

RHI

NOVEMBER 2019

PROJECT ID: 1009-46-60

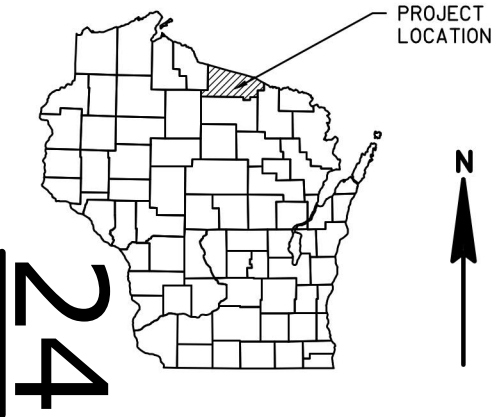
WITH: N/A

COUNTY: VILAS

ORDER OF SHEETS

| | |
|--------------------------|--|
| Section No. 1 | Title |
| Section No. 2 | Typical Sections and Details (Includes Erosion Control) |
| 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 = 112

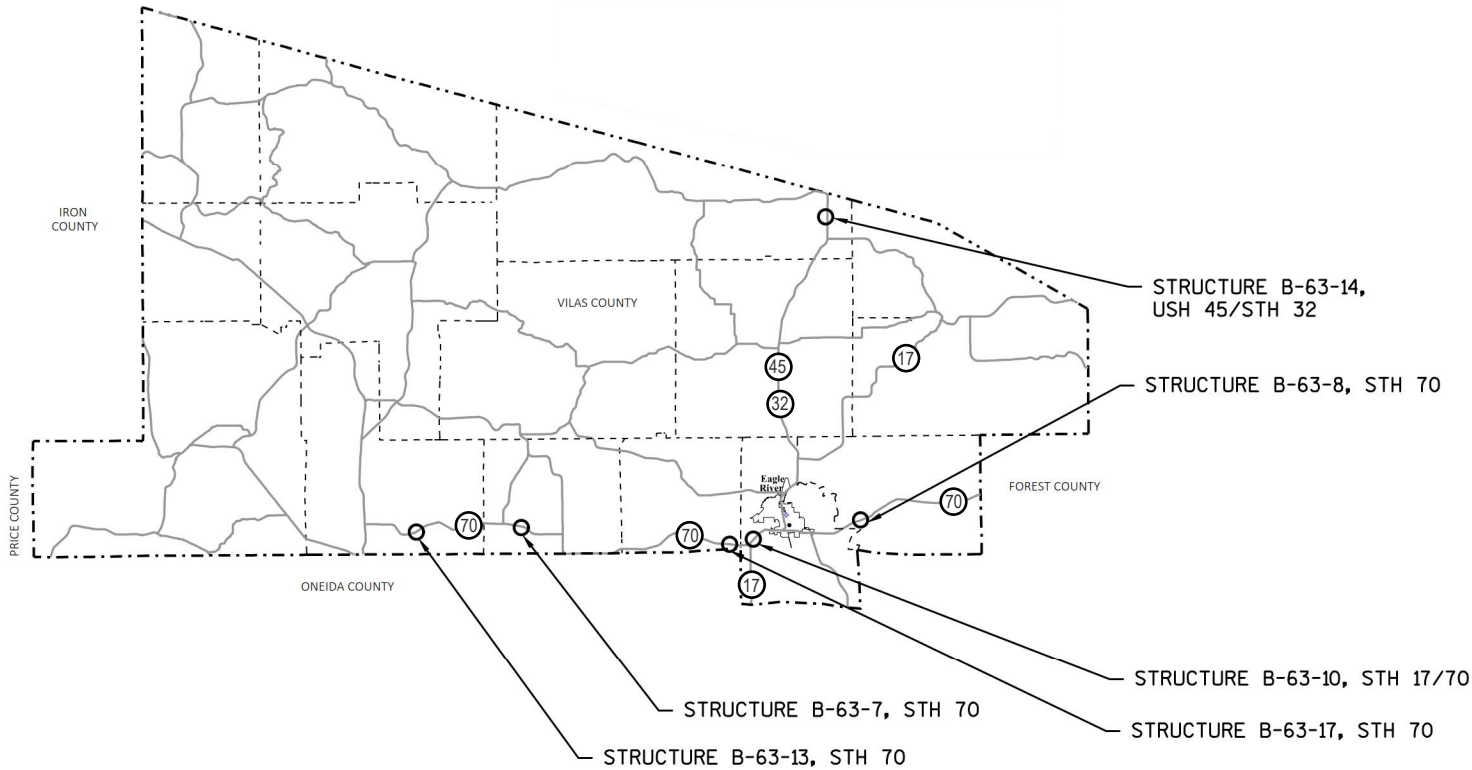


| STRUCTURE NUMBER | B-63-7 | B-63-8 | B-63-10 | B-63-13 | B-63-14 | B-63-17 |
|------------------|---------|---------|----------|---------|---------|---------|
| A.A.D.T. 2020 | = 4,400 | = 4,900 | = 9,700 | = 5,800 | = 3,300 | = 5,900 |
| A.A.D.T. 2040 | = 5,700 | = 6,100 | = 12,300 | = 6,700 | = 3,600 | = 7,500 |
| D.H.V. | = 6.4 | = 6.1 | = 13.9 | = 10.3 | = 13.1 | = 10.4 |
| D.D. | = 61/39 | = 61/39 | = 61/39 | = 61/39 | = 61/39 | = 61/39 |
| T. | = 6.8% | = 13.0% | = 14.8% | = 11.0% | = 13.9% | = 11.0% |
| DESIGN SPEED | = 60 | = 60 | = 60 | = 60 | = 60 | = 60 |
| ESALS | = N/A | = N/A | = N/A | = N/A | = N/A | = N/A |

CONVENTIONAL SYMBOLS

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

| | |
|--|-------|
| PROFILE | |
| GRADE LINE | ----- |
| ORIGINAL GROUND | ----- |
| MARSH OR ROCK PROFILE (To be noted as such) | ----- |
| SPECIAL DITCH | ----- |
| GRADE ELEVATION | 95.36 |
| CULVERT (Profile View) | ----- |
| UTILITIES | |
| ELECTRIC | ----- |
| FIBER OPTIC | ----- |
| GAS | ----- |
| SANITARY SEWER | ----- |
| STORM SEWER | ----- |
| TELEPHONE | ----- |
| WATER | ----- |
| UTILITY PEDESTAL | ----- |
| POWER POLE | ----- |
| TELEPHONE POLE | ----- |



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
REGION WIDE BRIDGE MAINTENANCE
LOCATIONS ON STN PER ANNUAL PLAN
VARIOUS HIGHWAYS
NC REGION WIDE

| STATE PROJECT NUMBER |
|----------------------|
| 1009-46-60 |

| STATE PROJECT | FEDERAL PROJECT | |
|---------------|-----------------|----------|
| | PROJECT | CONTRACT |
| 1009-46-60 | | |
| | | |
| | | |
| | | |

ORIGINAL PLANS PREPARED BY



1835 North Stevens Street, Rhinelander, WI 54501
715-362-3244 1-800-844-7854 Fax: 715-362-4116



4/9/2019

(Date)

(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

| | |
|---------------------|---------------------------|
| PREPARED BY | |
| Surveyor | MSA PROFESSIONAL SERVICES |
| Designer | MSA PROFESSIONAL SERVICES |
| Project Manager | DAN ERVA, PE |
| Regional Examiner | CHERYL SIMON, PE |
| Regional Supervisor | |

APPROVED FOR THE DEPARTMENT
DATE: 4/10/19 (Signature)

E

GENERAL NOTES

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, CAREFULLY MAKE A SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE SUCH A LANDMARK MAY EXIST.

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.

PLACE ASPHALTIC SURFACE IN ONE LIFT USING 12.5mm NOMINAL AGGREGATE IN MIX.

SECTION 2 ORDER

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- TRAFFIC CONTROL

AS-BUILT REFERENCE (YEAR)*

- PROJECT: 9080-09-60 B-63-0007 (1992)
- PROJECT: 9091-1-70 B-63-0008 (1977)
- PROJECT: 9081-04-60 B-63-0008 (2003)
- PROJECT: 9080-03-70 B-63-0010 (1981)
- PROJECT: 9080-04-72 B-63-0013 (1987)
- PROJECT: 1007-46-60 B-63-0013 (2009)
- PROJECT: 1601-06-70 B-63-0014 (1991)
- PROJECT: 9080-08-70 B-63-0017 (1992)

*APPROVAL YEAR (NOT CONSTRUCTION)

DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
COUNTY: VILAS
DNR NORTHERN REGION HQ
107 SUTLIFF STREET
RHINELANDER, WI 54501
JON SIMONSEN
PHONE: (715) 367-1936
JONATHAN.SIMONSEN@WISCONSIN.GOV

EROSION CONTROL NOTES

RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING PAVEMENT 0.95, NEW PAVEMENT 0.95.
TOTAL PROJECT AREA = 3.51 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.42 ACRES

COMMUNICATIONS

CHARTER COMMUNICATIONS
STEVE BROWN
821 LINCOLN STREET
RHINELANDER, WI 54501
PHONE: (715) 519-0042
STEVE.BROWN@CHARTER.COM

COMMUNICATIONS

FRONTIER COMMUNICATIONS OF WI LLC
CALVIN KLADE
1851 N 14TH AVENUE
WAUSAU, WI 54401
PHONE: (715) 847-1525
CALVIN.KLADE@FTR.COM

ELECTRIC

WISCONSIN PUBLIC SERVICE CORPORATION
CLAYTON VIRCKS
P.O. BOX 1166
WAUSAU, WI 54402
PHONE: (715) 848-7317
CLAYTON.VIRCKS@WISCONSINPUBLICSERVICE.COM

GAS/PETROLEUM

WISCONSIN PUBLIC SERVICE CORPORATION
CHRIS GILMAN
2027 NAVAJO STREET
PO BOX 160
RHINELANDER, WI 54501
PHONE: (715) 369-7133
CHRIS.GILMAN@WISCONSINPUBLICSERVICE.COM

GAS/PETROLEUM

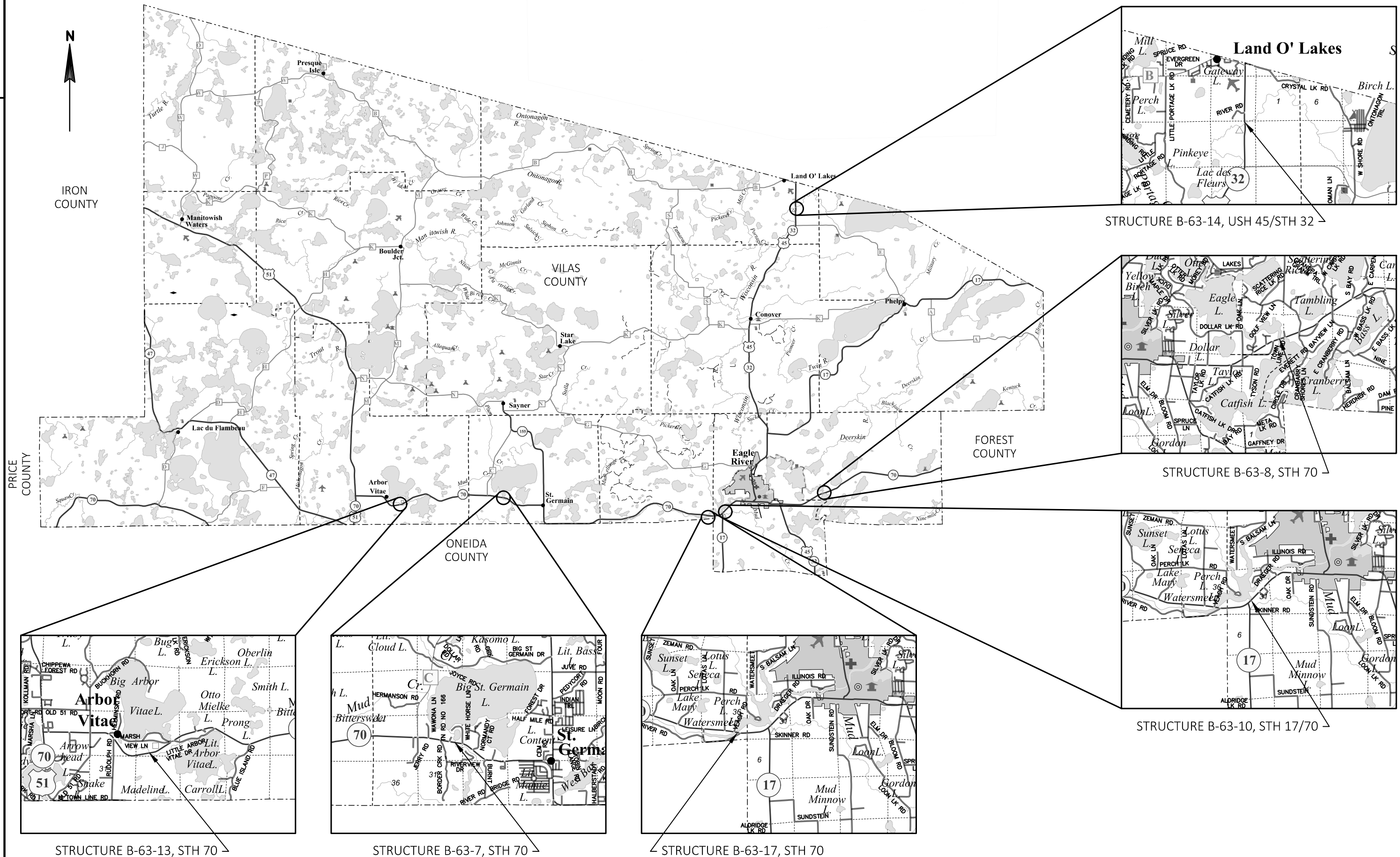
WE ENERGIES
WILLIAM HOWARD
4352 COUNTY ROAD B
LAND O' LAKES, WI 54540
PHONE: (906) 779-2472
WILLIAM.HOWARD@WE-ENERGIES.COM

ELECTRIC

WE ENERGIES
AL JABLONOWSKI
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LAND O' LAKES, WI 54540
PHONE: (906) 779-2489
AL.JABLONOWSKI@WE-ENERGIES.COM



