EAU

MAY 2018

PROJECT ID: 7231-00-70

WITH: N/A

COUNTY: BUFFALO

ORDER OF SHEETS



TOTAL SHEETS = 38


37

DESIGN DESIGNATION

| | | | |
|---|---|---|---|
| A.A.D.T. | 2018 | = | 10 (EST.) |
| A.A.D.T. | 2038 | = | 15 (EST.) |
| D.H.V. | | = | <15 (EST.) |
| D.D. | | = | 50/50 (EST.) |
| T. | | = | 10% (EST.) |
| DESIGN SPEED | | = | 25 MPH |
| ESALS | | = | N/A |

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

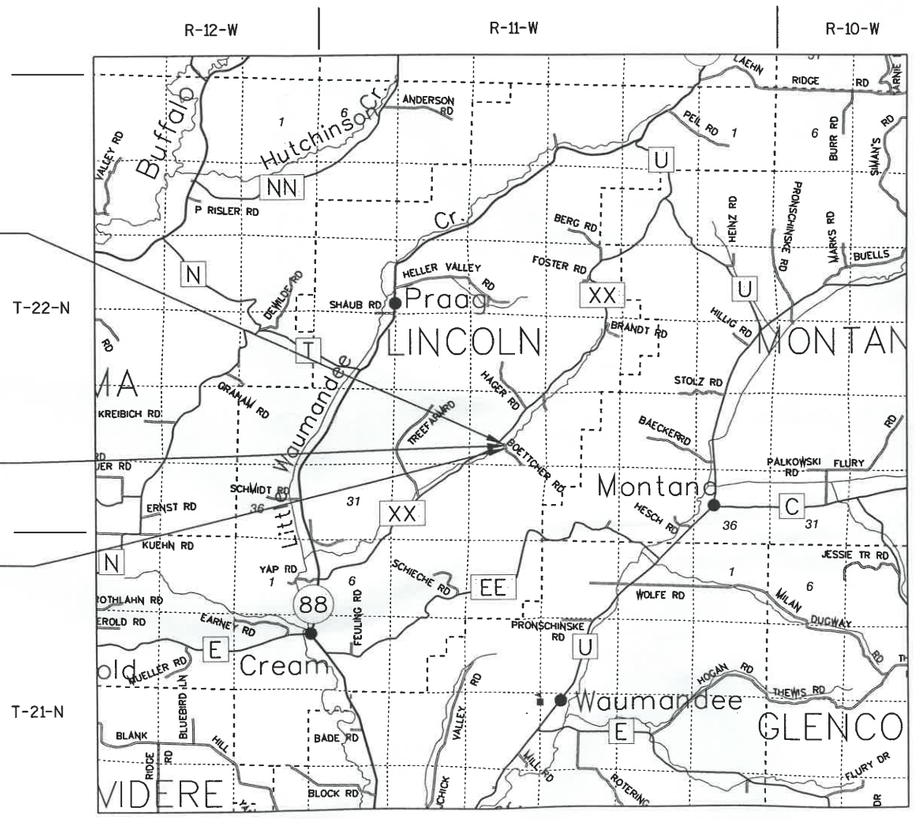
# T LINCOLN, BOETTCHER ROAD

JAHNS VALLEY CREEK BRIDGE B-06-0400

## LOCAL STREET
## BUFFALO COUNTY

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 7231-00-70 | ——— | — |
| | | |
| | | |
| | | |

STATE PROJECT NUMBER
**7231-00-70**




LAYOUT

SCALE 0 2.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.054 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BUFFALO COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR
TOWN of LINCOLN

12-19-17 (Date) Roy Seaman CHAIRMAN

ACCEPTED FOR
COUNTY of BUFFALO

12/18/17 (Date) Bob Plattner HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
145 N. Central Avenue, Suite 201 Marshfield, WI 54449
715-384-2133 1-877-204-0572 Fax: 715-384-9787

WISCONSIN
JOLIE A. SNYDER
E-45364
LODI
WI
PROFESSIONAL ENGINEER

DATE: 12/13/17 Jolie A. Snyder (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | MSA PROFESSIONAL SERVICES, INC. |
| Designer | MSA PROFESSIONAL SERVICES, INC. |
| Management Consultant | KNIGHT E/A, INC. |

APPROVED FOR THE DEPARTMENT

DATE: 1/19/18 Ryan B McLaren (Management Consultant Signature)

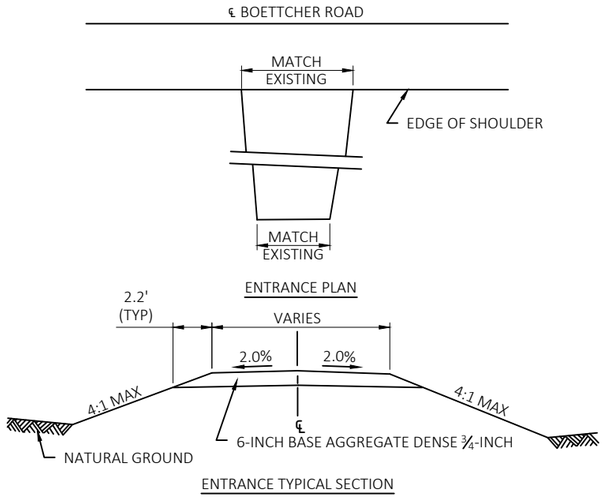
E

FILE NAME : P:\5600S\5640S\5643\05643008\CADD\SHEETSPLAN\010101_TI.DWG

PLOT DATE : 12/12/2017 3:42 PM

PLOT BY : BRAD LEE

PLOT NAME :




## FIELD ENTRANCE DETAILS

FE, STA 10+53, LT

## DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
1230 SOUTH BOULEVARD
BARABOO, WI 53913
JOLIE SNYDER, PE
PHONE: (608) 355-8912
jsnyder@msa-ps.com

## TOWN CONTACT

TOWN OF LINCOLN
CHAIRMAN
S1745 TREE FARM ROAD
ALMA, WI 54610
RAYMOND SECRIST
PHONE: (608) 685-3347

## UTILITIES

OVERHEAD ELECTRIC
RIVERLAND ENERGY COOPERATIVE
N28988 WI-93 TRUNK
ARCADIA, WI 54612
ROB SOSALLA
PHONE: (608) 323-3381
rsosalla@riverlandenergy.com

## COUNTY CONTACT

BUFFALO COUNTY
HIGHWAY COMMISSIONER
S1672 STATE ROAD 37
ALMA, WI 54610
BOB PLATTETER
PHONE: (608) 685-6226
bob.platteter@co.buffalo.wi.us

## DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
EAU CLAIRE SERVICE CENTER
1300 W CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
AMY LESIK
PHONE: (715) 836-6571
amyl.lesik@wisconsin.gov

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

## GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER. OVERSOW PERMANENT SEEDING AREAS WITH TEMPORARY SEED.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012).

THE 3" ASPHALTIC SURFACE SHALL CONSIST OF A 1.5" UPPER LAYER WITH NO. 5 (9.5 MM) NOMINAL SIZE AGGREGATE AND A 1.5" LOWER LAYER WITH WITH NO. 5 (9.5 MM) NOMINAL SIZE AGGREGATE.

SILT FENCE AND TURBIDITY BARRIER TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION OR BRIDGE REMOVAL.

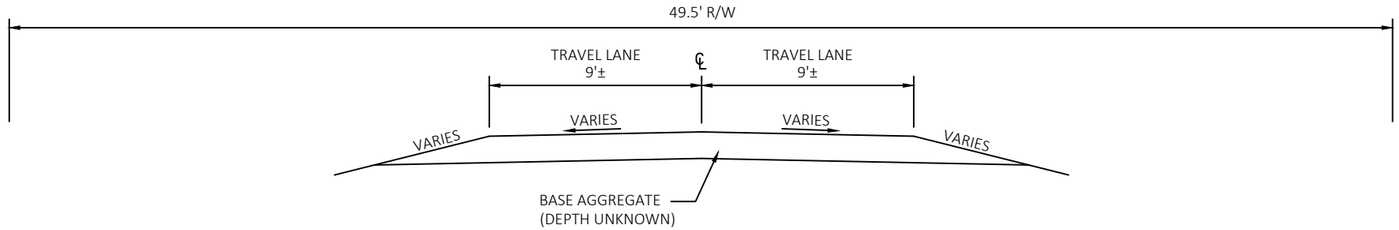
THE CONTRACTOR SHALL NOT GO OUTSIDE THE LIMITS OF CONSTRUCTION WITHOUT APPROVAL FROM THE ENGINEER.

## EROSION CONTROL NOTES

RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING SIDE SLOPES 0.30, PROPOSED SIDE SLOPES 0.30, EXISTING PAVEMENT 0.95, PROPOSED PAVEMENT 0.95.

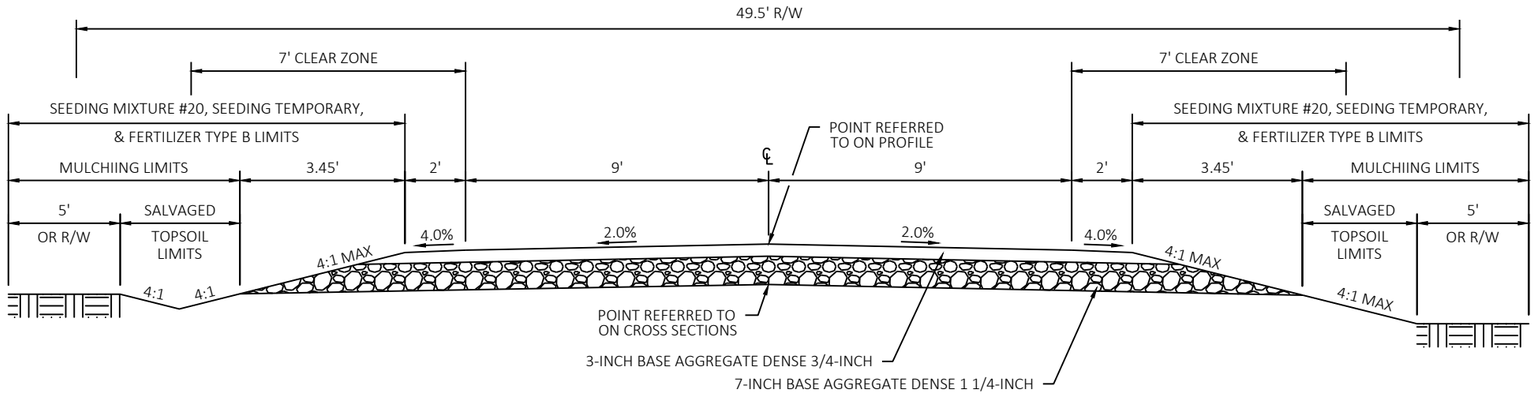
TOTAL PROJECT AREA - 0.32 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.24 ACRES



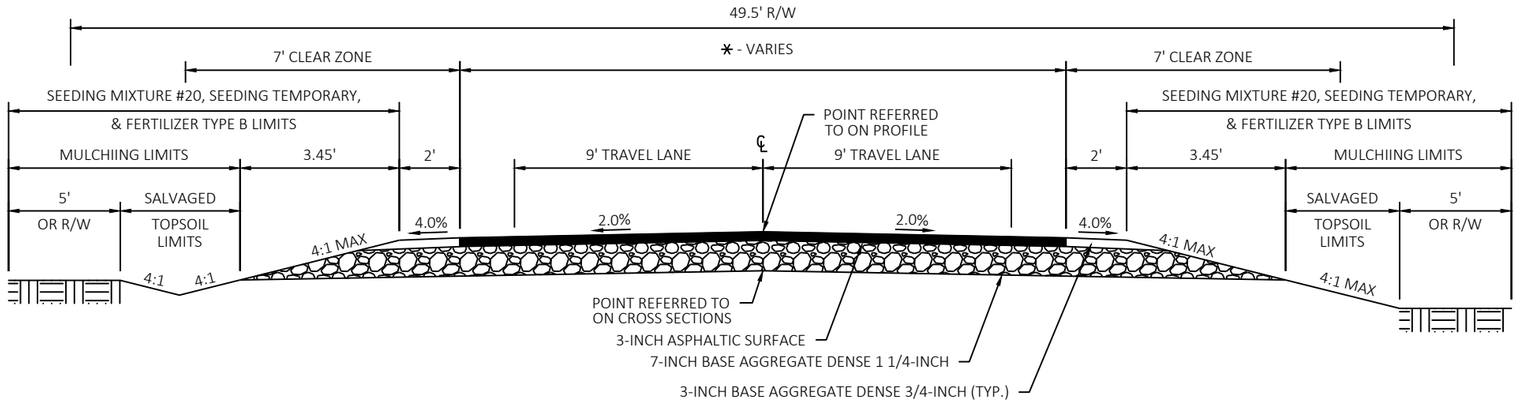

## EXISTING TYPICAL SECTION

BOETTCHER ROAD




## FINISHED GRAVEL TYPICAL SECTION

BOETTCHER ROAD
STA. 8+40 - STA. 9+35
STA. 10+65 - STA. 11+25



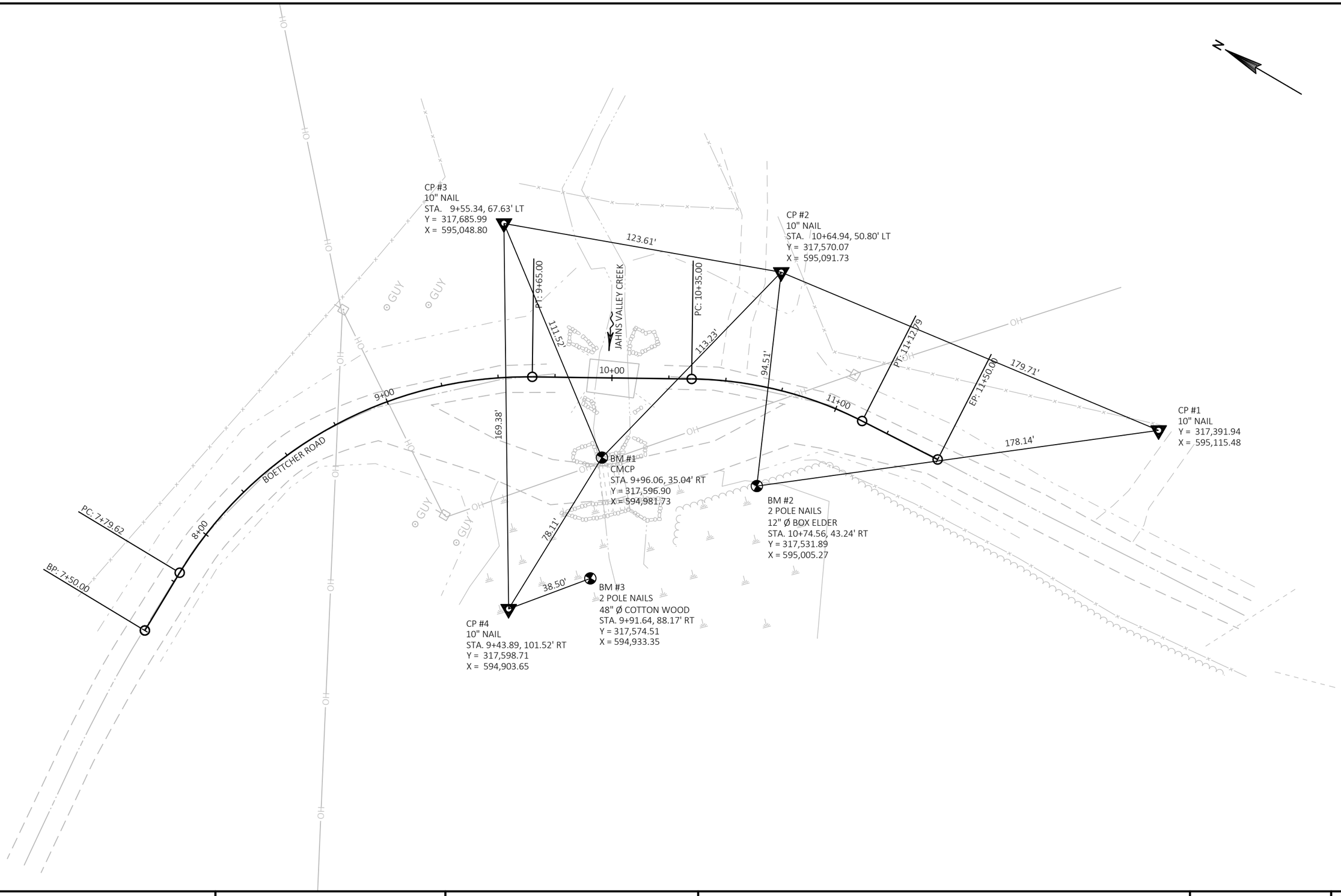

## FINISHED ASPHALT TYPICAL SECTION

BOETTCHER ROAD
STA. 9+35 - STA. 9+84.75
STA. 10+15.25 - STA. 10+65

* - TAPER PAVEMENT WIDTH FROM 24.0' AT ENDS OF WINGS TO 18.0' AT STA. 9+35 AND STA. 10+65 AS SHOWN ON THE CROSS SECTIONS.

| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | PLAN: TYPICAL SECTIONS | SHEET 3 | E |
|---|---|---|---|---|---|

2




| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | CONTROL POINT TIES | SHEET 4 | E |
|---|---|---|---|---|---|

7231-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. Sta. 10+00 | LS | 1.000 | 1.000 |
| 0004 | 205.0100 | Excavation Common | CY | 259.000 | 259.000 |
| 0006 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-6-400 | LS | 1.000 | 1.000 |
| 0008 | 210.1500 | Backfill Structure Type A | TON | 360.000 | 360.000 |
| 0010 | 213.0100 | Finishing Roadway (project) 01. 7231-00-70 | EACH | 1.000 | 1.000 |
| 0012 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 85.000 | 85.000 |
| 0014 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 305.000 | 305.000 |
| 0016 | 455.0605 | Tack Coat | GAL | 12.000 | 12.000 |
| 0018 | 465.0105 | Asphaltic Surface | TON | 38.000 | 38.000 |
| 0020 | 502.0100 | Concrete Masonry Bridges | CY | 110.000 | 110.000 |
| 0022 | 502.3200 | Protective Surface Treatment | SY | 131.000 | 131.000 |
| 0024 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 3,200.000 | 3,200.000 |
| 0026 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 11,330.000 | 11,330.000 |
| 0028 | 513.4061 | Railing Tubular Type M (structure) 01. B-6-400 | LF | 106.000 | 106.000 |
| 0030 | 516.0500 | Rubberized Membrane Waterproofing | SY | 16.000 | 16.000 |
| 0032 | 550.0500 | Pile Points | EACH | 8.000 | 8.000 |
| 0034 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 120.000 | 120.000 |
| 0036 | 606.0300 | Riprap Heavy | CY | 80.000 | 80.000 |
| 0038 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 170.000 | 170.000 |
| 0040 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 7231-00-70 | EACH | 1.000 | 1.000 |
| 0042 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0044 | 624.0100 | Water | MGAL | 23.200 | 23.200 |
| 0046 | 625.0500 | Salvaged Topsoil | SY | 275.000 | 275.000 |
| 0048 | 627.0200 | Mulching | SY | 470.000 | 470.000 |
| 0050 | 628.1504 | Silt Fence | LF | 420.000 | 420.000 |
| 0052 | 628.1520 | Silt Fence Maintenance | LF | 420.000 | 420.000 |
| 0054 | 628.1905 | Mobilizations Erosion Control | EACH | 2.000 | 2.000 |
| 0056 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0058 | 628.6005 | Turbidity Barriers | SY | 146.000 | 146.000 |
| 0060 | 629.0210 | Fertilizer Type B | CWT | 0.550 | 0.550 |
| 0062 | 630.0120 | Seeding Mixture No. 20 | LB | 18.000 | 18.000 |
| 0064 | 630.0200 | Seeding Temporary | LB | 18.000 | 18.000 |
| 0066 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0068 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0070 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0072 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0074 | 645.0111 | Geotextile Type DF Schedule A | SY | 60.000 | 60.000 |

7231-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0076 | 645.0120 | Geotextile Type HR | SY | 180.000 | 180.000 |
| 0078 | 650.4500 | Construction Staking Subgrade | LF | 255.000 | 255.000 |
| 0080 | 650.5000 | Construction Staking Base | LF | 255.000 | 255.000 |
| 0082 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-6-400 | LS | 1.000 | 1.000 |
| 0084 | 650.9910 | Construction Staking Supplemental Control (project) 01. 7231-00-70 | LS | 1.000 | 1.000 |
| 0086 | 650.9920 | Construction Staking Slope Stakes | LF | 255.000 | 255.000 |
| 0088 | 715.0502 | Incentive Strength Concrete Structures | DOL | 660.000 | 660.000 |

3

## EARTHWORK

| STATION - STATION | 205.0100 EXCAVATION COMMON CY | FILL CY (1) | EXPANDED FILL CY (2) | WASTE CY |
|---|---|---|---|---|
| STA 8+40.00 - STA. 9+84.75 | 130 | 15 | 20 | 110 |
| STA 10+15.25 - STA 11+25.00 | 129 | 6 | 8 | 121 |
| TOTALS: | 259 | 21 | 28 | 231 |

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%

## BASE AGGREGATE ITEMS

| STATION - STATION | 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON | 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | 624.0100 WATER (1) MGAL |
|---|---|---|---|
| 8+40.00 - 9+84.75 | 44 | 165 | 4 |
| 10+15.25 - 11+40.00 | 35 | 140 | 4 |
| 10+53 FE LT | 6 | — | 0.2 |
| TOTALS: | 85 | 305 | 8.2 |

(1) - ADDITIONAL QUANTITIES LISTED ELSEWHERE

## ASPHALT PAVEMENT ITEMS

| STATION - STATION | 455.0605 TACK COAT GAL | 465.0105 ASPHALTIC SURFACE TON |
|---|---|---|
| 8+40.00 - 9+84.75 | 6 | 19 |
| 10+15.25 - 11+40.00 | 6 | 19 |
| TOTALS: | 12 | 38 |

## MAINTENANCE AND REPAIR OF HAUL ROADS

| DESCRIPTION | 618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS EACH |
|---|---|
| PROJECT 7231-00-70 | 1 |
| TOTALS: | 1 |

