

LAX
PROJECT ID: 5056-00-70
WITH: N/A
COUNTY: RICHLAND

NOVEMBER 2018
ORDER OF SHEETS

| | |
|---------------|--|
| Section No. 1 | Title |
| Section No. 2 | Typical Sections and Details |
| Section No. 3 | Estimate of Quantities |
| Section No. 3 | Miscellaneous Quantities |
| Section No. 4 | Right of Way Plat |
| Section No. 5 | Plan and Profile (Includes Erosion Control Plan) |
| Section No. 6 | Standard Detail Drawings |
| Section No. 7 | Sign Plates |
| Section No. 8 | Structure Plans |
| Section No. 9 | Computer Earthwork Data |
| Section No. 9 | Cross Sections |

TOTAL SHEETS = 48



AS-BUILT PLAN

SUPERVISOR: Joe Gregas
PROJECT MANAGER: Dan Kleinertz
PROJECT LEADER: Brad Schroeder
CONTRACTOR: Concrete Structures
CONSTRUCTION STARTED 5/22/2019
SUBSTANTIALLY COMPLETE 7/16/2019

















DESIGN DESIGNATION

| | |
|-----------------|-----------------|
| A.A.D.T. (2019) | = 45 |
| A.A.D.T. (2039) | = 65 |
| D.H.V. (2039) | = 6 |
| D.D. | = 60/40 |
| T. | = 10% (ASSUMED) |
| DESIGN SPEED | = 35 MPH |
| ESALS | = 40,150 |

[Subcontractor List](#)
DL Gasser Construction
Safemark, LLC.
Bob Ewers Contracting
SJK Engineering

CONVENTIONAL SYMBOLS

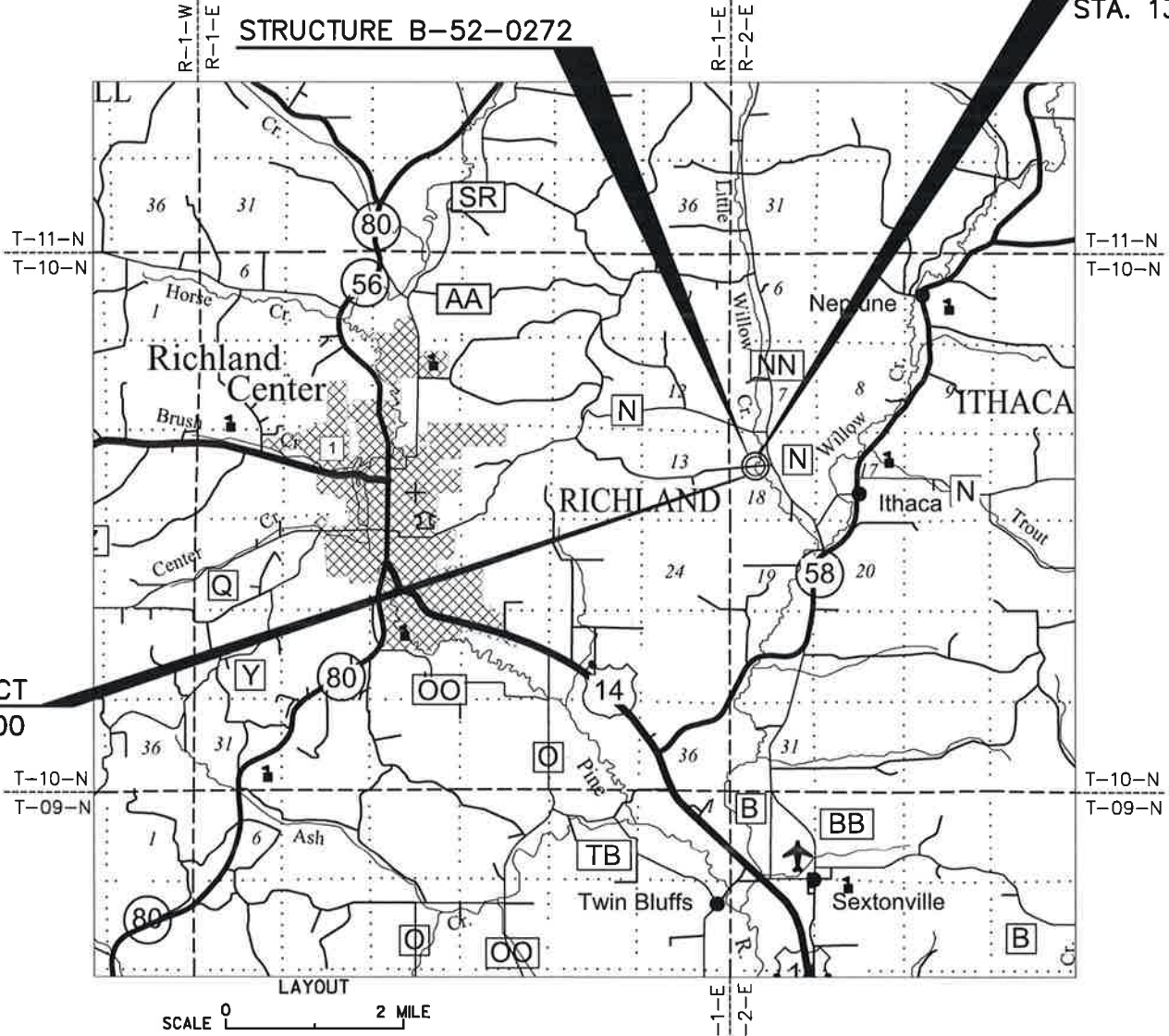
| | |
|--------------------------------|--|
| PLAN | |
| CORPORATE LIMITS | |
| PROPERTY LINE | |
| LOT LINE | |
| LIMITED HIGHWAY EASEMENT | |
| EXISTING RIGHT OF WAY | |
| PROPOSED OR NEW R/W LINE | |
| SLOPE INTERCEPT | |
| REFERENCE LINE | |
| EXISTING CULVERT | |
| PROPOSED CULVERT (Box or Pipe)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

| | |
|--|---|
| PROFILE | |
| GRADE LINE |  |
| ORIGINAL GROUND |  |
| MARSH OR ROCK PROFILE (To be noted as such) |  |
| SPECIAL DITCH |  |
| GRADE ELEVATION |  |
| CULVERT (Profile View) |  |
| UTILITIES | |
| ELECTRIC |  |
| FIBER OPTIC |  |
| GAS |  |
| SANITARY SEWER |  |
| STORM SEWER |  |
| TELEPHONE |  |
| WATER |  |
| UTILITY PEDESTAL |  |
| POWER POLE |  |
| TELEPHONE POLE |  |

| | |
|-------|--|
| ROCK | |
| LABEL | |
| 95.36 | |
| E | |
| FO | |
| G | |
| SAN | |
| SS | |
| T | |
| W | |
| W | |
| W | |

BEGIN PROJECT
STA. 11+00
Y = 448,884.24
X = 697,354.40

STATE PROJECT NUMBER
5056-00-70



TOTAL NET LENGTH OF CENTERLINE = 0.038

"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RICHLAND COUNTY."

"ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)."

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION PLAN OF PROPOSED IMPROVEMENT TOWN OF ITHACA, SPIRAL ROAD (LITTLE WILLOW CREEK BRIDGE B-52-0272) LOCAL STREET RICHLAND COUNTY

| STATE PROJECT | FEDERAL PROJECT | |
|---------------|-----------------|----------|
| | PROJECT | CONTRACT |
| 5056-00-70 | | |
| | | |
| | | |
| | | |

ACCEPTED FOR
COUNTY of RICHLAND
4-23-18 (Date) Bill Condon (Highway Commissioner)

ACCEPTED FOR
TOWN of ITHACA
4-18-2018 (Date) Dan Kleinertz (Town Chairman)

ORIGINAL PLANS PREPARED BY
JEWELL
associates engineers, inc.
Engineers - Architects - Surveyors

WISCONSIN
ELLERY A. SCHAFER
E-41742-6
SPRING GREEN, WI
PROFESSIONAL ENGINEER

4/11/2018 (Date) [Signature]

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor: JEWELL ASSOCIATES ENGINEERS, INC.
Designer: JEWELL ASSOCIATES ENGINEERS, INC.
Management Consultant: KL ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT
DATE: 4/27/18
[Signature]
Management Consultant Signature

E

LIST OF STANDARD ABBREVIATIONS

| | | | | | |
|-------------|------------------------------|--------------|----------------------------------|-------------|----------------------------|
| ABUT | Abutment | INV | Invert | SALV | Salvaged |
| AC | Acre | IP | Iron Pipe or Pin | SAN S | Sanitary Sewer |
| AGG | Aggregate | IRS | Iron Rod Set | SEC | Section |
| AH | Ahead | JT | Joint | SHLDR | Shoulder |
| < | Angle | JCT | Junction | SHR | Shrinkage |
| ASPH | Asphaltic | LHF | Left-Hand Forward | SW | Sidewalk |
| AVG | Average | L | Length of Curve | S | South |
| ADT | Average Daily Traffic | LIN FT or LF | Linear Foot | SQ | Square |
| BAD | Base Aggregate Dense | LC | Long Chord of Curve | SF or SQ FT | Square Feet |
| BK | Back | MH | Manhole | SY or SQ YD | Square Yard |
| BF | Back Face | MB | Mailbox | STD | Standard |
| BM | Bench Mark | ML or M/L | Match Line | SDD | Standard Detail Drawings |
| BR | Bridge | N | North | STH | State Trunk Highways |
| C or C/L | Center Line | Y | North Grid Coordinate | STA | Station |
| CC | Center to Center | OD | Outside Diameter | SS | Storm Sewer |
| CTH | County Trunk Highway | PLE | Permanent Limited Easement | SG | Subgrade |
| CR | Creek | | | SE | Superelevation |
| CR | Crushed | PT | Point | SL or S/L | Survey Line |
| CY or CU YD | Cubic Yard | PC | Point of Curvature | SV | Septic Vent |
| CP | Culvert Pipe | PI | Point of Intersection | T | Tangent |
| C & G | Curb and Gutter | PRC | Point of Reverse Curvature | TEL | Telephone |
| D | Degree of Curve | PT | Point of Tangency | TEMP | Temporary |
| DHV | Design Hour Volume | POC | Point On Curve | TI | Temporary Interest |
| DIA | Diameter | POT | Point on Tangent | TLE | Temporary Limited Easement |
| E | East | PVC | Polyvinyl Chloride | | |
| X | East Grid Coordinate | PCC | Portland Cement Concrete | t | Ton |
| ELEC | Electric (al) | LB | Pound | T or TN | Town |
| EL or ELEV | Elevation | PSI | Pounds Per Square Inch | TRANS | Transition |
| ESALS | Equivalent Single Axle Loads | PE | Private Entrance | TL or T/L | Transit Line |
| | | R | Radius | T | Trucks (percent of) |
| EBS | Excavation Below Subgrade | RR | Railroad | TYP | Typical |
| FF | Face to Face | R | Range | UNCL | Unclassified |
| FE | Field Entrance | RL or R/L | Reference Line | UG | Underground Cable |
| F | Fill | RP | Reference Point | USH | United States Highway |
| FG | Finished Grade | RCCP | Reinforced Concrete Culvert Pipe | VAR | Variable |
| FL or F/L | Flow Line | | | V | Velocity or Design Speed |
| FT | Foot | REQ'D | Required | VERT | Vertical |
| FTG | Footing | RES | Residence or Residential | VC | Vertical Curve |
| GN | Grid North | RW | Retaining Wall | VOL | Volume |
| HT | Height | RT | Right | WM | Water Main |
| CWT | Hundredweight | RHF | Right-Hand Forward | WV | Water Valve |
| HYD | Hydrant | R/W | Right-of-Way | W | West |
| INL | Inlet | R | River | WB | Westbound |
| ID | Inside Diameter | RD | Road | YD | Yard |
| | | RDWY | Roadway | | |

GENERAL NOTES

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

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

UNLESS SHOWN OTHERWISE, DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20), AND MULCHED AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE NO. 60.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

SILT FENCE, TEMPORARY DITCH CHECKS, CULVERT PIPE CHECKS, AND TURBIDITY BARRIER SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE AND TURBIDITY BARRIER SHALL BE PLACED PRIOR TO CONSTRUCTION AND SHALL BE IN PLACE PRIOR TO STRUCTURE REMOVAL.

MULCH ALL MAINLINE SLOPES AS DIRECTED BY THE ENGINEER IN THE FIELD.

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT OR STOCKPILE MATERIALS BEYOND THE EXISTING STREAMBANK FROM STA. 11+98 – STA. 12+20 AND STA. 12+27 – STA. 12+39.

3½-INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1¾-INCH LOWER LAYER AND A 1¾-INCH UPPER LAYER. THE NOMINAL SIZE AGGREGATE USED FOR THE LOWER LAYER SHALL BE 12.5 MM.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 115 LB/SY/IN.

INLET AND OUTLET ELEVATIONS FOR CULVERT PIPES AS SHOWN ON THE PLAN MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS.

CURVE DATA IS BASED ON THE ARC DEFINITIONS.

CONTACTS

RICHLAND COUNTY HIGHWAY DEPARTMENT:
BILL CONDON, COMMISSIONER
120 BOWEN CIRCLE
RICHLAND CENTER, WI 53581
PH: (608) 647-4707
EMAIL: bill.condon@co.richland.wi.us

DESIGN CONSULTANT:
JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ELLERY SCHAFFER, P.E.
PHONE: (608) 588-7484
CELL: (608) 341-8194
EMAIL: ellery.schaffer@jewellassoc.com

TOWN OF ITHACA:
DAVID WANLESS, CHAIRMAN
28749 NEBRASKA ROAD
RICHLAND CENTER, WI 53581
PHONE: (608) 585-3461
EMAIL: WANLDAV@ithaca.k12.wi.us

DNR LIAISON:
STATE OF WISCONSIN
DNR SOUTH CENTRAL REGION HQ
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ANDY BARTA
PHONE: (608) 275-3308
EMAIL: andrew.barta@wisconsin.gov

UTILITIES

ELECTRIC
RICHLAND ELECTRIC COOPERATIVE
ATTN: LARRY HALLETT
P.O. BOX 439
RICHLAND CENTER, WI 53581
OFFICE: (608) 647-3173
CELL: (608) 553-1418
EMAIL: lhallett@rec.coop

TELEPHONE
FRONTIER COMMUNICATIONS
ATTN: JERRY MOORE
2222 W. WISCONSIN ST.
PORTAGE, WI 53901
PH: (608) 742-9507
EMAIL: Jerald.Moore@ftr.com

DIGGERSHOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

* DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE

PROJECT NO:5056-00-70

HWY: SPIRAL ROAD

COUNTY: RICHLAND

GENERAL NOTES, UTILITIES, CONTACT INFORMATION

SHEET

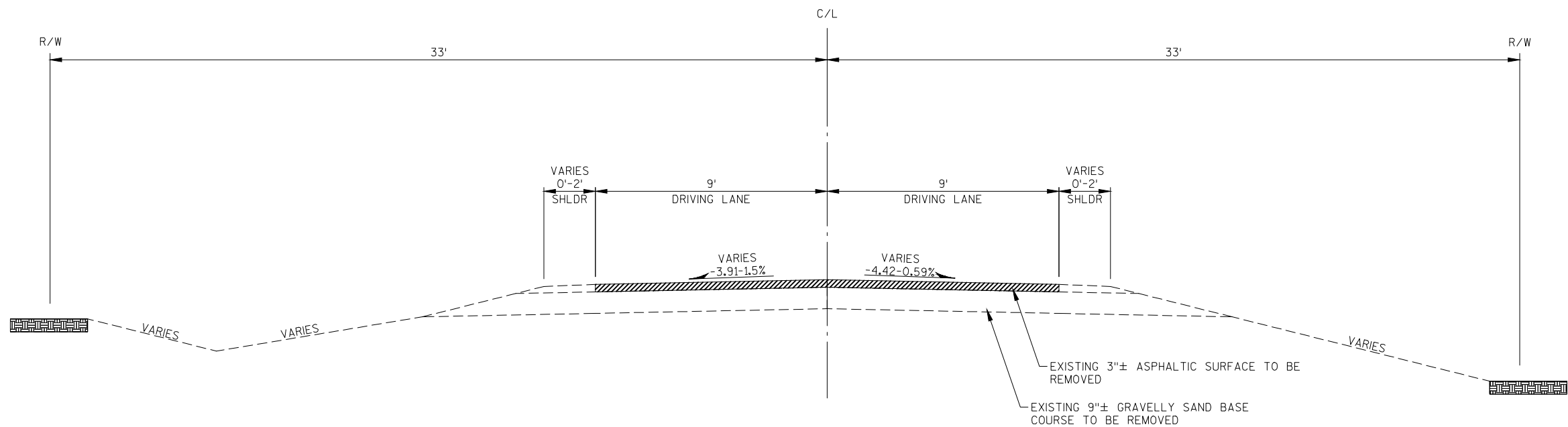
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LAYOUT : LAYOUT1

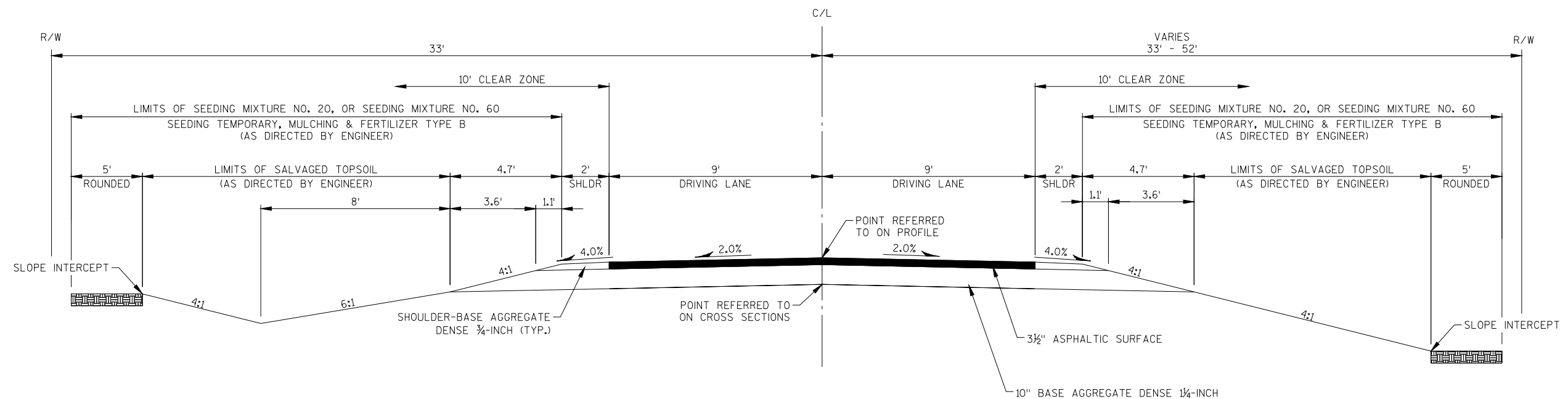
PLOT DATE : 3/30/2018
PLOT TIME : 3:20:25 PM

PLOT BY : JULIA ZEHNER

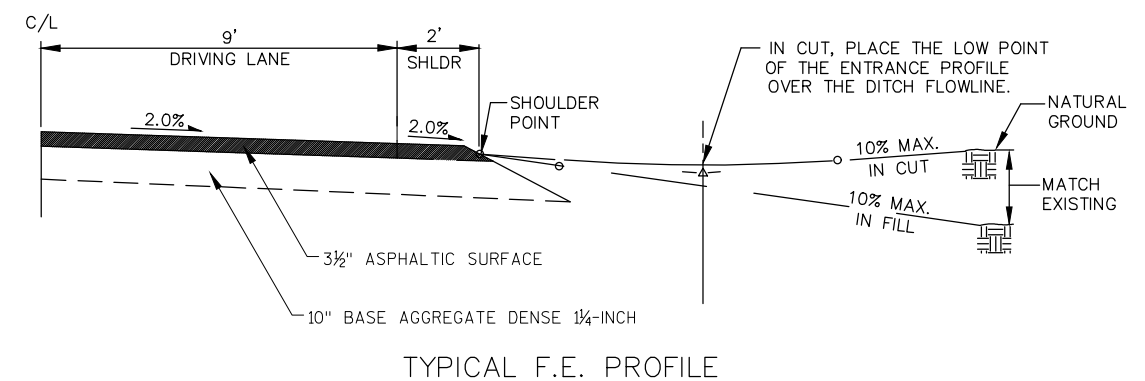
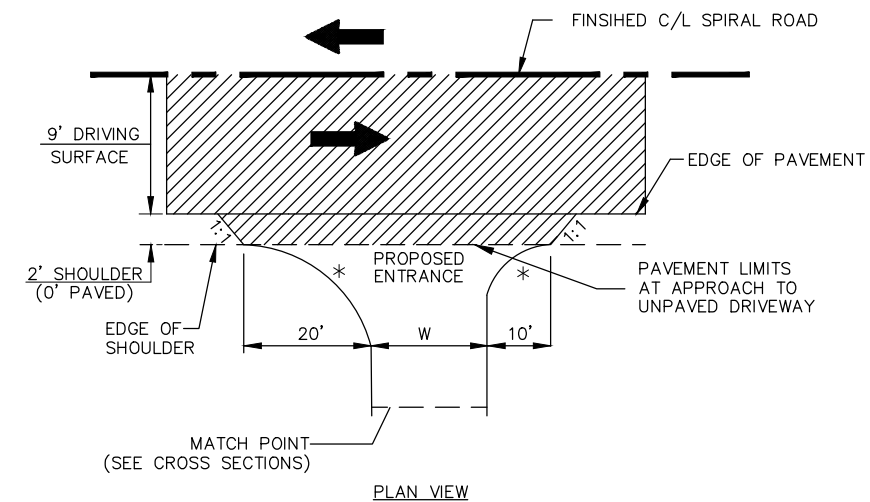
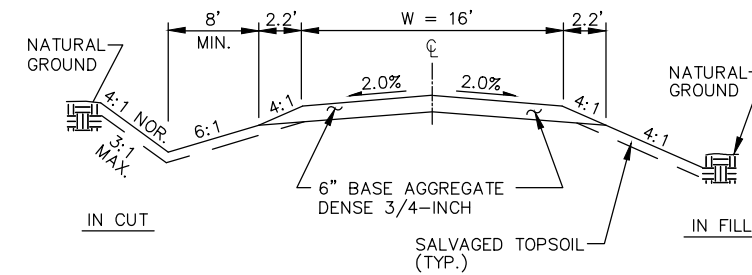
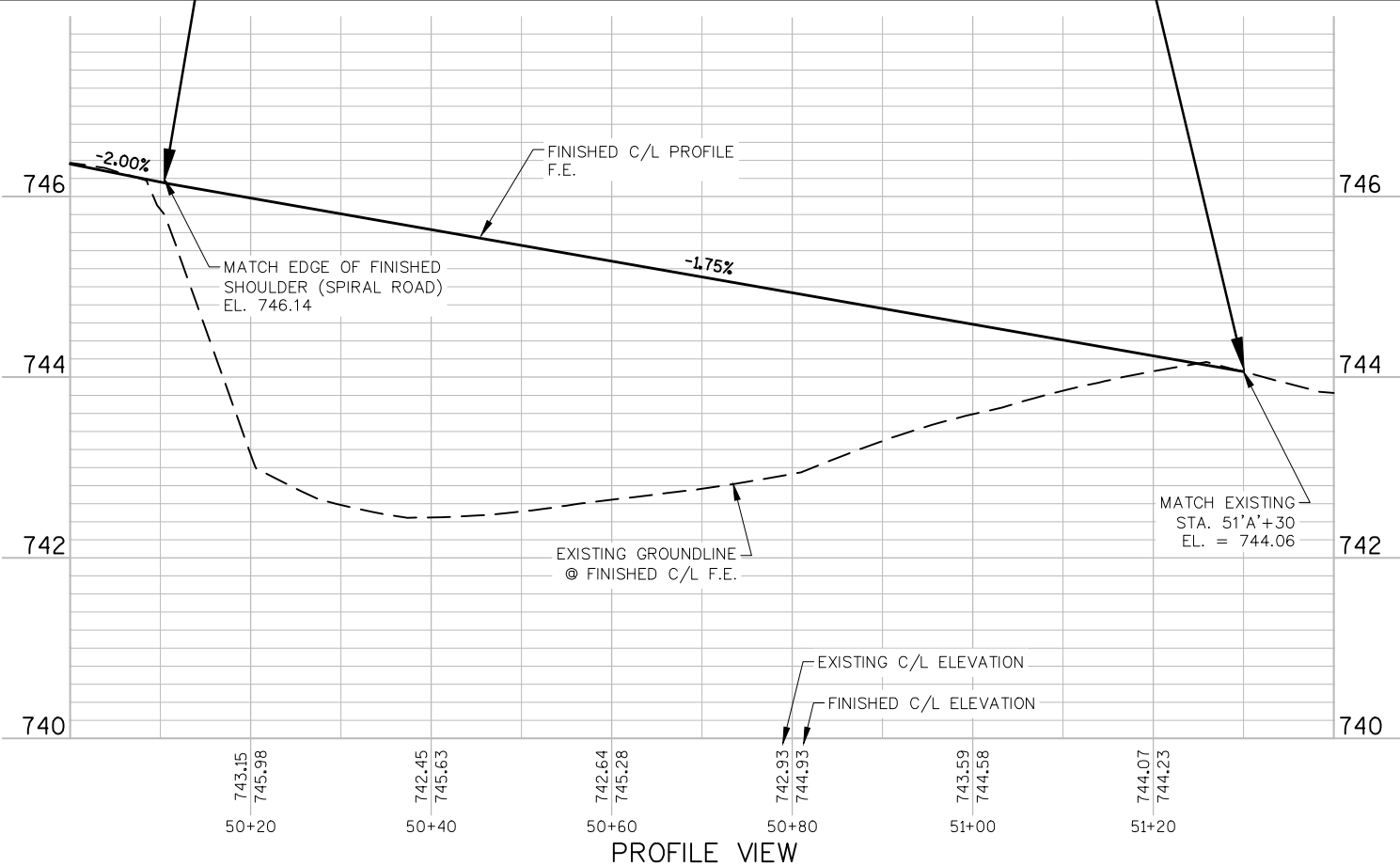
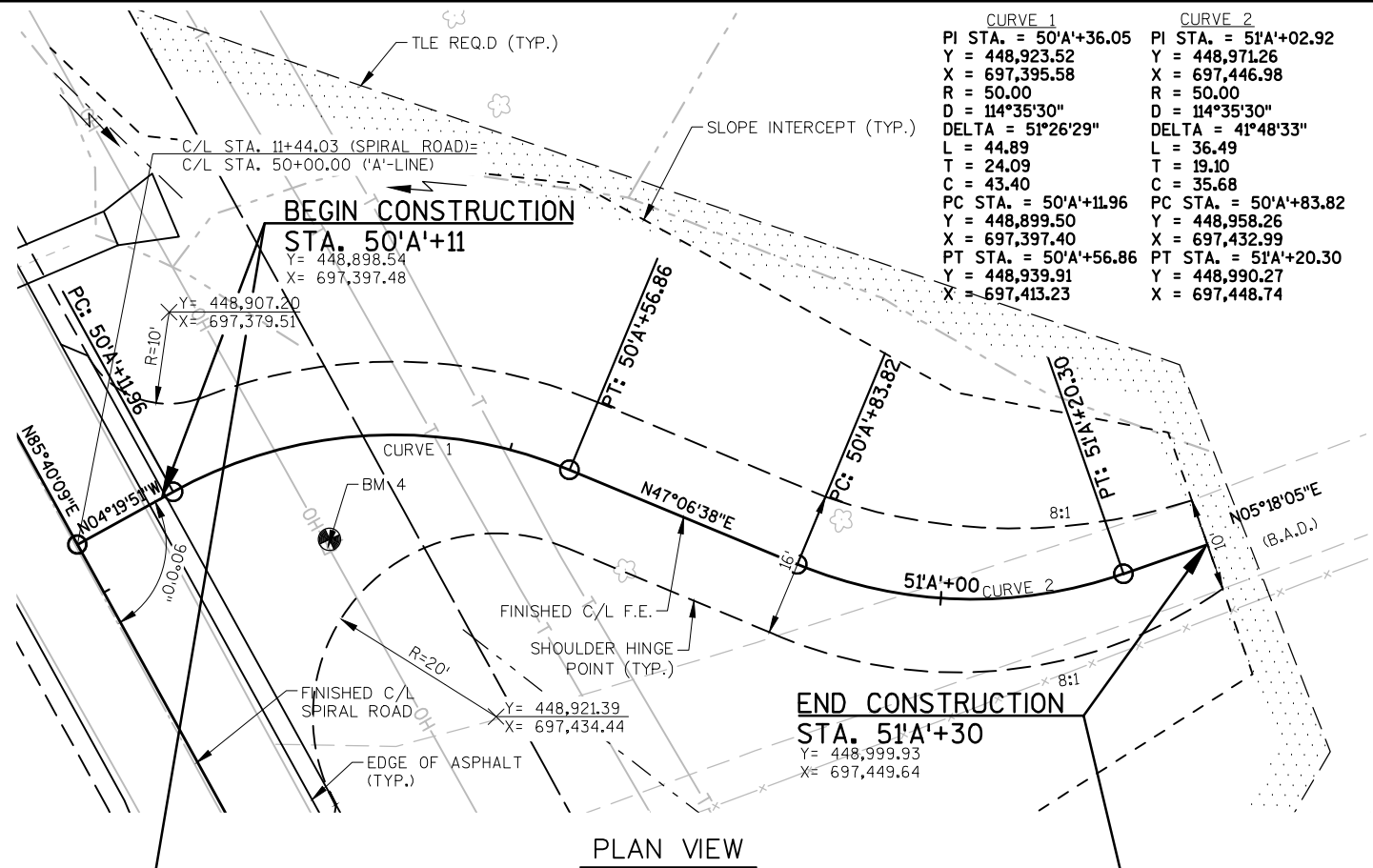
PLOT SCALE : 1" = 1'



TYPICAL EXISTING SECTION



TYPICAL FINISHED SECTION



PROJECT NO: 5056-00-70

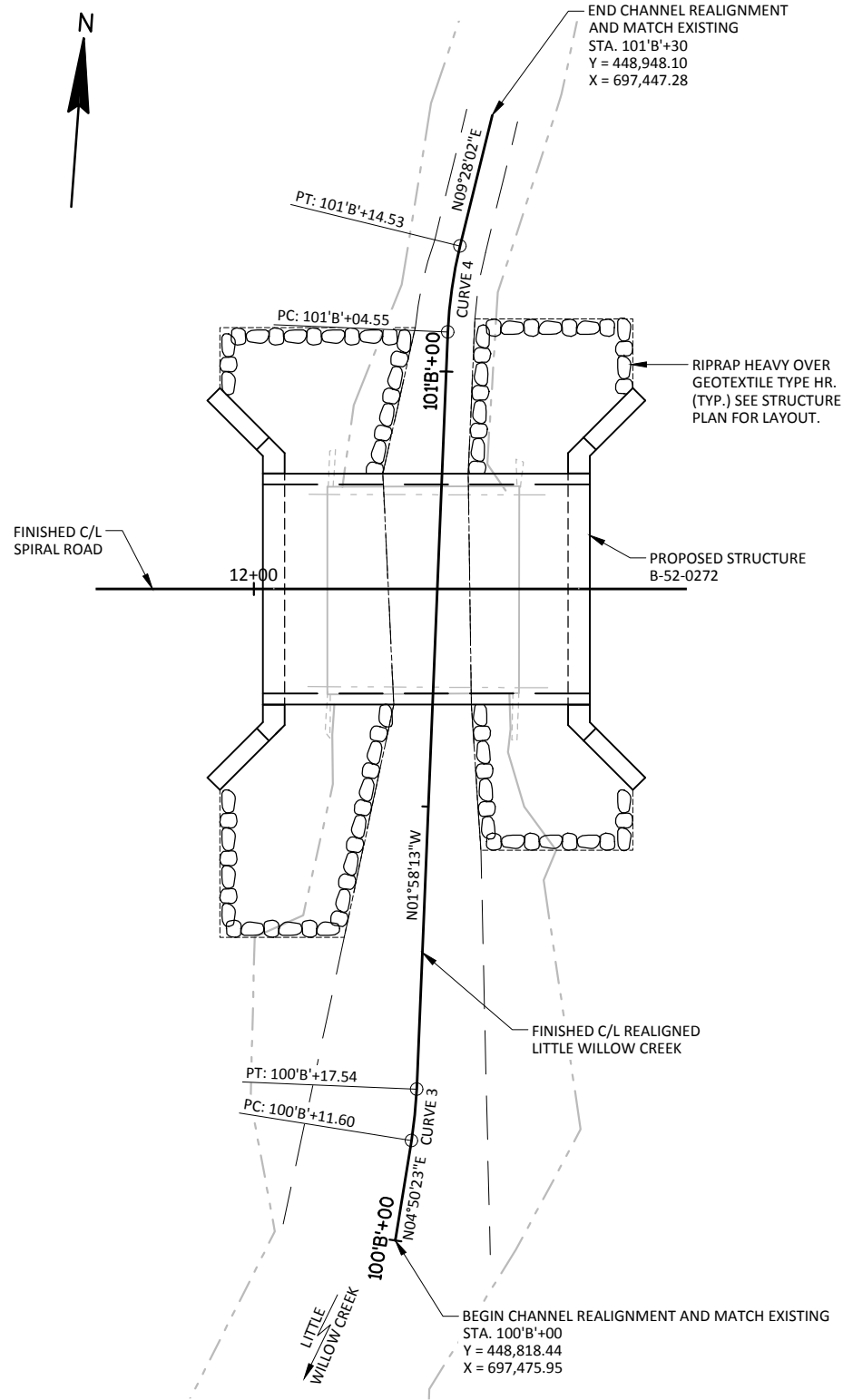
HWY: SPIRAL ROAD

COUNTY: RICHLAND

CONSTRUCTION DETAILS

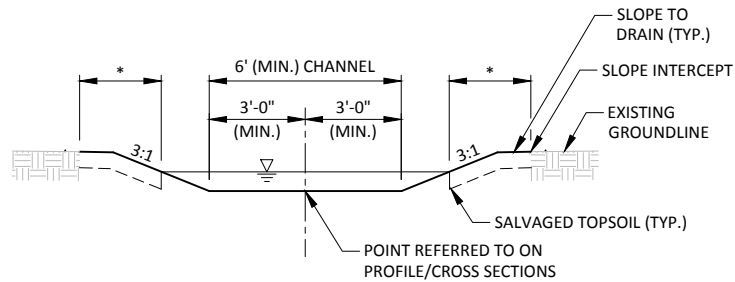
SHEET

E



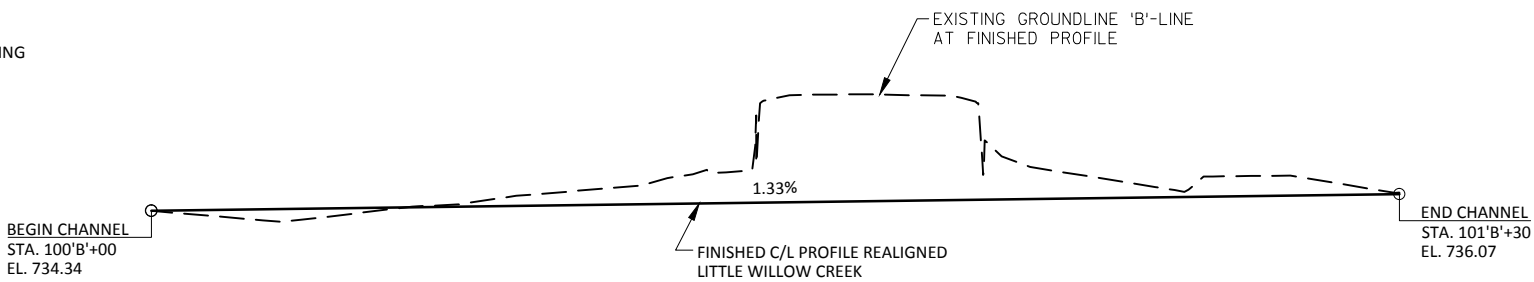
CHANNEL REALIGNMENT - PLAN VIEW
EARTHWORK AT CHANNEL REALIGNMENT TO BE INCLUDED IN CATEGORY 010 MAINLINE QUANTITIES.

