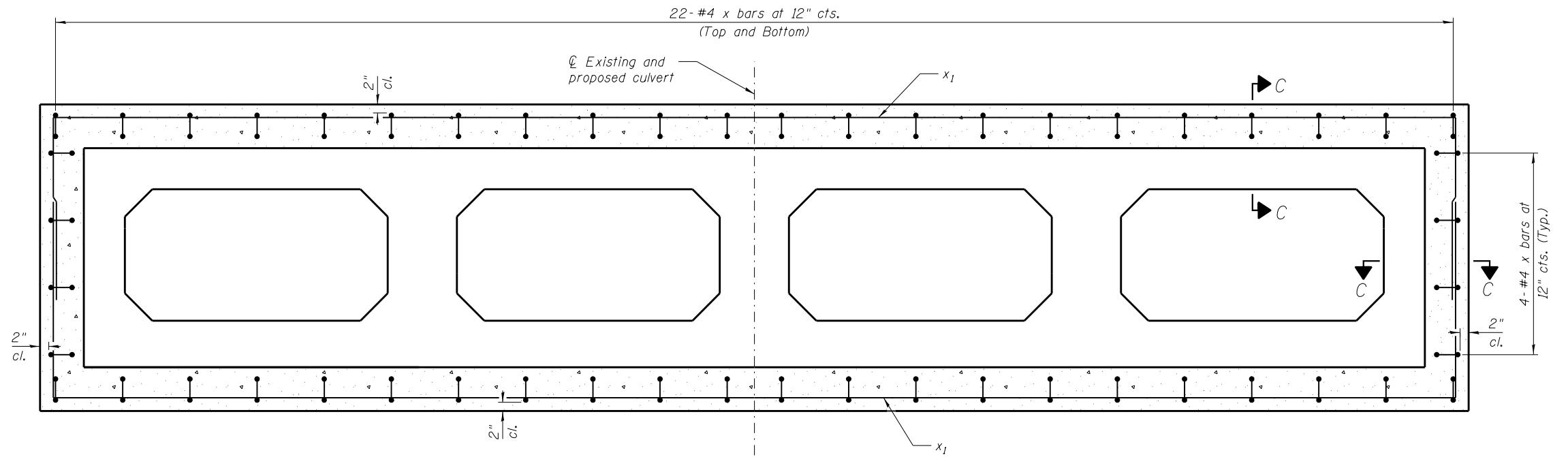


BAR a FIELD CUTTING DIAGRAM
 Order a bars full length. Cut as shown and use remainder of bars in opposite slab. Alternate location of hooked ends between headwall and North exterior wall.

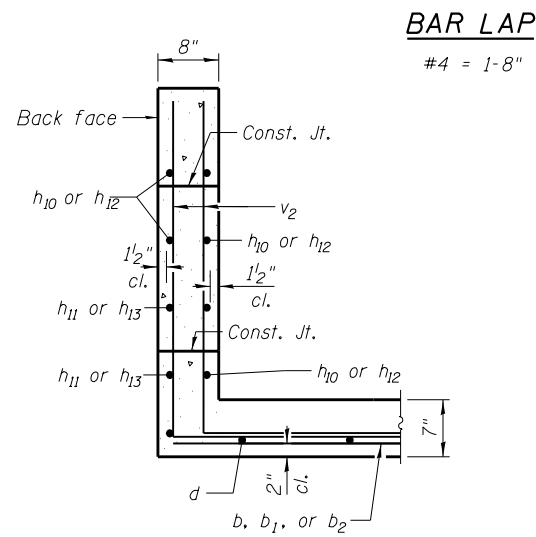
BARS h AND a1 FIELD CUTTING DIAGRAM
 Order h and a1 bars full length. Cut as shown, use remainder of h bars in opposite slab, and use remainder of a1 bars in other half of bottom slab.

| | | |
|--------------|----------------|-----------|
| USER NAME = | DESIGNED - JJA | REVISED - |
| FILE NAME = | CHECKED - VPT | REVISED - |
| PLOT SCALE = | DRAWN - CGY | REVISED - |
| PLOT DATE = | CHECKED - VPT | REVISED - |

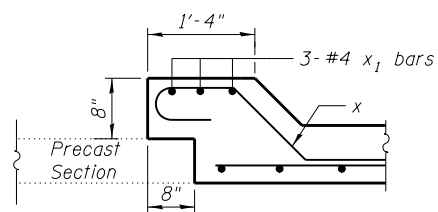
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|--------------------|---------------------------|-----------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 310 | 55[3]PV,HB[2-6]B,B-1,B-2] | MCDONOUGH | 874 | 581 |
| CONTRACT NO. 68B44 | | | | |



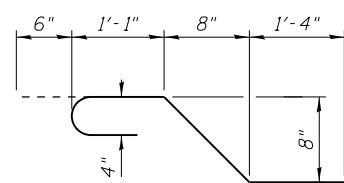
SECTION B-B



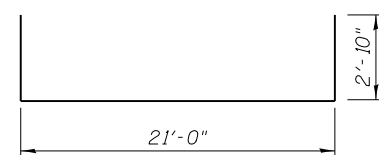
SECTION A-A



SECTION C-C

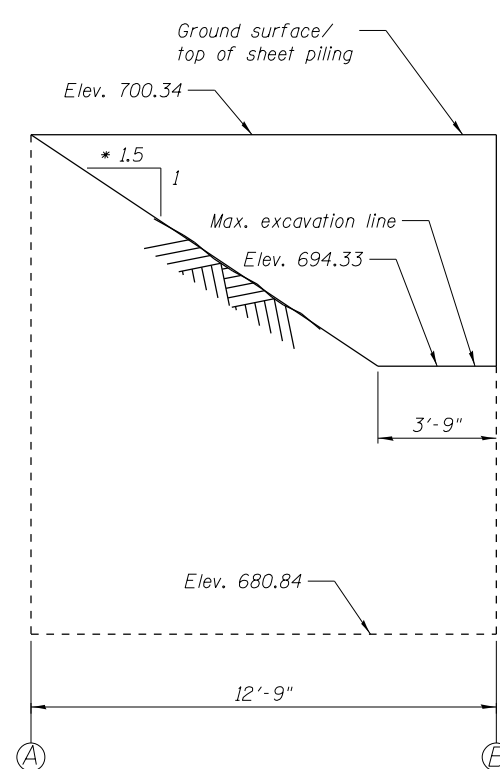


Bar x



Bar x1

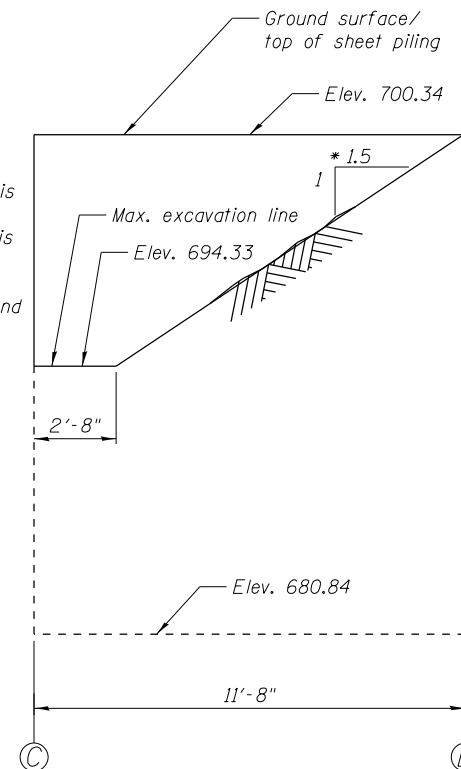
| Point | US 67 STA. | US 67 Offset |
|-------|------------|--------------|
| A | 444+45.69 | 86.89 Lt. |
| B | 444+36.18 | 78.33 Lt. |
| C | 444+16.15 | 80.39 Lt. |
| D | 444+04.43 | 80.95 Lt. |



TEMPORARY SHEET PILING- NORTH SECTION

(Minimum Section Modulus=5.89 in³/ft)
(Looking at front face of sheet pile)

* Excavation slope shown is for quantity use only. Actual excavation slope is to be determined in the field based on the soil conditions encountered and OSHA requirements.



TEMPORARY SHEET PILING- SOUTH SECTION

(Minimum Section Modulus=5.89 in³/ft)
(Looking at front face of sheet pile)

BILL OF MATERIAL
(For Information Only)

| Bar | No. | Size | Length | Shape |
|-----------------------|---------|------|---------|-------|
| a | 30 | #6 | 21'-2" | U |
| a1 | 4 | #4 | 19'-10" | — |
| b | 1 | #4 | 23'-4" | — |
| b1 | 1 | #4 | 25'-6" | — |
| b2 | 4 | #4 | 27'-11" | — |
| d | 19 | #4 | 6'-8" | L |
| d1 | 24 | #4 | 1'-7" | L |
| d2 | 38 | #4 | 4'-1" | L |
| h | 21 | #6 | 14'-3" | — |
| h1 | 4 | #5 | 12'-0" | — |
| h2 | 4 | #5 | 9'-11" | — |
| h3 | 4 | #5 | 9'-6" | — |
| h4 | 4 | #5 | 7'-4" | — |
| h5 | 4 | #5 | 7'-0" | — |
| h6 | 4 | #5 | 4'-9" | — |
| h7 | 4 | #5 | 4'-5" | — |
| h8 | 4 | #5 | 2'-3" | — |
| h9 | 4 | #6 | 20'-11" | — |
| h10 | 6 | #4 | 8'-0" | — |
| h11 | 4 | #4 | 8'-3" | L |
| h12 | 6 | #4 | 5'-3" | L |
| h13 | 4 | #4 | 5'-2" | L |
| h14 | 2 | #6 | 21'-11" | — |
| s | 22 | #4 | 3'-9" | □ |
| v1 | 89 | #4 | 2'-9" | — |
| v2 | 2 | #4 | 4'-8" | — |
| v | 14 | #4 | 5'-9" | L |
| x1 | 52 | #4 | 3'-11" | L |
| x | 6 | #4 | 26'-8" | L |
| Concrete Box Culverts | Cu. Yd. | | 14.3 | |
| Reinforcement Bars | Pound | | 2,820 | |

Note:
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.



Illinois Department of Transportation
Division of Highways
Terracon Consultants, Inc.

SOIL BORING LOG

Page 1 of 1

Date 6/1/12

ROUTE FAP 407 (IL RTE 336) DESCRIPTION Culvert at US 67, Sta. 444+22 LOGGED BY TLM

SECTION (55-3) A LOCATION SEC. 13, TWP. 6N, RNG. 3W, 4th PM, Latitude, Longitude

COUNTY McDonough DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. _____
Station 444+22

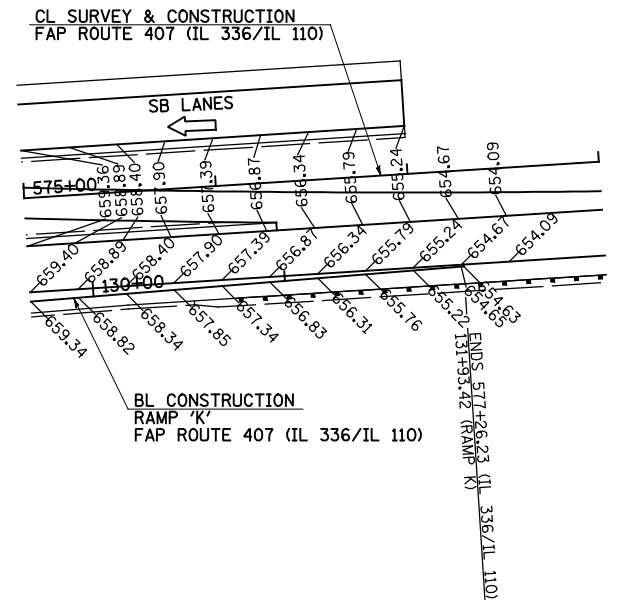
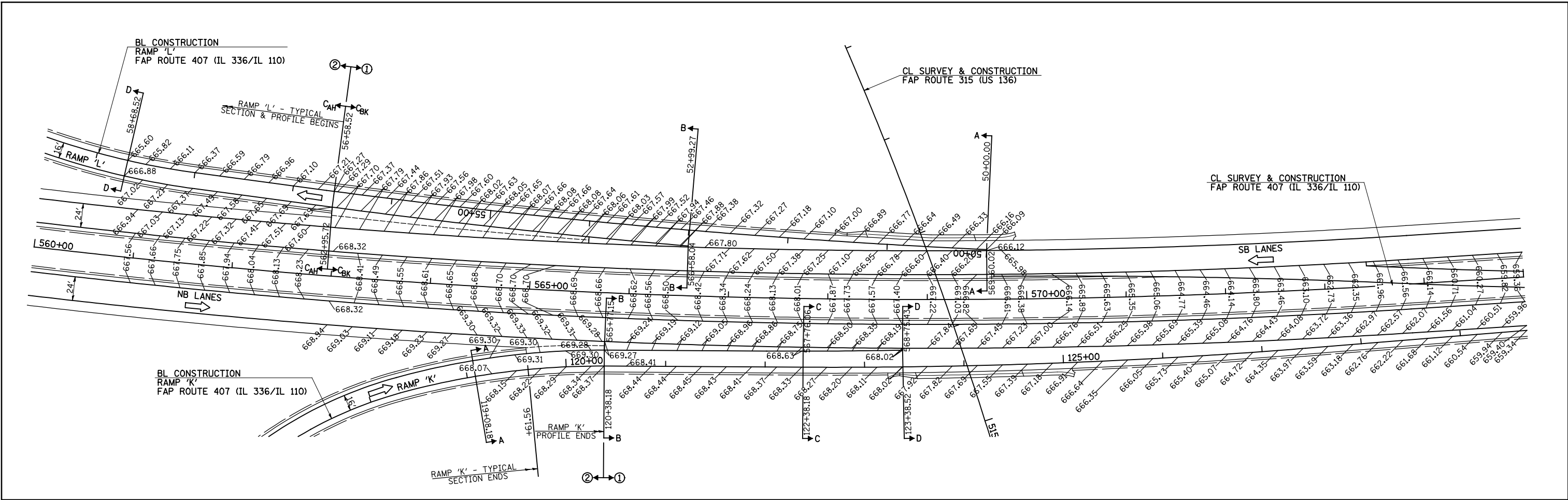
BORING NO. B-6
Station 444+22
Offset 84.0 ft LT
Ground Surface Elev. 696.60 ft

| D E P T H S | B L O W S | U C S Qu | M O I S T % | Surface Water Elev. _____ ft | D E P T H S | B L O W S | U C S Qu | M O I S T % |
|----------------------------|-----------------------|-------------------|----------------------------|------------------------------|----------------------------|-----------------------|-------------------|----------------------------|
| | | | | Stream Bed Elev. _____ ft | | | | |
| | | | | Groundwater Elev.: _____ ft | | | | |
| | | | | First Encounter _____ NA ft | | | | |
| | | | | Upon Completion _____ NA ft | | | | |
| | | | | After _____ Hrs. _____ NA ft | | | | |

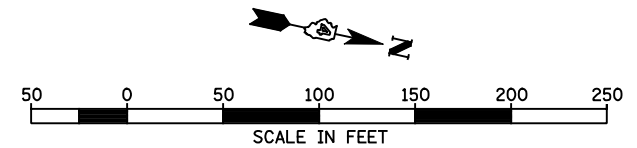
| Soil Description | D E P T H S | B L O W S | U C S Qu | M O I S T % | Elev. (ft) |
|--|----------------------------|-----------------------|-------------------|----------------------------|------------|
| BOTTOM OF BORING End of Boring | | | | | |
| FILL: SILTY CLAY LOAM , trace gravel and organics, dark brown and brown | 3 4 3 | | | 26 | 693.10 |
| SILTY CLAY LOAM , dark brown, soft to stiff | 2 1 2 | | | 25 | |
| gray | 0 1 2 | 0.5 B | | 28 | |
| brown and gray | | | | | |
| gray | 0 0 0 | 0.3 B | | 28 | -10 |
| | 2 3 3 | 1.6 B | | 25 | |
| | 2 3 3 | 2.2 B | | 22 | -15 |
| | 2 3 4 | 1.5 B | | 17 | |
| | | | | | 678.60 |
| CLAY LOAM , gray, stiff | 3 5 7 | 1.9 B | | 16 | 676.60 |