## RESTORATION ITEMS

| STATION - STATION | LOCATION | 625.0500 SALVAGED TOPSOIL SY | 627.0200 MULCHING SY | 629.0210 FERTILIZER TYPE B CWT | 630.0120 SEEDING MIXTURE NO. 20 LB | 630.0200 SEEDING TEMPORARY LB | 624.0100 WATER (1) MGAL |
|---|---|---|---|---|---|---|---|
| 8+40.00 - 9+74.75 | LT | 85 | 155 | 0.15 | 6 | 6 | 4.8 |
| 8+40.00 - 9+74.75 | RT | 35 | 105 | 0.10 | 4 | 4 | 3.5 |
| 10+25.25 - 11+25.00 | LT | 40 | 85 | 0.10 | 3 | 3 | 2.8 |
| 10+25.25 - 11+25.00 | RT | 55 | 90 | 0.10 | 3 | 3 | 2.8 |
| UNDISTRIBUTED | — | 60 | 35 | 0.10 | 2 | 2 | 1.0 |
| | TOTALS: | 275 | 470 | 0.55 | 18 | 18 | 15 |

(1) - ADDITIONAL QUANTITIES LISTED ELSEWHERE

## SILT FENCE

| STATION - STATION | LOCATION | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.6005 TURBIDITY BARRIERS SY |
|---|---|---|---|---|
| 8+40 - 9+96 | LT & RT | 280 | 280 | 59 |
| 10+02 - 11+25 | LT & RT | 120 | 120 | 67 |
| UNDISTRIBUTED | - | 20 | 20 | 20 |
| | TOTALS: | 420 | 420 | 146 |

## MOBILIZATION EROSION CONTROL

| DESCRIPTION | 628.1905 MOBILIZATION EROSION CONTROL EACH | 628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH |
|---|---|---|
| PROJECT 7231-00-70 | 2 | 2 |
| TOTALS: | 2 | 2 |

## SIGNING ITEMS

| STATION | LOCATION | SIGN CODE | SIZE | 634.0612 POSTS WOOD 4X6-INCH X 12 FT EACH | 637.2230 SIGNS TYPE II REFLECTIVE F SF | COMMENTS |
|---|---|---|---|---|---|---|
| 9+75 | LT | W5-52L | 12"x36" | 1 | 3 | OBJECT MARKER |
| 9+75 | RT | W5-52R | 12"x36" | 1 | 3 | OBJECT MARKER |
| 10+25 | LT | W5-52R | 12"x36" | 1 | 3 | OBJECT MARKER |
| 10+25 | RT | W5-52L | 12"x36" | 1 | 3 | OBJECT MARKER |
| | | TOTALS: | | 4 | 12 | |

## CONSTRUCTION STAKING

| STATION - STATION | 650.4500 CONSTRUCTION STAKING SUBGRADE LF | 650.5000 CONSTRUCTION STAKING BASE LF | 650.9920 CONSTRUCTION STAKING SLOPE STAKES LF | 650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 7231-00-70 LS |
|---|---|---|---|---|
| 8+40.00 - 9+84.75 | 145 | 145 | 145 | — |
| 10+15.25 - 11+25.00 | 110 | 110 | 110 | — |
| 7231-00-70 | — | — | — | 1 |
| TOTALS: | 255 | 255 | 255 | 1 |

| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION | DESCRIPTION | ELEV. |
| 1 | 9+96.06, 35.04' RT | CMCP - TOP, EAST END NORTH PIPE | 870.63 |
| 2 | 10+74.56, 43.24' RT | 2 POLE NAILS IN 12" BOX ELDER | 876.66 |
| 3 | 9+91.64, 88.17' RT | 2 POLE NAILS IN 48" COTTON WOOD | 871.20 |

LEGEND
- SILT FENCE
- RIPRAP HEAVY (SEE STRUCTURE PLANS)
- TURBIDITY BARRIER

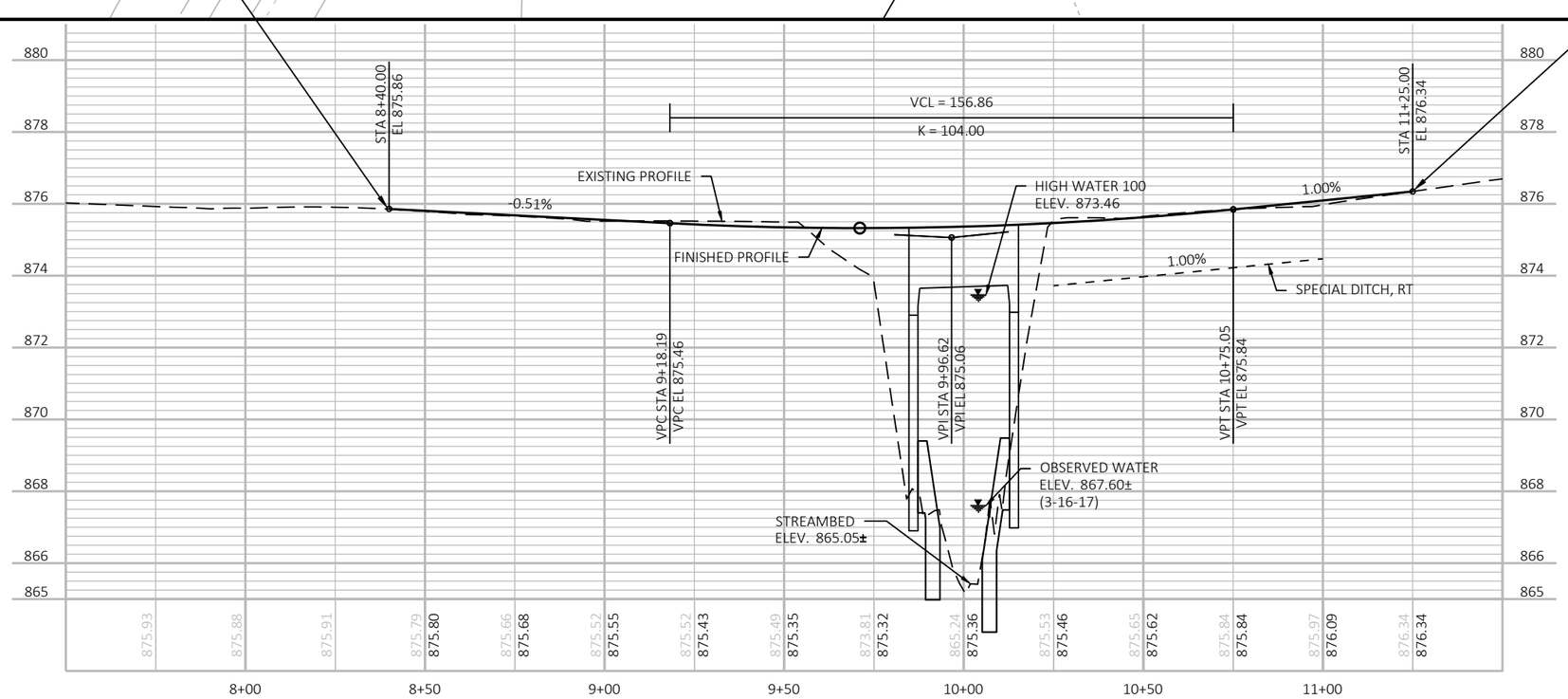
BEGIN PROJECT
STA 8+40
Y=317,720.44
X=594,903.51

END PROJECT
STA 11+25
Y=317,494.19
X=595,053.97

PI STA = 10+74.59
DELTA = 26°15'47"
D = 33°45'44"
T = 39.59'
L = 77.79'
R = 169.70'
PC STA = 10+35.00
PT STA = 11+12.79

PI STA = 8+81.69
DELTA = 59°36'39"
D = 32°09'23"
T = 102.07'
L = 185.38'
R = 178.18'
PC STA = 7+79.62
PT STA = 9+65.00

GARY J HAGER
KURT K FIES
GRASS
PAVING LIMITS
EDGE OF LANE (TYP)
EDGE OF SHOULDER (TYP)
BOETTCHER ROAD (GRAVEL)
JAHNS VALLEY CREEK
PT: 9+65.00
PC: 10+35.00
PT: 11+12.79
EP: 11+50.00
FE STA 10+53
10+00
11+00
8+00
9+00
(ASPHALT)
(GRAVEL)
S29°34'50"E
S03°19'03"E
S89°11'29"E
PC: 7+79.62
BP: 7+50.00
49.5'
EXISTING R/W
SPECIAL DITCH
BM #1
BM #2
BM #3
CP #1
CP #2
CP #3
CP #4
PROPOSED STRUCTURE B-6-400
EXISTING STRUCTURE P-6-911
SLOPE INTERCEPT (TYP)
OVERHEAD POWER (RIVERLAND ENERGY COOPERATIVE) TO REMAIN IN PLACE
TEMPORARY CULVERTS, RIPRAP, & GRAVEL ROAD (TO BE REMOVED BY OTHERS)
WETLAND BOUNDARY
WETLAND BOUNDARY
OH
GUY




REMOVE EXISTING BRIDGE P-6-911
STA. 10+00
SINGLE SPAN STEEL DECK GIRDER BRIDGE
14.8 FT CLEAR ROADWAY WIDTH
21.4 FT OVERALL LENGTH
NO SKEW

STA. 10+00, STRUCTURE B-6-400 REQ'D
SINGLE SPAN FLAT CONCRETE SLAB BRIDGE
24.0 FT CLEAR ROADWAY WIDTH
30.5 FT OVERALL LENGTH
NO SKEW

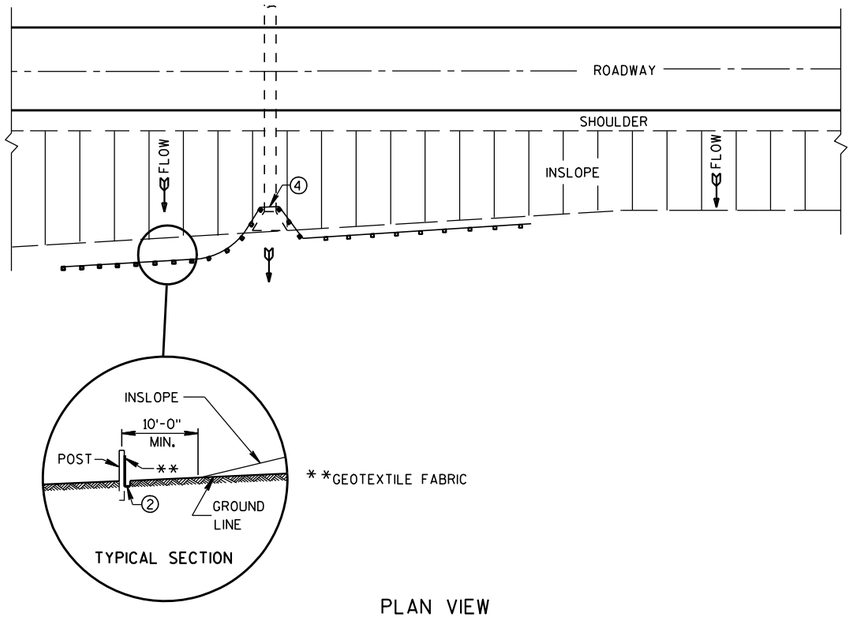
| EARTHWORK SUMMARY | |
|---|---|
| STA. 8+40 - STA. 11+25 | |
| COMMON EXC. | 259 C.Y. |
| FILL | 21 C.Y. |
| FILL EXPANSION | 30 % |
| EXPANDED FILL | 28 C.Y. |
| WASTE | 231 C.Y. |

| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | PLAN AND PROFILE: BOETTCHER RD | SHEET 8 | E |
|---|---|---|---|---|---|

FILE NAME : P:\5600S\5640S\5643\05643008\CADD\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_pp
PLOT DATE : 1/23/2018 4:01 PM
PLOT BY : JOLIE SNYDER
PLOT NAME :
PLOT SCALE : 1 IN:40 FT HORZ. / 1 IN:4 FT VERT.

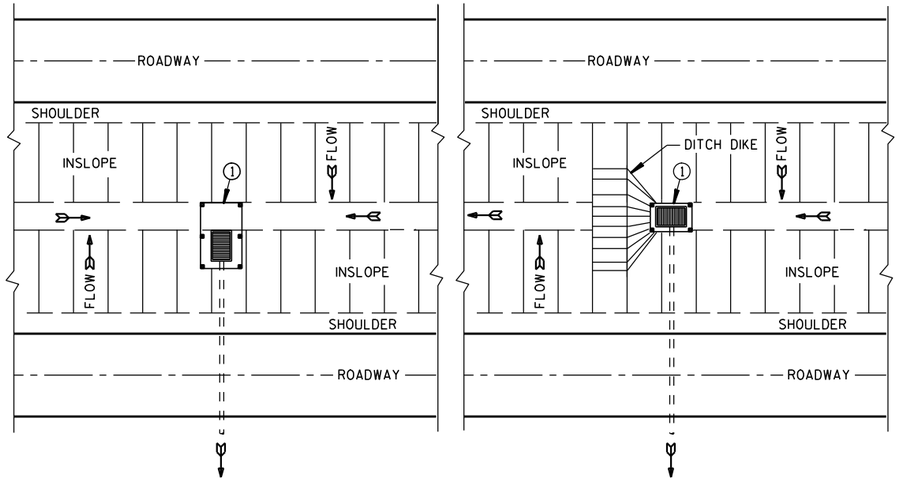
# Standard Detail Drawing List

| | |
|---|---|
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 15C02-06A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-06B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C06-09 | SIGNING & MARKING FOR TWO LANE BRIDGES |
| 15D31-03 | TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY |
| 15D38-02A | TEMPORARY TRAFFIC CONTROL SIGN MOUNTING |
| 15D38-02B | ATTACHMENT OF SIGNS TO POSTS |




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE



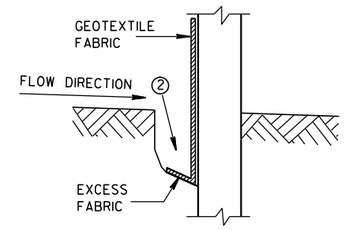

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

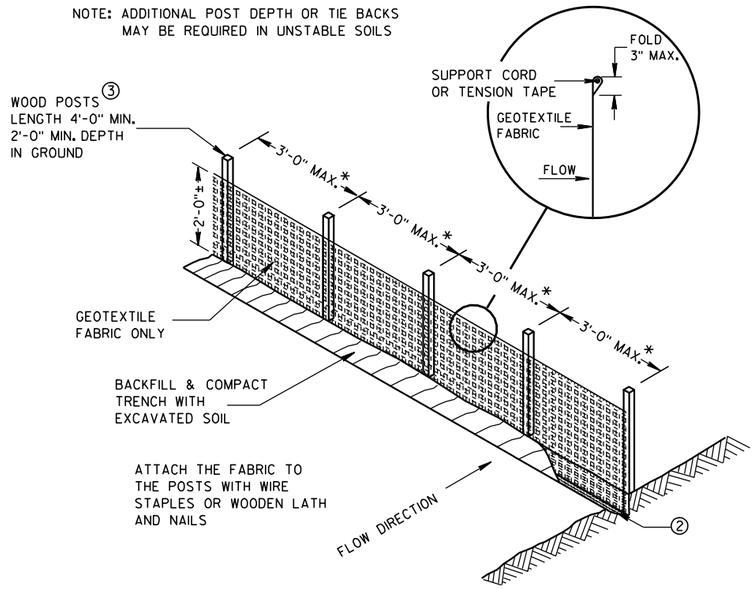
## GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

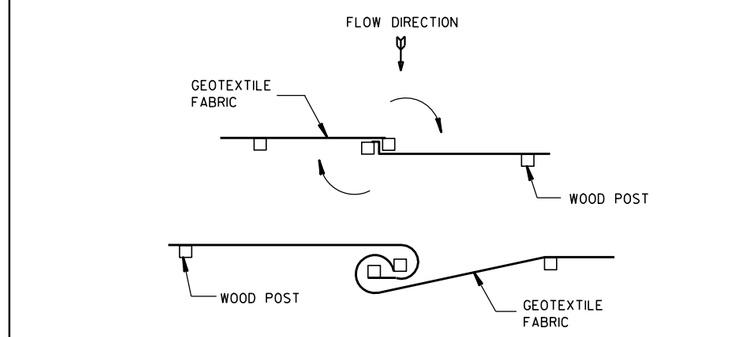



## TRENCH DETAIL

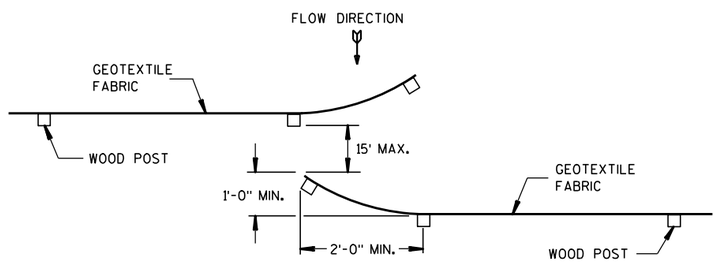



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

## SILT FENCE

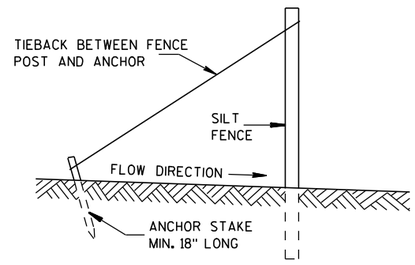



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE 5




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

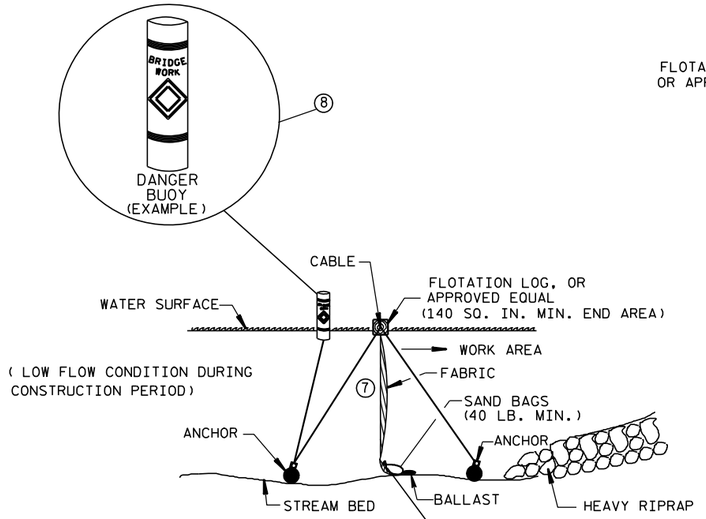


6

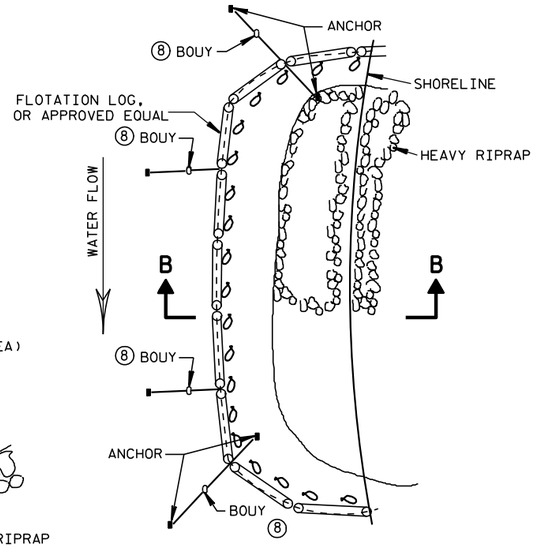
S.D.D. 8 E 9-6

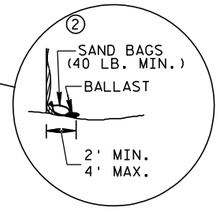
6

S.D.D. 8 E 9-6

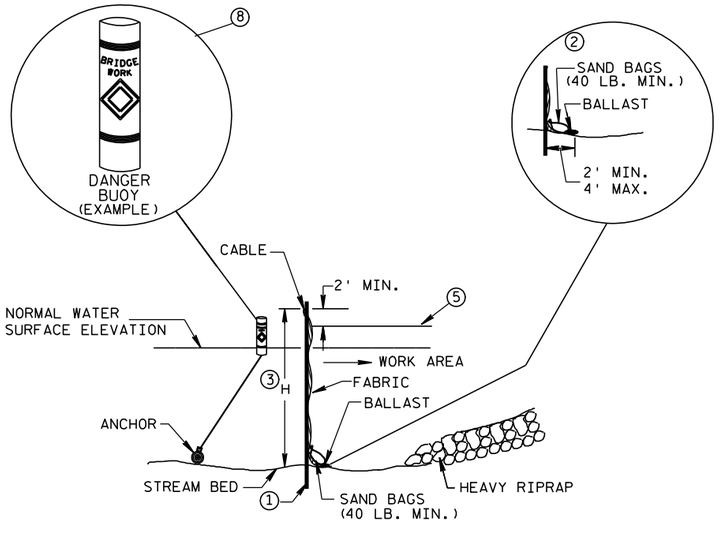



**SECTION B-B**



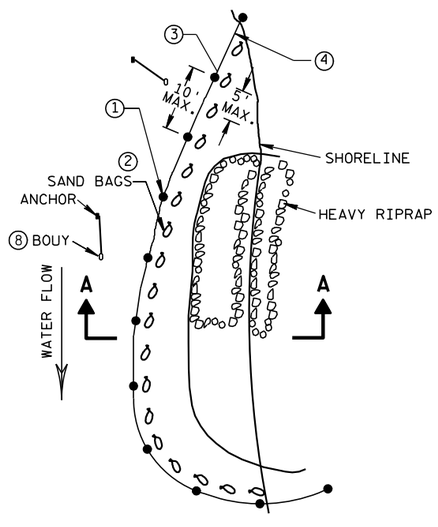




**TURBIDITY BARRIER FLOAT ALTERNATIVE**
**CAUTION - SEE NOTE 6**




**SECTION A-A**




**PLAN VIEW**

**TURBIDITY BARRIER STANDARD POST INSTALLATION**

**TURBIDITY BARRIER PLACEMENT DETAILS**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

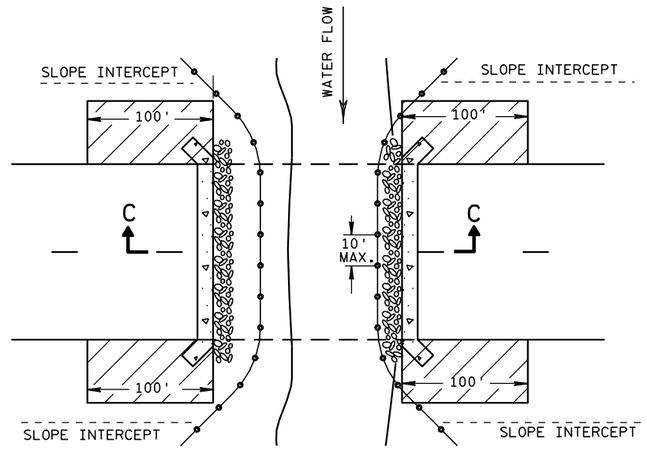
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

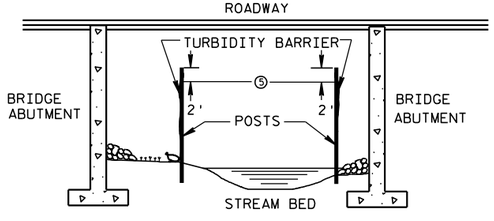
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.