| CURVE 3 | CURVE 4 |
|------------------------|------------------------|
| PI STA. = 100'B'+14.57 | PI STA. = 101'B'+09.56 |
| Y = 448,832.97 | Y = 448,927.90 |
| X = 697,477.18 | X = 697,473.91 |
| R = 50.00 | R = 50.00 |
| D = 114°35'30" | D = 114°35'30" |
| DELTA = 6°48'36" | DELTA = 11°26'15" |
| L = 5.94 | L = 9.98 |
| T = 2.97 | T = 5.01 |
| C = 5.94 | C = 9.96 |
| PC STA. = 100'B'+11.60 | PC STA. = 101'B'+04.55 |
| Y = 448,830.01 | Y = 448,922.90 |
| X = 697,476.93 | X = 697,474.09 |
| PT STA. = 100'B'+17.54 | PT STA. = 101'B'+14.53 |
| Y = 448,835.94 | Y = 448,932.84 |
| X = 697,477.08 | X = 697,474.74 |



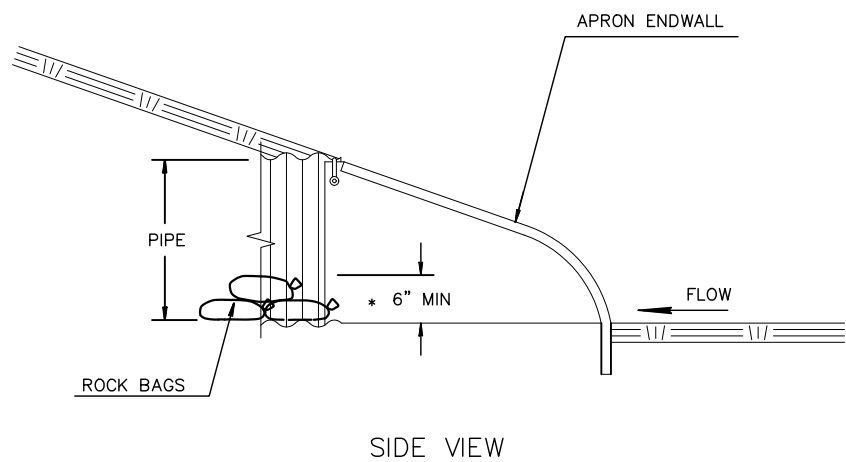
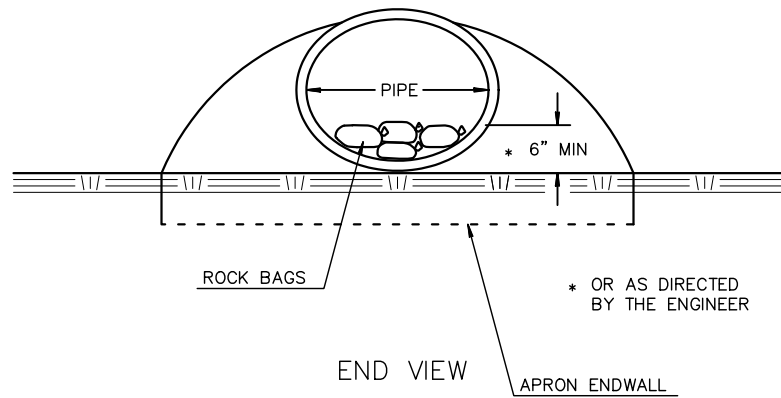
*LIMITS OF SALVAGED TOPSOIL, SEEDING MIXTURE NO. 60, SEEDING TEMPORARY, AND FERTILIZER TYPE B (INCLUDED IN CATEGORY 010 MAINLINE QUANTITIES)

TYPICAL CHANNEL REALIGNMENT SECTION

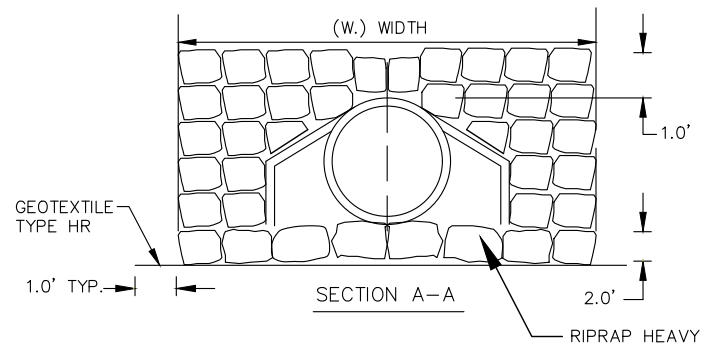
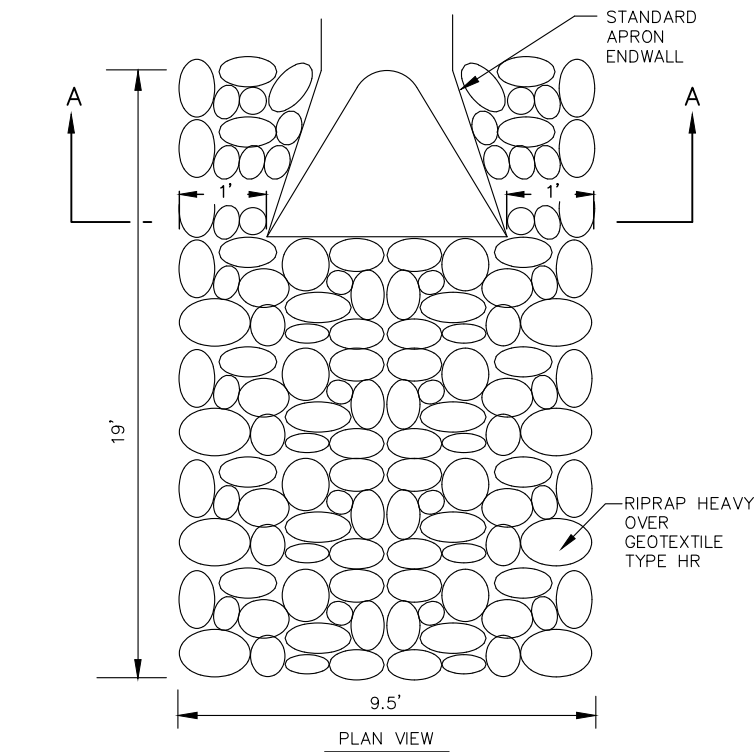


CHANNEL REALIGNMENT - PROFILE GRADE LINE

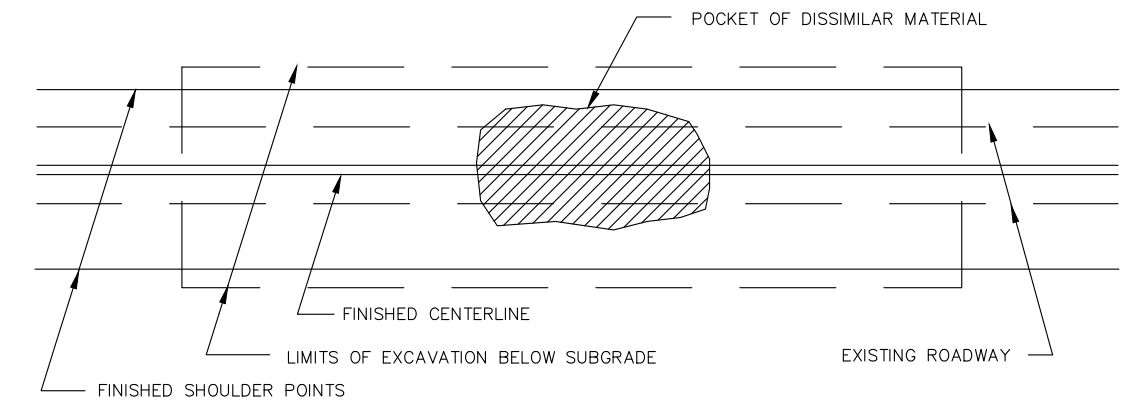
CHANNEL REALIGNMENT DETAILS



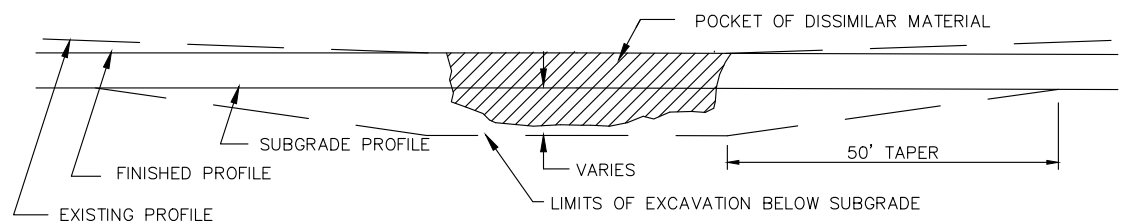
CULVERT PIPE CHECKS



RIPRAP DISCHARGE APRON
(UNLESS NOTED OTHERWISE ON PLAN)

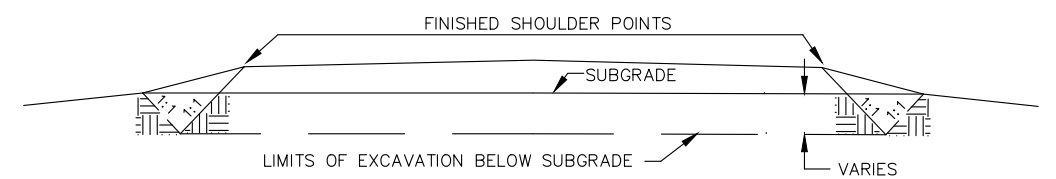


PLAN VIEW



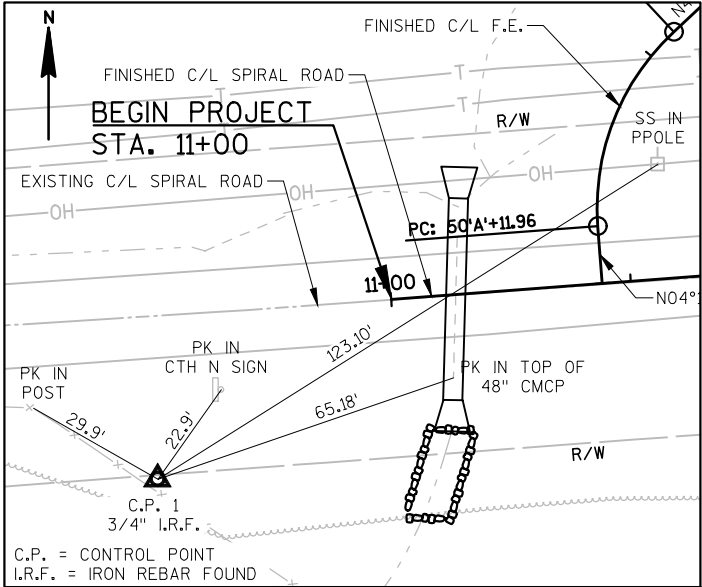
PROFILE VIEW

RURAL EXCAVATION BELOW SUBGRADE (E.B.S.)



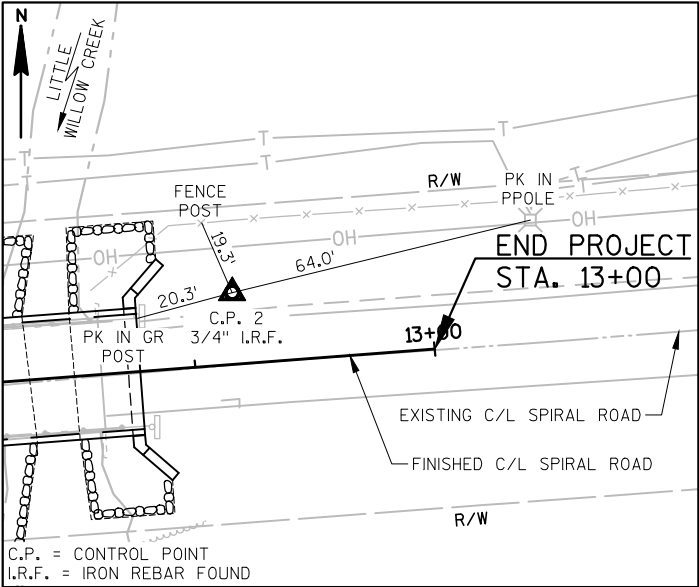
CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.



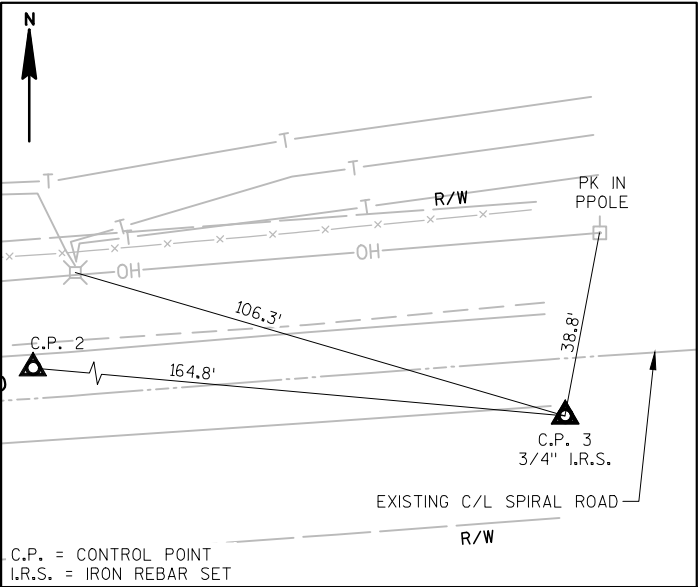
TIES TO C.P.#1

STA. 10+49.02; 33.7' RT.
Y = 448,846.80
X = 697,305.71



TIES TO C.P.#2

STA. 12+58.79; 14.9' LT.
Y = 448,911.07
X = 697,511.62



TIES TO C.P.#3

STA. 14+21.40; 11.8' RT.
Y = 448,896.32
X = 697,675.77

F.E. STATION LAYOUT

| STATION | Y | X | COMMENTS |
|----------|------------|------------|--------------------|
| 50'A'+11 | 448,898.54 | 697,397.48 | BEGIN CONSTRUCTION |
| 50'A'+50 | 448,934.91 | 697,408.54 | — |
| 51'A'+00 | 448,970.98 | 697,442.87 | — |
| 51'A'+30 | 448,999.93 | 697,449.64 | END CONSTRUCTION |

CURVE 1 DATA

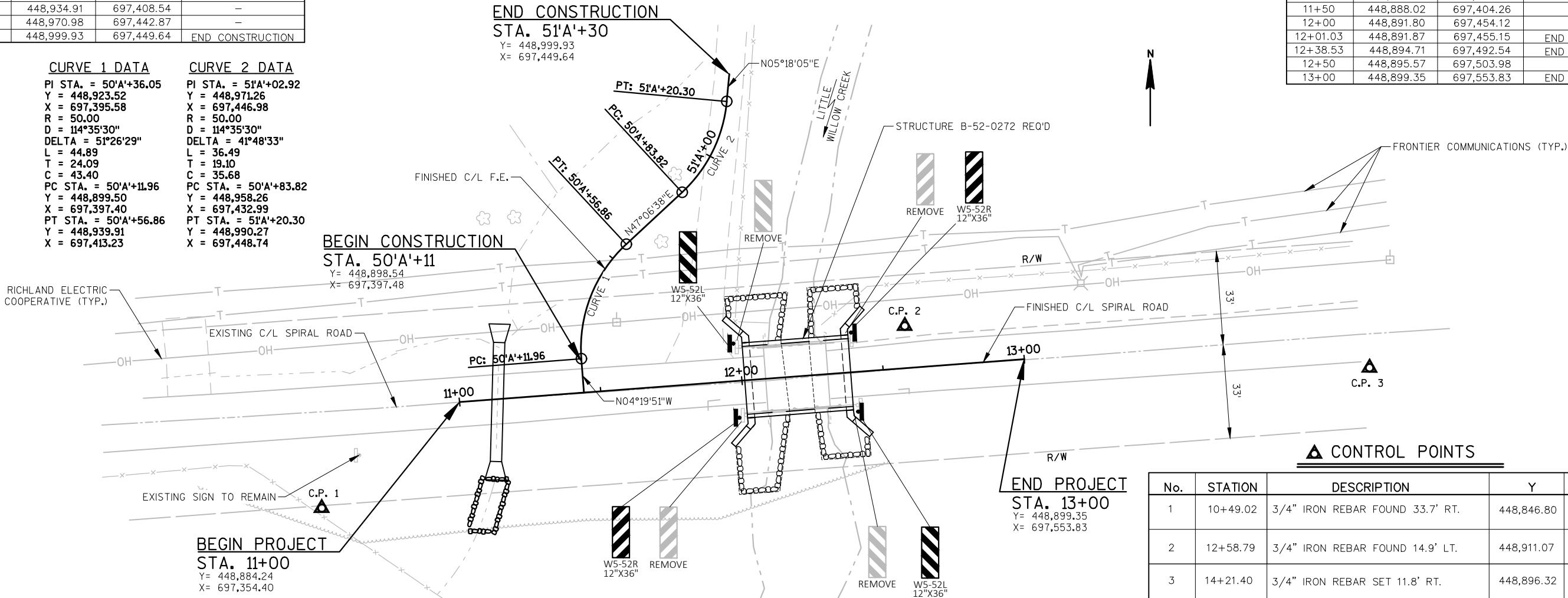
PI STA. = 50'A'+36.05
Y = 448,923.52
X = 697,395.58
R = 50.00
D = 114°35'30"
DELTA = 51°26'29"
L = 44.89
T = 24.09
C = 43.40
PC STA. = 50'A'+11.96
Y = 448,899.50
X = 697,397.40
PT STA. = 50'A'+56.86
Y = 448,939.91
X = 697,413.23

CURVE 2 DATA

PI STA. = 51'A'+02.92
Y = 448,971.26
X = 697,446.98
R = 50.00
D = 114°35'30"
DELTA = 41°48'33"
L = 36.49
T = 19.10
C = 35.68
PC STA. = 50'A'+83.82
Y = 448,958.26
X = 697,432.99
PT STA. = 51'A'+20.30
Y = 448,990.27
X = 697,448.74

SPIRAL ROAD STATION LAYOUT

| STATION | Y | X | COMMENTS |
|----------|------------|------------|---------------|
| 11+00 | 448,884.24 | 697,354.40 | BEGIN PROJECT |
| 11+50 | 448,888.02 | 697,404.26 | — |
| 12+00 | 448,891.80 | 697,454.12 | — |
| 12+01.03 | 448,891.87 | 697,455.15 | END OF DECK |
| 12+38.53 | 448,894.71 | 697,492.54 | END OF DECK |
| 12+50 | 448,895.57 | 697,503.98 | — |
| 13+00 | 448,899.35 | 697,553.83 | END PROJECT |



CONTROL POINTS

| No. | STATION | DESCRIPTION | Y | X |
|-----|----------|---------------------------------|------------|------------|
| 1 | 10+49.02 | 3/4" IRON REBAR FOUND 33.7' RT. | 448,846.80 | 697,305.71 |
| 2 | 12+58.79 | 3/4" IRON REBAR FOUND 14.9' LT. | 448,911.07 | 697,511.62 |
| 3 | 14+21.40 | 3/4" IRON REBAR SET 11.8' RT. | 448,896.32 | 697,675.77 |

Estimate Of Quantities

| 5056-00-70 | | | | | |
|------------|------------|--|------|------------|------------|
| Line | Item | Item Description | Unit | Total | Qty |
| 0002 | 201.0105 | Clearing | STA | 1.000 | 1.000 |
| 0004 | 201.0205 | Grubbing | STA | 1.000 | 1.000 |
| 0006 | 203.0100 | Removing Small Pipe Culverts | EACH | 1.000 | 1.000 |
| 0008 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. 12+19 | LS | 1.000 | 1.000 |
| 0010 | 205.0100 | Excavation Common | CY | 395.000 | 395.000 |
| 0012 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-52-0272 | LS | 1.000 | 1.000 |
| 0014 | 208.0100 | Borrow | CY | 186.000 | 186.000 |
| 0016 | 210.1500 | Backfill Structure Type A | TON | 280.000 | 280.000 |
| 0018 | 213.0100 | Finishing Roadway (project) 01. 5056-00-70 | EACH | 1.000 | 1.000 |
| 0020 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 120.000 | 120.000 |
| 0022 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 360.000 | 360.000 |
| 0024 | 455.0605 | Tack Coat | GAL | 20.000 | 20.000 |
| 0026 | 465.0105 | Asphaltic Surface | TON | 80.000 | 80.000 |
| 0028 | 502.0100 | Concrete Masonry Bridges | CY | 115.000 | 115.000 |
| 0030 | 502.3200 | Protective Surface Treatment | SY | 130.000 | 130.000 |
| 0032 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 4,050.000 | 4,050.000 |
| 0034 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 14,570.000 | 14,570.000 |
| 0036 | 513.4061 | Railing Tubular Type M 01. B-52-0272 | LF | 79.000 | 79.000 |
| 0038 | 516.0500 | Rubberized Membrane Waterproofing | SY | 12.000 | 12.000 |
| 0040 | 520.1048 | Apron Endwalls for Culvert Pipe 48-Inch | EACH | 2.000 | 2.000 |
| 0042 | 520.3148 | Culvert Pipe Class III 48-Inch | LF | 42.000 | 42.000 |
| 0044 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 490.000 | 490.000 |
| 0046 | 606.0300 | Riprap Heavy | CY | 200.000 | 200.000 |
| 0048 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 160.000 | 160.000 |
| 0050 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 5056-00-70 | EACH | 1.000 | 1.000 |
| 0052 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0054 | 624.0100 | Water | MGAL | 4.000 | 4.000 |
| 0056 | 625.0500 | Salvaged Topsoil | SY | 1,180.000 | 1,180.000 |
| 0058 | 627.0200 | Mulching | SY | 2,000.000 | 2,000.000 |
| 0060 | 628.1504 | Silt Fence | LF | 65.000 | 65.000 |
| 0062 | 628.1520 | Silt Fence Maintenance | LF | 130.000 | 130.000 |
| 0064 | 628.1905 | Mobilizations Erosion Control | EACH | 5.000 | 5.000 |
| 0066 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0068 | 628.6005 | Turbidity Barriers | SY | 150.000 | 150.000 |
| 0070 | 628.7504 | Temporary Ditch Checks | LF | 40.000 | 40.000 |
| 0072 | 628.7555 | Culvert Pipe Checks | EACH | 10.000 | 10.000 |
| 0074 | 629.0210 | Fertilizer Type B | CWT | 1.100 | 1.100 |

Estimate Of Quantities

5056-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|------|----------|--|------|-----------|-----------|
| 0076 | 630.0120 | Seeding Mixture No. 20 | LB | 45.000 | 45.000 |
| 0078 | 630.0160 | Seeding Mixture No. 60 | LB | 5.000 | 5.000 |
| 0080 | 630.0200 | Seeding Temporary | LB | 45.000 | 45.000 |
| 0082 | 630.0300 | Seeding Borrow Pit | LB | 3.000 | 3.000 |
| 0084 | 633.5100 | Markers Row | EACH | 11.000 | 11.000 |
| 0086 | 633.5200 | Markers Culvert End | EACH | 2.000 | 2.000 |
| 0088 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0090 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0092 | 638.2602 | Removing Signs Type II | EACH | 4.000 | 4.000 |
| 0094 | 638.3000 | Removing Small Sign Supports | EACH | 4.000 | 4.000 |
| 0096 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0098 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,134.000 | 1,134.000 |
| 0100 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 1,764.000 | 1,764.000 |
| 0102 | 643.0900 | Traffic Control Signs | DAY | 756.000 | 756.000 |
| 0104 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0106 | 645.0111 | Geotextile Type DF Schedule A | SY | 90.000 | 90.000 |
| 0108 | 645.0120 | Geotextile Type HR | SY | 350.000 | 350.000 |
| 0110 | 650.4500 | Construction Staking Subgrade | LF | 411.000 | 411.000 |
| 0112 | 650.5000 | Construction Staking Base | LF | 162.000 | 162.000 |
| 0114 | 650.6000 | Construction Staking Pipe Culverts | EACH | 1.000 | 1.000 |
| 0116 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-52-0272 | LS | 1.000 | 1.000 |
| 0118 | 650.9910 | Construction Staking Supplemental Control (project) 01. 5056-00-70 | LS | 1.000 | 1.000 |
| 0120 | 650.9920 | Construction Staking Slope Stakes | LF | 411.000 | 411.000 |
| 0122 | 690.0150 | Sawing Asphalt | LF | 36.000 | 36.000 |
| 0124 | 715.0502 | Incentive Strength Concrete Structures | DOL | 690.000 | 690.000 |

CLEARING & GRUBBING

| STATION | LOCATION | 201.0105 CLEARING (STA) | 201.0205 GRUBBING (STA) |
|-------------|----------|-------------------------------|-------------------------------|
| 12+00-13+00 | MAINLINE | 1 | 1 |
| TOTALS = | | 1 | 1 |

REMOVING SMALL PIPE CULVERTS

| STATION | LOCATION | 203.0100 (EACH) | COMMENTS |
|---------|----------|--------------------|----------------|
| 11+13 | MAINLINE | 1 | 48" CMP; L=32' |
| TOTAL = | | 1 | |

BASE AGGREGATE DENSE

| STATION - STATION | LOCATION | 305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON) | 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON) |
|-------------------|---------------|---|---|
| 11+00-13+00 | MAINLINE | 18 | 305 |
| 50'A'+11-51'A'+30 | F.E. | 84 | -- |
| - | UNDISTRIBUTED | 18 | 55 |
| TOTALS = | | 120 | 360 |

EARTHWORK SUMMARY

| STATION - STATION | LOCATION | 205.0100 EXCAVATION COMMON CUT (CY) | AVAILABLE MATERIAL (CY) (1) | UNEXPANDED FILL (CY) | EXPANDED FILL (CY) FACTOR 1.25 (2) | MASS ORDINATE +/- (CY) (3) | 208.0100 BORROW (CY) | WASTE (CY) |
|---------------------|-------------------------|--|-----------------------------------|----------------------------|--|-------------------------------------|----------------------------|---------------|
| 11+00-13+00 | MAINLINE | 170 | 170 | 160 | 200 | -30 | 30 | 0 |
| 50'A'+00-51'A'+30 | F.E. | 70 | 70 | 181 | 226 | -156 | 156 | 0 |
| 100'B'+00-101'B'+30 | CHANNEL REALIGNMENT (4) | 155 | 0 | 0 | 0 | 0 | 0 | 155 |
| TOTALS = | | 395 | 240 | | | | 186 | |

NOTES:
1.) AVAILABLE MATERIAL = CUT
2.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL)*1.25
3.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.
4.) WASTE EXCESS CHANNEL REALIGNMENT MATERIAL. DO NOT USE EXCESS EXCAVATED MATERIAL FROM CHANNEL REALIGNMENT ('B'-LINE) ACTIVITIES IN ROADWAY RECONSTRUCTION APPROACH CONSTRUCTION.

ASPHALTIC SURFACE

| STATION - STATION | LOCATION | 455.0605 TACK COAT (GAL) | 465.0105 ASPHALTIC SURFACE (TON) |
|-------------------|---------------|--------------------------------|--|
| 11+00-13+00 | MAINLINE | 18 | 70 |
| - | UNDISTRIBUTED | 2 | 10 |
| TOTALS = | | 20 | 80 |

WATER

| | |
|----------|----------|
| | 624.0100 |
| LOCATION | (MGAL) |
| MAINLINE | 3 |
| F.E. | 1 |
| TOTAL = | 4 |

CULVERT PIPE

| STATION - STATION | LOCATION | 520.3148 CUVLERT PIPE CLASS III 48-INCH (LF) | 520.1048 APRON ENDWALLS FOR CULVERT PIPE 48-INCH (EACH) |
|-------------------|------------------------|--|---|
| 11+13 | MAINLINE | 42 | 2 |
| TOTALS = | | 42 | 2 |
| PIPE SIZE | MINIMUM THICKNESS (IN) | STEEL | ALUMINUM |
| 48-INCH | | 0.109 | 0.105 |

FINISHING 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) | 630.0160 SEEDING MIXTURE NO. 60 (LB) | 630.0200 SEEDING TEMPORARY (LB) | 630.0300 SEEDING BORROW PIT (LB) |
|-------------------|---------------|---|------------------------------|---|---|---|--|---|
| 11+00-13+00 | MAINLINE | 366 | 675 | 0.4 | 18 | 4 | 18 | -- |
| 50'A'+11-51'A'+30 | F.E. | 621 | 811 | 0.5 | 22 | -- | 22 | -- |
| - | BORROW PIT | -- | 112 | 0.1 | -- | -- | -- | 2 |
| | UNDISTRIBUTED | 193 | 402 | 0.1 | 5 | 1 | 5 | 1 |
| TOTALS = | | 1180 | 2000 | 1.1 | 45 | 5 | 45 | 3 |

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|---|--|-------------------------|--|--------------------|--|------------------------|--|---------------------|--|--------------------|--|
| ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED | | | | | | | | | | | |
| MOBILIZATION EROSION CONTROL | | | | TURBIDITY BARRIERS | | TEMPORARY DITCH CHECKS | | CULVERT PIPE CHECKS | | RIPRAP HEAVY | |
| 628.1905 | | 628.1910 | | 628.6005 | | 628.7504 | | 628.7555 | | *606.0300 | |
| MOBILIZATIONS | | MOBILIZATIONS EMERGENCY | | (SY) | | (LF) | | (EACH) | | RIPRAP HEAVY | |
| EROSION CONTROL | | EROSION CONTROL | | PROJECT | | PROJECT | | LOCATION | | GEOTEXTILE TYPE HR | |
| (EACH) | | (EACH) | | PROJECT | | PROJECT | | LOCATION | | (CY) | |
| PROJECT | | PROJECT | | PROJECT | | PROJECT | | LOCATION | | (SY) | |
| 5 | | 2 | | 150 | | 16 | | 10 | | 14 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 35 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 5 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
| 5 | | 2 | | 150 | | 8 | | 10 | | 40 | |
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| 101 | 10+90.00 | 33.13' LT. | 1 | | | | | 628.1504 SILT FENCE | | | | 628.1520 SILT FENCE MAINTENANCE | | | | 12+00 | | | | MAINLINE, LT. | | | | W5-52L | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | 1 | | | | 3.00 | | | | -- | | | | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 102 | 13+00.00 | 32.86' LT. | 1 | | | | | | | | | | | | | 12+00 | | | | MAINLINE, RT. | | | | W5-52R | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | 1 | | | | 3.00 | | | | -- | | | | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 103 | 13+00.00 | 33.14' RT. | 1 | | | | | | | | | | | | | 12+00 | | | | MAINLINE, LT. | | | | W5-52L | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | -- | | | | -- | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | 12+75.00 | 33.11' RT. | 1 | | | | | | | | | | | | | 12+00 | | | | MAINLINE, RT. | | | | W5-52R | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | -- | | | | -- | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | 12+75.00 | 44.00' RT. | 1 | | | | | | | | | | | | | 12+39 | | | | MAINLINE, RT. | | | | W5-52R | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | -- | | | | -- | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | 11+70.00 | 44.00' RT. | 1 | | | | | | | | | | | | | 12+40 | | | | MAINLINE, LT. | | | | W5-52L | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | -- | | | | -- | | | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | 11+70.00 | 32.97' RT. | 1 | | | | | | | | | | | | | 12+39 | | | | MAINLINE, RT. | | | | W5-52R | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | 1 | | | | 3.00 | | | | -- | | | | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 108 | 11+20.00 | 32.91' RT. | 1 | | | | | | | | | | | | | 12+40 | | | | MAINLINE, LT. | | | | W5-52L | | | | BRIDGE HASH MARKS | | | | -- | | | | 12X36 | | | | 1 | | | | 3.00 | | | | -- | | | | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | 11+20.00 | 52.00' RT. | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|-----------------|------------|----------|----------|----------|
| TRAFFIC CONTROL | | | | |
| TRAFFIC CONTROL | | | | |
| | 643.0420 | 643.0705 | | 643.5000 |
| | BARRICADES | WARNING | | TRAFFIC |
| | TYPE III | TYPE A | 643.0900 | CONTROL |
| LOCATION | (DAYS) | (DAYS) | (DAYS) | (EACH) |
| PROJECT | 1134 | 1764 | 756 | 1 |
| TOTALS = | 1134 | 1764 | 756 | 1 |

| | | | | | | | |
|--------------------------------------|---------------------|----------|----------|-------------|------------------|--------------|----------|
| CONSTRUCTION STAKING | | | | | | | |
| CONSTRUCTION STAKING | | | | | | | |
| | | 650.4500 | 650.5000 | 650.6000 | **650.6500 | 650.9910 | |
| | | SUBGRADE | BASE | PIPE | STRUCTURE | SUPPLEMENTAL | 650.9920 |
| | | (LF) | (LF) | CULVERTS | LAYOUT | CONTROL | SLOPES |
| STATION-STATION | LOCATION | | | (B-52-0272) | (01. 5056-00-70) | STAKES | |
| 11+00-13+00 | MAINLINE | 162 | 162 | -- | -- | -- | 162 |
| -- | CHANNEL REALIGNMENT | 130 | -- | -- | -- | -- | 130 |
| 11+13 | MAINLINE | -- | -- | 1 | -- | -- | -- |
| 50'A'+11 - 51'A'+30 | F.E. | 119 | -- | -- | -- | -- | 119 |
| -- | PROJECT | -- | -- | -- | 1 | 1 | -- |
| TOTALS = | | 411 | 162 | 1 | 1 | 1 | 411 |
| **INDICATES BID ITEM IS CATEGORY 020 | | | | | | | |

| | | |
|----------------|----------|----------|
| SAWING ASPHALT | | |
| | | 690.0150 |
| STATION | LOCATION | (L.F.) |
| 11+00 | MAINLINE | 18 |
| 13+00 | MAINLINE | 18 |
| TOTAL = | | 36 |

