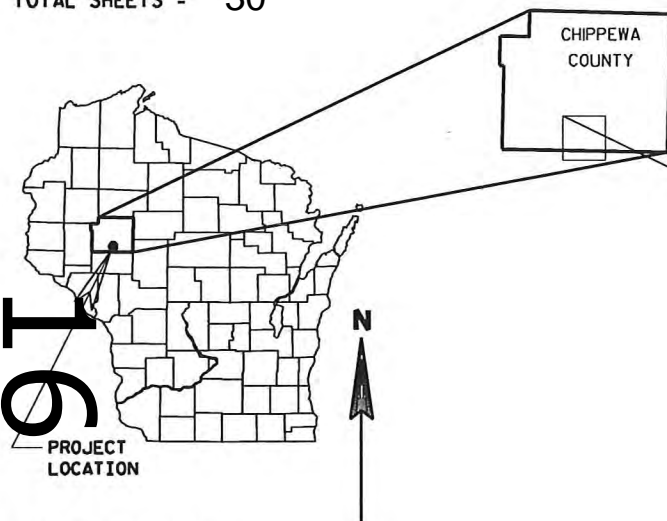


## ORDER OF SHEETS

|               |  |
|---------------|--|
| Section No. 1 | Title  |
| Section No. 2 | Typical Sections and Details<br>(Includes Erosion Control Plans) |
| Section No. 3 | Estimate of Quantities   |
| Section No. 3 | Miscellaneous Quantities   |
| Section No. 4 | Right of Way Plat  |
| Section No. 5 | Plan and Profile   |
| 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 = 30



## DESIGN DESIGNATION

|               |   |        |
|---------------|---|--------|
| A.D.T. (2017) | = | 18,000 |
| A.D.T. (2037) | = | N/A    |
| D.H.V.        | = | N/A    |
| D.            | = | N/A    |
| T.            | = | N/A    |
| DESIGN SPEED  | = | 70 MPH |
| ESALS         | = | N/A    |

CONVENTIONAL SYMBOLS  
PLAN

|                                   |           |
|-----------------------------------|-----------|
| CORPORATE LIMITS                  | PL + 58.1 |
| PROPERTY LINE                     | PL + 58.1 |
| LOT LINE                          | ---       |
| LIMITED HIGHWAY EASEMENT          | ---       |
| EXISTING RIGHT OF WAY             | ---       |
| PROPOSED OR NEW R/W LINE          | ---       |
| SLOPE INTERCEPT                   | ---       |
| REFERENCE LINE                    | ---       |
| EXISTING CULVERT                  | ---       |
| PROPOSED CULVERT<br>(Box or Pipe) | ---       |
| COMBUSTIBLE FLUIDS                | CAUTION   |
| HIGH VOLTAGE                      | CAUTION   |
| MARSH AREA                        | ---       |
| WOODED OR SHRUB AREA              | ---       |

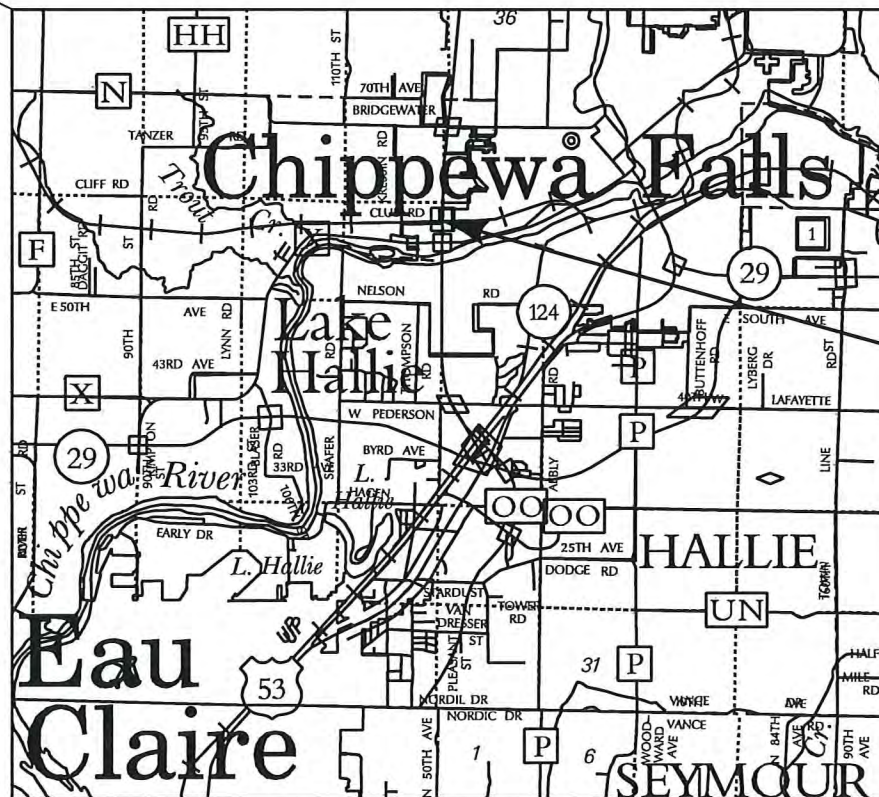
## PROFILE

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

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
**CHIPPEWA FALLS - NEW AUBURN**  
BRPNT/WCL RR B-9-53 NB & B-9-52 SB  
**USH 53**  
**CHIPPEWA COUNTY**

STATE PROJECT NUMBER  
**1190-09-65**

T-29-N  
T-28-N

PROJECT 1190-09-65  
STRUCTURES B-9-52 & B-9-53  
NB USH 53 STA 132+66.88  
X = 162455.62  
Y = 125999.01

T-28-N  
T-27-N

R-8-W | R-7-W

LAYOUT  
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.05 MI.

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

## STATE PROJECT

1190-09-65

## FEDERAL PROJECT

PROJECT

CONTRACT

ORIGINAL PLANS PREPARED BY

**AYRES  
ASSOCIATES**

3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com



DATE 1/19/17

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

|                     |                      |
|---------------------|----------------------|
| Surveyor            | ---                  |
| Designer            | AYRES ASSOCIATES INC |
| Project Manager     | MOHAMAD HAYEK        |
| Regional Examiner   | JENNIFER OLDENBURG   |
| Regional Supervisor | MARK FLOEDERER       |

APPROVED FOR THE DEPARTMENT

DATE: 1/23/17

E

GENERAL NOTES

WORK CONSISTS OF TRAFFIC CONTROL, CONTAINMENT ENCLOSURE ERECTION, ABRASIVE BLASTING SURFACE PREPARATION, AND APPLICATION OF NEW COATING SYSTEM FOR ALL STRUCTURAL STEEL OF PROJECT BRIDGE.

ENCLOSURE AND MATERIALS SHALL BE MAINTAINED TAUT AND IN SUCH A MANNER THAT IT WILL NOT OBSTRUCT/DISTRACT THE VIEW OF OR SNAG ON ANY PASSING VEHICLES.

USH 53 WILL BE KEPT OPEN TO A MINIMUM OF ONE LANE OF TRAFFIC AT ALL TIMES.

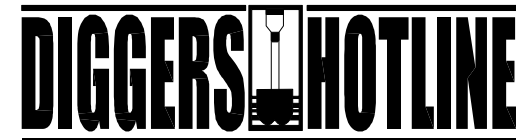
SIGNS AND DEVICES WILL BE IN CONFORMANCE WITH THE LATEST WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).


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

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

ABBREVIATIONS

|       |                            |
|-------|----------------------------|
| AC    | ACRES                      |
| CHIS  | CHISELED                   |
| CL    | CENTERLINE                 |
| COR   | CORNER                     |
| CWT   | COUNT                      |
| CY    | CUBIC YARD                 |
| EL    | ELEVATION                  |
| GAL   | GALLON                     |
| H     | HOUSE                      |
| IP    | IRON PIPE                  |
| LB    | POUND                      |
| LF    | LINEAR FEET                |
| LS    | LUMP SUM                   |
| LT    | LEFT                       |
| MAX   | MAXIMUM                    |
| MIN   | MINIMUM                    |
| MON   | MONUMENT                   |
| NORM  | NORMAL                     |
| OAL   | OVERALL LENGTH             |
| PC    | POINT OF CURVATURE         |
| PD    | PEDESTAL                   |
| PI    | POINT OF INTERSECTION      |
| PK    | PARKER-KALON               |
| PL    | PROPERTY LINE              |
| PLE   | PERMANENT LIMITED EASEMENT |
| PP    | POWER POLE                 |
| PT    | POINT OF TANGENCY          |
| R     | RADIUS                     |
| REQ'D | REQUIRED                   |
| RT    | RIGHT                      |
| R/W   | RIGHT-OF-WAY               |
| SF    | SQUARE FEET                |
| SHLDR | SHOULDER                   |
| STA   | STATION                    |
| SY    | SQUARE YARD                |
| TLE   | TEMPORARY LIMITED EASEMENT |
| VAR   | VARIES                     |
| WL    | WELL                       |



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

WISCONSIN CENTRAL LTD (CN)  
IS NOT PART OF DIGGERS HOTLINE:  
CONTACT CN CALL BEFORE YOU DIG AT (734) 783-4533

AREA CONTACTS

STATE OF WISCONSIN

DNR CONTACT: CHRIS WILLGER  
DNR/DOT LIASON  
OFC. OF EDGR. & ENV. REVIEW  
PHONE: (715) 839-1609  
christopherj.willger@wisconsin.gov

WISDOT STRUCT. MAINT. ENGINEER  
GREGORY HAIG  
CELL: (715) 577-0646  
gregory.haig@dot.wi.gov

WISDOT BRPAINT & HAZMAT COORD.  
WILLIAM KOVALESKI, JR  
PHONE: (715) 225-9431  
william.kovaleski@dot.wi.gov

WISDOT ENVIRONMENTAL COORD.  
NICK SCHAFF  
PHONE: (715) 836-2068  
nicholas.schaff@dot.wi.gov

CHIPPEWA COUNTY

COUNTY SHERIFF  
SHERIFF: JAMES L. KOWALCZYK  
32 E SPRUCE ST.  
CHIPPEWA FALLS, WI 54729  
NON-EMERG: (715) 726-7701  
EMERGENCY: 911  
jkowalczyk@co.chippewa.wi.us

EMERGENCY MANAGEMENT  
DIRECTOR: DENNIS BROWN  
32 E SPRUCE ST.  
CHIPPEWA FALLS, WI 54729  
PHONE: (715) 726-7728  
dbrown@co.chippewa.wi.us

HIGHWAY COMMISSIONER  
INTERIM COMMISSIONER: BRIAN KELLEY  
801 EAST GRAND AVENUE  
CHIPPEWA FALLS, WI 54729  
OFFICE: (715) 726-7914  
SHOP: (715) 726-7915  
bkelley@co.chippewa.wi.us

CITY OF CHIPPEWA FALLS

POLICE DEPARTMENT  
CHIEF: MATTHEW KELM  
210 ISLAND ST.  
CHIPPEWA FALLS, WI 54729  
NON-EMERG: (715) 723-4424 ext. 211  
EMERGENCY: 911  
mkelm@chippewafalls-wi.gov

FIRE & EMS  
CHIEF: THOMAS LARSON  
211 BAY ST.  
CHIPPEWA FALLS, WI 54729  
NON-EMERG: (715) 723-5710  
EMERGENCY: 911  
firedept@chippewafalls-wi.gov

STREET DEPARTMENT  
MANAGER: RICK RUF  
5 BJORK-RIVERSIDE DR.  
CHIPPEWA FALLS, WI 54729  
PHONE: (715) 723-4151  
streets@chippewafalls-wi.gov

RAILROAD

WISCONSIN CENTRAL LTD (CN)  
JACKIE MACEWICZ, MANAGER PUBLIC PROJECTS  
1625 DEPOT STREET  
STEVENS POINT, WI 54481  
PHONE: (715) 345-2503  
jackie.macewicz@cn.ca

UTILITIES

THE FOLLOWING UTILITIES HAVE FACILITIES WITH SERVICES IN THE PROJECT VICINITY.

COMMUNICATIONS

CHIPPEWA VALLEY INTERNETWORKING CONSORTIUM (CINC)  
UNIVERSITY OF WISCONSIN - EAU CLAIRE  
105 GARFIELD AVENUE  
EAU CLAIRE, WI 54701  
ATTN: DAREN BAUER  
NETWORK ENGINEER - TECHNICAL SERVICES  
715-836-5286  
bauerdp@uwec.edu

PACKERLAND BROADBAND  
105 KENT STREET  
P.O. BOX 190  
IRON MOUNTAIN, MI 49801-0190  
ATTN: WAYNE CRETTON  
905-774-6621, ext 2328  
906-282-3768 (cell)  
wayne.cretton@packerlandbroadband.com

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200-FT (500-FT DESIRABLE) DISTANCE TO EXISTING SIGNS.

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

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500-FT IN FRONT OF DRUMS.

PLACE PCMS 2-MILE IN ADVANCE OF WORK ZONE IN BOTH THE NB AND SB DIRECTIONS.

BUFFER ZONE FOR USH 53 NB CLOSURE EXTENDED TO 2400-FT TO PROVIDE CFOR ADEQUATE DISTANCE IN ADVANCE OF THE INTERCHANGE RAMP.

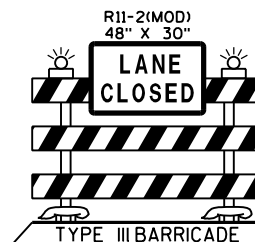
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.



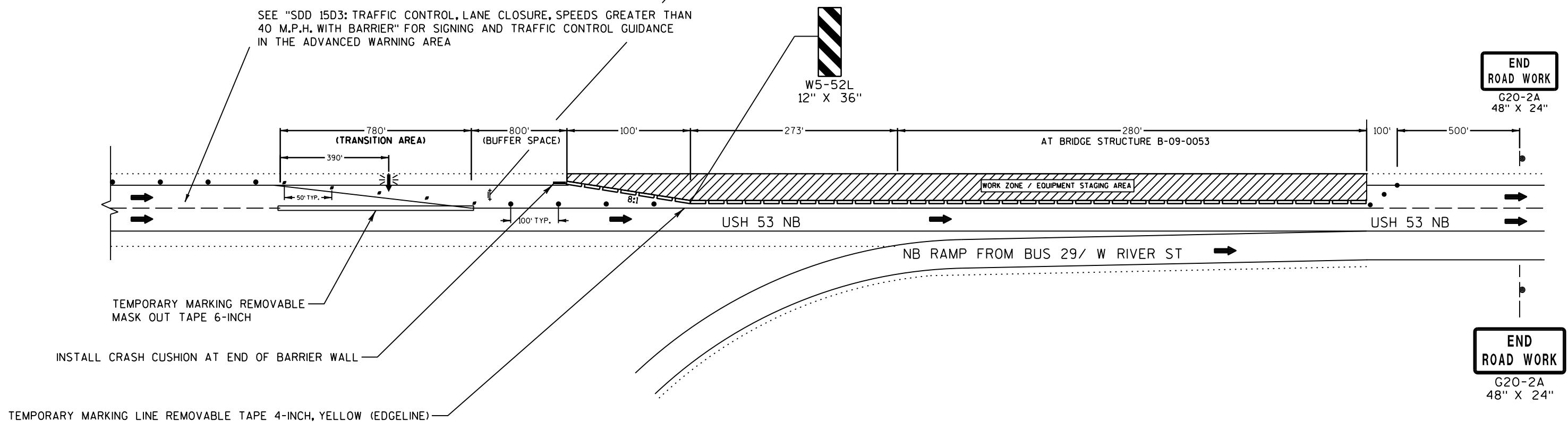
PLACE SIGNS APPROXIMATELY 2 MILES AHEAD OF THE WORK ZONE IN THE NB AND SB DIRECTIONS.

LEGEND

- POST WITH SIGN ATTACHED
- DIRECTION OF TRAVEL
- TYPE III BARRICADE W/ SIGN ATTACHED
- WORK ZONE/EQUIPMENT STAGING AREA
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
- CRASH CUSHION

SINGLE LANE CLOSURE - USH 53 NB

SEE "SDD 15D3: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER" FOR SIGNING AND TRAFFIC CONTROL GUIDANCE IN THE ADVANCED WARNING AREA



## SINGLE LANE CLOSURE - USH 53 SB

TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH, YELLOW (EDGE LINE)



PLACE SIGNS APPROXIMATELY 2 MILES AHEAD OF THE WORK ZONE IN THE NB AND SB DIRECTIONS.

SEE "SDD 15D3: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER" FOR SIGNING AND TRAFFIC CONTROL GUIDANCE IN THE ADVANCED WARNING AREA

END  
ROAD WORK  
G20-2A  
48" X 24"

SB RAMP TO CTH X/BUS 29

278'  
AT BRIDGE STRUCTURE B-09-0052700'  
AT BRIDGE STRUCTURE B-09-0052

100'

800'  
DESIRABLE  
(BUFFER SPACE)780'  
(TRANSITION AREA)

USH 53 SB

WORK ZONE / EQUIPMENT STAGING AREA

USH 53 SB

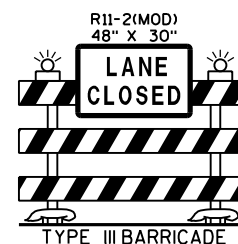
100' TYP.

390'

500'

END  
ROAD WORK  
G20-2A  
48" X 24"W5-52L  
12" X 36"