**PLAN VIEW**




**SECTION C-C**

**TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES**

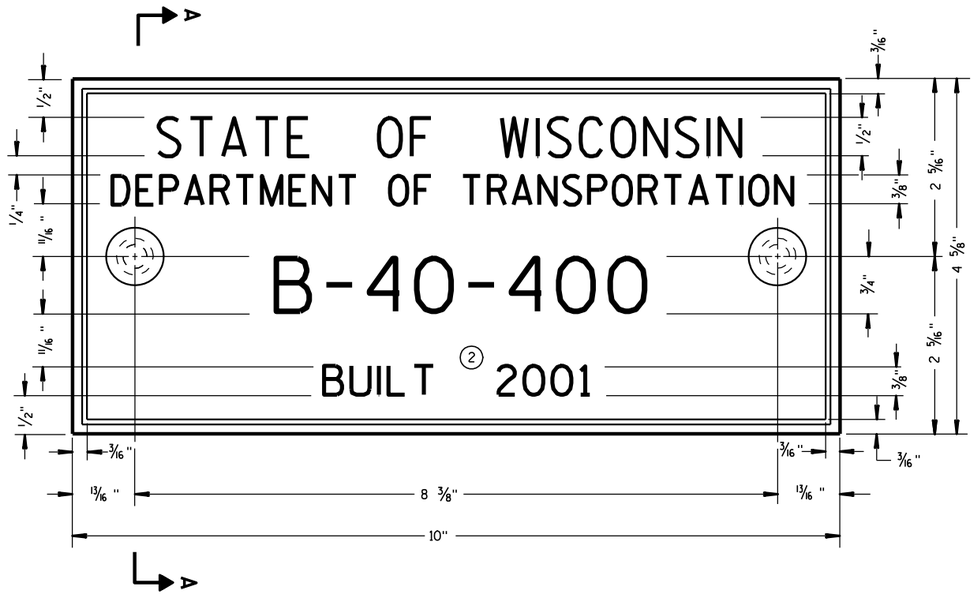
**TURBIDITY BARRIER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 11-2




**TYPICAL NAME PLATE**
(BRIDGES, CULVERTS, AND RETAINING WALLS)

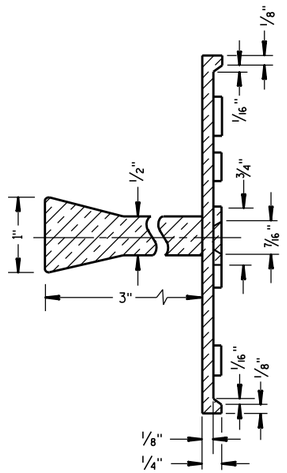
## GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

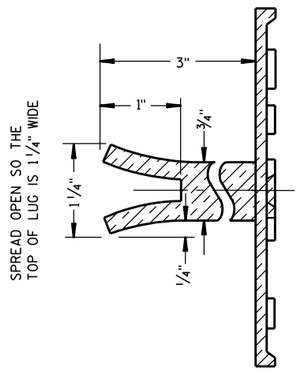
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




**SECTION A-A**




**ALTERNATE LUG**

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

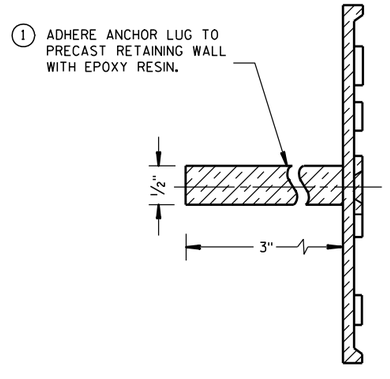
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

**NUMBERING DESIGNATION**
**MULTI-UNIT STRUCTURES**




**ALTERNATE LUG**
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE (STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

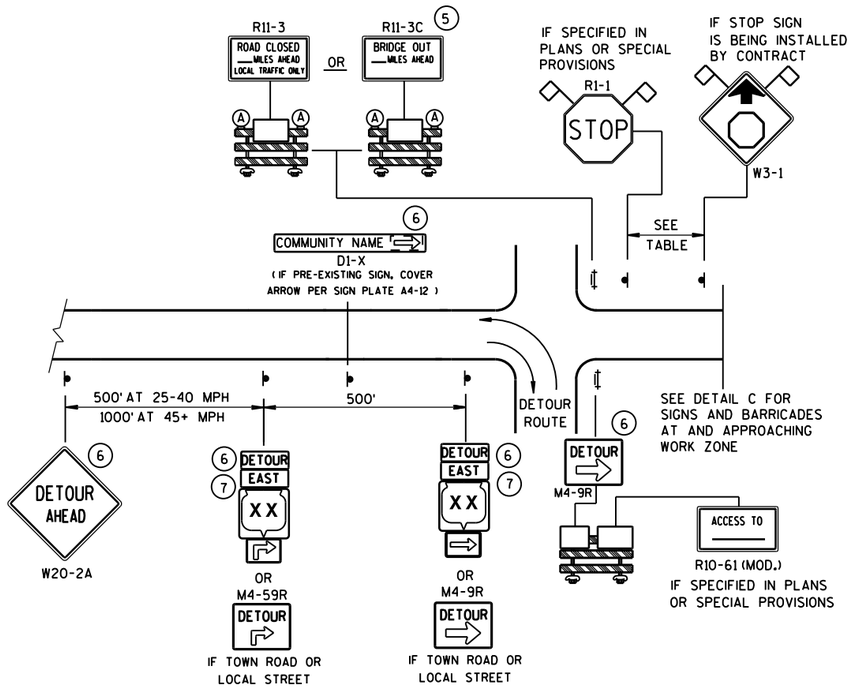






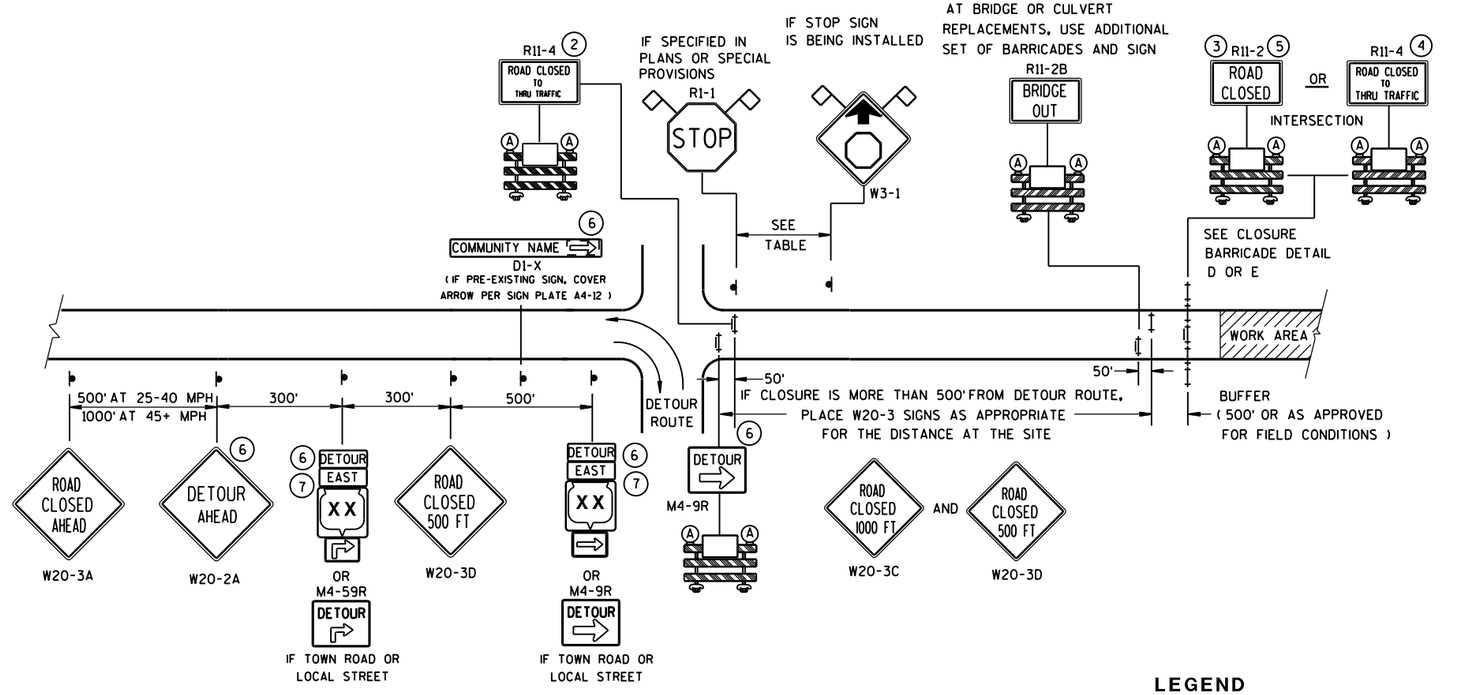
6

S.D.D. 12 A 3-10



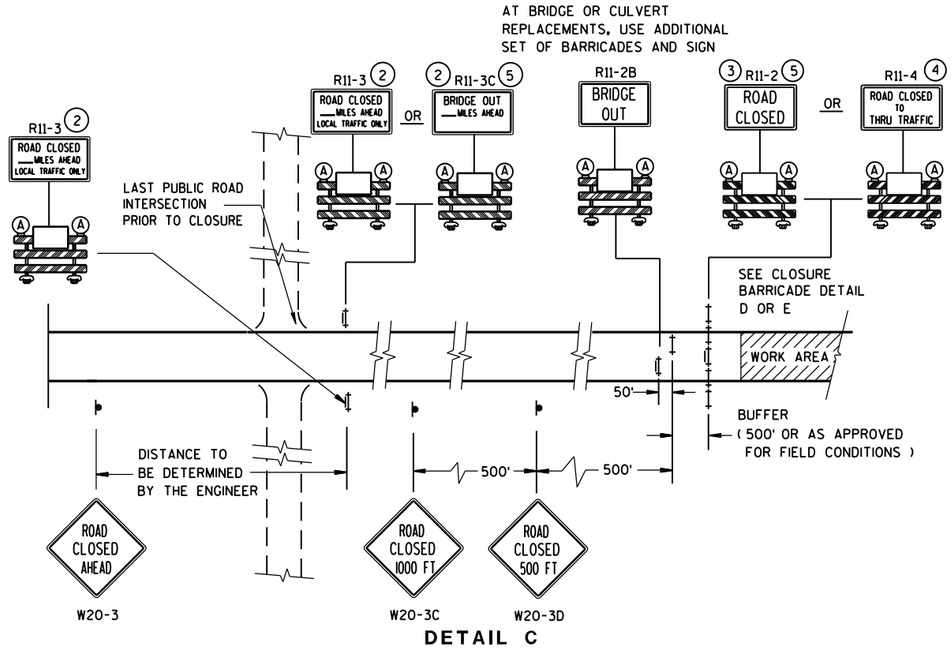

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )




## DETAIL C
## MAINLINE CLOSURE, NO POSTED DETOUR

| SPEED LIMIT (MPH) | "STOP AHEAD" ADVANCE WARNING DISTANCE (FT) |
|---|---|
| 25 | 200 |
| 30 | 200 |
| 35 | 350 |
| 40 | 350 |
| 45 | 500 |
| 50 | 550 |
| 55 | 750 |

SEE SDD 15C2-SHEET "**b**" FOR GENERAL NOTES AND FOOTNOTES (1) THROUGH (7)

### LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

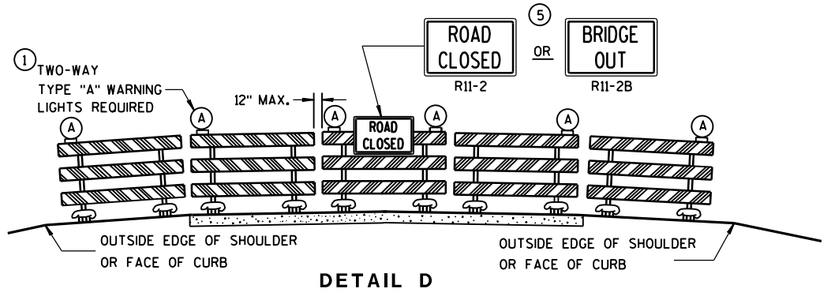


6

S.D.D. 15 C 2-6a

6

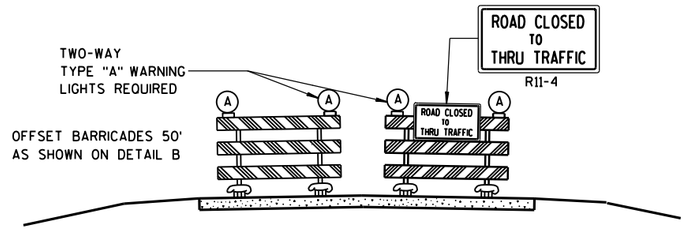
S.D.D. 15 C 2-6a




**DETAIL D**

## ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW




**DETAIL E**

## LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO FIC
SAFETY ENGI
FHWA

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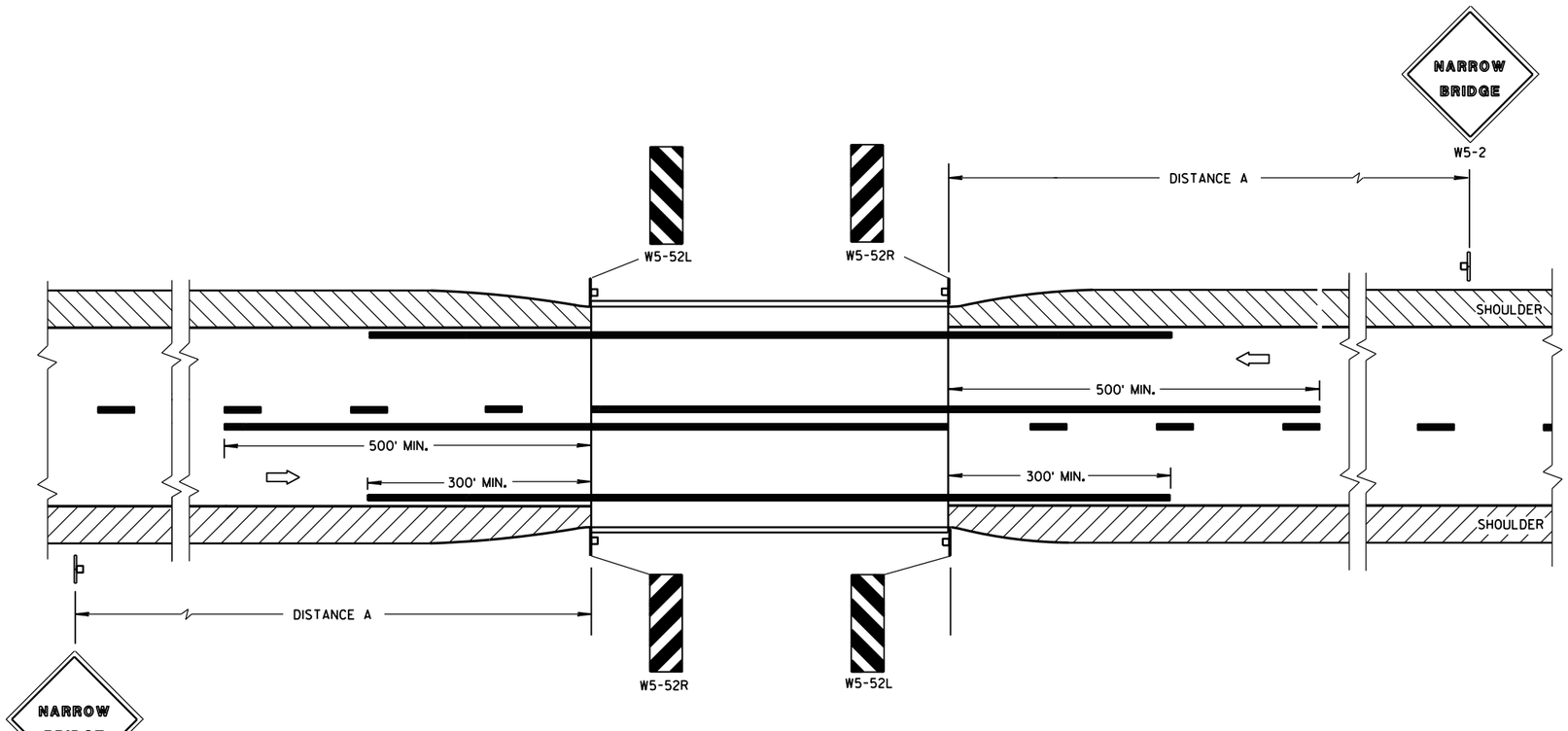
S.D.D. 15 C 2-6b




## SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

### DISTANCE TABLE

| POSTED OR 85th PERCENTILE SPEED | DISTANCE "A" |
|---|---|
| 25 | 150' |
| 30 | 200' |
| 35 | 250' |
| 40 | 300' |
| 45 | 400' |
| 50 | 550' |
| 55 | 750' |

## GENERAL NOTES

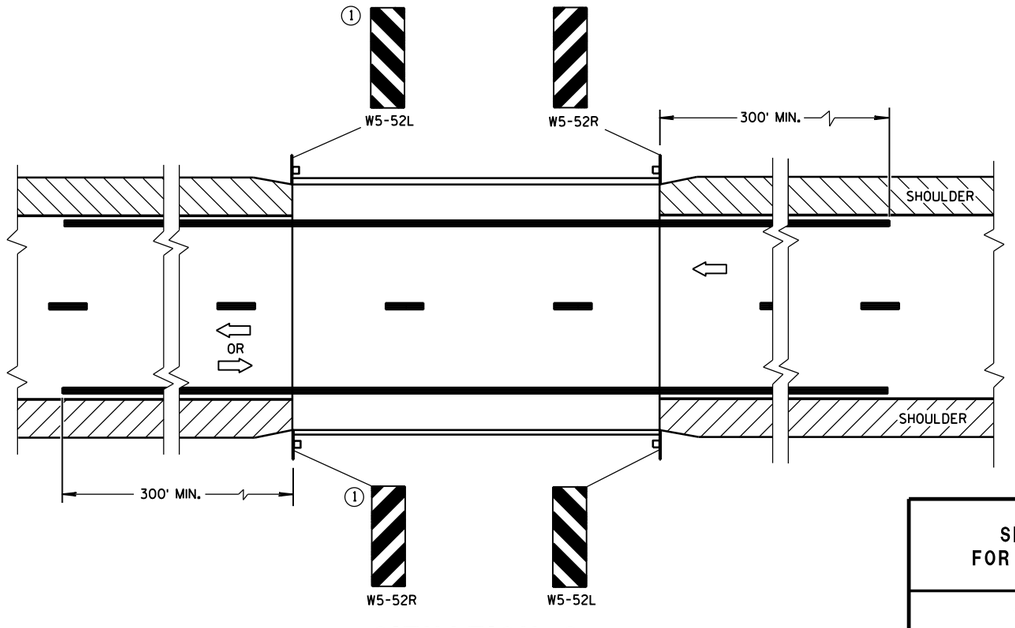
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC




## SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

**SIGNING & MARKING FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA



6

S.D.D. 15 C 6-9

6

S.D.D. 15 C 6-9

| S | BUFFER SPACE (DESIRABLE) |
|---|---|
| 25 | 55' |
| 30 | 85' |
| 35 | 120' |
| 40 | 170' |
| 45 | 220' |
| 50 | 280' |
| 55 | 335' |

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

END ROAD WORK
G20-2A
48"x24"

NO PASSING ZONE
W14-3
48"x36"

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

1000'
500'
400'
500'
200'
50'
50'
25' TYP.

W01-6
48"x24"
✳✳✳

R11-2
48"x30"
ROAD CLOSED
TYPE III BARRICADE

FOR BRIDGE OR CULVERT REPLACEMENTS SUBSTITUTE
BRIDGE OUT
R11-2B
48"x30"

ROAD CLOSURE OR BRIDGE/CULVERT REPLACEMENT

BUFFER SPACE (SEE TABLE)

WORK AREA

BUFFER SPACE (SEE TABLE)

TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.

W05-52L
12"x36"

W05-52R
12"x36"

OR

W01-3L
W01-4L
W013-1
XX M.P.H.
24"x24"

ROAD WORK 1000 FT
W20-1C

ROAD WORK AHEAD
W20-1A

END TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

END TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINES. (USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT)

TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW CENTERLINE AND 2-WAY YELLOW RAISED PAVEMENT MARKERS AT 25' SPACING. USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT.

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED.

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

✳ IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.