CONVENTIONAL ABBREVIATIONS

| | | | |
|--------------------------------------|--------|----------------------------|--------------|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | PROPERTY LINE | PL (100') |
| ACCESS RIGHTS | AR | RECORDED AS | R/L |
| ACRES | AC. | REFERENCE LINE | ROR |
| AND OTHERS | ET.AL. | RELEASE OF RIGHTS | REM. |
| BARN | B. | REMAINING | R/W |
| CENTERLINE | C/L | RIGHT-OF-WAY | SEC. |
| CERTIFIED SURVEY MAP | CSM | SECTION | S. |
| CORNER | COR. | SHED | STA. |
| CONVEYANCE OF RIGHTS | CR | STATION | TLE |
| DOCUMENT | DOC. | TEMPORARY LIMITED EASEMENT | V. |
| EASEMENT | EASE. | VOLUME | |
| GARAGE | G. | | |
| HIGHWAY EASEMENT | H.E. | CURVE DATA | |
| HOUSE | H. | LONG CHORD | LCH |
| HOUSE TRAILER | H.T. | LONG CHORD BEARING | LCB |
| LAND CONTRACT | LC | RADIUS | R |
| MONUMENT | MON. | DEGREE OF CURVE | D |
| PAGE | P. | CENTRAL ANGLE OR DELTA | DELTA |
| PERMANENT LIMITED EASEMENT | PLE | LENGTH OF CURVE | L |
| | | TANGENT | TAN |

CONVENTIONAL SYMBOLS

| | | | |
|--|---------|--|-------|
| FOUND SURVEY MONUMENT (WITH POINT NUMBER) | 1040 | PROPOSED R/W LINE | ----- |
| R/W MONUMENT | o (SET) | EXISTING H.E. LINE | ----- |
| R/W STANDARD | Δ (SET) | PROPERTY LINE | ----- |
| SIGN | ISIGN | LOT & TIE LINES | ----- |
| SECTION CORNER MONUMENT | ⊕ | SLOPE INTERCEPTS | ----- |
| SECTION CORNER SYMBOL | ⊕ | CORPORATE LIMITS | ----- |
| FEE (HATCH VARIES) | /// | NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL) | ----- |
| TEMPORARY LIMITED EASEMENT | ----- | NO ACCESS (BY ACQUISITION) | ----- |
| PERMANENT LIMITED EASEMENT | ----- | NO ACCESS (BY STATUTORY AUTHORITY) | ----- |
| R/W BOUNDARY POINT | RWB20 | SECTION LINE | ----- |
| PARCEL NUMBER | 8 | QUARTER LINE | ----- |
| UTILITY PARCEL NUMBER | 92 | SIXTEENTH LINE | ----- |
| SIGN NUMBER (OFF PREMISE) | 21-1 | EXISTING CENTERLINE | ----- |
| BUILDING | ----- | PROPOSED REFERENCE LINE | ----- |
| | | PARALLEL OFFSET | ----- |
| | | ENCROACHMENT | ----- |

CONVENTIONAL UTILITY SYMBOLS

| | | | |
|--------------------|----|--------------------|-------------|
| WATER | W | SANITARY SEWER | SAN |
| GAS | G | STORM SEWER | SS |
| TELEPHONE | T | | |
| OVERHEAD | OH | NON COMPENSABLE | COMPENSABLE |
| TRANSMISSION LINES | | POWER POLE | ⊕ |
| ELECTRIC | E | TELEPHONE POLE | ⊕ |
| CABLE TELEVISION | TV | TELEPHONE PEDESTAL | ⊕ |
| FIBER OPTIC | FO | ELECTRIC TOWER | ⊕ |

STRUCTURE B-52-0272

END RELOCATION ORDER

STA. 13+00

615.09' NORTH AND 1639.33' EAST OF THE
W $\frac{1}{4}$ CORNER OF SECTION 18, T.10N., R.2E.,
TOWN OF ITHACA, RICHLAND COUNTY, WI
Y= 448,899.35
X= 697,553.83

RECEIVED

MAR 12 2018

VICTOR V. VLASAK
RICHLAND COUNTY CLERK

BEGIN RELOCATION ORDER

STA. 10+90

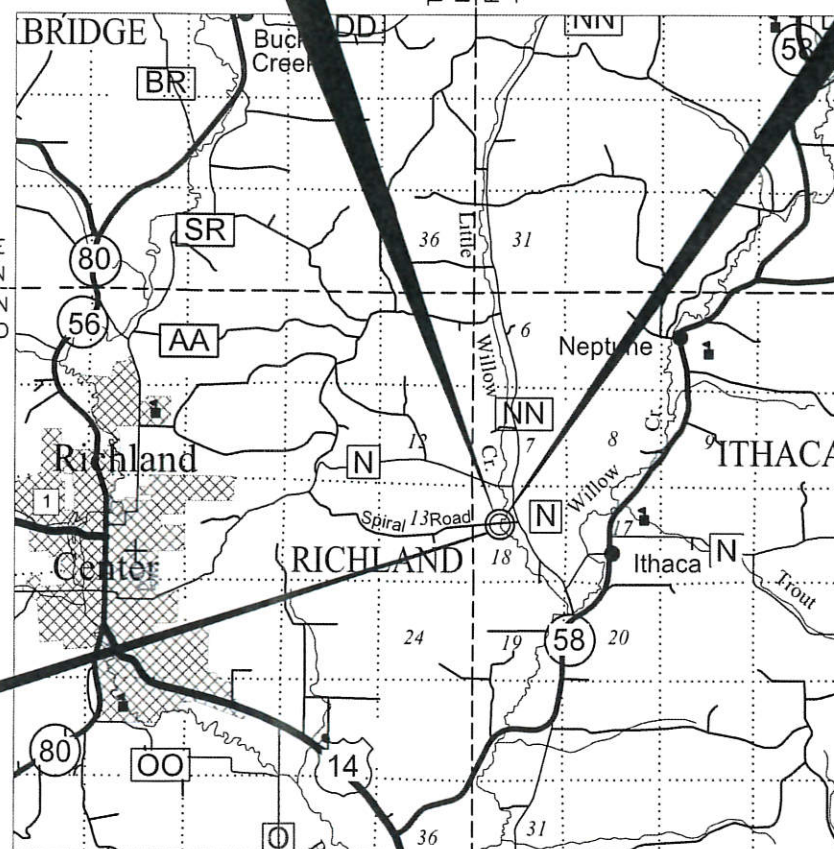
599.23' NORTH AND 1429.93' EAST OF THE
W $\frac{1}{4}$ CORNER OF SECTION 18, T.10N., R.2E.,
TOWN OF ITHACA, RICHLAND COUNTY, WI
Y= 448,883.49
X= 697,344.43

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), RICHLAND COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD."



LAYOUT
SCALE 0 1 MI. 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.040 MI.

REVISION DATE

APPROVED FOR TOWN OF ITHACA

DATE: 3-5-2018
(NAME/TITLE)

Town Clerk

E

| ENCROACHMENT TABLE | | | |
|--------------------|--|---|-------------------|
| ENCROACHMENT | PROPERTY OWNER | LOCATION (STATION/OFFSET) | ENCROACHMENT TYPE |
| E-1 | FRANCIS HUEBSCH A/K/A/ JUNIOR HUEBSCH | STA. 11+98 - STA. 12+11, 20.9'-19.6' LT. | FENCE |
| E-2 | FRANCIS HUEBSCH A/K/A/ JUNIOR HUEBSCH | STA. 12+29 - STA. 13+00, 17.6'-29.7' LT. | FENCE |

| COORDINATE TABLE - TEMPORARY LIMITED EASEMENT (TLE) POINTS | | | | |
|--|----------|------------|-----------|-----------|
| PT.# | STATION | OFFSET | Y | X |
| 201 | 10+95.00 | 33.12 LT. | 448916.90 | 697346.92 |
| 202 | 11+85.00 | 115.00 LT. | 449005.33 | 697430.48 |
| 203 | 12+30.00 | 109.00 LT. | 449002.75 | 697475.80 |
| 204 | 12+75.00 | 32.89 LT. | 448930.26 | 697526.42 |
| 205 | 12+65.00 | 44.00 RT. | 448852.83 | 697522.26 |
| 206 | 12+45.00 | 83.00 RT. | 448812.43 | 697505.26 |
| 207 | 11+90.00 | 78.00 RT. | 448813.26 | 697450.04 |

| EASEMENT TABLE | | | |
|--|---------------------------------|-------------------------|--|
| OWNER | RECORDING INFORMATION | LOCATED IN R/W PARCEL # | REMARKS |
| GTE NORTH INCORPORATED, A WISCONSIN CORPORATION, ITS SUCCESSORS AND ASSIGNS (n.k.a FRONTIER COMMUNICATIONS OF WI, LLC) | DOC. #224538, VOL. 277, PG. 342 | 1 | (1) ROD IN WIDTH, CENTERLINE OF WHICH SHALL BE THE FIRST BURIED CABLE PLACED |
| GENERAL TELEPHONE COMPANY OF WISCONSIN, ITS SUCCESSORS AND ASSIGNS (n.k.a FRONTIER COMMUNICATIONS OF WI, LLC) | DOC. #153391, VOL. 43, PG. 297 | 1 | (1) ROD WIDE LYING NORTH OF PARALLEL WITH AND ABUTTING THE RIGHT-OF-WAY OF SPIRAL ROAD |
| GENERAL TELEPHONE COMPANY OF WISCONSIN, ITS SUCCESSORS AND ASSIGNS (n.k.a FRONTIER COMMUNICATIONS OF WI, LLC) | DOC. #157551, VOL. 45, PG. 349 | 1 | THAT PART OF THE E½ OF THE NW¼, SECTION 18, T10N, R2E, LYING WEST OF CTH N |

| TLE LINE TABLE | | |
|----------------|-------------|----------|
| POINT TO POINT | BEARING | DISTANCE |
| 101 TO 201 | N85°44'35"E | 5.00' |
| 201 TO 202 | N43°22'32"E | 121.67' |
| 202 TO 203 | S86°44'09"E | 45.40' |
| 203 TO 204 | S34°55'27"E | 88.42' |
| 204 TO 102 | N85°44'35"E | 25.00' |
| 105 TO 205 | S85°40'09"W | 10.00' |
| 205 TO 206 | S22°49'28"W | 43.83' |
| 206 TO 207 | N89°08'11"W | 55.23' |
| 207 TO 106 | N34°47'47"W | 39.45' |

NW CORNER SEC. 18
FOUND CONCRETE MONUMENT
WITH BRONZE CAP
Y = 450,930.50
X = 695,904.37



SE ¼ - NW ¼
SEC. 18, T10N, R2E

TOWN OF

ITHACA

FRONTIER COMMUNICATIONS
OF WISCONSIN, LLC (TYP.)

RECEIVED

MAR 12 2018

VICTOR V. VLASAK
RICHLAND COUNTY CLERK

BEGIN RELOCATION ORDER
STA. 10+90

599.23' NORTH AND 1429.93' EAST OF THE
W¼ CORNER OF SECTION 18, T10N., R2E.,
TOWN OF ITHACA, RICHLAND COUNTY, WI
Y= 448,883.49
X= 697,344.43

END RELOCATION ORDER
STA. 13+00

615.09' NORTH AND 1639.33' EAST OF THE
W¼ CORNER OF SECTION 18, T10N., R2E.,
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Y= 448,899.35
X= 697,553.83

FRANCIS HUEBSCH A/K/A JUNIOR HUEBSCH, FRANCIS
HUEBSCH, JR. AND JANICE M. HUEBSCH, HUSBAND
AND WIFE, LIFE ESTATE

| RIGHT OF WAY LINE TABLE | | | | |
|-------------------------|-------------|----------|--|--|
| POINT TO POINT | BEARING | DISTANCE | | |
| 101 TO 102 | N85°44'35"E | 210.00' | | |
| 102 TO 103 | S04°19'51"E | 66.00' | | |
| 103 TO 104 | S85°44'35"W | 25.00' | | |
| 104 TO 105 | S04°19'51"E | 10.89' | | |
| 105 TO 106 | S85°40'09"W | 105.00' | | |
| 106 TO 107 | N04°19'51"W | 11.03' | | |
| 107 TO 108 | S85°44'35"W | 50.00' | | |
| 108 TO 109 | S04°19'51"E | 19.09' | | |
| 109 TO 110 | S85°51'58"W | 30.00' | | |
| 110 TO 111 | N04°19'51"W | 19.03' | | |
| 111 TO 101 | N04°19'51"W | 66.00' | | |

| PARCEL NUMBER | OWNER (S) | INTEREST REQUIRED | R/W ACRES REQUIRED | | | T.L.E. ACRES |
|---------------|---|---------------------------------|--------------------|----------|-------|--------------|
| | | | NEW | EXISTING | TOTAL | |
| 1 | FRANCIS HUEBSCH A/K/A JUNIOR HUEBSCH, FRANCIS HUEBSCH, JR. AND JANICE M. HUEBSCH, HUSBAND AND WIFE, LIFE ESTATE | FEE, TLE | 0.04 | 0.32 | 0.36 | 0.27 |
| 201 | FRONTIER COMMUNICATIONS OF WISCONSIN, LLC | TEMPORARY CONSTRUCTION EASEMENT | | | | |

NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM THE TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN OF ITHACA.

| COORDINATE TABLE - NEW R/W POINTS | | | | |
|-----------------------------------|----------|-----------|-----------|-----------|
| PT.# | STATION | OFFSET | Y | X |
| 101 | 10+90.00 | 33.13 LT. | 448916.52 | 697341.93 |
| 102 | 13+00.00 | 32.86 LT. | 448932.11 | 697551.35 |
| 103 | 13+00.00 | 33.14 RT. | 448866.30 | 697556.34 |
| 104 | 12+75.00 | 33.11 RT. | 448864.45 | 697531.40 |
| 105 | 12+75.00 | 44.00 RT. | 448853.58 | 697532.23 |
| 106 | 11+70.00 | 44.00 RT. | 448845.66 | 697427.53 |
| 107 | 11+70.00 | 32.97 RT. | 448856.65 | 697426.69 |
| 108 | 11+20.00 | 32.91 RT. | 448852.94 | 697376.83 |
| 109 | 11+20.00 | 52.00 RT. | 448833.90 | 697378.27 |
| 110 | 10+90.00 | 51.90 RT. | 448831.74 | 697348.35 |
| 111 | 10+90.00 | 32.87 RT. | 448850.71 | 697346.92 |

NOTE: EXISTING C/L OF SPIRAL ROAD WAS
BASED ON CENTERLINE OF EXISTING
PAVEMENT.

BASIS OF EXISTING RIGHT-OF-WAY FOR
SPIRAL ROAD WAS BASED ON COUNTY
RECORDS, THE CENTERLINE OF EXISTING
PAVEMENT, AND WIS. STATUTE 82.31(2).

REVISION DATE

DATE 3-5-2018

GRID FACTOR N/A

SCALE, FEET

0 20 40

HWY: SPIRAL ROAD

COUNTY: RICHLAND

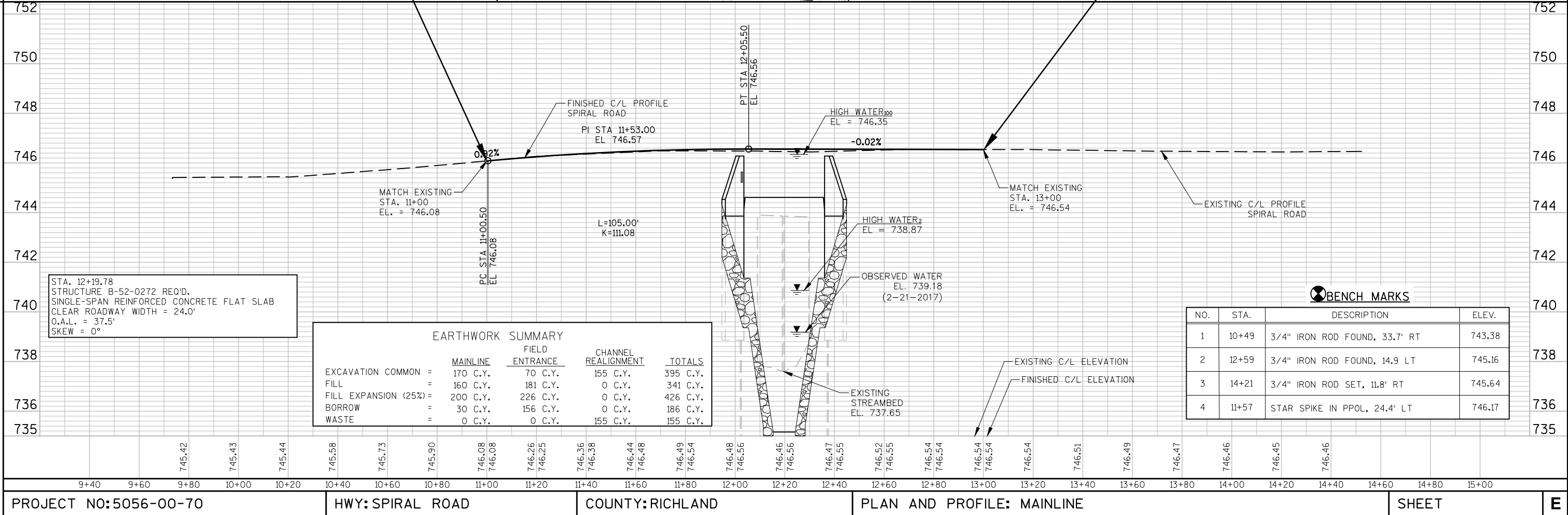
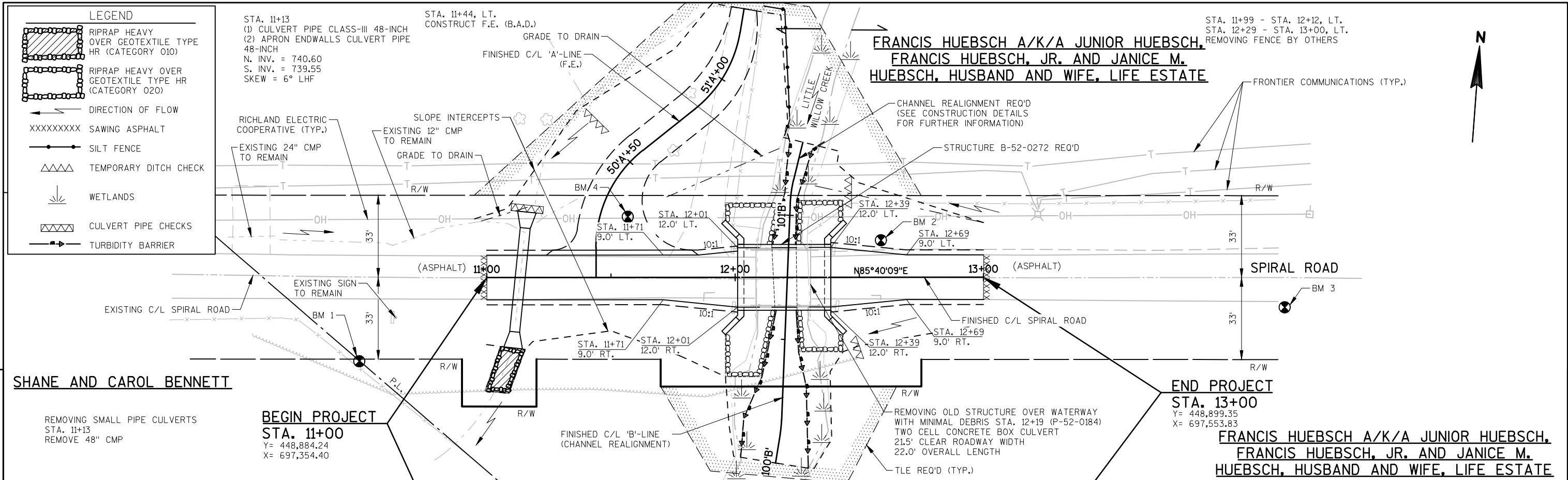
R/W PROJECT NUMBER: 5056-00-00

CONSTRUCTION PROJECT NUMBER: 5056-00-70

PLAT SHEET 4.02

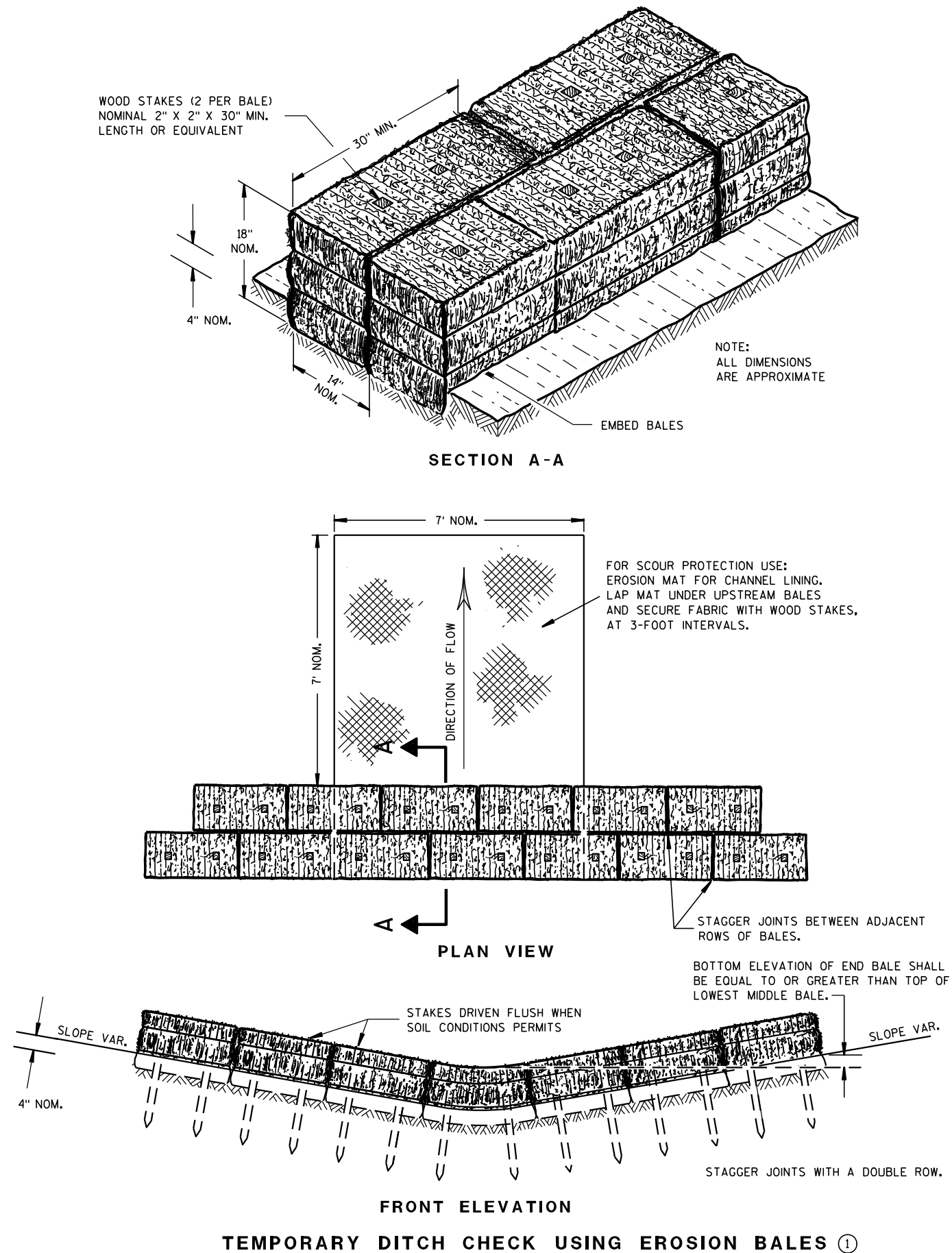
PS&E SHEET

E



Standard Detail Drawing List

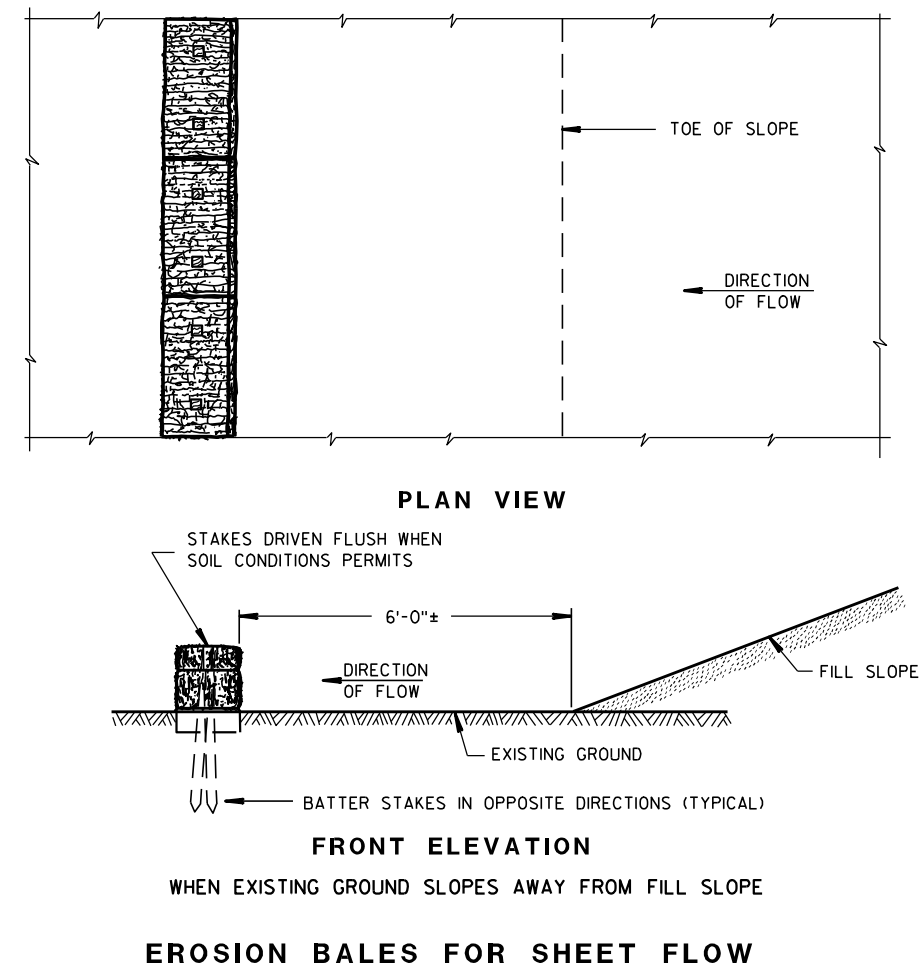
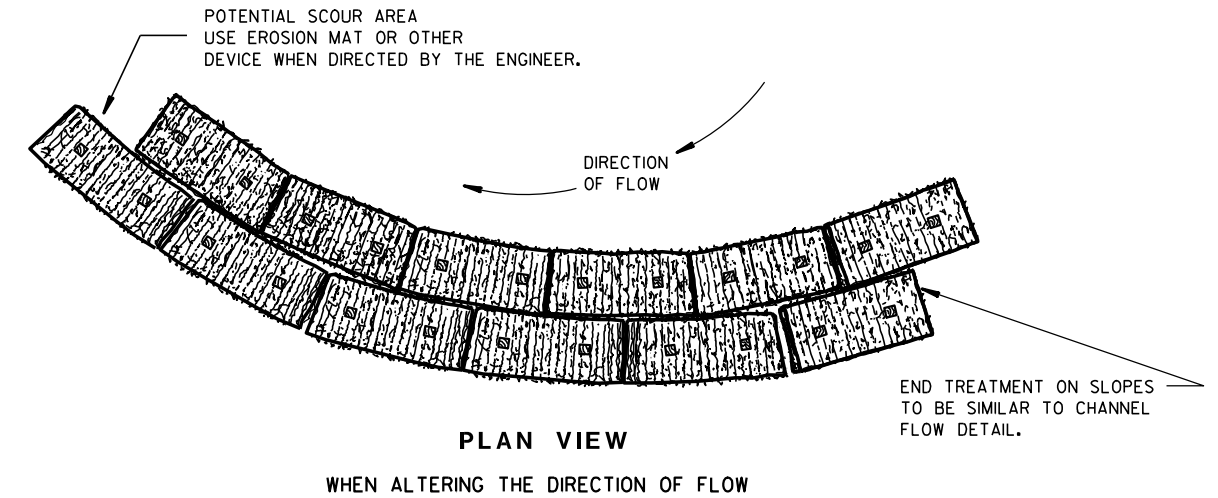
| | |
|-----------|---|
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 15A01-13A | MARKER POST FOR RIGHT-OF-WAY |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15C02-06A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-06B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C06-09 | SIGNING & MARKING FOR TWO LANE BRIDGES |



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.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

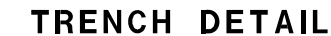
6/04/02
DATE

FHWA

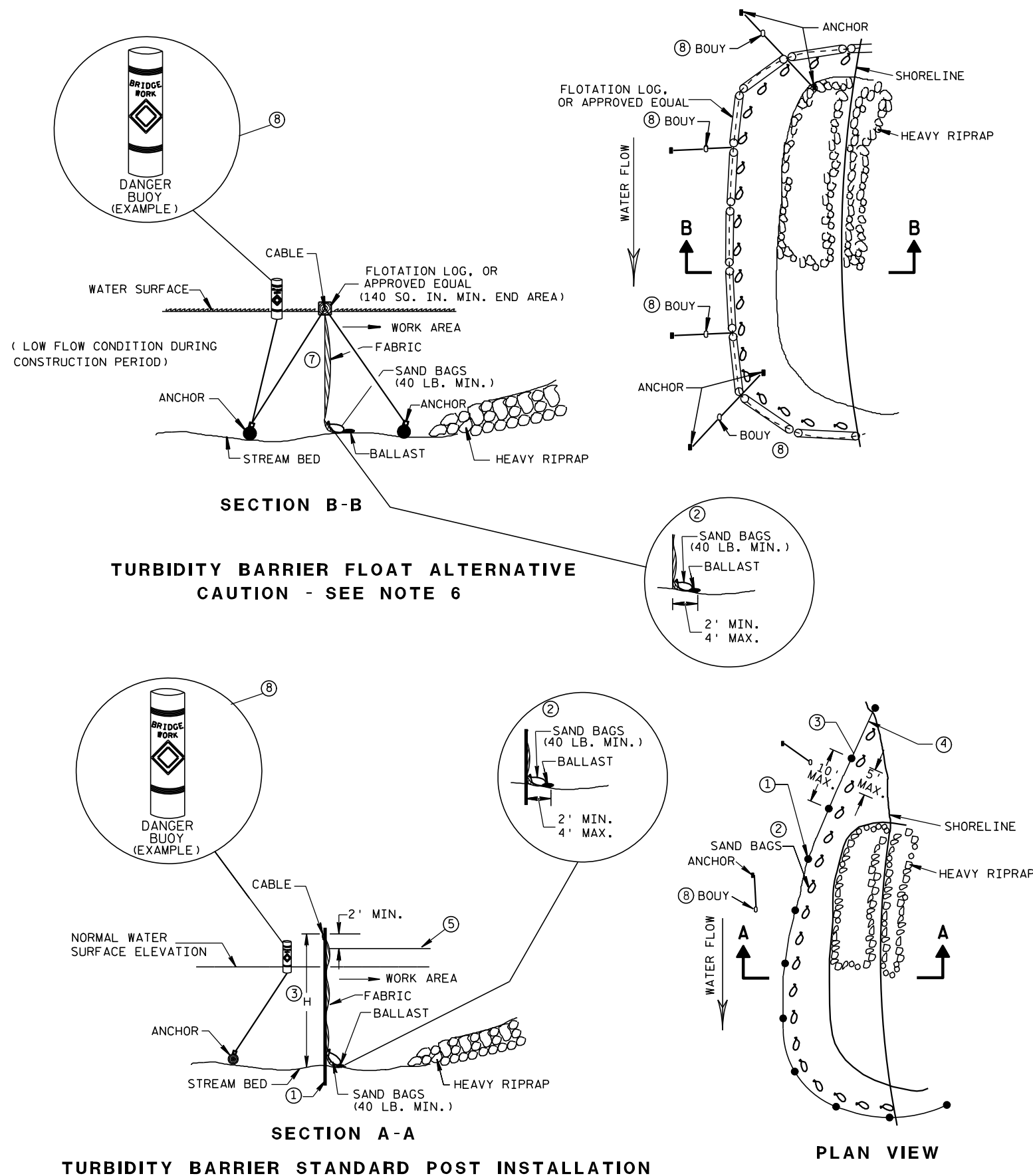
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- 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 1½" X 1½" 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.



| | |
|---|--|
| <p style="text-align: center;">SILT FENCE</p> | |
| <p style="text-align: center;">STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p> | |
| <p>APPROVED</p> <p><u>4-29-05</u></p> <p><u>DATE</u></p> | <p><u>/S/ Beth Canestra</u></p> <p>CHIEF ROADWAY DEVELOPMENT ENGINEER</p> |