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



- ① ELEVATIONS GIVEN ALONG IL 336 STATIONING AT 25' CENTERS
- ② ELEVATIONS GIVEN ALONG RAMP STATIONING AT 25' CENTERS



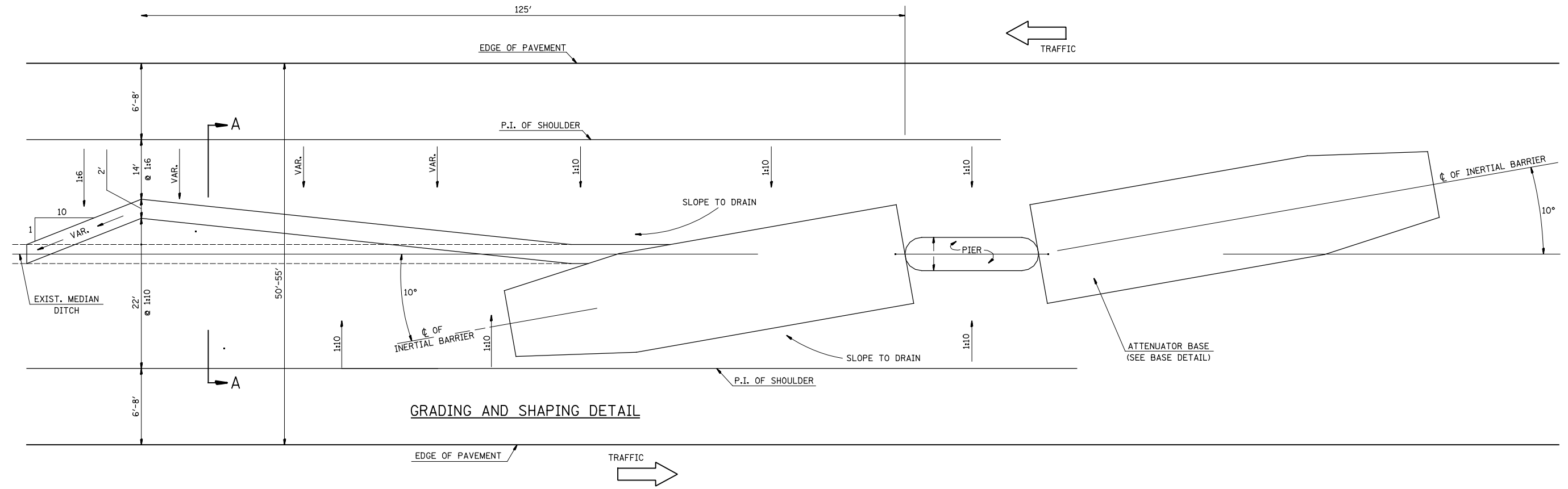
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| | | DRAWN - JMO | REVISED - |
| | | CHECKED - AWM | REVISED - |
| | | DATE - 1-30-2015 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

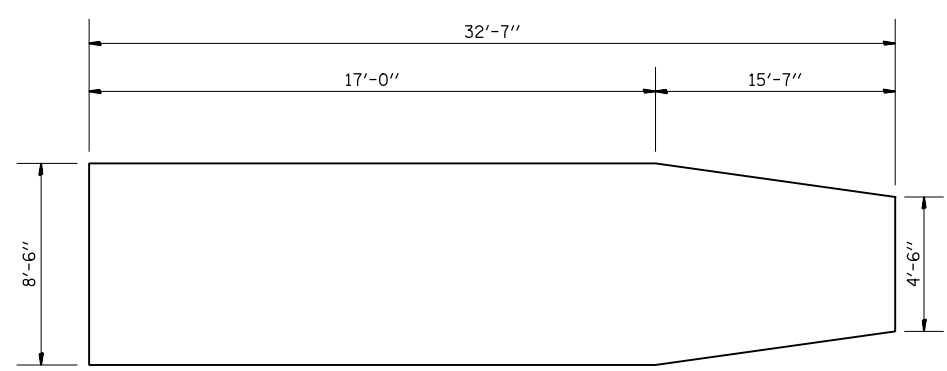
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| FAP ROUTE 407 (IL 336 /IL 110) | | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| RAMP TERMINAL DETAILS - RAMPS L & K | | 407 | 55C3(PV,HB(2-6);B,B-1,B-2) | McDONOUGH | 874 | 584 |
| SCALE: 1"=50' | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA. | | | |

| | | | |
|--------------------|--|---------------------------|--|
| CONTRACT NO. 68B44 | | ILLINOIS FED. AID PROJECT | |
|--------------------|--|---------------------------|--|

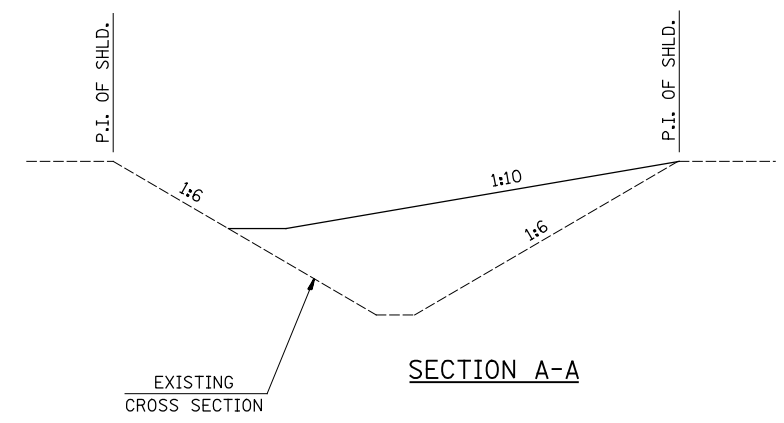
DETAIL OF INERTIAL BARRIERS (70 MPH DESIGN – 50' & 55' MEDIAN)



GRADING AND SHAPING DETAIL



BASE DETAIL



SECTION A-A

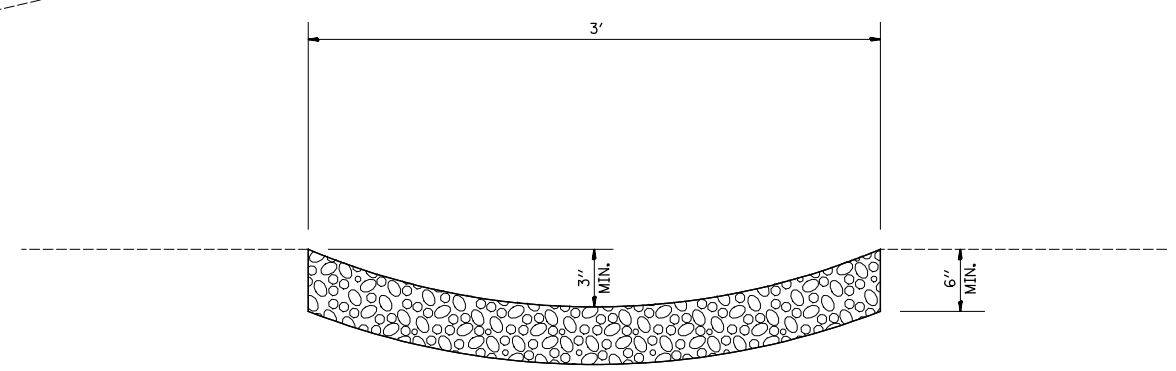
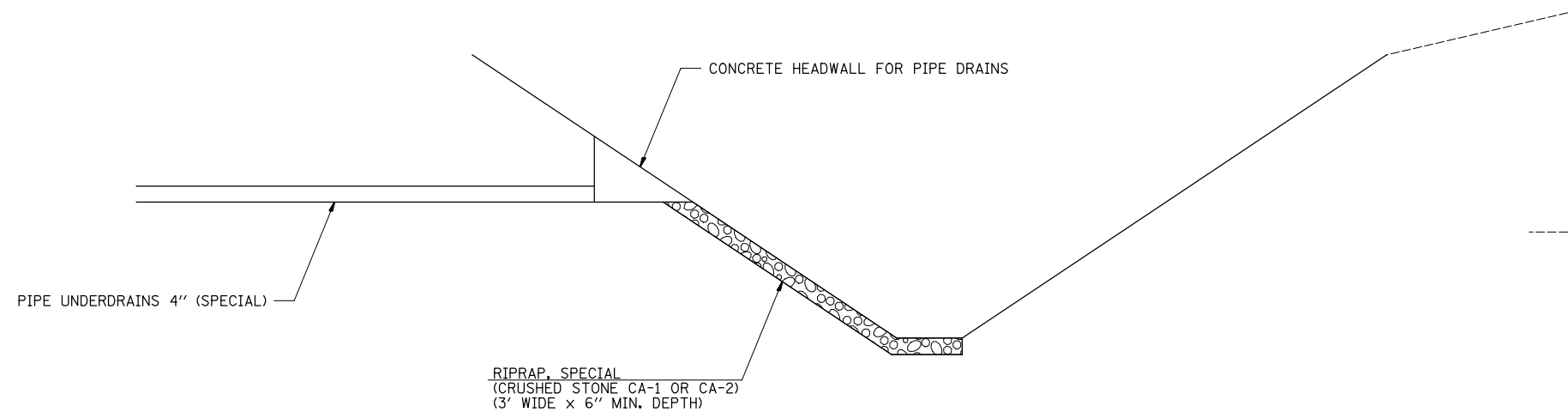
GENERAL NOTES

1. ALL 1:10 SLOPES SHOWN ON THIS DETAIL SHALL BE CONSTRUCTED 1:10 OR FLATTER.
2. THE SLOPES AS SHOWN ON THIS DETAIL SHALL APPLY TO BOTH ENDS OF THE BRIDGE PIERS.
3. ATTENUATOR BASE AND BARREL ARRAY SHALL BE INSTALLED IN ACCORDANCE WITH STATE STANDARD 643001 AND MANUFACTURER'S SPECIFICATIONS.
4. IN AREAS OF 1:10 SLOPES PRECEDING THE ATTENUATOR IN THE MEDIAN INSTALLATION, FOUR OR MORE WOOD POSTS SHALL BE PLACED AT 5' (1.5m) INTERVALS IN THE MEDIAN ϕ , SEE SPECIAL PROVISIONS AND SCHEDULES.
5. SEE IDOT HIGHWAY STANDARD 643001 FOR ADDITIONAL INFORMATION.

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H)

All dimensions are in Inches (millimeters) unless otherwise noted.

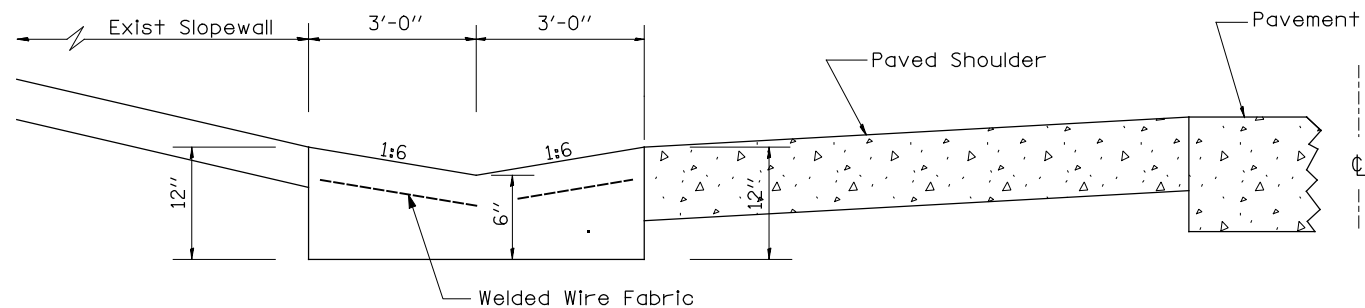
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|--|-------------------|----------------|-----------|---|---|------------------|-----------|--------------------|-----------------------------|-----------|---------------------------|-----|
| FILE NAME = | USER NAME = JDeen | DESIGNED - JRB | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | FAP ROUTE 407 (IL 336 /IL 110) IMPACT ATTENUATOR DETAIL - 50' & 55' MEDIAN | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | | |
| v:\transportation\2891\2-Lane Paving Plans\cadd sheets\D468B44-sht-details04.dgn | | | | | | DRAWN - RLR | REVISED - | 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 586 |
| PLOT SCALE = 100.0000' / IN. | | | | | | CHECKED - AWM | REVISED - | CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |
| PLOT DATE = 1/20/2015 | | | | | | DATE - 1-30-2015 | REVISED - | SCALE: | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA. | |



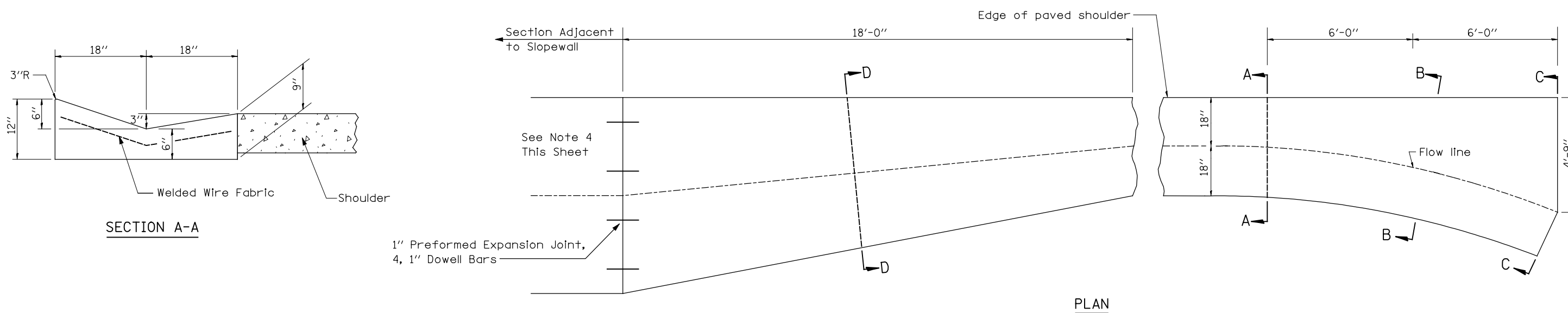
SECTION

PIPE UNDERDRAIN OUTLET DETAIL
NOT TO SCALE

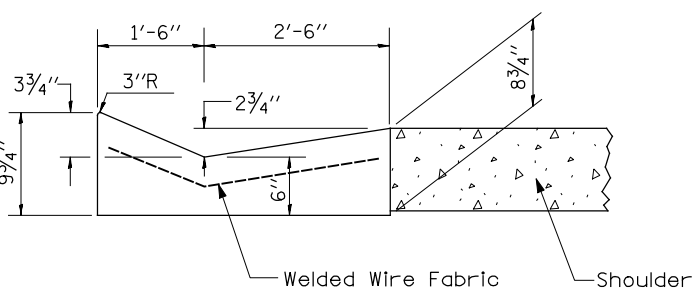
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|--|-------------------|----------------|---------------------------|---|---|-----------------------------|-----------|--------|--------------|-----------|
| FILE NAME = | USER NAME = JDeen | DESIGNED - JRB | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | FAP ROUTE 407 (IL 336 /IL 110) PIPE UNDERDRAIN OUTLET DETAIL | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| v:\transportation\2891\2-Lane Paving Plans\cadd sheets\D468B44-sht-details05.dgn | DRAWN - RLR | REVISED - | 407 | | | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 587 | |
| PLOT SCALE = 100.0000' / IN. | CHECKED - AWM | REVISED - | CONTRACT NO. 68B44 | | | | | | | |
| PLOT DATE = 1/20/2015 | DATE - 1-30-2015 | REVISED - | ILLINOIS FED. AID PROJECT | | | | | | | |
| | | | | SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA. | | | |