✳✳ WHEN THE DISTANCE TO/FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

✳✳✳ OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY-BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR, (WHITE) (SINGLE DELINEATOR)
- TEMPORARY RAISED PAVEMENT MARKERS (TWO-WAY YELLOW)
- XXX REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
- WORK AREA

# TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

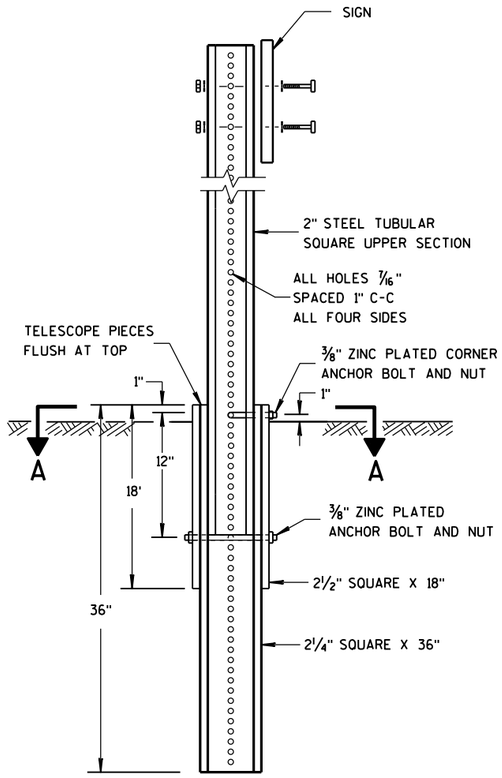
| Sept. 2015 | /S/ Peter Amakobe Atepe |
|---|---|
| DATE | STATEWIDE WORK ZONE SAFETY ENGINEER |

FHWA

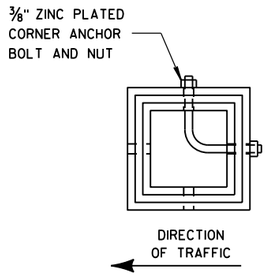



6

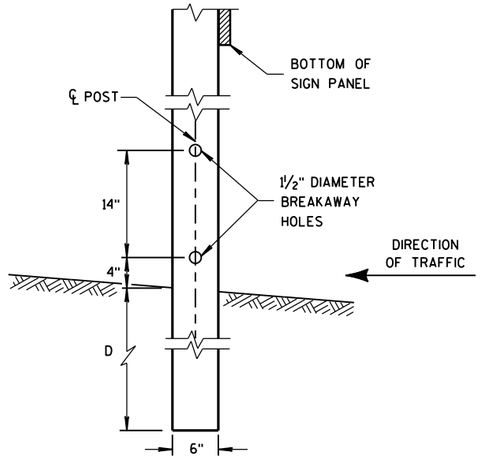

S.D.D. 15 D 31-3




## DETAIL OF TUBULAR STEEL SIGN POST




## SECTION A-A



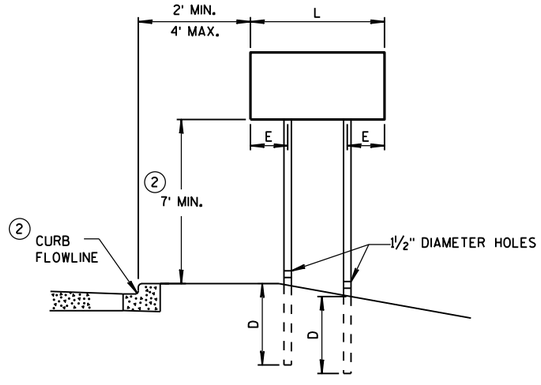

## 4"x6" WOOD POST MODIFICATION

## GENERAL NOTES

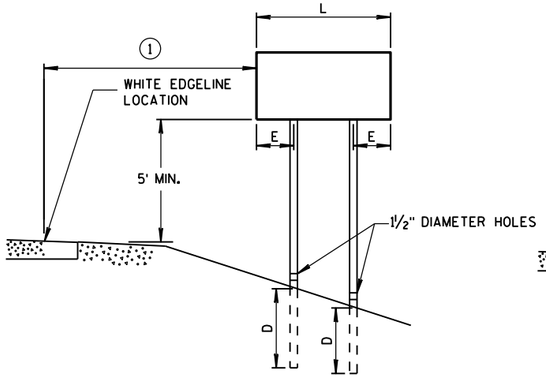
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

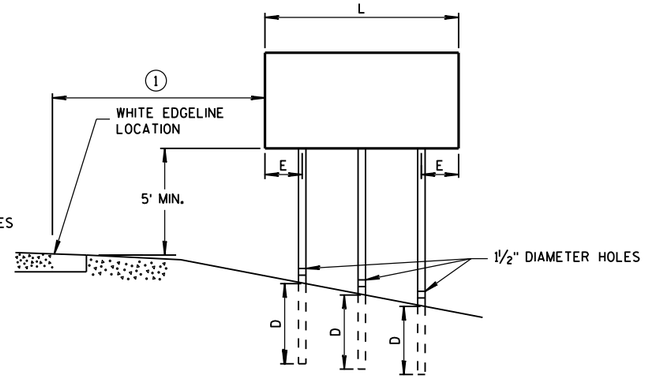
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.




## URBAN AREA




## RURAL AREA

## POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

### TUBULAR STEEL POSTS

| AREA OF SIGN INSTALLATION (SQ. FT.) | NUMBER OF REQUIRED TUBULAR STEEL POSTS |
|---|---|
| 9 OR LESS | 1 |
| GREATER THAN 9 LESS THAN OR EQUAL TO 18 | 2 |
| GREATER THAN 18 LESS THAN OR EQUAL TO 27 | 3 |

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

### WOOD POST EMBEDMENT DEPTH

| AREA OF SIGN INSTALLATION (SQ. FT.) | D (MIN) |
|---|---|
| 20 OR LESS | 4' |
| GREATER THAN 20 | 5' |

### 4" X 6" WOOD POST

| POST SPACING REQUIREMENTS | | NUMBER OF WOOD POSTS REQUIRED |
|---|---|---|
| L | E | |
| 48" OR LESS AND LESS THAN 20 SQ. FT. | - | 1 |
| LESS THAN 60" | 12" | 2 |
| 60" TO 120" | L/5 | 2 |
| GREATER THAN 120" LESS THAN 168" | 12" | 3 |
| 168" AND GREATER | 12" | 4 |

SEE NOTE (3)

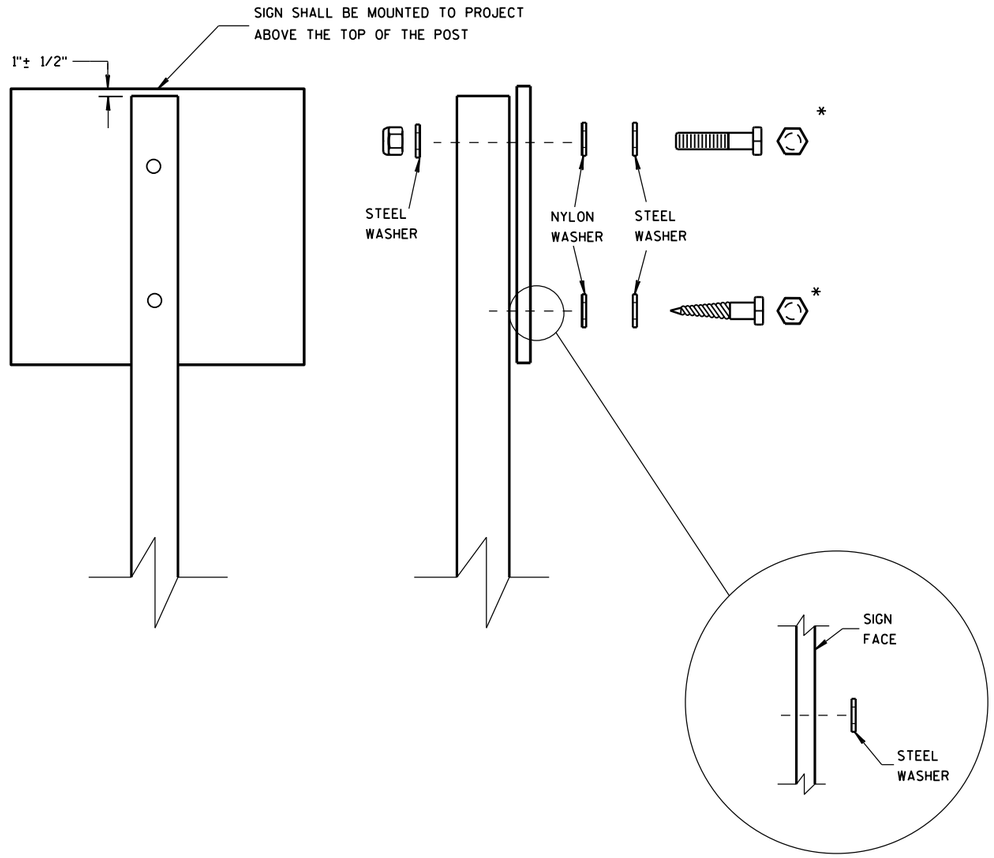
TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI





6
S.D.D. 15 D 38-2a




WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

# ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

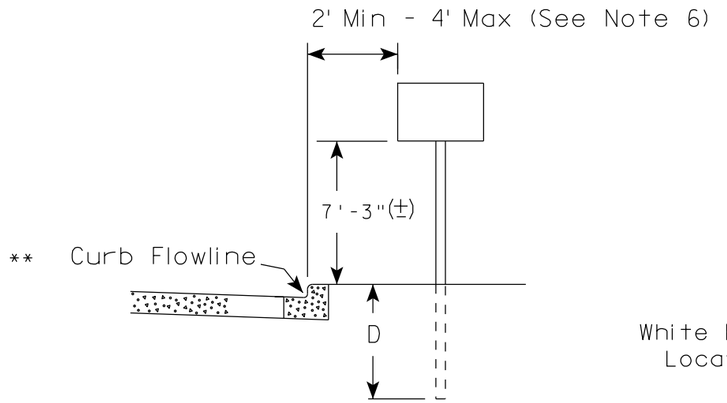
APPROVED

June 2017
DATE

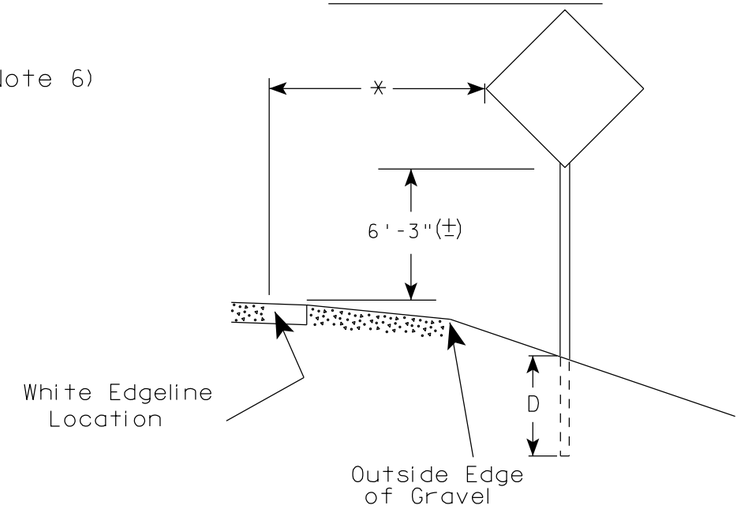
/S/ Andrew Heldtke
WORK ZONE ENG

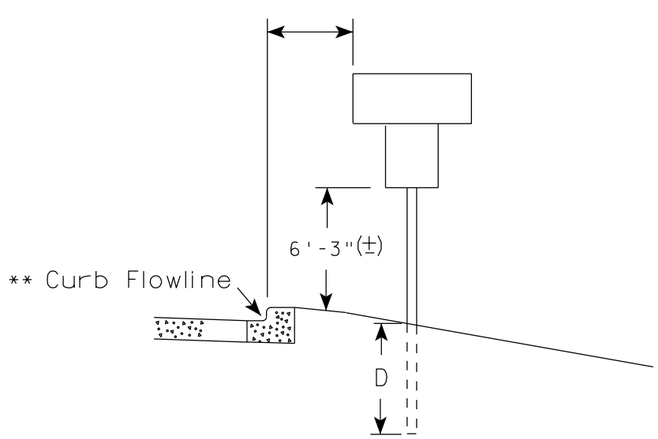
FHWA

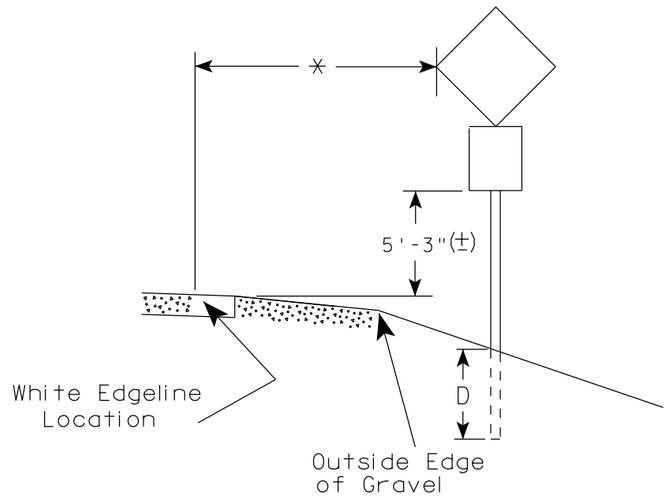
## URBAN AREA




## RURAL AREA (See Note 2)




## GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq.Ft.) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

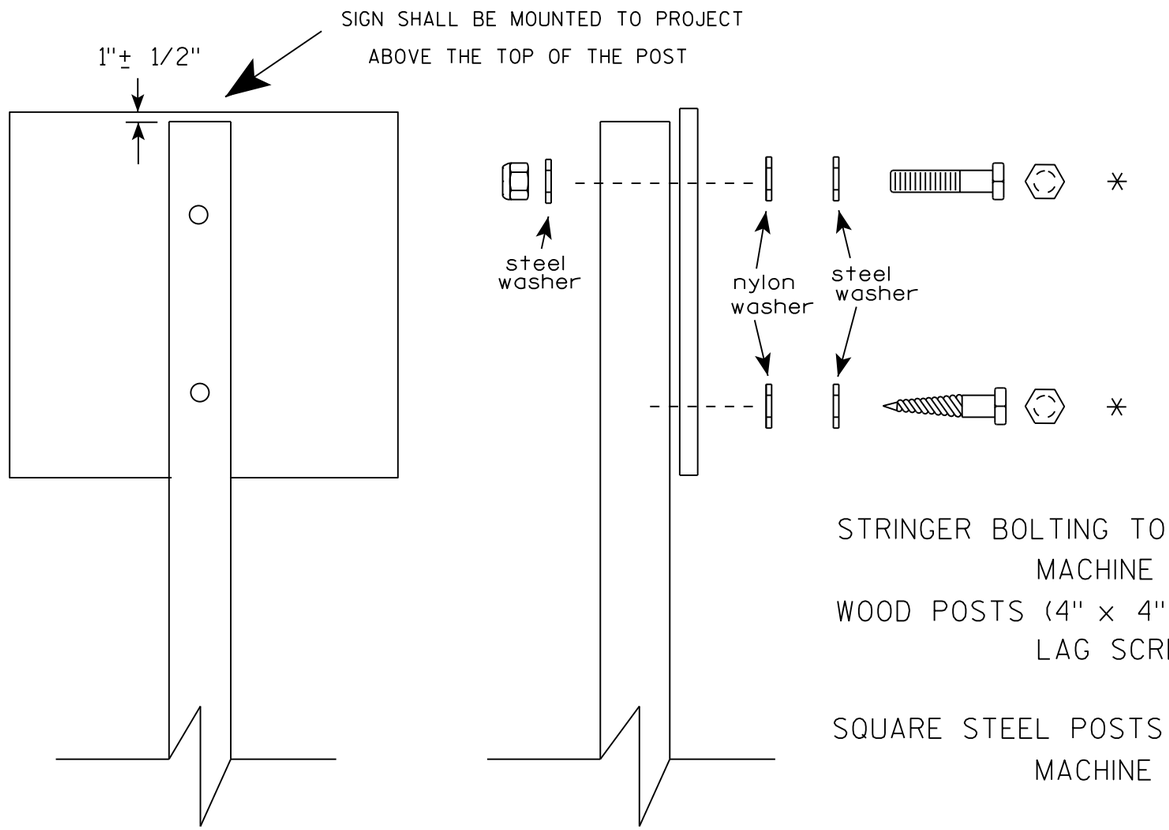
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|




Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

# ATTACHMENT OF SIGNS TO POSTS

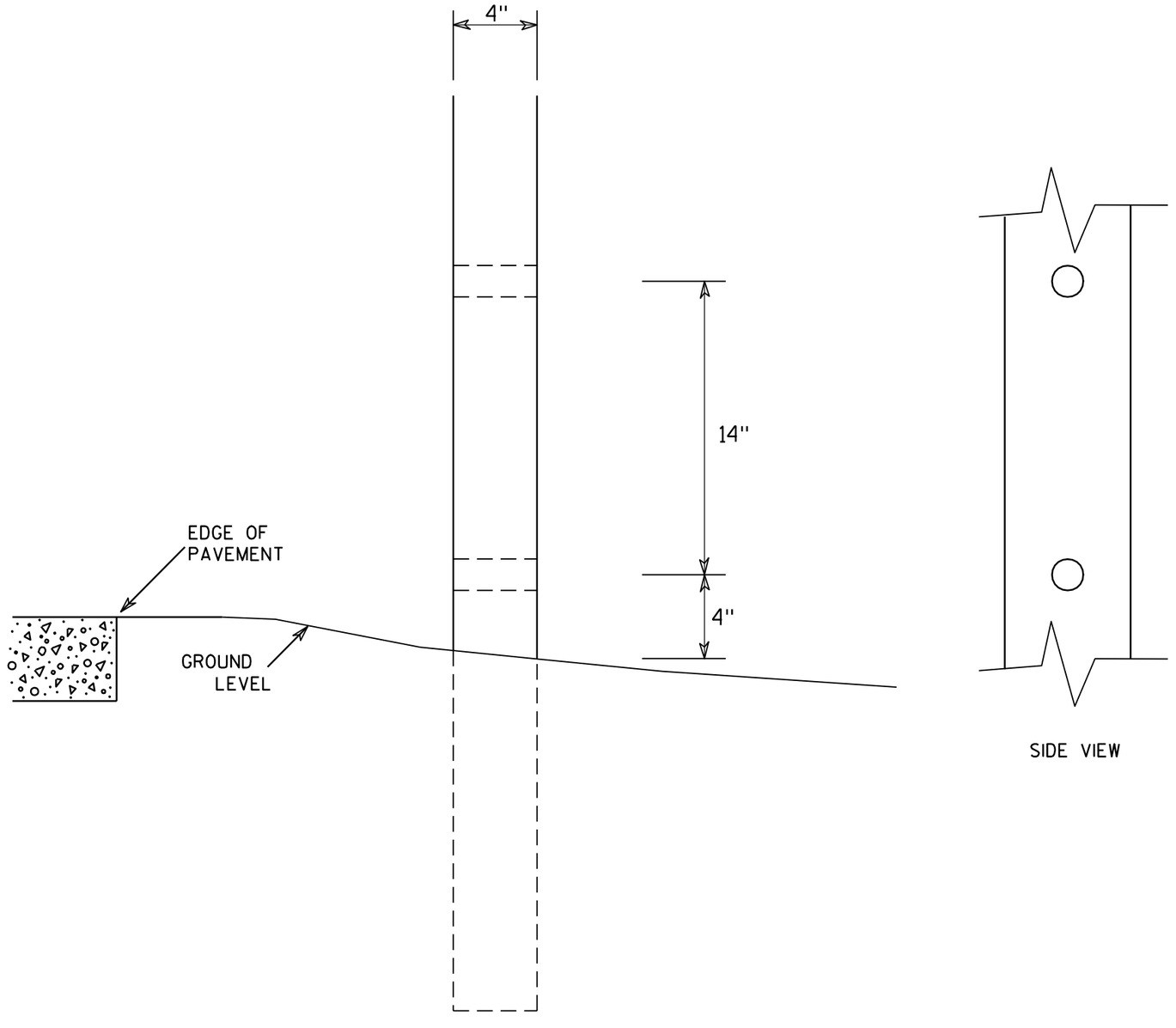
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8



PROJECT NO: SHEET NO: E






SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

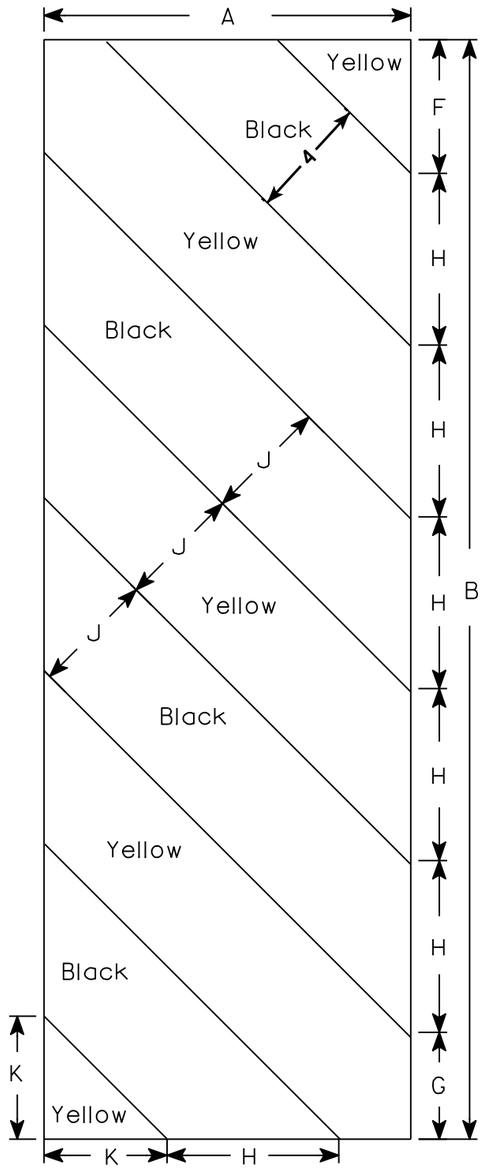
# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

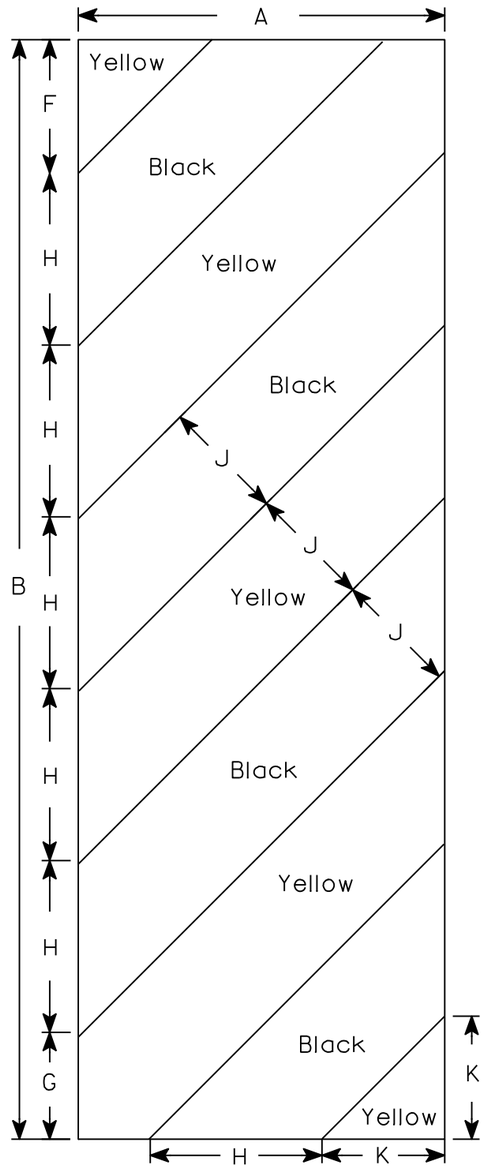
APPROVED Chester J Spang
for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 21 | E |
|---|---|---|---|---|---|




W5-52L




W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | | | | 6 | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 | | | | | | | | | | | | | | | | 6.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN

W5-52L & W5-52R

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

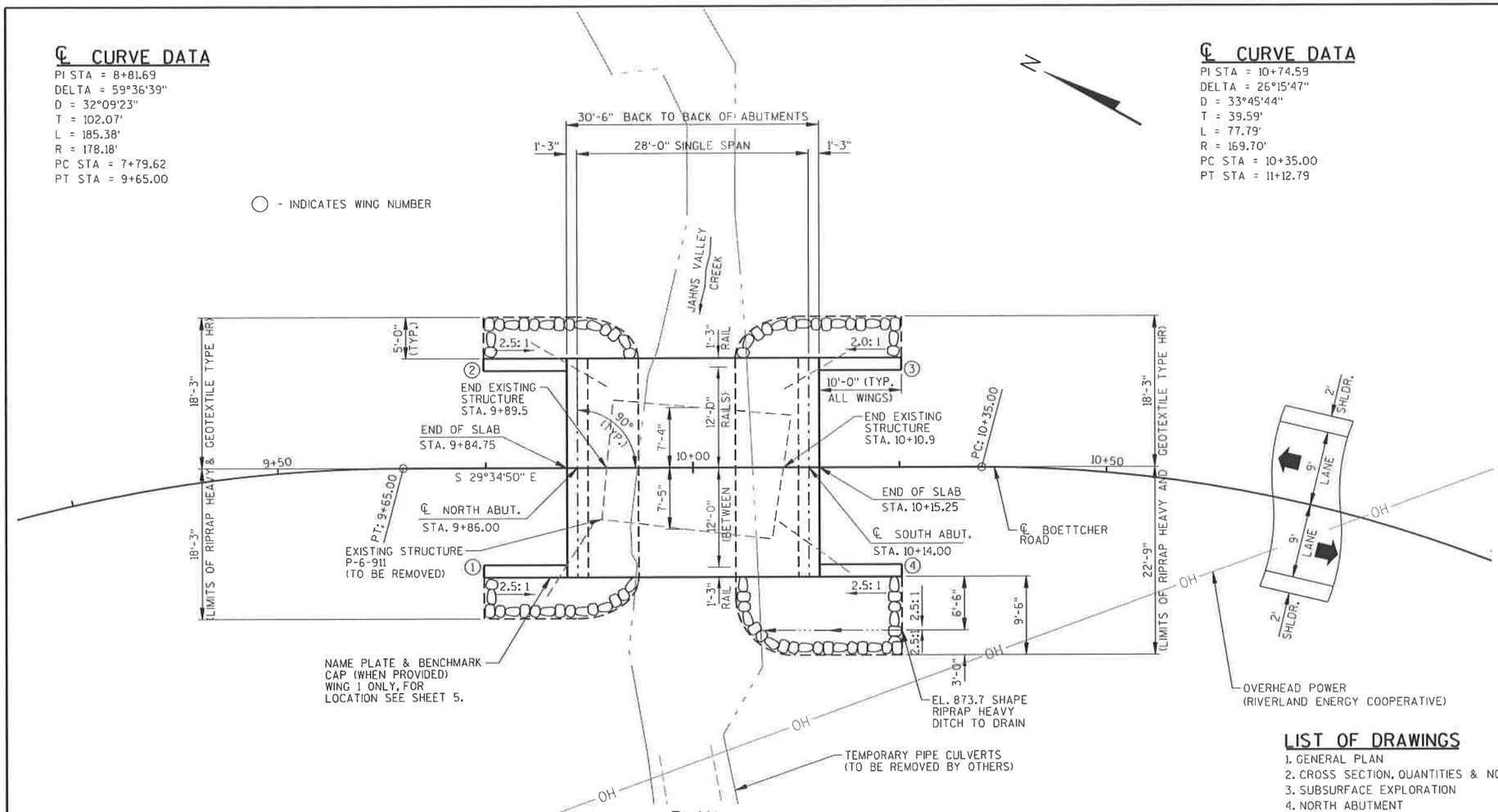
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 22 | E |
|---|---|---|---|---|---|

## ℄ CURVE DATA

PI STA = 8+81.69
DELTA = 59°36'39"
D = 32°09'23"
T = 102.07'
L = 185.38'
R = 178.18'
PC STA = 7+79.62
PT STA = 9+65.00

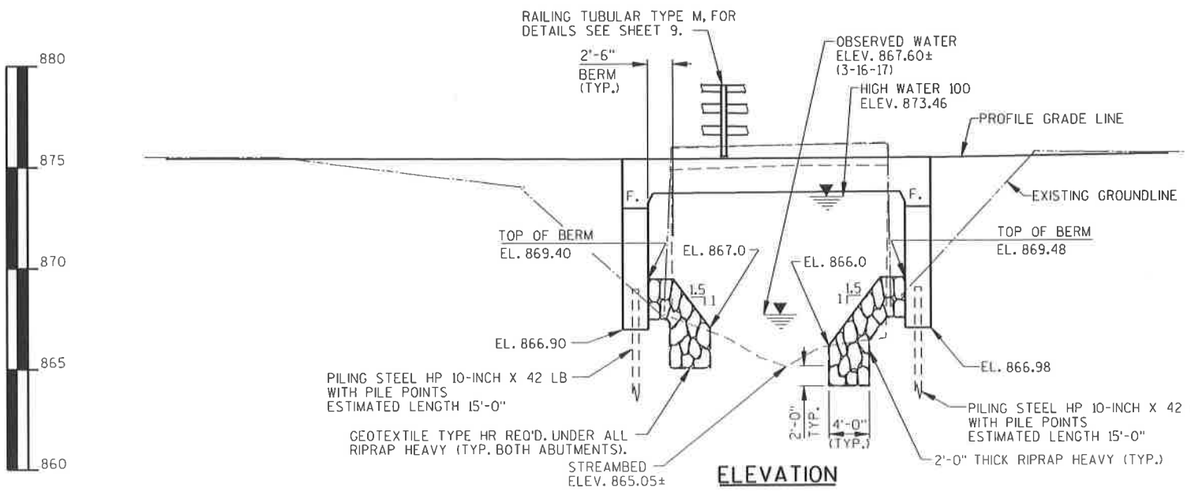
## ℄ CURVE DATA

PI STA = 10+74.59
DELTA = 26°15'47"
D = 33°45'44"
T = 39.59'
L = 77.79'
R = 169.70'
PC STA = 10+35.00
PT STA = 11+12.79




## PLAN

(SINGLE SPAN FLAT CONCRETE SLAB)




## ELEVATION

(LOOKING EAST)

| STATE PROJECT NUMBER |
|---|
| 7231-00-70 |

BENCHMARKS ⊕ NAVD 88

| NO. | STA./OFFSET | DESCRIPTION | ELEV. |
|---|---|---|---|
| 1 | 9+96.06, 35.04' RT | CMCP - TOP, EAST END NORTH PIPE | 870.63 |
| 2 | 10+74.56, 43.24' RT | 2 POLE NAILS IN 12" BOX ELDER | 876.66 |
| 3 | 9+91.64, 88.17' RT | 2 POLE NAILS IN 48" COTTON WOOD | 871.20 |

## DESIGN DATA

LIVE LOAD:
DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.14
OPERATIONAL RATING FACTOR : 1.48

TRAFFIC DATA:
A.A.D.T. (2018) = 10 (EST.)
A.A.D.T. (2038) = 15 (EST.)
R.D.S. = 25 MPH

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:
CONCRETE MASONRY, SUPERSTRUCTURE ——— $f'_c$ = 4,000 P.S.I.
ALL OTHER ——— $f'_c$ = 3,500 P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ——— $f_y$ = 60,000 P.S.I.

FOUNDATION DATA:
ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH PILE POINTS, DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS ✳ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 15'-0" AT BOTH ABUTMENTS.

✳ THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA;
100 YEAR FREQUENCY

| | |
|---|---|
| DRAINAGE AREA | 4.0 SQ. MI. |
| $Q_{100}$ | 925 C.F.S. |
| VELOCITY | 7.34 FT./SEC. |
| WATERWAY AREA | 126 SQ. FT. |
| SCOUR CRITICAL CODE | 8 |
| HIGH WATER $_{100}$ ELEVATION | 873.46 |
| $Q_2$ | 140 C.F.S. |
| $Q_2$ ELEVATION | 869.60 |
| $Q_2$ VELOCITY | 2.76 FT./SEC. |

ROADWAY OVERFLOW DESIGN FREQUENCY
OVERTOPPING FREQUENCY ——— > 100 YEARS

## LIST OF DRAWINGS




CONSULTANT DESIGN CONTACT:
JOLIE SNYDER
(608) 355-8912

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608) 266-8489


WISCONSIN
JOLIE A. SNYDER
E-45364
LODI
WI
PROFESSIONAL ENGINEER
12/01/17

| NO. | DATE | REVISION | BY |
|---|---|---|---|


MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 02/07/18
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-6-400

BOETTCHER ROAD OVER JAHNS VALLEY CREEK

COUNTY BUFFALO | TOWN/~~CITY/VILLAGE~~ LINCOLN

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JAS | DHW | RLR | JAS |

GENERAL PLAN

SHEET 1 OF 9
23

8

8

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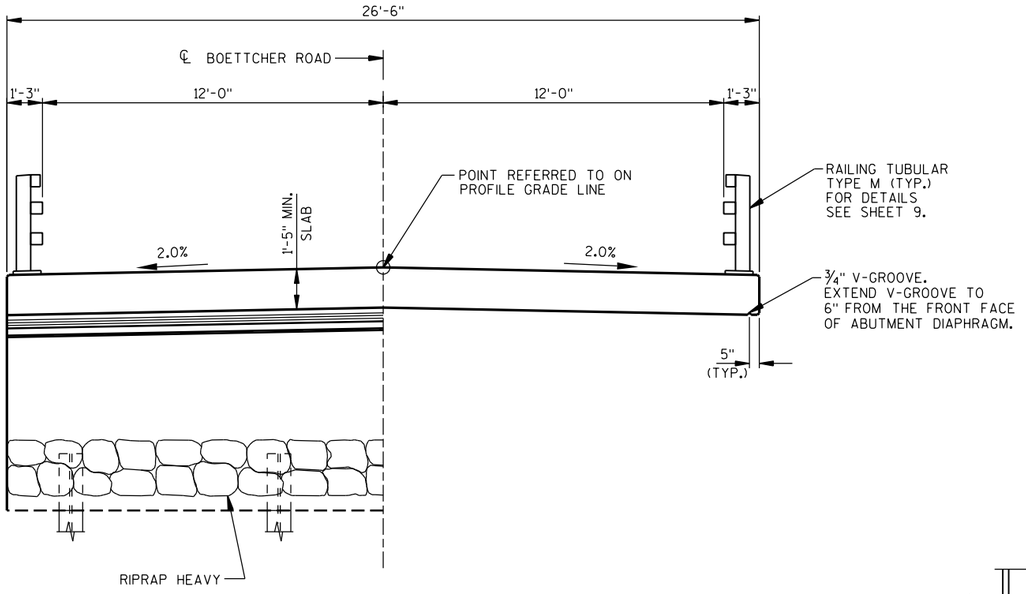
5643008_01.dgn 11/28/2017 4:08:15 PM jsnyder

STATE PROJECT NUMBER

7231-00-70




AT ABUTMENTS IN SPAN

CROSS SECTION THRU BRIDGE

(LOOKING SOUTH)

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE, P-6-911, A 21.4 FT. LONG, SINGLE SPAN STEEL DECK GIRDER ON FULL RETAINING TIMBER ABUTMENTS WITH 14.8 FT. CLEAR ROAD WIDTH.

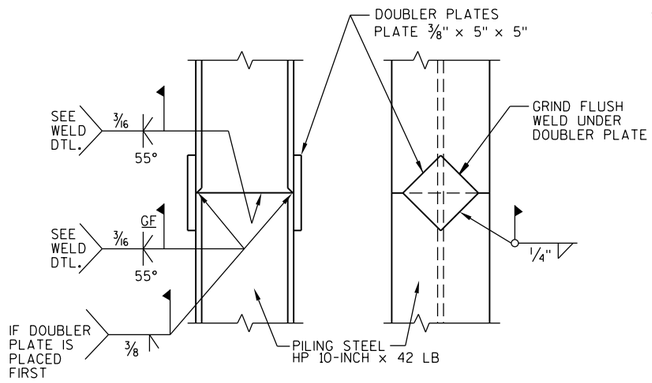
Ⓑ-BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

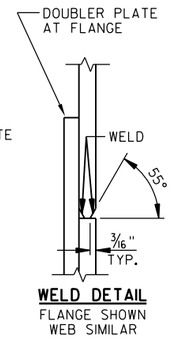
AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CAN NOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, TO THE EXPOSED FRONT FACES OF WINGS, AND TO THE END 1'-0" OF THE ABUTMENT BODY FRONT FACES.

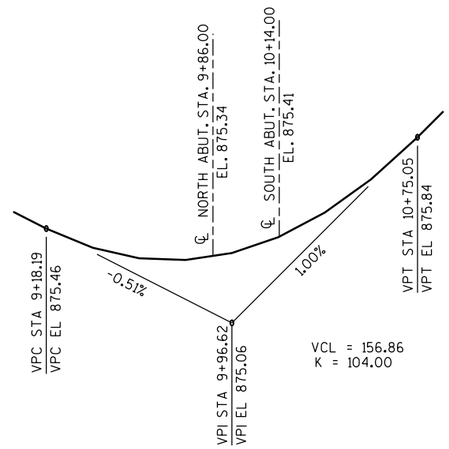
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.




WELD DETAIL

FLANGE SHOWN WEB SIMILAR

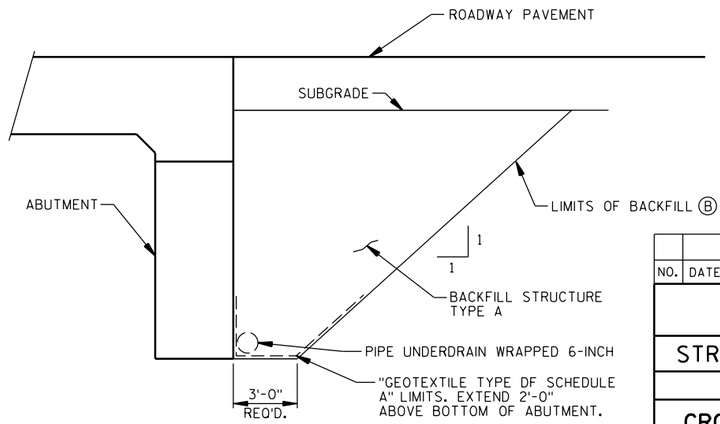



PROFILE GRADE LINE - BOETTCHER ROAD

## TOTAL ESTIMATED QUANTITIES

| ITEM NUMBER | BID ITEM | UNIT | NORTH ABUT. | SOUTH ABUT. | SUPER | TOTAL |
|---|---|---|---|---|---|---|
| 203.0600.S.01 | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00 | LS | - | - | - | 1 |
| 206.1000.01 | EXCAVATION FOR STRUCTURES BRIDGES B-6-400 | LS | - | - | - | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | 180 | 180 | - | 360 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 32 | 32 | 46 | 110 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 13 | 13 | 105 | 131 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 1600 | 1600 | - | 3200 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 1360 | 1370 | 8600 | 11330 |
| 513.4061.01 | RAILING TUBULAR TYPE M B-6-400 | LF | - | - | 106 | 106 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 8 | 8 | - | 16 |
| 550.0500 | PILE POINTS | EACH | 4 | 4 | - | 8 |
| 550.1100 | PILING STEEL HP 10-INCH X 42 LB | LF | 60 | 60 | - | 120 |
| 606.0300 | RIPRAP HEAVY | CY | 35 | 45 | - | 80 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 85 | 85 | - | 170 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | 30 | 30 | - | 60 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 80 | 100 | - | 180 |
| | | | | | | |
| | **NON-BID ITEMS** | | | | | |
| | PREFORMED FILLER | SIZE | | | | ½" & ¾" |

## PILE SPLICE DETAILS




STRUCTURE BACKFILL DETAIL

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

DRAWN BY RLR | PLANS CK'D. JAS

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 9
24

FILE= 5643008_02.DGN
DATE=11/28/2017

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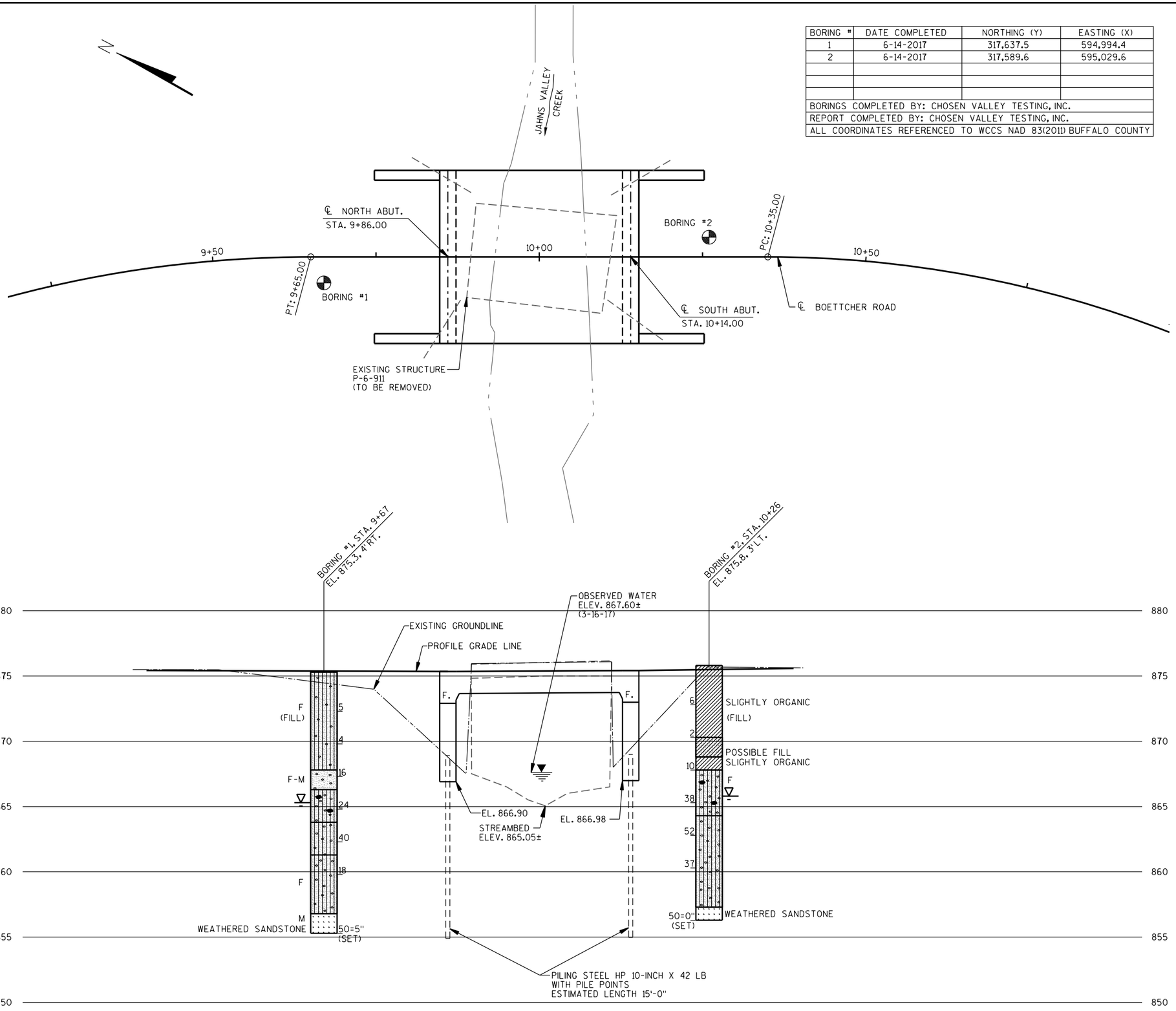
5643008_02.dgn 11/28/2017 4:06:25 PM jsnyder

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 1 | 6-14-2017 | 317,637.5 | 594,994.4 |
| 2 | 6-14-2017 | 317,589.6 | 595,029.6 |
| | | | |
| | | | |
| | | | |
| BORINGS COMPLETED BY: CHOSEN VALLEY TESTING, INC. | | | |
| REPORT COMPLETED BY: CHOSEN VALLEY TESTING, INC. | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) BUFFALO COUNTY | | | |



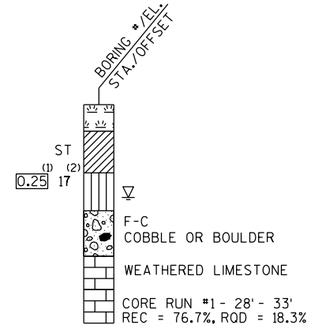

STATE PROJECT NUMBER

**7231-00-70**

MATERIAL SYMBOLS

| | | |
|---|---|---|
| ASPHALT | TOPSOIL | PEAT |
| CONCRETE | FILL | GRAVEL |
| SAND | CLAY | SILT |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE | SANDSTONE | IGNEOUS/ META |

LEGEND OF BORING




(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

DRAWN BY RLR | PLANS CK'D. JAS

SUBSURFACE EXPLORATION

SHEET 3 OF 9
25

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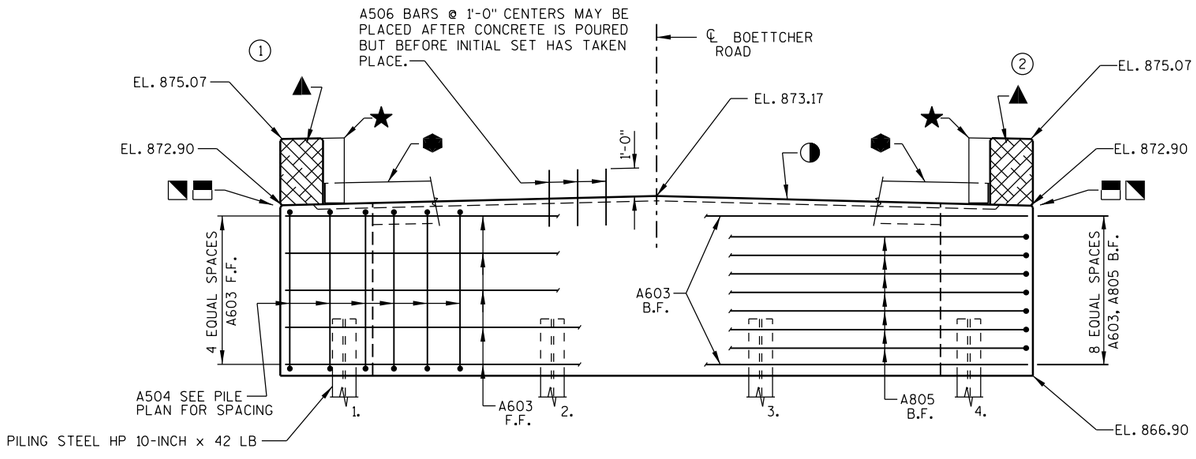
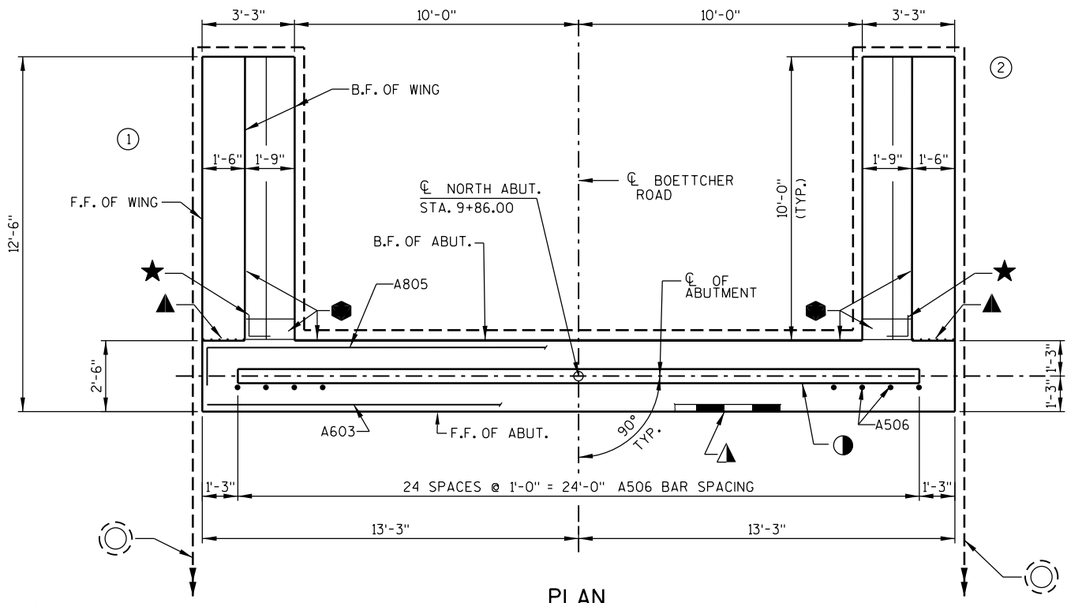
STATE PROJECT NUMBER