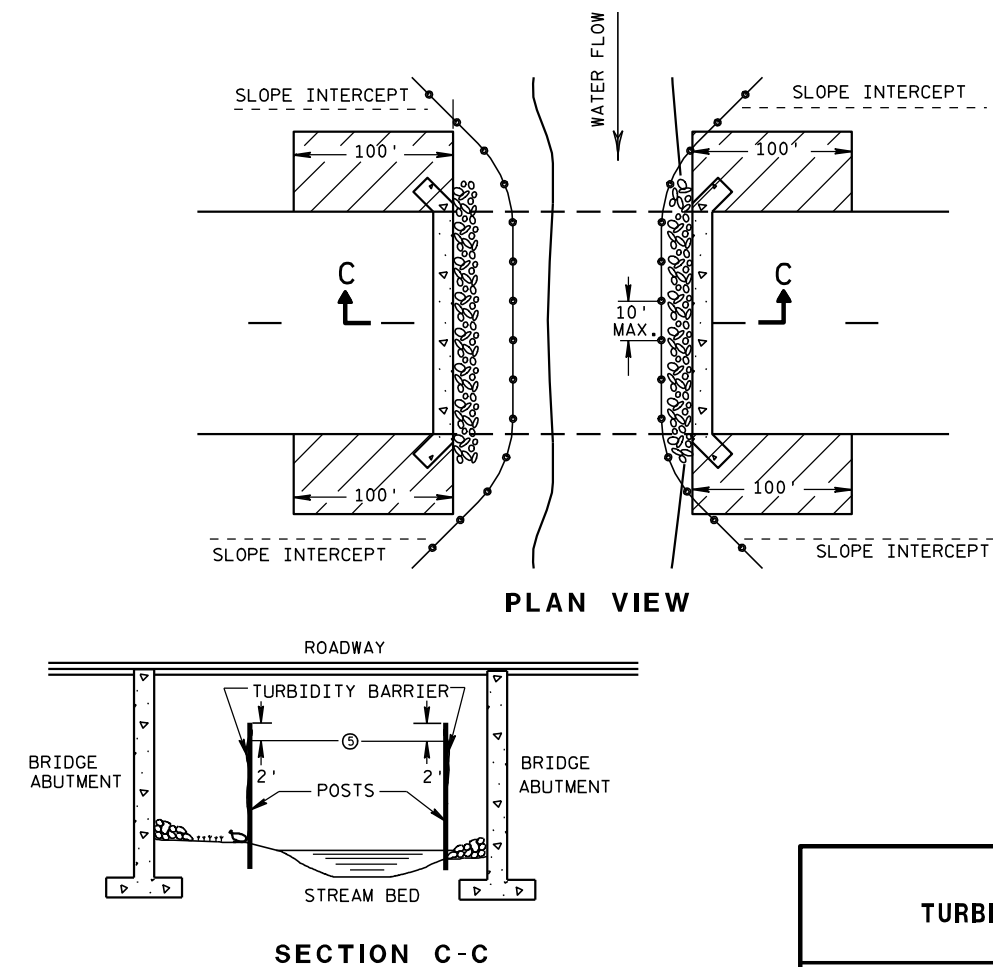


GENERAL NOTES

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. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER 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.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

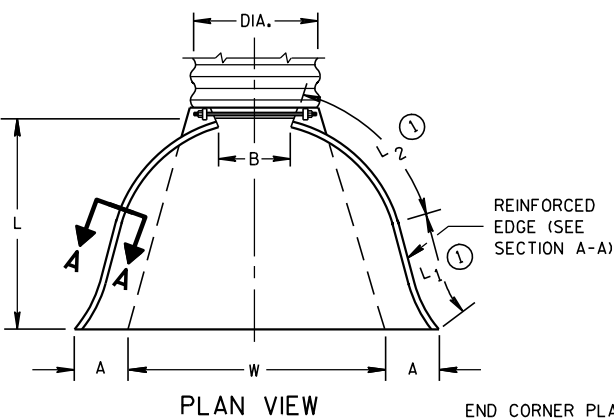
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

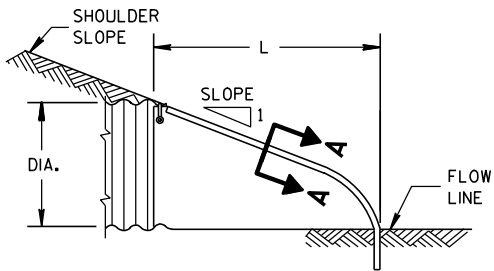
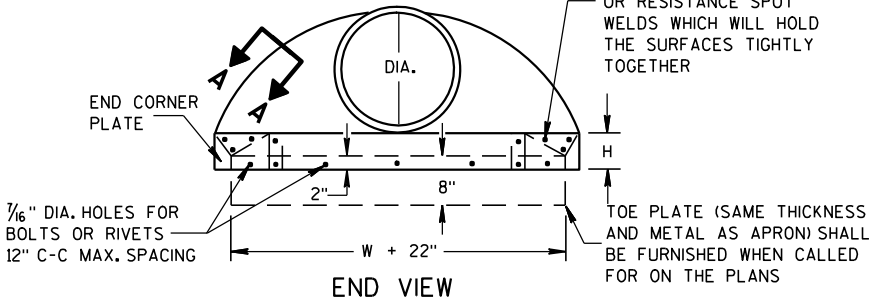
| METAL APRON ENDWALLS | | | | | | | | | | | | |
|----------------------|-------------------------|-------|---------------------|-------------|------------|-------------|---------------------|---------------------|------------|------------------|-------|--|
| PIPE DIA. (IN.) | MIN. THICK. (Inches) | | DIMENSIONS (Inches) | | | | | | | APPROX. SLOPE | BODY | |
| | STEEL | ALUM. | A (±1") | B (MAX.) | H (±1") | L (±1½") | L ₁ ① | L ₂ ① | W (±2") | | | |
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17½ | 24 | 2½ to 1 | 1 Pc. | |
| 15 | .064 | .060 | 7 | 8 | 6 | 26 | 14 | 21¾ | 30 | 2½ to 1 | 1 Pc. | |
| 18 | .064 | .060 | 8 | 10 | 6 | 31 | 15 | 28¼ | 36 | 2½ to 1 | 1 Pc. | |
| 21 | .064 | .060 | 9 | 12 | 6 | 36 | 18 | 29⅝ | 42 | 2½ to 1 | 1 Pc. | |
| 24 | .064 | .075 | 10 | 13 | 6 | 41 | 18 | 37¼ | 48 | 2½ to 1 | 1 Pc. | |
| 30 | .079 | .075 | 12 | 16 | 8 | 51 | 18 | 52¼ | 60 | 2½ to 1 | 1 Pc. | |
| 36 | .079 | .105 | 14 | 19 | 9 | 60 | 24 | 59¾ | 72 | 2½ to 1 | 2 Pc. | |
| 42 | .109 | .105 | 16 | 22 | 11 | 69 | 24 | 75⅝ | 84 | 2½ to 1 | 2 Pc. | |
| 48 | .109 | .105 | 18 | 27 | 12 | 78 | 24 | 81 | 90 | 2¼ to 1 | 3 Pc. | |
| 54 | .109 | .105 | 18 | 30 | 12 | 84 | 30 | 85½ | 102 | 2¼ to 1 | 3 Pc. | |
| 60 | .109x | .105x | 18 | 33 | 12 | 87 | — | — | 114 | 2 to 1 | 3 Pc. | |
| 66 | .109x | .105x | 18 | 36 | 12 | 87 | — | — | 120 | 2 to 1 | 3 Pc. | |
| 72 | .109x | .105x | 18 | 39 | 12 | 87 | — | — | 126 | 2 to 1 | 3 Pc. | |
| 78 | .109x | .105x | 18 | 42 | 12 | 87 | — | — | 132 | 1½ to 1 | 3 Pc. | |
| 84 | .109x | .105x | 18 | 45 | 12 | 87 | — | — | 138 | 1½ to 1 | 3 Pc. | |
| 90 | .109x | .105x | 18 | 37 | 12 | 87 | — | — | 144 | 1½ to 1 | 3 Pc. | |
| 96 | .109x | .105x | 18 | 35 | 12 | 87 | — | — | 150 | 1½ to 1 | 3 Pc. | |

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

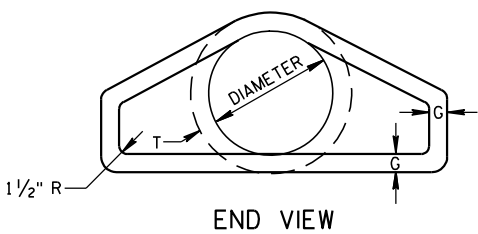
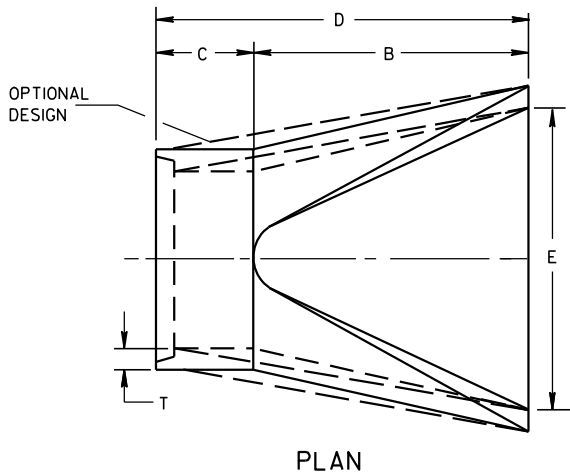
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



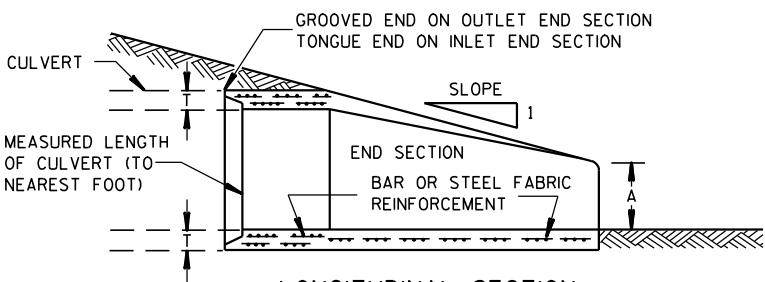
SIDE ELEVATION
METAL ENDWALLS

| REINFORCED CONCRETE APRON ENDWALLS | | | | | | | | | |
|------------------------------------|-------------------------------|--------------------------------|--------------------------------|------------------------------------|-------------------------------------|-----|-------------------------------|------------------------------------|--|
| PIPE DIA. (IN.) | DIMENSIONS (Inches) | | | | | | | APPROX. SLOPE | |
| | T | A | B | C | D | E | G | | |
| 12 | 2 | 4 | 24 | 48 ⁷ / ₈ | 72 ⁷ / ₈ | 24 | 2 | 3 to 1 | |
| 15 | 2 ¹ / ₄ | 6 | 27 | 46 | 73 | 30 | 2 ¹ / ₄ | 3 to 1 | |
| 18 | 2 ¹ / ₂ | 9 | 27 | 46 | 73 | 36 | 2 ¹ / ₂ | 3 to 1 | |
| 21 | 2 ³ / ₄ | 9 | 36 | 37 ¹ / ₂ | 73 ¹ / ₂ | 42 | 2 ³ / ₄ | 3 to 1 | |
| 24 | 3 | 9 ¹ / ₂ | 43 ¹ / ₂ | 30 | 73 ¹ / ₂ | 48 | 3 | 3 to 1 | |
| 27 | 3 ¹ / ₄ | 10 ¹ / ₂ | 49 ¹ / ₂ | 24 | 73 ¹ / ₂ | 54 | 3 ¹ / ₄ | 3 to 1 | |
| 30 | 3 ¹ / ₂ | 12 | 54 | 19 ³ / ₄ | 73 ¹ / ₂ | 60 | 3 ¹ / ₂ | 3 to 1 | |
| 36 | 4 | 15 | 63 | 34 ³ / ₄ | 97 ³ / ₄ | 72 | 4 | 3 to 1 | |
| 42 | 4 ¹ / ₂ | 21 | 63 | 35 | 98 | 78 | 4 ¹ / ₂ | 3 to 1 | |
| 48 | 5 | 24 | 72 | 26 | 98 | 84 | 5 | 3 to 1 | |
| 54 | 5 ¹ / ₂ | 27 | 65 | 33 ¹ / ₄ -35 | 98 ¹ / ₄ -100 | 90 | 5 ¹ / ₂ | 2 ¹ / ₂ to 1 | |
| 60 | 6 | 30-35 | 60 | 39 | 99 | 96 | 5 | 2 to 1 | |
| 66 | 6 ¹ / ₂ | 24-30 | 72-78 | 21-27 | 99 | 102 | 5 ¹ / ₂ | 2 to 1 | |
| 72 | 7 | 24-36 | 78 | 21 | 99 | 108 | 6 | 2 to 1 | |
| 78 | 7 ¹ / ₂ | 24-36 | 78 | 21 | 99 | 114 | 6 ¹ / ₂ | 2 to 1 | |
| 84 | 8 | 36 | 90 ¹ / ₂ | 21 | 111 ¹ / ₂ | 120 | 6 ¹ / ₂ | 1 ¹ / ₂ to 1 | |
| 90 | 8 ¹ / ₂ | 41 | 87 ¹ / ₂ | 24 | 111 ¹ / ₂ | 132 | 6 ¹ / ₂ | 1 ¹ / ₂ to 1 | |

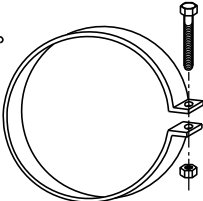
* MINIMUM
** MAXIMUM



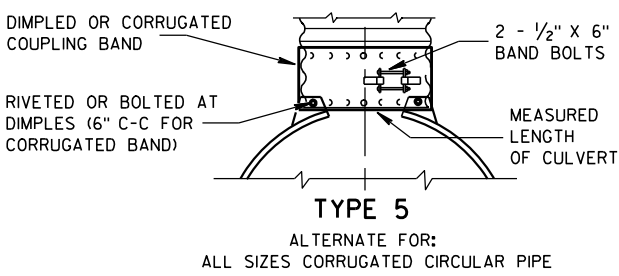
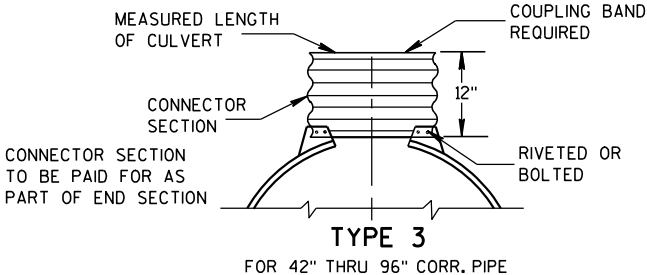
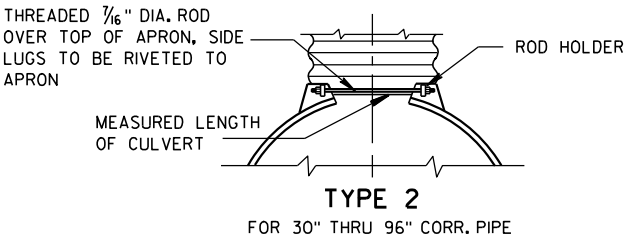
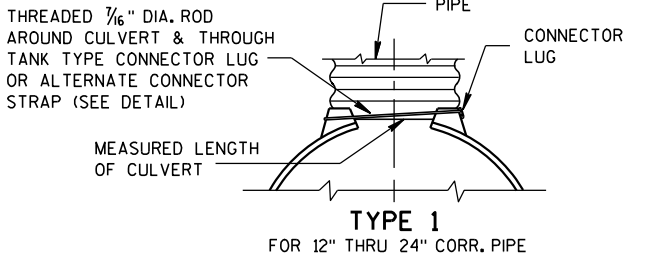
LONGITUDINAL SECTION
CONCRETE ENDWALLS



1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



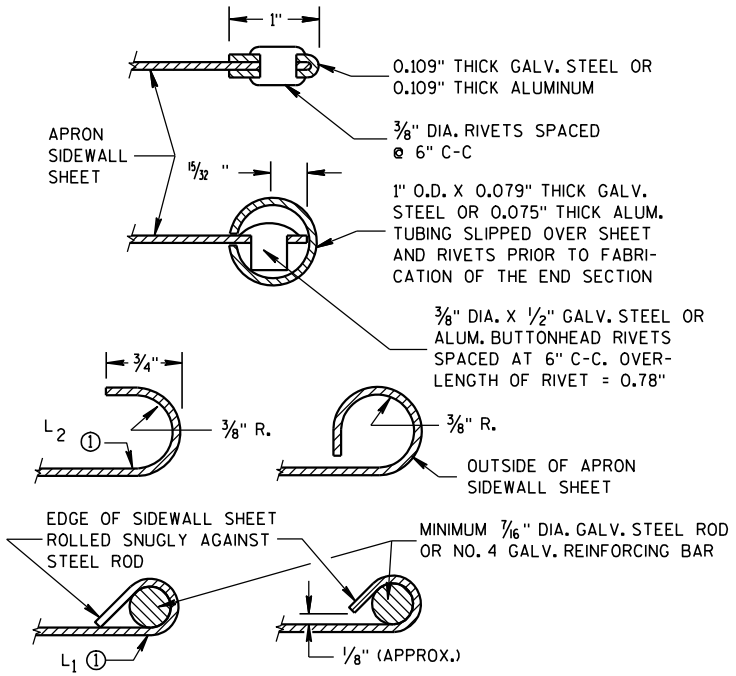
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

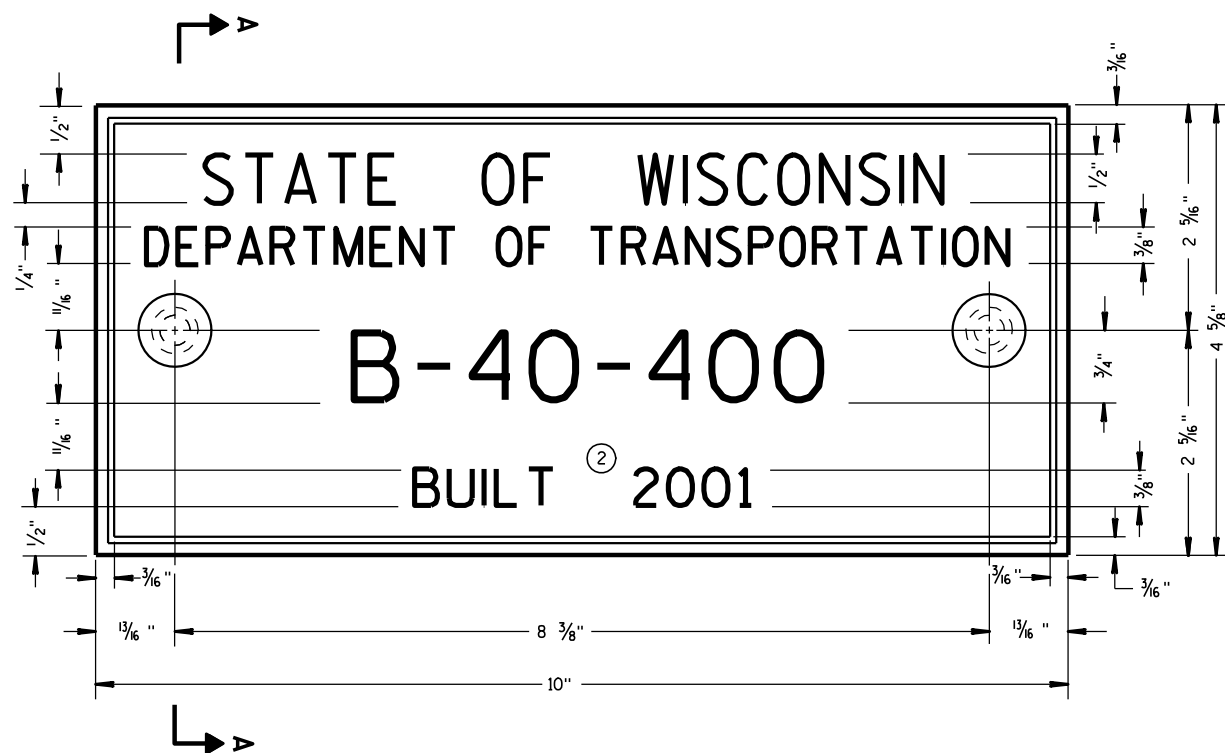
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

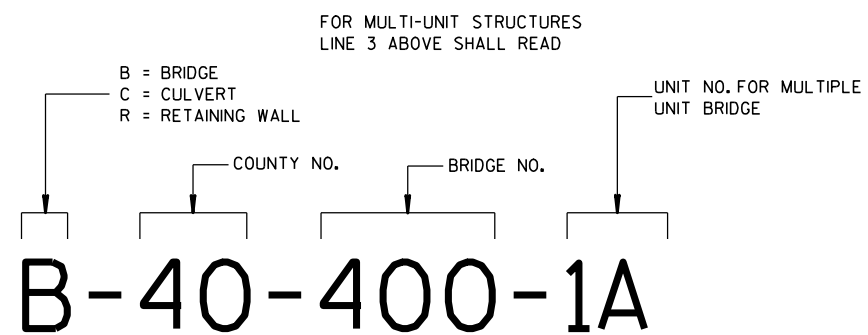
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



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



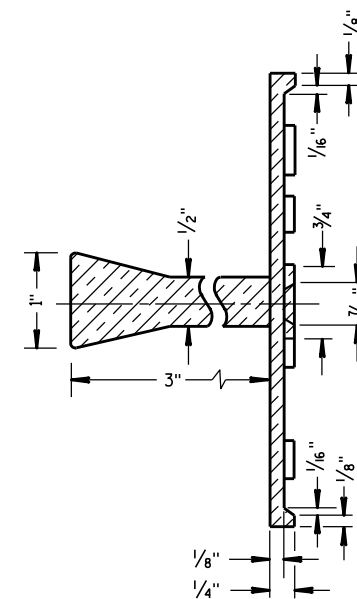
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

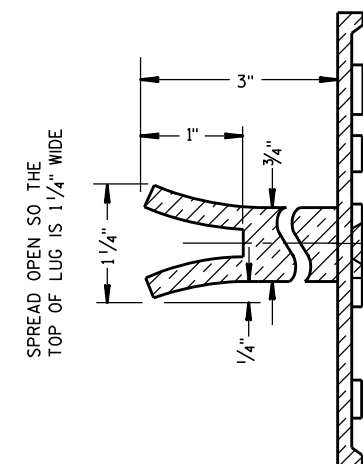
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

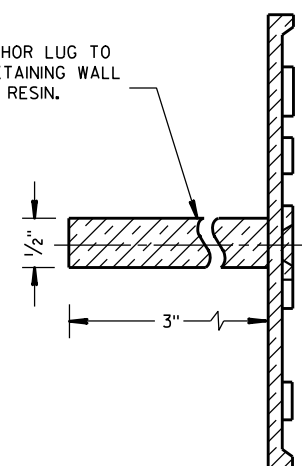


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

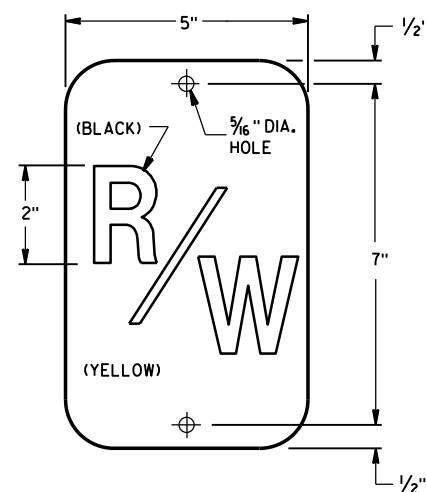
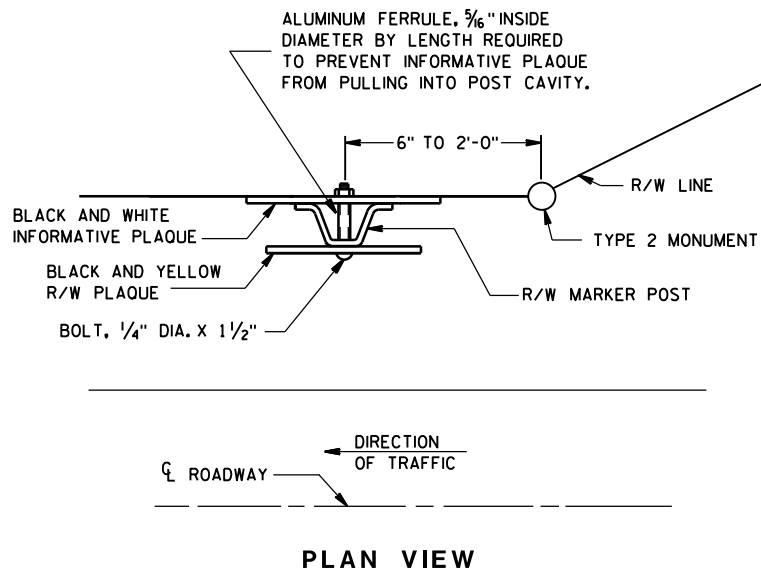
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

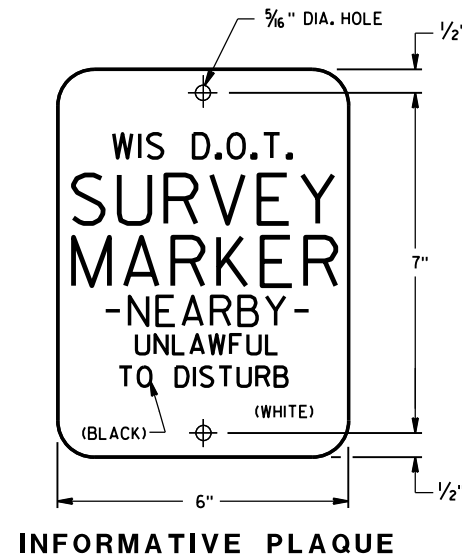
3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



GENERAL NOTES

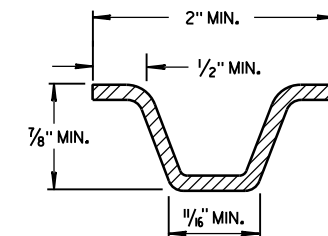
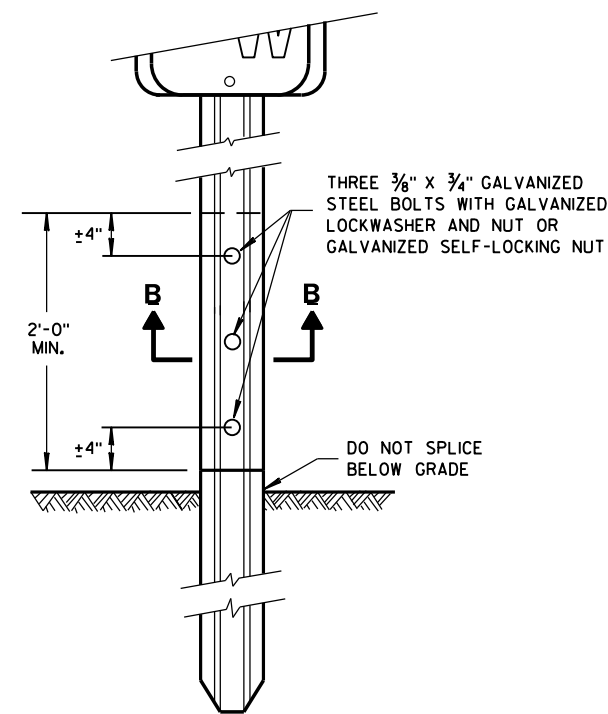
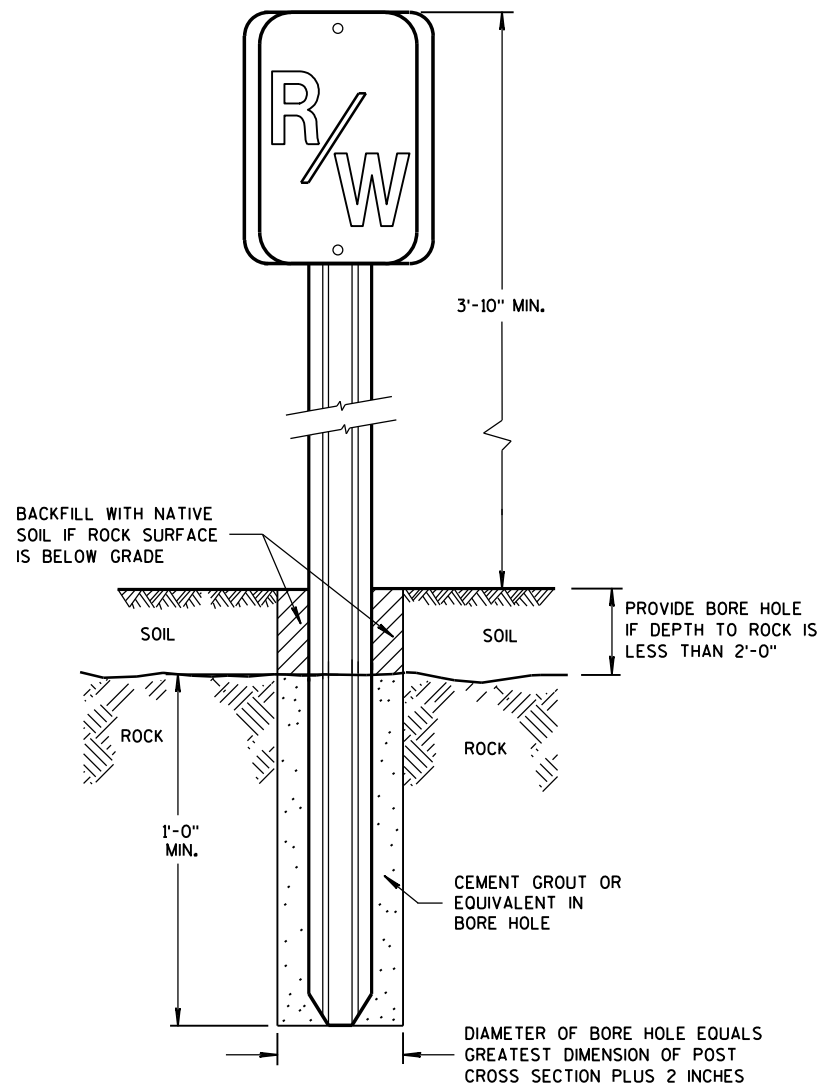
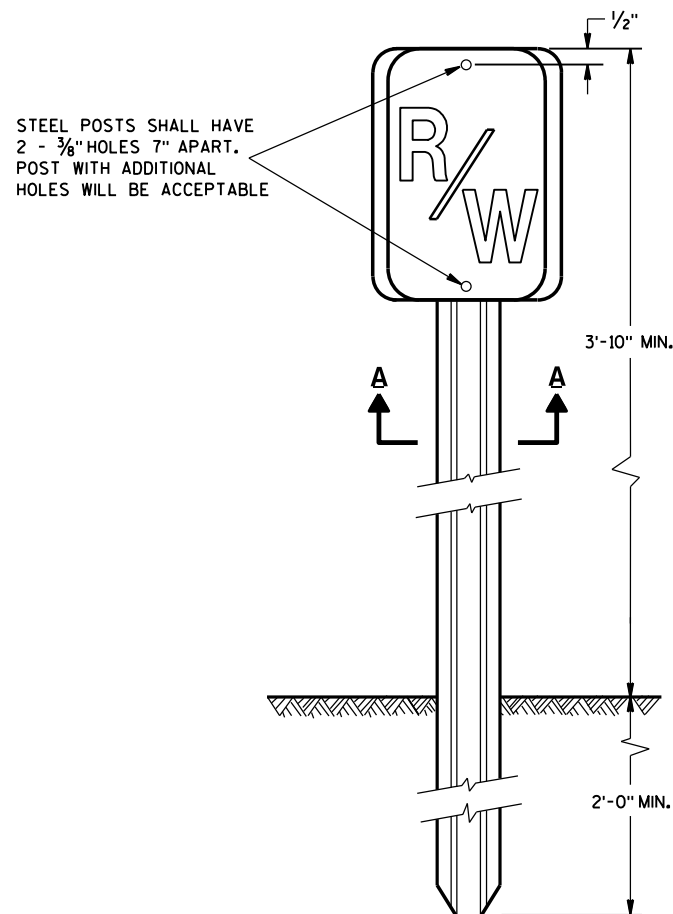
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

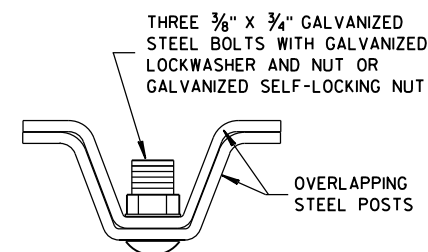
THE 'R/W' PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



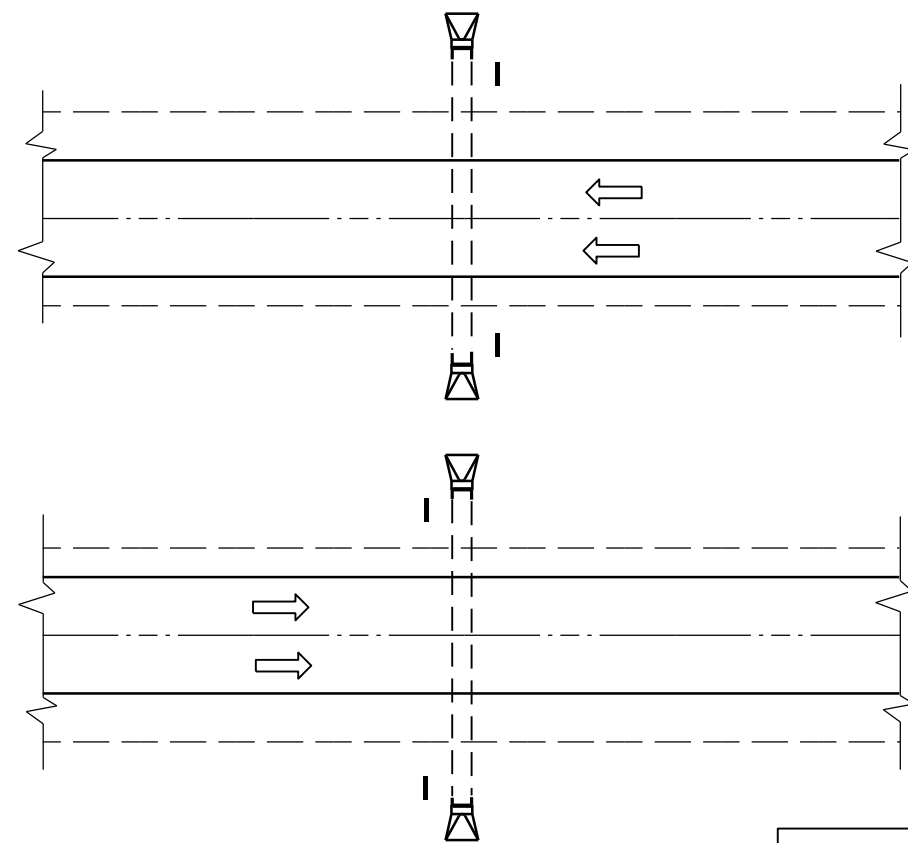
MIN. WEIGHT 1.12 LB./FT.