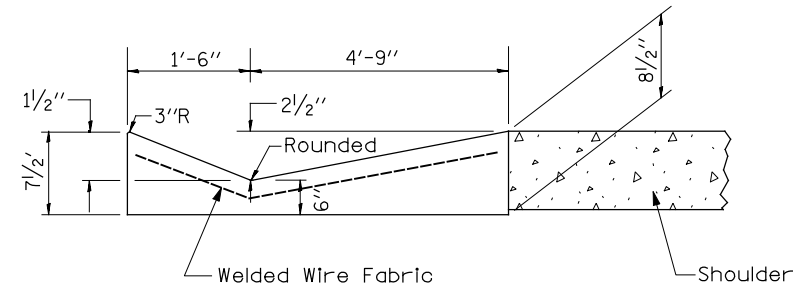
CONCRETE GUTTER SPECIAL



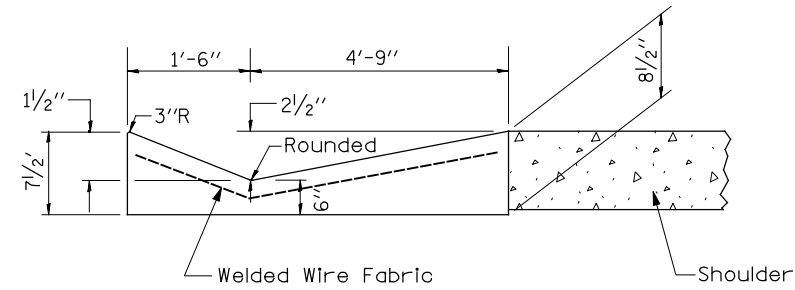
PLAN



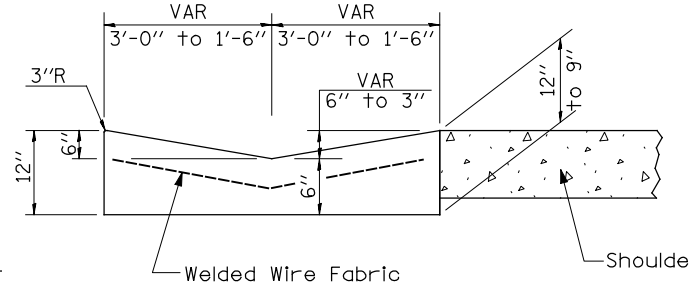
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

INLET

TRANSITION TO INLET/OUTLET

GENERAL NOTES:

1. CONCRETE GUTTER SPECIAL shall conform to the applicable portions of Section 606.
2. Joints shall be constructed in accordance with Article 606.06.
3. Welded wire fabric shall conform to Article 1006.10(c)(1), and shall not be less than 58 lbs/100 sq.ft.).
4. Dowell bars and expansion joint included in the cost of CONCRETE GUTTER, SPECIAL.

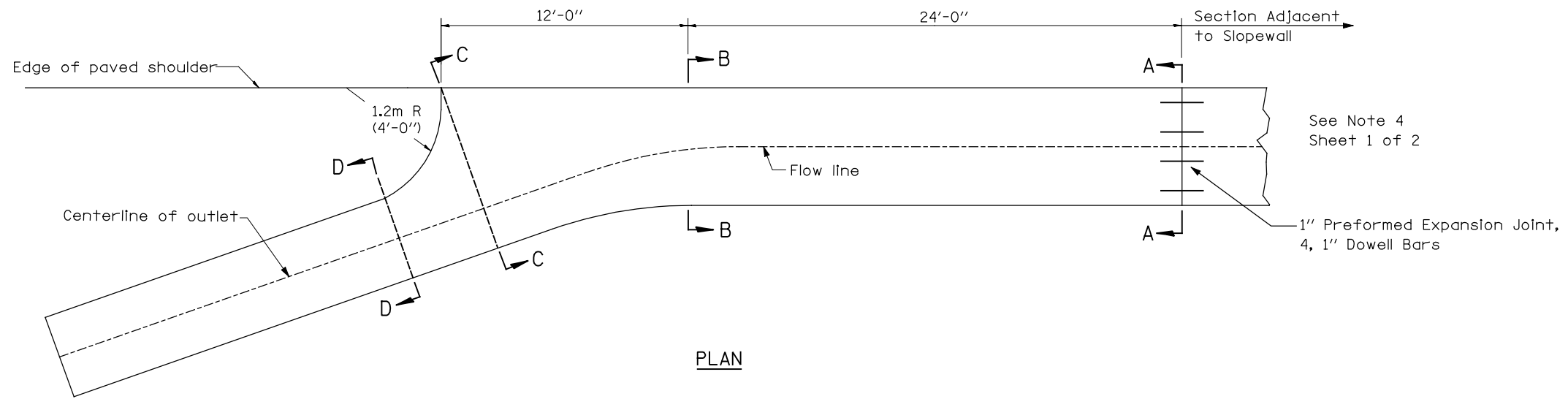
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|--|------------------------------|------------------|-----------|
| FILE NAME = | USER NAME = JDeen | DESIGNED - JRB | REVISED - |
| v:\transportation\2891\2-Lane Paving Plans\cadd sheets\D468B44-sht-details06.dgn | | DRAWN - TJD | REVISED - |
| Default | PLOT SCALE = 100.0000' / IN. | CHECKED - JRB | REVISED - |
| | PLOT DATE = 1/20/2015 | DATE - 1-30-2015 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

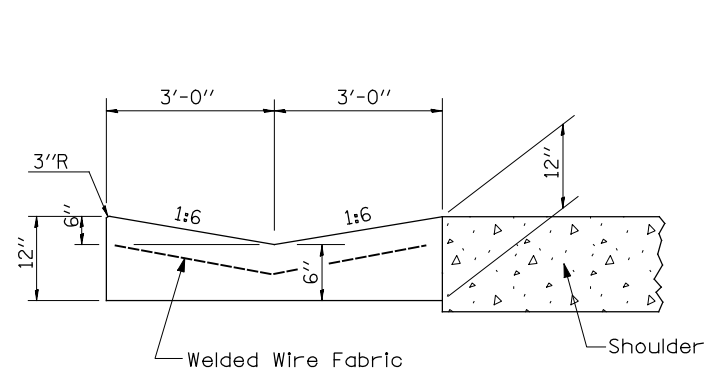
**FAP ROUTE 407 (IL 336 /IL 110)
CONCRETE GUTTER SPECIAL**

SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.

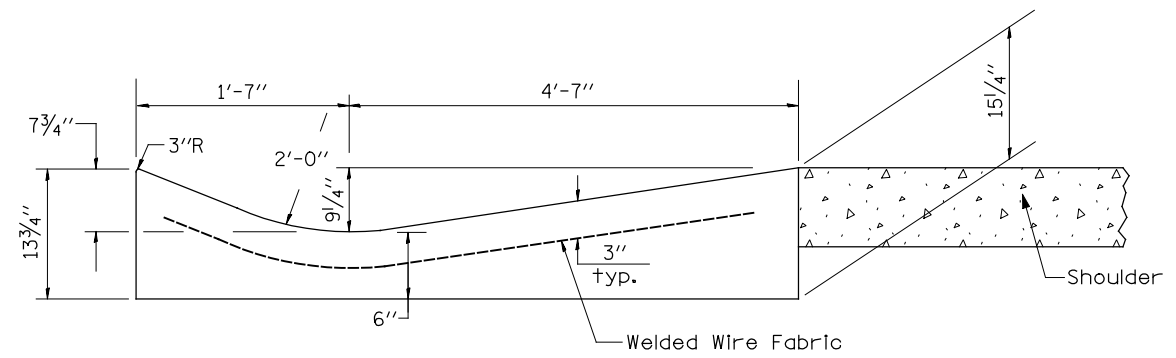
| | | | | |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | MCONDOUGH | 874 | 588 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |



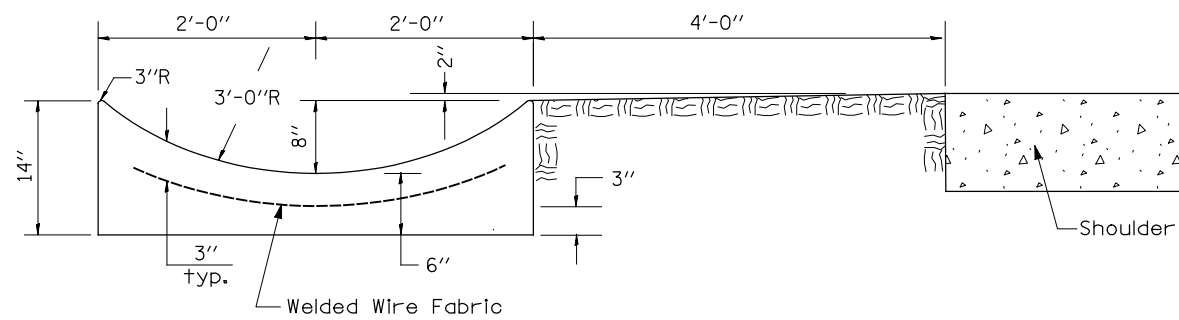
PLAN



SECTION A-A AND B-B



SECTION C-C



SECTION D-D

OUTLET

| | | | |
|--|------------------------------|------------------|-----------|
| FILE NAME = | USER NAME = JDeen | DESIGNED - JRB | REVISED - |
| v:\transportation\2891\2-Lane Paving Plans\cadd sheets\0468B44-sht-details06.dgn | | DRAWN - TJD | REVISED - |
| Default | PLOT SCALE = 100.0000' / IN. | CHECKED - JRB | REVISED - |
| | PLOT DATE = 1/20/2015 | DATE - 1-30-2015 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

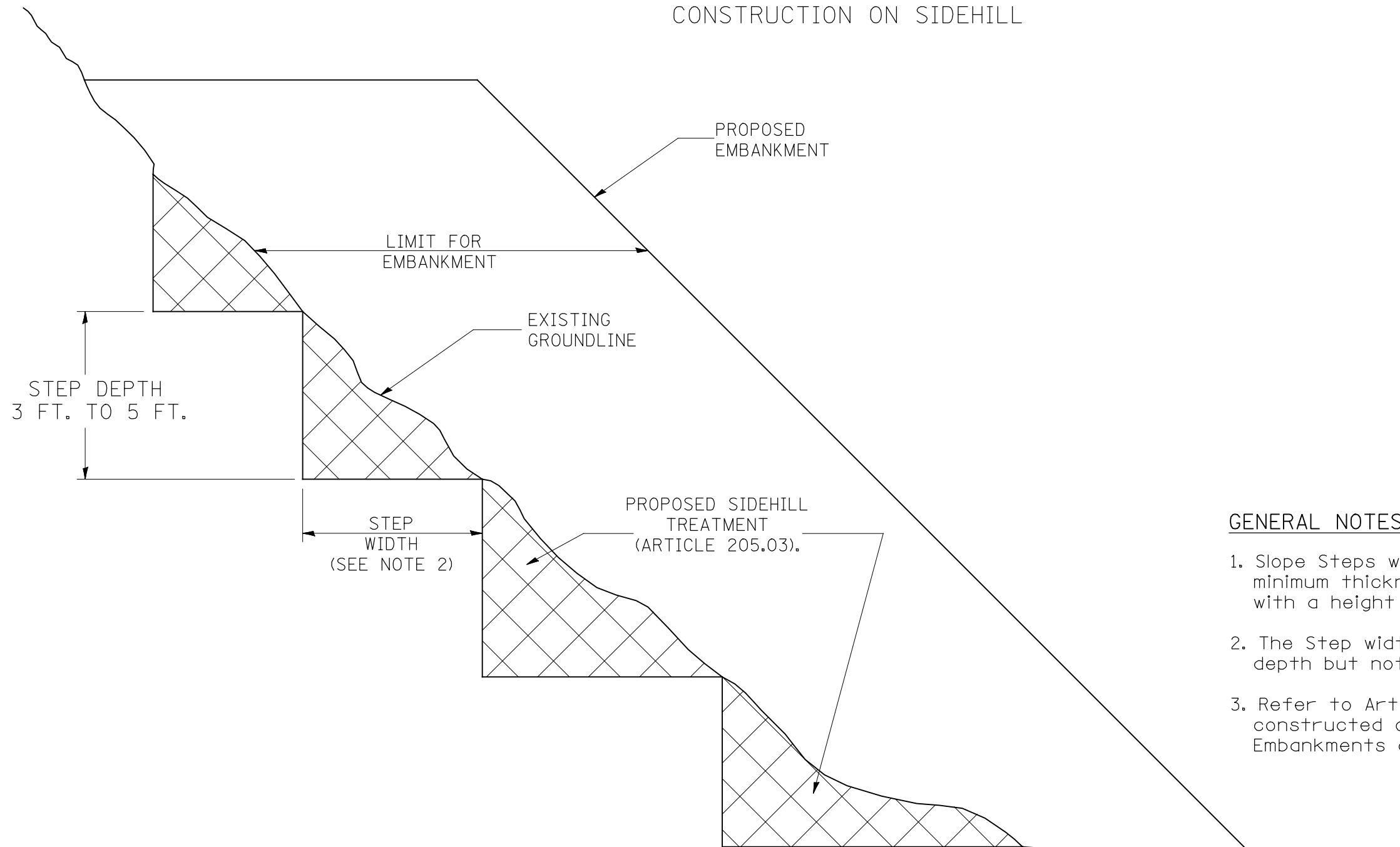
FAP ROUTE 407 (IL 336 /IL 110)
CONCRETE GUTTER SPECIAL

SCALE: NONE SHEET 2 OF 2 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | MCDONOUGH | 874 | 589 |
| CONTRACT NO. 68B44 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

SLOPE STEPS DETAIL

TYPICAL CROSS-SECTION EMBANKMENT CONSTRUCTION ON SIDEHILL



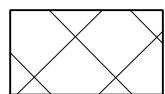
GENERAL NOTES:

1. Slope Steps will be required for all 12(300) minimum thickness "silver fills" and on a fills with a height of 10'(3.0m).
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

DESIGNER NOTE:

1. EACH PROJECT SHOULD BE REVIEWED INDEPENDENTLY FOR TREATMENT REQUIRED.
2. REFER TO THIS DETAIL WITH NOTE ON APPLICABLE TYPICAL SECTIONS.

REPLACEMENT MATERIAL:



STANDARD EMBANKMENT
(IN ACCORDANCE WITH
205 OF THE STANDARD SPECIFICATION).