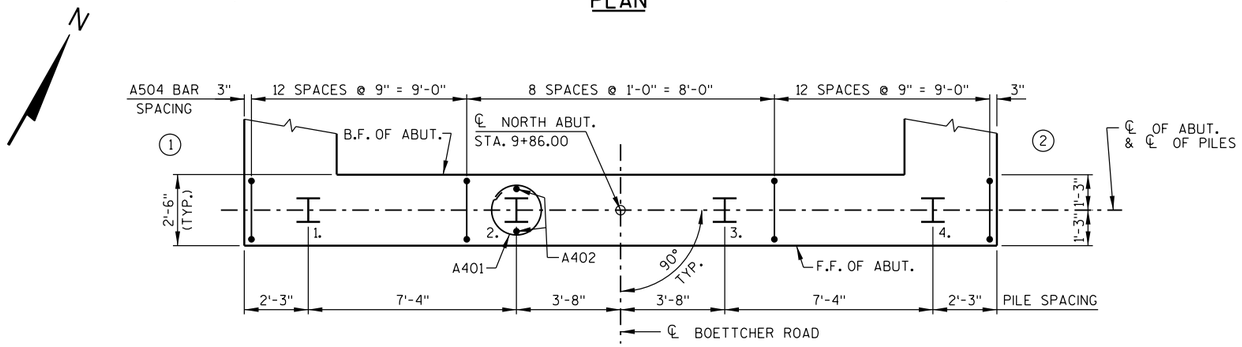
7231-00-70




## ELEVATION
(LOOKING NORTH)

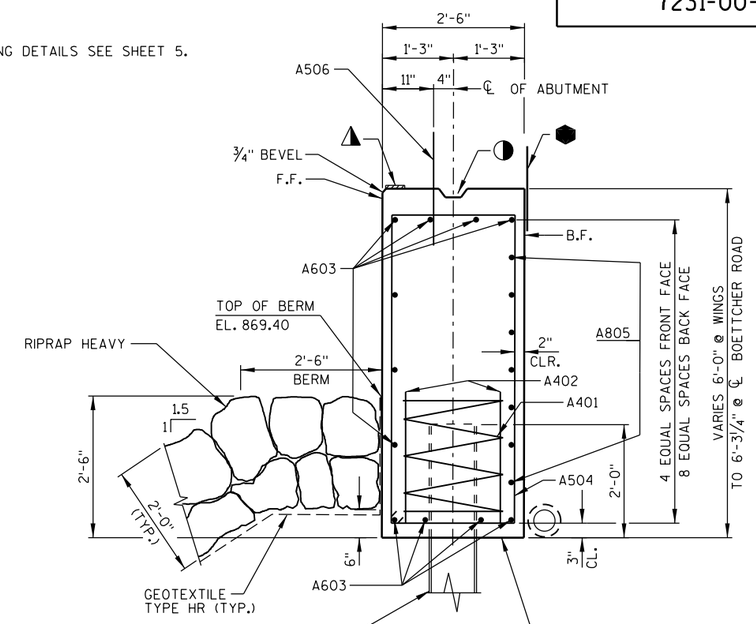



## PLAN




## PILE PLAN

NOTE:
FOR WING DETAILS SEE SHEET 5.




## TYPICAL SECTION THRU ABUTMENT

## LEGEND

- KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2x6. POUR CONCRETE ABOVE THIS JOINT AFTER SLAB IS IN PLACE AND PLACE ⬢ ON B.F. OF WING.
- ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQ'D. ONLY WHERE CONST. JOINT IS USED.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- 4"x ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- ⬢ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS. PLACE BOTTOM HALF HORIZONTAL AT HAUNCHED AREA OF WINGS AT CONSTRUCTION JOINT.
- ◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS SEE SHEET 5.
- ⓝ INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

DRAWN BY RLR | PLANS CK'D. JAS

NORTH ABUTMENT

SHEET 4 OF 9
26

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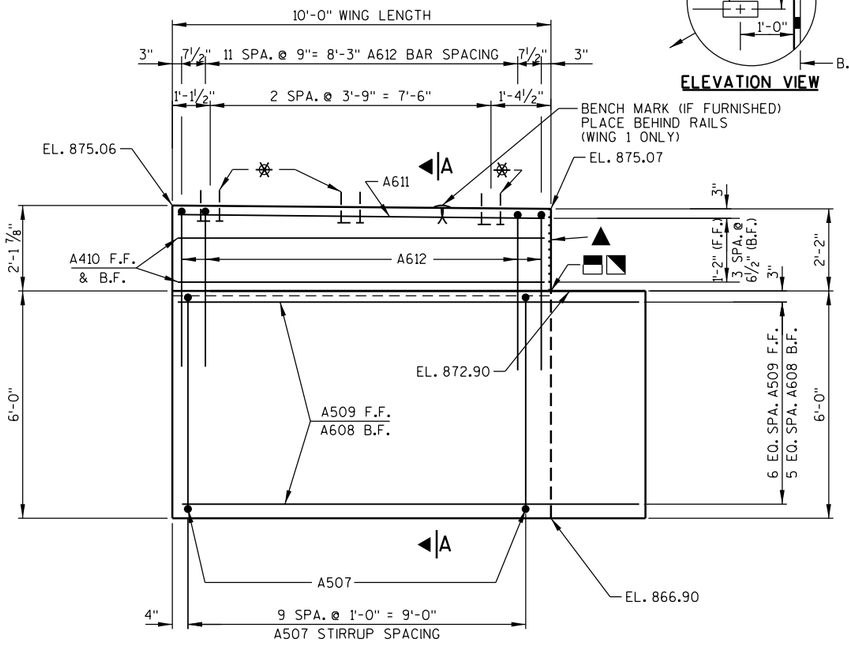
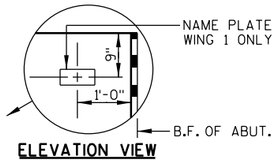
| STATE PROJECT NUMBER |
|---|
| 7231-00-70 |

✲ — FOR RAIL POST ANCHOR DETAILS, SEE SHEET 9.

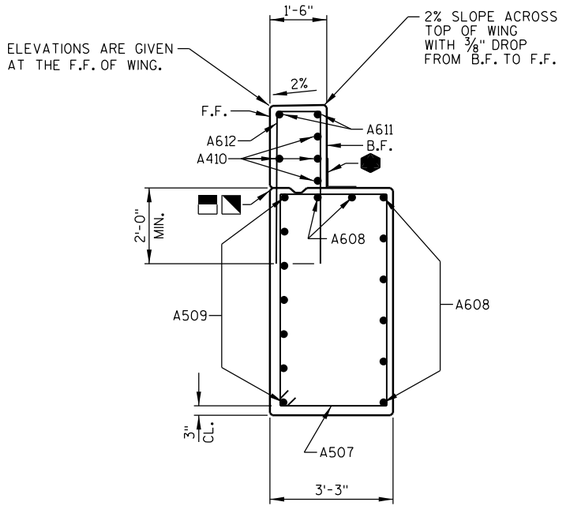



ELEVATION - WING




ELEVATION VIEW

**NOTE:**
WING 1 SHOWN
WING 2 SIMILAR



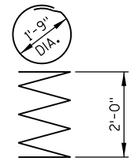

SECTION A-A THRU WING

## BILL OF BARS (NORTH ABUTMENT)

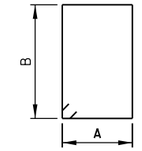
UNCOATED 1600 LBS.
COATED 1360 LBS.

| MARK | NUMBER REQUIRED | | LENGTH | BENT | LOCATION |
|---|---|---|---|---|---|
| | COATED | UNCOATED | | | |
| A401 | - | 4 | 28'-0" | X | ABUT. BODY - 1 SPIRAL WRAP @ EACH PILE |
| A402 | - | 8 | 2'-3" | | ABUT. BODY - 2 PER PILE - VERT. |
| A603 | - | 11 | 26'-2" | | ABUT. BODY - F.F., TOP & BOTTOM - HORIZ. |
| A504 | - | 33 | 16'-0" | X | ABUT. BODY - STIRRUPS - VERT. |
| A805 | - | 7 | 28'-5" | X | ABUT. BODY - B.F. - HORIZ. |
| A506 | 25 | - | 2'-0" | | ABUT. BODY - TOP - DOWELS - VERT. |
| A507 | 20 | - | 17'-6" | X | WINGS - BASE - STIRRUP - VERT. |
| A608 | 16 | - | 12'-0" | | WINGS - BASE - B.F. & TOP - HORIZ. |
| A509 | 14 | - | 12'-0" | | WINGS - BASE - F.F. - HORIZ. |
| A410 | 8 | - | 9'-7" | | WINGS - TOP - F.F. & B.F. - HORIZ. |
| A611 | 4 | - | 9'-7" | | WINGS - TOP - F.F. & B.F. - HORIZ. |
| A612 | 28 | - | 8'-10" | X | WINGS - TOP - STIRRUP - VERT. |

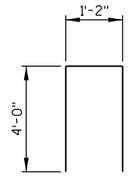
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



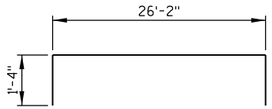

A401
(5 SPIRAL WRAPS)




| MARK | A | B |
|---|---|---|
| A504 | 2'-2" | 5'-6" |
| A507 | 2'-11" | 5'-6" |

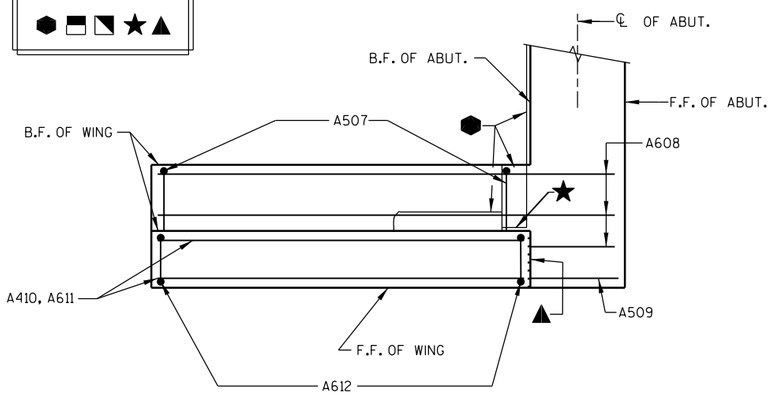



A612

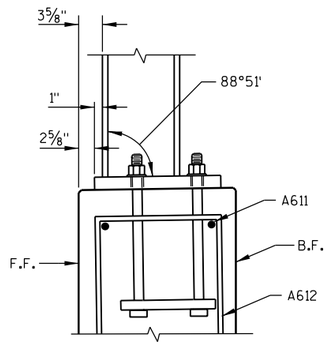



A805

SEE SHEET 4 LEGEND
FOR DESCRIPTION OF




PLAN - WING

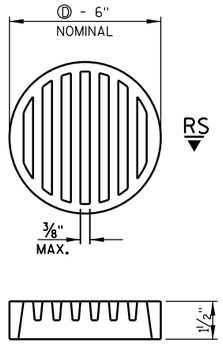



SECTION AT TOP OF WING

ROD ENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER.
A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".




SECTION RS-RS

RODENT SHIELD

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

| NO. | DATE | REVISION | BY |
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| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

| DRAWN BY | RLR | PLANS CK'D. | JAS |
|---|---|---|---|

NORTH ABUTMENT DETAILS

SHEET 5 OF 9
27

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DATE=9/18/2017

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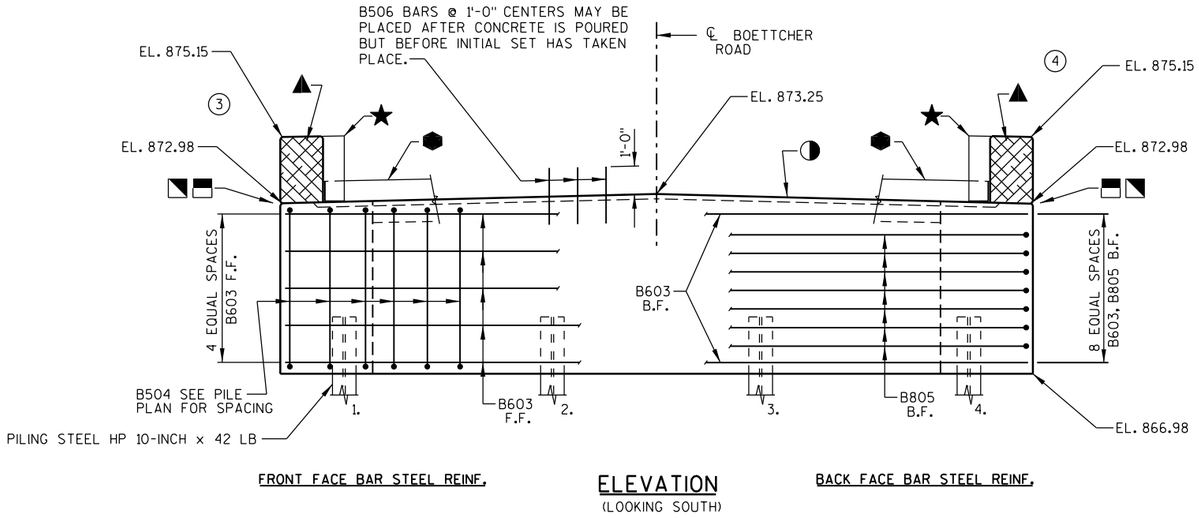
STATE PROJECT NUMBER

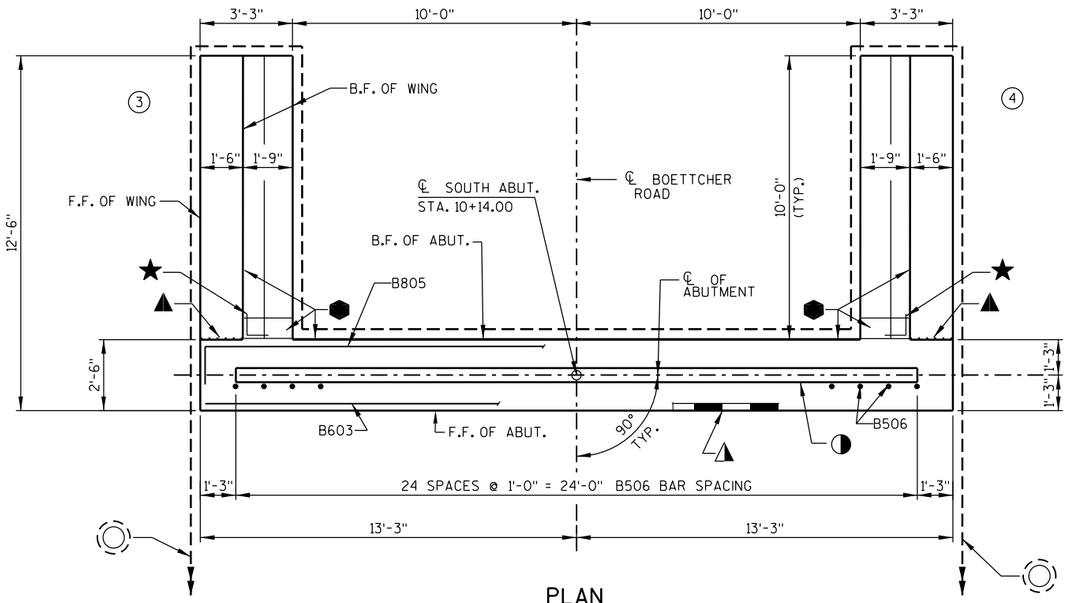
7231-00-70



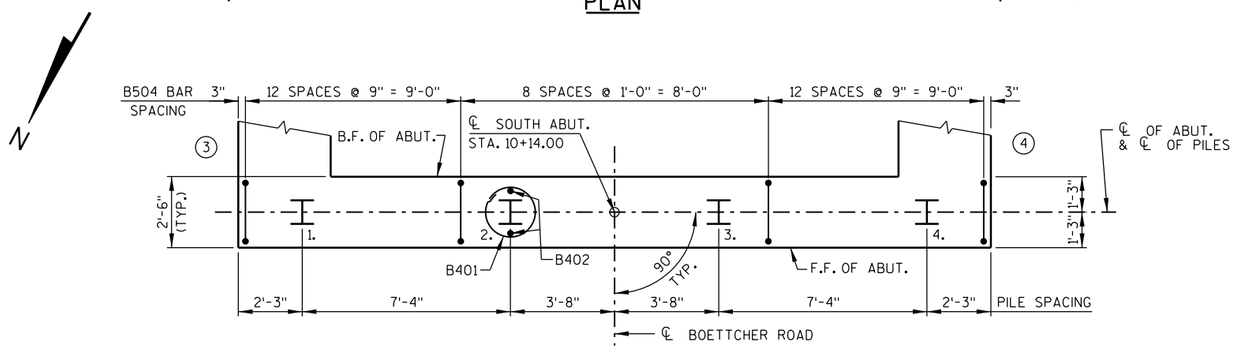

FRONT FACE BAR STEEL REINF.

## ELEVATION
(LOOKING SOUTH)

BACK FACE BAR STEEL REINF.

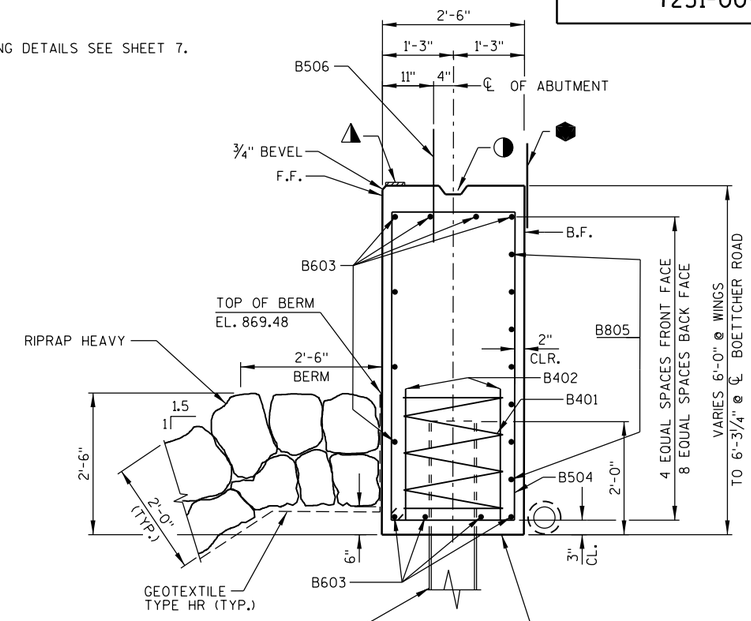



## PLAN




## PILE PLAN

NOTE:
FOR WING DETAILS SEE SHEET 7.




## TYPICAL SECTION THRU ABUTMENT

## LEGEND

- KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2x6. POUR CONCRETE ABOVE THIS JOINT AFTER SLAB IS IN PLACE AND PLACE ⬢ ON B.F. OF WING.
- ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQ'D. ONLY WHERE CONST. JOINT IS USED.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- 4"× ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
- ⬢ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS. PLACE BOTTOM HALF HORIZONTAL AT HAUNCHED AREA OF WINGS AT CONSTRUCTION JOINT.
- ◎ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS SEE SHEET 5.
- ◯ INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

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SOUTH ABUTMENT

SHEET 6 OF 9
28

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DATE= 10/24/2017

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| STATE PROJECT NUMBER |
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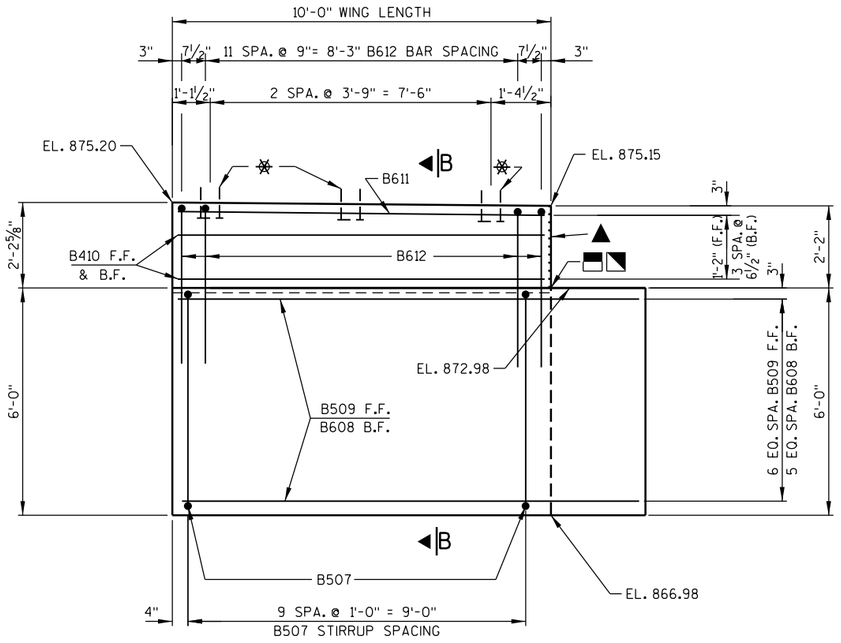
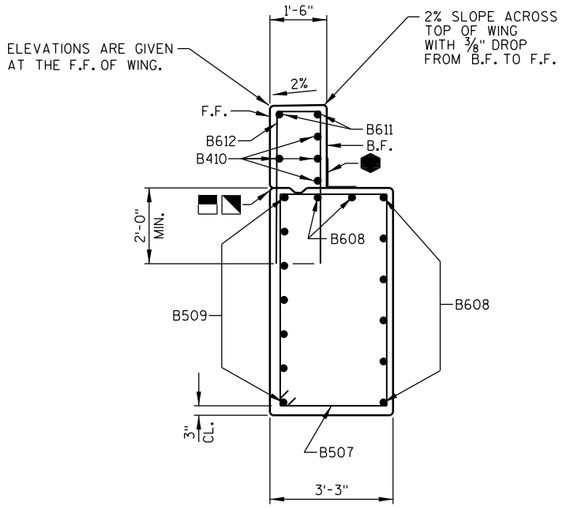
| 7231-00-70 |

✲ — FOR RAIL POST ANCHOR DETAILS, SEE SHEET 9.