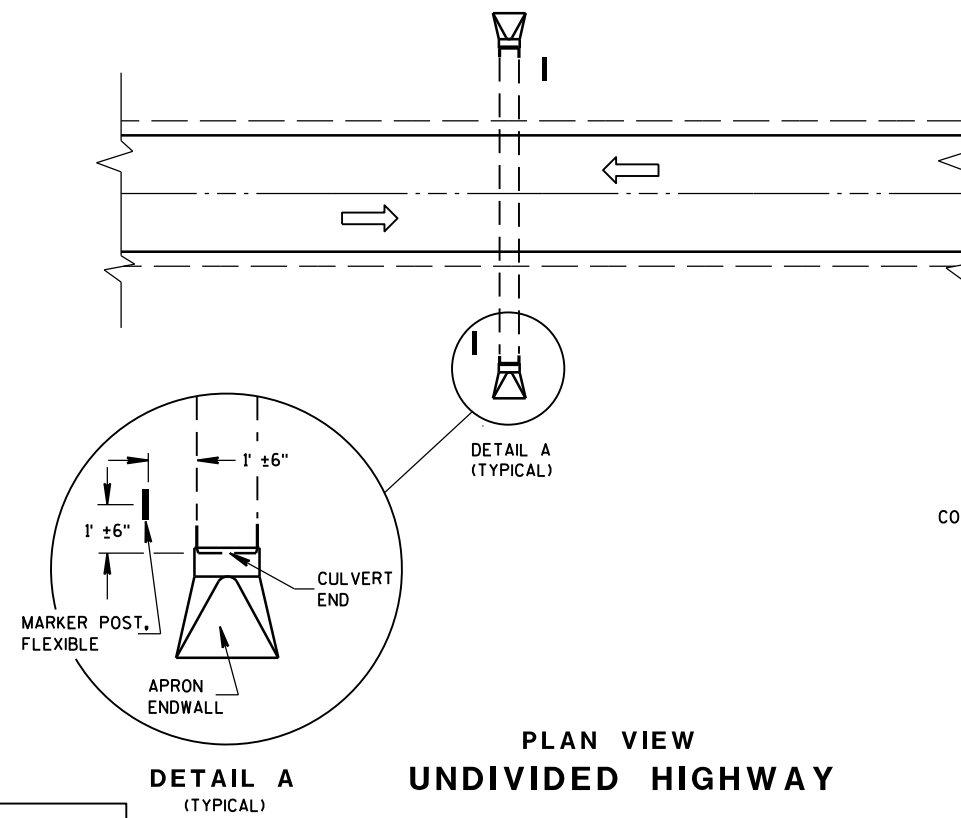
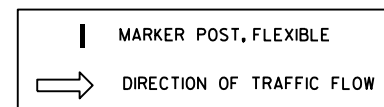
MARKER POST
FOR RIGHT-OF-WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016 DATE /S/ Ray Kumapayi
CHIEF SURVEYING AND MAPPING ENGINEER
FHWA



PLAN VIEW
DIVIDED HIGHWAY

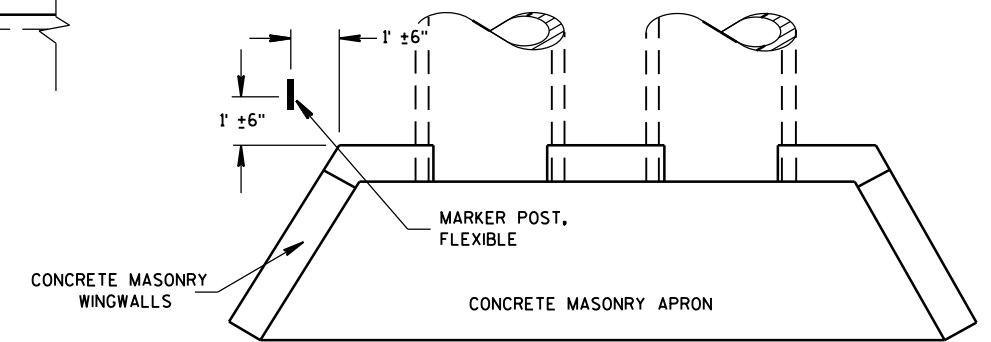


PLAN VIEW
UNDIVIDED HIGHWAY

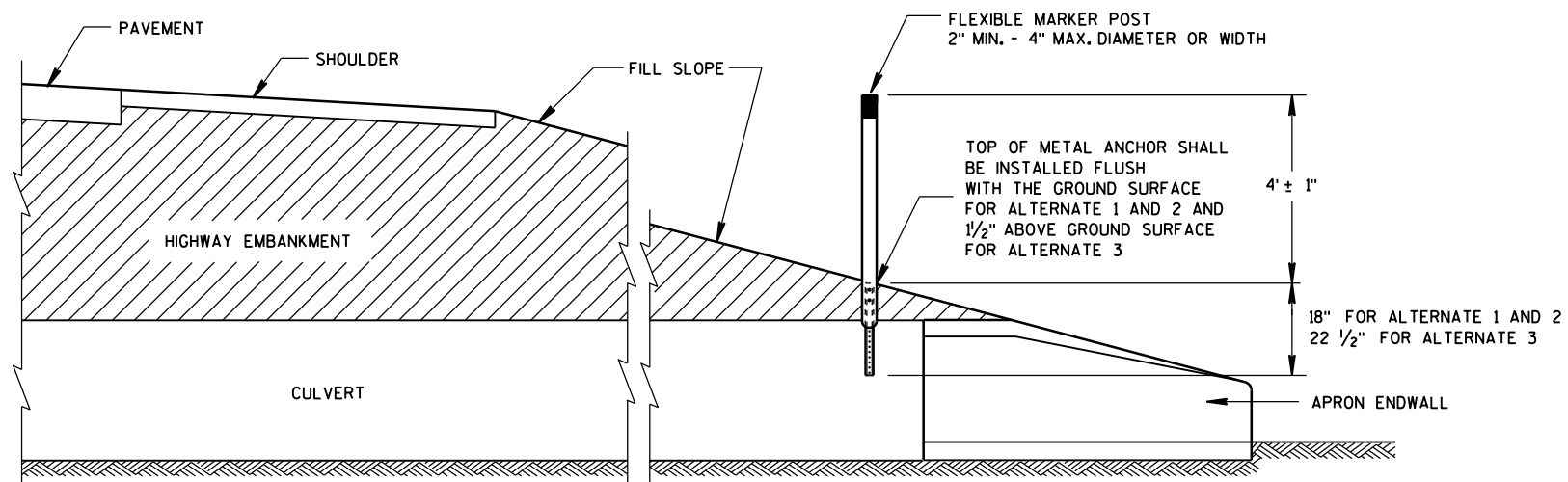
FLEXIBLE MARKER POST LOCATION

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.



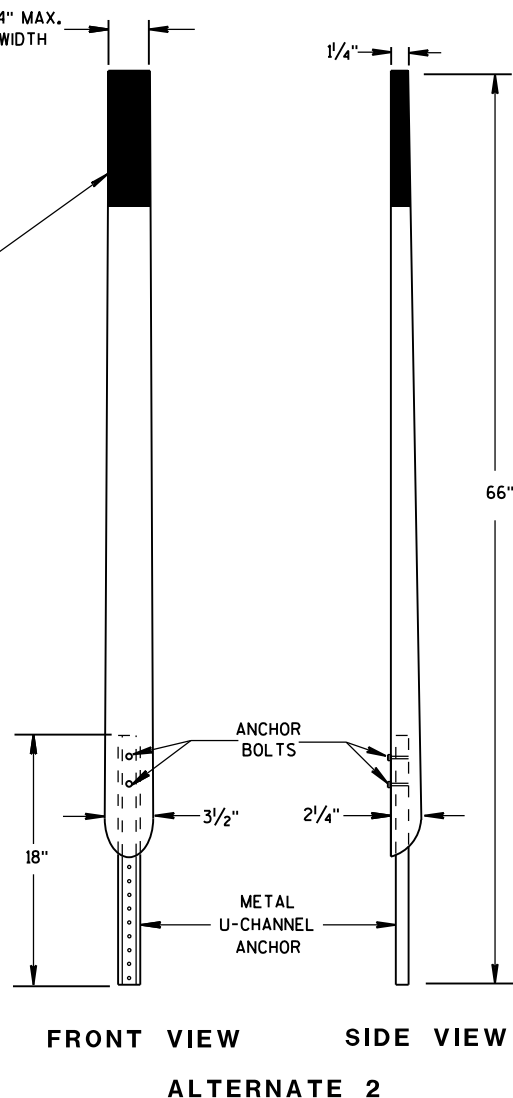
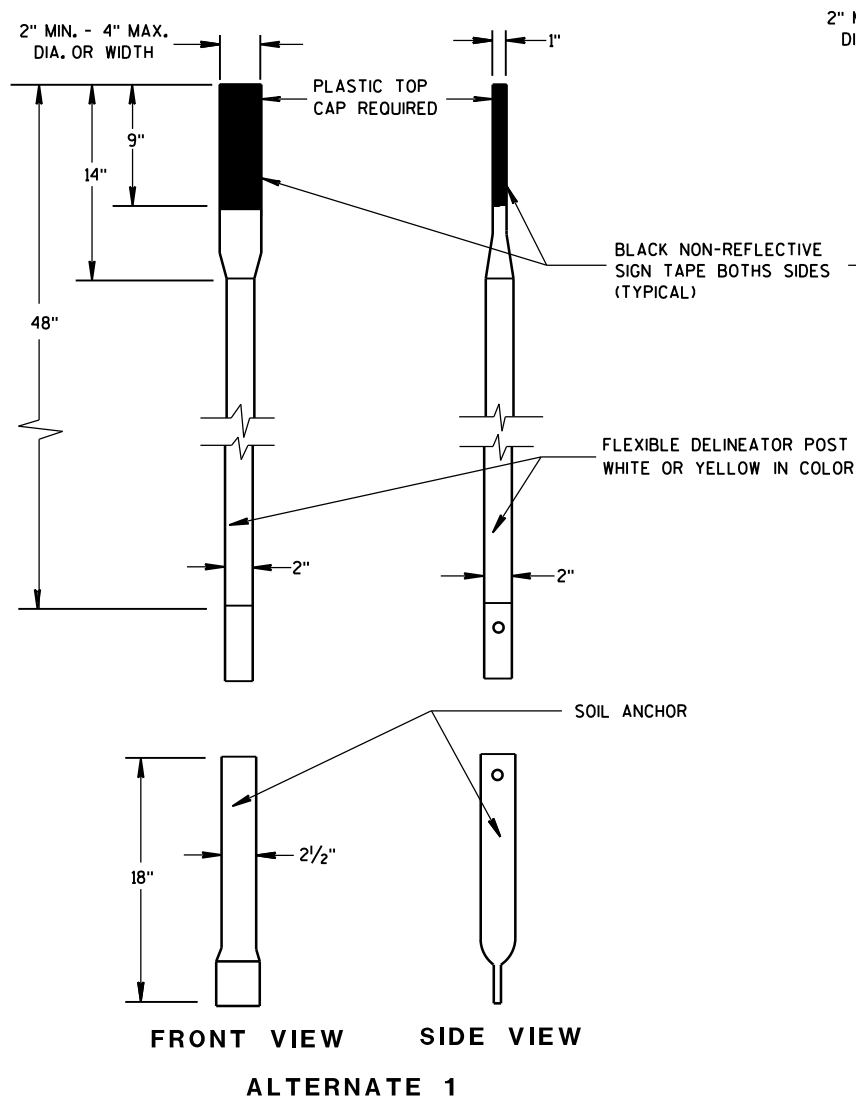
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



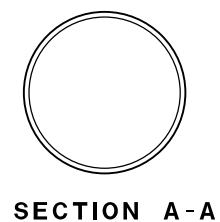
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

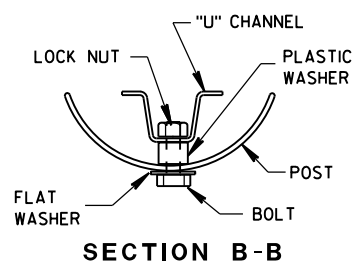
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



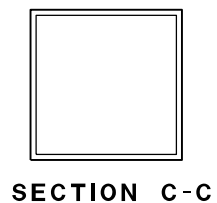
FLEXIBLE MARKER POSTS



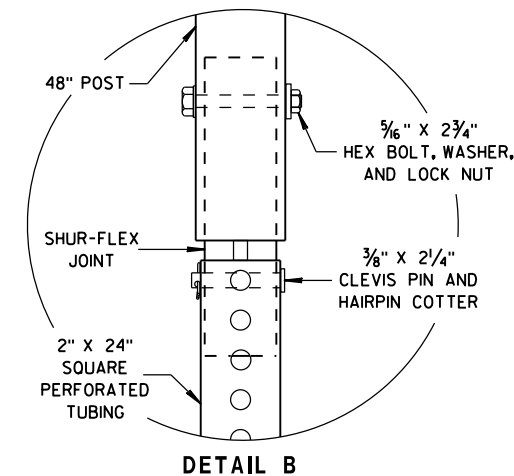
SECTION A-A



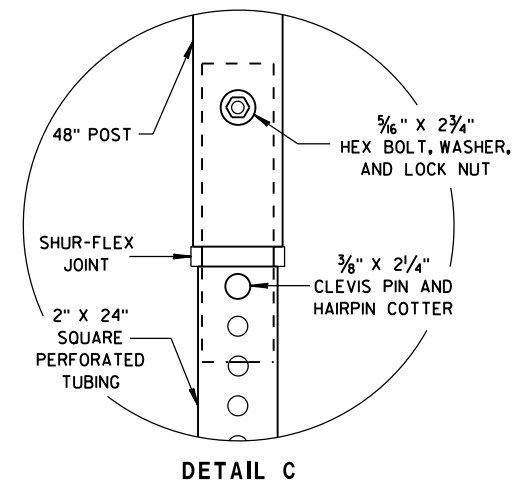
SECTION B-B



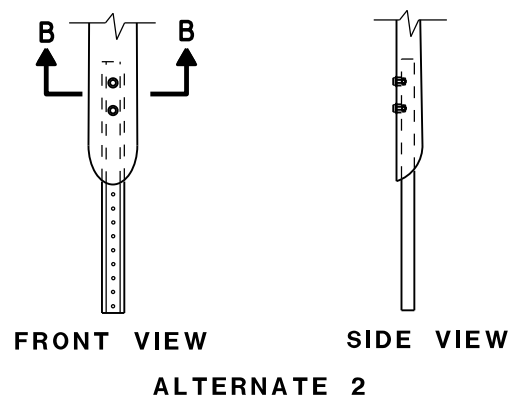
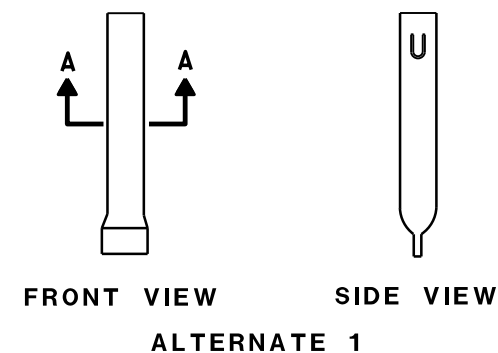
SECTION C-C



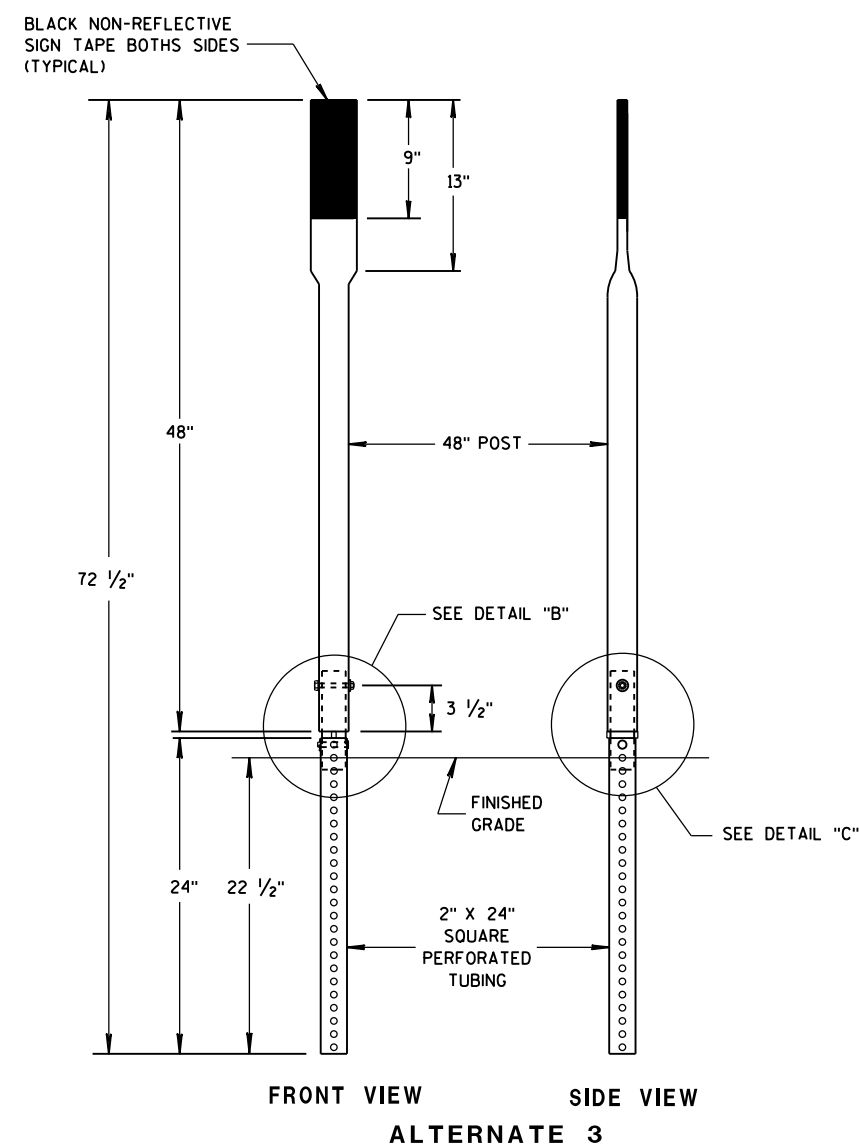
DETAIL B



DETAIL C

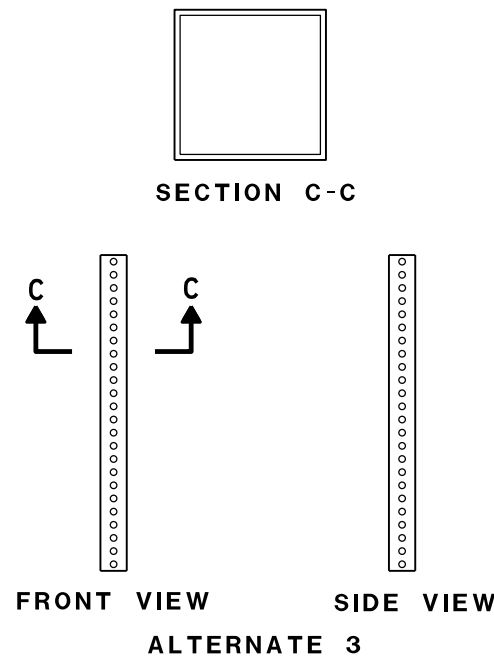


FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

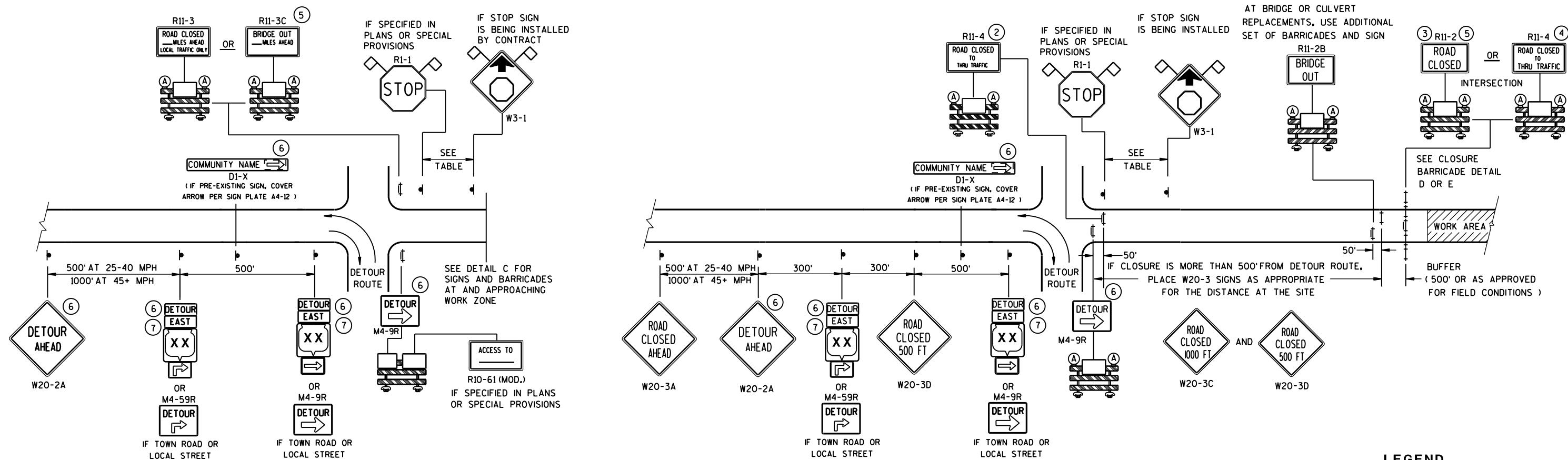
ALTERNATE 3



FRONT VIEW SIDE VIEW

ALTERNATE 3

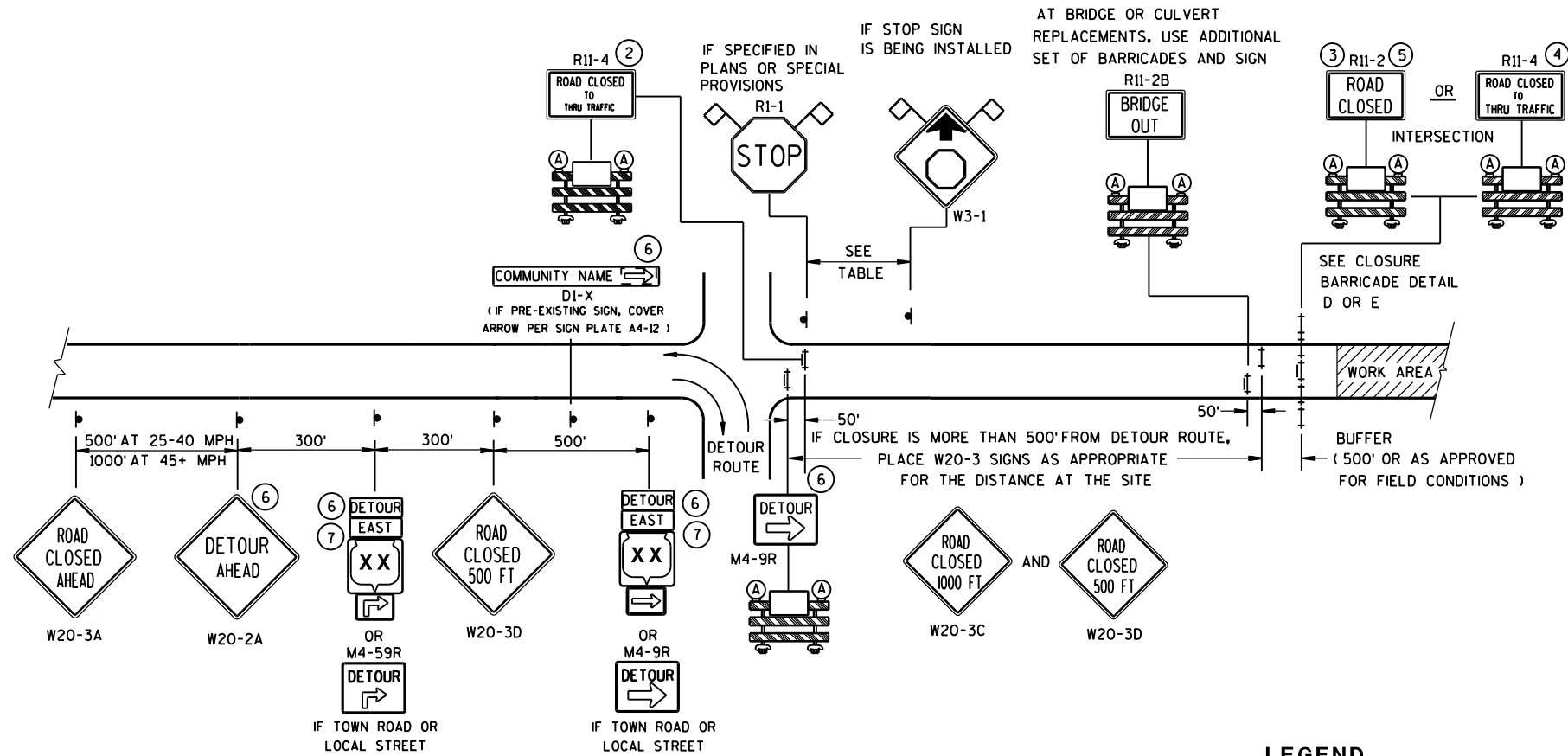
| | |
|--|---|
| FLEXIBLE MARKER POST FOR CULVERT END | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED 10/1/2012 DATE | /S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN |
| FHWA | |



DETAIL A

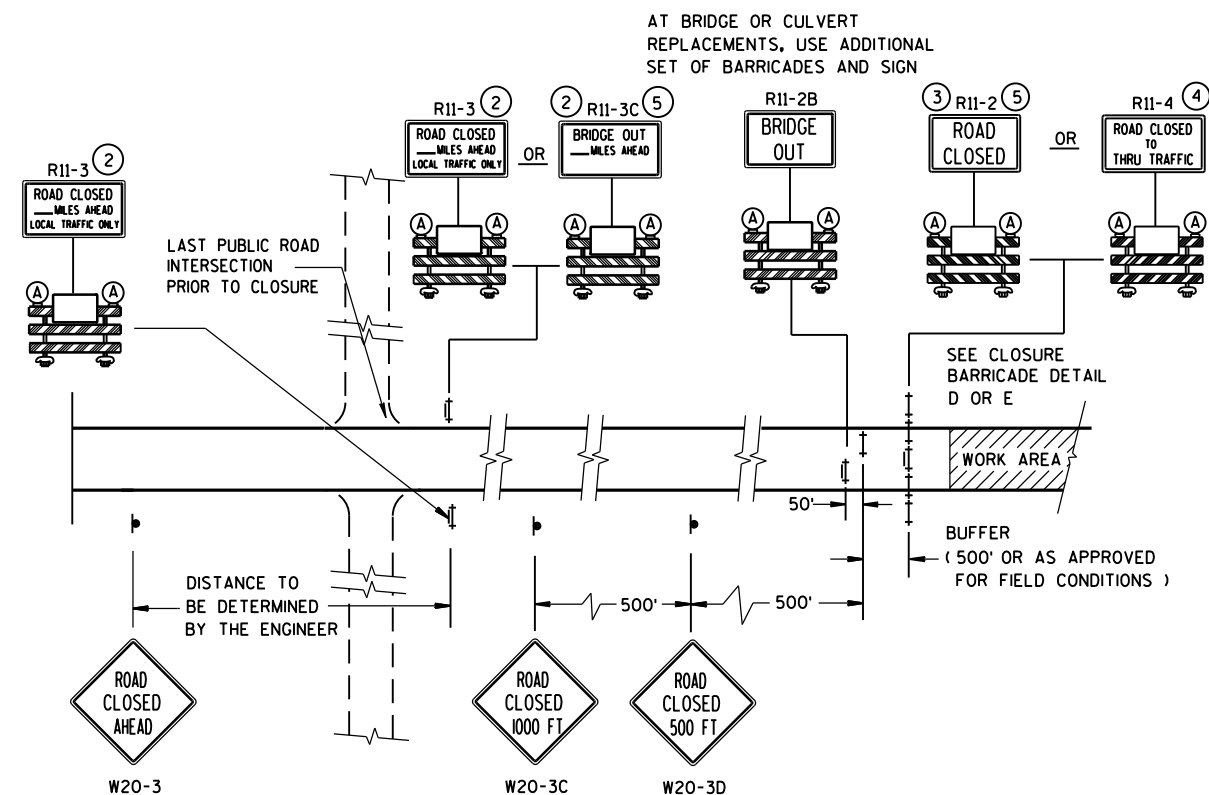
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR













WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

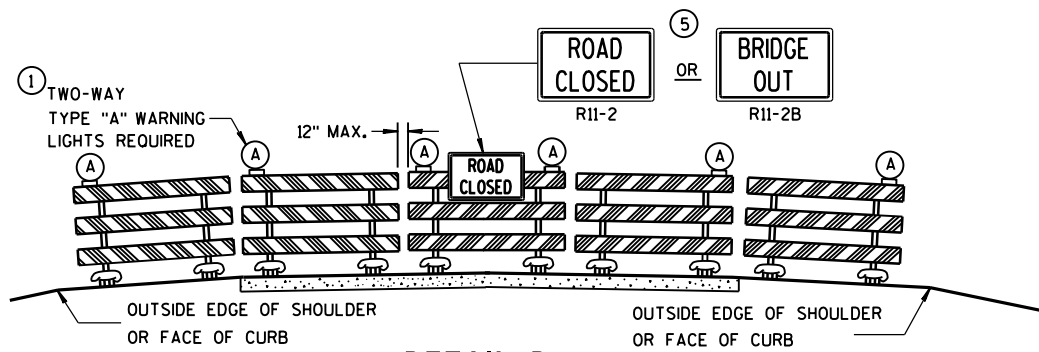
| SPEED LIMIT (MPH) | "STOP AHEAD" ADVANCE WARNING DISTANCE (FT) |
|-------------------------|---|
| 25 | 200 |
| 30 | 200 |
| 35 | 350 |
| 40 | 350 |
| 45 | 500 |
| 50 | 550 |
| 55 | 750 |

- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
M3-X
-  M1-4
- OR
-  M1-5A
- OR
-  M1-6
-  MO5-1
- OR
-  MO6-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

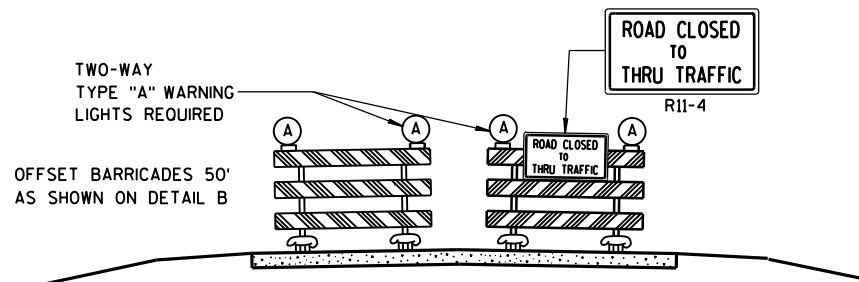
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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.

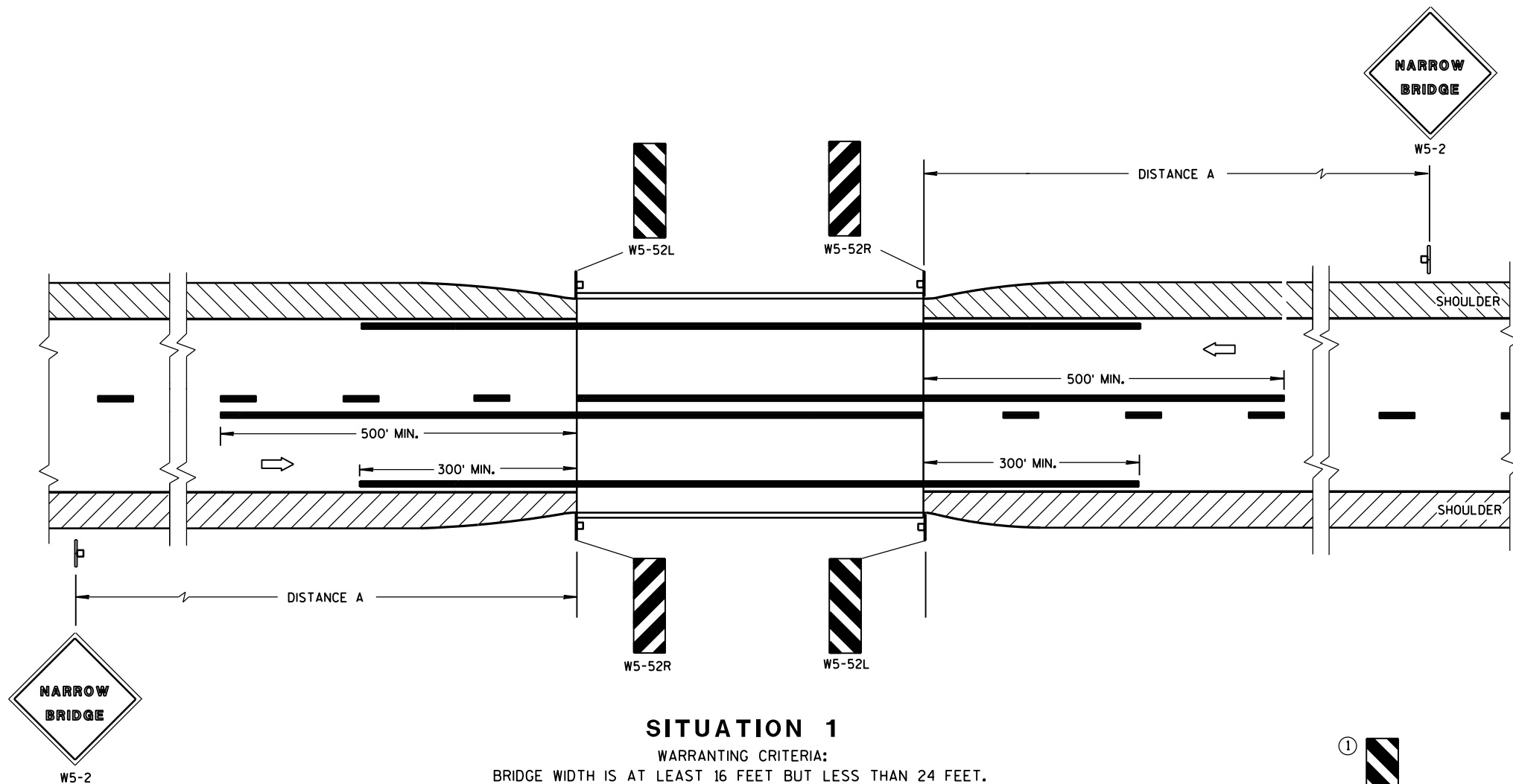
R1-1 SHALL BE 36" X 36".