All dimensions are in inches (millimeters) unless otherwise noted.

| | | |
|----------|--|------|
| 1-1-97 | RENUM. L-5.03, NEW REVISION BOX, REVISED TITLE | T.P. |
| | BOX, REVISED GENERAL NOTES. | |
| 10-16-06 | REVISED TO 2007 SPEC. | M.A. |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

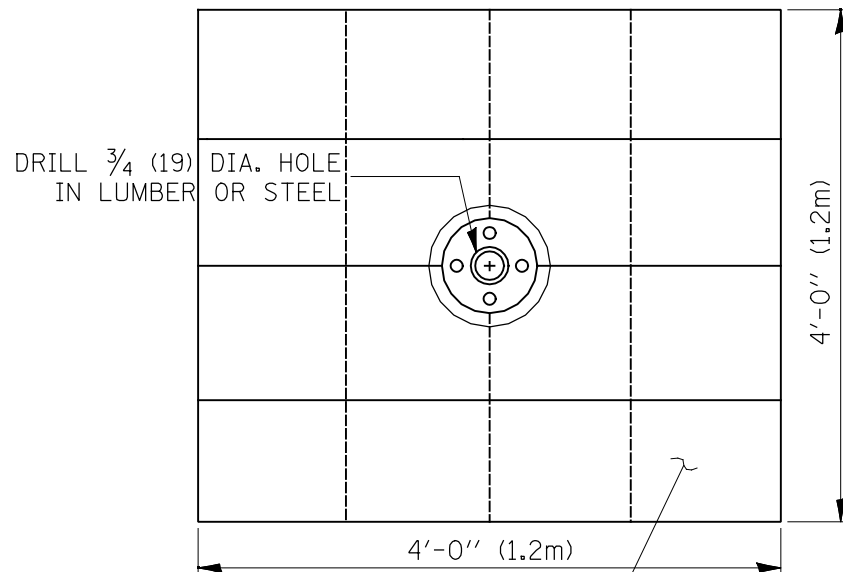
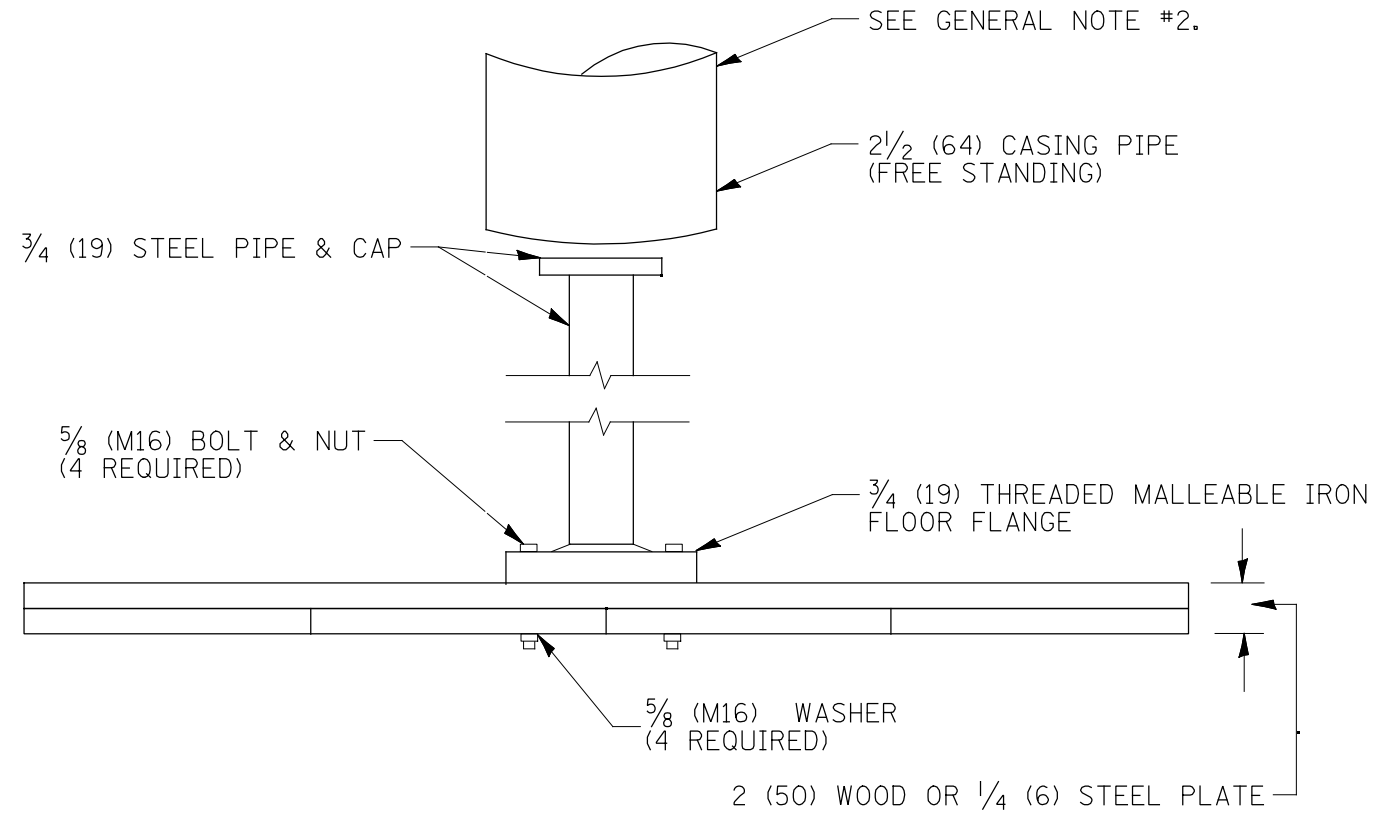
SLOPE STEPS DETAIL

NOT TO SCALE

CADD STD. 205001-D4

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--|-----------------------------|-----------|--------------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 590 |
| | | | CONTRACT NO. 68B44 | |
| <small>ILLINOIS FED. AID PROJECT</small> | | | | |

DESIGNER NOTES:
 1. SEE SOILS REPORT AND BUREAU OF MATERIALS FOR USAGE, LOCATIONS, AND SETTLEMENT RATES.
 2. CONSIDER USE ON BRIDGE EMBANKMENT AND OTHER SETTLEMENT SENSITIVE FILLS.
 3. THIS DRAWING ALLOWS FOR WOODBASE PLATE OPTION.



SOUND LUMBER - 1(25) x 12(300) NAILED TOGETHER OR 1/4(6) THICK BY 4'(1.2m) SQUARE STEEL PLATE

GENERAL NOTES:

1. Settlement Platform shall be in accordance with the applicable portions of Article 204.06 of the Standard Specifications.
2. Do Not install casing pipe until after one section of 3/4"(19 mm) has been covered with earth. The casing pipe should not rest on platform.

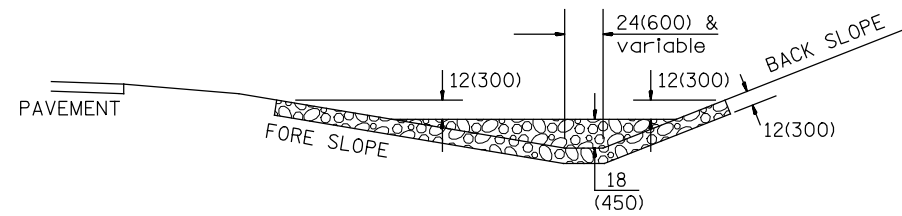
All dimensions are in inches (millimeters) unless otherwise noted.

| | | | | | | | | | | | | |
|---------|---|------|----------|-----------------------|------|---|----------------------------|--------------------|-----------------------------|---------------------------|--------------|-----------|
| 1-1-97 | RENUM. L-5.04, NEW REVISION BOX, REVISED NOTES, REVISED TITLE BOX | T.P. | 8-23-01 | UPDATE FOR NEW SPEC. | M.A. | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | SETTLEMENT PLATFORM | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 4-14-99 | ADDED "CASING PIPE" REQUIREMENT | J.A. | 10-16-06 | REVISED TO 2007 SPEC. | M.A. | | | 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 591 |
| 5-19-99 | CORRECTIONS TO CASING PIPE | J.A. | | | | | | CONTRACT NO. 68B44 | | ILLINOIS FED. AID PROJECT | | |

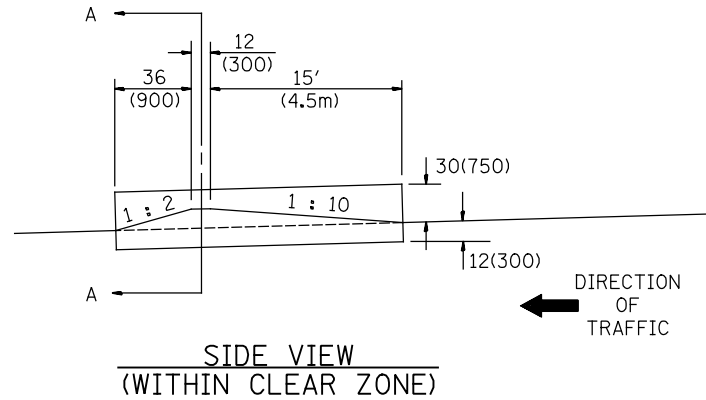
NOT TO SCALE

CADD STD. 205101-D4

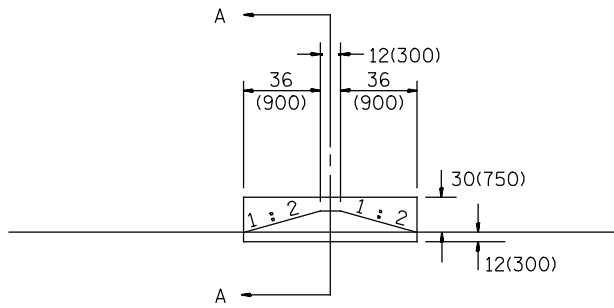
DESIGNER NOTES:
 1. Designer to modify this detail Special Detail Sheet, as needed, for inclusion in plans.
 2. Determine the required clear zone in order to select the berm slopes.
 3. Include State Standard 280001.



SECTION A - A

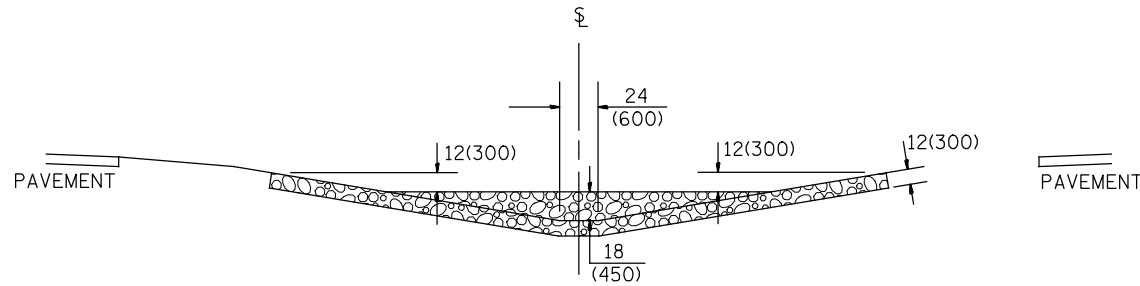


SIDE VIEW
(WITHIN CLEAR ZONE)

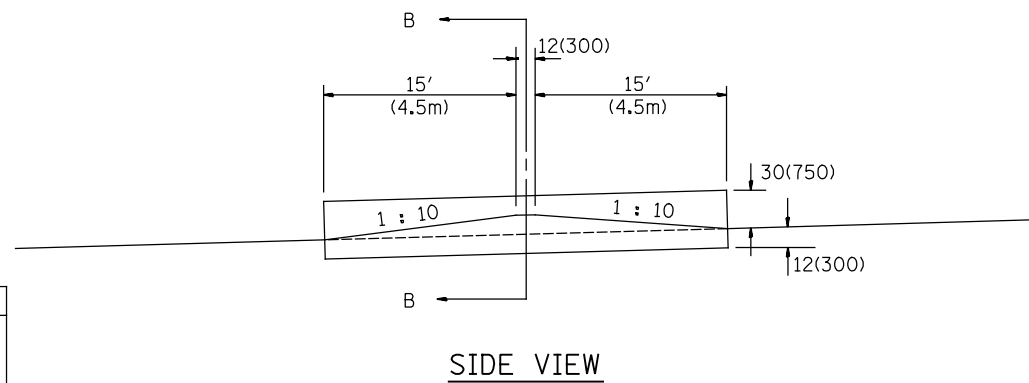


SIDE VIEW
(OUTSIDE OF CLEAR ZONE)

SIDE DITCH AGGREGATE DITCH CHECK



SECTION B - B



SIDE VIEW

MEDIAN AGGREGATE DITCH CHECK

NOTES:

- FOR DITCH BOTTOM PROTECTED BY EROSION CONTROL BLANKET, USE 400'(120m) SPACING.
FOR SEEDED DITCH BOTTOM, USE 200'(60m) SPACING.
- THIS WORK CONSISTS OF THE COMPLETE INSTALLTION OF EROSION CONTROL DITCH CHECK AT LOCATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. THE AGGREGATE GRADATION SHALL BE RR3 WITH A MINIMUM QUALITY OF CLASS B.

| STATION | LOCATION | | NUMBER OF DITCH CHECKS | FORE SLOPE | DITCH BOTTOM WIDTH | BACK SLOPE | BERM SLOPE |
|---------|----------|-----------------------|------------------------|------------|--------------------|------------|------------|
| | MEDIAN | SIDE DITCH LEFT RIGHT | | | | | |
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SEE SCHEDULES OF QUANTITIES

ESTIMATE QUANTITIES

| | FORE SLOPE | DITCH BOTTOM | BACK SLOPE | BERM SLOPE | AGGREGATE DITCH CHECK EROSION CONTROL TON (METRIC TON) |
|--------------|------------|--------------|------------|----------------|--|
| MEDIAN DITCH | 1 : 6 | 24(600) | — | 1 : 10 | 95(86) |
| SIDE DITCH | 1 : 6 | 24(600) | 1 : 4 | 1 : 10 & 1 : 2 | 50(45) |
| SIDE DITCH | 1 : 6 | 24(600) | 1 : 4 | 1 : 2 & 1 : 2 | 19(17) |
| SIDE DITCH | 1 : 4 | 24(600) | 1 : 3 | 1 : 10 & 1 : 2 | 18(16) |
| SIDE DITCH | 1 : 4 | 24(600) | 1 : 3 | 1 : 2 & 1 : 2 | 14(13) |
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All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
 All dimensions are in inches (millimeters) unless otherwise noted.

| QUANTITIES | |
|-------------------|-------------|
| CALC. BY: _____ | DATE: _____ |
| CHECKED BY: _____ | DATE: _____ |

QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE; BUREAU OF PROJECT IMPLEMENTATION; DOCUMENTATION SECTION

| | | | | | |
|----------|---|------|----------|-----------------|------|
| 1-1-97 | RENUM. A-12.04, NEW REVISION BOX, REVISED TITLE BOX, ADDED QUANTITY CALCULATION BOX | T.P. | 03-15-12 | CHANGED NOTE 1. | R.D. |
| 9-15-05 | REVISED DESIGNER NOTE | M.A. | | | |
| 10-16-06 | REVISED RR3 QUALITY & TO 2007 SPEC. | M.A. | | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EROSION CONTROL AGGREGATE DITCH CHECK

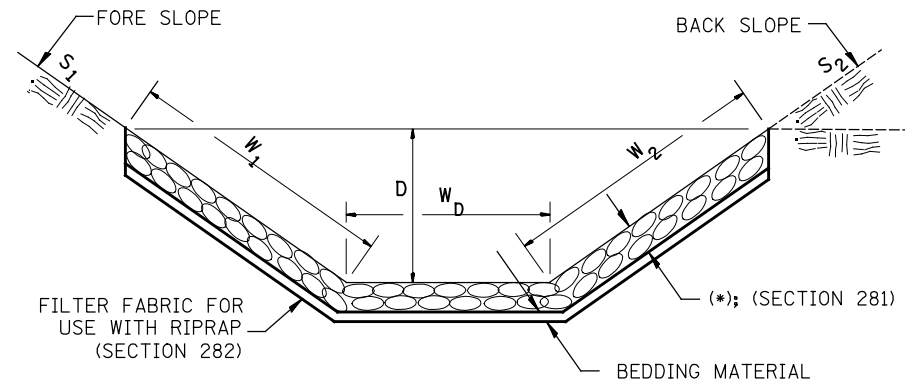
NOT TO SCALE

CADD STD. 280101-D4

| | | | | |
|---------------------------|-----------------------------|--------------------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 592 |
| | | CONTRACT NO. 68B44 | | |
| ILLINOIS FED. AID PROJECT | | | | |

Designer NOTES:
 1. Designer to modify this Special Detail Sheet, as needed for inclusion in plans.
 2. (*) Designer to specify pay item including material, quality, and gradation.
 3. Include District Special Provision if needed.