INSTALL CRASH CUSHION AT END OF BARRIER WALL



TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH



Estimate Of Quantities

| 1190-09-65 |            |  |      |            |            |
|------------|------------|--|------|------------|------------|
| Line       | Item       | Item Description   | Unit | Total      | Qty        |
| 0002       | 213.0100   | Finishing Roadway (project) 01. 1190-09-65   | EACH | 1.000      | 1.000      |
| 0004       | 517.1800.S | Structure Repainting Recycled Abrasive (structure) 01. B-9-52                          | LS   | 1.000      | 1.000      |
| 0006       | 517.1800.S | Structure Repainting Recycled Abrasive (structure) 02. B-9-53                          | LS   | 1.000      | 1.000      |
| 0008       | 517.3000.S | Structure Overcoating Cleaning and Priming (structure) 01. B-9-52                      | LS   | 1.000      | 1.000      |
| 0010       | 517.3000.S | Structure Overcoating Cleaning and Priming (structure) 02. B-9-53                      | LS   | 1.000      | 1.000      |
| 0012       | 517.4000.S | Containment and Collection of Waste Materials (structure) 01. B-9-52                   | LS   | 1.000      | 1.000      |
| 0014       | 517.4000.S | Containment and Collection of Waste Materials (structure) 02. B-9-53                   | LS   | 1.000      | 1.000      |
| 0016       | 517.4500.S | Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-9-52 | LS   | 1.000      | 1.000      |
| 0018       | 517.4500.S | Negative Pressure Containment and Collection of Waste Materials (structure) 02. B-9-53 | LS   | 1.000      | 1.000      |
| 0020       | 517.6001.S | Portable Decontamination Facility  | EACH | 1.000      | 1.000      |
| 0022       | 603.8000   | Concrete Barrier Temporary Precast Delivered   | LF   | 1,733.000  | 1,733.000  |
| 0024       | 603.8125   | Concrete Barrier Temporary Precast Installed   | LF   | 1,733.000  | 1,733.000  |
| 0026       | 614.0905   | Crash Cushions Temporary   | EACH | 2.000      | 2.000      |
| 0028       | 619.1000   | Mobilization   | EACH | 1.000      | 1.000      |
| 0030       | 642.5001   | Field Office Type B  | EACH | 1.000      | 1.000      |
| 0032       | 643.0300   | Traffic Control Drums  | DAY  | 4,300.000  | 4,300.000  |
| 0034       | 643.0420   | Traffic Control Barricades Type III  | DAY  | 100.000    | 100.000    |
| 0036       | 643.0705   | Traffic Control Warning Lights Type A  | DAY  | 200.000    | 200.000    |
| 0038       | 643.0715   | Traffic Control Warning Lights Type C  | DAY  | 1,200.000  | 1,200.000  |
| 0040       | 643.0800   | Traffic Control Arrow Boards   | DAY  | 200.000    | 200.000    |
| 0042       | 643.0900   | Traffic Control Signs  | DAY  | 700.000    | 700.000    |
| 0044       | 643.1051   | Traffic Control Signs PCMS with Cellular Communications                                | DAY  | 100.000    | 100.000    |
| 0046       | 643.5000   | Traffic Control  | EACH | 1.000      | 1.000      |
| 0048       | 649.0150   | Temporary Marking Line Removable Tape 4-Inch   | LF   | 4,291.000  | 4,291.000  |
| 0050       | 649.0960   | Temporary Marking Removable Mask Out Tape 6-Inch                                       | LF   | 1,560.000  | 1,560.000  |
| 0052       | 801.0117   | Railroad Flagging Reimbursement  | DOL  | 65,000.000 | 65,000.000 |

| FINISHING ROADWAY |                       |
|-------------------|-----------------------|
|                   | 213.0100<br>(PROJECT) |
| PROJECT NO.       | EA                    |
| 1190-09-65        | 1                     |

| CONCRETE BARRIER TEMPORARY PRECAST |            |                       |                       |                       |                                    |
|------------------------------------|------------|-----------------------|-----------------------|-----------------------|------------------------------------|
| PROJECT ID                         | BRIDGE NO. | LOCATION              | 603.8000<br>DELIVERED | 603.8125<br>INSTALLED | COMMENT                            |
|                                    |            |                       | LF                    | LF                    |                                    |
| 1190-09-65                         | B-9-52     | INSIDE SB LANE CLOSED | 1080                  | 1080                  | ANCHOR CONCRETE BARRIER PER DETAIL |
|                                    | B-9-53     | INSIDE NB LANE CLOSED | 653                   | 653                   | ANCHOR CONCRETE BARRIER PER DETAIL |
| TOTAL                              |            |                       | 1733                  | 1733                  |                                    |

| MOBILIZATION |                       |
|--------------|-----------------------|
|              | 619.1000<br>(PROJECT) |
| PROJECT NO.  | EA                    |
| 1190-09-65   | 1                     |

| FIELD OFFICE |                                      |
|--------------|--------------------------------------|
|              | 642.5001<br>FIELD OFFICE<br>(TYPE B) |
| PROJECT NO.  | EA                                   |
| 1190-09-65   | 1                                    |

| TRAFFIC CONTROL |                       |
|-----------------|-----------------------|
|                 | 643.5000<br>(PROJECT) |
| PROJECT NO.     | EA                    |
| 1190-09-65      | 1                     |

| TRAFFIC CONTROL ITEMS |            |                 |                   |      |                                    |      |                                      |      |                                      |      |                             |      |  |      |
|-----------------------|------------|-----------------|-------------------|------|------------------------------------|------|--------------------------------------|------|--------------------------------------|------|-----------------------------|------|--|------|
| PROJECT ID            | BRIDGE NO. | DURATION (DAYS) | 643.0300<br>DRUMS |      | 643.0420<br>BARRICADES<br>TYPE III |      | 643.0705<br>WARNING LIGHTS<br>TYPE A |      | 643.0715<br>WARNING LIGHTS<br>TYPE C |      | 643.0800<br>ARROW<br>BOARDS |      | 643.1051<br>PCMS WITH CELLULAR<br>COMMUNICATIONS |      |
|                       |            |                 | NO.               | DAYS | NO.                                | DAYS | NO.                                  | DAYS | NO.                                  | DAYS | NO.                         | DAYS | NO.  | DAYS |
| 1190-09-65            | B-9-52     | 50              | 43                | 2150 | 1                                  | 50   | 2                                    | 100  | 9                                    | 450  | 2                           | 100  | 1  | 50   |
| 1190-09-65            | B-9-53     | 50              | 43                | 2150 | 1                                  | 50   | 2                                    | 100  | 15                                   | 750  | 2                           | 100  | 1  | 50   |
| TOTAL                 |            |                 | 4300              |      | 100                                |      | 200                                  |      | 1200                                 |      | 200                         |      | 100  |      |

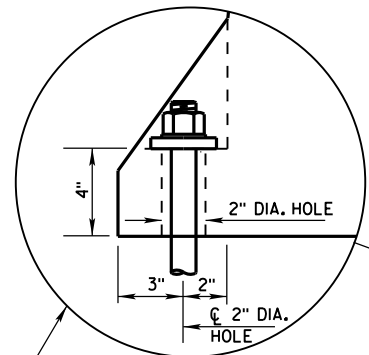
| TRAFFIC CONTROL SIGNS |            |                 |     |      |
|-----------------------|------------|-----------------|-----|------|
| PROJECT ID            | BRIDGE NO. | DURATION (DAYS) | NO. | DAYS |
| 1190-09-65            | B-9-52     | 25              | 14  | 350  |
|                       | B-9-53     | 25              | 14  | 350  |
| TOTAL                 |            |                 |     | 700  |

| TEMPORARY MARKING |            |                                   |                                      |
|-------------------|------------|-----------------------------------|--------------------------------------|
| PROJECT ID        | BRIDGE NO. | 649.0960                          | 649.0150                             |
|                   |            | REMOVABLE MASK OUT TAPE 6-INCH LF | LINE REMOVABLE TAPE 4-INCH YELLOW LF |
| 1190-09-65        | B-9-52     | 780                               | 2058                                 |
|                   | B-9-53     | 780                               | 2233                                 |
| TOTAL             |            | 1560                              | 4291                                 |

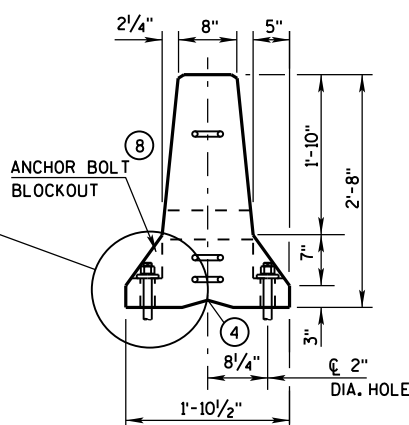
Standard Detail Drawing List

|           |  |
|-----------|--|
| 14B07-15A | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15B | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15C | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15D | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15E | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15F | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15G | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15H | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B07-15I | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"                                |
| 14B08-02A | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02B | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02C | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02D | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02E | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 15D03-04  | TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER  |

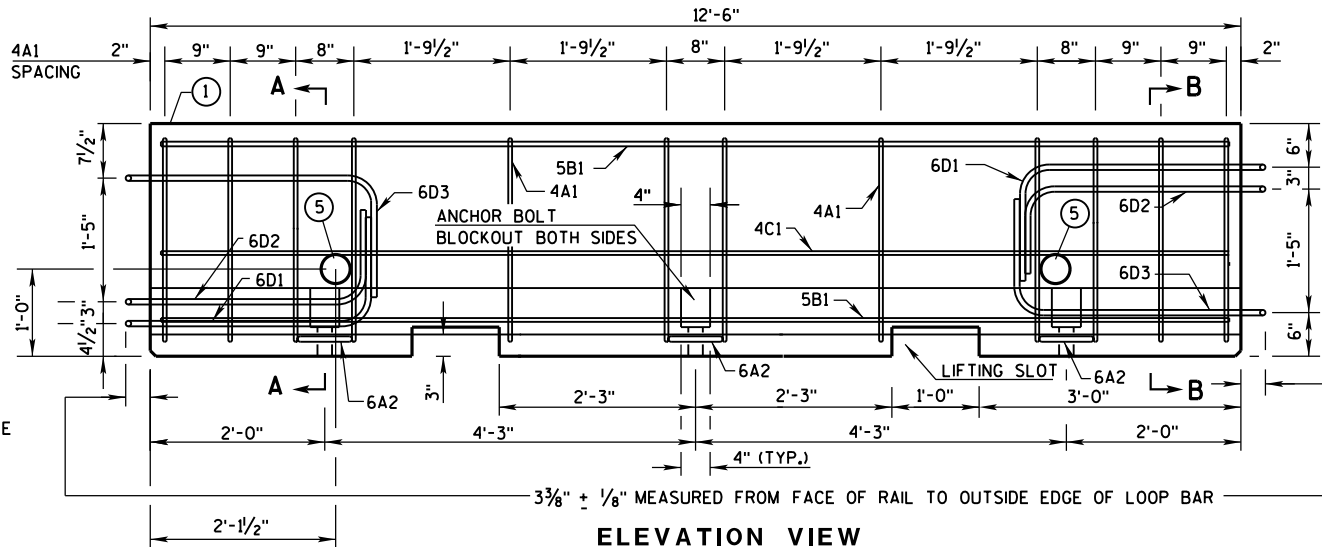




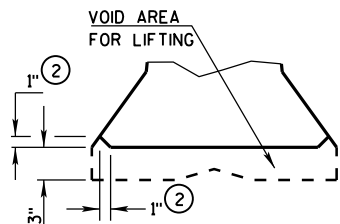
ANCHOR ON TRAFFIC SIDE  
ONLY WHEN REQUIRED  
(SEE SHEET D FOR ADDITIONAL  
ANCHOR DETAIL)



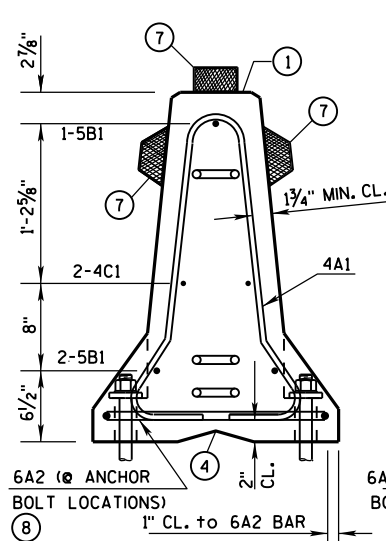
END VIEW



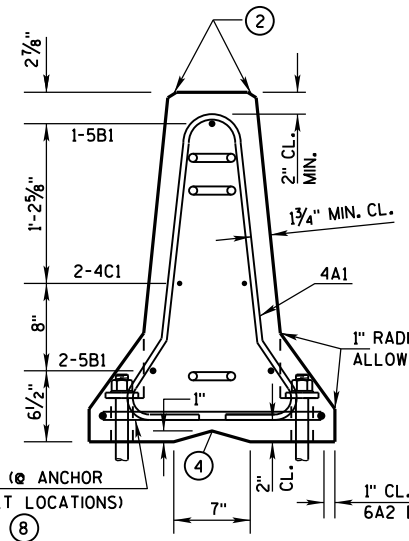
ELEVATION VIEW



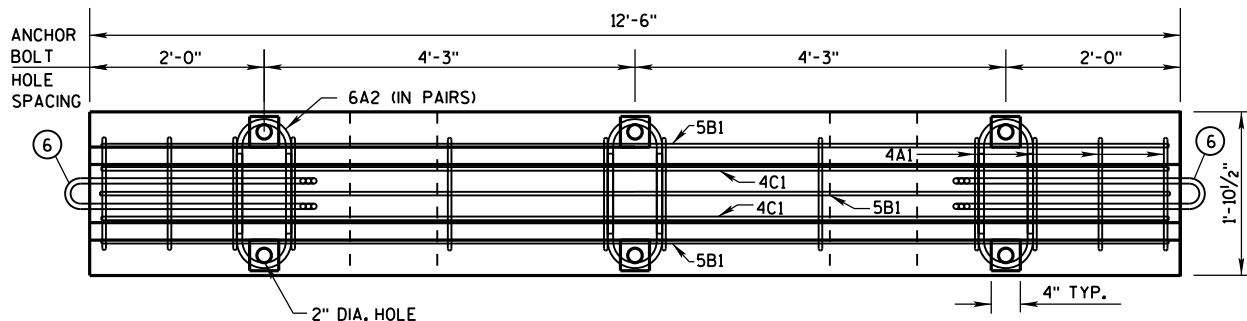
DETAIL "B"  
LIFTING SLOT DETAIL



SECTION A-A  
(STIRRUP PLACEMENT)

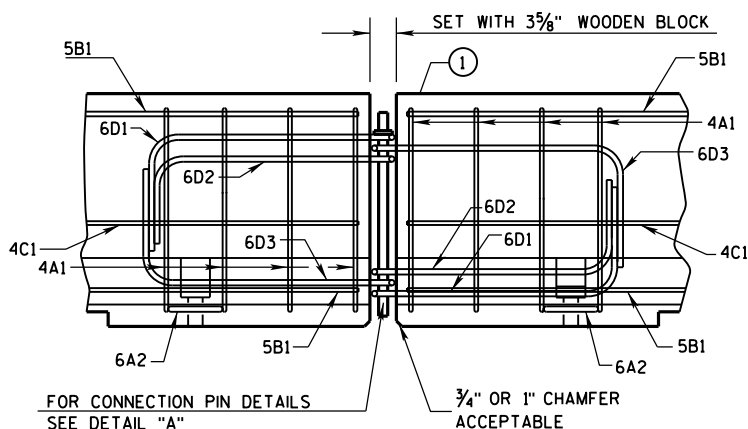


SECTION B-B  
(STIRRUP PLACEMENT)

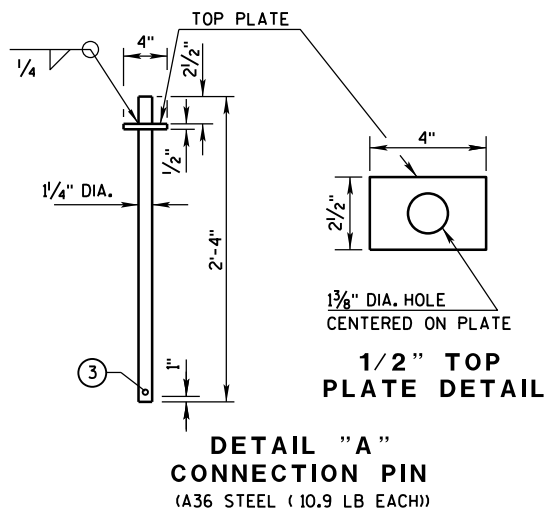


PLAN VIEW

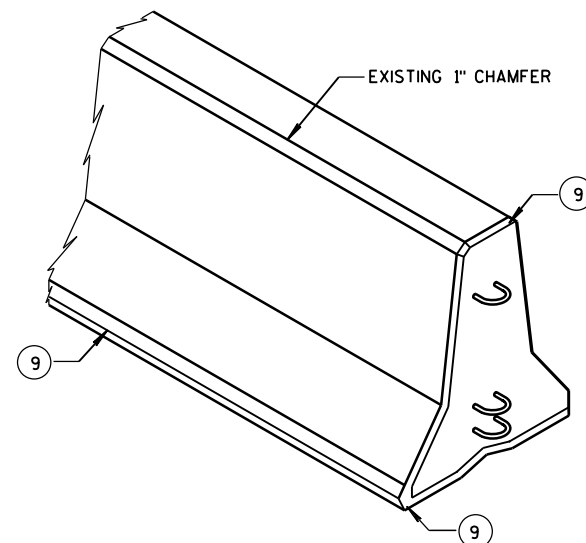
## DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"  
CONNECTION PIN  
(A36 STEEL (10.9 LB EACH))



f'c = 4,000 psi

## GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
  - TYPE: WICBTP
  - MANUFACTURER
  - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" NOTCH IS OPTIONAL.
- THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.
- 1" CHAMFER OPTIONAL.

CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

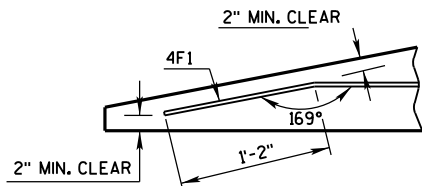
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



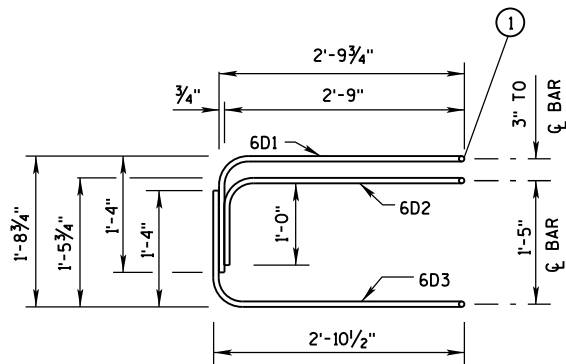
BARRIER TAPER SECTION  
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

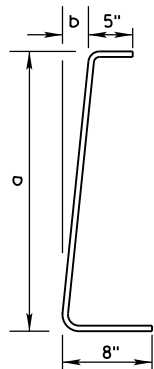
| BAR           | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---------------|----------|-------------|------------|
| 4V1           | 4        | 2           | 1'-11"     |
| 4V2           | 4        | 2           | 2'-2"      |
| 4V3           | 4        | 2           | 2'-6"      |
| 4V4           | 4        | 2           | 2'-9"      |
| 4V5           | 4        | 2           | 3'-2"      |
| 4V6           | 4        | 2           | 3'-4"      |
| 4F1           | 4        | 2           | 12'-0"     |
| 4F2           | 4        | 2           | 7'-6"      |
| 5F3           | 5        | 1           | 11'-9"     |
| LOOP ASSEMBLY |          |             |            |
| 6D1           | 6        | 1           | 8'-5"      |
| 6D2           | 6        | 1           | 7'-7"      |
| 6D3           | 6        | 1           | 8'-6"      |



DETAIL "C"  
BENT BAR DETAIL



ELEVATION  
LOOP BAR ASSEMBLY



4V BARS  
2 AT EACH SIZE REQUIRED  
FOR STIRRUP ASSEMBLY

| BAR | a         | b      |
|-----|-----------|--------|
| V1  | 10"       | 1"     |
| V2  | 1'-1"     | 1 1/4" |
| V3  | 1'-5"     | 1 5/8" |
| V4  | 1'-8"     | 1 7/8" |
| V5  | 2'-0 1/2" | 2 3/8" |
| V6  | 2'-3"     | 2 3/4" |

TAPER BARRIER SECTION

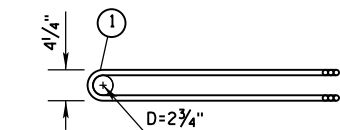
GENERAL NOTES

- ① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION  
BILL OF MATERIALS

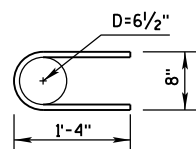
(PER 12'-6" BARRIER SECTION)

| BAR           | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---------------|----------|-------------|------------|
| 4A1           | 4        | 12          | 6'-0"      |
| 6A2           | 6        | 6           | 2'-11"     |
| 5B1           | 5        | 3           | 12'-2"     |
| 4C1           | 4        | 2           | 12'-2"     |
| LOOP ASSEMBLY |          |             |            |
| 6D1           | 6        | 2           | 8'-5"      |
| 6D2           | 6        | 2           | 7'-7"      |
| 6D3           | 6        | 2           | 8'-6"      |

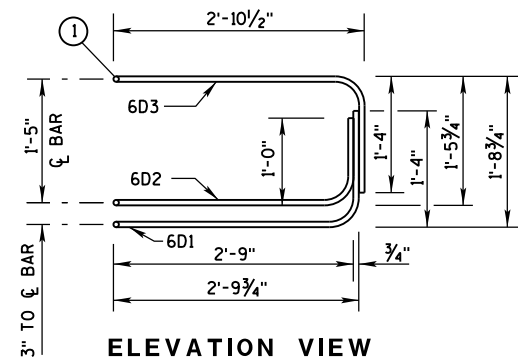


PLAN VIEW  
LOOP BAR ASSEMBLY

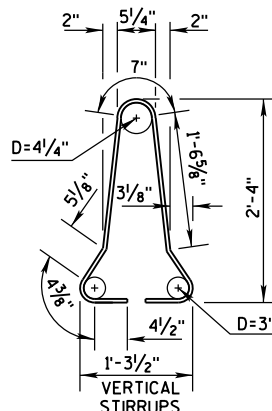
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW

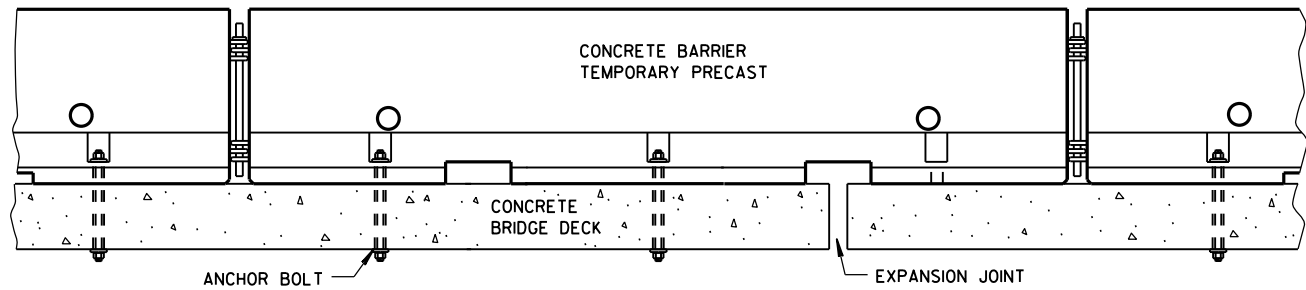
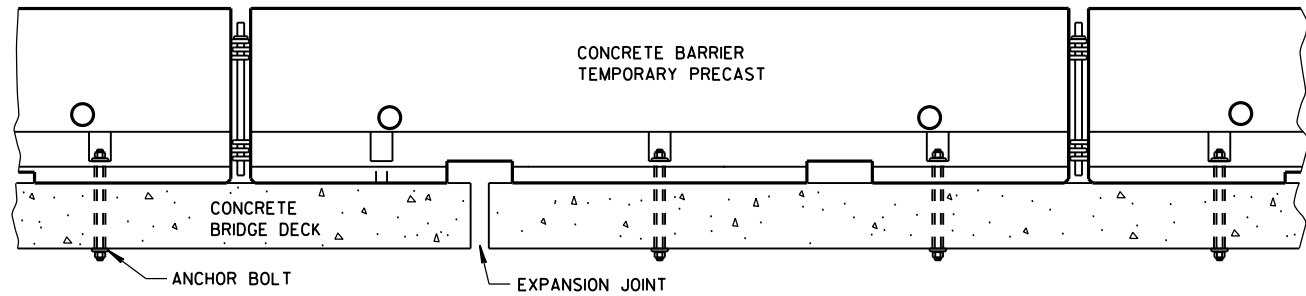


4A1

BARRIER SECTION

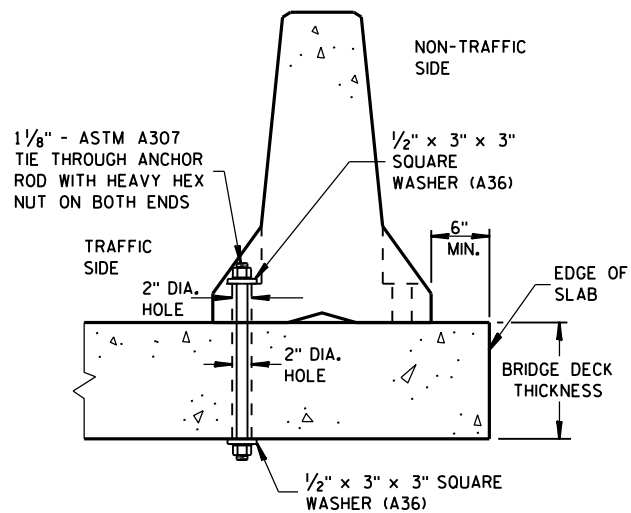
CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



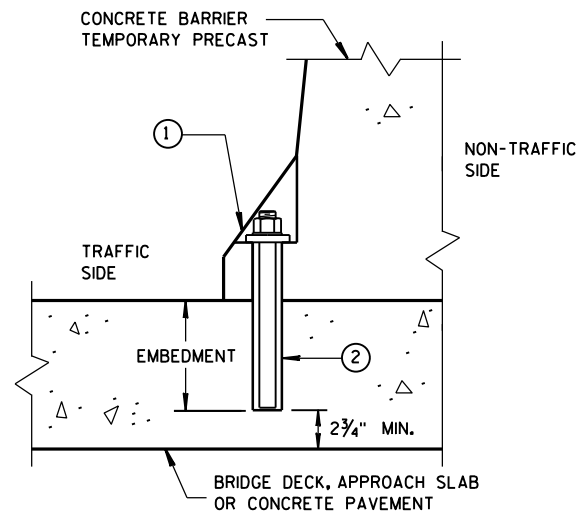
### TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



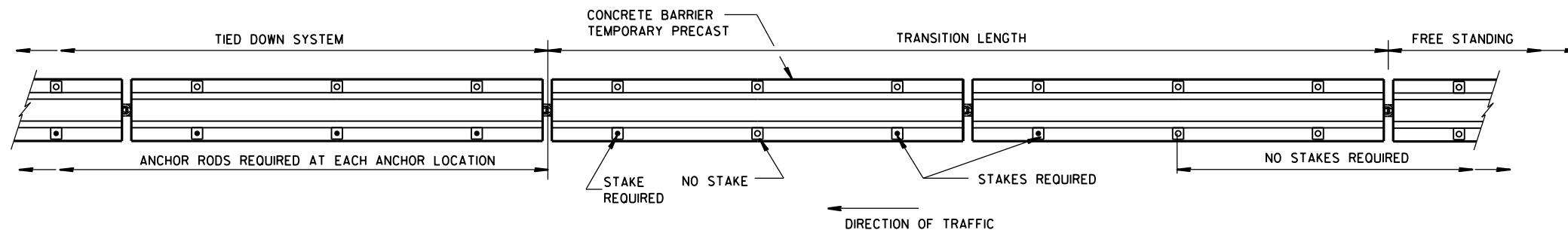
### THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



### REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



### PLAN VIEW

### FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

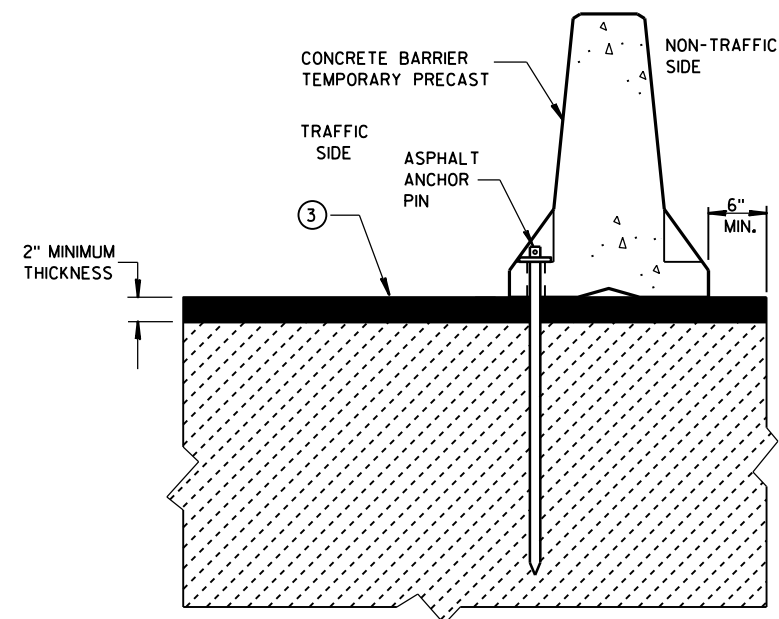
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

### GENERAL NOTES

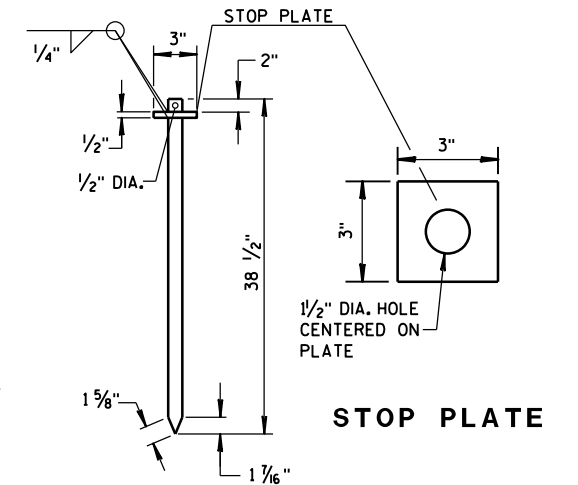
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

- ① 1/8" DIAMETER A307 THREADED ROD, 1/2" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ② ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.12 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.
- ③ ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THEN DRIVE ASPHALT ANCHOR PIN.



### STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE

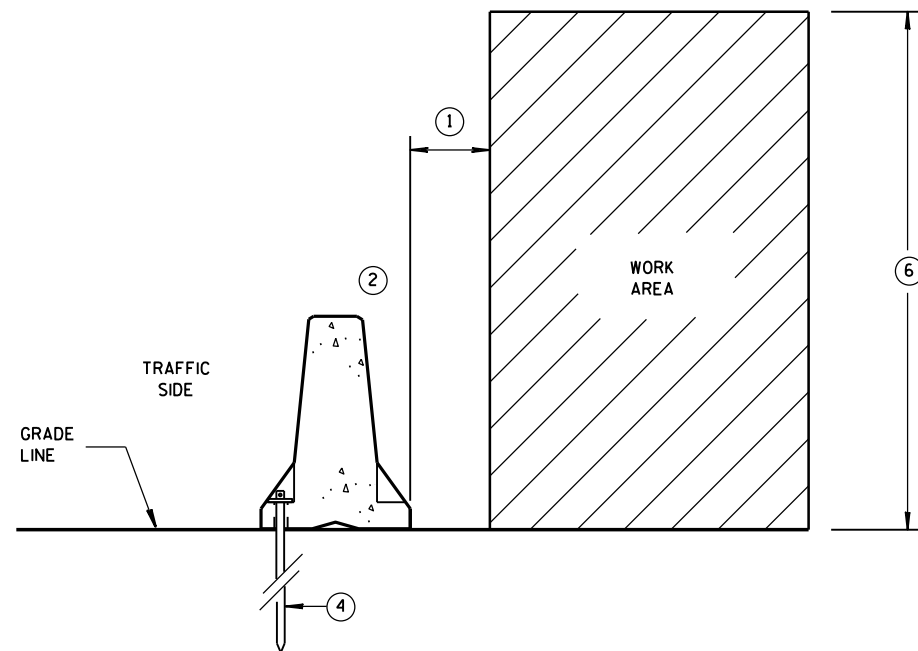


### ASPHALT ANCHOR PIN

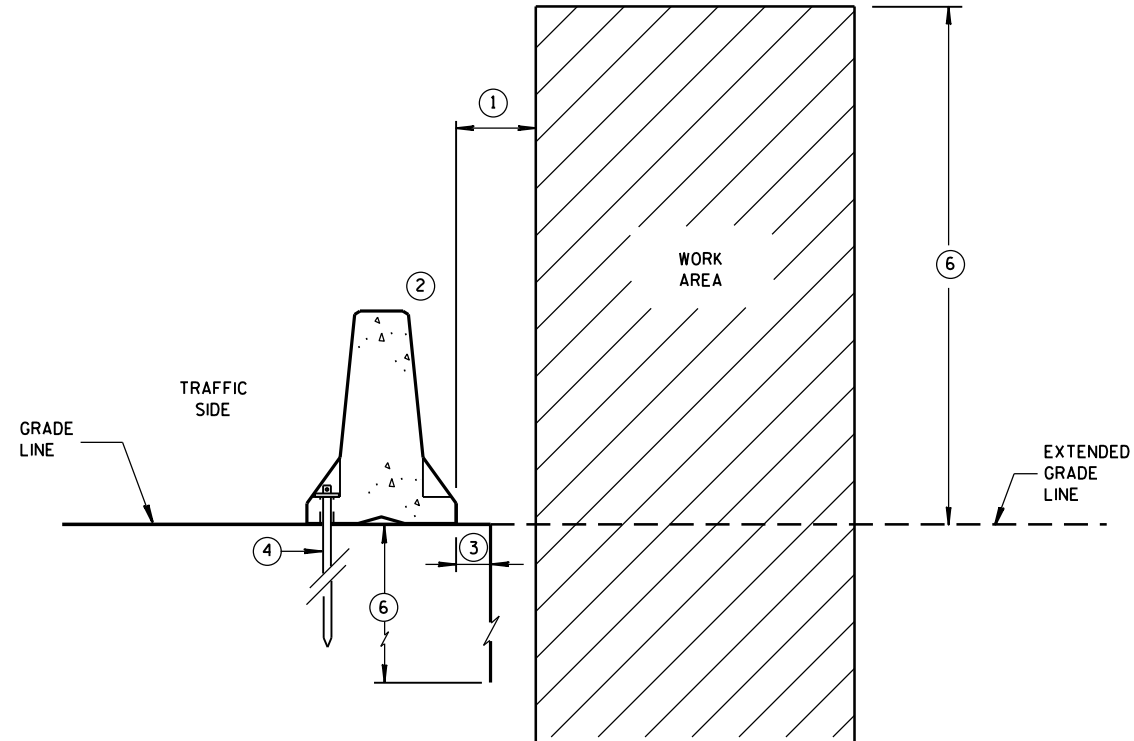
(ASTM A36 STEEL)

CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**ANCHORED BARRIER SPACE REQUIREMENTS  
FOR HAZARDS EXTENDED  
ABOVE THE GRADE LINE**

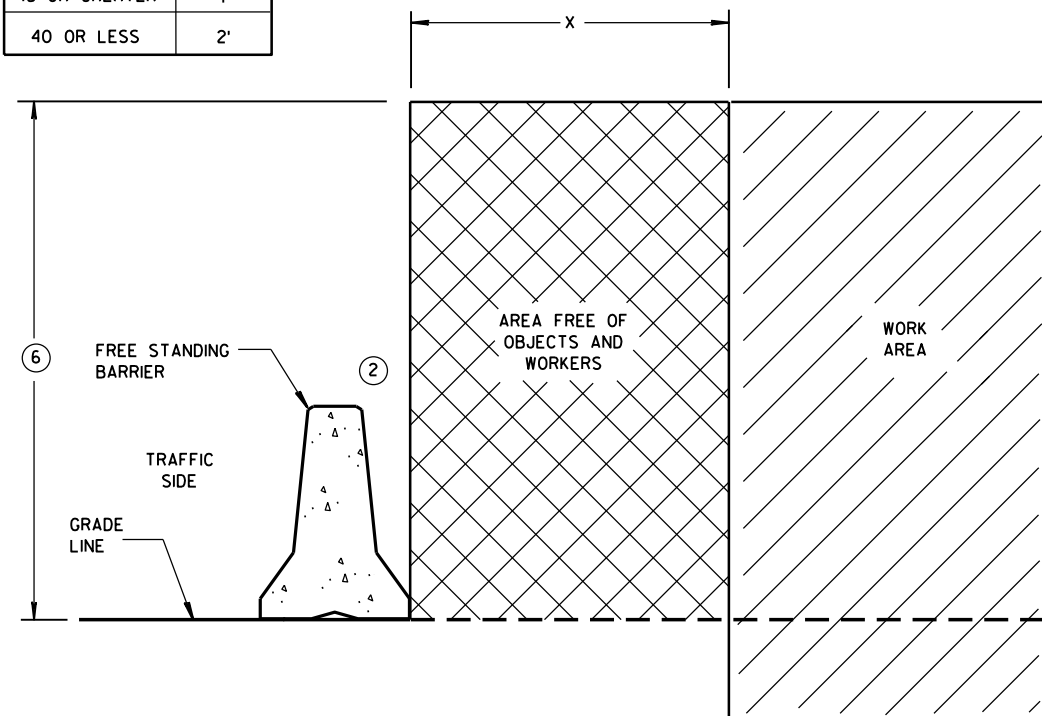


**ANCHORED BARRIER SPACE REQUIREMENTS  
ON VERTICAL DROP OFFS**

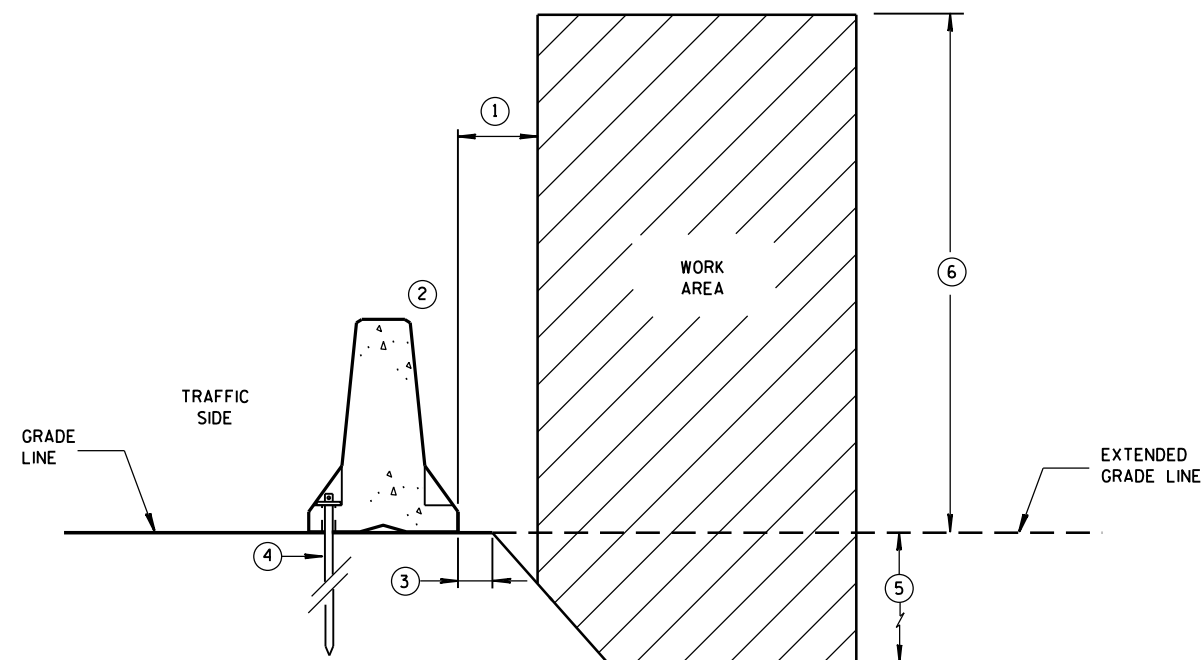
### GENERAL NOTES

- ① WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
- ② OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
- ③ SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
- ④ SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
- ⑤ DEPTH OF 3 FEET OR MORE.
- ⑥ Y = 6'-6".