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



PROJECT NO: 1009-46-60

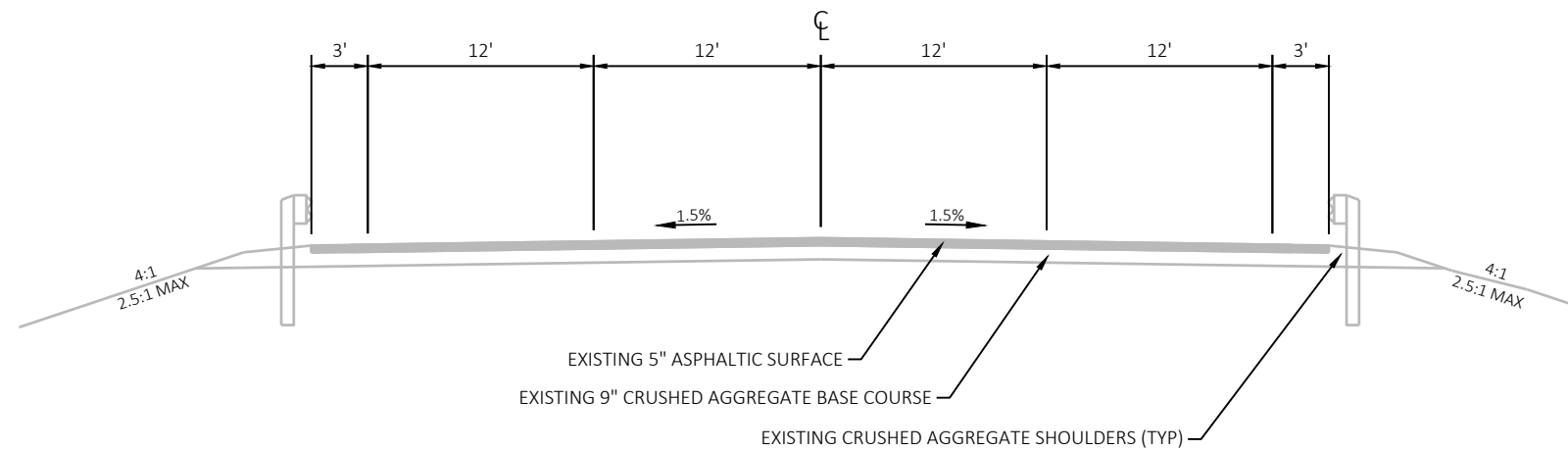
HWY: STH 70, STH 17/70, USH 45/STH 32

COUNTY: VILAS

PROJECT OVERVIEW

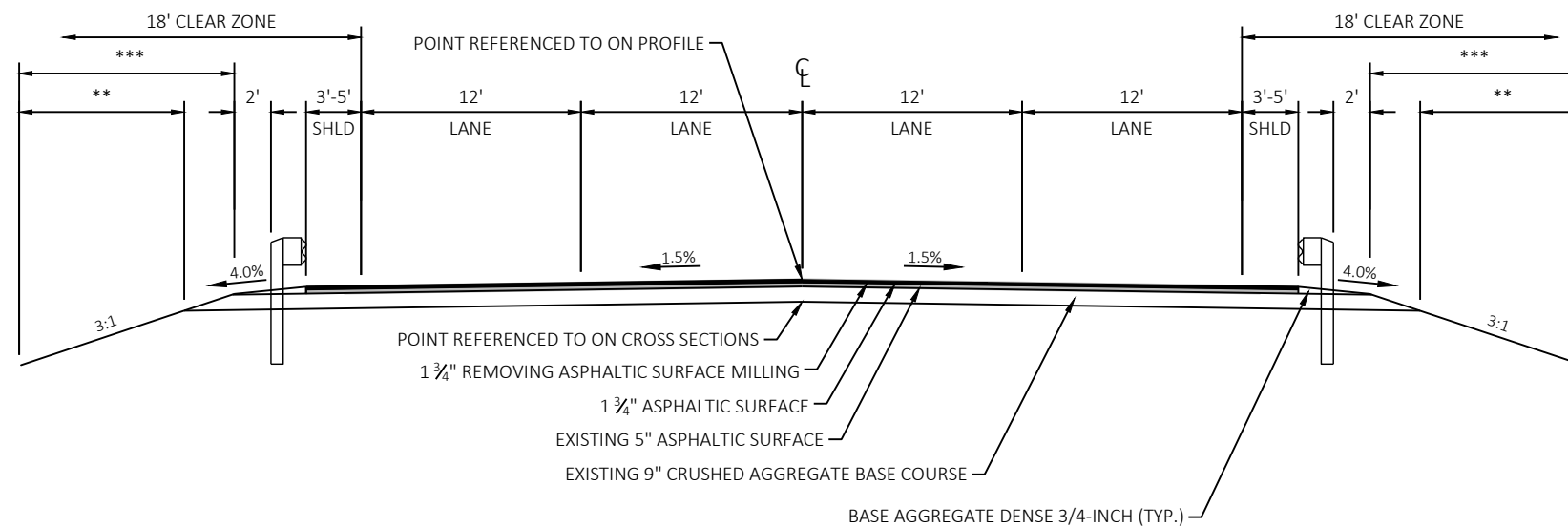
SHEET

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EXISTING TYPICAL SECTION

STH 17/70 LOOKING EAST
STA. 631+36 - STA. 633+26.17
STA. 633+98.83 - STA. 635+89



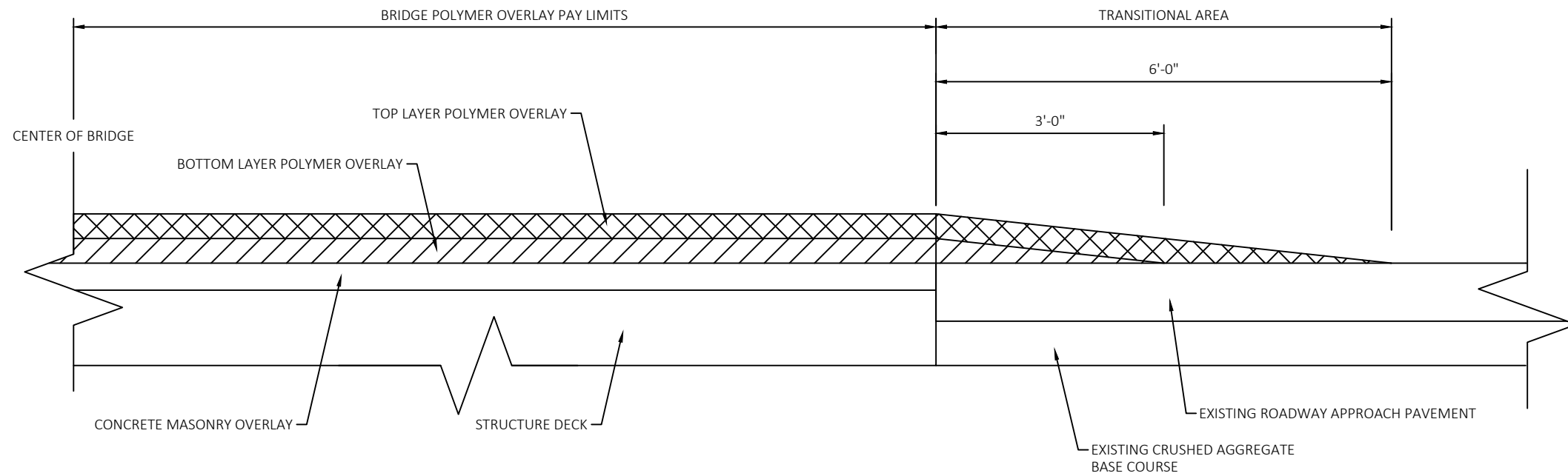
FINISHED TYPICAL SECTION

STH 17/70 LOOKING EAST
STA. 631+36 - STA. 633+26.17
STA. 633+98.83 - STA. 635+89

NOTES:

** TOPSOIL AND MULCHING LIMITS

*** SEEDING MIXTURE #20 AND FERTILIZER TYPE B LIMITS



POLYMER OVERLAY TRANSITIONAL AREA
NTS

NOTE:
PLACE POLYMER OVERLAY TRANSITIONAL AREA ON THE APPROACH
PAVEMENT IN ACCORDANCE WITH THE DETAILS PROVIDED IN THE
SPECIAL PROVISION "POLYMER OVERLAY."

POLYMER OVERLAY TRANSITIONAL AREA TO BE CONSIDERED
INCIDENTAL TO "POLYMER OVERLAY" BID ITEM ON STRUCTURE PLAN.

PROJECT NO: 1009-46-60

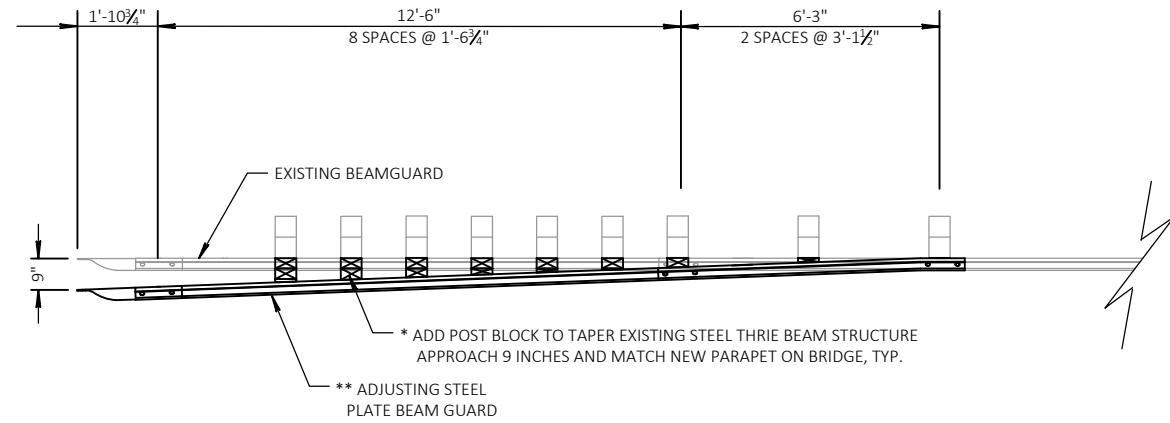
HWY: STH 70, STH 17/70, USH 45/STH 32

COUNTY: VILAS

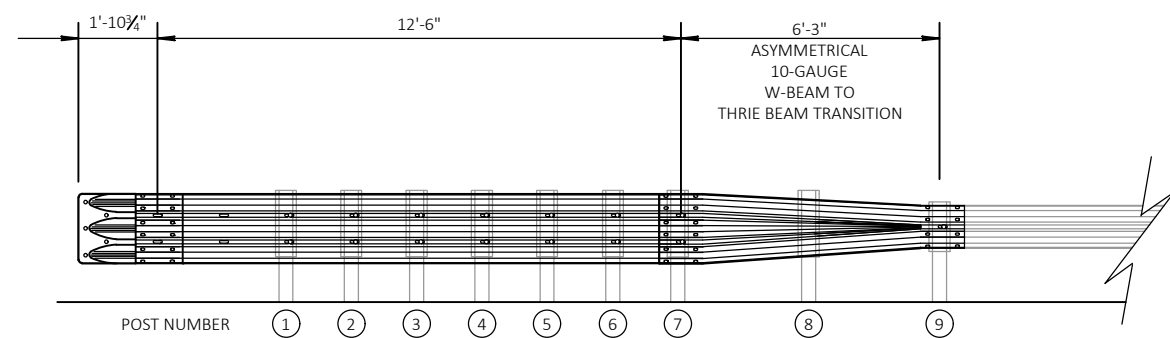
CONSTRUCTION DETAIL

SHEET

E



PLAN VIEW



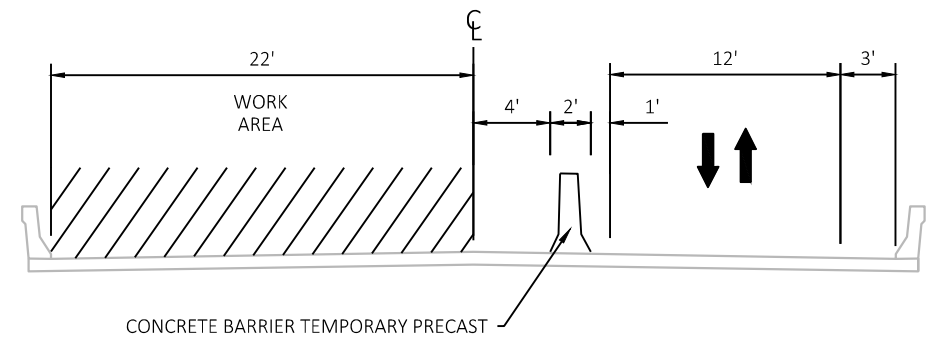
ELEVATION VIEW

* PAID FOR AS "REPLACING GUARDRAIL POSTS & BLOCKS"

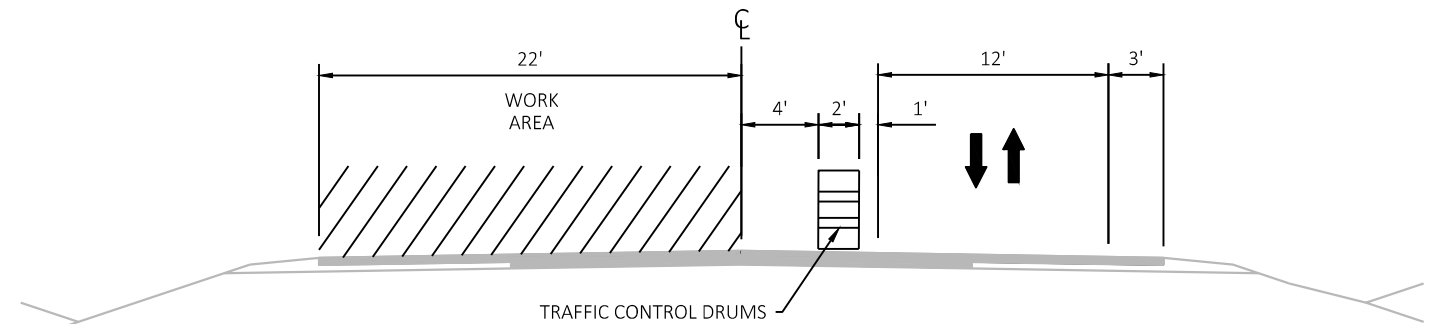
** ADJUSTING STEEL PLATE BEAM GUARD INCLUDES CONNECTING THE EXISTING STEEL THRIE BEAM TO THE NEW PARAPETS AND THE NECESSARY HARDWARE FOR THE CONNECTION.