- 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 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



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

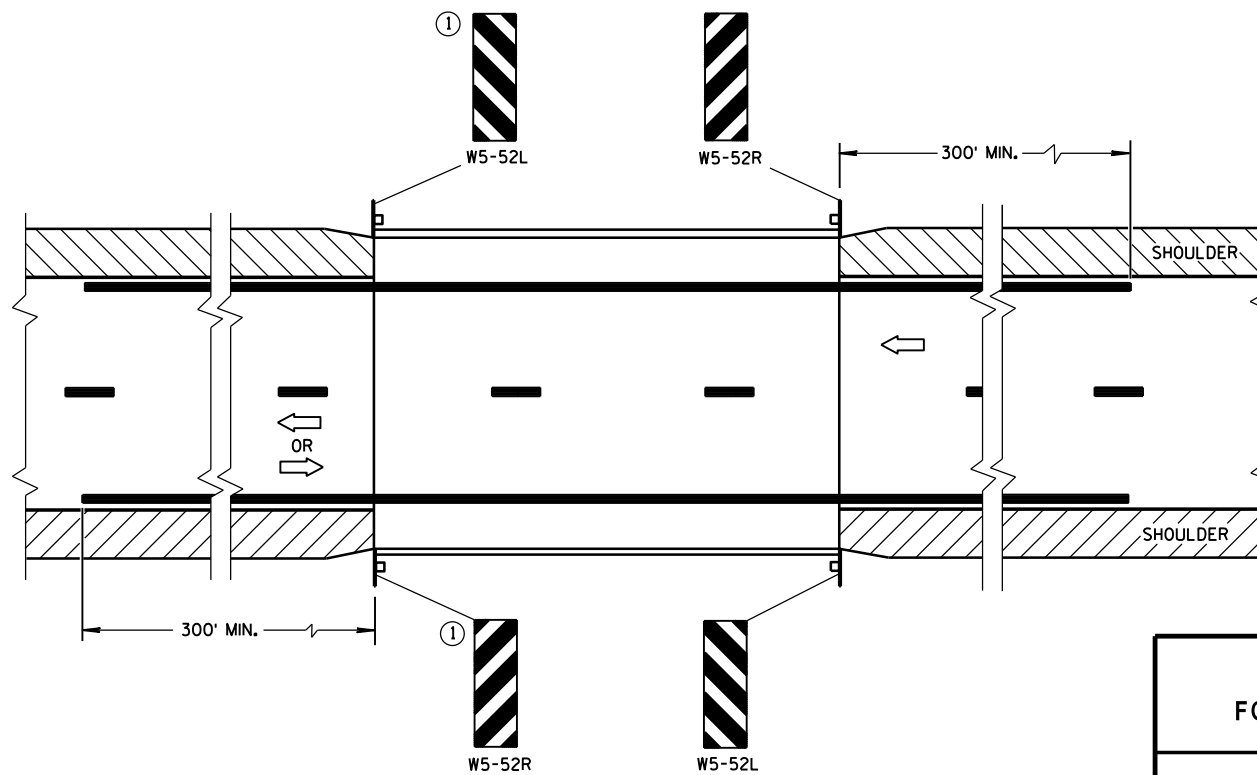
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

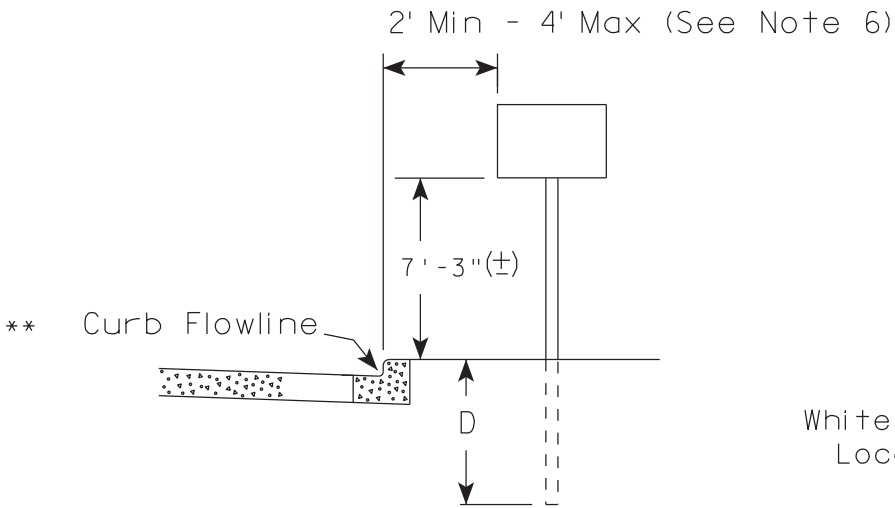
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

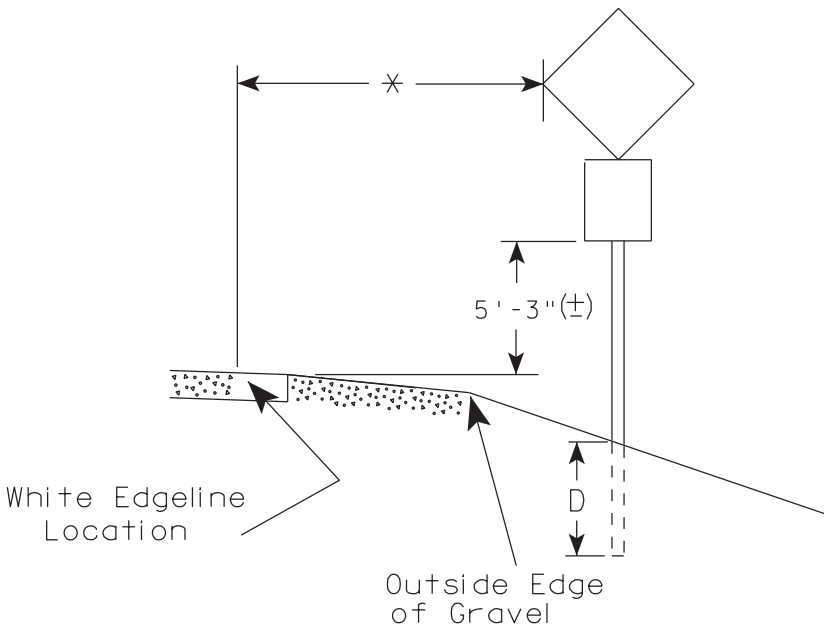
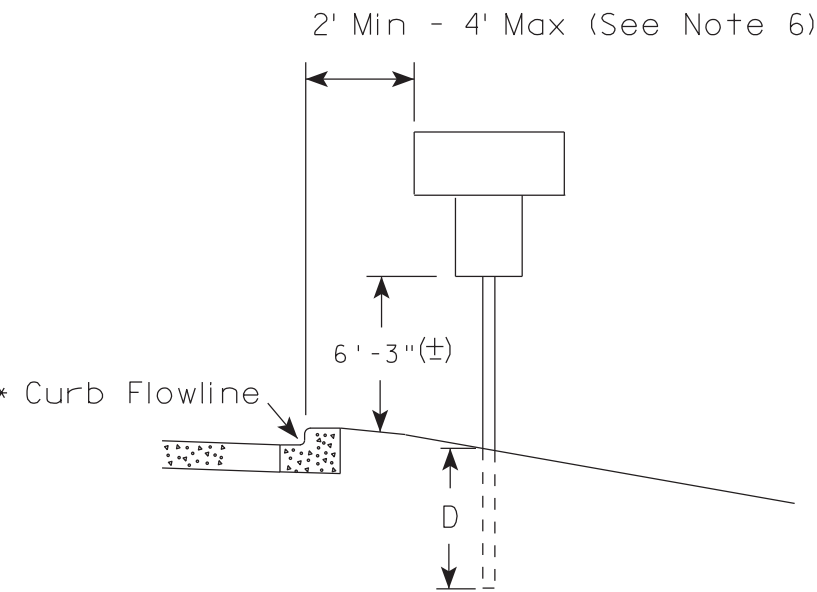
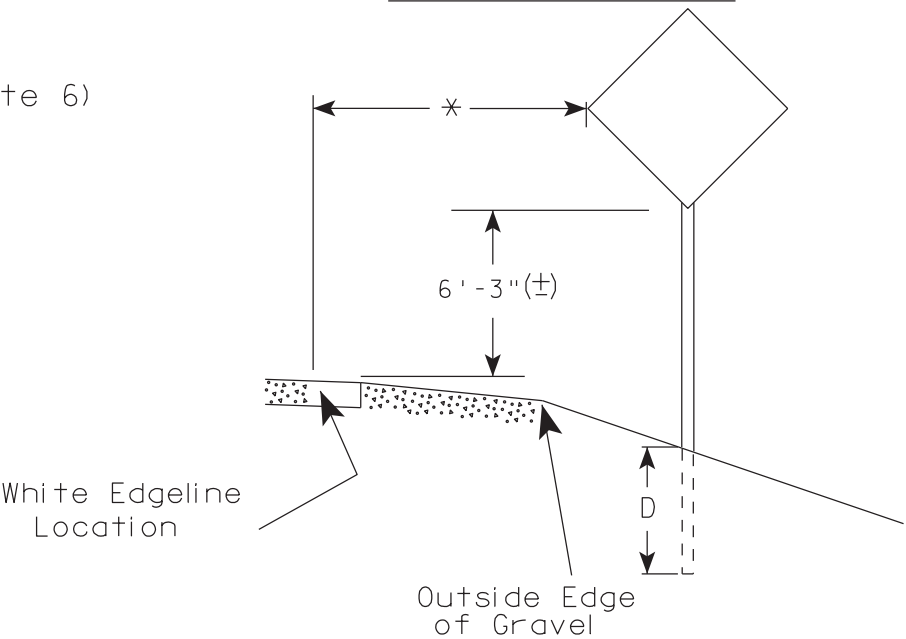
APPROVED

June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
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 directed 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.

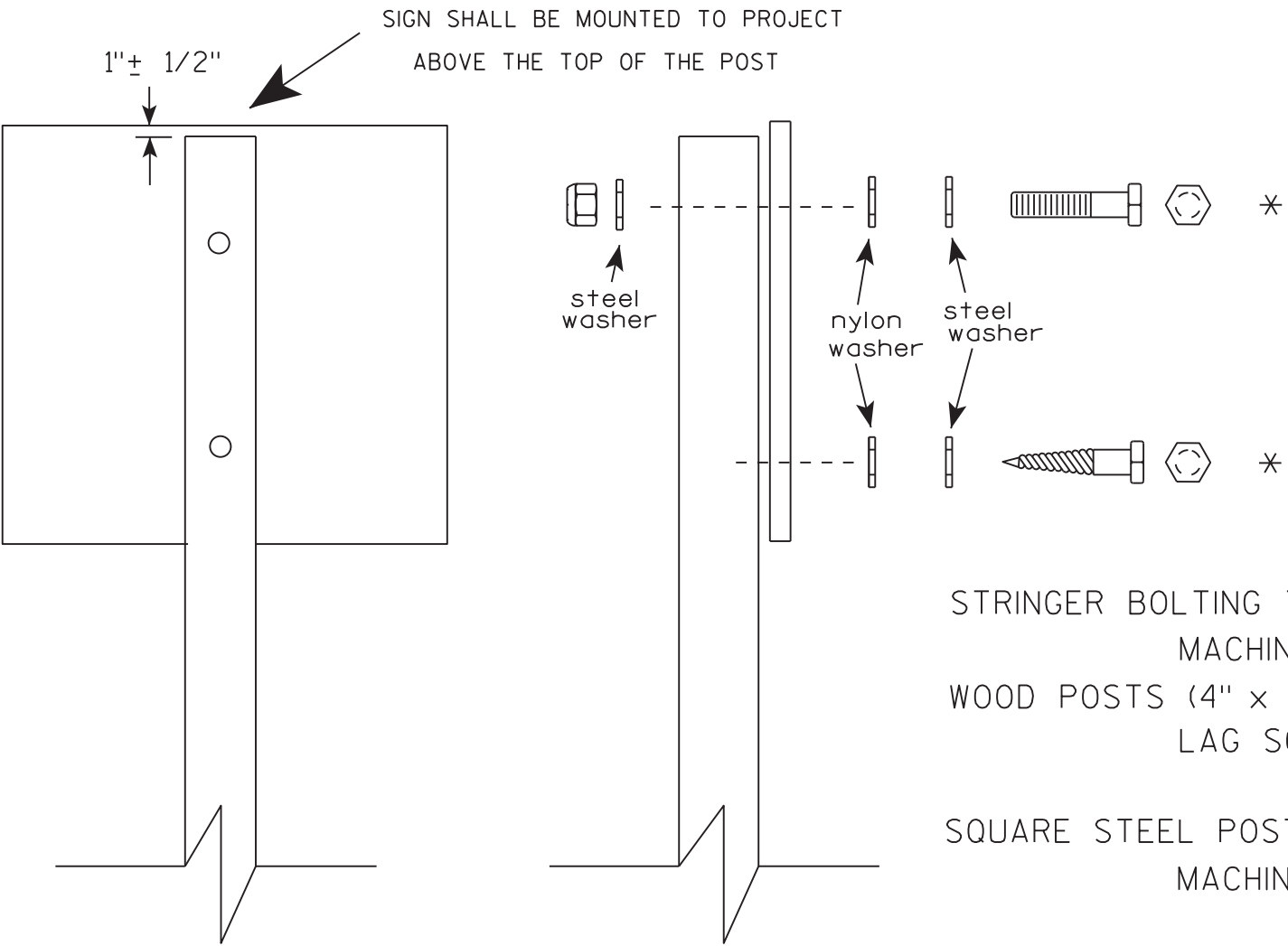
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

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



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 - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " 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.

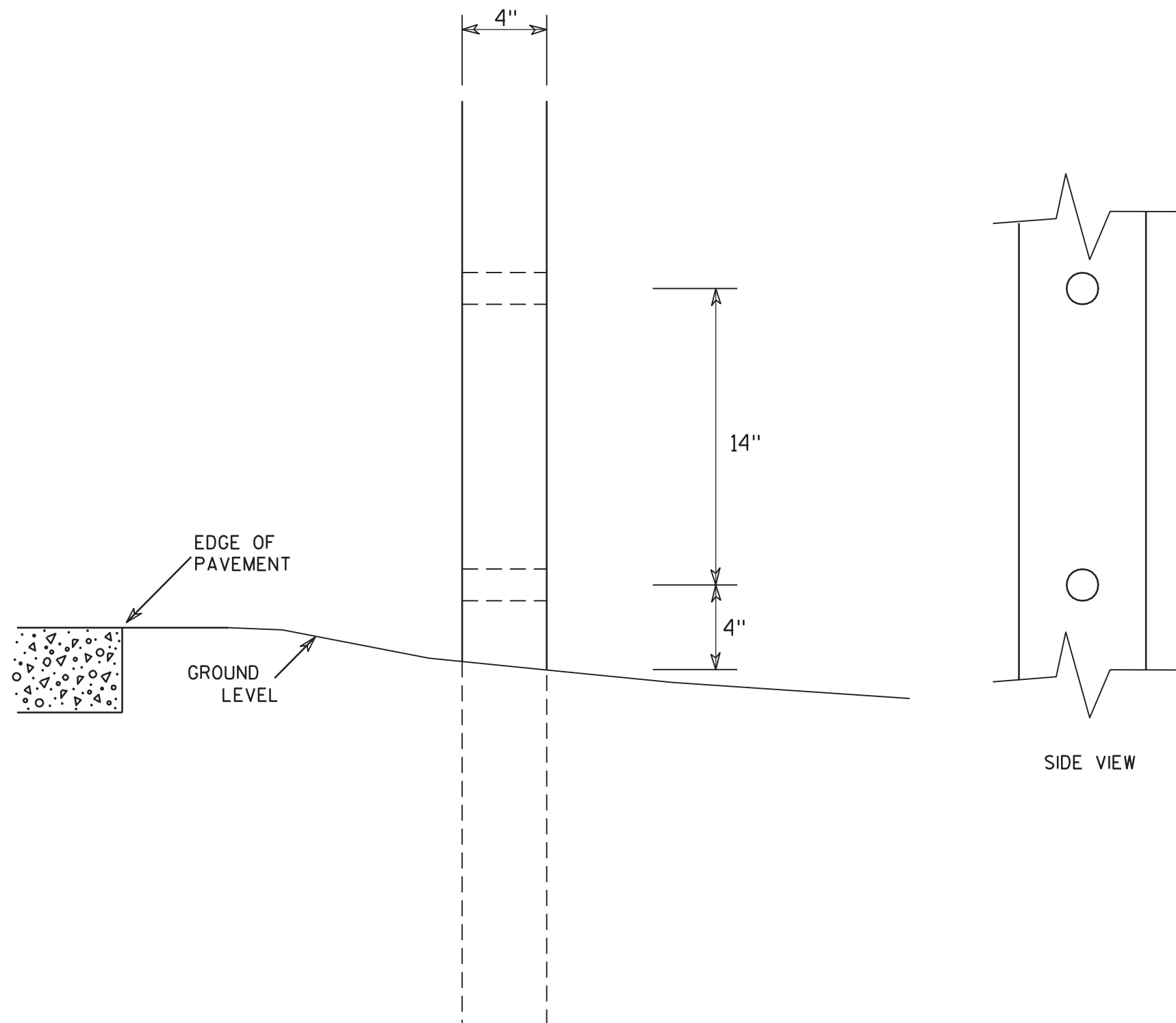
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

7



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

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

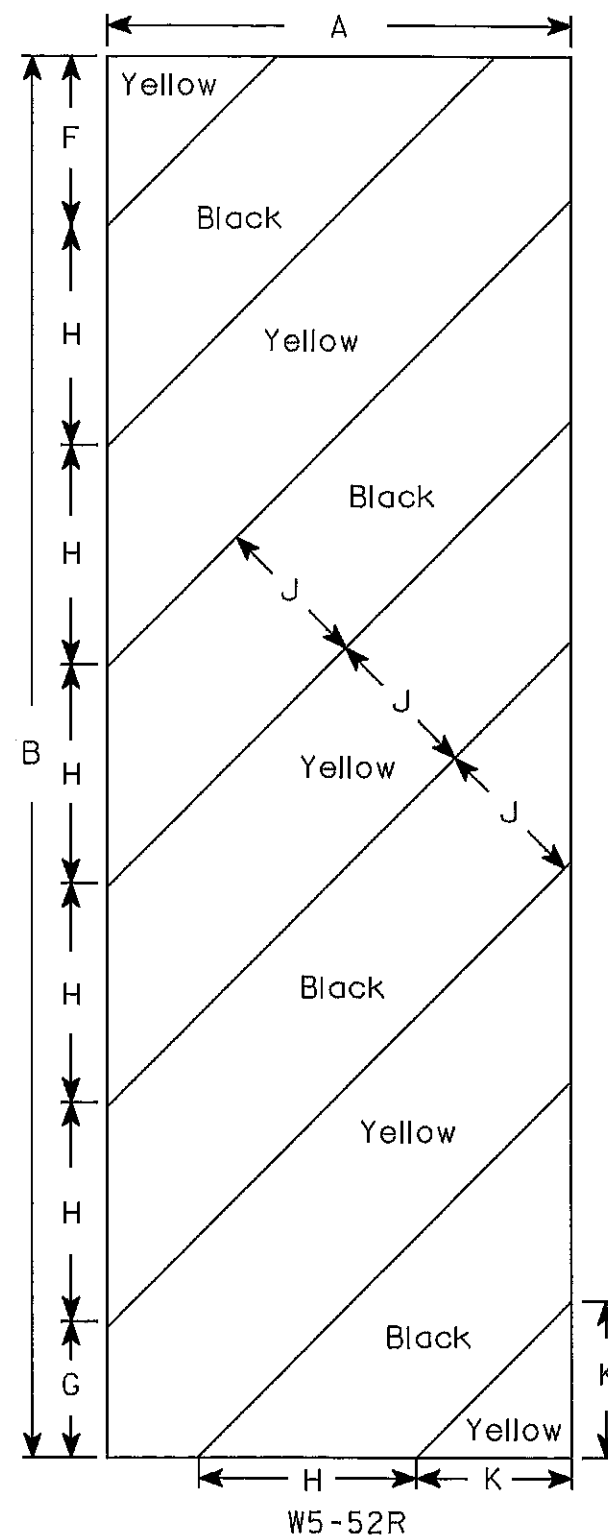
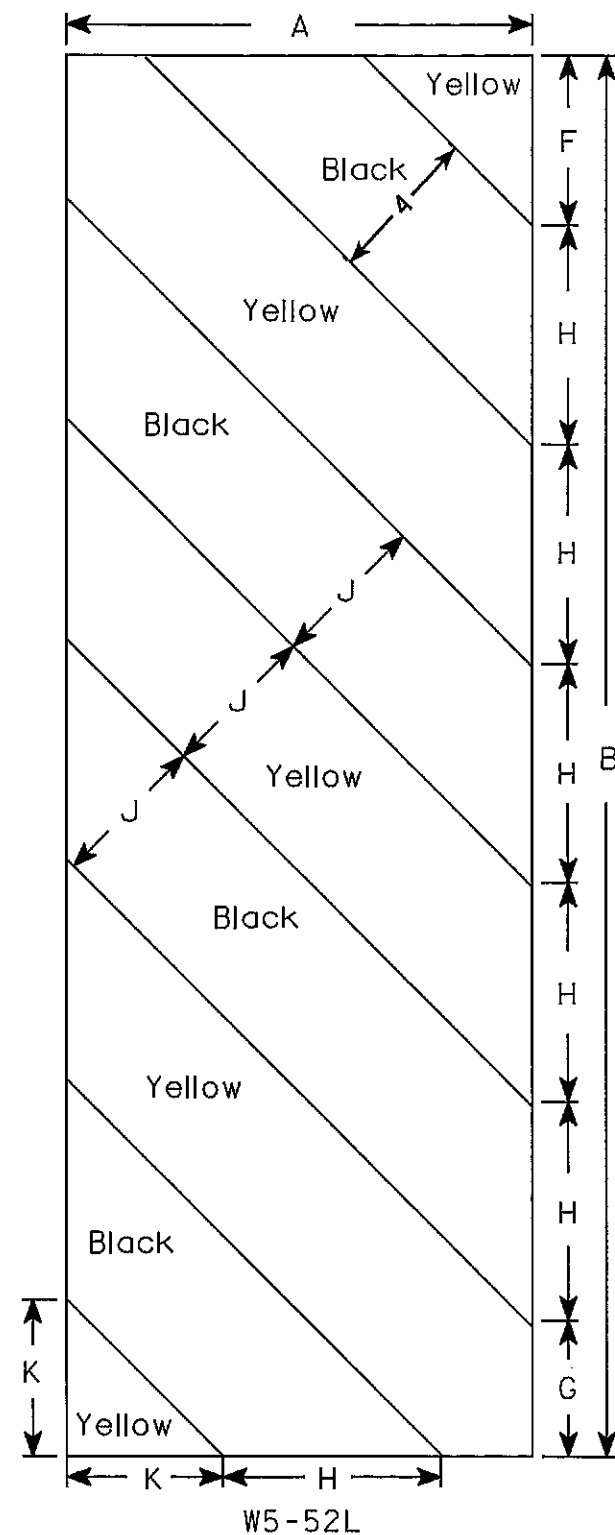
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PROJECT NO:

HWY:

COUNTY:

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

SHEET NO:

E

LIVE LOAD:

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

FOUNDATION DATA

****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.**

TRAFFIC DATA

| | |
|---------------|-----------|
| A.D.T. (2019) | 45 |
| A.D.T. (2039) | 65 |
| DESIGN SPEED | 35 M.P.H. |

HYDRAULIC DATA

| | |
|---|--------------|
| 100 YEAR FREQUENCY | |
| DRAINAGE AREA _____ | 12.0 SQ. MI. |
| Q ₁₀₀ TOTAL _____ | 2,170 C.F.S. |
| THROUGH STRUCTURE _____ | 1,759 C.F.S. |
| OVERTOPPING ROADWAY _____ | 375 |
| VELOCITY - THROUGH STRUCTURE _____ | 8.4 F.P.S. |
| WATERWAY AREA - THROUGH STRUCTURE _____ | 215 SQ. FT. |
| HIGH WATER ₁₀₀ ELEVATION _____ | 746.35 |
| SCOUR CRITICAL CODE _____ | 5 |

| | |
|-------------------------------------|--------------|
| DESIGN ROADWAY OVERFLOW | |
| ROADWAY OVERTOPPING FREQUENCY _____ | 20 YRS. |
| QOVERTOPPING _____ | 1,340 C.F.S. |
| OVERTOPPING ELEVATION _____ | 745.43 |

EROSION CONTROL

| | |
|---|------------|
| Q ₂ _____ | 400 C.F.S. |
| HIGH WATER ₂ ELEVATION _____ | 738.87 |
| VELOCITY ₂ _____ | 8.8 F.P.S. |

LIST OF DRAWINGS

| | |
|------------------------------|----|
| GENERAL PLAN | 1. |
| CROSS SECTION AND QUANTITIES | 2. |
| SUBSURFACE EXPLORATION | 3. |
| ABUTMENTS | 4. |
| ABUTMENT DETAILS | 5. |
| SUPERSTRUCTURE | 6. |
| RAILING TUBULAR TYPE M | 7. |

JEWELL
 associates engineers, inc.
 Engineers - Architects - Surveyors

ACCEPTED William C. Dreher^{SDR} **05/25/18**
CHIEF STRUCTURES DESIGN ENGINEER _____ DATE _____

STRUCTURE B-52-272

| | | | |
|--------|----------|-------------------|--------|
| COUNTY | RICHLAND | TOWN/CITY/VILLAGE | ITHACA |
|--------|----------|-------------------|--------|

| | | | | | | | |
|----------------|-----|-----------------|-----|-------------|-----|----------------|-----|
| DESIGNED BY | PTB | DESIGN CK'D. | RBH | DRAWN BY | PTB | PLANS CK'D. | RBH |
|----------------|-----|-----------------|-----|-------------|-----|----------------|-----|

GENERAL PLAN

SHEET 1 OF 7



RIPRAP HEAVY LAYOUT

| POINT | STATION | OFFSET |
|-------|---------|---------|
| A | 11+96 | 30' LT. |
| B | 12+19 | 30' LT. |
| C | 12+25 | 31' LT. |
| D | 12+43 | 31' LT. |
| E | 12+43 | 30' RT. |
| F | 12+26 | 30' RT. |
| G | 12+10 | 40' RT. |
| H | 11+96 | 40' RT. |

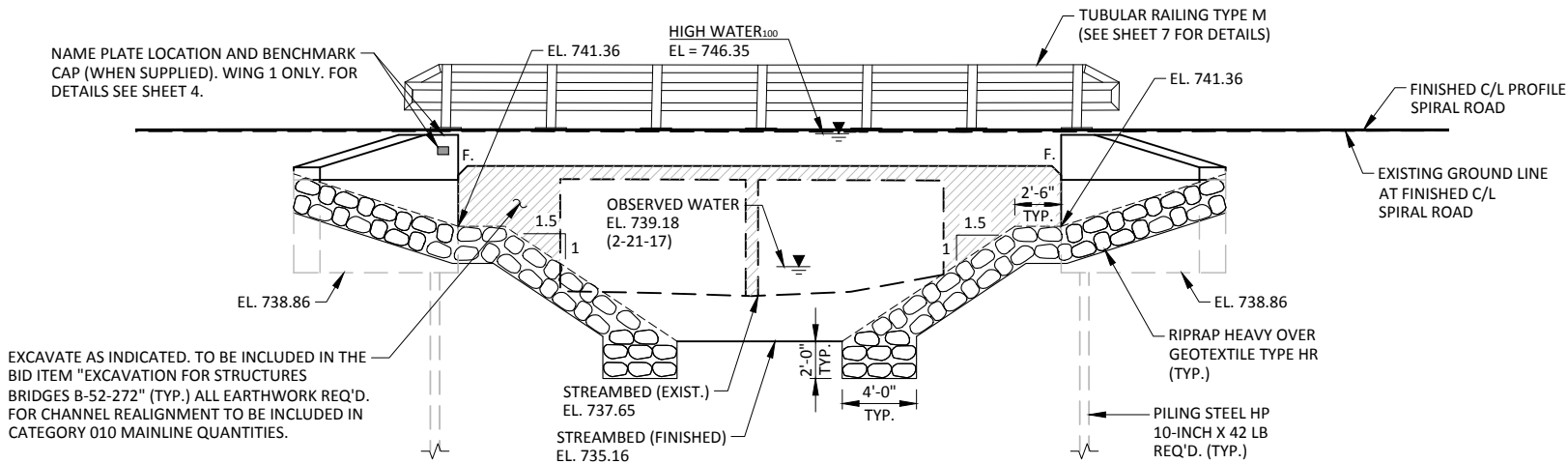
BENCH MARKS

| NO. | STA. | DESCRIPTION | ELEV. |
|-----|-------|-------------------------------|--------|
| 1 | 10+49 | 3/4" IRON ROD FOUND, 33.7' RT | 743.38 |
| 2 | 12+59 | 3/4" IRON ROD FOUND, 14.9' LT | 745.16 |
| 3 | 14+21 | 3/4" IRON ROD FOUND, 11.8' RT | 745.64 |
| 4 | 11+57 | STAR SPIKE IN PPOL, 24.4' LT | 746.17 |

ALUMINUM CAP SW WING, ELEV 746.29

PLAN B-52-272

(SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB)



ELEVATION

(NORMAL TO LITTLE WILLOW CREEK)

EXCAVATE AS INDICATED. TO BE INCLUDED IN THE
BID ITEM "EXCAVATION FOR STRUCTURES
BRIDGES B-52-272" (TYP.) ALL EARTHWORK REQ'D.
FOR CHANNEL REALIGNMENT TO BE INCLUDED IN
CATEGORY 010 MAINLINE QUANTITIES.

DESIGN CONSULTANT

PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT

WILLIAM DREHER, PE
(608) 266-8489

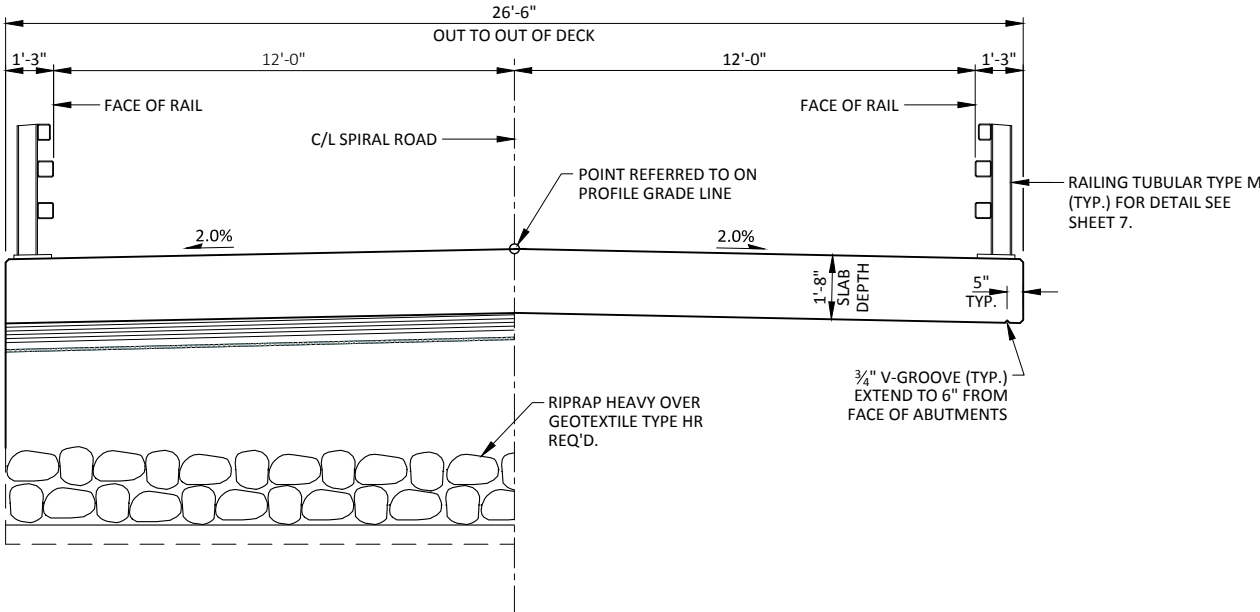
FILE NAME : S:\PROJECTS\K51080 - SPIRAL RD. RICHLAND COUNTY\STRUCTURE\CAD FILES\FINALS\01 GENERAL PLAN.DWG

PLOT DATE : 2/19/2018 9:45:45 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1" = 1'

LAYOUT: LAYOUT1

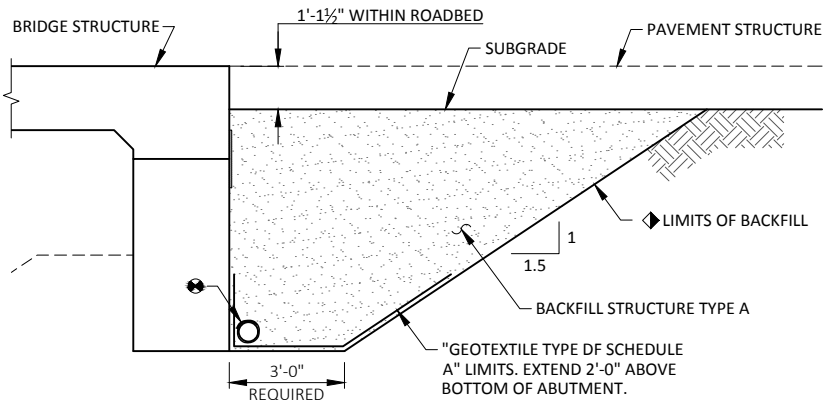


AT ABUTMENT

IN SPAN

PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING EAST

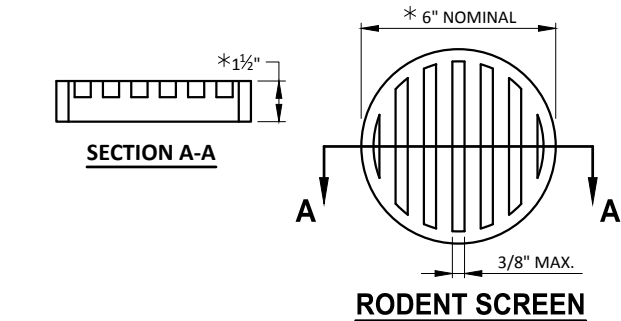


BACKFILL STRUCTURE DETAIL

ABUTMENT BODY SHOWN - WINGWALLS SIMILAR
(TYPICAL AT BOTH ABUTMENTS)

◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-52-272". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

⚙ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."



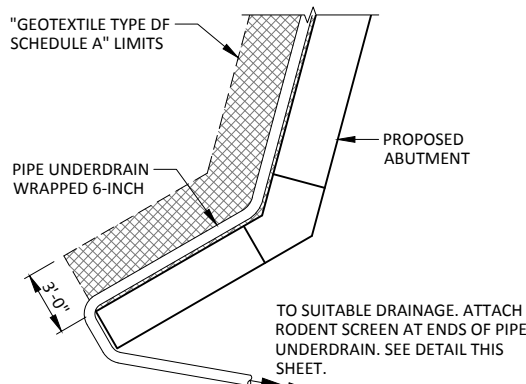
NOTES:

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

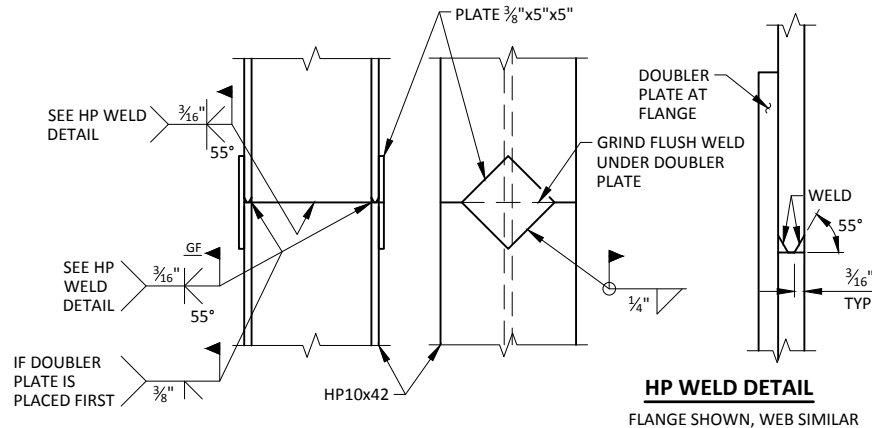
ORIENT SCREEN SO SLOTS ARE VERTICAL.