| POSTED SPEED<br>MPH | X  |
|---------------------|----|
| 45 OR GREATER       | 4' |
| 40 OR LESS          | 2' |



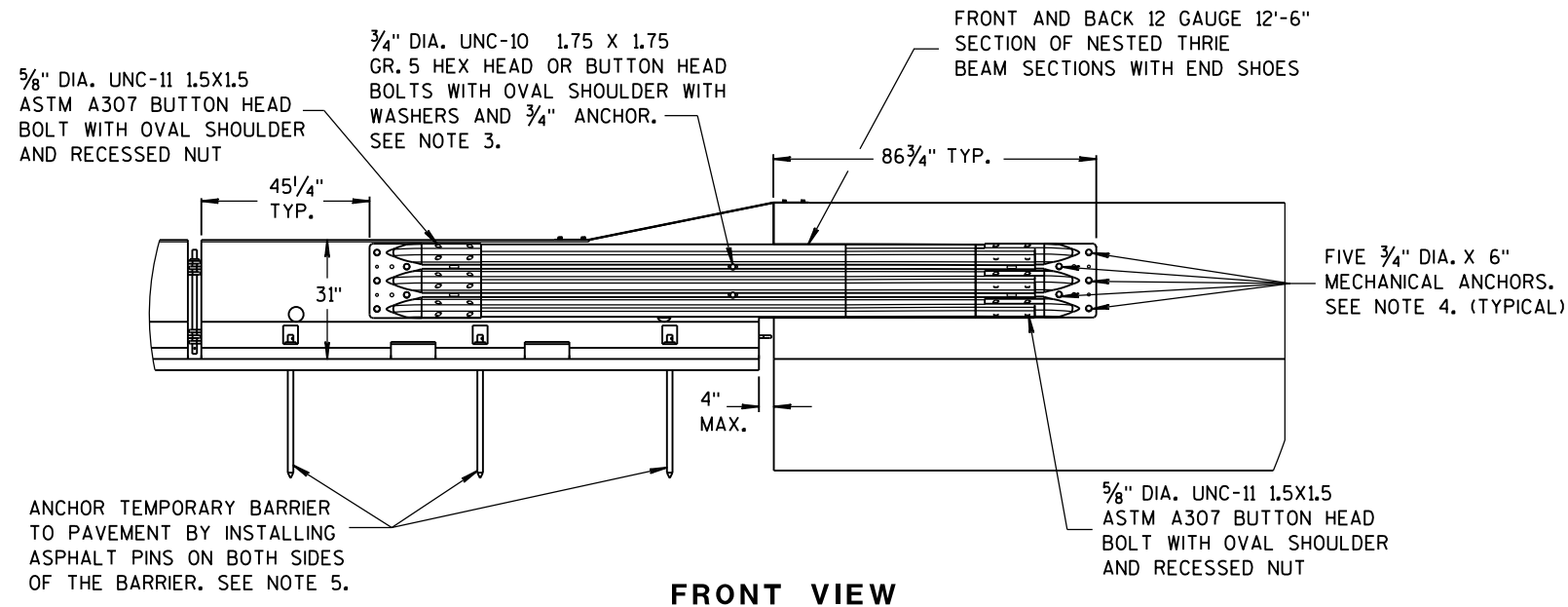
**FREE STANDING BARRIER SPACE REQUIREMENTS**



**ANCHORED BARRIER SPACE REQUIREMENTS  
ON SLOPES**

**CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

# NOTES

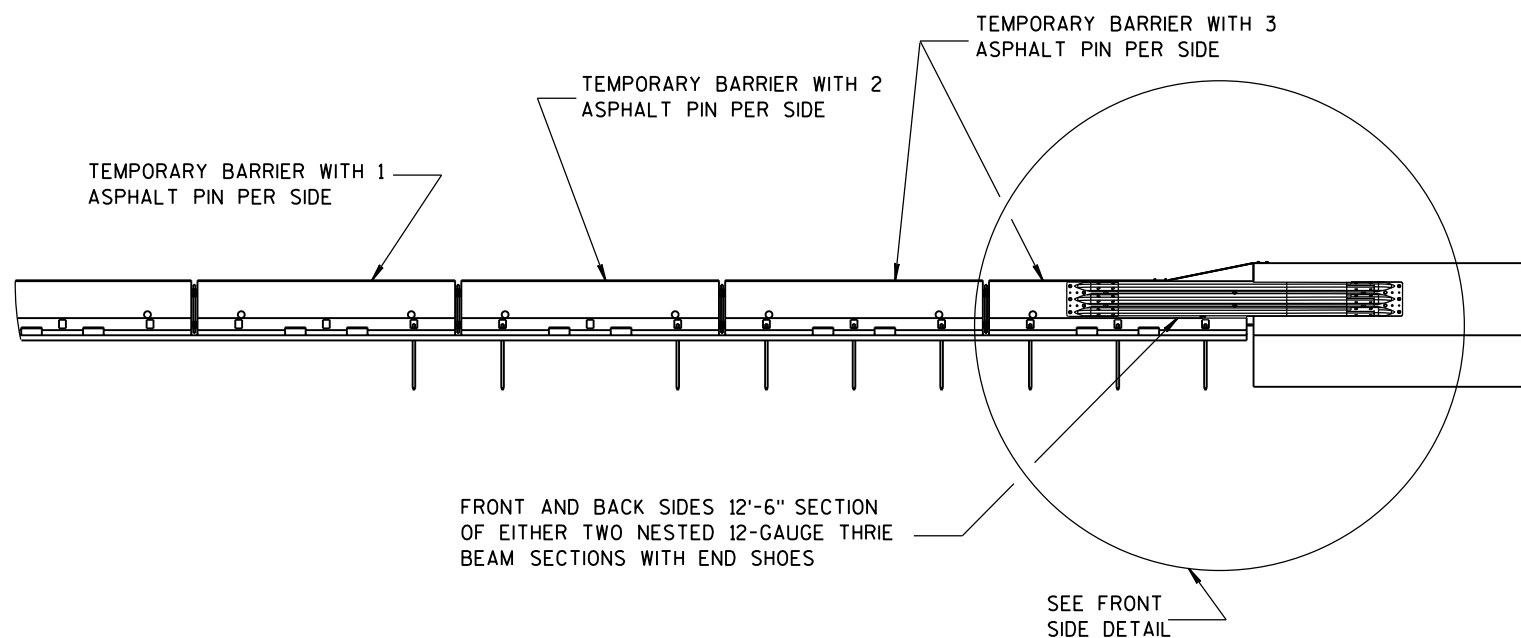
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.

4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.

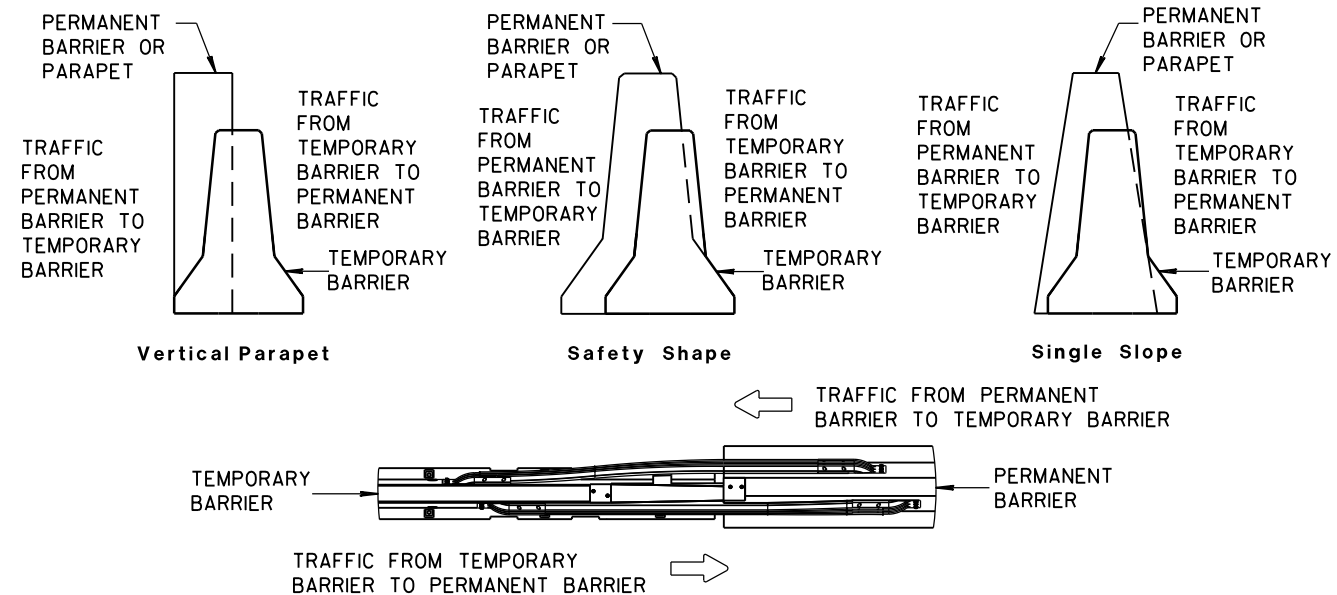
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.

6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

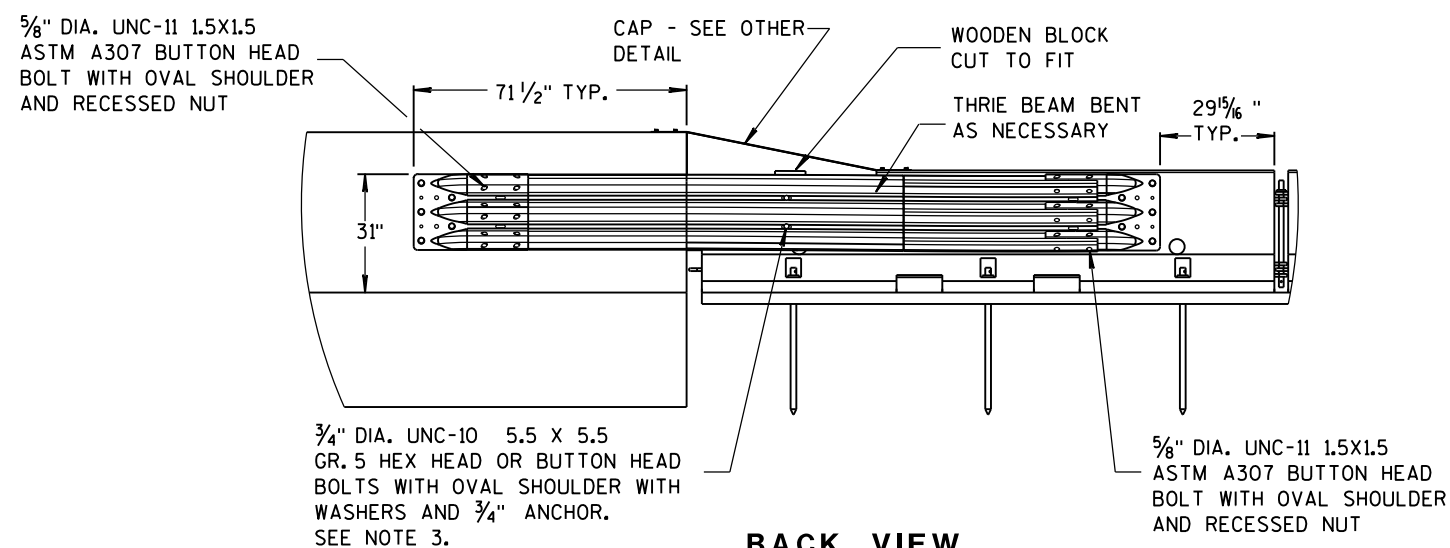


FRONT VIEW

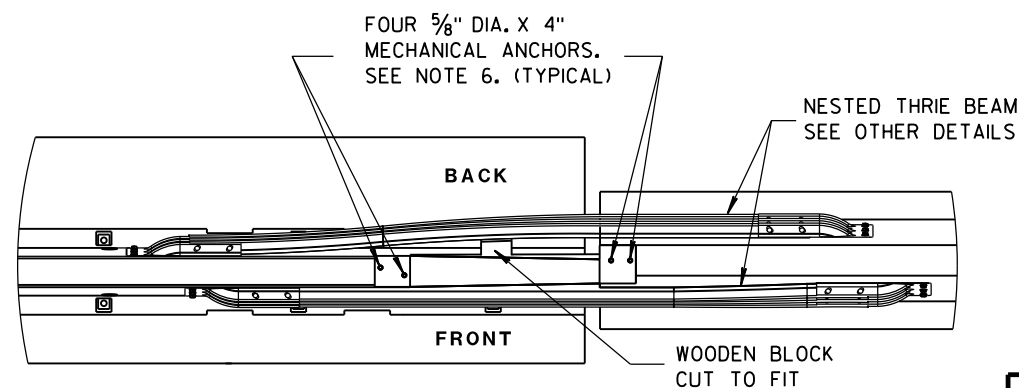
## BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



## TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW

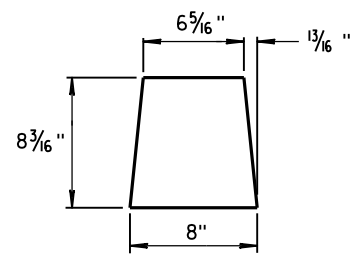


PLAN VIEW

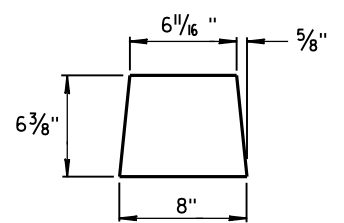
CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

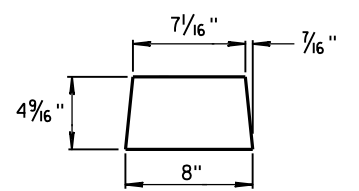




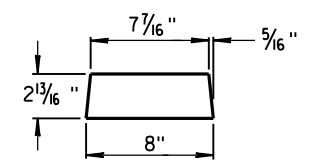
GUSSET 1



GUSSET 2

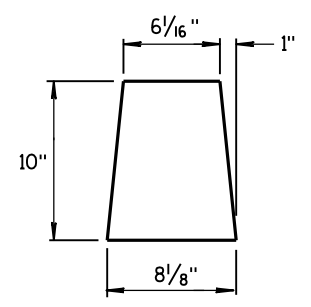


GUSSET 3

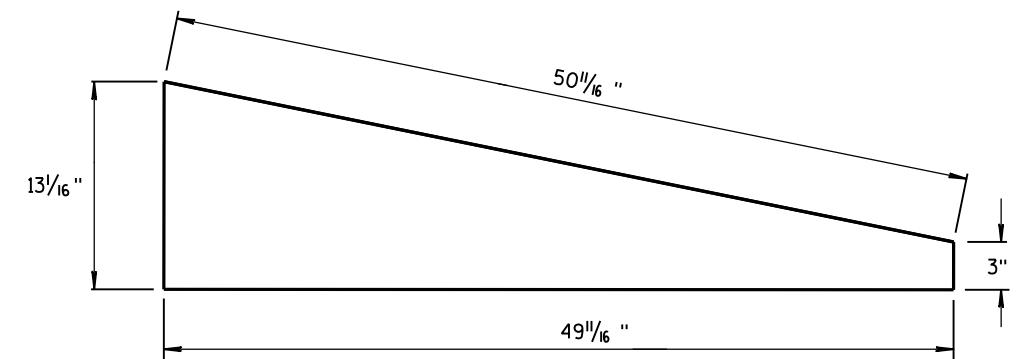


GUSSET 4

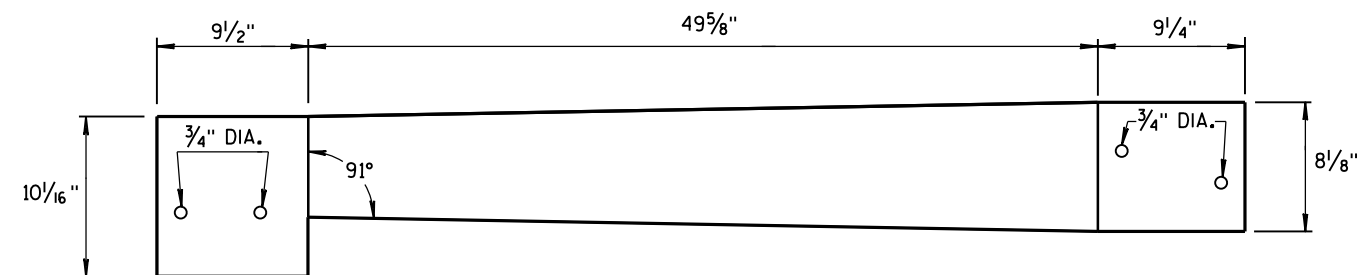
GUSSETS



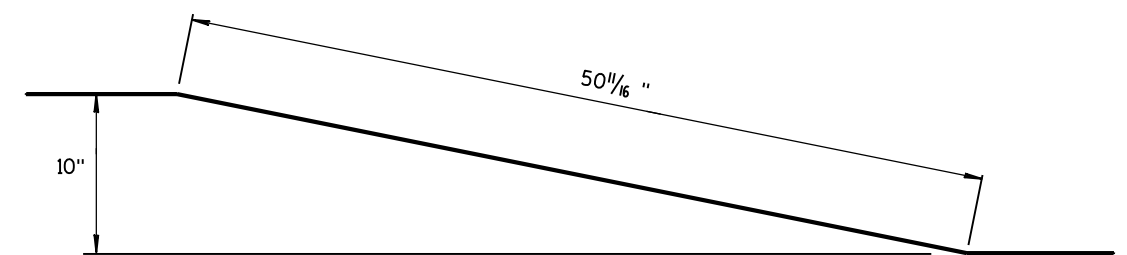
END PLATE



SIDE PLATE

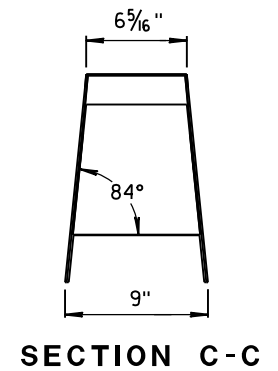


TOP PLATE

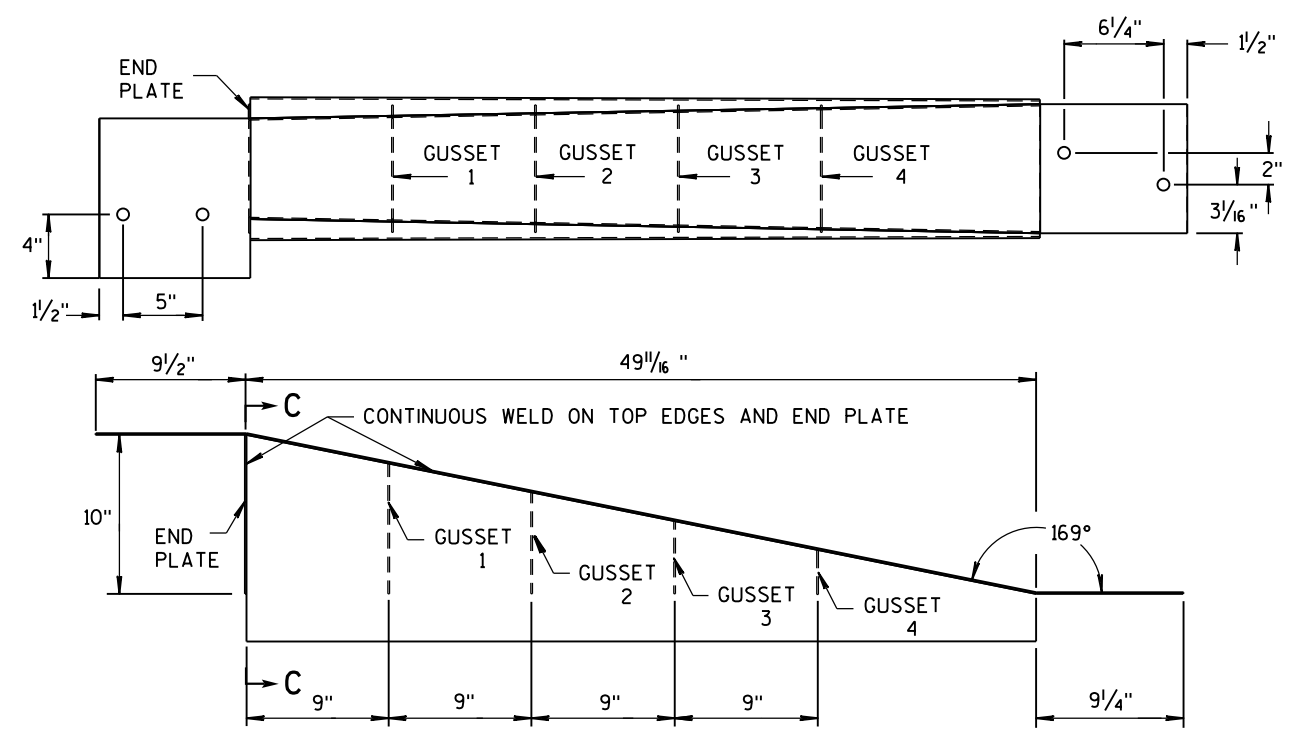


SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C



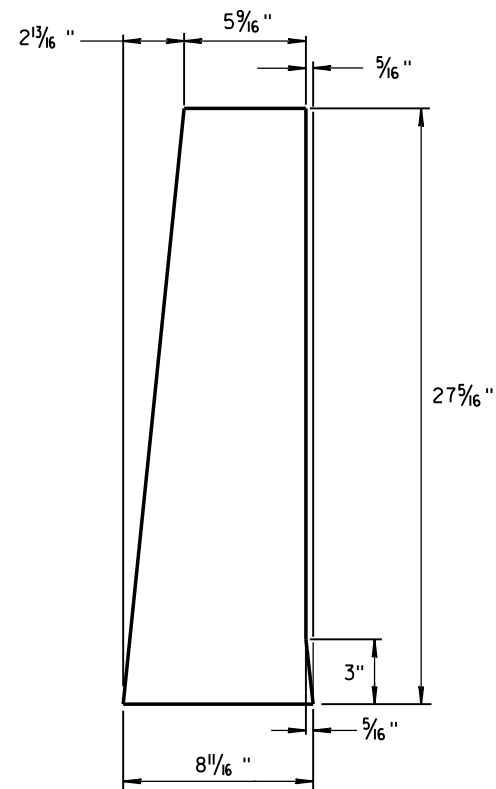
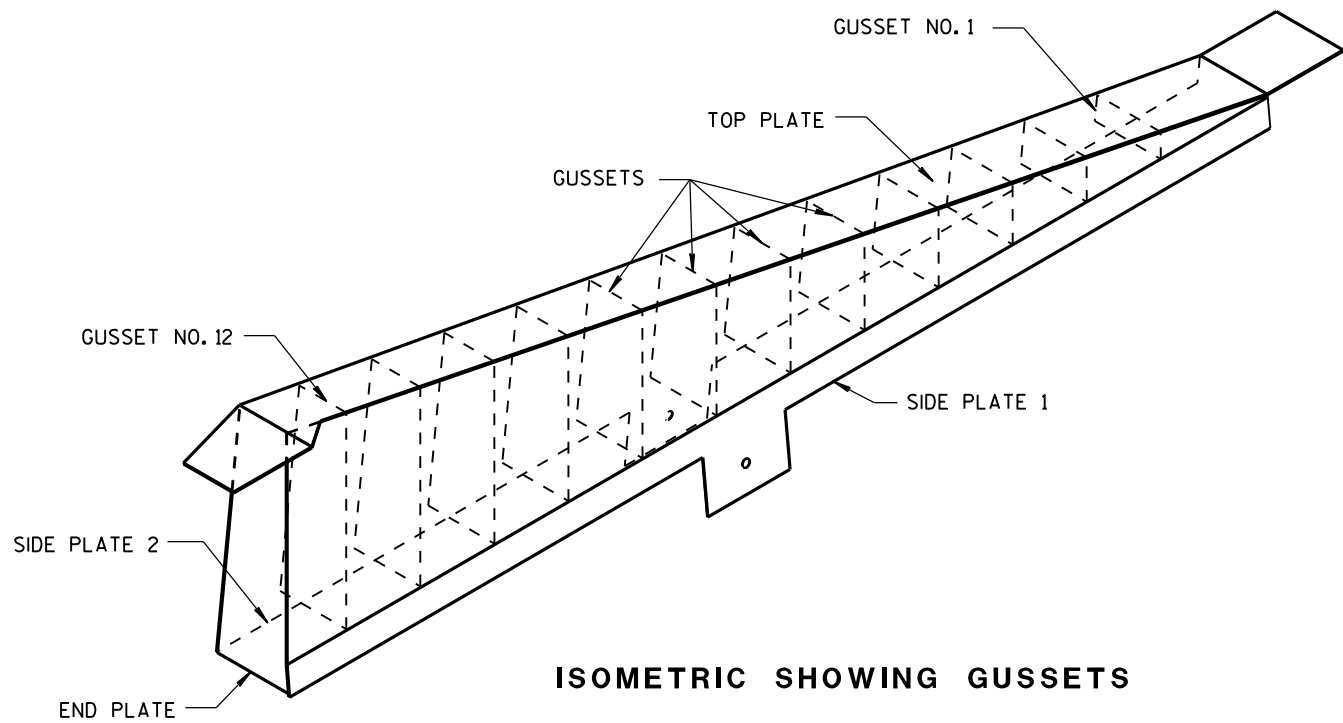
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