STEEL THRIE BEAM STRUCTURE APPROACH

TYPICAL AT ALL APPROACH BEAMGUARD FOR STRUCTURE B-63-8



WORK AREA ON BRIDGE B-63-7



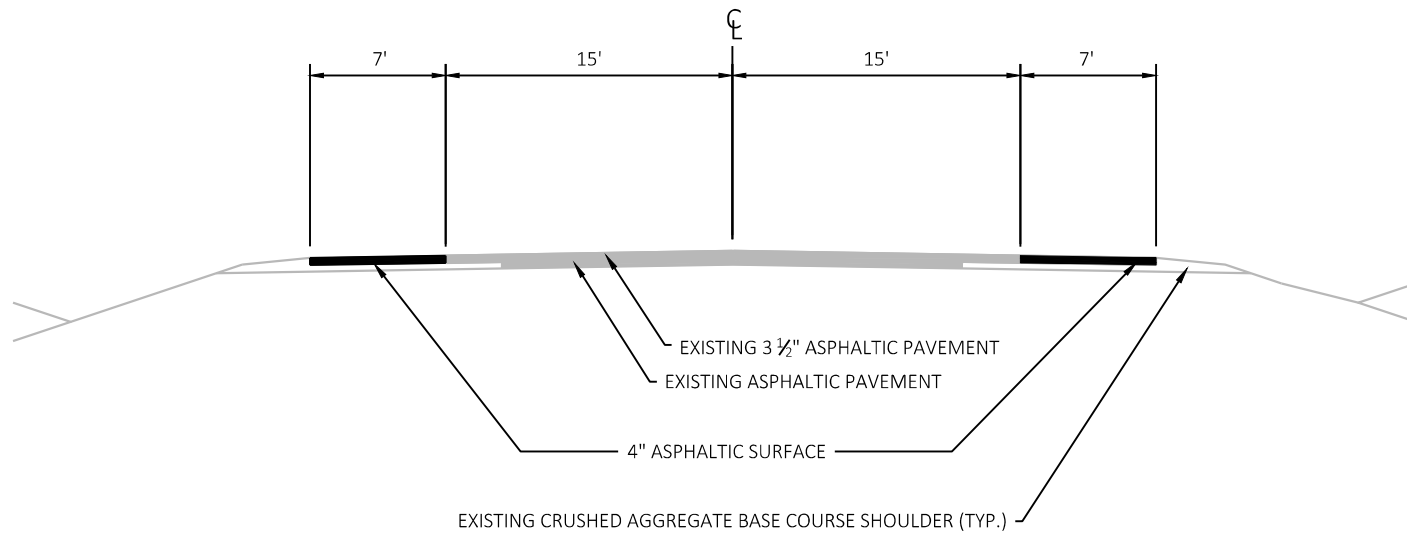
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 2

STH 70 LOOKING EAST

STAGE 2 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 2 (B-63-7)"
2. REPLACE WB CONCRETE APPROACH SLABS



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 1

STH 70 LOOKING EAST

STAGE 1 NOTES:

1. STAGE 1 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. PAVE SHOULDERS (SEE PAVING PLAN FOR SPECIFIC LOCATIONS)

PROJECT NO: 1009-46-60

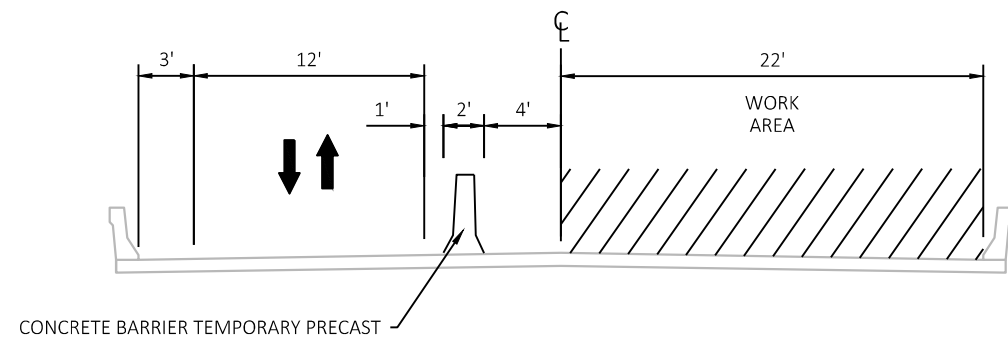
HWY: STH 70

COUNTY: VILAS

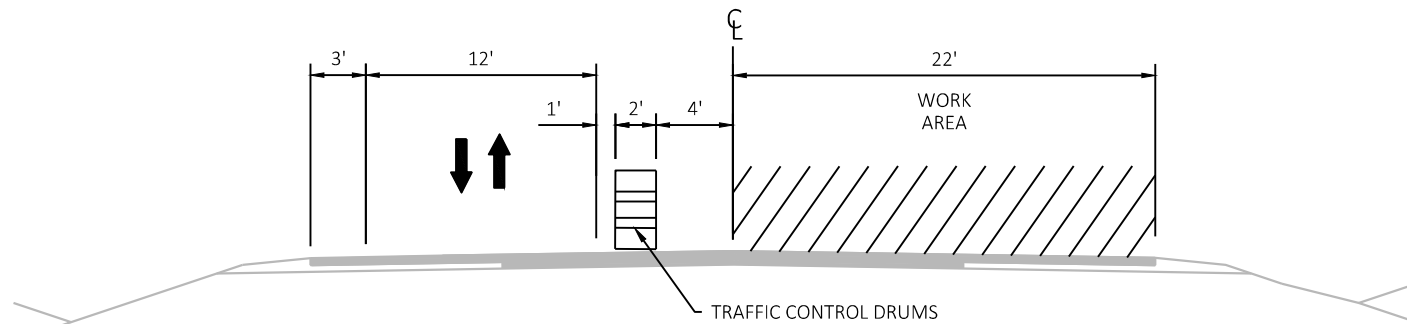
TRAFFIC CONTROL (B-63-7)

SHEET

E



WORK AREA ON BRIDGE B-63-7



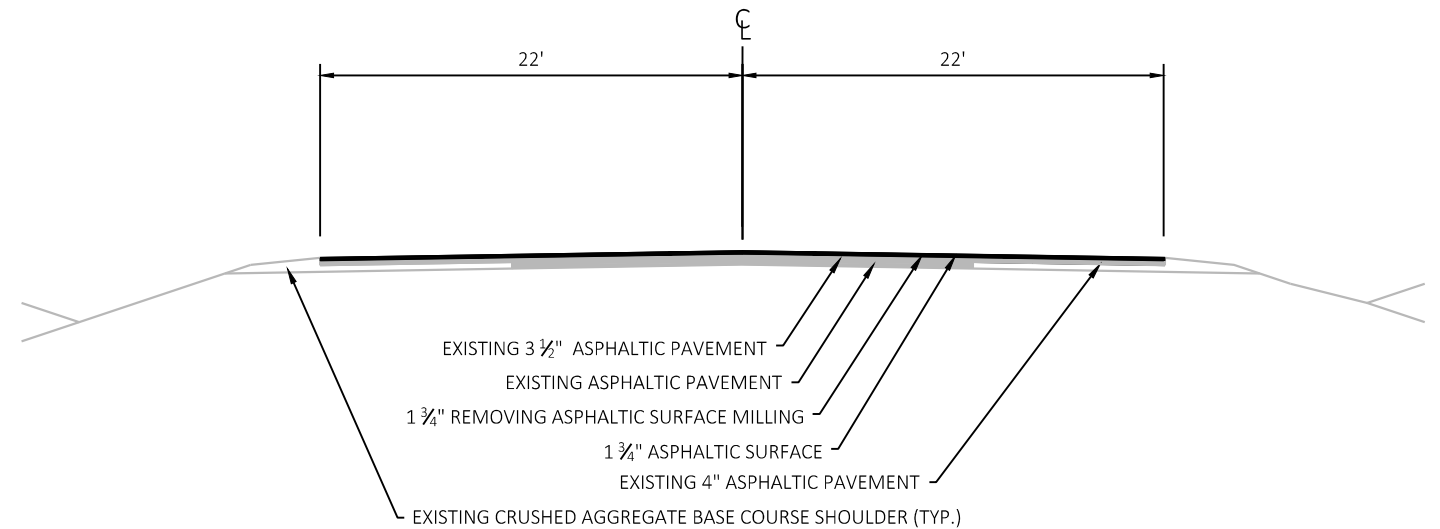
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 3

STH 70 LOOKING EAST

STAGE 3 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 3 (B-63-7)"
2. REPLACE EB CONCRETE APPROACH SLABS



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 4

STH 70 LOOKING EAST

STAGE 4 NOTES:

1. STAGE 4 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. MILL AND OVERLAY ASPHALT LANES AND SHOULDERS

PROJECT NO: 1009-46-60

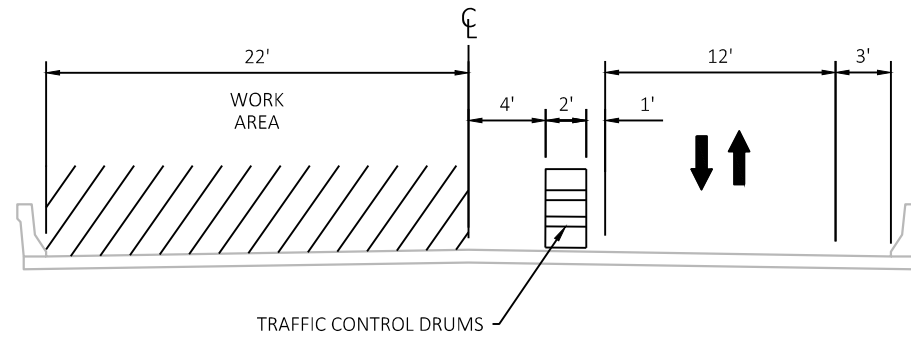
HWY: STH 70

COUNTY: VILAS

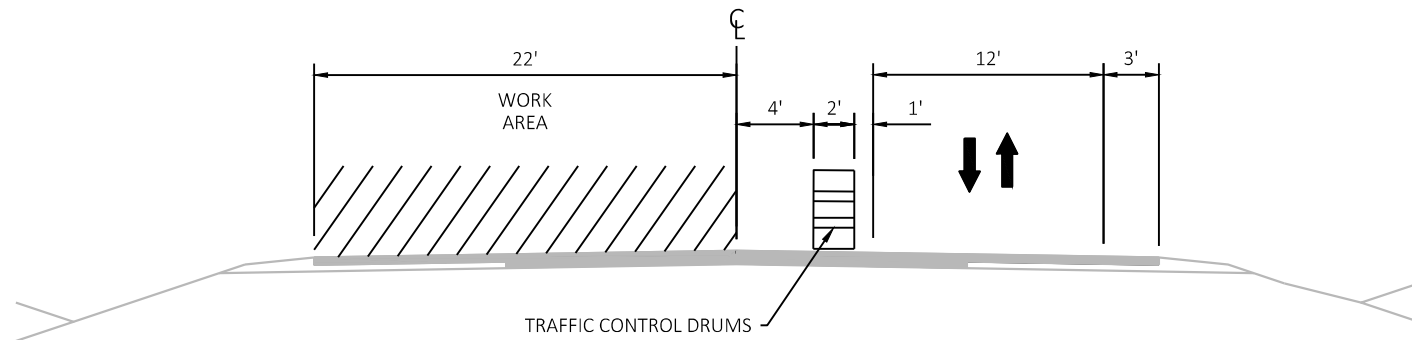
TRAFFIC CONTROL (B-63-7)

SHEET

E



WORK AREA ON BRIDGE B-63-7



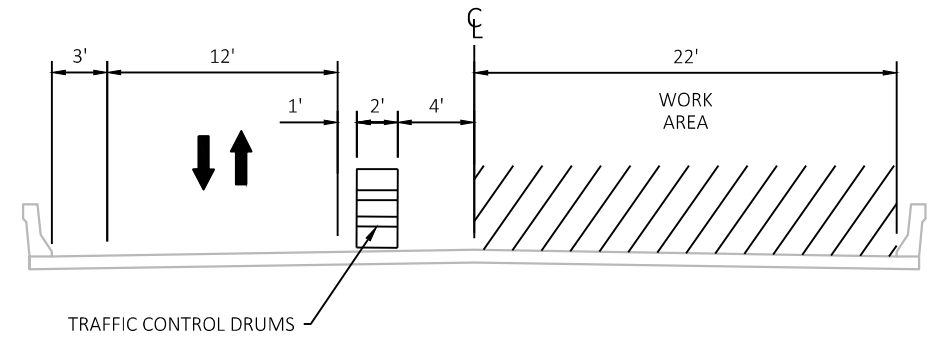
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 5

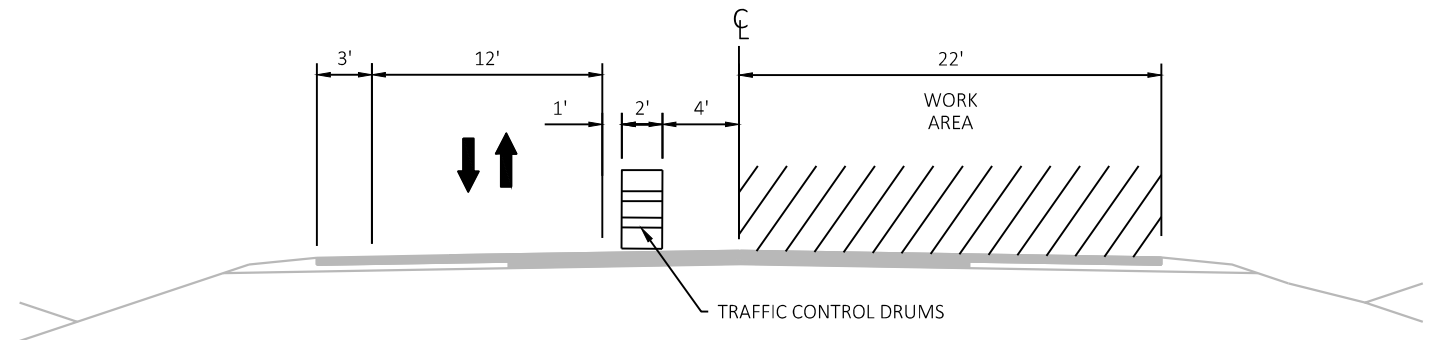
STH 70 LOOKING EAST

STAGE 5 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 5 (B-63-7)"
2. POLYMER OVERLAY ON WB APPROACH SLABS, SEE CONSTRUCTION DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS



WORK AREA ON BRIDGE B-63-7



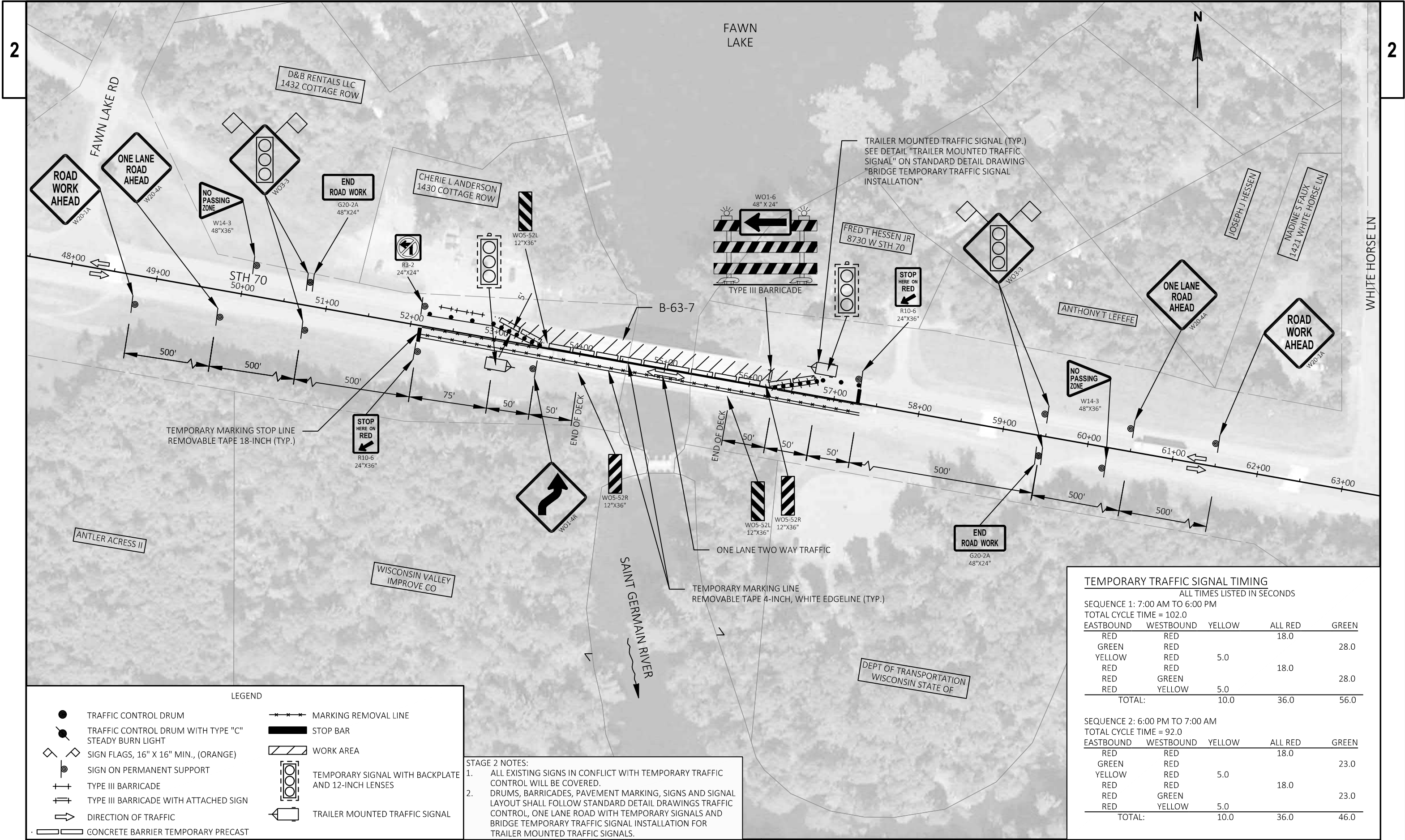
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 6

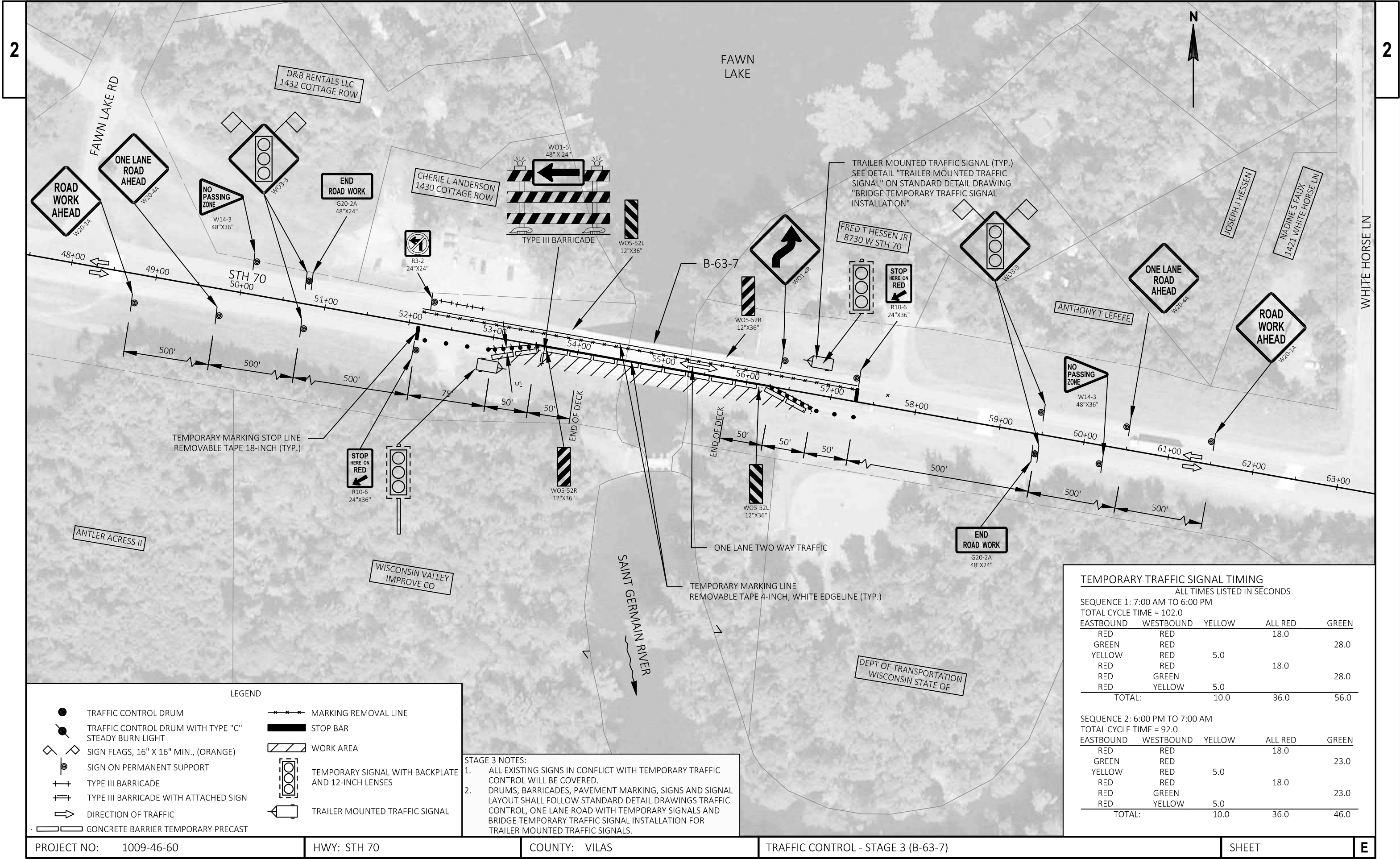
STH 70 LOOKING EAST

STAGE 6 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 6 (B-63-7)"
2. POLYMER OVERLAY ON EB APPROACH SLABS, SEE CONSTRUCTION DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS
3. INSTALL PERMANENT PAVEMENT MARKINGS ON APPROACH AND STRUCTURE



| TEMPORARY TRAFFIC SIGNAL TIMING | | | | |
|---------------------------------|-----------|--------|---------|-------|
| ALL TIMES LISTED IN SECONDS | | | | |
| SEQUENCE 1: 7:00 AM TO 6:00 PM | | | | |
| TOTAL CYCLE TIME = 102.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 18.0 | |
| GREEN | RED | | | 28.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 18.0 | |
| RED | GREEN | | | 28.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 36.0 | 56.0 |
| SEQUENCE 2: 6:00 PM TO 7:00 AM | | | | |
| TOTAL CYCLE TIME = 92.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 18.0 | |
| GREEN | RED | | | 23.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 18.0 | |
| RED | GREEN | | | 23.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 36.0 | 46.0 |



PROJECT NO: 1009-46-60

HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 3 (B-63-7)

SHEET

E

FILE NAME : P:\905\93\00093417\CADD\SHETSPLAN\B-63-7\025001_TC B-63-7.DWG

LAYOUT NAME - 025001_tc Stage 3

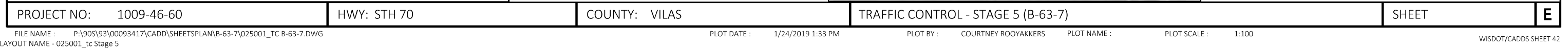
PLOT DATE : 1/24/2019 1:33 PM

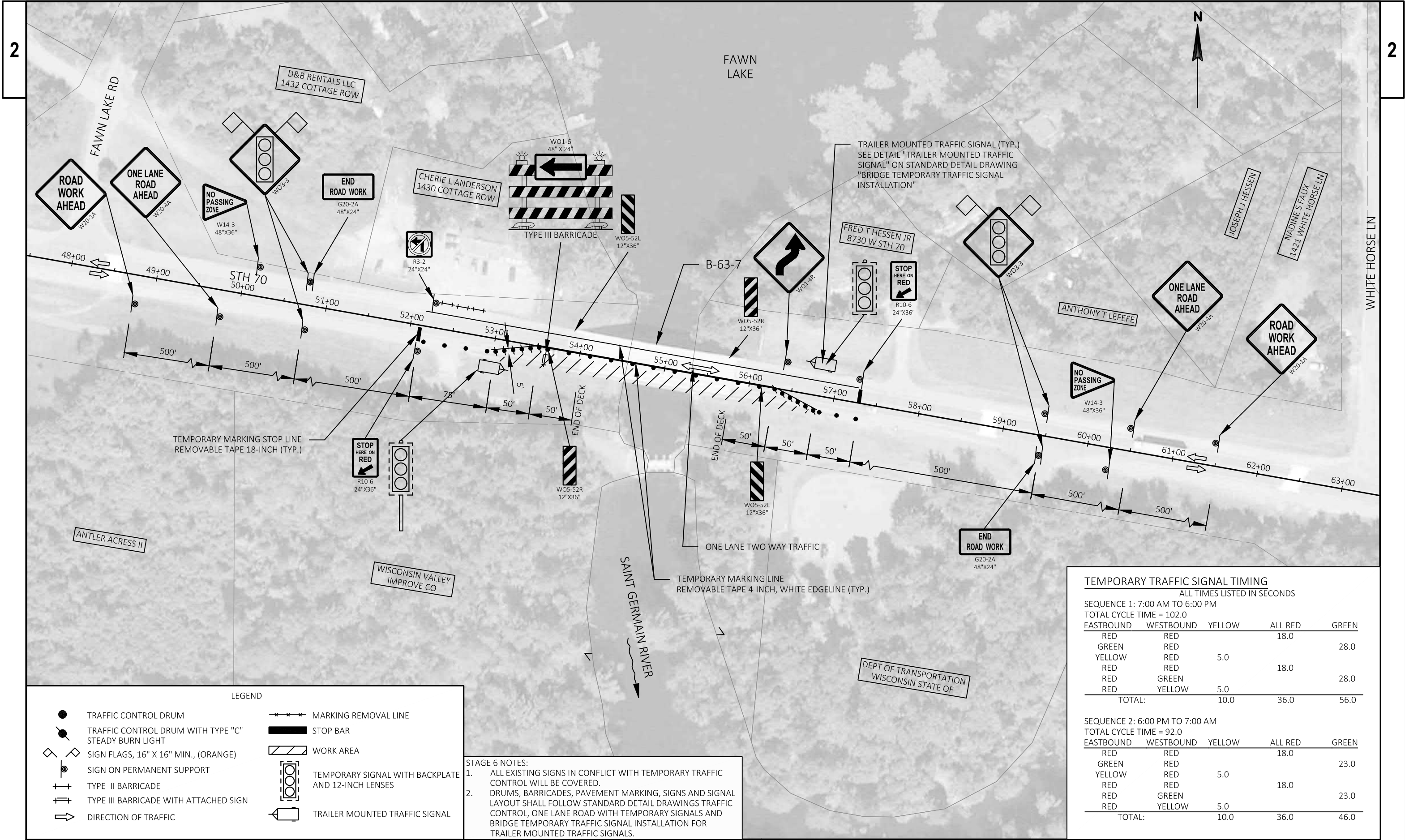
PLOT BY : COURTNEY ROOYAKKERS

PLOT NAME :