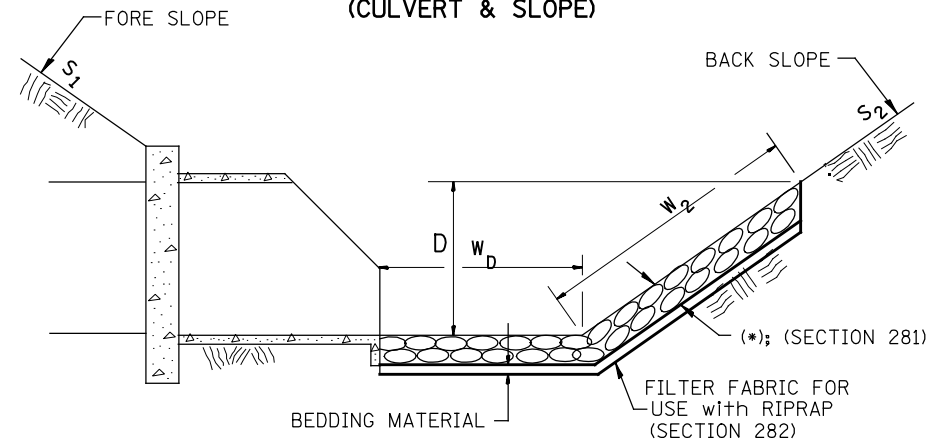
**CASE 1
(DITCH)**



| (*) | | | | |
|-----------------------------------|---------------|---------------|------------------|-----------------------------|
| LOCATION | WIDTH (1) | LENGTH | RIPRAP | FABRIC |
| STA TO STA | lin ft (m) | lin ft (m) | tons (m tons) | sq yds (m ²) |
| SEE SCHEDULE OF QUANTITIES | | | | |
| TOTAL | | | | |

(1) WIDTH = $W_1 + W_2 + W_D$

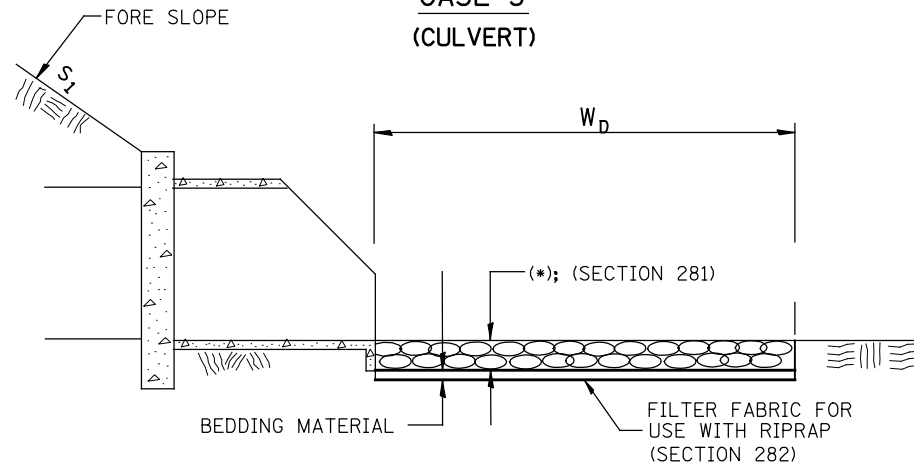
**CASE 2
(CULVERT & SLOPE)**



| (*) | | | | |
|-----------------------------------|---------------|---------------|------------------|-----------------------------|
| LOCATION | WIDTH (1) | LENGTH | RIPRAP | FABRIC |
| STA TO STA | lin ft (m) | lin ft (m) | tons (m tons) | sq yds (m ²) |
| SEE SCHEDULE OF QUANTITIES | | | | |
| TOTAL | | | | |

(1) WIDTH = $W_2 + W_D$

**CASE 3
(CULVERT)**



| (*) | | | | |
|-----------------------------------|---------------|---------------|------------------|-----------------------------|
| LOCATION | WIDTH (1) | LENGTH | RIPRAP | FABRIC |
| STA TO STA | lin ft (m) | lin ft (m) | tons (m tons) | sq yds (m ²) |
| SEE SCHEDULE OF QUANTITIES | | | | |
| TOTAL | | | | |

(1) WIDTH = W_D

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches (millimeters) unless otherwise noted.

| | | |
|----------|--|------|
| 1-1-97 | RENUM. A-12.02, NEW REVISION BOX | T.P. |
| 12-1-97 | CORRECT FILTER FABRIC LEADER ARROW | J.A. |
| 10-16-06 | REVISED TO 2007 SPEC. | M.A. |
| 9-6-12 | REMOVED A DESIGNER NOTE AND MADE MINOR CHANGES | R.D. |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

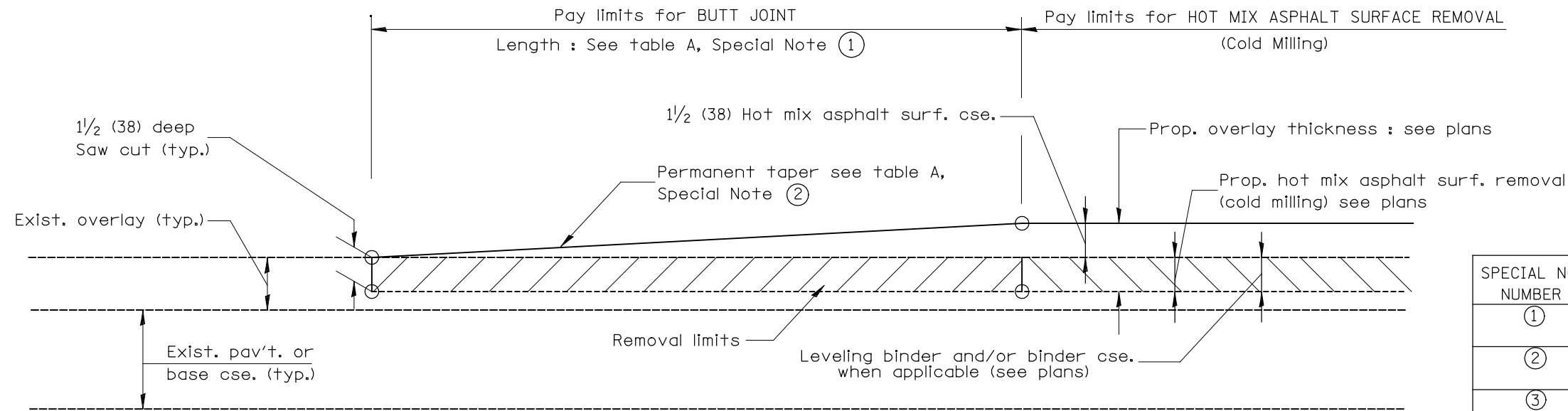
RIPRAP DITCH FOR EROSION PROTECTION

NOT TO SCALE

CADD STD. 281001-D4

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 593 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |

DESIGNER NOTES:
 1. Include District Special Provision for Butt Joints & for Hot Mix Asphalt Removal (Cold Milling).
 2. The butt joints pay item includes the saw cut & temporary ramp. Payment for the Butt Joint applies whether or not the project features Hot Mix Asphalt Removal (Cold Milling).



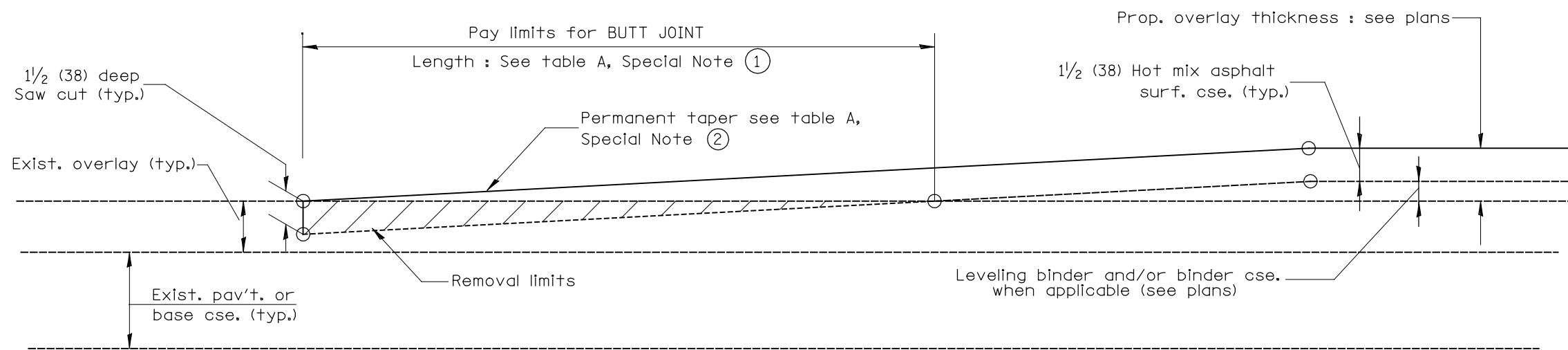
CASE 1 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)

TABLE A
(LENGTHS AND TAPER RATES)

| SPECIAL NOTE NUMBER | ELEMENT | MAINLINE INTERSTATES & 4-LANE EXPRESSWAYS | ALL OTHERS |
|---------------------|---------------------------|---|------------|
| ① | LENGTH OF BUTT JOINT | 60'(18.0 m) | 30'(9.0 m) |
| ② | PERMANENT TAPER RATE | 1:480 | 1:240 |
| ③ | TEMPORARY RAMP TAPER RATE | 1:80 | 1:40 |
| ④ | TEMPORARY RAMP LENGTH | 10'(3.0 m) | 5'(1.5 m) |
| ⑤ | LENGTH OF BUTT JOINT | 10'(3.0 m) | 10'(3.0 m) |

GENERAL NOTES

- The work shall be done in accordance with Article 406.08 and the Special Provision for Butt Joints.
- The pavement surface to be removed may be either bituminous or P.C. concrete. The work shall be performed in accordance with Article 440.04 and the Special Provisions for Butt Joints.
- The saw cut joints shall be primed just prior to the placing of bituminous material. The work will be in accordance with the applicable portions of Article 406.05.



CASE 2 : NO HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)

All dimensions are in inches (millimeters) unless otherwise noted.

| | | |
|----------|----------------------------------|--------|
| 01-01-97 | RENUM. C-23.01, NEW REVISION BOX | T.P. |
| 04-01-97 | CORRECTION TO DEPTH | J.A. |
| 09-15-05 | REVISED DESIGNER NOTE | M.M.A. |
| 10-16-06 | REVISED TO 2007 SPEC. | M.A. |

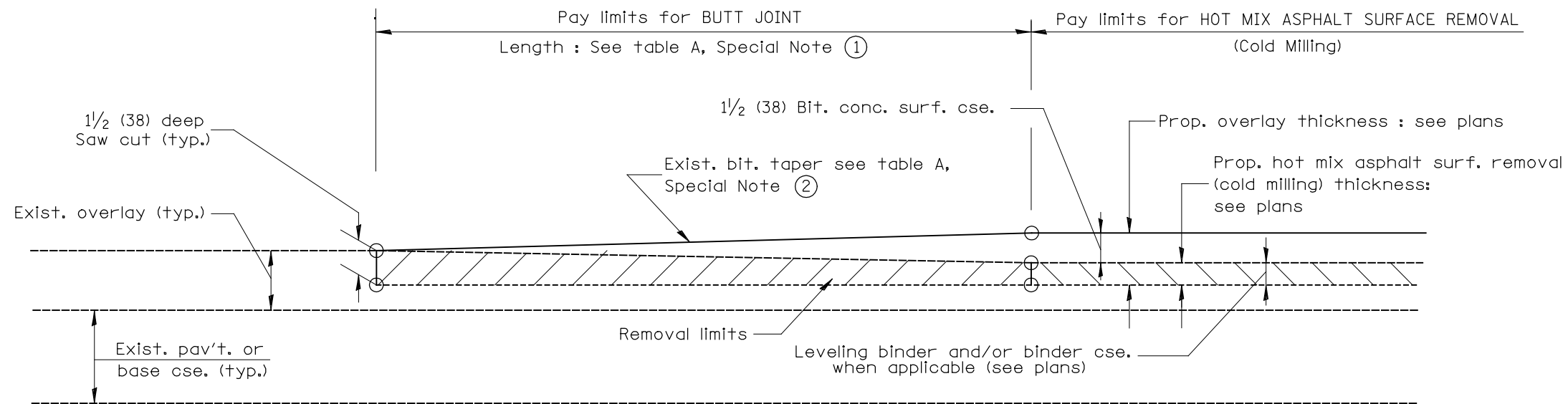
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINTS

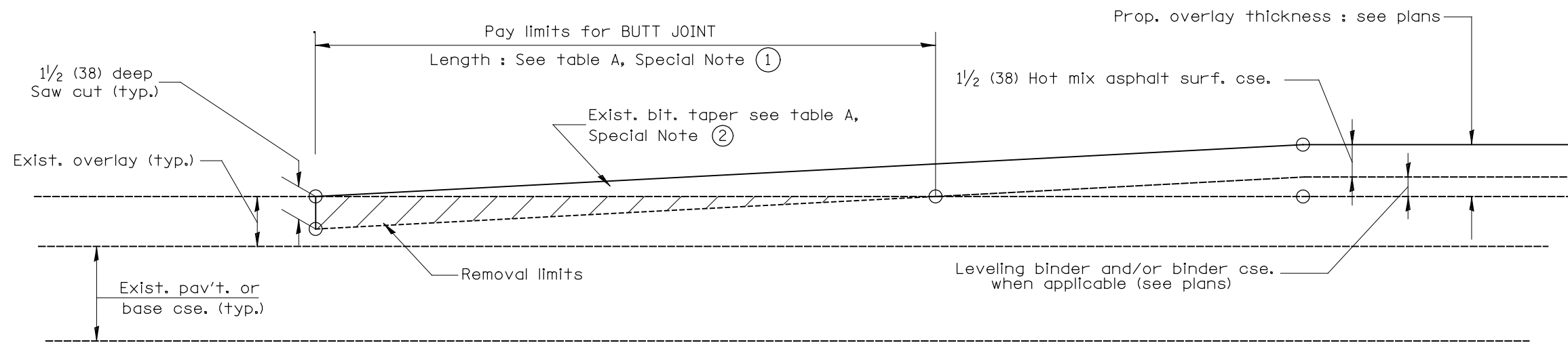
NOT TO SCALE

SHT. 1 OF 3
CADD STD. 406101-D4

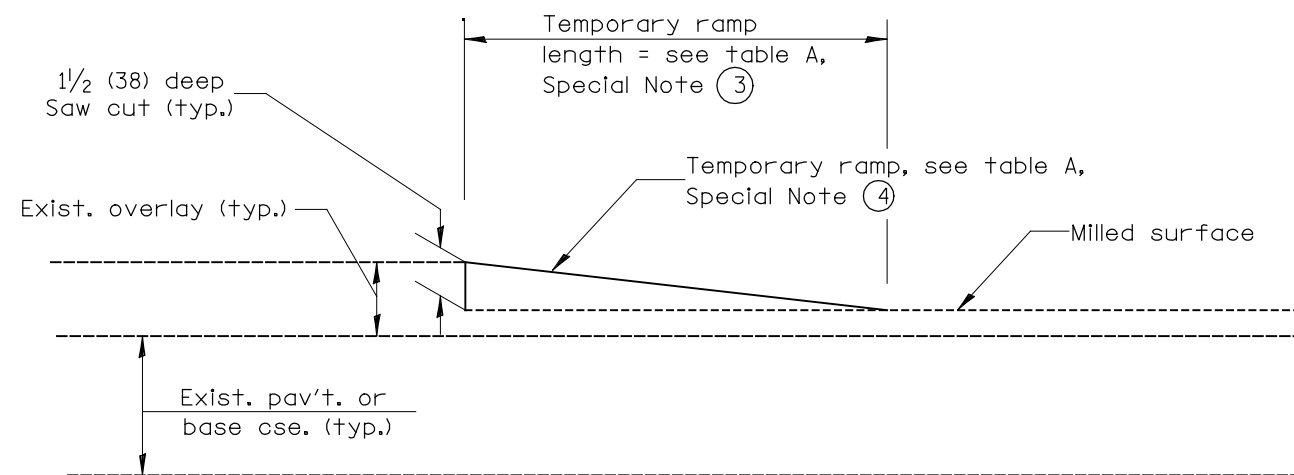
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 594 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |



**CASE 3 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER**



**CASE 4 : NO HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER**



DETAIL TEMPORARY RAMP

All dimensions are in inches (millimeters) unless otherwise noted.

| | | | | | | | | | |
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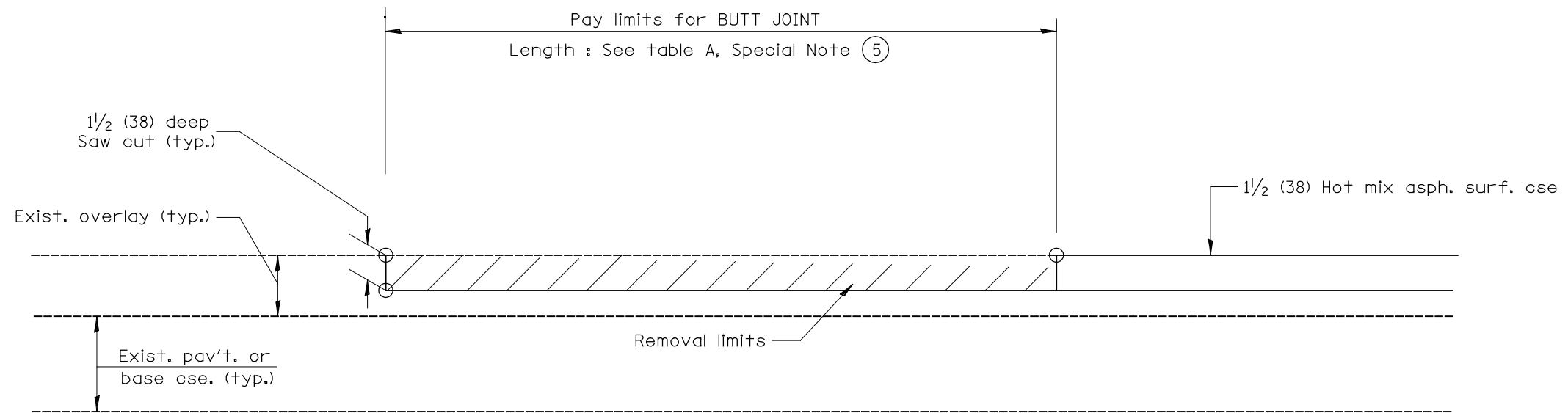
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BUTT JOINTS

NOT TO SCALE

SHT. 2 OF 3
CADD STD. 406101-D4

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 595 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |



CASE 5 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER

All dimensions are in inches (millimeters) unless otherwise noted.

| | | | | | | | |
|--|--|--|--|--|--|--|--|
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

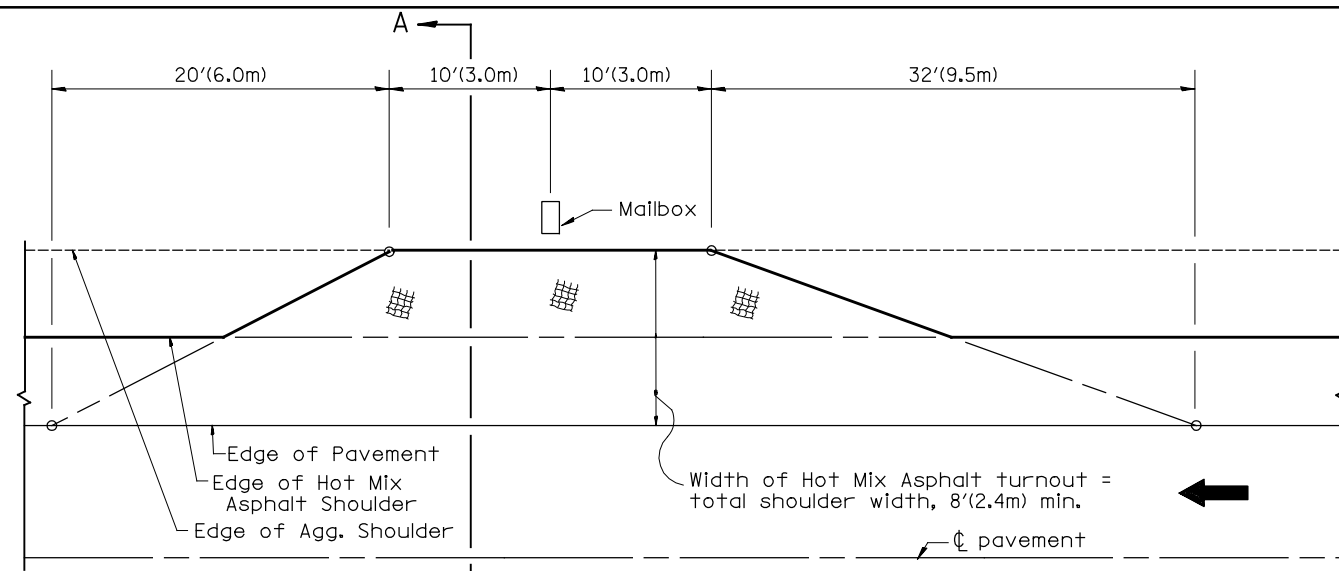
BUTT JOINTS

NOT TO SCALE

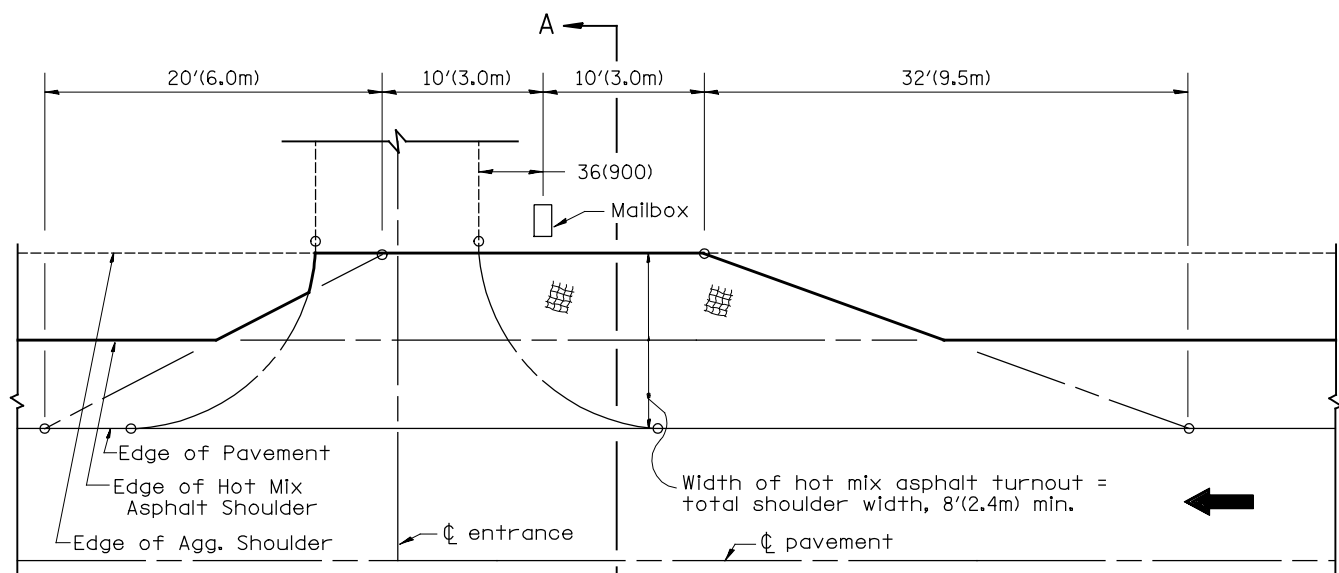
SHT. 3 OF 3
CADD STD. 406101-D4

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| 407 | 55[3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 596 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 68B44 | |

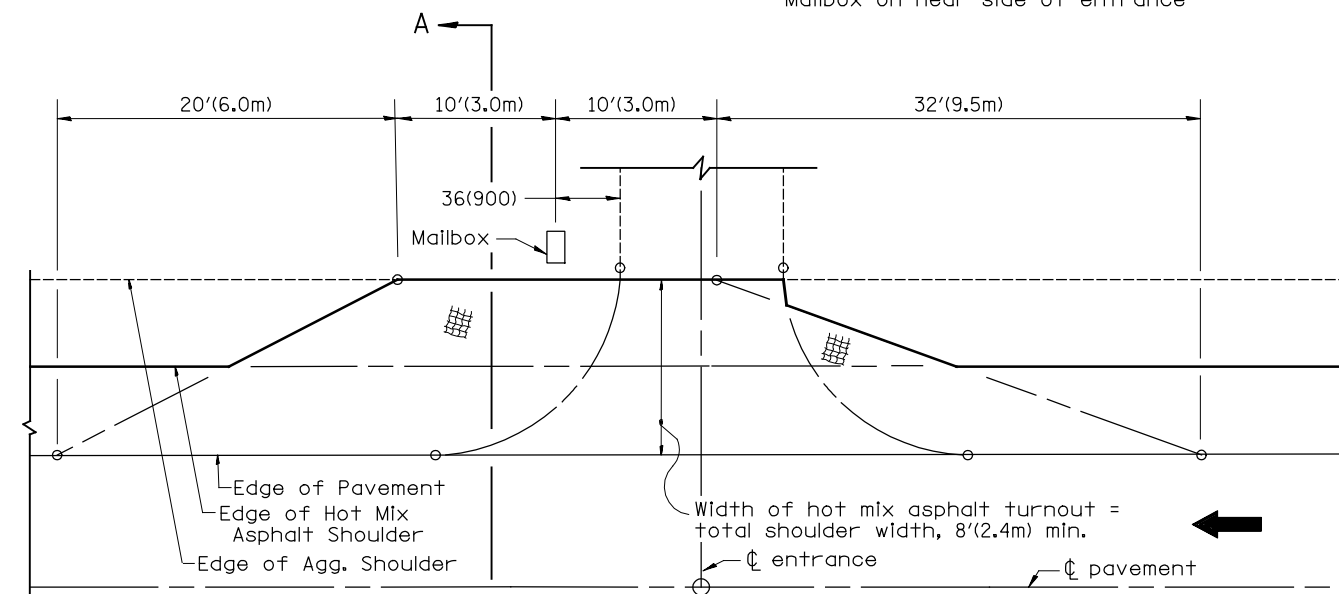
DESIGNER NOTES:
 1. THIS DRAWING REPLACES STATE STANDARD 406201
 2. DESIGNER SHOULD CONSULT CHAPTER 49 OF THE BDE MANUAL



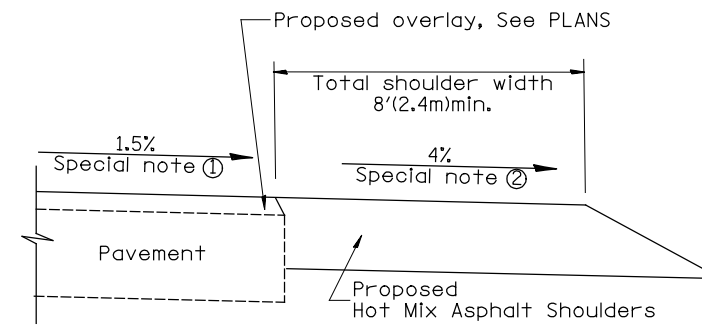
METHOD "T"
 Typical Application



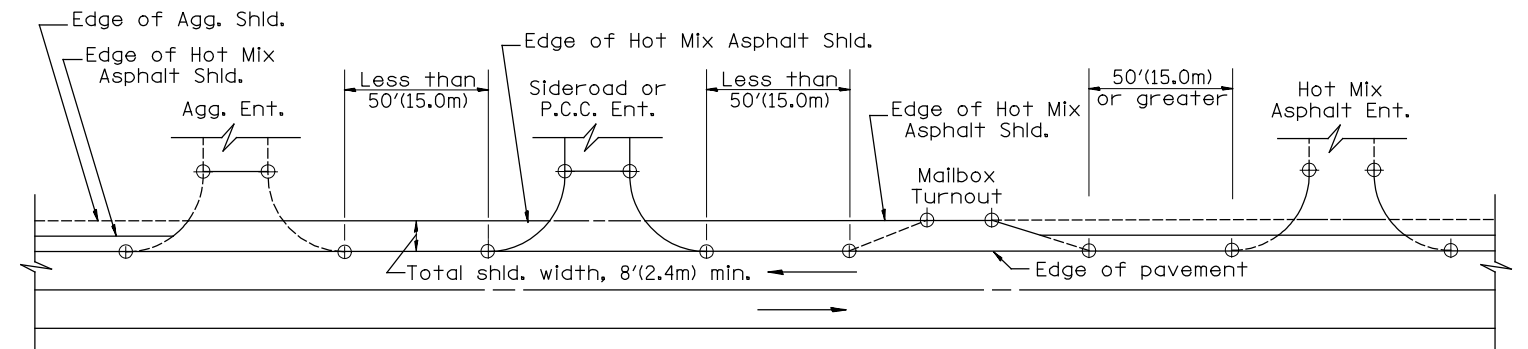
METHOD "N"
 Mailbox on near side of entrance



METHOD "F"
 Mailbox on far side of entrance



SECTION A-A



DETAIL A

SHOULDER TREATMENT FOR CLOSELY SPACED SIDEROADS, ENTRANCES, AND/OR MAILBOX TURNOUTS

GENERAL NOTES

1. Mailbox turnouts shall slope away from the pavement edge at a rate equal to the shoulder slope. See SECTION A-A.
2. The total shoulder width, 8'(2.4m) minimum, shall be paved between sideroads entrances and/or mailbox turnouts at locations where the distance between radius or taper control points is less than 50'(15.0m). See DETAIL A.
3. Mailboxes shall be mounted such that the face of the mailbox is 6(150) to 12(300) and the post a minimum of 24(600) from the edge of the turnout surfacing.

SPECIAL NOTES

- ① The mainline pavement cross-slope is 1.5% for tangent alignment. See PLANS for cross-slope on superelevated horizontal curves.
- ② The shoulder slope shall control the turnout slope. The standard cross-slope is 4% for tangent alignment. Through superelevated curves, the maximum pavement-shoulder breakover should not be greater than 10% for shoulders 6'(1.8m) and wider and 12% for shoulders 4'(1.2m) and less. Where 12(300) paved shoulders are provided, the breakover should be at the edge of the paved shoulder rather than at the pavement edge.

All dimensions are in inches (millimeters) unless otherwise noted.