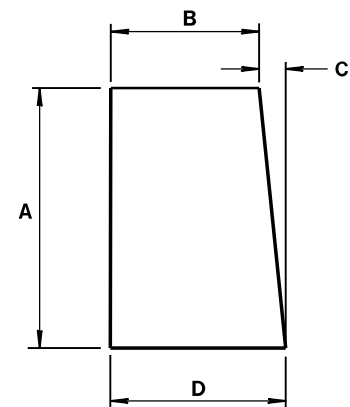
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

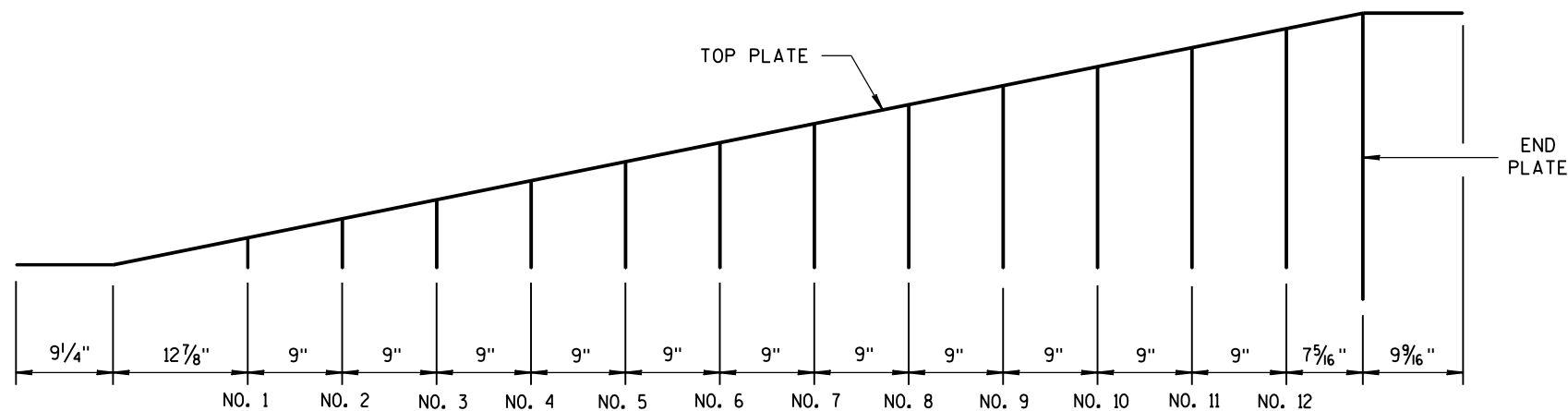


ALL GUSSETS 1/8" STEEL PLATE

| GUSSET DIMENSIONS |            |           |           |          |
|-------------------|------------|-----------|-----------|----------|
| GUSSET NO.        | A          | B         | C         | D        |
| 1                 | 2 7/8"     | 7 3/4"    | 1/4"      | 8        |
| 2                 | 4 1/16 "   | 7 9/16 "  | 1/2"      | 8        |
| 3                 | 6 1/2"     | 7 3/8 "   | 11/16 "   | 8 1/16 " |
| 4                 | 8 5/16 "   | 7 3/16 "  | 7/8"      | 8 1/16 " |
| 5                 | 10 1/8 "   | 7"        | 1 1/16 "  | 8 1/16 " |
| 6                 | 11 5/16 "  | 6 13/16 " | 1 1/4"    | 8 1/16 " |
| 7                 | 13 3/4"    | 6 5/8 "   | 1 7/16 "  | 8 1/16 " |
| 8                 | 15 9/16 "  | 6 7/16 "  | 1 9/16 "  | 8 1/16 " |
| 9                 | 17 3/8"    | 6 1/4"    | 1 13/16 " | 8 1/16 " |
| 10                | 19 3/16 "  | 6 1/16 "  | 1 15/16 " | 8 1/16 " |
| 11                | 21"        | 5 7/8 "   | 2 3/16 "  | 8 1/16 " |
| 12                | 22 13/16 " | 5 11/16 " | 2 5/16 "  | 8 1/16 " |

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

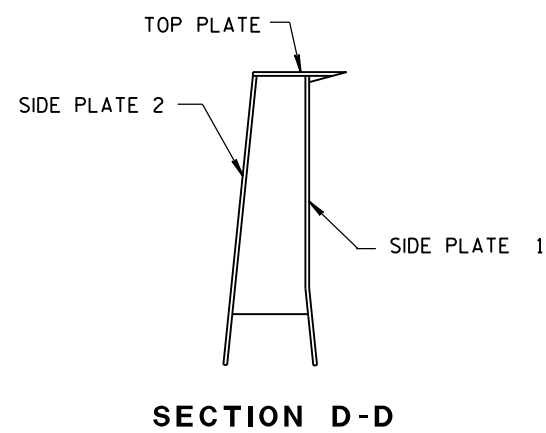
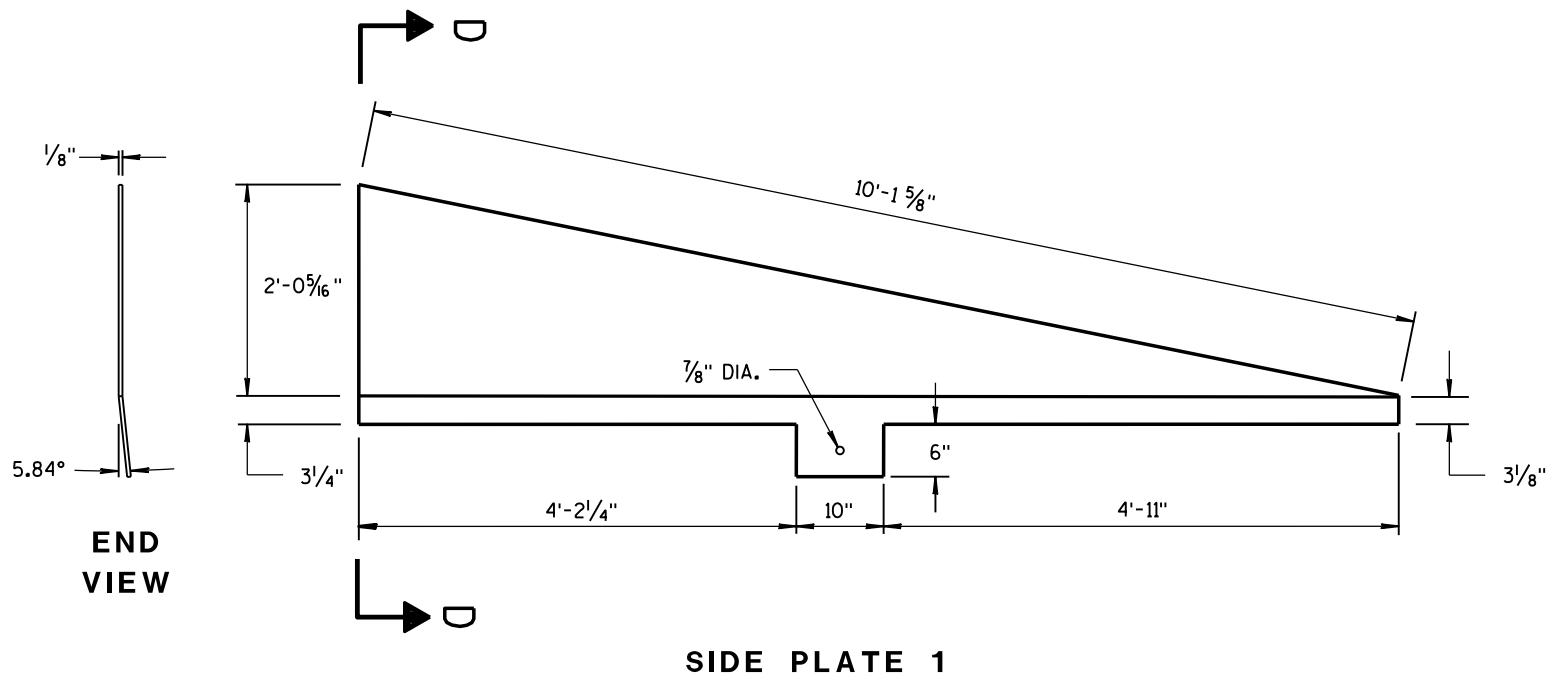
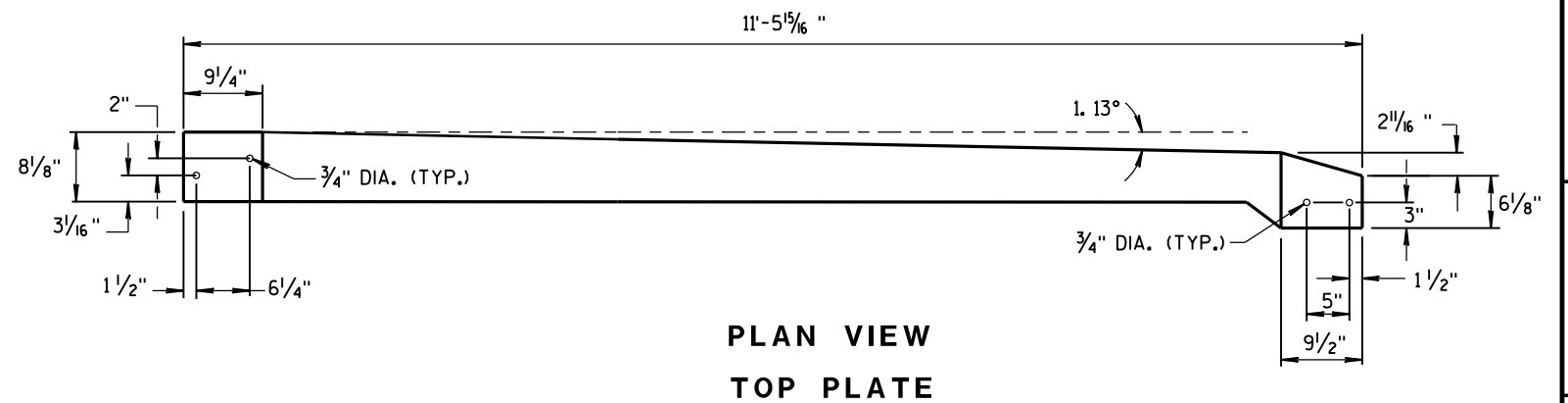
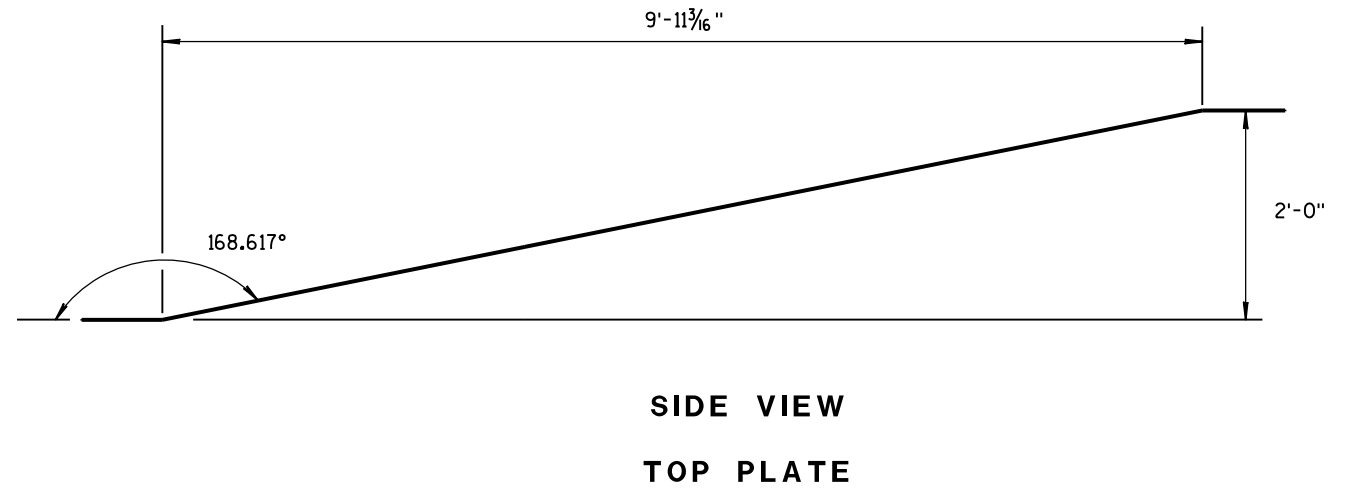
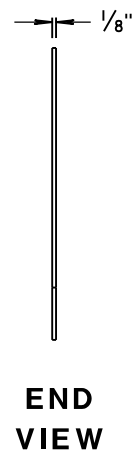
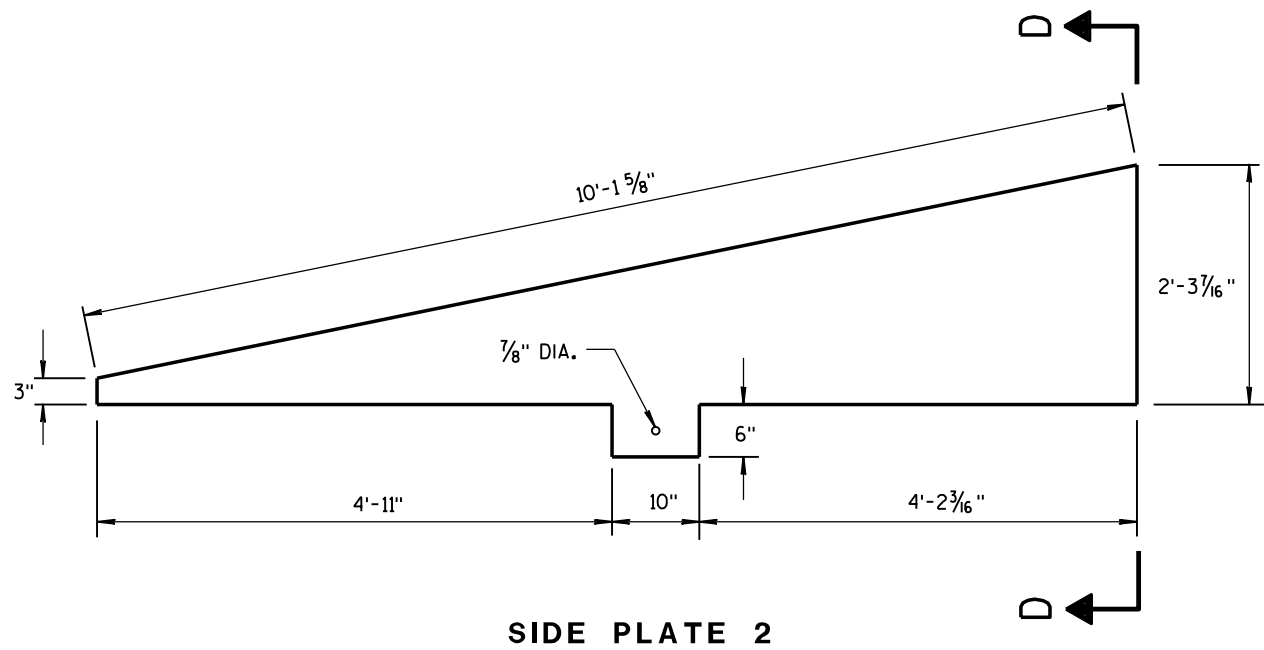
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

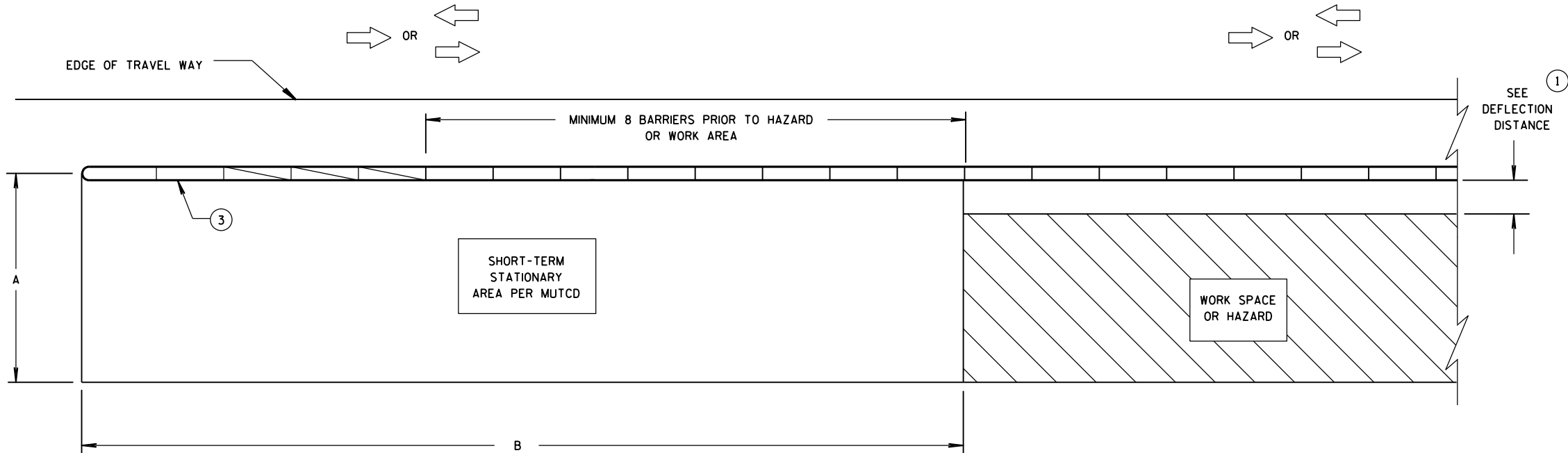
CONCRETE BARRIER  
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