PLOT SCALE : 1:100

WISDOT/CADDs SHEET 42

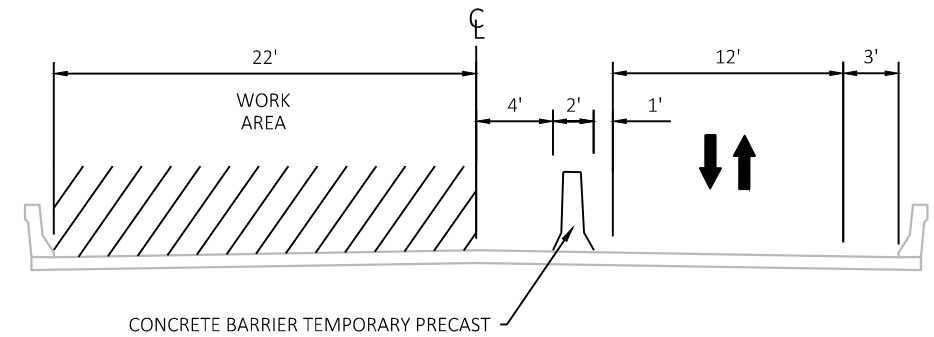




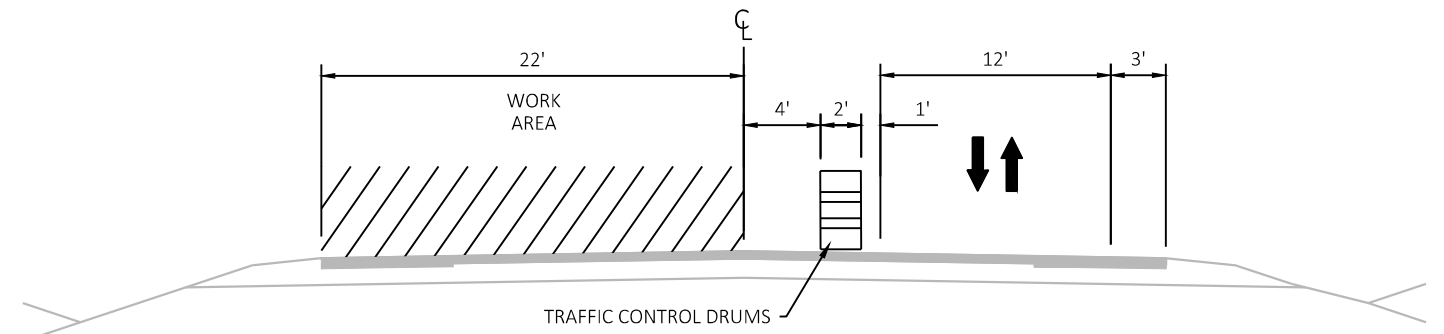
STAGE 6 NOTES:
1. ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
2. DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION FOR TRAILER MOUNTED TRAFFIC SIGNALS.

| TEMPORARY TRAFFIC SIGNAL TIMING | | | | |
|---------------------------------|-----------|--------|---------|-------|
| ALL TIMES LISTED IN SECONDS | | | | |
| SEQUENCE 1: 7:00 AM TO 6:00 PM | | | | |
| TOTAL CYCLE TIME = 102.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 18.0 | |
| GREEN | RED | | | 28.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 18.0 | |
| RED | GREEN | | | 28.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 36.0 | 56.0 |
| SEQUENCE 2: 6:00 PM TO 7:00 AM | | | | |
| TOTAL CYCLE TIME = 92.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 18.0 | |
| GREEN | RED | | | 23.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 18.0 | |
| RED | GREEN | | | 23.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 36.0 | 46.0 |

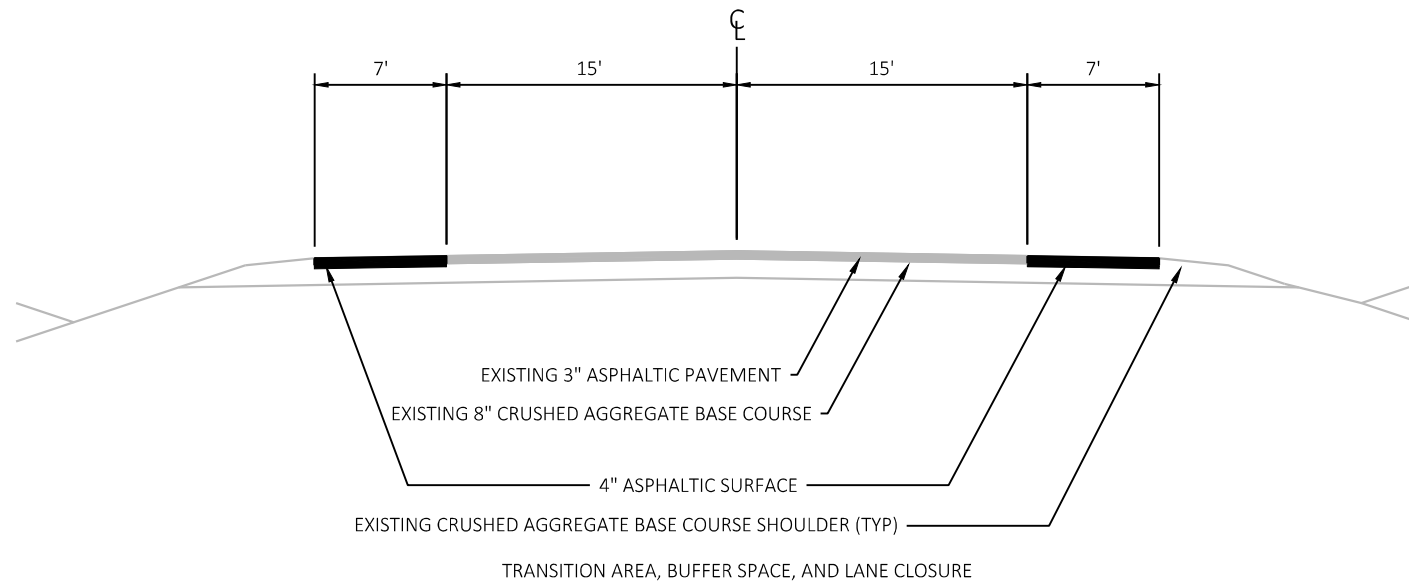
| LEGEND | | | |
|--------|--|--|--|
| | TRAFFIC CONTROL DRUM | | MARKING REMOVAL LINE |
| | TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT | | STOP BAR |
| | SIGN FLAGS, 16" X 16" MIN., (ORANGE) | | WORK AREA |
| | SIGN ON PERMANENT SUPPORT | | TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES |
| | TYPE III BARRICADE | | TRAILER MOUNTED TRAFFIC SIGNAL |
| | TYPE III BARRICADE WITH ATTACHED SIGN | | |
| | DIRECTION OF TRAFFIC | | |



WORK AREA ON BRIDGE B-63-8



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 1

STH 70 LOOKING EAST

STAGE 1 NOTES:

1. STAGE 1 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. PAVE SHOULDERS (SEE PAVING PLAN FOR SPECIFIC LOCATIONS)

TRAFFIC CONTROL - STAGE 2

STH 70 LOOKING EAST

STAGE 2 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 2 (B-63-8)"
2. CONCRETE MASONRY OVERLAY AND CLEANING WB CONCRETE APPROACH SLABS

PROJECT NO: 1009-46-60

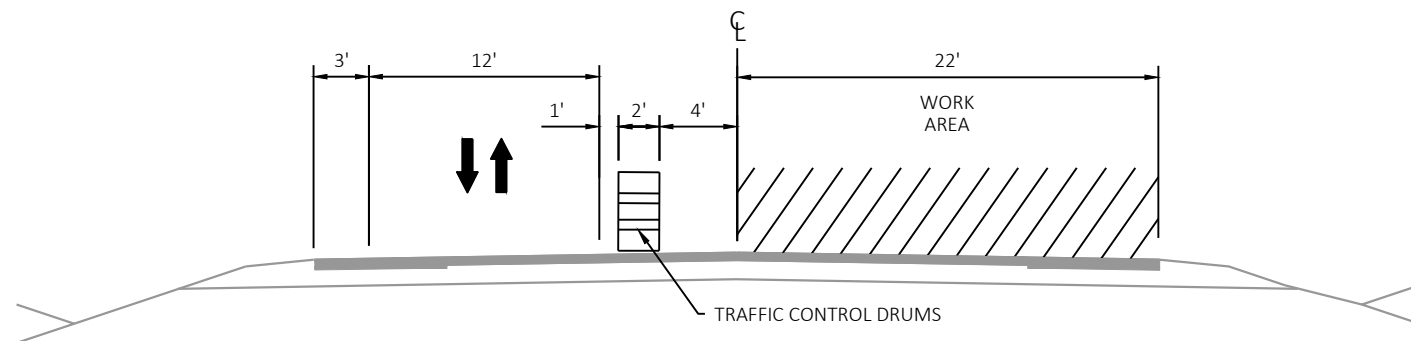
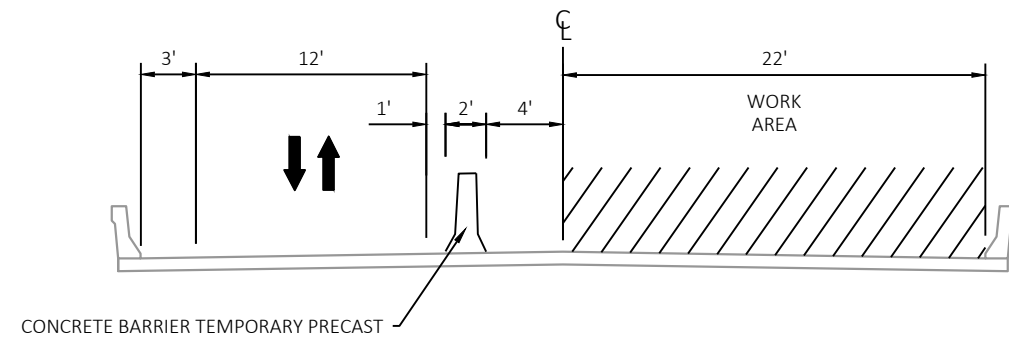
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL (B-63-8)

SHEET

E

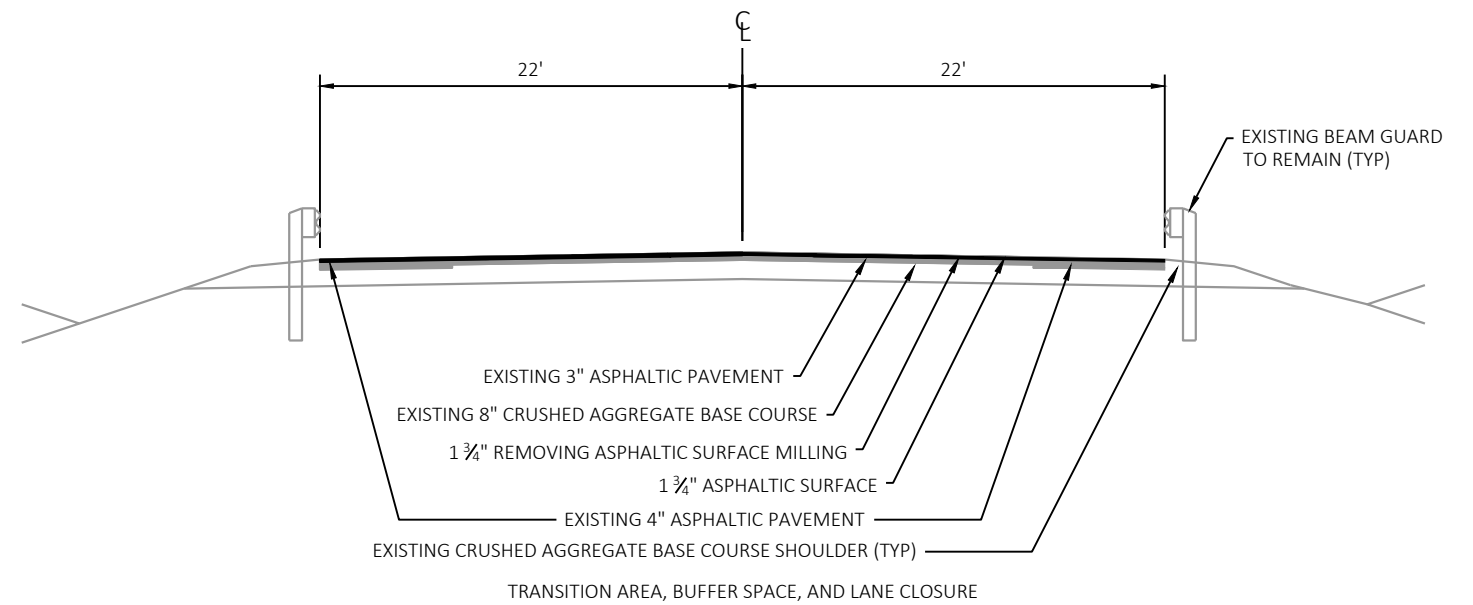


TRAFFIC CONTROL - STAGE 3

STH 70 LOOKING EAST

STAGE 3 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 3 (B-63-8)"
2. CONCRETE MASONRY OVERLAY AND CLEANING EB CONCRETE APPROACH SLABS

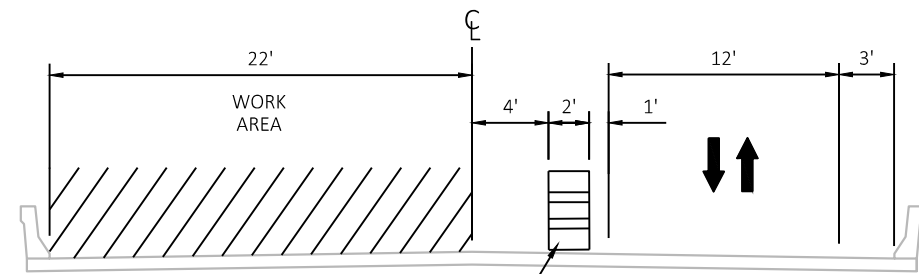


TRAFFIC CONTROL - STAGE 4

STH 70 LOOKING EAST
STA. 124+75 - STA. 126+73.67
STA. 129+60.25 - STA. 131+58

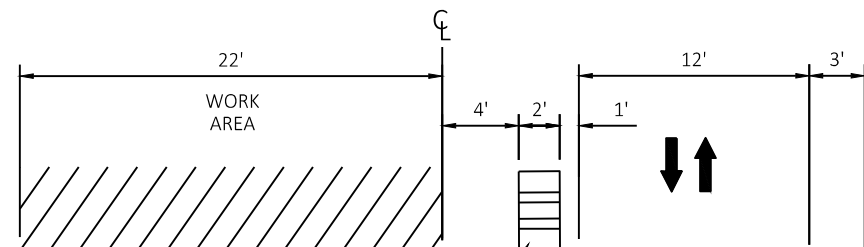
STAGE 4 NOTES:

1. STAGE 4 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. MILL AND OVERLAY ASPHALT LANES AND SHOULDERS
3. INSTALL THERMOPLASTIC ALONG BOTH APPROACH SHOULDERS



TRAFFIC CONTROL DRUMS

WORK AREA ON BRIDGE B-63-8



TRAFFIC CONTROL DRUMS

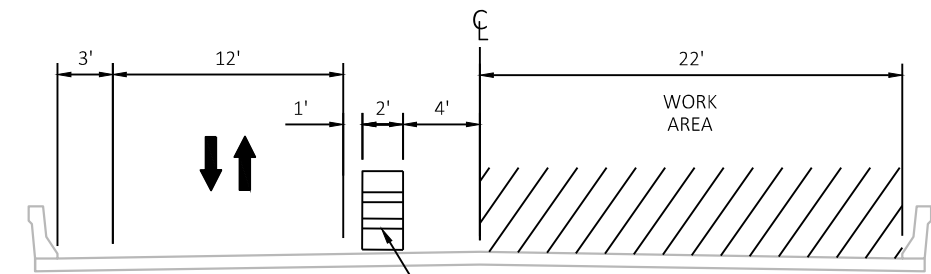
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 5