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PIPE UNDERDRAIN DETAIL

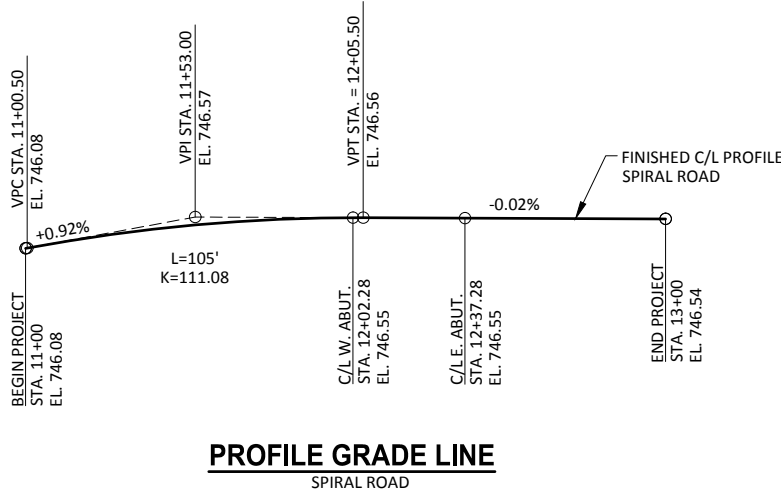


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPlice DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.

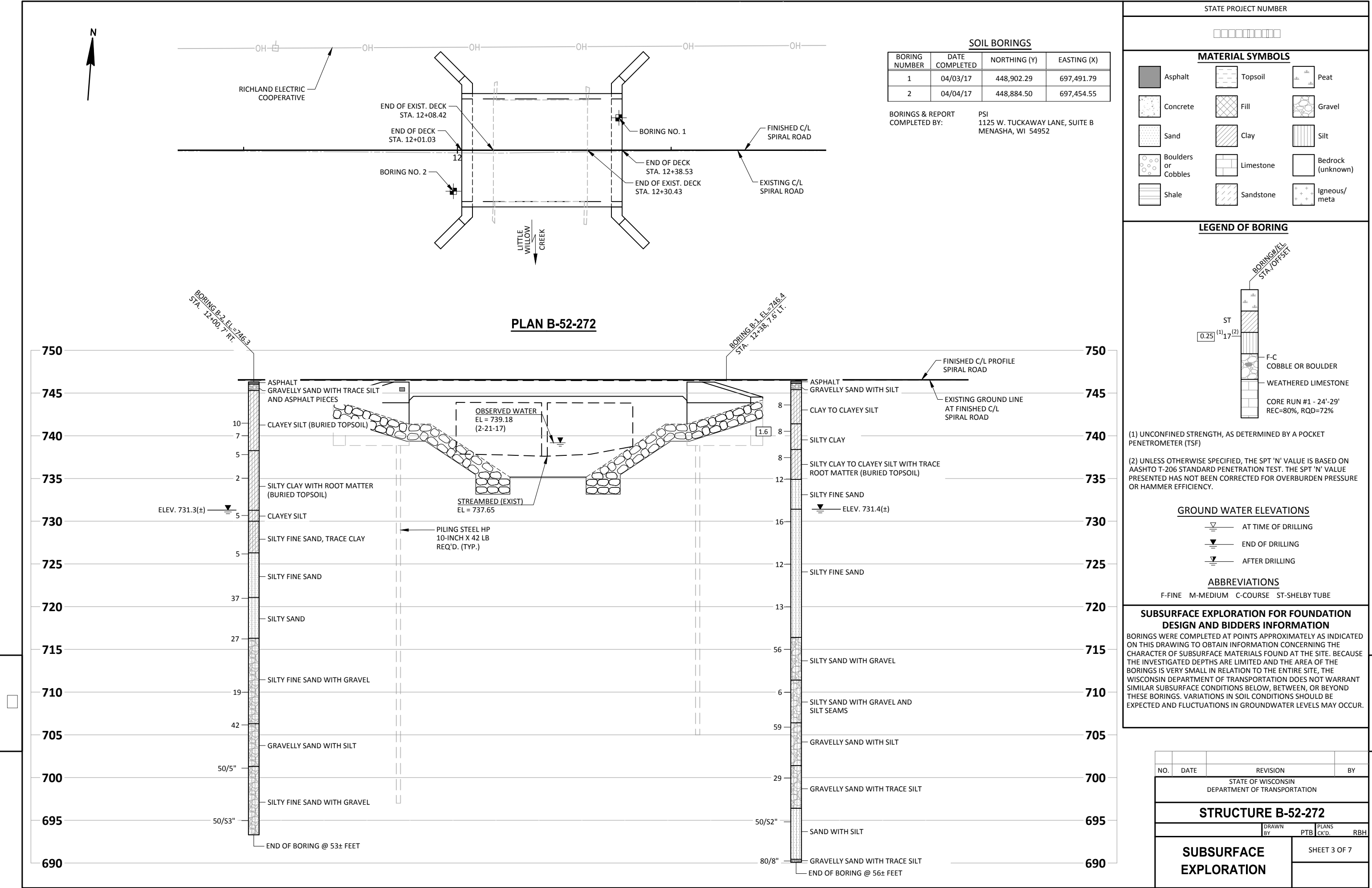


PROFILE GRADE LINE

SPIRAL ROAD

| ITEM NUMBER | ITEM DESCRIPTION | UNIT | W. ABUT. | SUPER | E. ABUT. | TOTALS |
|---------------|---|------|----------|--------|----------|-------------|
| 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 12+19 | LS | -- | -- | -- | 1 |
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-52-272 | LS | -- | -- | -- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | 140 | -- | 140 | 280 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 25 | 65 | 25 | 115 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | -- | 130 | -- | 130 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 2,025 | -- | 2,025 | 4,050 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 1,345 | 11,880 | 1,345 | 14,570 |
| 513.4061 | RAILING TUBULAR TYPE M B-52-272 | LF | -- | 79 | -- | 79 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 6 | -- | 6 | 12 |
| 550.1100 | PIILING STEEL HP 10-INCH X 42 LB | LF | 270 | -- | 220 | 490 |
| 606.0300 | RIPRAP HEAVY | CY | 100 | -- | 85 | 185 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 80 | -- | 80 | 160 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | 45 | -- | 45 | 90 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 170 | -- | 140 | 310 |
| NON-BID ITEMS | | | | | | |
| FILLER | | SIZE | | | | 1/2" & 3/4" |
| NAME PLATE | | | | | | |

| NO. | DATE | REVISION | BY |
|--|------|----------|-----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-52-272 | | | |
| DRAWN BY | | PTB | PLANS CK'D. RBH |
| CROSS SECTIONS AND QUANTITIES | | | SHEET 2 OF 7 |



NOTES

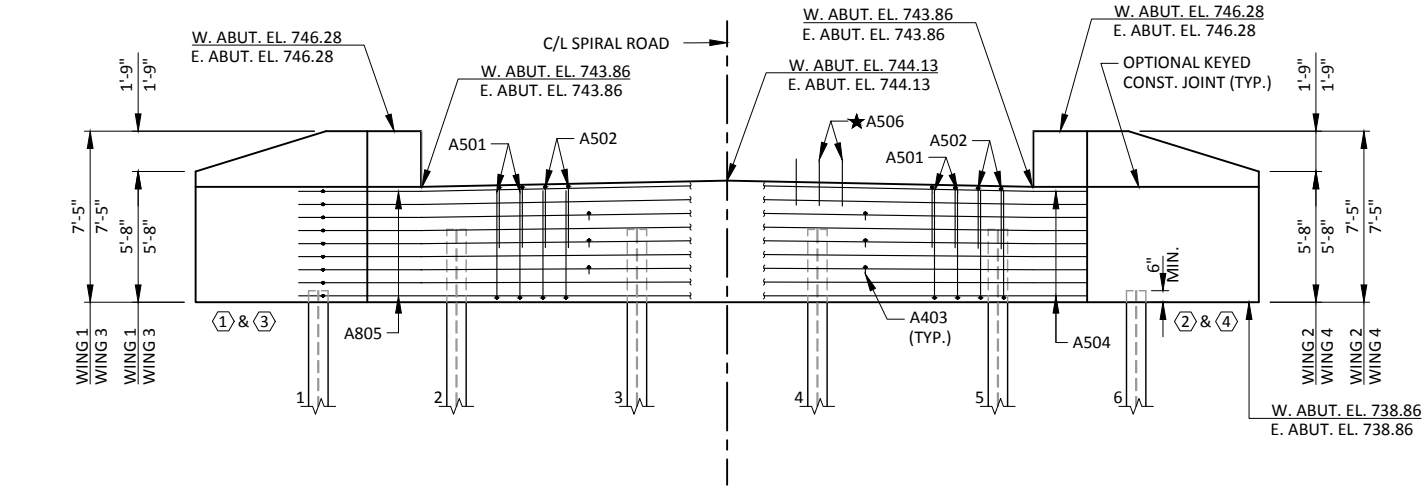
SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

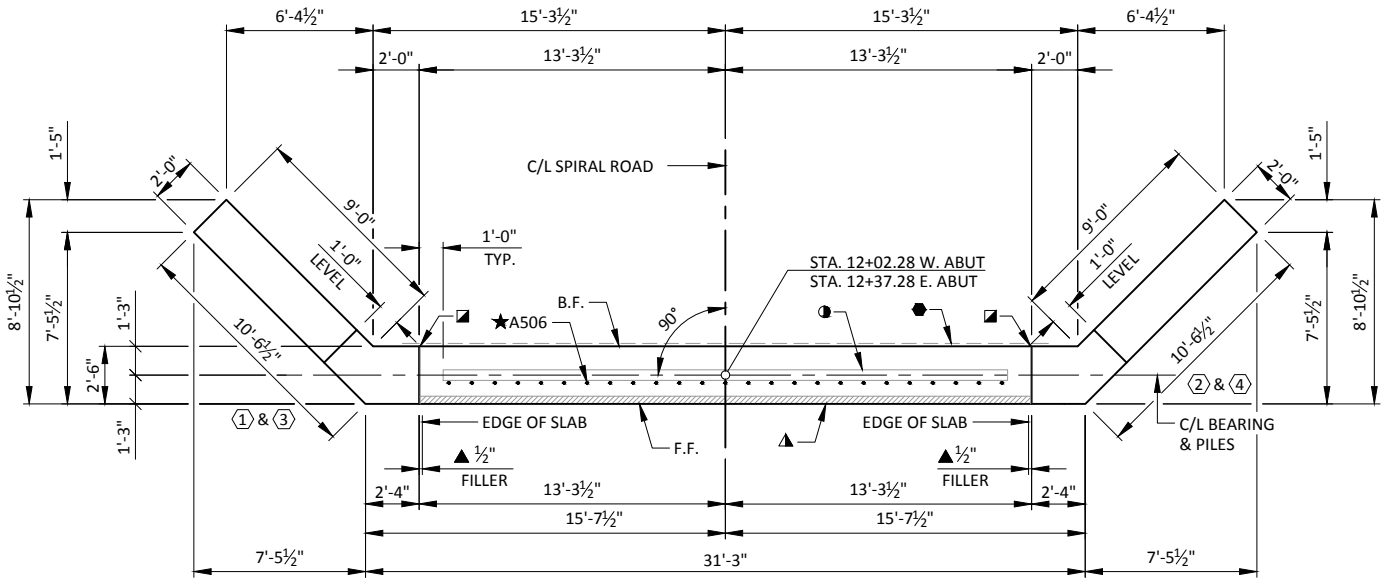


BACK FACE BAR STEEL REINF.

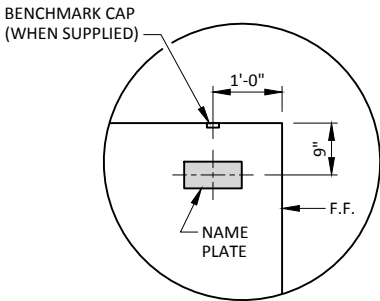
FRONT FACE BAR STEEL REINF.

ELEVATION

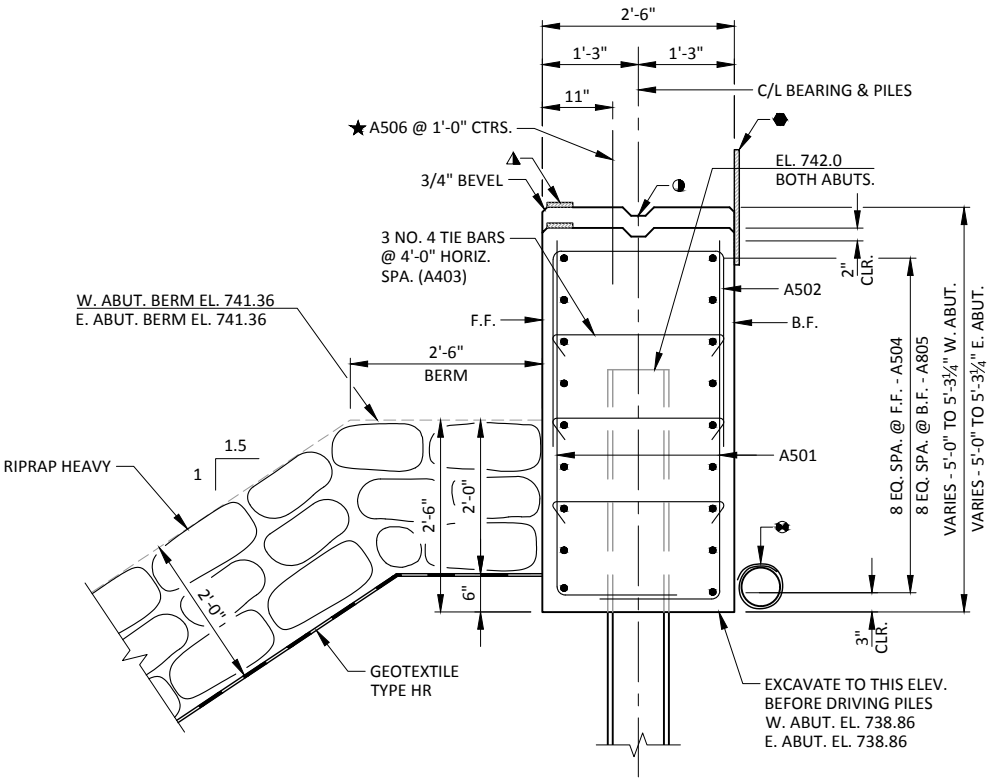
(WEST ABUTMENT LOOKING WEST)
(EAST ABUTMENT LOOKING EAST)



PLAN



NAME PLATE AND
BENCHMARK CAP DETAIL



TYPICAL SECTION THROUGH ABUTMENT BODY

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 45 FT PILE LENGTH AT WEST ABUTMENT AND 35 FT PILE LENGTH AT EAST ABUTMENT.

LEGEND

KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.

VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.

18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)

1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOUS JOINT SEALER. (1" DEEP & HOLD 1/2" BELOW SURFACE OF CONCRETE)

3/4" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.

A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".

PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.

PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

| NO. | DATE | REVISION | BY |
|--|------|----------|-----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-52-272 | | | |
| DRAWN BY | | PTB | PLANS CK'D. RBH |
| ABUTMENTS | | | SHEET 4 OF 7 |

BILL OF BARS
TWO ABUTMENTS SHOWN

2,690 LB (COATED)
4,050 LB (UNCOATED)

| BAR MARK | NO. REQ'D. | LENGTH | BENT | COAT | BAR SERIES | LOCATION |
|----------|------------|--------|------|------|------------|------------------------------------|
| A501 | 124 | 6-1 | X | | | BODY - VERT. - F.F & B.F. |
| A502 | 62 | 7-11 | X | | | BODY - VERT. - TOP |
| A403 | 48 | 2-8 | X | | | TIE BARS |
| A504 | 18 | 31-0 | | | | BODY - HORIZ. - F.F. |
| A805 | 36 | 21-8 | X | | | BODY - HORIZ. - B.F. |
| A506 | 50 | 2-0 | | X | | BODY - VERT. - DOWELS |
| A407 | 88 | 8-7 | X | X | ✱ | WINGS - VERT. - F.F. & B.F. |
| A408 | 32 | 7-0 | | X | | WINGS - VERT. |
| A409 | 4 | 3-0 | | X | | WINGS - VERT. - TOP |
| A510 | 36 | 11-9 | X | X | | WINGS - HORIZ. - F.F. |
| A811 | 36 | 13-5 | X | X | | WINGS - HORIZ. - B.F. |
| A412 | 8 | 8-0 | | X | | WINGS - HORIZ. - F.F. & B.F. |
| A413 | 8 | 4-6 | | X | | WINGS - HORIZ. - F.F. & B.F. |
| A414 | 8 | 9-0 | | X | | WINGS - HORIZ. - F.F. & B.F. - TOP |
| A415 | 12 | 9-6 | X | X | | WINGS - HORIZ. - TOP |

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

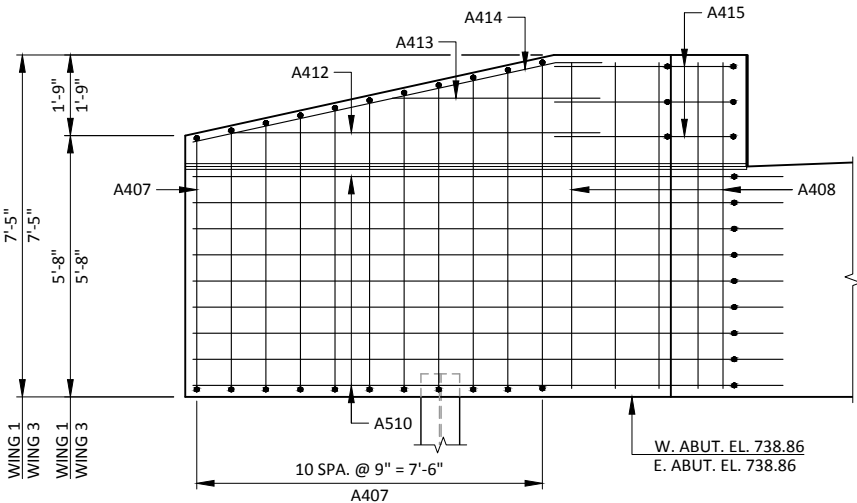
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

✱ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

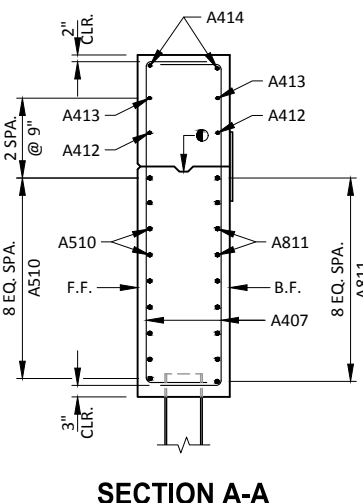
BAR SERIES TABLE

| BAR MARK | NO. REQ'D. | LENGTH |
|----------|----------------|------------|
| A407 | 8 SERIES OF 11 | 9-5 TO 7-9 |

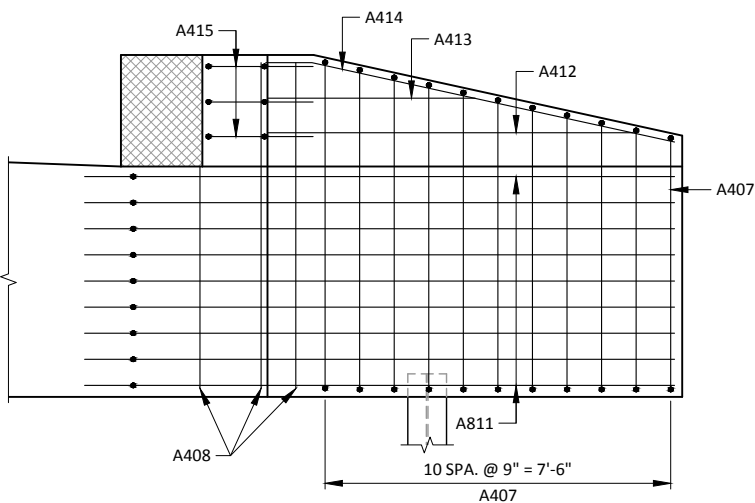
BUNDLE AND TAG EACH SERIES SEPARATELY.



F.F. ELEVATION - WINGS 1 & 3
WINGS 1 & 3 SHOWN. WINGS 2 & 4 SIMILAR



SECTION A-A



B.F. ELEVATION - WINGS 1 & 3
WINGS 1 & 3 SHOWN. WINGS 2 & 4 SIMILAR

LEGEND

OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. 3/4" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

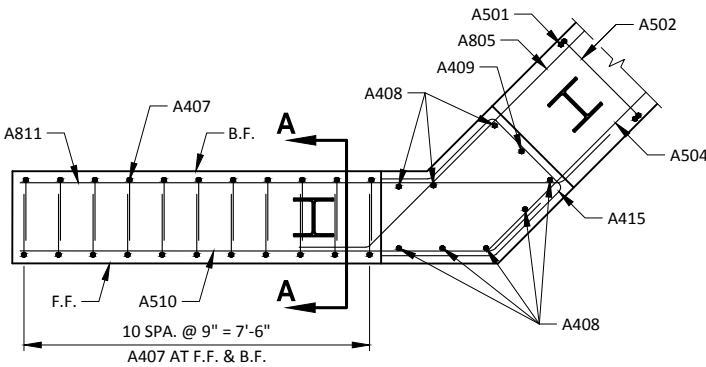
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

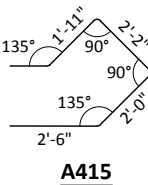
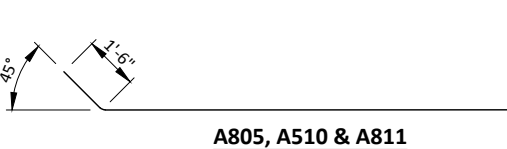
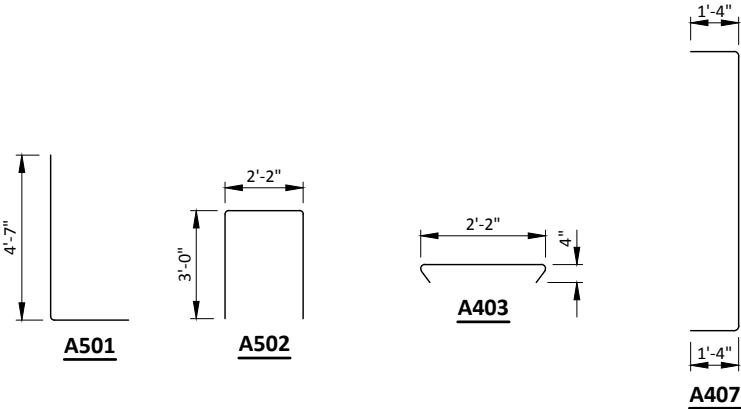
SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE



PLAN VIEW - WINGS 1 & 3
WINGS 1 & 3 SHOWN. WINGS 2 & 4 SIMILAR



| NO. | DATE | REVISION | BY |
|--|------|-----------------|----|
| | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-52-272 | | | |
| DRAWN BY PTB | | PLANS CK'D. RBH | |
| ABUTMENT DETAILS | | SHEET 5 OF 7 | |

BILL OF BARS
SUPERSTRUCTURE

11,880 LB (COATED)

| BAR MARK | NO. REQ'D. | LENGTH | BENT | COAT | LOCATION |
|----------|------------|--------|------|------|---------------------------------|
| S501 | 54 | 7-0 | X | X | END OF DECK |
| S502 | 19 | 37-2 | | X | SLAB - TOP - LONGIT. |
| S503 | 44 | 26-2 | | X | SLAB - TOP - TRANS. |
| S504 | 43 | 26-2 | | X | SLAB - BOTTOM - TRANS. |
| S1005 | 51 | 32-1 | | X | SLAB - BOTTOM - LONGIT. |
| S1006 | 2 | 37-2 | | X | SLAB - BOTTOM - LONGIT. - EDGES |
| S607 | 40 | 6-0 | | X | RAIL POSTS - INTERIOR |
| S608 | 16 | 6-0 | X | X | RAIL POSTS - ENDS |
| S609 | 28 | 12-0 | X | X | RAIL POSTS |

NOTES: THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY.

SURVEY TOP OF DECK ELEVATIONS

| | W. ABUT. | 0.50 PT. | E. ABUT. |
|--------------------|----------|----------|----------|
| NORTH EDGE OF DECK | | | |
| CENTER LINE | | | |
| SOUTH EDGE OF DECK | | | |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C/L OF THE ABUTMENTS AND AT 0.50 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE EDGE OF DECK AND CENTER LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

NOTES

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

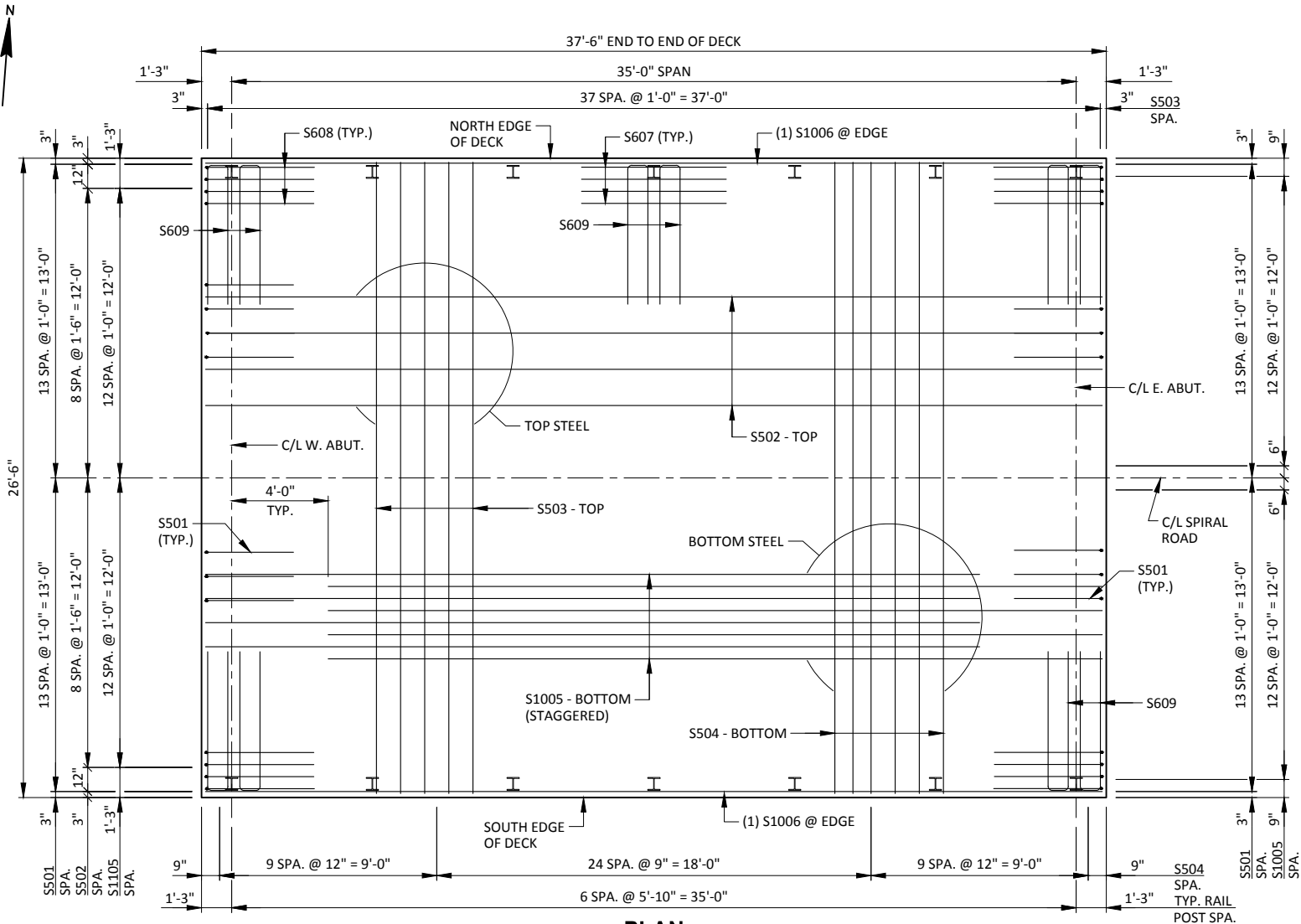
PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- 3/4" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- SEE SHEET 4 FOR PLACEMENT OF A506 BARS.

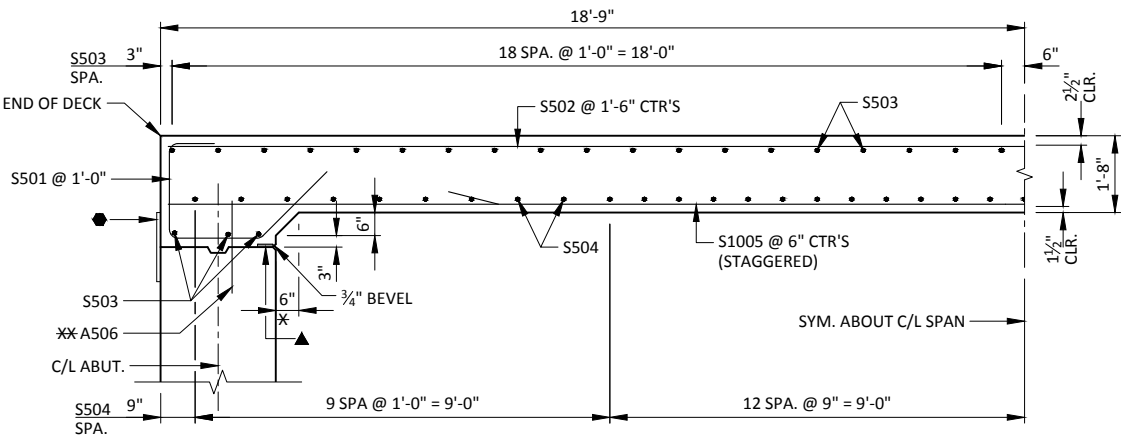
| NO. | DATE | REVISION | BY |
|--|------|----------|-----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-52-272 | | | |
| DRAWN BY | | PTB | PLANS CK'D. RBH |
| SUPERSTRUCTURE | | | SHEET 6 OF 7 |



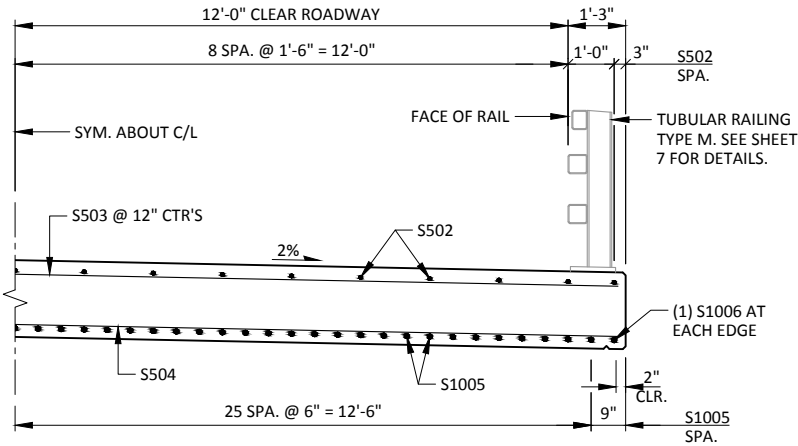
PLAN

TOP OF DECK ELEVATIONS

| | C/L W. ABUT. | 0.10 PNT. | 0.20 PNT. | 0.30 PNT. | 0.40 PNT. | 0.50 PNT. | 0.60 PNT. | 0.70 PNT. | 0.80 PNT. | 0.90 PNT. | C/L E. ABUT. |
|---------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| N. EDGE | 746.28 | 746.29 | 746.29 | 746.29 | 746.29 | 746.29 | 746.29 | 746.29 | 746.28 | 746.28 | 746.28 |
| C/L | 746.55 | 746.56 | 746.56 | 746.56 | 746.56 | 746.56 | 746.56 | 746.56 | 746.55 | 746.55 | 746.55 |
| S. EDGE | 746.28 | 746.29 | 746.29 | 746.29 | 746.29 | 746.29 | 746.29 | 746.29 | 746.28 | 746.28 | 746.28 |



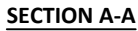
PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY



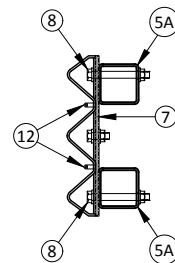
PARTIAL CROSS SECTION THROUGH ROADWAY

- ⑥ W6x25 WITH 11/8" x 11/2" 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 11/4"x113/4"x1"-8" WITH 15/16"x15/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 11/8" 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. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 103/4" LONG AT ALL OTHER LOCATIONS.
- ④ 5/8"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 13/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TSS 5x4x1/4 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TSS 5x5x1/4 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16"x15/8"x15/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 -7/8"x11/2" 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"x35/8"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8"x25/8"x2'-4" PLATE USED IN NO. 5, 3/8"x35/8"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16"x11/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15/16"x21/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ 7/8" DIA. BY 11/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3/8"x8"x1'-6" 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 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-52-272" 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. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



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



SECTION D-D



EARTHWORK-MAINLINE

| STATION | AREA (SF) | | INCREMENTAL VOL (CY) | | | CUMMULATIVE VOLUME (CY) | | | |
|---------|-----------|------|----------------------|--------|-------|-------------------------|------|-----------------|--------------------|
| | CUT | FILL | CUT | FILL | FILL | CUT | FILL | FILL | MASS |
| | | | NOTE 1 | NOTE 2 | (25%) | 1.00 NOTE 1 | | (25%) NOTE 3 | ORDINATE NOTE 4 |
| 11+00 | 23 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11+50 | 23 | 5 | 44 | 52 | 65 | 44 | 52 | 65 | -21 |
| 12+00 | 24 | 67 | 45 | 68 | 85 | 89 | 120 | 150 | -61 |
| 12+01 | 24 | 67 | 1 | 3 | 4 | 90 | 123 | 154 | -64 |
| 12+01 | 0 | 0 | 0 | 0 | 0 | 90 | 123 | 154 | -64 |
| 12+39 | 0 | 0 | 0 | 0 | 0 | 90 | 123 | 154 | -64 |
| 12+39 | 26 | 66 | 0 | 0 | 0 | 90 | 123 | 154 | -64 |
| 12+50 | 44 | 18 | 14 | 17 | 21 | 104 | 140 | 175 | -71 |
| 13+00 | 26 | 4 | 66 | 20 | 25 | 170 | 160 | 200 | -30 |