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|----------|----------------------------------|--------|--|
| 01-01-97 | RENUM. C-90.01, NEW REVISION BOX | T.P. | |
| 07-01-97 | REVISE DESIGNER NOTES | J.A. | |
| 09-15-05 | REVISED DESIGNER NOTE | M.M.A. | |
| 10-16-06 | REVISED TO 2007 SPEC. | M.A. | |

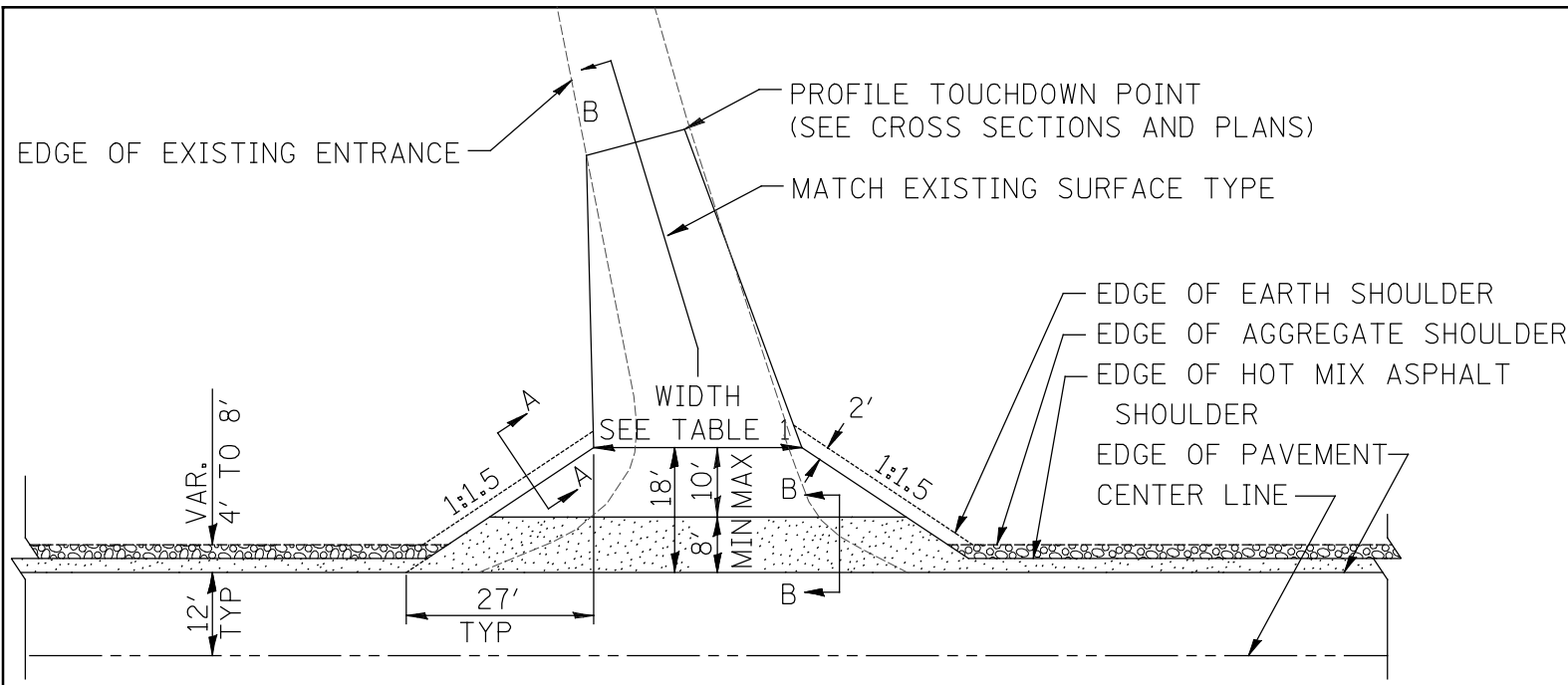
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**



MAILBOX TURNOUTS FOR "3R" PROJECTS

NOT TO SCALE

CADD STD. 406201-D4

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 597 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |

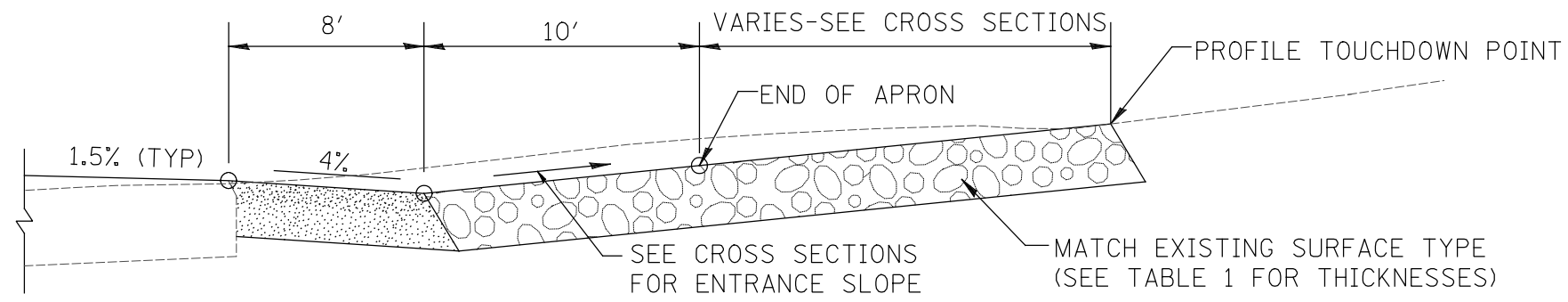


 HOT MIX ASPHALT SHOULDER, 8"
 AGGREGATE SHOULDER, TYPE B, 6"

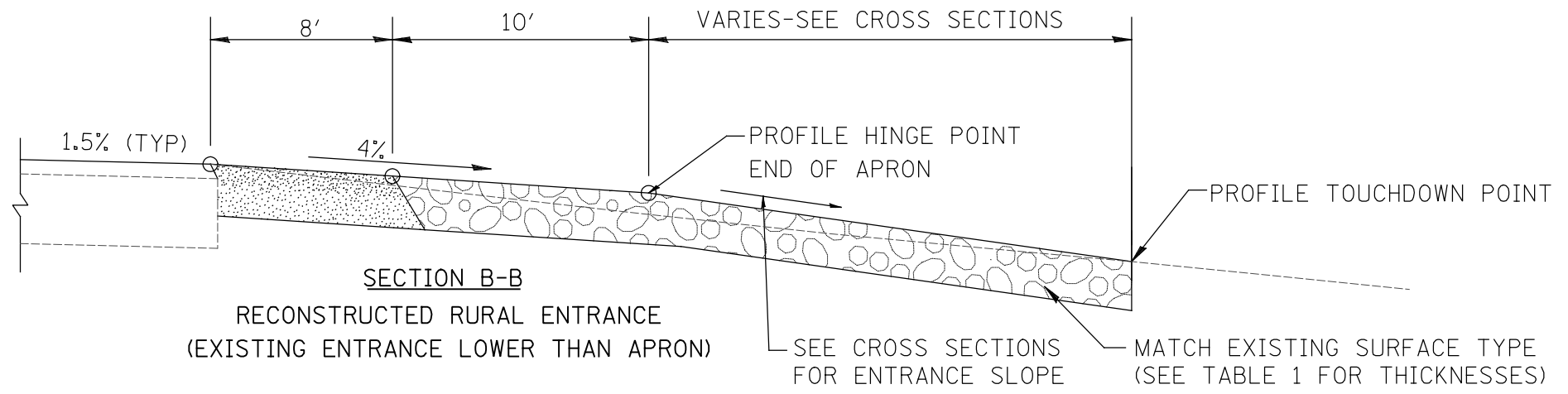
PLAN
 COMMERCIAL / FARM-RELATED ENTRANCE

| TABLE 1 | | | | | |
|-----------------------|----------------|----------------|---|----------------|---|
| RURAL ENTRANCE DESIGN | | | | | |
| ELEMENT | NON-COMMERCIAL | | NON-COMMERCIAL W/ LARGE FARM EQUIPMENT | COMMERCIAL | |
| | 12'(3.6m) Min. | 24'(7.2m) Max. | 20' (6.1m)Max. | 30' (9.0m)Max. | |
| WIDTH (W) | 12'(3.6m) Min. | 24'(7.2m) Max. | 20' (6.1m)Max. | 30' (9.0m)Max. | 14'(4.3m) Min., 24'(7.2m) Max., 24'(7.2m) Min., 35'(10.7m) Max. |
| FLARE | 1:1.5 | | | | |
| MAX. GRADE (G) | 12% | | 12% | | 10% |

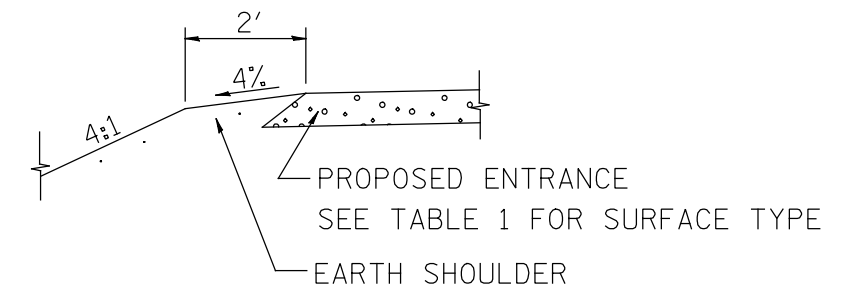
| SURFACE TYPE | NON-COMMERCIAL | | NON-COMMERCIAL W/ LARGE FARM EQUIPMENT | COMMERCIAL | |
|--------------------------------------|----------------|----------------|---|----------------|---|
| | 12'(3.6m) Min. | 24'(7.2m) Max. | 20' (6.1m)Max. | 30' (9.0m)Max. | 14'(4.3m) Min., 24'(7.2m) Max., 24'(7.2m) Min., 35'(10.7m) Max. |
| INCIDENTAL HOT MIX ASPHALT SURFACING | 6" | | — | 8" | |
| AGGREGATE SURFACE COURSE | 6" | | 8" | 8" | |
| PCC DRIVEWAY PAVEMENT | 6" | | — | 7" | |



SECTION B-B
 RECONSTRUCTED RURAL ENTRANCE
 (EXISTING ENTRANCE HIGHER THAN APRON)



SECTION B-B
 RECONSTRUCTED RURAL ENTRANCE
 (EXISTING ENTRANCE LOWER THAN APRON)



SECTION A-A
 SHOULDER TREATMENT FOR RURAL ENTRANCES

GENERAL NOTES

- ENTRANCES SHALL SLOPE AWAY FROM THE PAVEMENT AT A RATE EQUAL TO THE SHOULDER SLOPE FOR A MINIMUM DISTANCE OF 8'.
- A MINIMUM 8' PAVED SHOULDER SHALL BE CONSTRUCTED BETWEEN LOCATIONS WHERE THE RURAL ENTRANCE IS LESS THAN 50' FROM AN ADJACENT SIDEROAD, ENTRANCE OR MAILBOX TURNOUT.
- A TAPER RATE OF 5:1 IS DESIRABLE WHEN TRANSITING FROM THE RURAL ENTRANCE WIDTH SHOWN IN TABLE 1, TO THE EXISTING ENTRANCE WIDTH.

All dimensions are in inches (millimeters) unless otherwise noted.

| | | | | | |
|----------|-----------------------------------|--------|----------|-----------------------|------|
| 01-01-97 | RENUM. C-103.06, NEW REVISION BOX | T.P. | 10-16-06 | REVISED TO 2007 SPEC. | M.A. |
| 07-01-97 | REVISE DESIGNER NOTES | J.A. | | | |
| 01-17-03 | ADJUST DESIGN, CHANGE ENTRANCE | JATR | | | |
| 09-15-05 | RADIUS FOR FLARE | M.M.A. | | | |

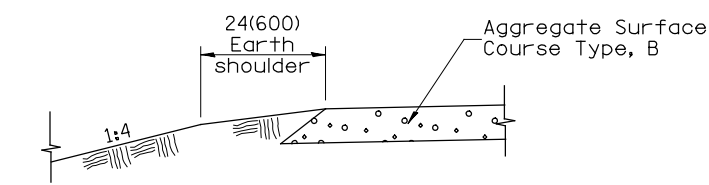
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RURAL ENTRANCES FOR "3R" PROJECTS

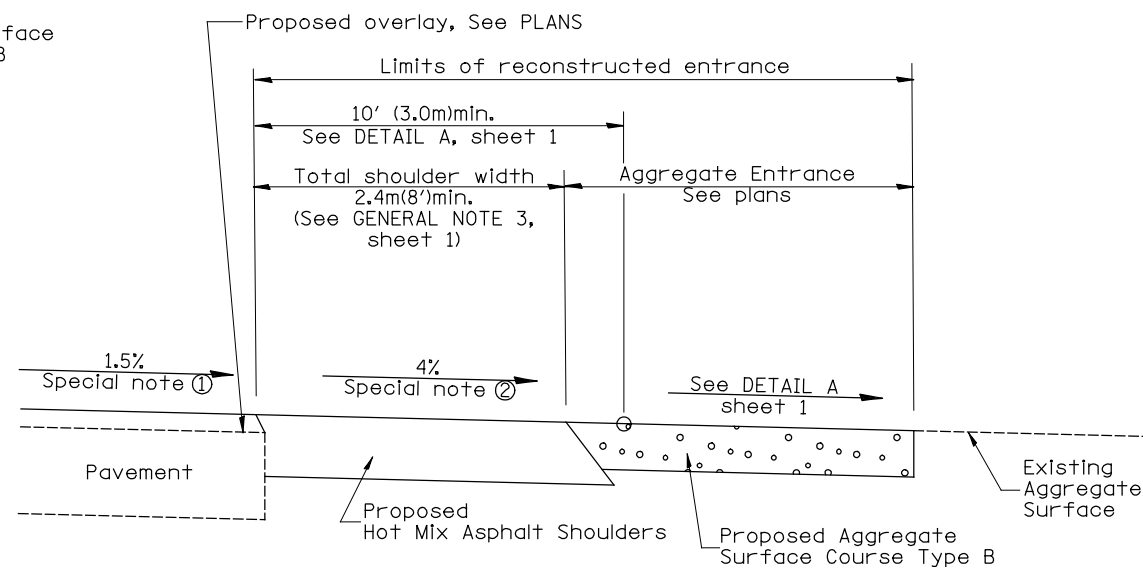
NOT TO SCALE

SHT. 1 OF 2
 CADD STD. 406301-D4

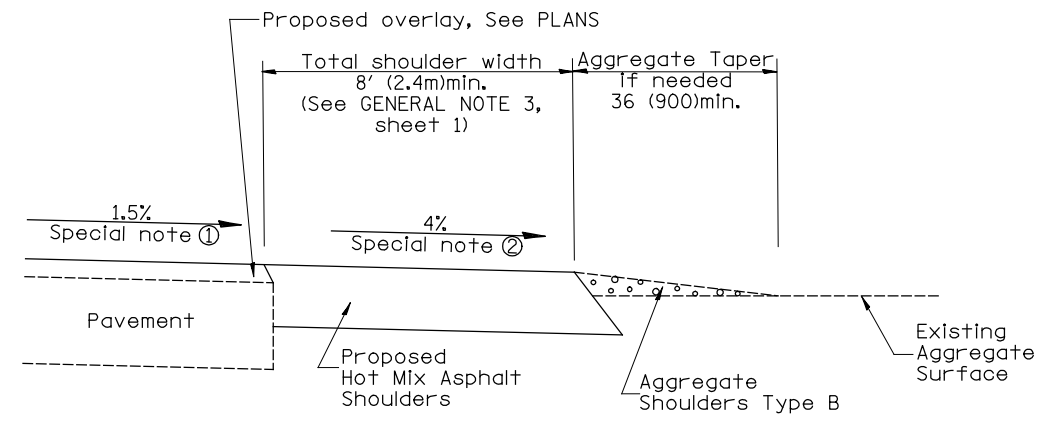
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------------------------|-----------|---------------------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 598 |
| CONTRACT NO. 68B44 | | | ILLINOIS FED. AID PROJECT | |