STH 70 LOOKING EAST

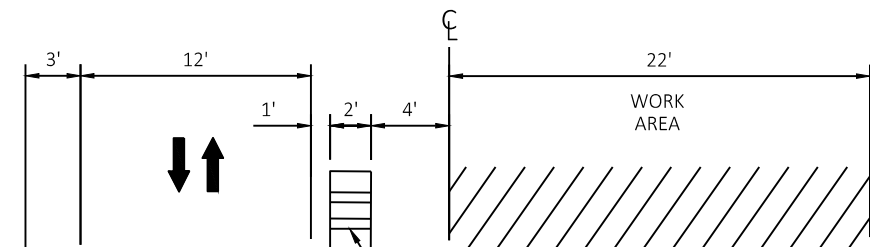
STAGE 5 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 5 (B-63-8)"
2. POLYMER OVERLAY ON WB APPROACH SLABS, SEE CONSTRUCTION DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS



TRAFFIC CONTROL DRUMS

WORK AREA ON BRIDGE B-63-8



TRAFFIC CONTROL DRUMS

TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 6

STH 70 LOOKING EAST

STAGE 6 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 6 (B-63-8)"
2. POLYMER OVERLAY ON EB APPROACH SLABS, SEE CONSTRUCTION DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS
3. INSTALL PERMANENT PAVEMENT MARKINGS ON APPROACH AND STRUCTURE

PROJECT NO: 1009-46-60

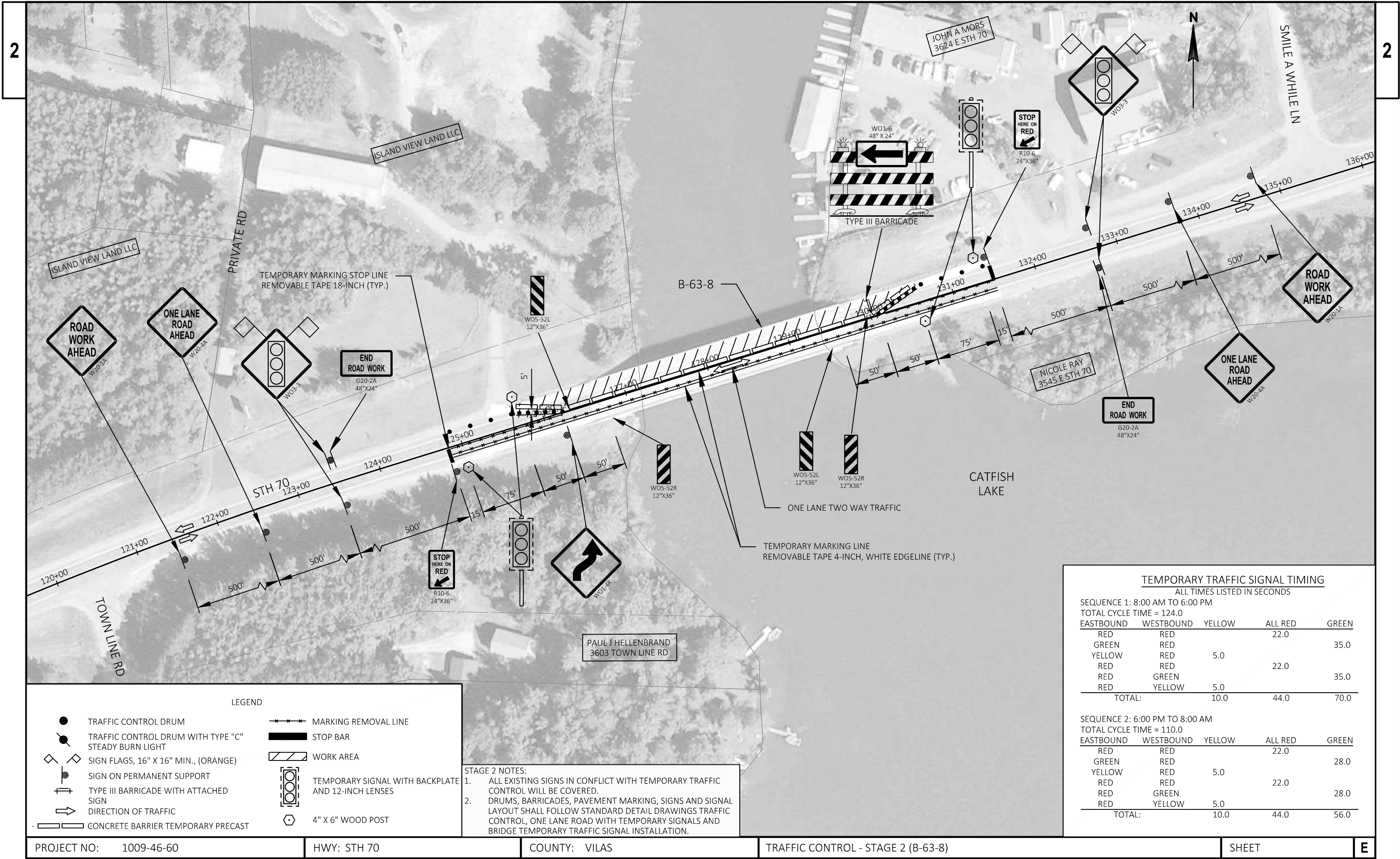
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL (B-63-8)

SHEET

E



LEGEND

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

SIGN FLAGS, 16" X 16" MIN., (ORANGE)

SIGN ON PERMANENT SUPPORT

TYPE III BARRICADE WITH ATTACHED SIGN

DIRECTION OF TRAFFIC

CONCRETE BARRIER TEMPORARY PRECAST

MARKING REMOVAL LINE

STOP BAR

WORK AREA

TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES

4" X 6" WOOD POST

STAGE 2 NOTES:

- ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
- DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

| TEMPORARY TRAFFIC SIGNAL TIMING | | | | |
|---------------------------------|-----------|--------|---------|-------|
| ALL TIMES LISTED IN SECONDS | | | | |
| SEQUENCE 1: 8:00 AM TO 6:00 PM | | | | |
| TOTAL CYCLE TIME = 124.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 22.0 | |
| GREEN | RED | | | 35.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 35.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 44.0 | 70.0 |
| SEQUENCE 2: 6:00 PM TO 8:00 AM | | | | |
| TOTAL CYCLE TIME = 110.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 22.0 | |
| GREEN | RED | | | 28.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 28.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 44.0 | 56.0 |

PROJECT NO: 1009-46-60

HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 2 (B-63-8)

SHEET

E

FILE NAME : P:\905\93\00093417\CADD\SHEETSP\B-63-8\025001_TC B-63-8.DWG

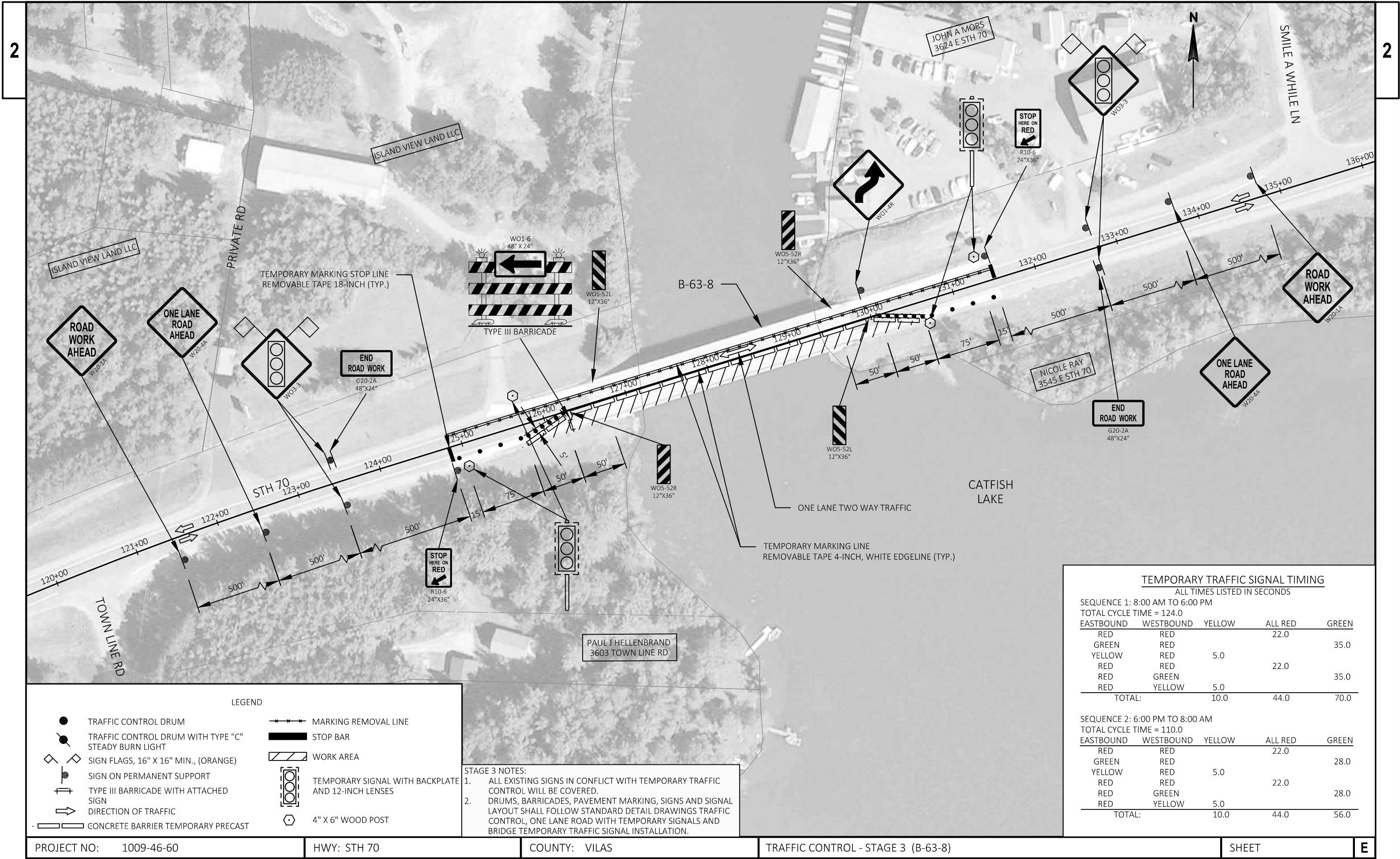
LAYOUT NAME - 025001_tc Stage 2

PLOT DATE : 1/24/2019 1:36 PM

PLOT BY : COURTNEY ROOYAKKERS

PLOT NAME :

WISDOT/CADDS SHEET 42



LEGEND

●

TRAFFIC CONTROL DRUM

●

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

◇

◇

SIGN FLAGS, 16" X 16" MIN., (ORANGE)