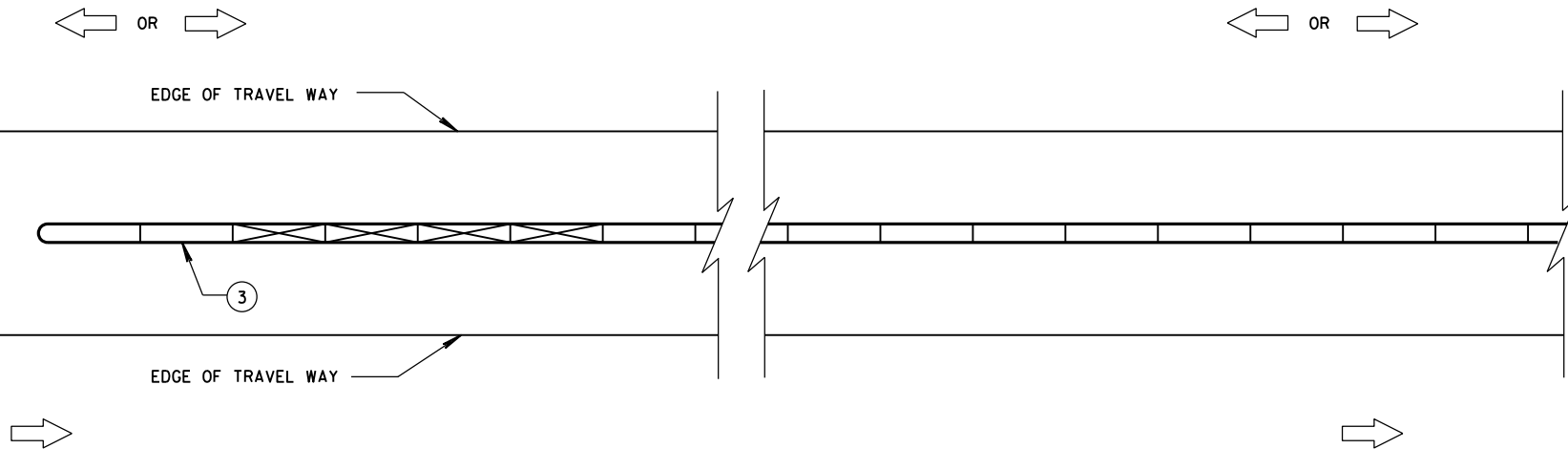


**CAP DETAILS FOR TEMPORARY CONCRETE  
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

|  |  |
|--|--|
| CONCRETE BARRIER<br>TEMPORARY PRECAST, 12'-6"      |  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |  |
| APPROVED<br>June 2017<br>DATE                      | /S/ Rodney Taylor<br>ROADWAY STANDARD DEVELOPMENT<br>UNIT SUPERVISOR |
| FHWA   |  |



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER  
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER  
INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

DIMENSION A TABLE ②

| FACILITY               | POSTED SPEED<br>MPH            | DIMENSION A |            |
|------------------------|--------------------------------|-------------|------------|
|                        |                                | MIN.<br>FT  | MAX.<br>FT |
| FREEWAY/EXPRESSWAY     | ALL                            | 15          | 20         |
| NON-FREEWAY/EXPRESSWAY | GREATER THAN<br>OR EQUAL TO 45 | 10          | 15         |
| NON-FREEWAY/EXPRESSWAY | LESS THAN 45                   | 8           | 10         |
| AADT LESS THAN 1,500   | ALL                            | 8           | 10         |

DIMENSION B TABLE ②

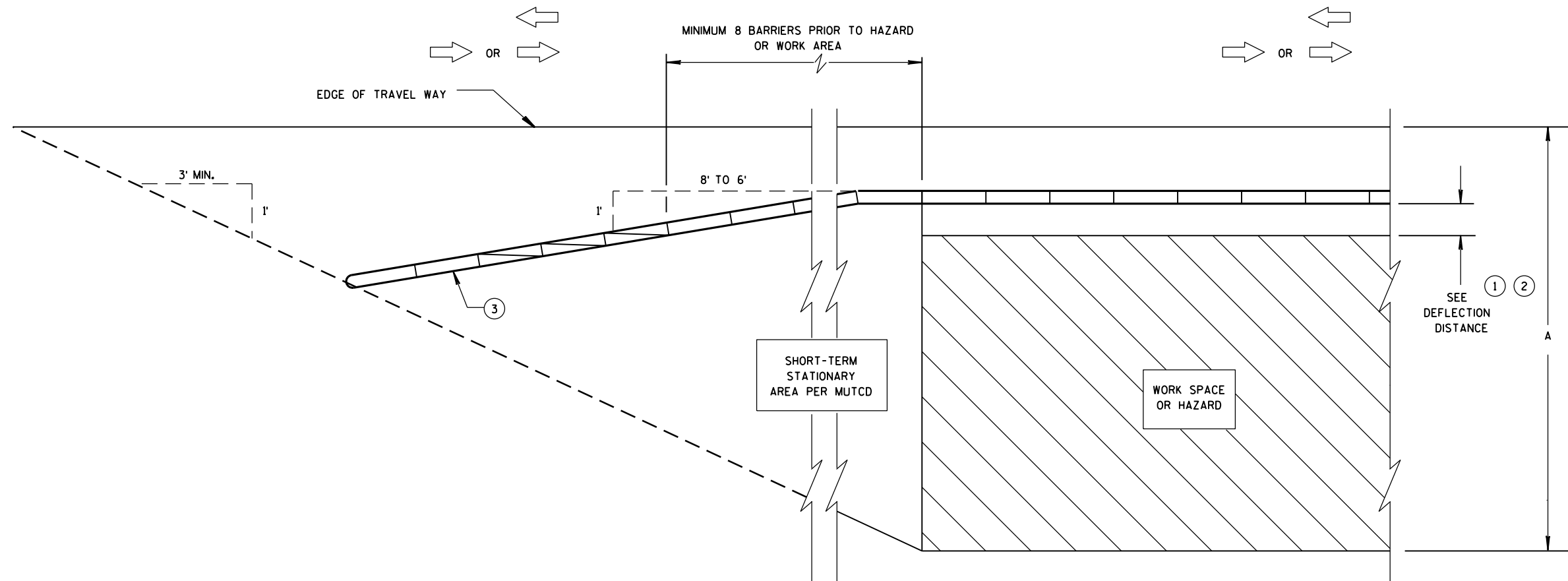
| POSTED SPEEDS<br>MPH | DIMENSION B<br>FT |
|----------------------|-------------------|
| 20                   | 115               |
| 25                   | 155               |
| 30                   | 200               |
| 35                   | 250               |
| 40                   | 305               |
| 45                   | 360               |
| 50                   | 425               |
| 55                   | 495               |
| 60                   | 570               |
| 65                   | 645               |

LEGEND

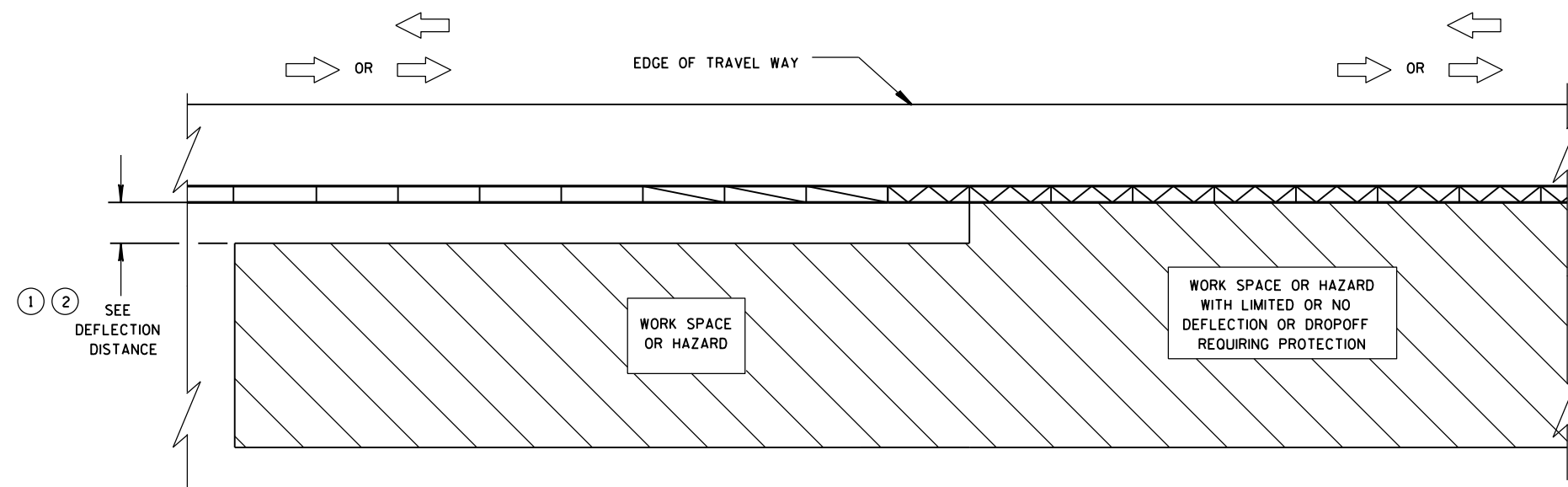
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER  
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



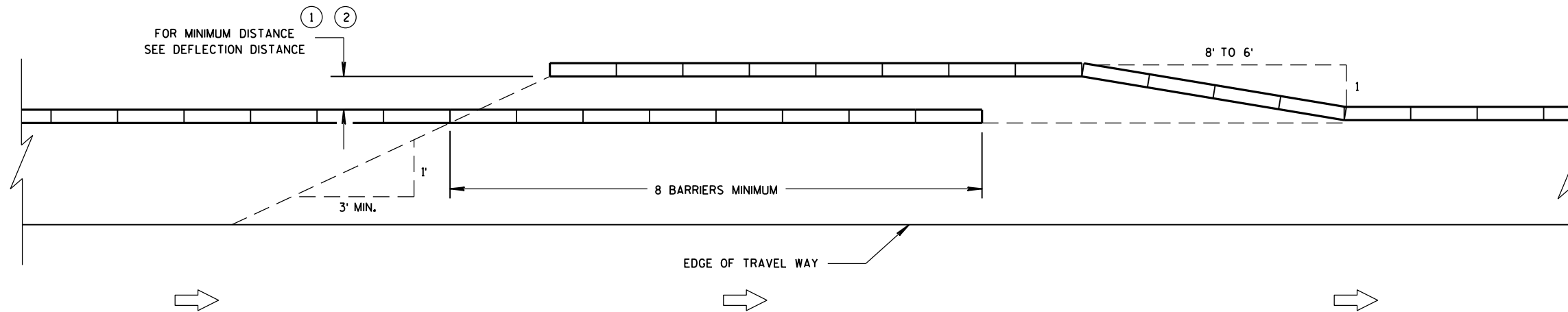
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER  
TO ANCHORED BARRIER**

**LEGEND**

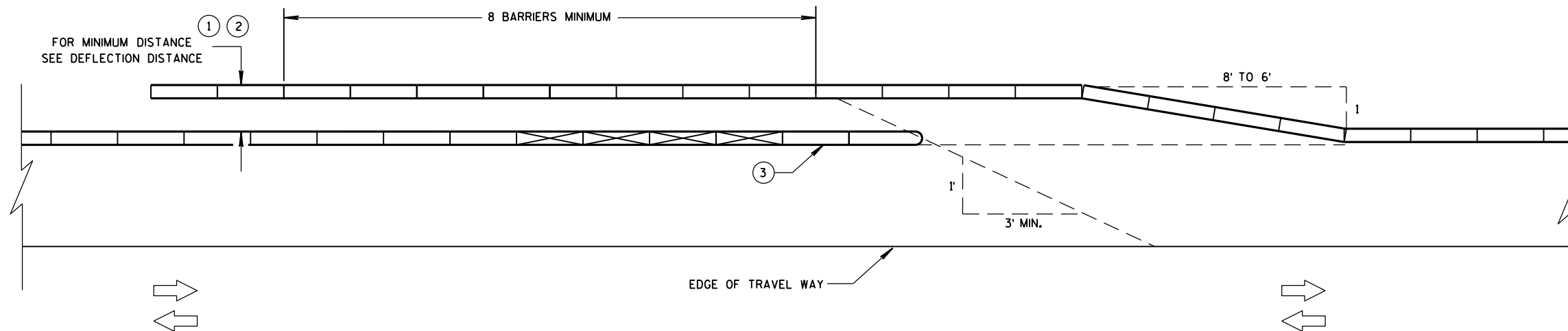
|   |  |
|---|--|
| DIRECTION OF TRAVEL                                       |  |
| CRASH CUSHION OR SAND BARREL ARRAY                        |  |
| SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS  |  |
| SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS |  |
| 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER                  |  |
| PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET            |  |
| FREE STANDING TEMPORARY BARRIER                           |  |

**CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS**

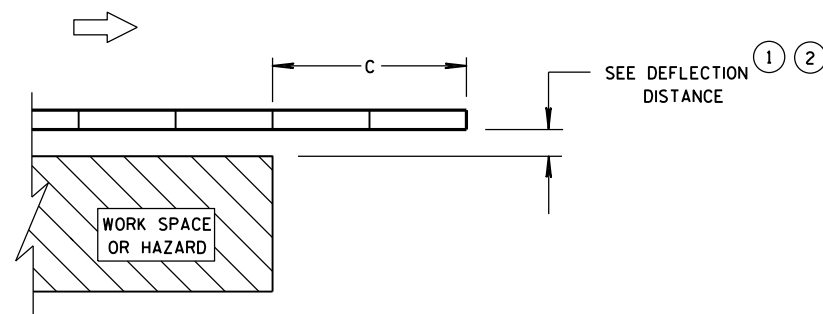
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



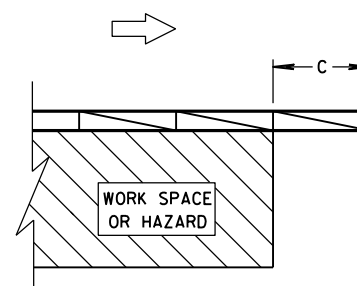
**TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC**



**TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC**



**ENDING TEMPORARY BARRIER  
DOWNSTREAM - UNANCHORED**



**ENDING TEMPORARY BARRIER  
DOWNSTREAM - ANCHORED**

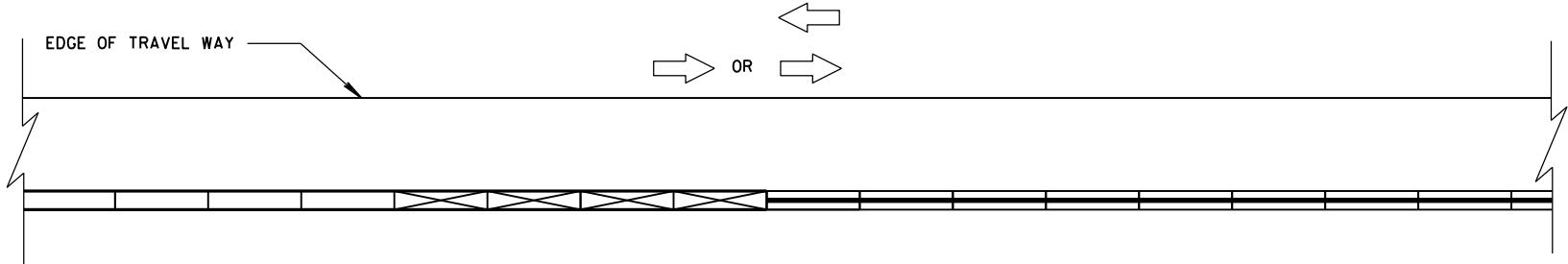
**LEGEND**

|  |  |
|--|--|
| DIRECTION OF TRAVEL  |  |
| CRASH CUSHION OR<br>SAND BARREL ARRAY                        |  |
| SEE FREE STANDING TRANSITION<br>TO TIED-DOWN SYSTEM DETAILS  |  |
| SEE BI-DIRECTIONAL TRANSITION<br>TO TIED-DOWN SYSTEM DETAILS |  |
| 3 PINS PLACED ON<br>TRAFFIC SIDE OF BARRIER                  |  |
| PERMANENT CONCRETE BARRIER<br>OR CONCRETE PARAPET            |  |
| FREE STANDING TEMPORARY<br>BARRIER                           |  |

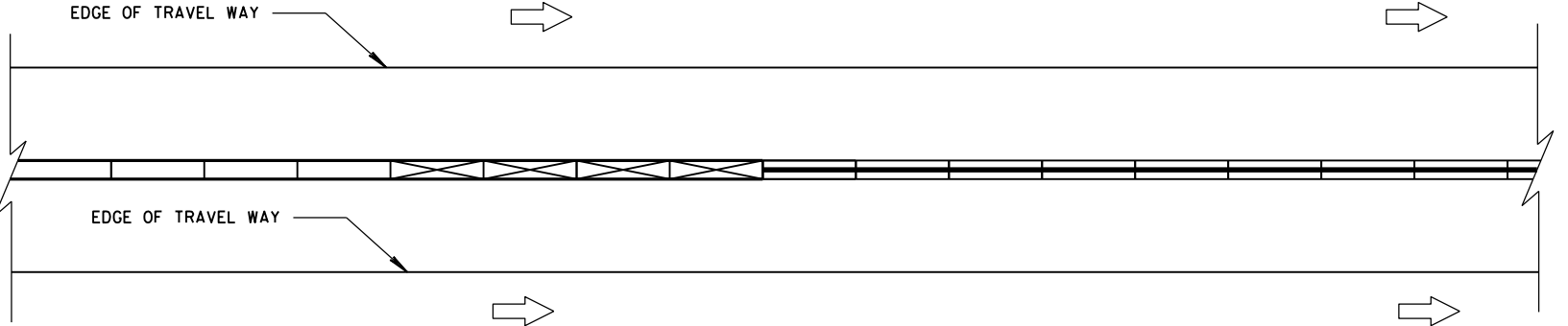
**CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



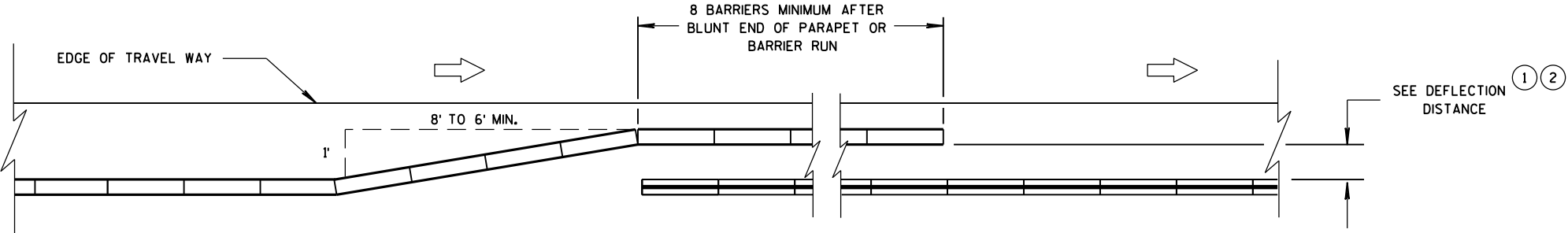


CONNECTING TEMPORARY BARRIER TO PERMANENT  
CONCRETE BARRIER-TRAFFIC ON ONE SIDE

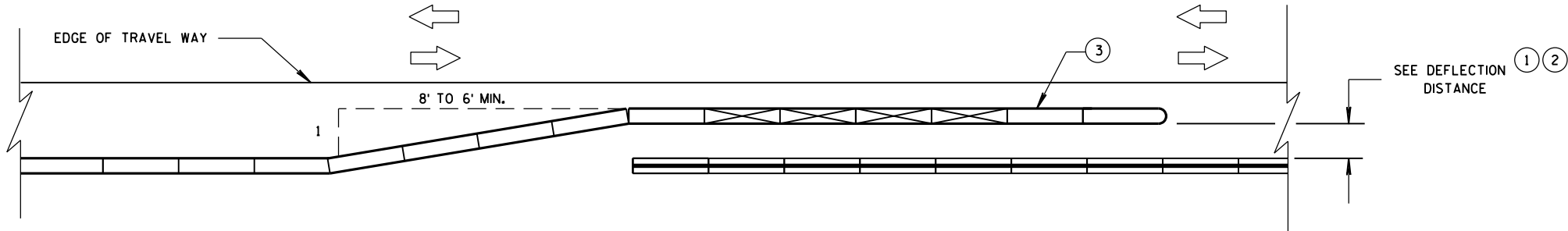


CONNECTING TEMPORARY BARRIER TO PERMANENT  
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

| LEGEND  |  |
|---|--|
| DIRECTION OF TRAVEL                                       |  |
| CRASH CUSHION OR SAND BARREL ARRAY                        |  |
| SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS  |  |
| SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS |  |
| 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER                  |  |
| PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET            |  |
| FREE STANDING TEMPORARY BARRIER                           |  |



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -  
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -  
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE

2

| AVAILABLE DEFLECTION DISTANCE                | MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT |
|--|--|
| GREATER THAN 8'                              | 12.5                                       |
| LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4' | 50   |
| LESS THAN OR EQUAL TO 4'                     | 100  |

6

6

CRASH CUSHION/SAND BARREL  
ARRAY AND OTHER TEMPORARY  
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015

DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

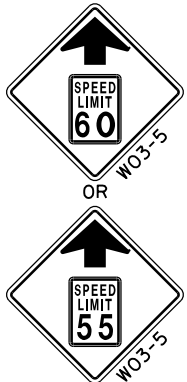
LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

| L, TAPER LENGTH (MPH) |                        |     |     |     |     |      |
|-----------------------|------------------------|-----|-----|-----|-----|------|
| SPEED (MPH)           | W, LATERAL OFFSET (FT) |     |     |     |     |      |
|                       | 10                     | 11  | 12  | 13  | 14  | 15   |
| 45                    | 450                    | 495 | 540 | 585 | 630 | 675  |
| 50                    | 500                    | 550 | 600 | 650 | 700 | 750  |
| 55                    | 550                    | 605 | 660 | 715 | 770 | 825  |
| 60                    | 600                    | 660 | 720 | 780 | 840 | 900  |
| 65                    | 650                    | 715 | 780 | 845 | 910 | 975  |
| 70                    | 700                    | 770 | 840 | 910 | 980 | 1050 |



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).



LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



OR



R2-1 48"x60" (BLACK AND WHITE) LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

\* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE ) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

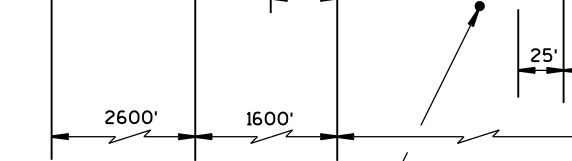
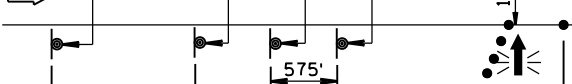
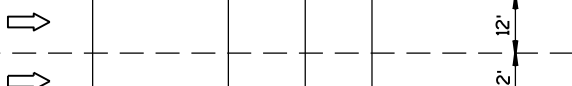
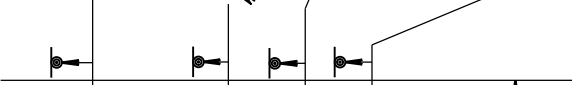
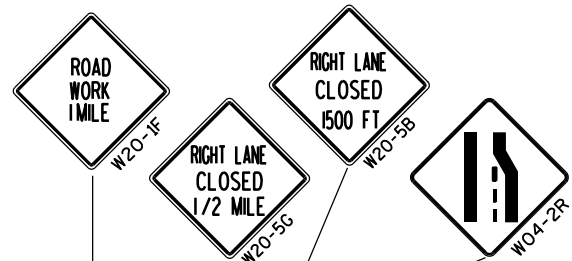
1. CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

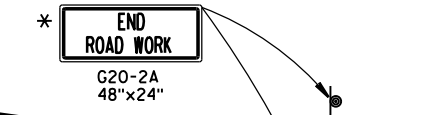
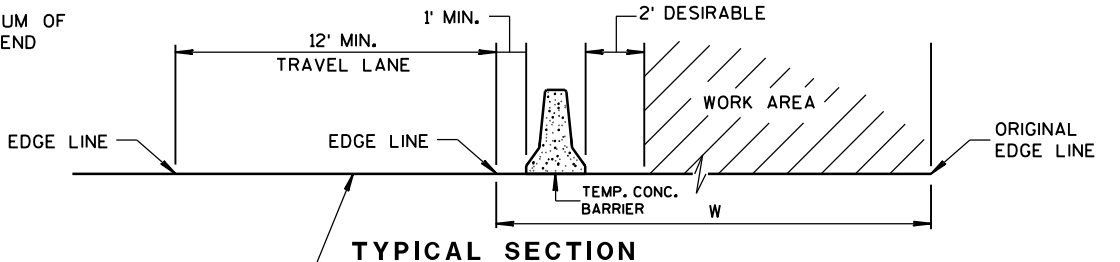
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.



DRUMS SPACED @ 10' INTERVALS AS NEEDED IN FRONT OF ARROW BOARD



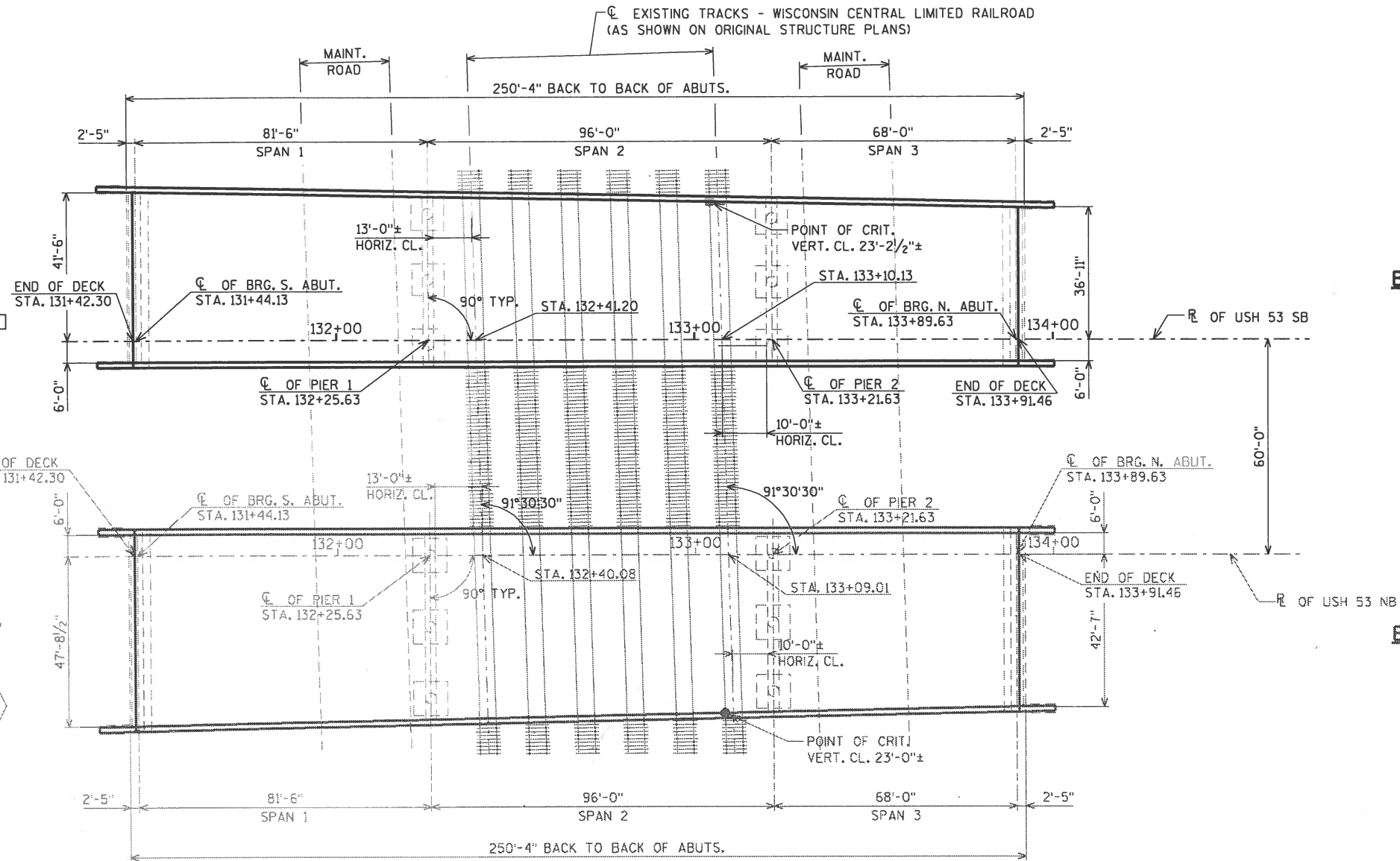
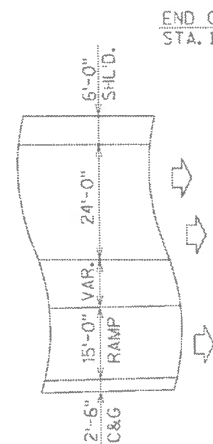
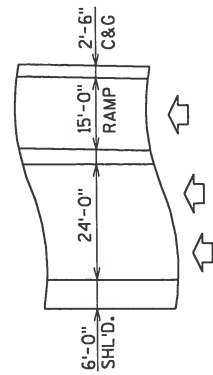
|   |  |
|---|--|
| TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER |  |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION                           |  |
| APPROVED<br>Sept., 2016<br>DATE   | /S/ Peter Amakobe Atepe<br>STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER |
| FHWA  |  |

\$PRNAME\$  
U:\42-0991.00 - USH 53 Bridge Painting - RR Bridges\Structure\B-9-52.dgn

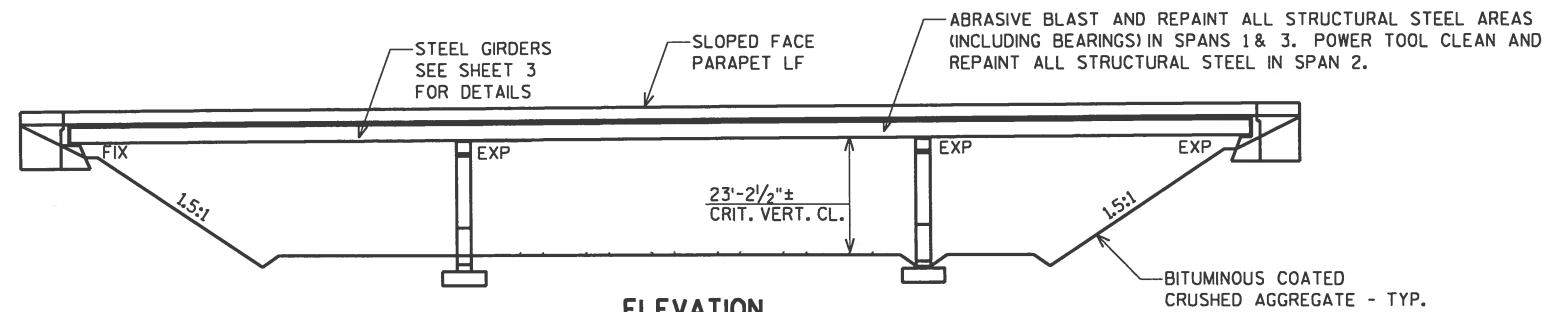
DATE: 9/11/15  
DATE:  
DATE:  
CHECKED BY: CBM  
BACK CHECKED BY:  
CORRECTED BY:

STATE PROJECT NUMBER

1190-09-65



**PLAN**  
3 SPAN STEEL PLATE GIRDER BRIDGE



**ELEVATION**

### GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.  
DIMENSIONS AND VERTICAL CLEARANCES ARE BASED ON ORIGINAL  
STRUCTURE PLANS.  
THE COLOR OF THE FINISH EPOXY TOP COAT FOR THE GIRDERS  
AND CONNECTING STRUCTURAL STEEL SHALL BE LIGHT GRAY (FEDERAL  
STANDARD COLOR NO. 26293).  
ESTIMATED STRUCTURAL STEEL SURFACE AREA = 18,565 SF.  
(SPAN 1 = 6,265 SF, SPAN 2 = 7,180 SF, SPAN 3 = 5,120 SF)

### DESIGN DATA

LIVE LOAD (TAKEN FROM HSI - 9/8/2015):

DESIGN LOADING: HS-20  
INVENTORY RATING: HS-16  
OPERATING RATING: HS-27  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 200 KIPS

### TRAFFIC DATA

USH 53  
A.D.T. = 18,000 (2017)  
R.D.S. = 70 M.P.H.

### TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS   | UNIT | TOTAL |
|-----------------|---|------|-------|
| 517.1800.S.01   | STRUCTURE REPAINTING RECYCLED ABRASIVE B-9-52                         | LS   | 1     |
| 517.3000.S.01   | STRUCTURE OVERCOATING CLEANING AND PRIMING B-9-52                     | LS   | 1     |
| 517.4000.S.01   | CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-9-52                  | LS   | 1     |
| 517.4500.S.01   | NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIAL B-9-52 | LS   | 1     |
| 517.6001.S      | PORTABLE DECONTAMINATION FACILITY                                     | EA   | 0.5   |

### LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & SUPERSTRUCTURE DETAILS
3. BEAM DETAILS

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

CONSULTANT CONTACT:  
CHRIS MCMAHON  
(715)-834-3161

B-9-52

B-9-53

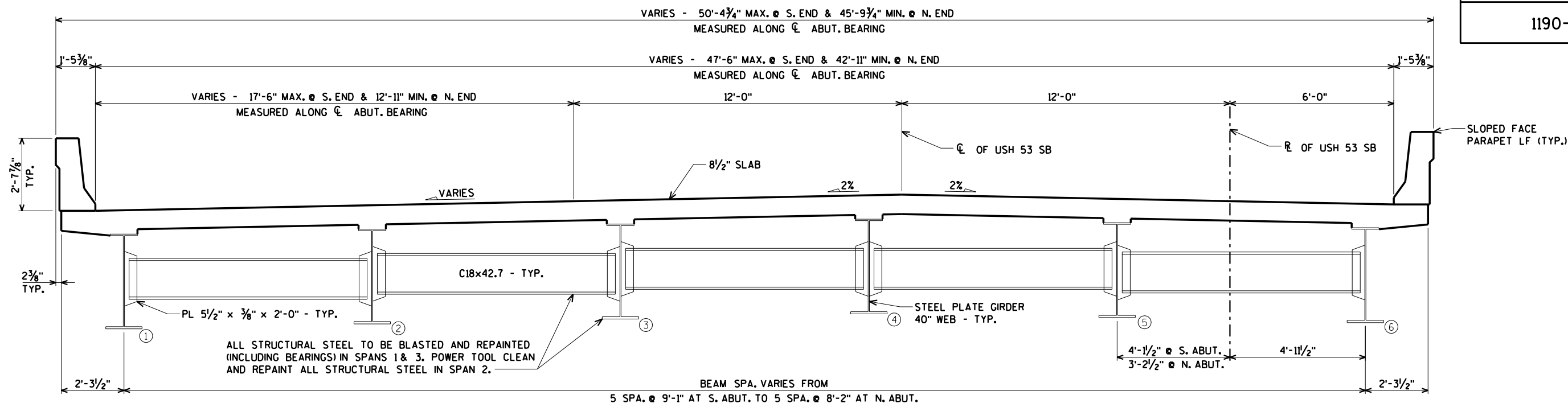


|   |                              |                   |                |
|---|------------------------------|-------------------|----------------|
| NO.   | DATE                         | REVISION          | BY             |
| ORIGINAL PLANS PREPARED BY<br><b>AYRES ASSOCIATES</b> 3433 Oakwood Hills Parkway<br>Eau Claire, WI 54701<br>www.AyresAssociates.com |                              |                   |                |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION  |                              |                   |                |
| ACCEPTED  | <i>William C. Dreher</i> SDR | 02/14/17          | DATE           |
| CHIEF STRUCTURES DESIGN ENGINEER  |                              |                   |                |
| STRUCTURE B-9-52  |                              |                   |                |
| USH 53 SB OVER WISCONSIN CENTRAL LIMITED  |                              |                   |                |
| COUNTY  | CHIPPewa                     | TOWN/CITY/VILLAGE | CHIPPewa FALLS |
| DESIGN SPEC. REHABILITATION N/A   |                              |                   |                |
| DESIGNED BY   | CBM                          | DESIGN CK'D.      | KLW            |
| DRAWN BY  | JCK                          | PLANS CK'D.       | CBM            |
| GENERAL PLAN  |                              |                   | SHEET 1 OF 3   |

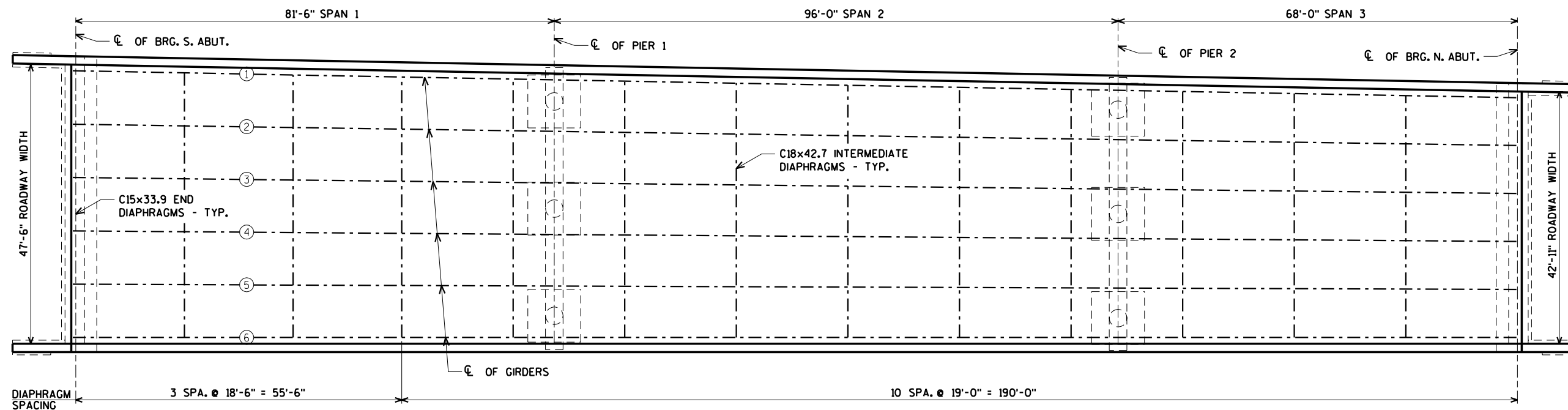
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STATE PROJECT NUMBER

1190-09-65



**CROSS SECTION THRU ROADWAY**  
(LOOKING NORTH)



**SUPERSTRUCTURE FRAMING PLAN**

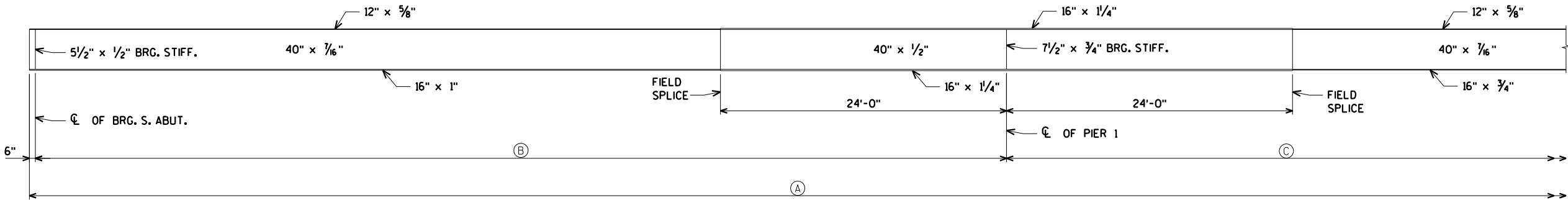
| NO.  | DATE | REVISION           | BY           |
|--|------|--------------------|--------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |              |
| STRUCTURE B-9-52                                   |      |                    |              |
| DRAWN<br>BY JCK                                    |      | PLANS<br>CK'D. CBM |              |
| CROSS SECTION &<br>SUPERSTRUCTURE<br>DETAILS       |      |                    | SHEET 2 OF 3 |