COLUMN SUBTOTALS = 170 160 200

EARTHWORK - 'A' LINE

| STATION | AREA (SF) | | INCREMENTAL VOL (CY) | | | CUMMULATIVE VOLUME (CY) | | | |
|----------|-----------|------|----------------------|--------|-------|-------------------------|------|-----------------|--------------------|
| | CUT | FILL | CUT | FILL | FILL | CUT | FILL | FILL | MASS |
| | | | NOTE 1 | NOTE 2 | (25%) | 1.00 NOTE 1 | | (25%) NOTE 3 | ORDINATE NOTE 4 |
| 50'A'+11 | 12 | 0 | 9 | 69 | 86 | 9 | 69 | 86 | -77 |
| 50'A'+50 | 0 | 96 | 30 | 103 | 129 | 39 | 172 | 215 | -176 |
| 51'A'+00 | 31 | 16 | 31 | 9 | 11 | 70 | 181 | 226 | -156 |
| 51'A'+30 | 23 | 0 | 0 | 0 | 0 | 70 | 181 | 226 | -156 |

COLUMN SUBTOTALS = 70 181 226

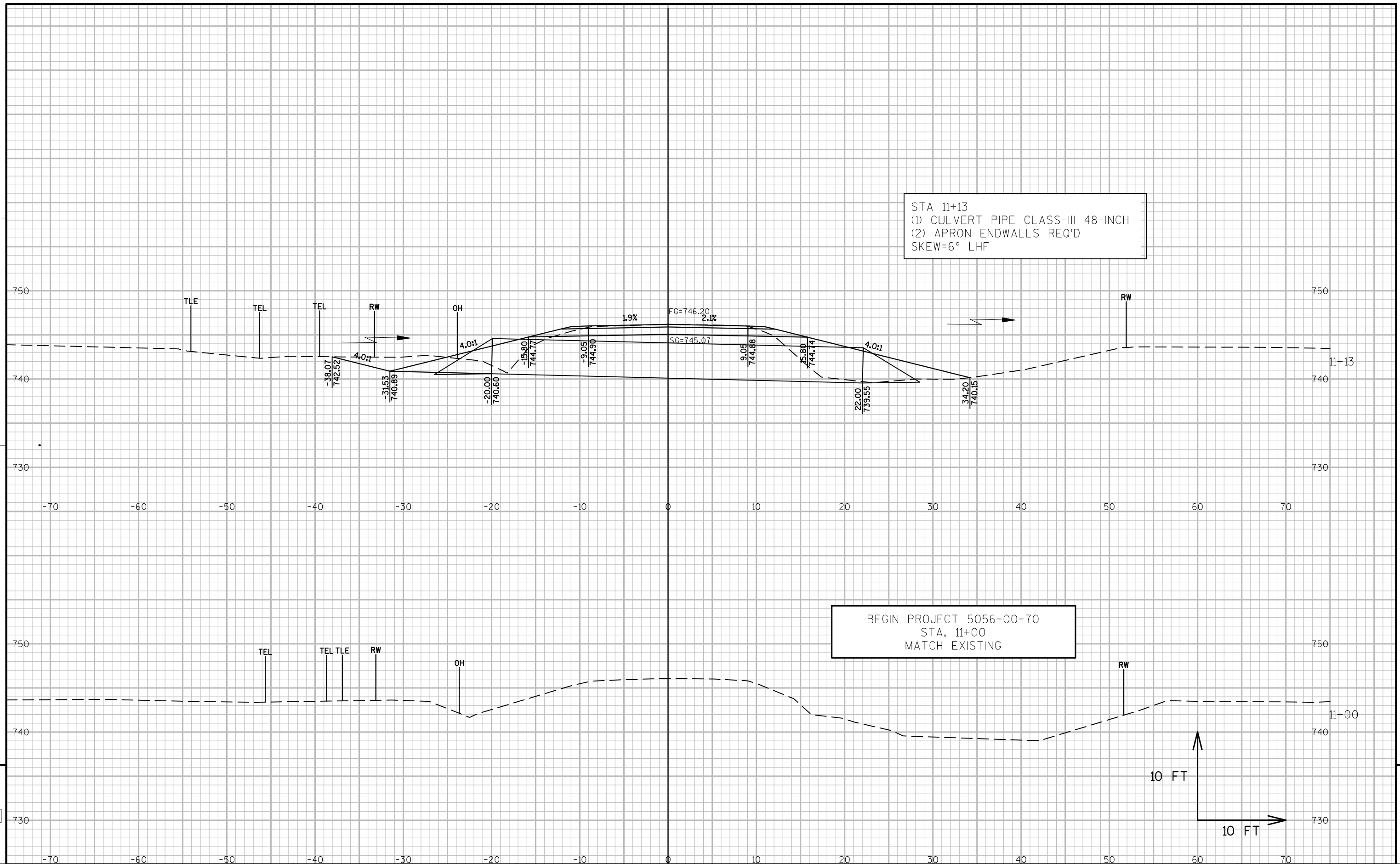
NOTES:
1 - CUT
2 - FILL
3 - FILL (25%)
4 - MASS ORDINATE

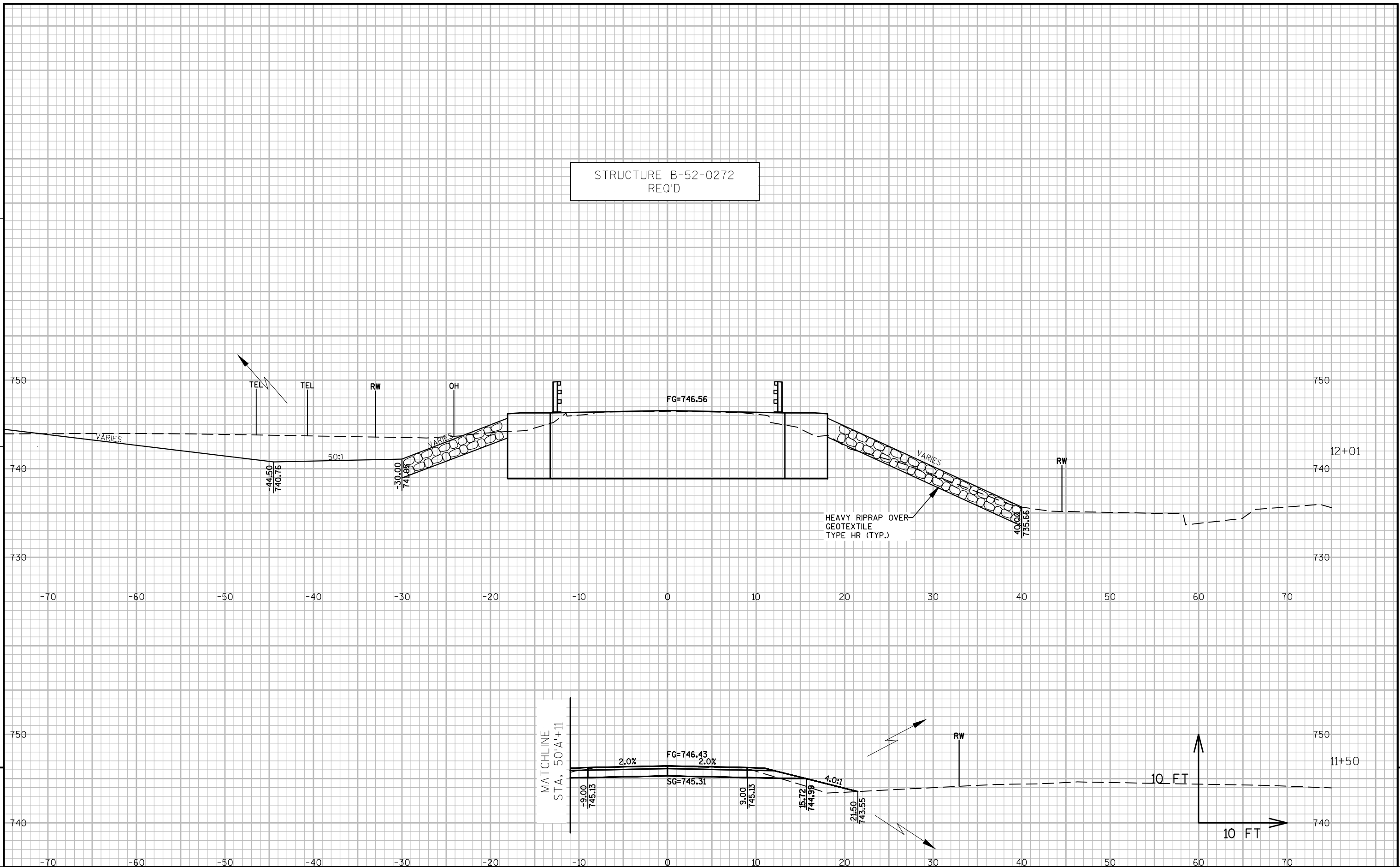
CUT INCLUDES SALVAGED/UNUSABLE MATERIAL
DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
FILL 25%: (UNEXPANDED FILL)*1.25
(CUT - FILL (25%))

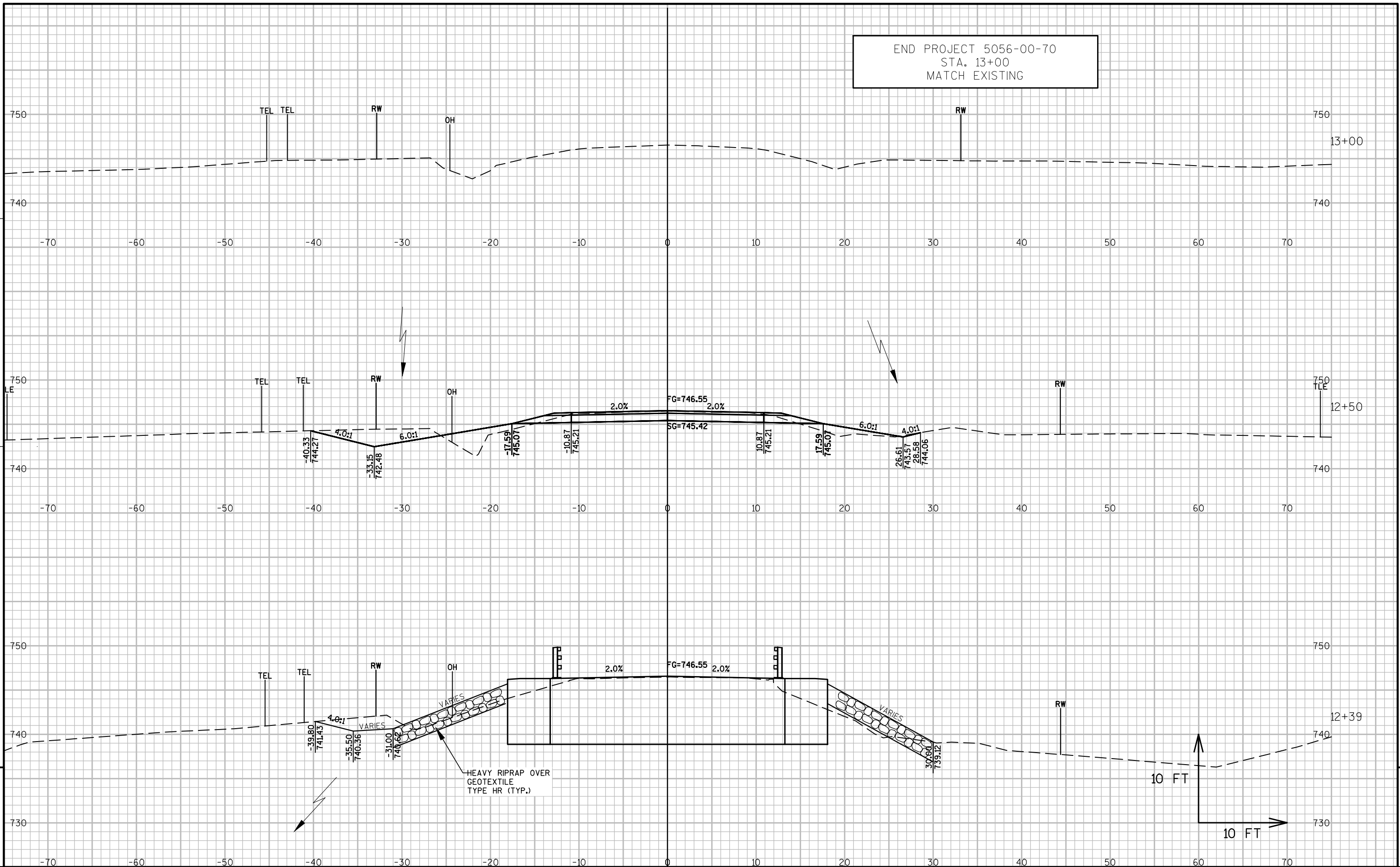
EARTHWORK - 'B' LINE

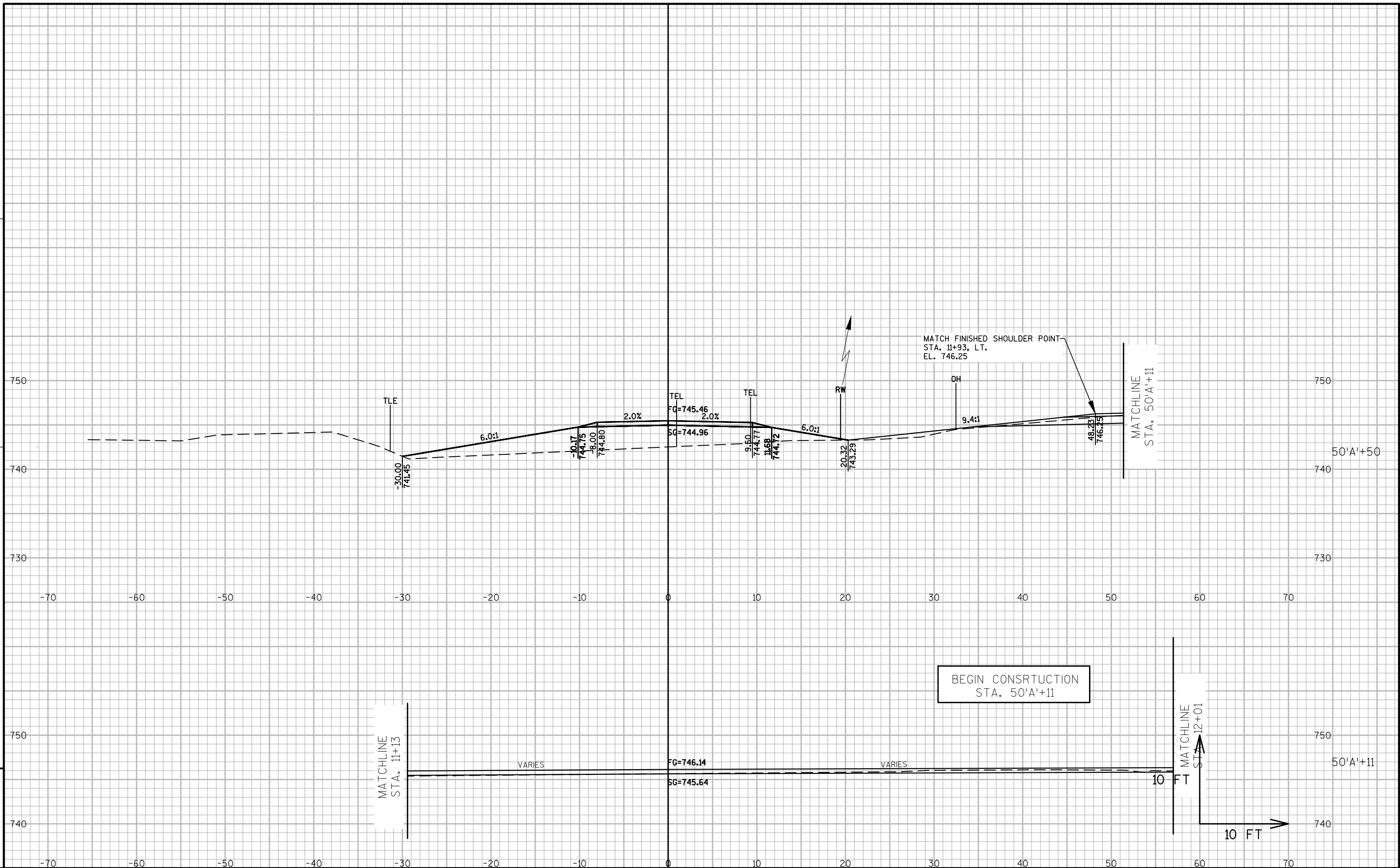
| STATION | AREA (SF) | | INCREMENTAL VOL (CY) | | | CUMMULATIVE VOLUME (CY) | | | |
|---------------------|-----------|------|----------------------|----------------|---------------|-------------------------|------|-------------------------|----------------------------|
| | CUT | FILL | CUT NOTE 1 | FILL NOTE 2 | FILL (25%) | CUT 1.00 NOTE 1 | FILL | FILL (25%) NOTE 3 | MASS ORDINATE NOTE 4 |
| 100'B'+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100'B'+50 | 40 | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 36 |
| 100'B'+62 | 81 | 2 | 27 | 0 | 0 | 63 | 0 | 0 | 63 |
| 100'B'+62 | 0 | 0 | 0 | 0 | 0 | 63 | 0 | 0 | 63 |
| 100'B'+88 | 0 | 0 | 0 | 0 | 0 | 63 | 0 | 0 | 63 |
| 100'B'+88 | 124 | 0 | 0 | 0 | 0 | 63 | 0 | 0 | 63 |
| 101'B'+00 | 83 | 0 | 46 | 0 | 0 | 109 | 0 | 0 | 109 |
| 101'B'+30 | 0 | 0 | 46 | 0 | 0 | 155 | 0 | 0 | 155 |
| COLUMN SUBTOTALS = | | | 155 | 0 | 0 | | | | |
| | | | MAINLINE | 170 | 160 | 200 | 170 | 160 | 200 |
| | | | F.E. | 70 | 181 | 226 | 240 | 341 | 426 |
| CHANNEL REALIGNMENT | | | | 155 | 0 | 0 | 395 | 341 | 426 |
| | | | | | | | | | -30 |
| | | | | | | | | | -186 |
| | | | | | | | | | -186 |

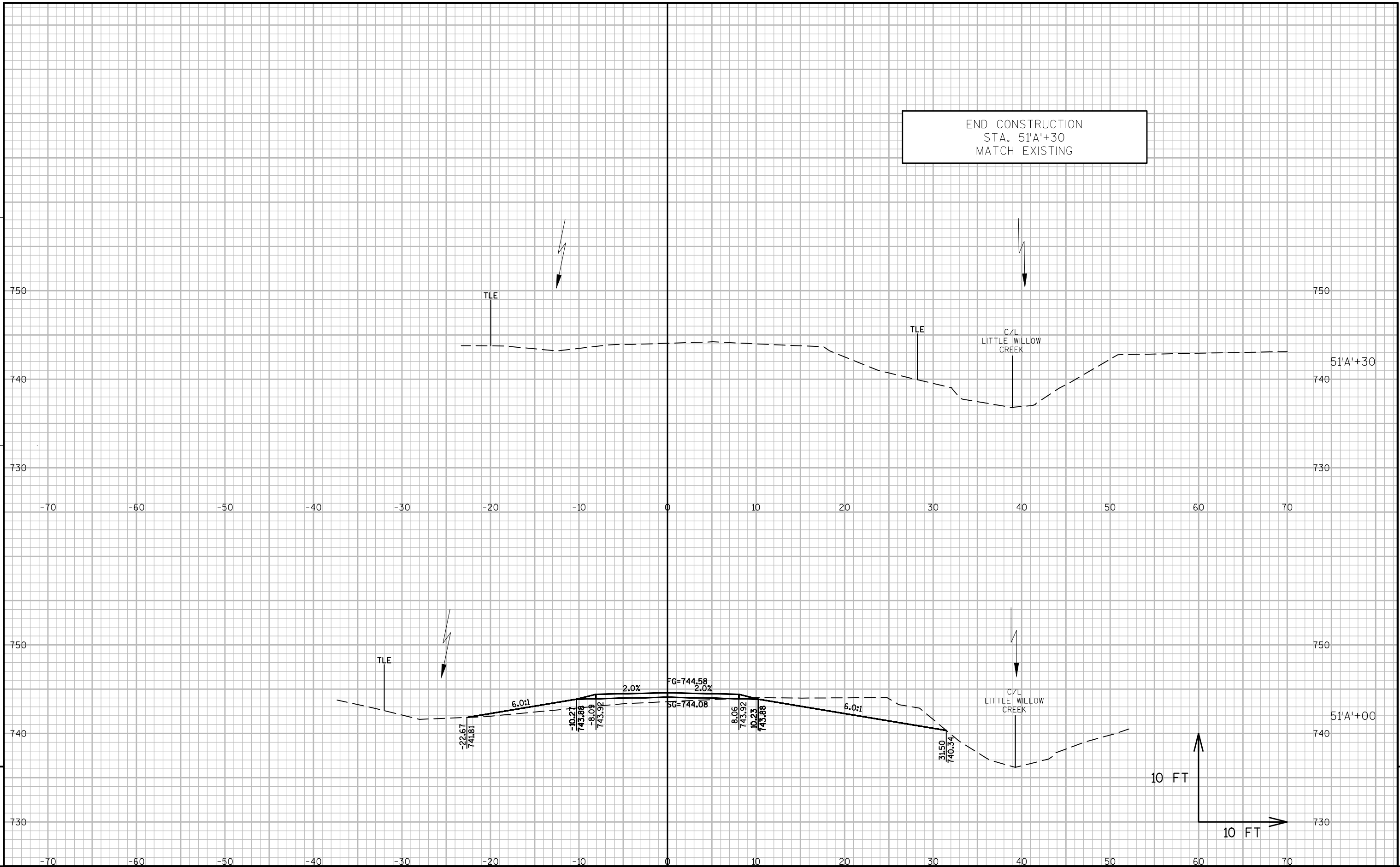
| | |
|-------------------|---|
| NOTES: | |
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE MATERIAL |
| 2 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 3 - FILL (25%) | FILL 25%: (UNEXPANDED FILL)*1.25 |
| 4 - MASS ORDINATE | (CUT - FILL (25%)) |

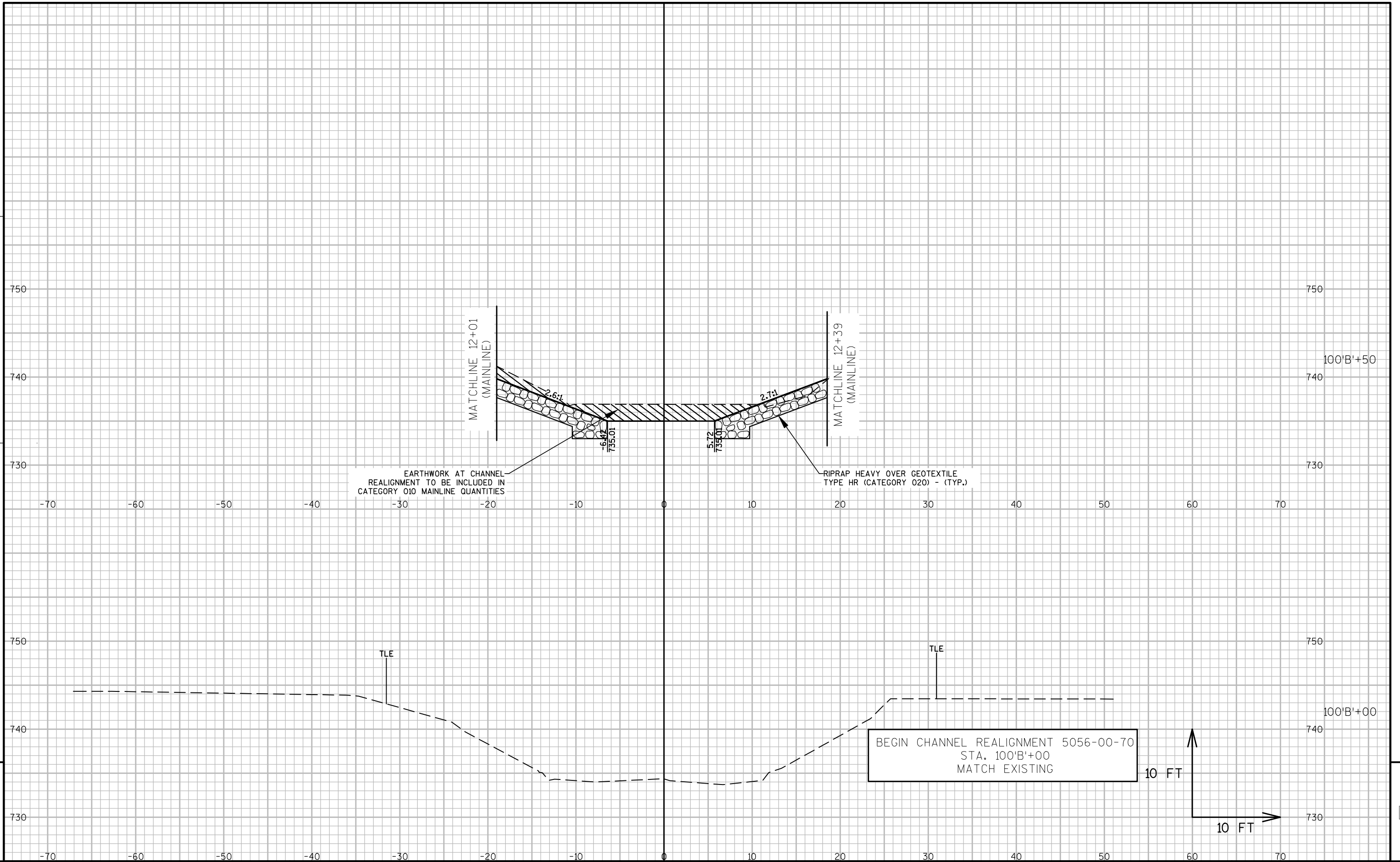


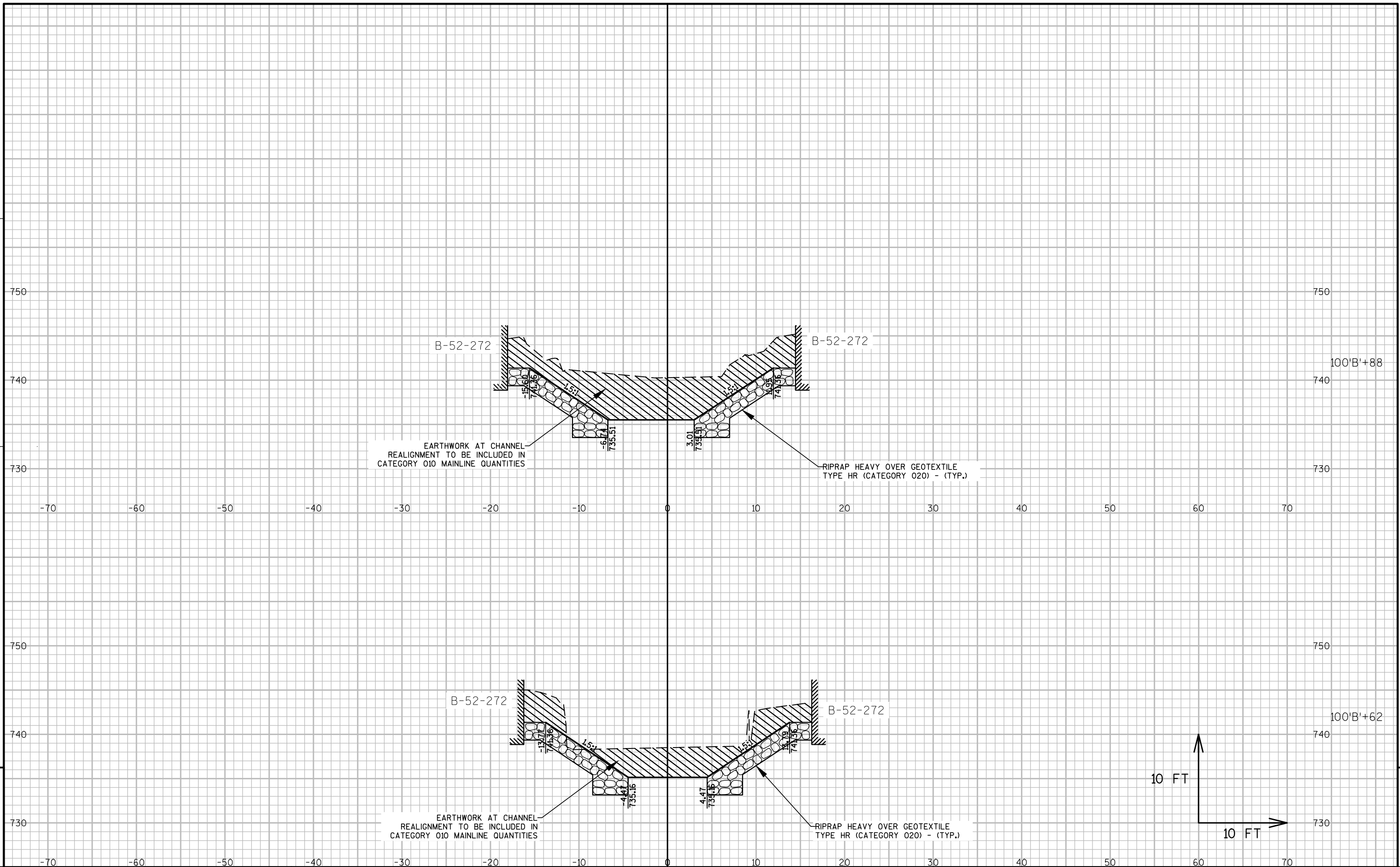


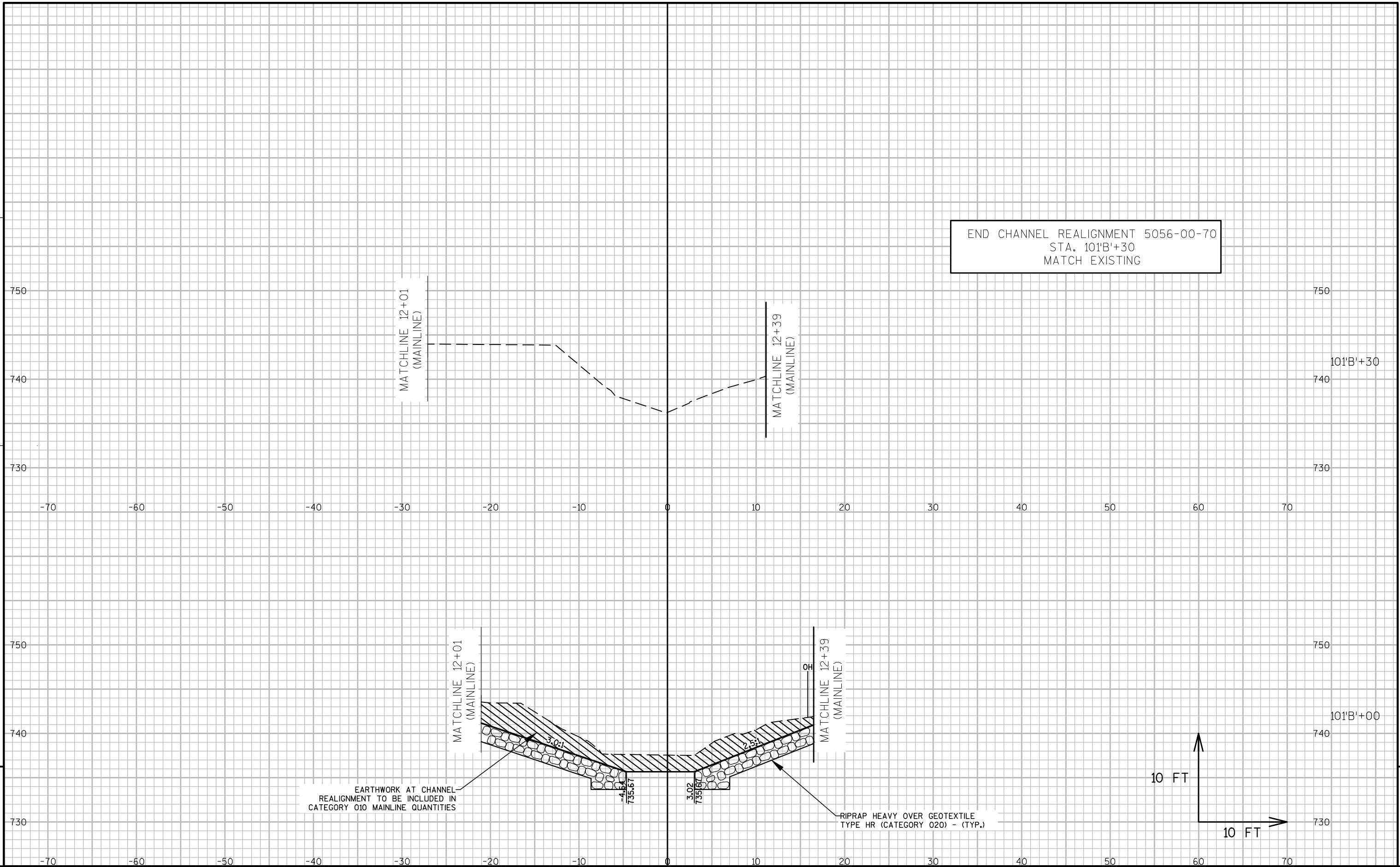


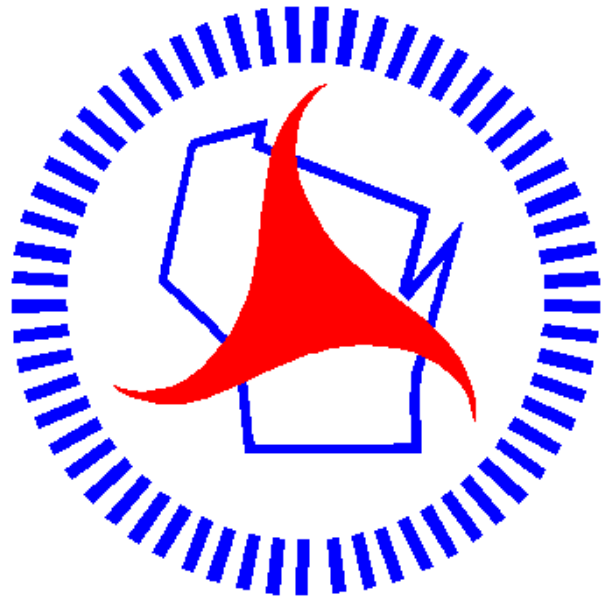












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