ELEVATION - WING

NOTE:
WING 3 SHOWN
WING 4 SIMILAR



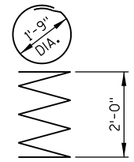

SECTION B-B THRU WING

## BILL OF BARS (SOUTH ABUTMENT)

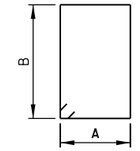
UNCOATED 1600 LBS.
COATED 1370 LBS.

| MARK | NUMBER REQUIRED COATED | NUMBER REQUIRED UNCOATED | LENGTH | BENT | LOCATION |
|---|---|---|---|---|---|
| B401 | - | 4 | 28'-0" | X | ABUT. BODY - 1 SPIRAL WRAP @ EACH PILE |
| B402 | - | 8 | 2'-3" | | ABUT. BODY - 2 PER PILE - VERT. |
| B603 | - | 11 | 26'-2" | | ABUT. BODY - F.F., TOP & BOTTOM - HORIZ. |
| B504 | - | 33 | 16'-0" | X | ABUT. BODY - STIRRUPS - VERT. |
| B805 | - | 7 | 28'-5" | X | ABUT. BODY - B.F. - HORIZ. |
| B506 | 25 | - | 2'-0" | | ABUT. BODY - TOP - DOWELS - VERT. |
| B507 | 20 | - | 17'-6" | X | WINGS - BASE - STIRRUP - VERT. |
| B608 | 16 | - | 12'-0" | | WINGS - BASE - B.F. & TOP - HORIZ. |
| B509 | 14 | - | 12'-0" | | WINGS - BASE - F.F. - HORIZ. |
| B410 | 8 | - | 9'-7" | | WINGS - TOP - F.F. & B.F. - HORIZ. |
| B611 | 4 | - | 9'-7" | | WINGS - TOP - F.F. & B.F. - HORIZ. |
| B612 | 28 | - | 9'-0" | X | WINGS - TOP - STIRRUP - VERT. |

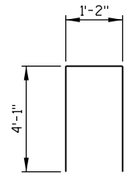
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



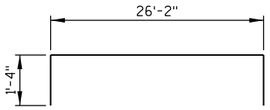

B401
(5 SPIRAL WRAPS)



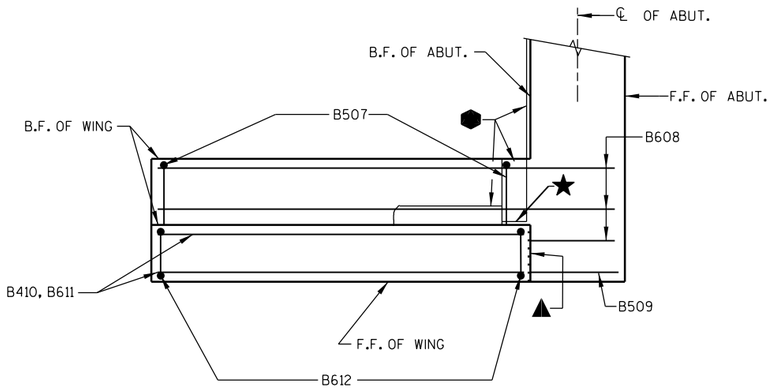

| MARK | A | B |
|---|---|---|
| B504 | 2'-2" | 5'-6" |
| B507 | 2'-11" | 5'-6" |



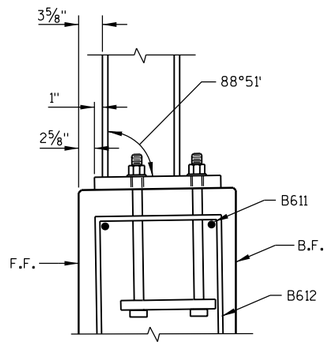

B612




B805




PLAN - WING




SECTION AT TOP OF WING

SEE SHEET 6 LEGEND FOR DESCRIPTION OF ● ◒ ◹ ★ ▲

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

DRAWN BY RLR | PLANS CK'D. JAS

SOUTH ABUTMENT DETAILS

SHEET 7 OF 9
29

FILE= 5643008_07.DGN
DATE=9/18/2017

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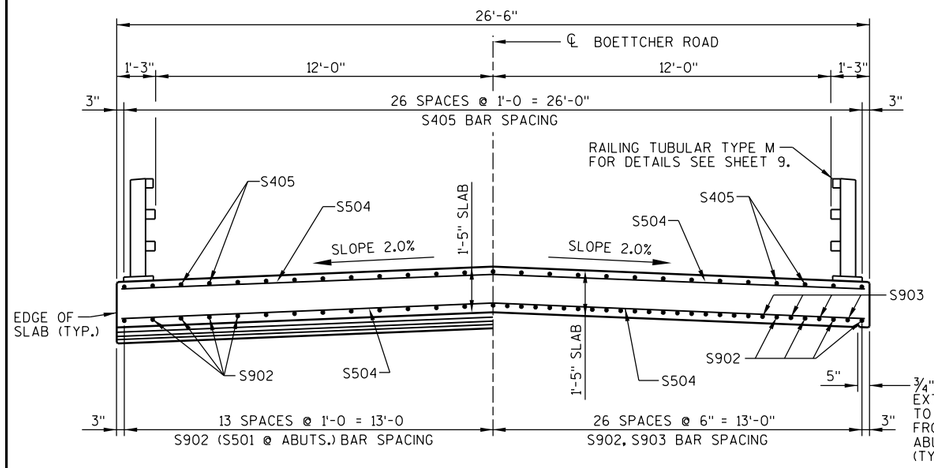
STATE PROJECT NUMBER

7231-00-70




AT ABUTMENTS IN SPAN

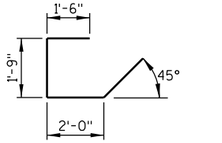
## CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

## BILL OF BARS (COATED) 8,600 LBS.

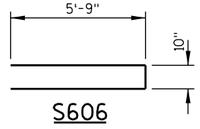
| MARK | NO. REQ'D. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| S501 | 54 | 7'-1" | X | DIAPHRAGM @ ABUTS. - LONGIT. |
| S902 | 27 | 30'-2" | | SLAB BOTTOM - LONGIT. |
| S903 | 26 | 22'-0" | | SLAB BOTTOM - LONGIT. |
| S504 | 76 | 26'-2" | | SLAB TOP & BOTTOM - TRANS. |
| S405 | 27 | 30'-2" | | SLAB TOP - LONGIT. |
| S606 | 24 | 12'-0" | X | SLAB TOP @ RAIL POST, 2 PER POST |
| S607 | 32 | 6'-0" | | SLAB TOP @ RAIL POST, 4 PER POST |
| S608 | 16 | 6'-0" | X | SLAB TOP @ RAIL END POST AS NOTED |

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.

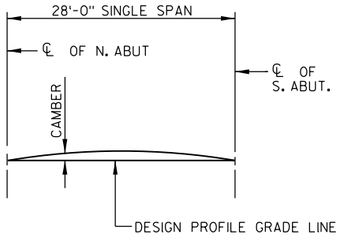



S501


S608




S606




## CAMBER DIAGRAM

CAMBER SPANS AS SHOWN ABOVE AND IN THE TABLE OF VALUES TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

## GENERAL NOTES

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

## SURVEY TOP OF SLAB ELEVATIONS

| LOCATION | SPAN POINT | WEST SLAB EDGE | C/L BOETTCHER ROAD | EAST SLAB EDGE |
|---|---|---|---|---|
| NORTH ABUT. | 1.0 | | | |
| | 1.5 | | | |
| SOUTH ABUT. | 2.0 | | | |

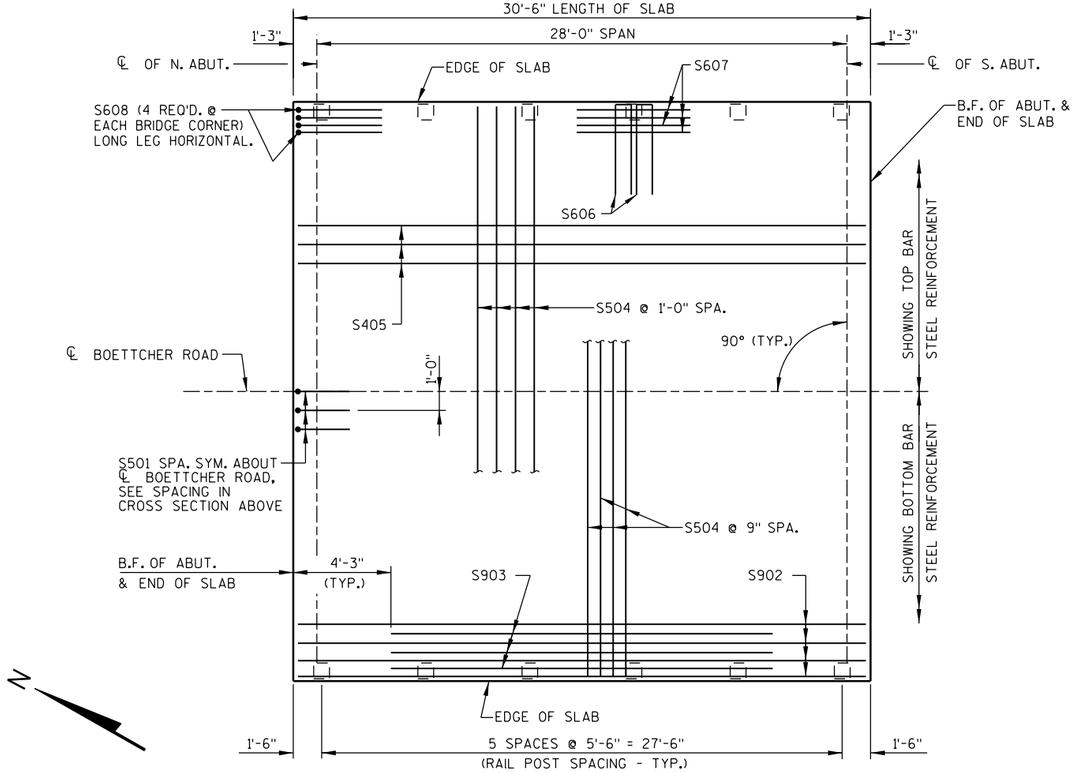
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT THE 0.5 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

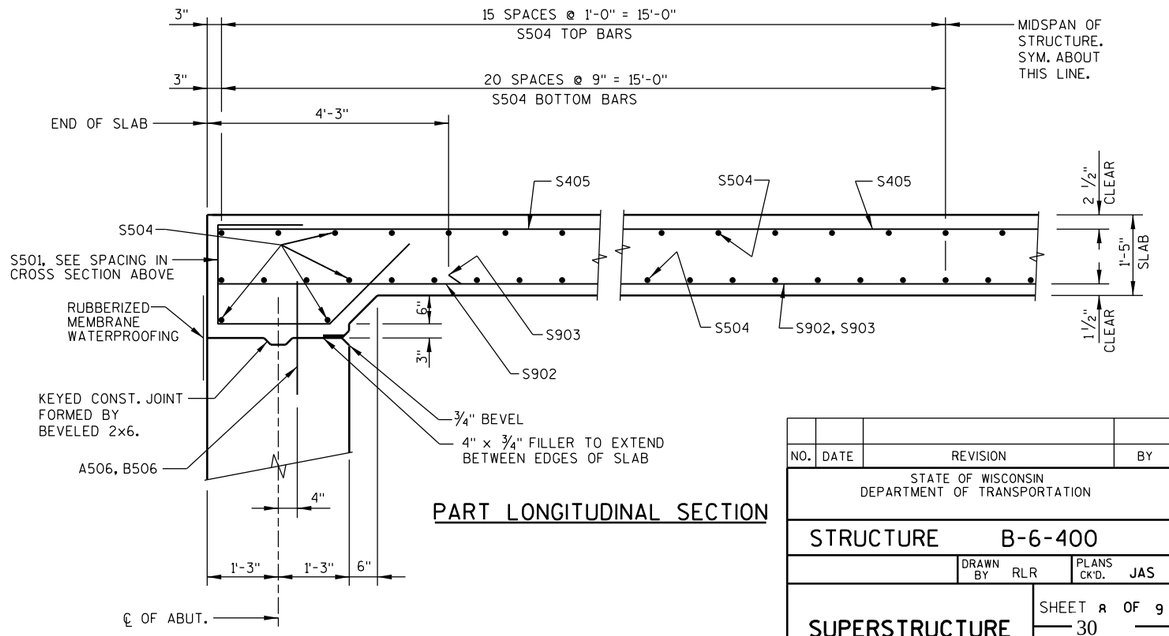
TOP OF SLAB ELEVATION AT FINAL GRADE
- SLAB THICKNESS
+ CAMBER
+ FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
= TOP OF SLAB FALSEWORK ELEVATION

## TOP OF SLAB ELEVATIONS AND CAMBER VALUES

| LOCATION | SPAN POINT | WEST SLAB EDGE | C/L BOETTCHER ROAD | EAST SLAB EDGE | CAMBER VALUE (INCHES) |
|---|---|---|---|---|---|
| NORTH ABUT. | 1.0 | 875.07 | 875.34 | 875.07 | 0.0 |
| | 1.1 | 875.07 | 875.34 | 875.07 | 0.2 |
| | 1.2 | 875.08 | 875.34 | 875.08 | 0.3 |
| | 1.3 | 875.09 | 875.35 | 875.09 | 0.4 |
| | 1.4 | 875.09 | 875.36 | 875.09 | 0.5 |
| | 1.5 | 875.10 | 875.36 | 875.10 | 0.5 |
| | 1.6 | 875.11 | 875.37 | 875.11 | 0.5 |
| | 1.7 | 875.12 | 875.38 | 875.12 | 0.4 |
| | 1.8 | 875.13 | 875.39 | 875.13 | 0.3 |
| | 1.9 | 875.14 | 875.40 | 875.14 | 0.2 |
| SOUTH ABUT. | 2.0 | 875.15 | 875.41 | 875.15 | 0.0 |




PLAN




PART LONGITUDINAL SECTION

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

DRAWN BY RLR | PLANS CK'D. JAS

SUPERSTRUCTURE

SHEET 8 OF 9
30

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FILE= 5643008_08.DGN
DATE= 11/28/2017

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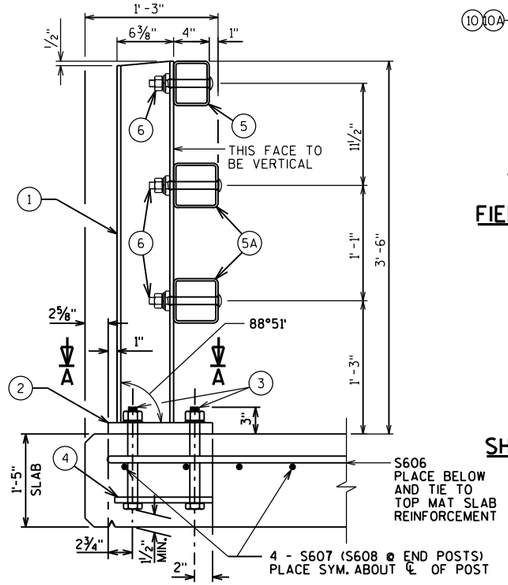
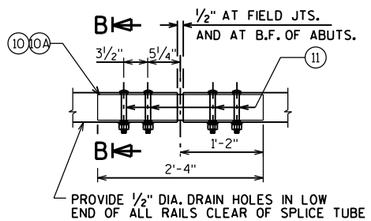
STATE PROJECT NUMBER

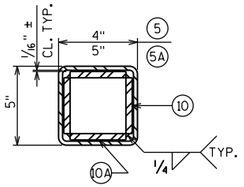
7231-00-70



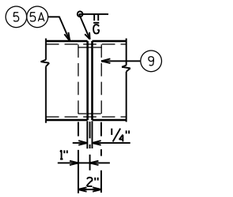

SECTION THRU RAILING ON SLAB




FIELD ERECTION JOINT DETAIL

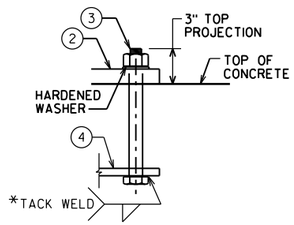



SECTION B-B



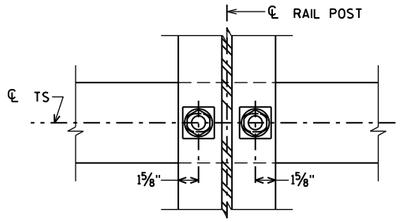

SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

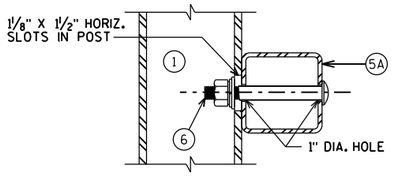



ANCHOR BOLTS

*FOR ANCHOR BOLTS IN WINGS TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D FOR CONSTRUCTIBILITY




SECTION THRU POST WEB




SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

## LEGEND

(1) W6 x 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1 1/4" x 11 3/4" x 1'-8" WITH 1 5/16" X 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG IN SLAB STRUCTURE. USE 1'-9" LONG IN ABUTMENT WINGS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY).

(4) 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

(5) TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(5A) TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(6) 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

* (7) 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

* (8) 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

(9) SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".

(10) 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 5/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

(11) 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 5/16 " X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.

* (12) 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

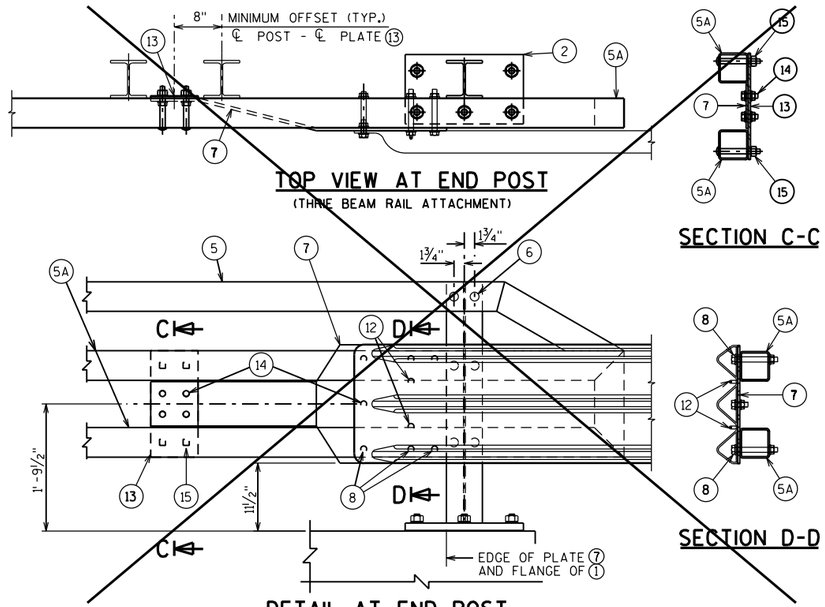
* (13) 3/8" X 8" X 1'-6" ANCHOR PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

* (14) 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).

* (15) 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

## GENERAL NOTES

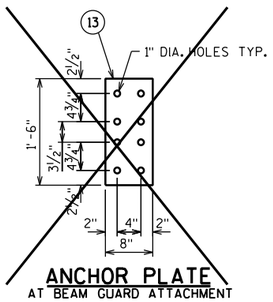
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-6-400" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
* 12. DO NOT FURNISH ITEMS 7, 8, 12, 13, 14 AND 15. THRIE BEAM RAIL ATTACHMENT IS NOT INCLUDED.