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

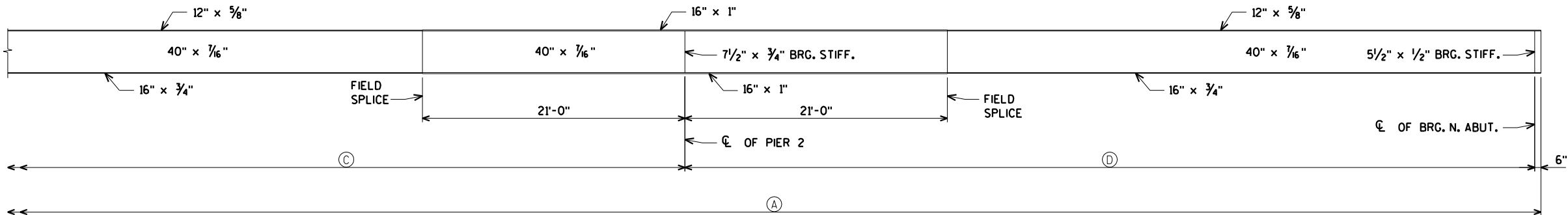
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STATE PROJECT NUMBER

1190-09-65



**TYPICAL GIRDER ELEVATION**



**TYPICAL GIRDER ELEVATION**

| GIRDER | A              | B             | C             | D             |
|--------|----------------|---------------|---------------|---------------|
| 1      | 246' - 6 7/16" | 81' - 6 3/16" | 96' - 0 3/16" | 68' - 0 3/16" |
| 2      | 246' - 6 7/16" | 81' - 6 7/8"  | 96' - 0 3/16" | 68' - 0 7/8"  |
| 3      | 246' - 6 7/16" | 81' - 6 1/8"  | 96' - 0 7/8"  | 68' - 0 7/16" |
| 4      | 246' - 6 7/16" | 81' - 6 1/16" | 96' - 0 7/16" | 68' - 0 7/16" |
| 5      | 246' - 6 7/8"  | 81' - 6 1/16" | 96' - 0 7/16" | 68' - 0"      |
| 6      | 246' - 6"      | 81' - 6"      | 96' - 0"      | 68' - 0"      |

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|  |      |                    |    |
|--|------|--------------------|----|
| NO.  | DATE | REVISION           | BY |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |    |
| STRUCTURE B-9-52                                   |      |                    |    |
| DRAWN<br>BY JCK                                    |      | PLANS<br>CK'D. CBM |    |
| BEAM<br>DETAILS                                    |      | SHEET 3 OF 3       |    |

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com



\$PRNAME\$  
U:\42-0991.00 - USH 53 Bridge Painting - RR Bridges\Structure\B-9-53.dgn

DATE: 9/11/15

DATE:

DATE:

CHECKED BY: CBM

BACK CHECKED BY:

CORRECTED BY:

8

**GENERAL NOTES**

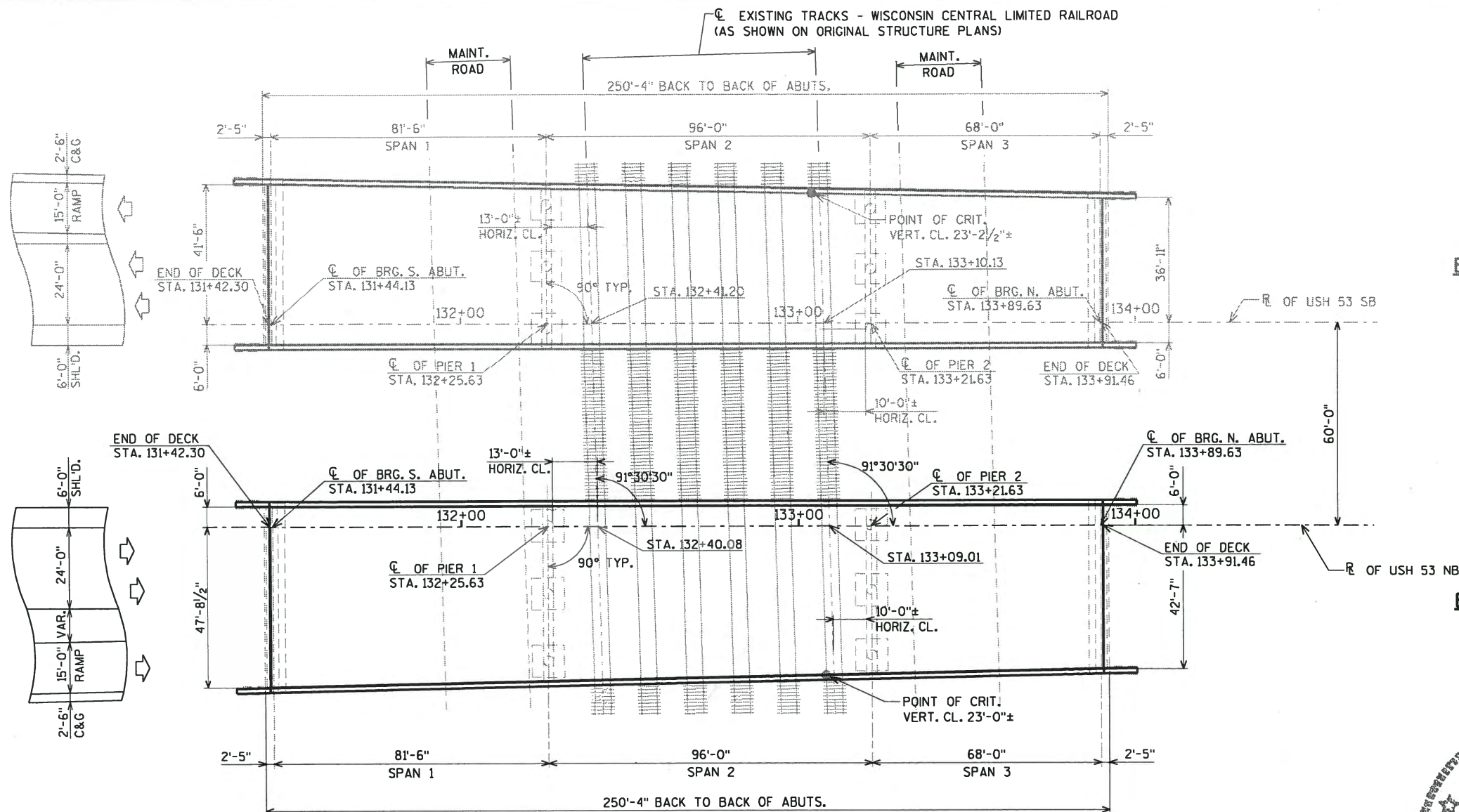
DRAWINGS SHALL NOT BE SCALED.  
DIMENSIONS AND VERTICAL CLEARANCES ARE BASED ON ORIGINAL  
STRUCTURE PLANS.  
THE COLOR OF THE FINISH EPOXY TOP COAT FOR THE GIRDERS  
AND CONNECTING STRUCTURAL STEEL SHALL BE LIGHT GRAY (FEDERAL  
STANDARD COLOR NO. 26293).  
ESTIMATED STRUCTURAL STEEL SURFACE AREA = 18,920 SF.  
(SPAN 1 = 6,405 SF, SPAN 2 = 7,320 SF, SPAN 3 = 5,195 SF)

**DESIGN DATA**LIVE LOAD (TAKEN FROM HSI - 9/8/2015):

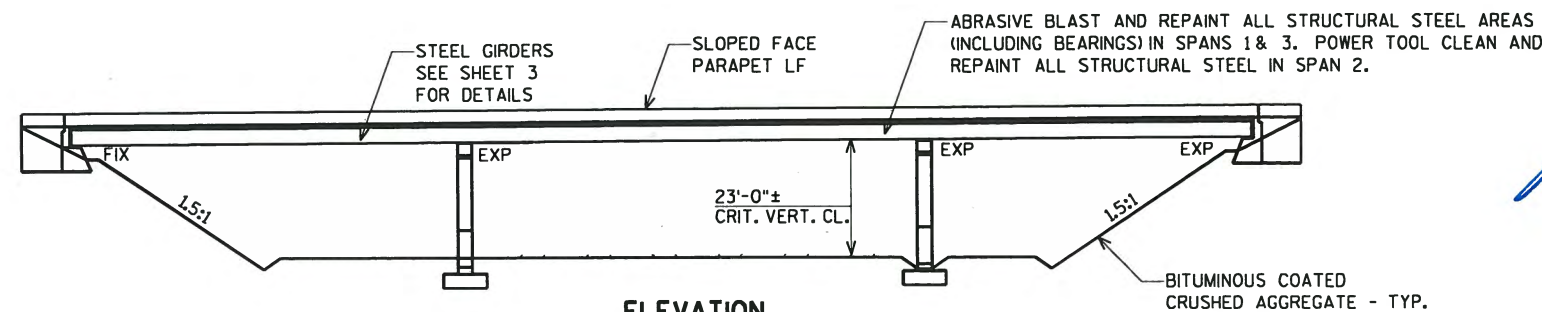
DESIGN LOADING: HS-20  
INVENTORY RATING: HS-16  
OPERATING RATING: HS-28  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 210 KIPS

**TRAFFIC DATA**

USH 53  
A.D.T. = 18,000 (2017)  
R.D.S. = 70 M.P.H.



**PLAN**  
3 SPAN STEEL PLATE GIRDER BRIDGE



**ELEVATION**

**TOTAL ESTIMATED QUANTITIES**

| BID ITEM NUMBER | BID ITEMS   | UNIT | TOTAL |
|-----------------|---|------|-------|
| 517.1800.S.02   | STRUCTURE REPAINTING RECYCLED ABRASIVE B-9-53                         | LS   | 1     |
| 517.3000.S.02   | STRUCTURE OVERCOATING CLEANING AND PRIMING B-9-53                     | LS   | 1     |
| 517.4000.S.02   | CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-9-53                  | LS   | 1     |
| 517.4500.S.02   | NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIAL B-9-53 | LS   | 1     |
| 517.6001.S      | PORTABLE DECONTAMINATION FACILITY                                     | EA   | 0.5   |

**LIST OF DRAWINGS**

1. GENERAL PLAN
2. CROSS SECTION & SUPERSTRUCTURE DETAILS
3. BEAM DETAILS

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

CONSULTANT CONTACT:  
CHRIS MCMAHON  
(715)-834-3161

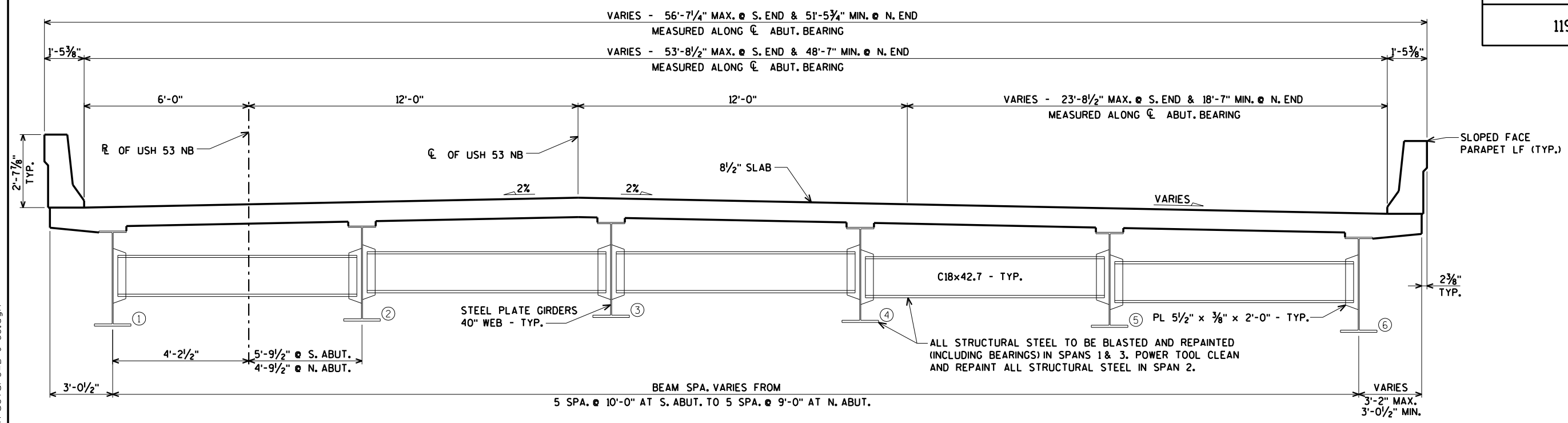


|   |                       |                   |                              |
|---|-----------------------|-------------------|------------------------------|
| NO.   | DATE                  | REVISION          | BY                           |
| ORIGINAL PLANS PREPARED BY<br><b>AYRES ASSOCIATES</b> 3433 Oakwood Hills Parkway<br>Eau Claire, WI 54701<br>www.AyresAssociates.com |                       |                   |                              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION  |                       |                   |                              |
| ACCEPTED  | William C. Dreher SDR |                   | 02/14/17                     |
| CHIEF STRUCTURES DESIGN ENGINEER  |                       | DATE              |                              |
| <b>STRUCTURE B-9-53</b>   |                       |                   |                              |
| USH 53 NB OVER WISCONSIN CENTRAL LIMITED  |                       |                   |                              |
| COUNTY  | CHIPPEWA              | TOWN/CITY/VILLAGE | CHIPPEWA FALLS               |
| DESIGN SPEC.  | REHABILITATION        | N/A               |                              |
| DESIGNED BY   | CBM CK'D.             | KLW               | DRAWN BY JCK PLANS CK'D. CBM |
| <b>GENERAL PLAN</b>   |                       |                   | SHEET 1 OF 3                 |

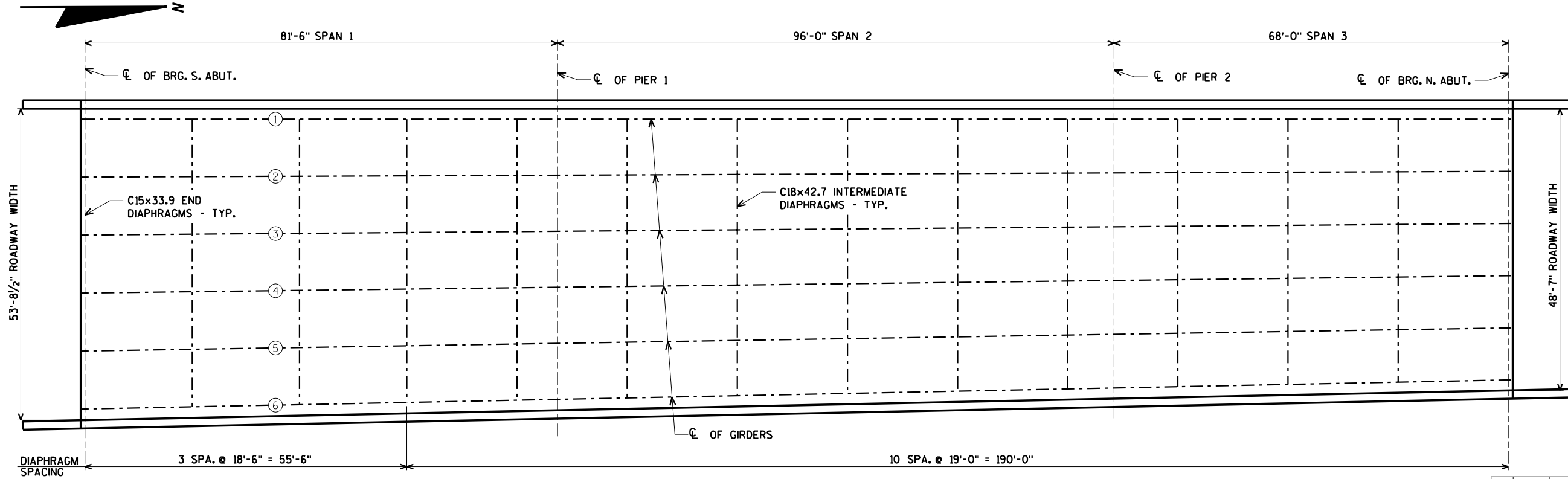
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STATE PROJECT NUMBER

1190-09-65



**CROSS SECTION THRU ROADWAY**  
(LOOKING NORTH)



**SUPERSTRUCTURE FRAMING PLAN**

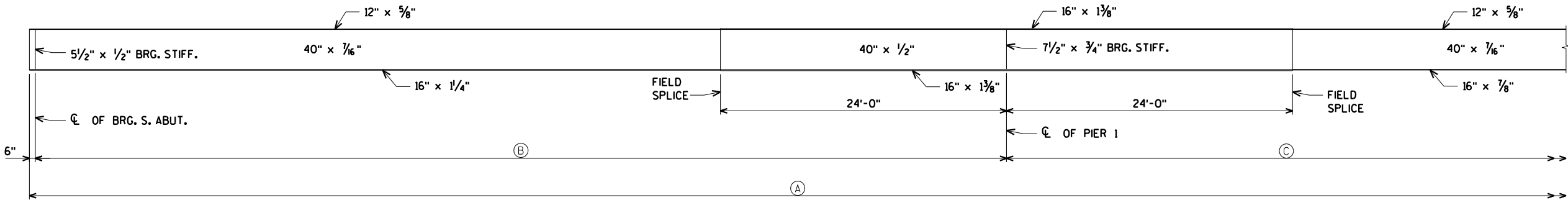
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|--|------|-----------------|--------------|
| NO.  | DATE | REVISION        | BY           |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                 |              |
| STRUCTURE B-9-53                                   |      |                 |              |
| DRAWN BY JCK                                       |      | PLANS CK'D. CBM |              |
| CROSS SECTION & SUPERSTRUCTURE DETAILS             |      |                 | SHEET 2 OF 3 |

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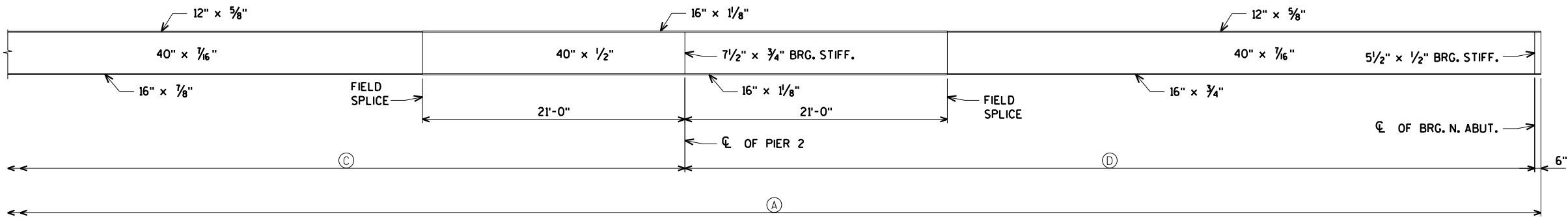
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STATE PROJECT NUMBER

1190-09-65



TYPICAL GIRDER ELEVATION



TYPICAL GIRDER ELEVATION

| GIRDER | A              | B             | C             | D             |
|--------|----------------|---------------|---------------|---------------|
| 1      | 246' - 6"      | 81' - 6"      | 96' - 0"      | 68' - 0"      |
| 2      | 246' - 6 7/8"  | 81' - 6 7/16" | 96' - 0 1/16" | 68' - 0"      |
| 3      | 246' - 6 3/16" | 81' - 6 1/16" | 96' - 0 1/16" | 68' - 0 1/16" |
| 4      | 246' - 6 7/16" | 81' - 6 1/8"  | 96' - 0 1/8"  | 68' - 0 1/16" |
| 5      | 246' - 6 7/16" | 81' - 6 1/8"  | 96' - 0 3/16" | 68' - 0 1/8"  |
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|  |      |                    |    |
|--|------|--------------------|----|
| NO.  | DATE | REVISION           | BY |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |                    |    |
| STRUCTURE B-9-53                                   |      |                    |    |
| DRAWN<br>BY JCK                                    |      | PLANS<br>CK'D. CBM |    |
| BEAM<br>DETAILS                                    |      | SHEET 3 OF 3       |    |

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## ***Wisconsin Department of Transportation***

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