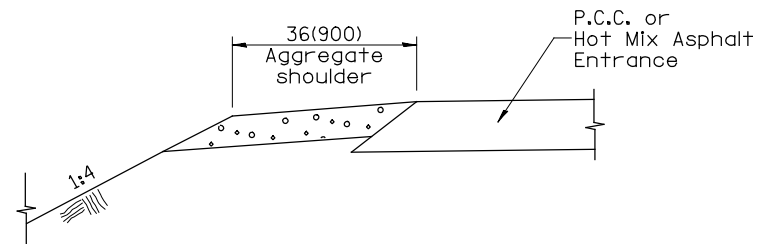
SECTION A-A
SHOULDER TREATMENT FOR AGGREGATE ENTRANCES



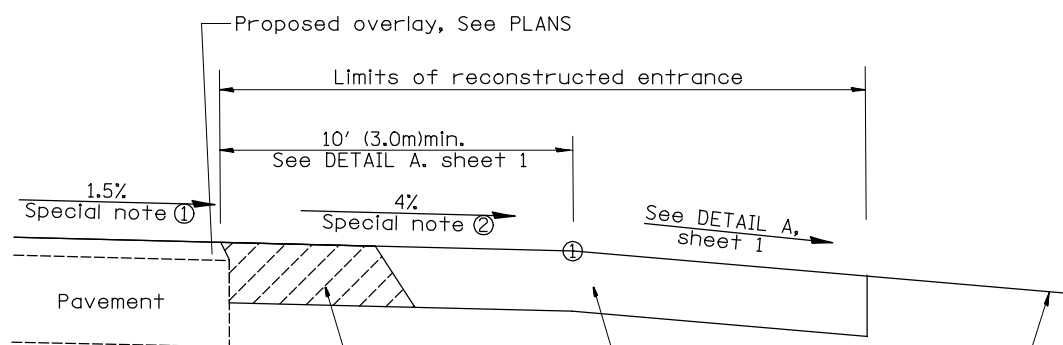
SECTION B-B
RECONSTRUCTED AGGREGATE ENTRANCE



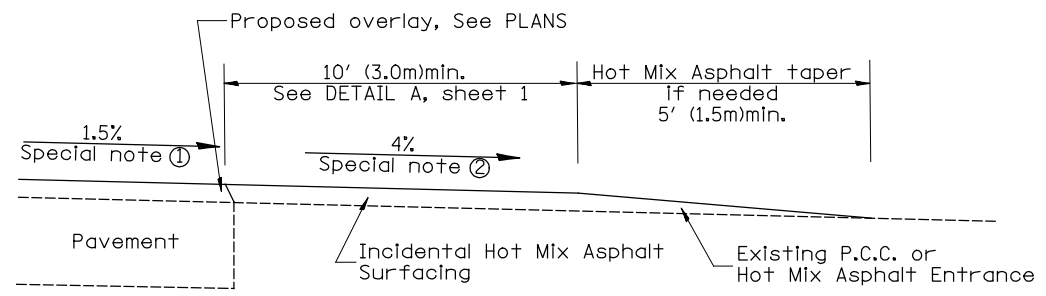
SECTION B-B
EXISTING AGGREGATE ENTRANCE



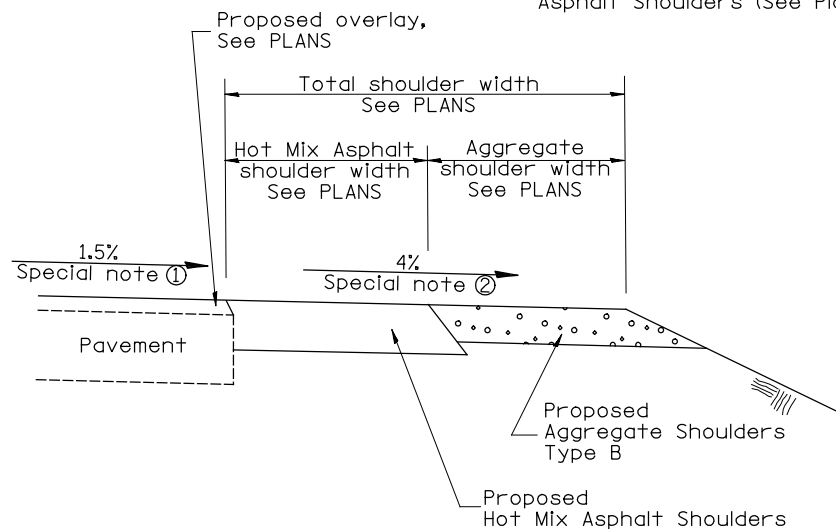
SECTION C-C
SHOULDER TREATMENT FOR P.C.C. OR HOT MIX ASPHALT ENTRANCES



SECTION D-D
RECONSTRUCTED P.C.C. OR HOT MIX ASPHALT ENTRANCE



SECTION D-D
EXISTING P.C.C. OR HOT MIX ASPHALT ENTRANCE



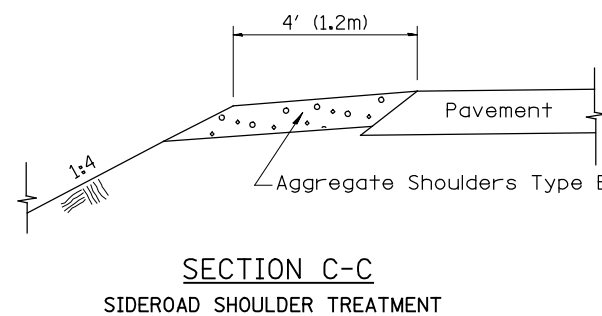
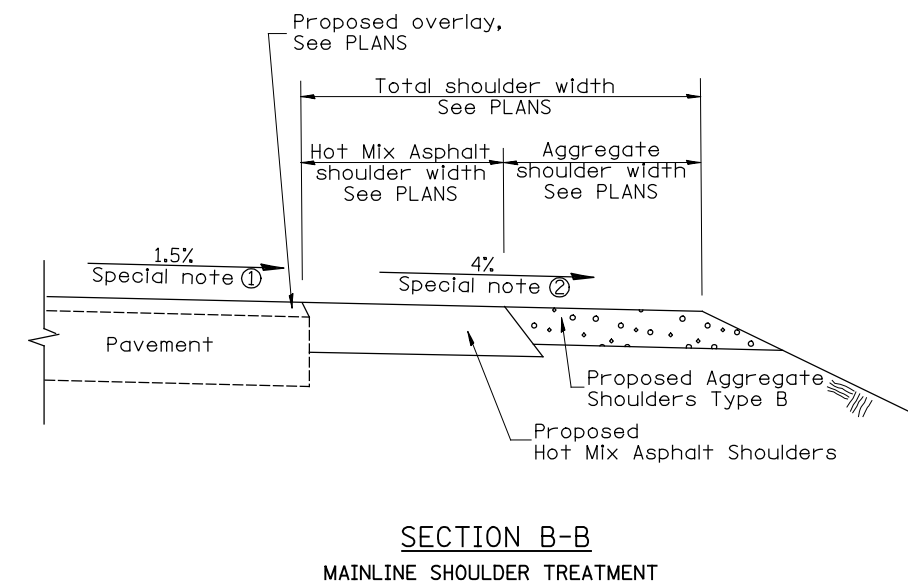
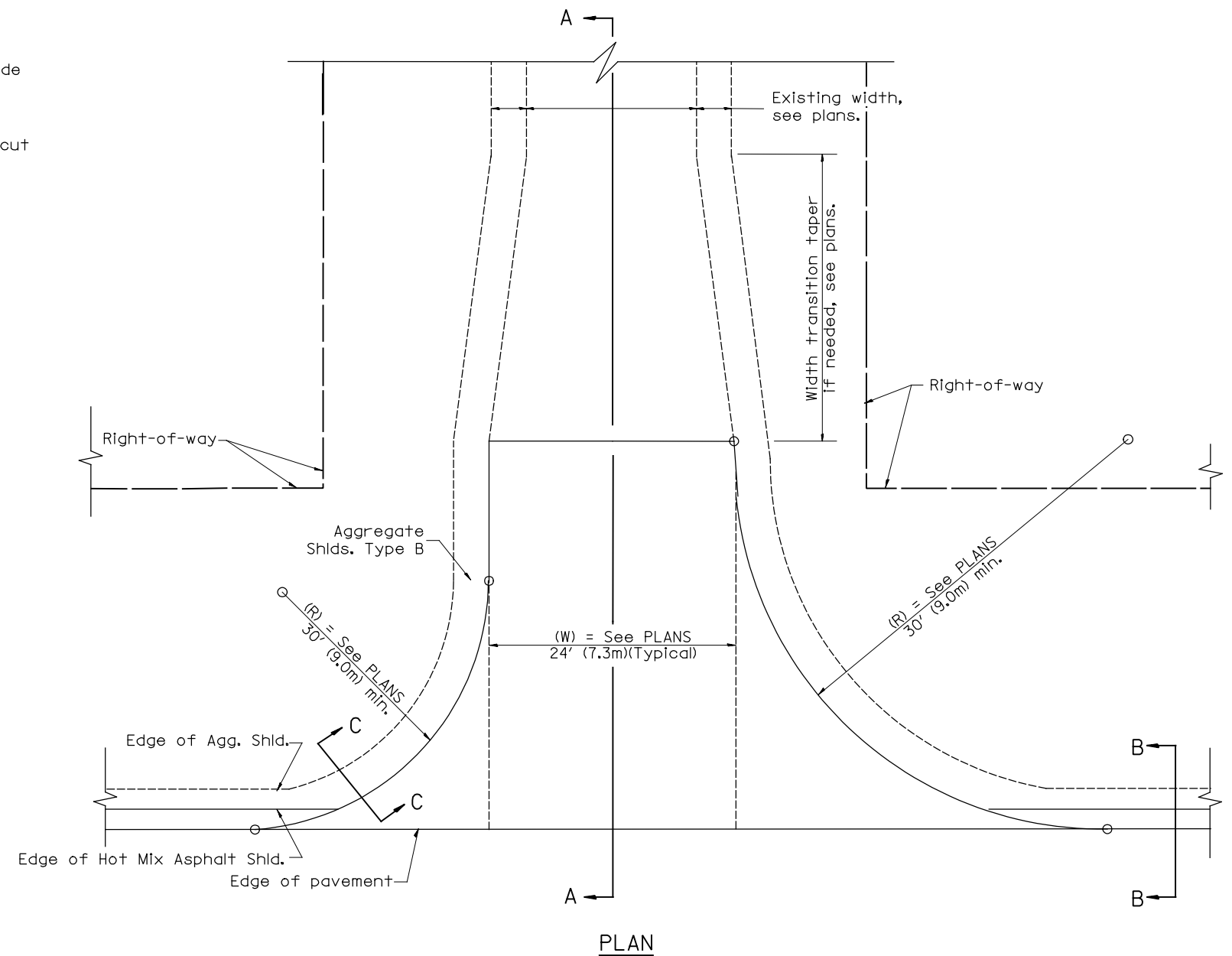
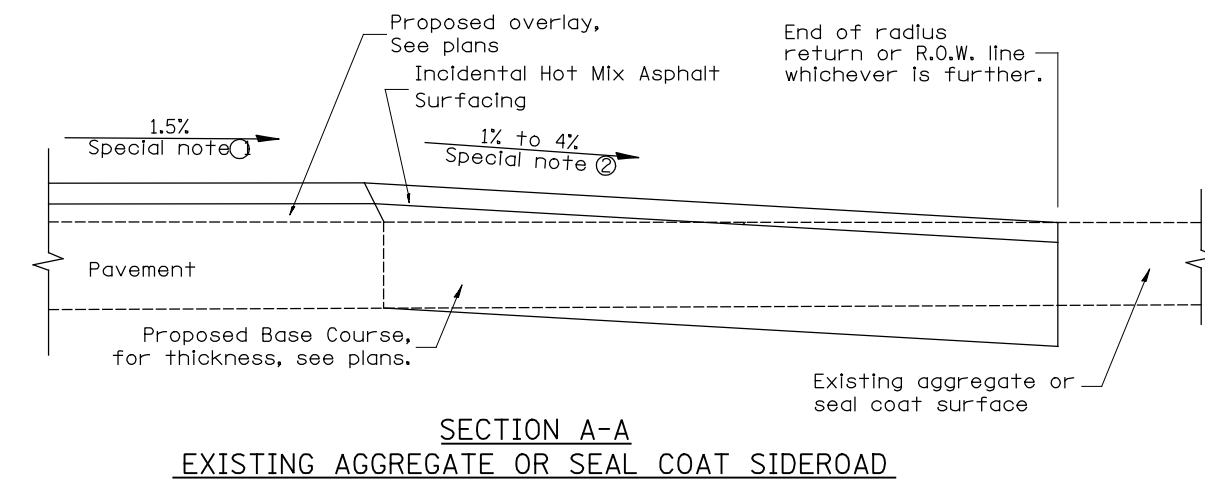
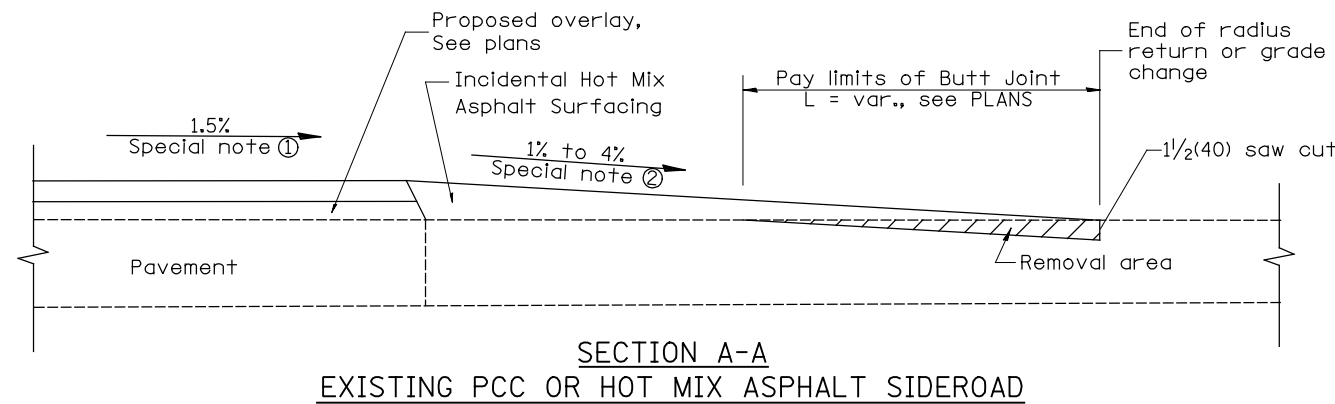
SECTION E-E
MAINLINE SHOULDER TREATMENT

SPECIAL NOTES

- ① The mainline pavement cross-slope is 1.5% for tangent alignment. See PLANS for cross-slope on super-elevated horizontal curves.
- ② The shoulder slope shall control the entrance profile for a distance of 10' (3.0m) minimum from the pavement edge. The shoulder cross-slope is 4% for tangent alignment. Through super-elevated curves, the maximum pavement-shoulder breakover should not be greater than 10% for shoulders 6' (1.8m) and wider and 12% for shoulders 4' (1.2m) and less. Where 12' (366cm) paved shoulders are provided, the breakover should be at the edge of the paved shoulder rather than at the pavement edge.

All dimensions are in Inches (millimeters) unless otherwise noted.

DESIGNER NOTES:
1. DESIGNER SHOULD CONSULT CHAPTER 49 OF THE BDE MANUAL.



SPECIAL NOTES

- ① The mainline pavement cross-slope is 1.5% for tangent alignment. See Plans for cross-slope on superelevated horizontal curves.
- ② The sideroad profile should drain away from the mainline at 1% to 4% for 50' (15.0m) to 100' (30.0m), or as a minimum to the end of the radius return. When the sideroad is on the high side of a mainline superelevated curve, - 2% maximum should be provided in order to minimize breakover at the pavement edge. See plans for sideroad profiles.

All dimensions are in inches (millimeters) unless otherwise noted.

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|----------|-----------------------------------|--------|--|--|
| 01-01-97 | RENUM. C-105.02, NEW REVISION BOX | T.P. | | |
| 07-01-97 | REVISE DESIGNER NOTES | J.A. | | |
| 09-15-05 | REVISED DESIGNER NOTE | M.M.A. | | |
| 10-16-06 | REVISED TO 2007 SPEC. | M.A. | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

RURAL SIDEROADS FOR "3R" PROJECTS

NOT TO SCALE

CADD STD. 406401-D4

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-----------------------------|-----------|--------------------|-----------|
| 407 | 55C3(PV,HB(2-6);B,B-1,B-2)] | McDONOUGH | 874 | 600 |
| | | | CONTRACT NO. 68B44 | |
| ILLINOIS FED. AID PROJECT | | | | |