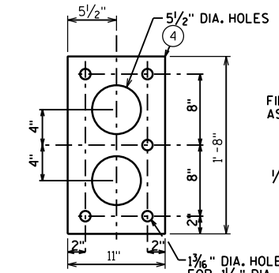




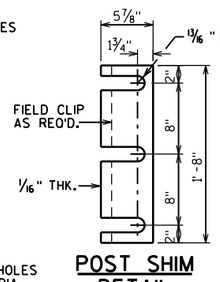
SECTION A-A



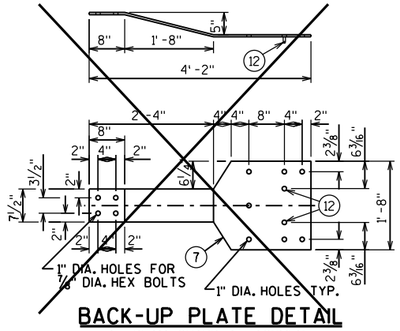

ANCHOR PLATE
AT BEAM GUARD ATTACHMENT



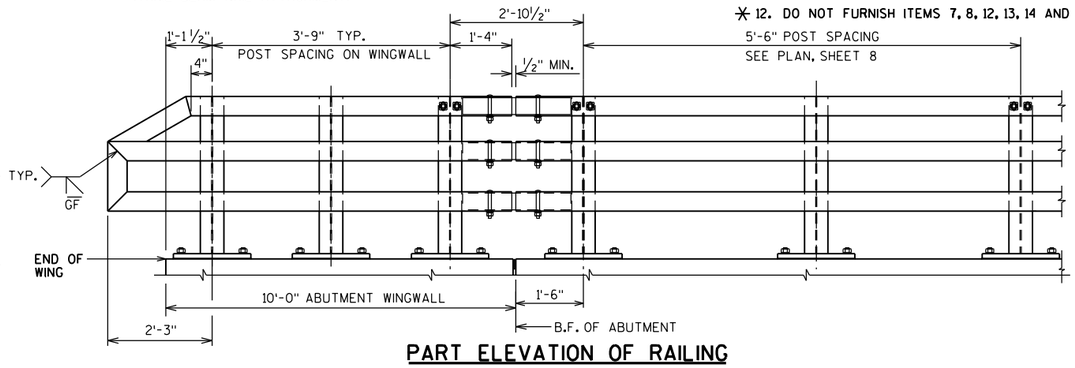

ANCHOR PLATE
AT RAIL TO DECK ATTACHMENT




POST SHIM DETAIL




BACK-UP PLATE DETAIL
AT BEAM GUARD ATTACHMENT




PART ELEVATION OF RAILING

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-400

DRAWN BY RLR | PLANS CK'D. JAS

RAILING TUBULAR TYPE M

SHEET 9 OF 9
31

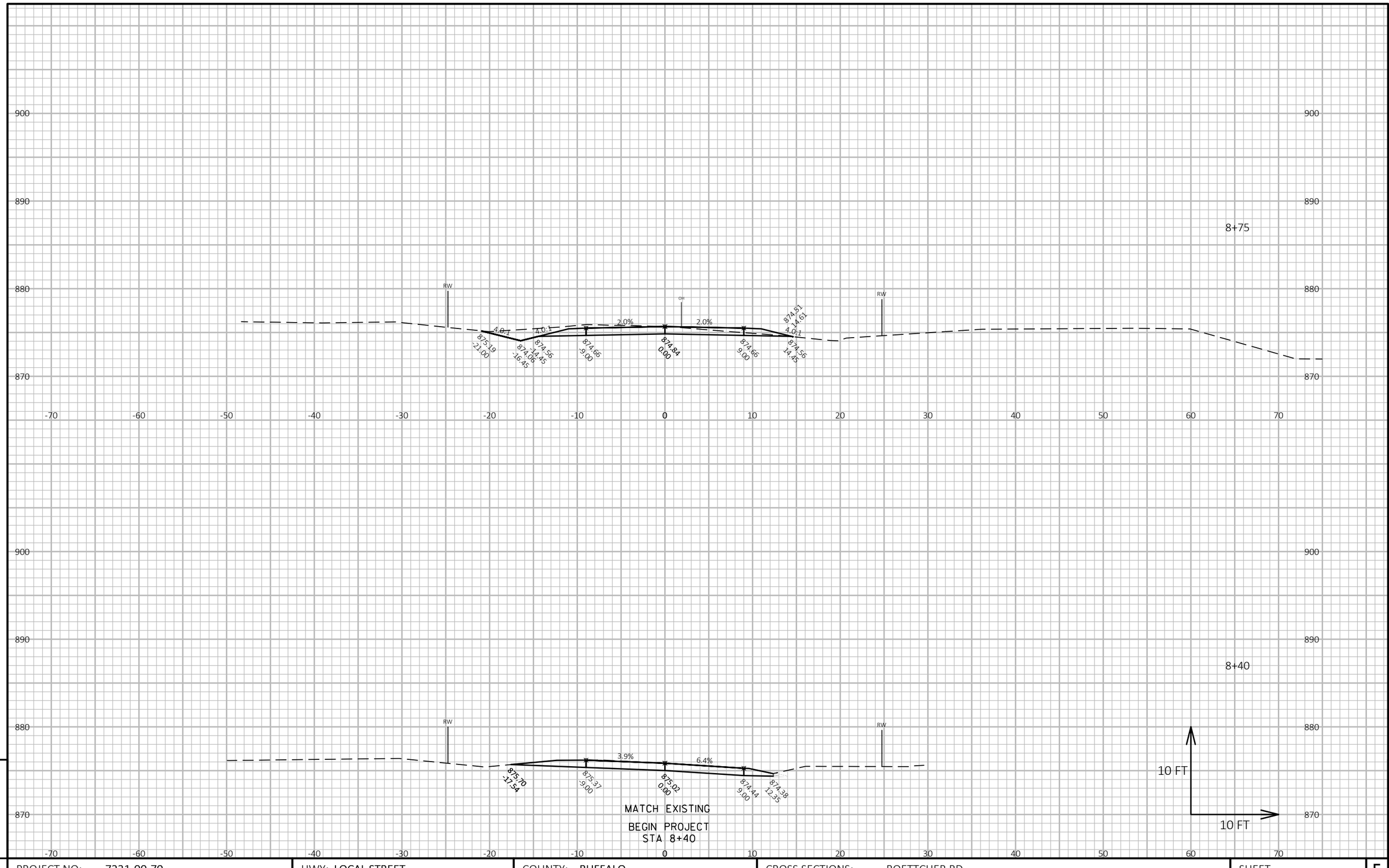
FILE= 5643008_09.DGN
DATE= 10/24/2017

5643008_09.dgn 10/24/2017 1:17:09 PM jsnyder

**EARTHWORK PROJECT I.D. 7231-00-70**

| STATION | Distance | AREA (SF) | | | Incremental Vol (CY) (Unadjusted) | | | Cumulative Vol (CY) | | Mass Ordinate |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Cut | Rock Exc | Fill | Cut | Rock Exc | Fill (1) | Cut 1.00 | Expanded Fill 1.3 | |
| 8+40 | | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8+75. | 35.00 | 26 | 0 | 0 | 31 | 0 | 0 | 31 | 0 | 31 |
| 9+00. | 25.00 | 29 | 0 | 0 | 26 | 0 | 0 | 57 | 0 | 57 |
| 9+35 | 35.00 | 26 | 0 | 0 | 35 | 0 | 0 | 92 | 0 | 92 |
| 9+50 | 15.00 | 23 | 0 | 0 | 14 | 0 | 0 | 106 | 0 | 106 |
| 9+85 | 34.75 | 14 | 0 | 23 | 24 | 0 | 15 | 130 | 19 | 111 |
| STRUCTURE B-4-600 | | | | | | | | | | |
| 10+15 | | 18 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10+50. | 34.75 | 53 | 0 | 0 | 46 | 0 | 6 | 46 | 8 | 37 |
| 10+53. | 3.00 | 48 | 0 | 0 | 6 | 0 | 0 | 51 | 8 | 43 |
| 10+65 | 12.00 | 40 | 0 | 0 | 19 | 0 | 0 | 71 | 8 | 62 |
| 11+00 | 35.00 | 20 | 0 | 0 | 39 | 0 | 0 | 110 | 8 | 101 |
| 11+25 | 25.00 | 21 | 0 | 0 | 19 | 0 | 0 | 129 | 8 | 120 |
| | | | | | 259 | 0 | 21 | | | |

**(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSE ONLY**




| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | CROSS SECTIONS: BOETTCHER RD | SHEET 33 E |
|---|---|---|---|---|

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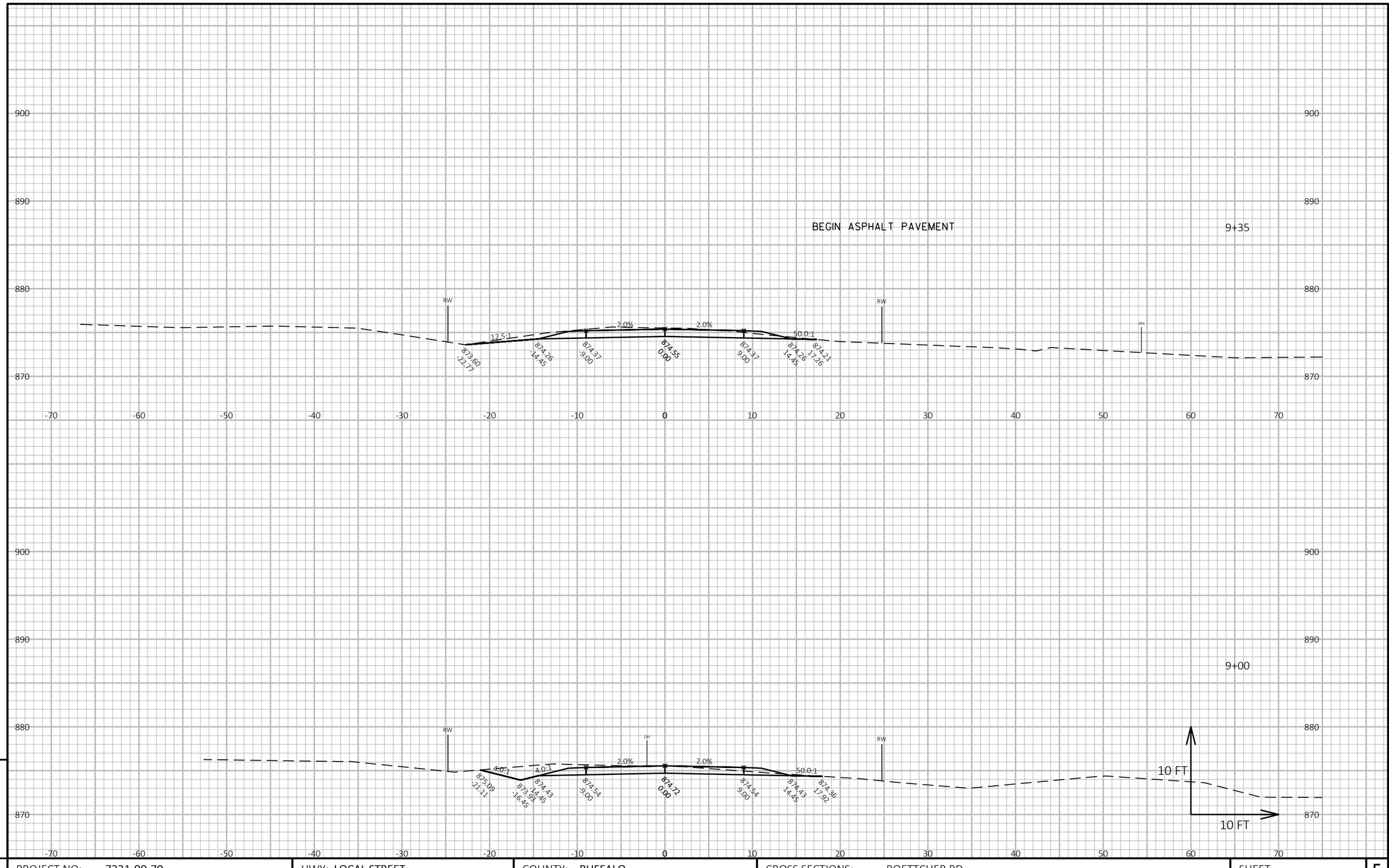
PLOT DATE : 1/23/2018 4:01 PM PLOT BY : JOLIE SNYDER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | CROSS SECTIONS: BOETTCHER RD | SHEET 34 | E |
|---|---|---|---|---|---|

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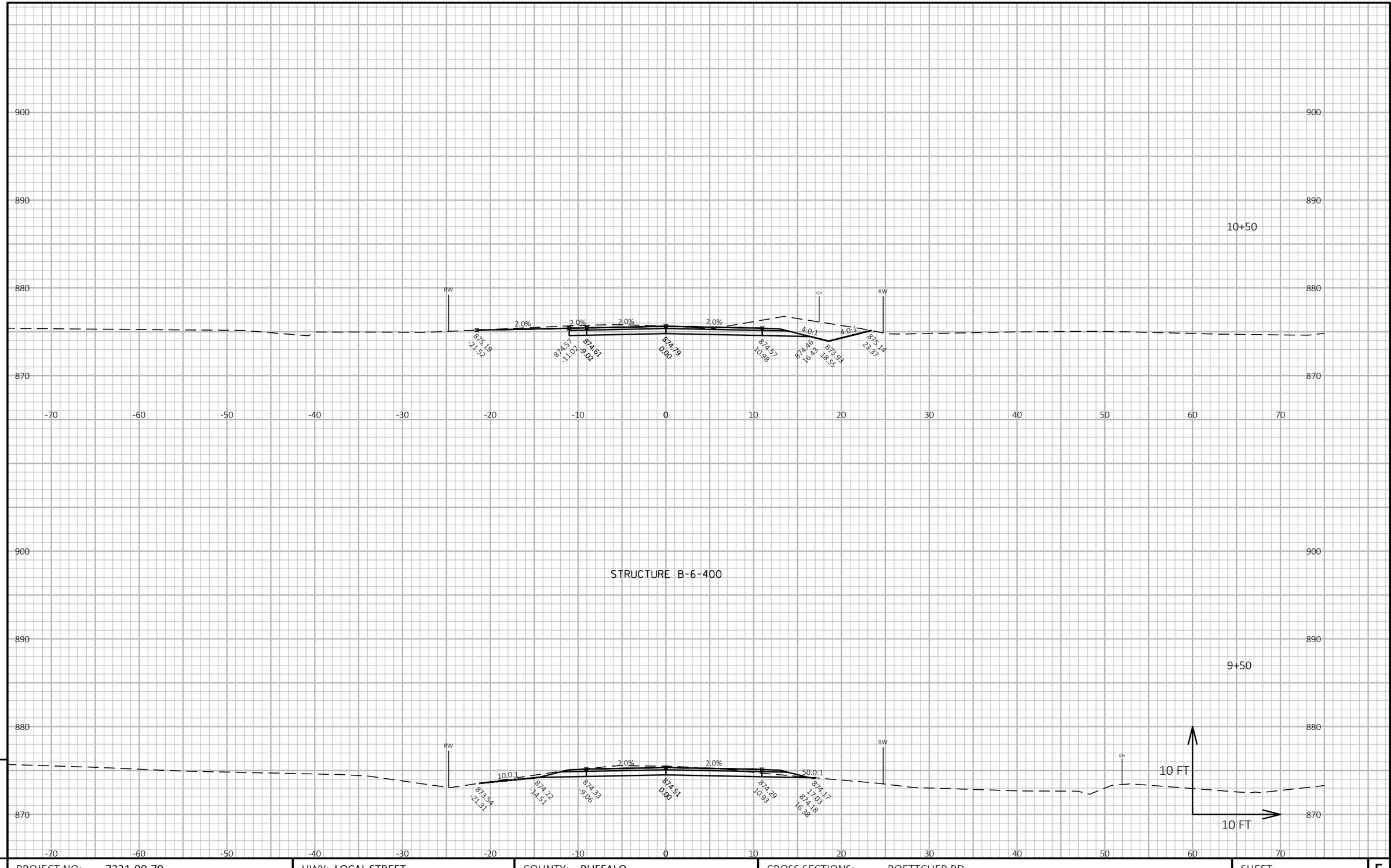





9 9

| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | CROSS SECTIONS: BOETTCHER RD | SHEET 35 | E |
|---|---|---|---|---|---|

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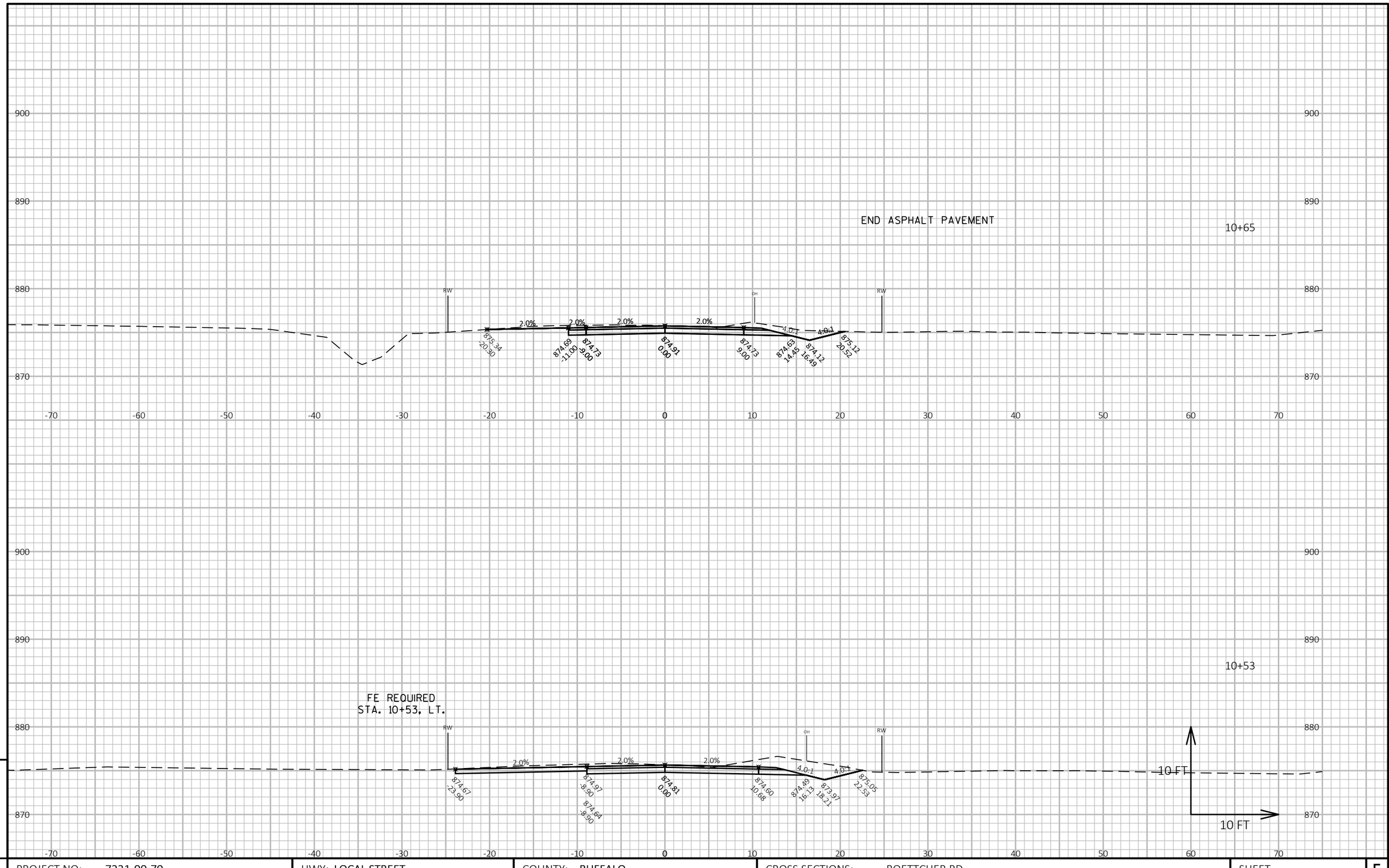


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| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | CROSS SECTIONS: BOETTCHER RD | SHEET 36 | E |
|---|---|---|---|---|---|

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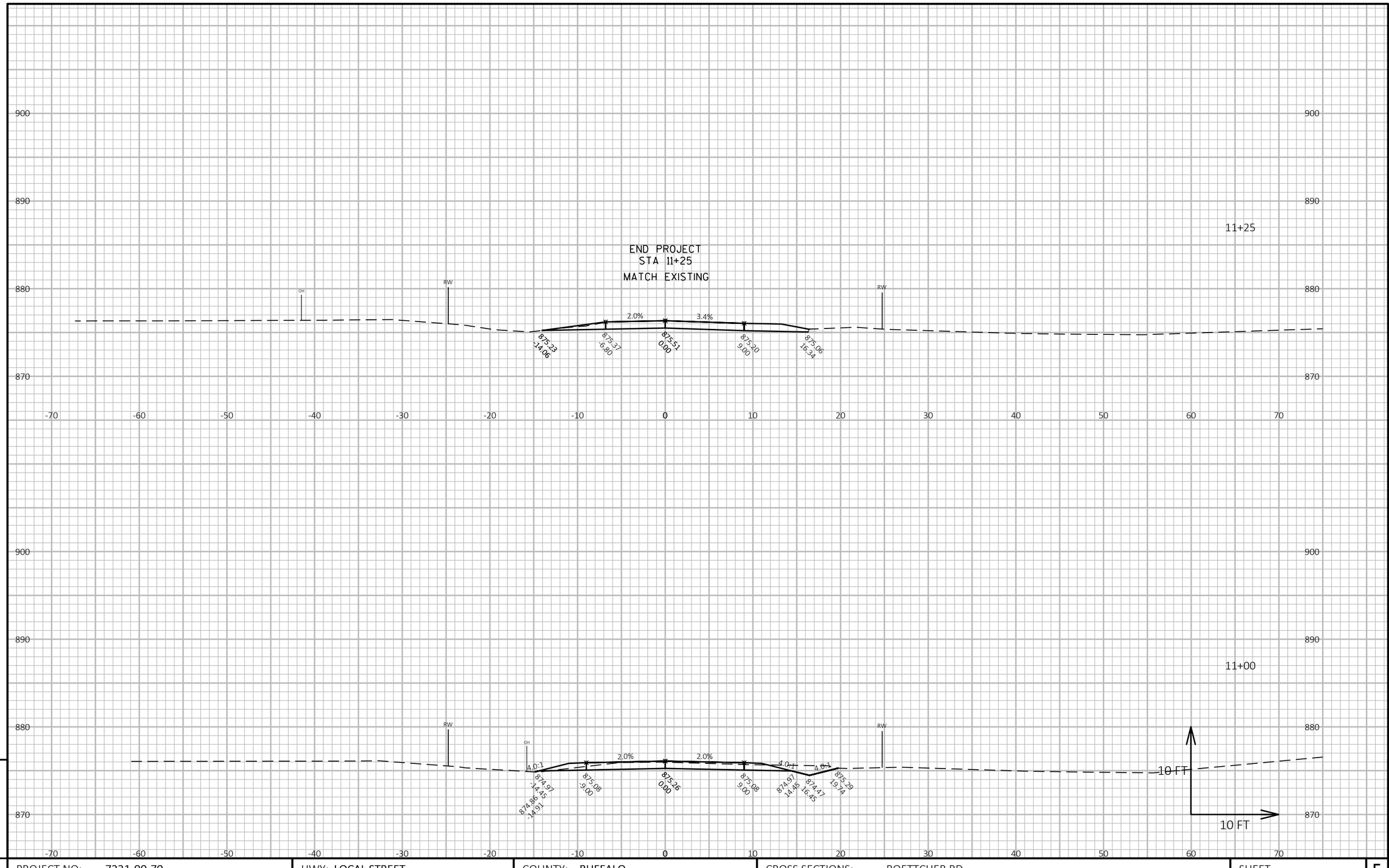
LAYOUT NAME - 090204-xs

PLOT DATE : 1/23/2018 4:01 PM PLOT BY : JOLIE SNYDER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

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| PROJECT NO: 7231-00-70 | HWY: LOCAL STREET | COUNTY: BUFFALO | CROSS SECTIONS: BOETTCHER RD | SHEET 37 | E |
|---|---|---|---|---|---|

FILE NAME : P:\5600S\5640S\5643\05643008\CADD\DESIGN\CORRIDORS\CORRIDOR-BOETTCHER RD.DWG
LAYOUT NAME - 090205-xs

PLOT DATE : 1/23/2018 4:01 PM PLOT BY : JOLIE SNYDER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

**Wisconsin Department of Transportation**

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