⊙

SIGN ON PERMANENT SUPPORT

⊢

⊢

TYPE III BARRICADE WITH ATTACHED SIGN

➡

DIRECTION OF TRAFFIC

▬

▬

CONCRETE BARRIER TEMPORARY PRECAST

—+—+—

MARKING REMOVAL LINE

▬

STOP BAR

▨

WORK AREA

⊞

⊞

⊞

TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES

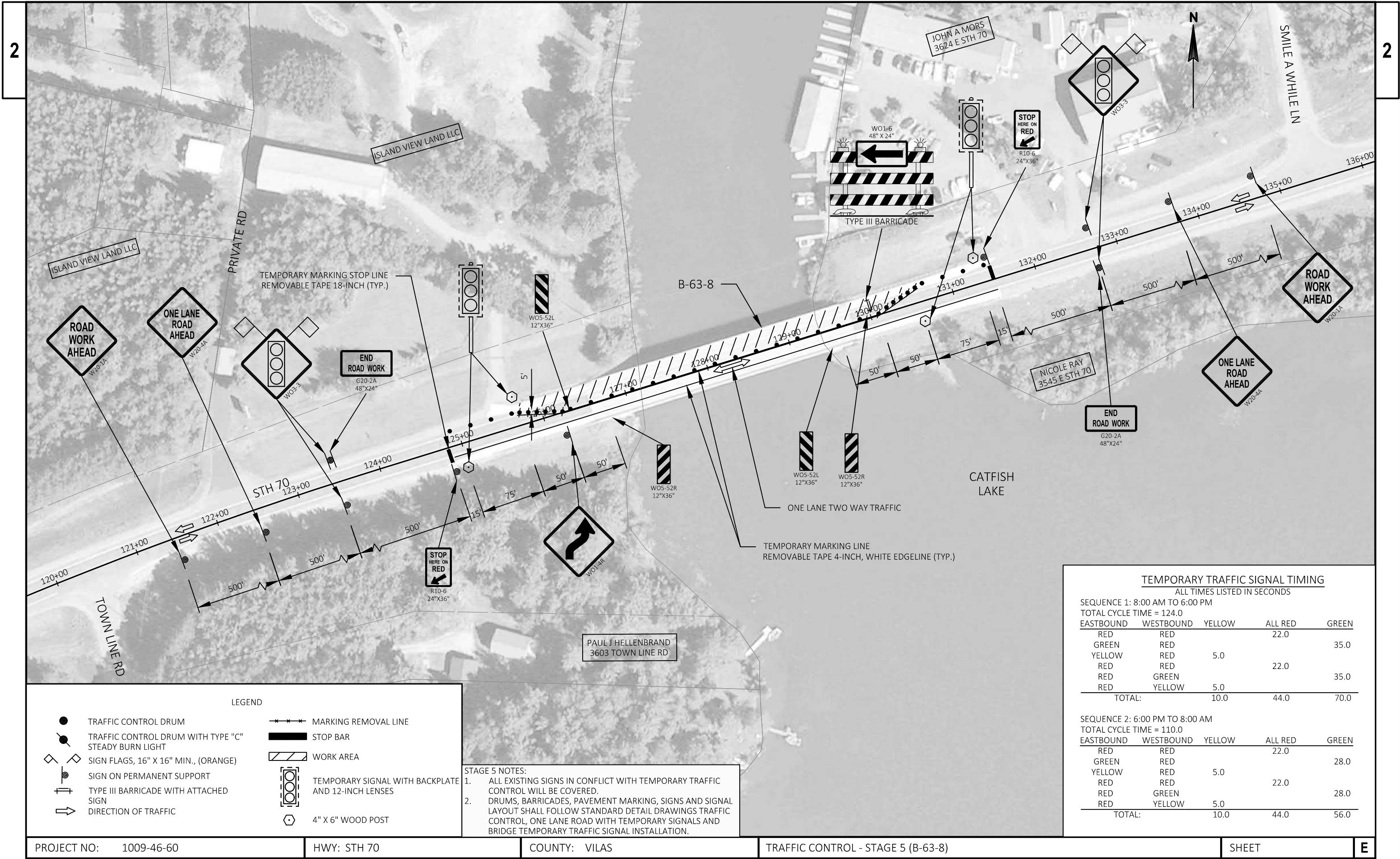
⬢

4" X 6" WOOD POST

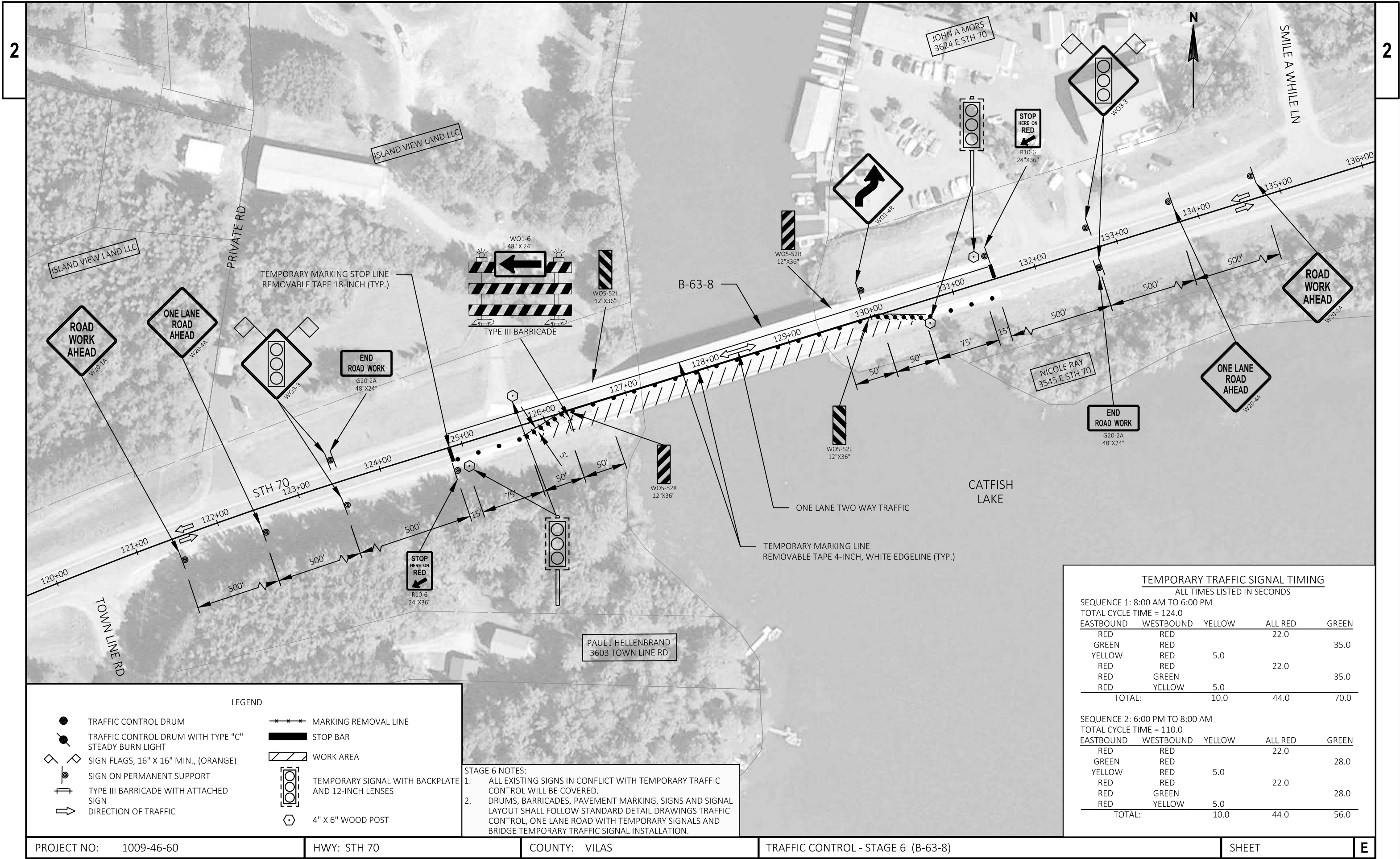
STAGE 3 NOTES:

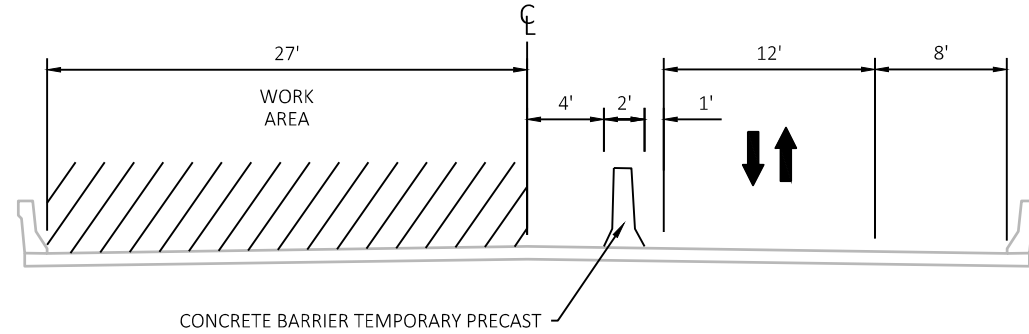
- ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
- DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

| TEMPORARY TRAFFIC SIGNAL TIMING | | | | |
|---------------------------------|-----------|--------|---------|-------|
| ALL TIMES LISTED IN SECONDS | | | | |
| SEQUENCE 1: 8:00 AM TO 6:00 PM | | | | |
| TOTAL CYCLE TIME = 124.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 22.0 | |
| GREEN | RED | | | 35.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 35.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 44.0 | 70.0 |
| SEQUENCE 2: 6:00 PM TO 8:00 AM | | | | |
| TOTAL CYCLE TIME = 110.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 22.0 | |
| GREEN | RED | | | 28.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 28.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 44.0 | 56.0 |

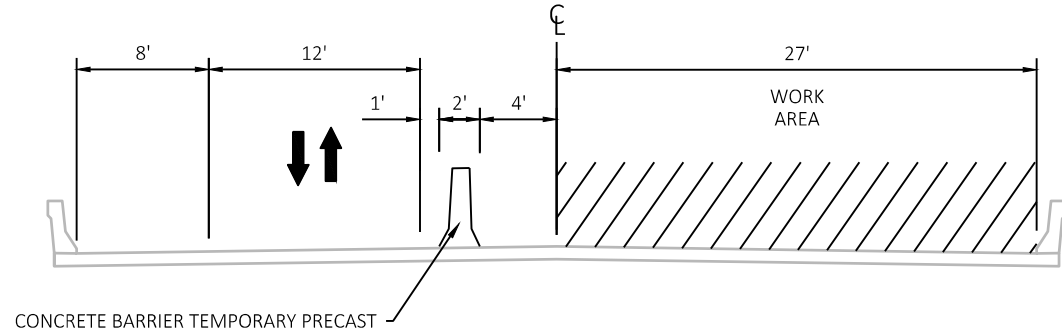


| TEMPORARY TRAFFIC SIGNAL TIMING | | | | |
|---------------------------------|-----------|--------|---------|-------|
| ALL TIMES LISTED IN SECONDS | | | | |
| SEQUENCE 1: 8:00 AM TO 6:00 PM | | | | |
| TOTAL CYCLE TIME = 124.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 22.0 | |
| GREEN | RED | | | 35.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 35.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 44.0 | 70.0 |
| SEQUENCE 2: 6:00 PM TO 8:00 AM | | | | |
| TOTAL CYCLE TIME = 110.0 | | | | |
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
| RED | RED | | 22.0 | |
| GREEN | RED | | | 28.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 28.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 44.0 | 56.0 |

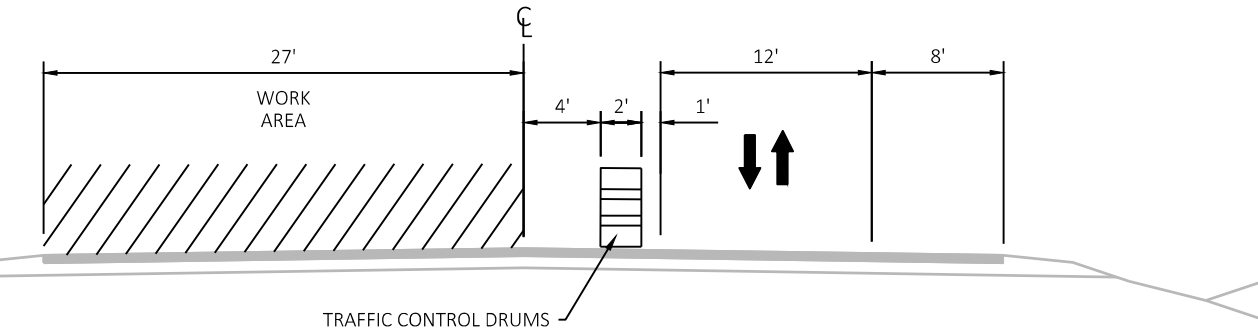




WORK AREA ON BRIDGE B-63-10



WORK AREA ON BRIDGE B-63-10



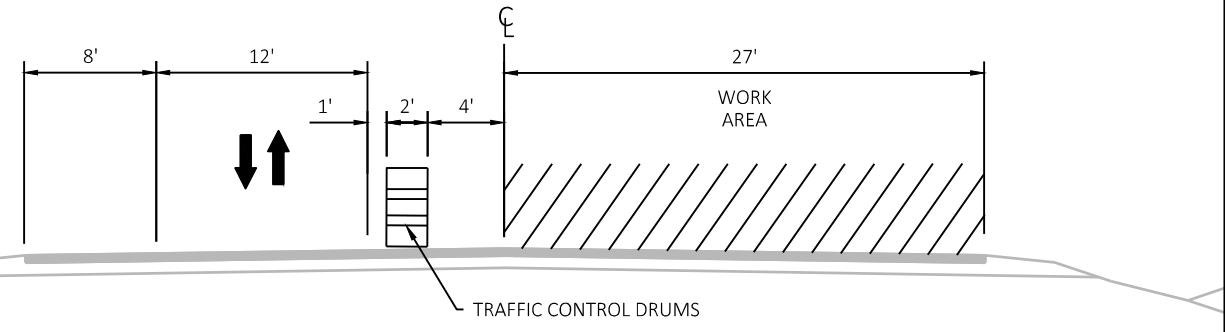
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 1

STH 17/70 LOOKING EAST

STAGE 1 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 1 (B-63-10)"
2. CONCRETE MASONRY OVERLAY AND CLEANING WB CONCRETE APPROACH SLABS



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 2

STH 17/70 LOOKING EAST

STAGE 2 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 2 (B-63-10)"
2. CONCRETE MASONRY OVERLAY AND CLEANING EB CONCRETE APPROACH SLABS

PROJECT NO: 1009-46-60

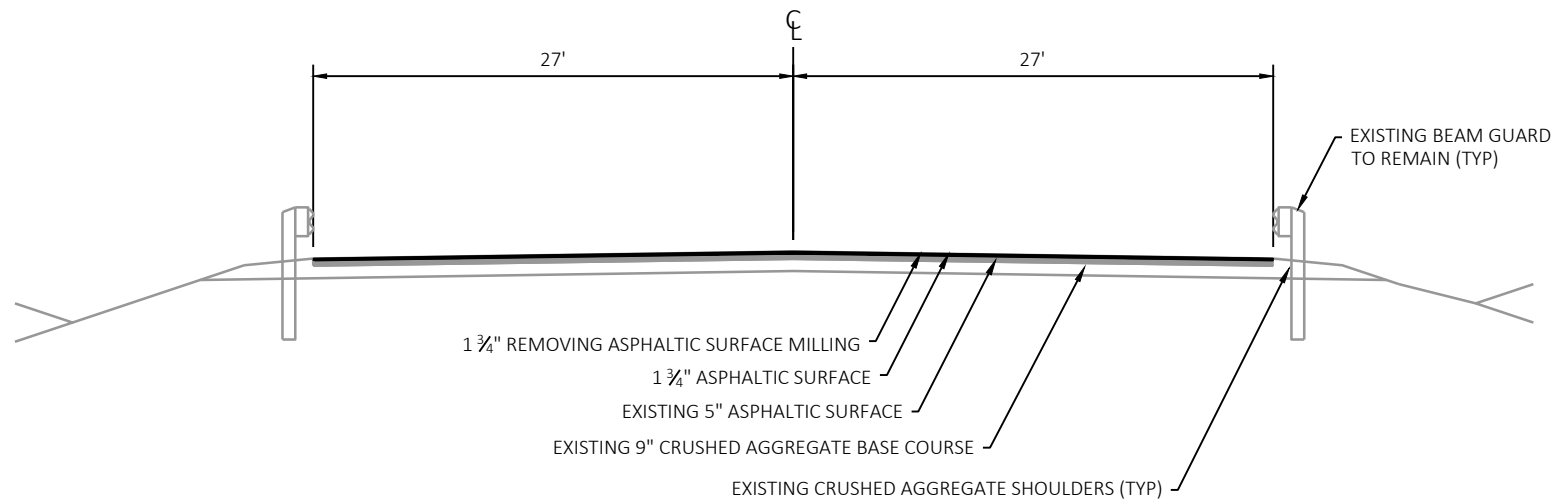
HWY: STH 17/70

COUNTY: VILAS

TRAFFIC CONTROL (B-63-10)

SHEET

E



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 3

STH 17/70 LOOKING EAST
STA. 631+36 - STA. 633+26.17
STA. 633+98.83 - STA. 635+89

STAGE 3 NOTES:

1. STAGE 3 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. MILL AND OVERLAY ASPHALT LANES AND SHOULDERS

PROJECT NO: 1009-46-60

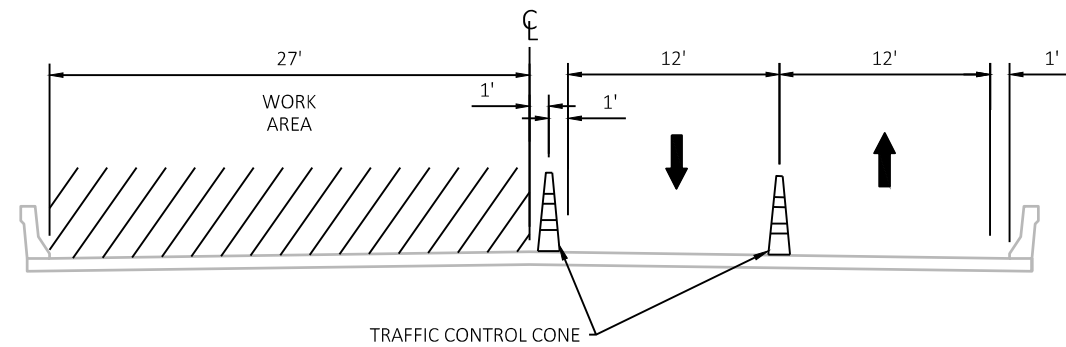
HWY: STH 17/70

COUNTY: VILAS

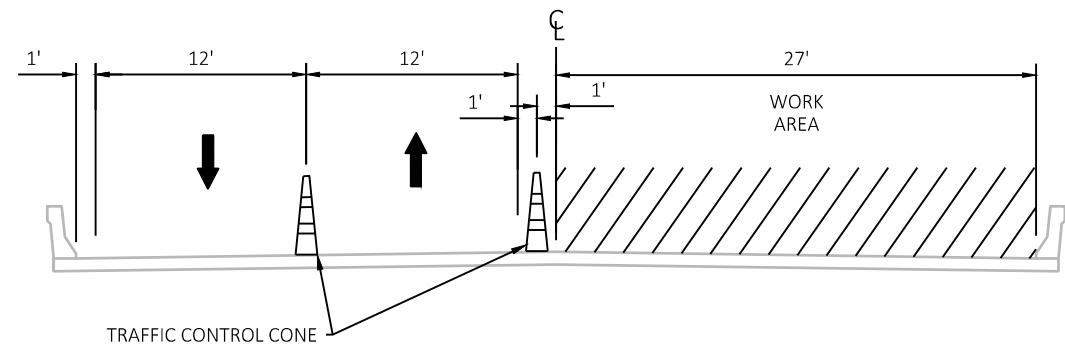
TRAFFIC CONTROL (B-63-10)

SHEET

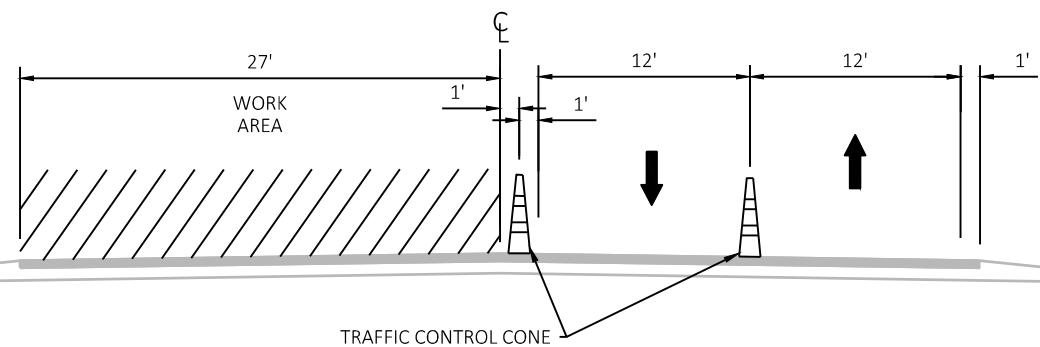
E



WORK AREA ON BRIDGE B-63-10



WORK AREA ON BRIDGE B-63-10



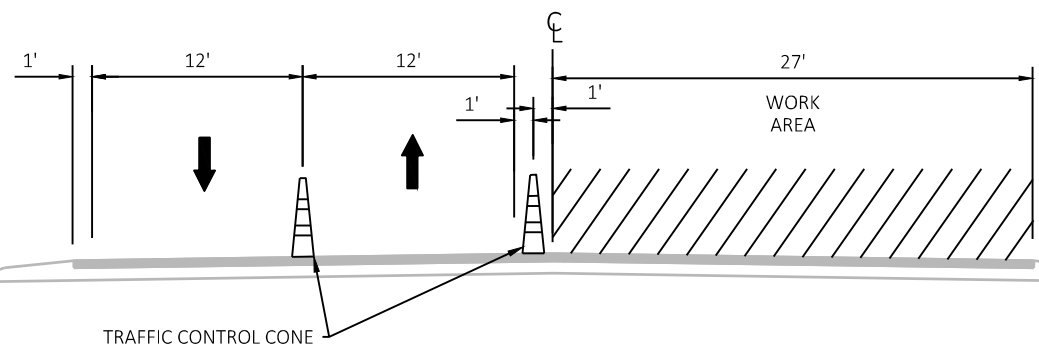
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 4

STH 17/70 LOOKING EAST

STAGE 4 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 4 (B-63-10)"
2. POLYMER OVERLAY ON WB APPROACH SLABS, SEE CONSTRUCTION DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 5

STH 17/70 LOOKING EAST

STAGE 5 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 5 (B-63-10)"
2. POLYMER OVERLAY ON EB APPROACH SLABS, SEE CONSTRUCTION DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS
3. INSTALL PERMANENT PAVEMENT MARKINGS ON APPROACH AND STRUCTURE

PROJECT NO: 1009-46-60

HWY: STH 17/70

COUNTY: VILAS

TRAFFIC CONTROL (B-63-10)

SHEET

E

| | | | |
|--------|-----|------|------|
| TOTAL: | 7.0 | 44.0 | 28.0 |
|--------|-----|------|------|

WISDOT/CADDS SHEET 42

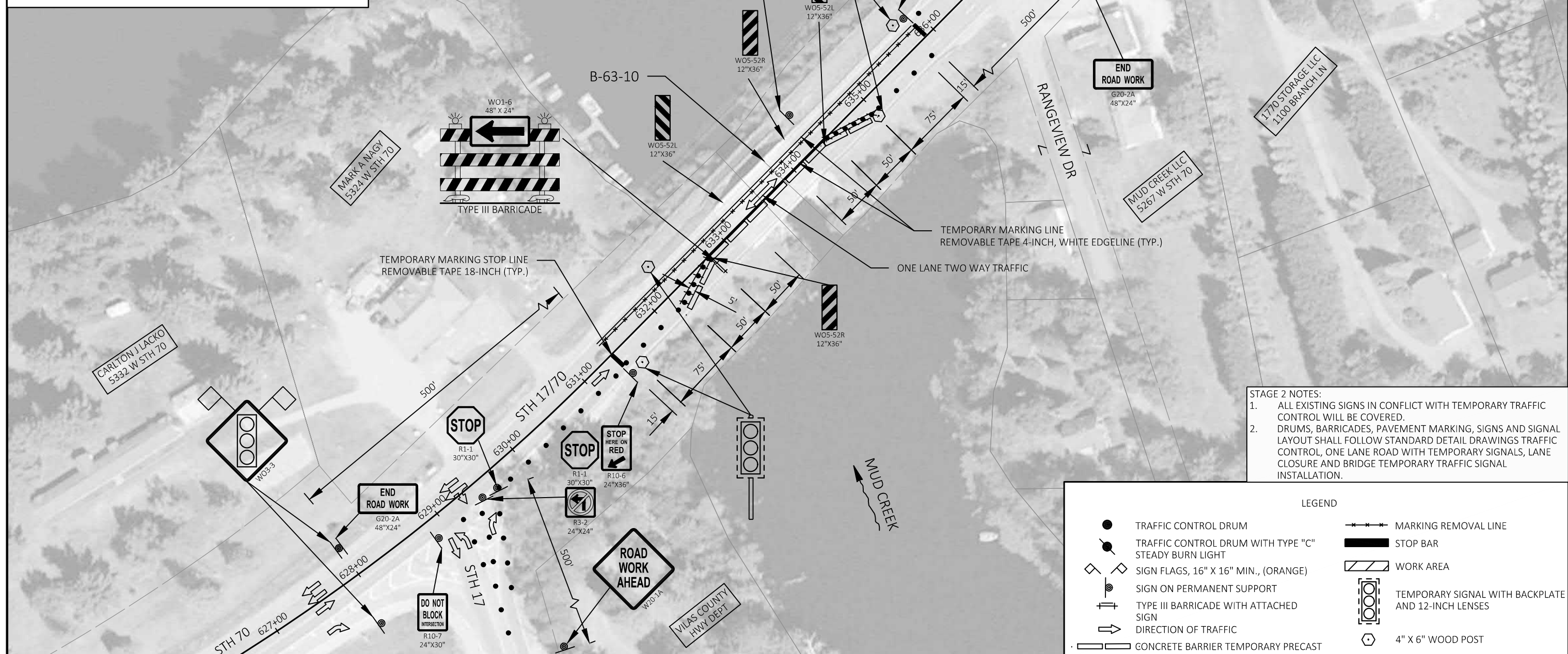
ALL TIMES LISTED IN SECONDS

TOTAL CYCLE TIME = 93.0

SEQUENCE 2: 6:00 PM TO 7:00 AM













TOTAL CYCLE TIME = 79.0

| NORTHBOUND | SOUTHBOUND | YELLOW | ALL RED | GREEN |
|------------|------------|--------|---------|-------|
| RED | RED | | 22.0 | |
| GREEN | RED | | | 14.0 |
| YELLOW | RED | 3.5 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 14.0 |
| RED | YELLOW | 3.5 | | |
| TOTAL: | | 7.0 | 44.0 | 28.0 |



| |
|---|
| STAGE 2 NOTES: |
| 1. ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED. |
| 2. DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS, LANE CLOSURE AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION. |

LEGEND

- | | | | |
|---|---|---|---|
|  | TRAFFIC CONTROL DRUM |  | MARKING REMOVAL LINE |
|  | TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT |  | STOP BAR |
|  | SIGN FLAGS, 16" X 16" MIN., (ORANGE) |  | WORK AREA |
|  | SIGN ON PERMANENT SUPPORT |  | TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES |
|  | TYPE III BARRICADE WITH ATTACHED SIGN |  | 4" X 6" WOOD POST |
|  | DIRECTION OF TRAFFIC | | |
|  | CONCRETE BARRIER TEMPORARY PRECAST | | |

TEMPORARY TRAFFIC SIGNAL TIMING

ALL TIMES LISTED IN SECONDS

SEQUENCE 1: 7:00 AM TO 6:00 PM

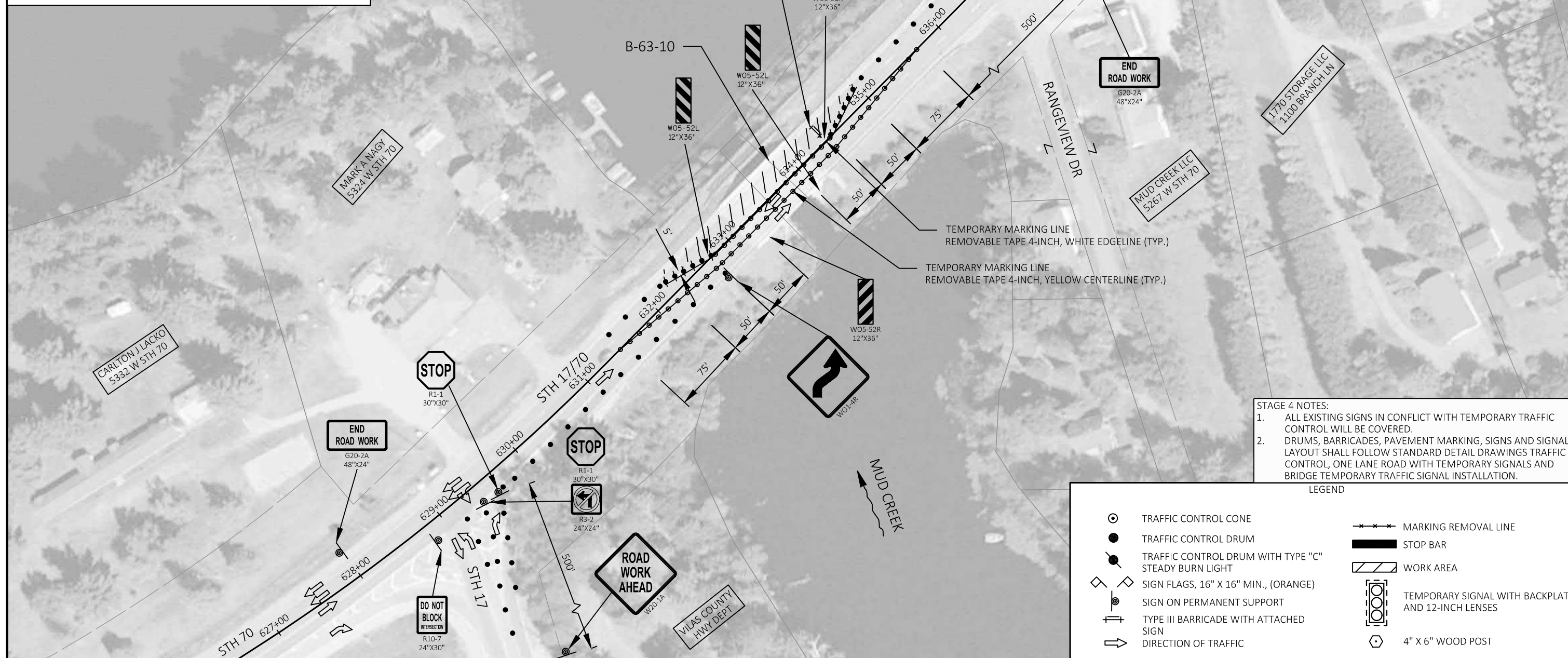
TOTAL CYCLE TIME = 93.0

| NORTHBOUND | SOUTHBOUND | YELLOW | ALL RED | GREEN |
|------------|------------|--------|---------|-------|
| RED | RED | | 22.0 | |
| GREEN | RED | | | 21.0 |
| YELLOW | RED | 3.5 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 21.0 |
| RED | YELLOW | 3.5 | | |
| TOTAL: | | 7.0 | 44.0 | 42.0 |

SEQUENCE 2: 6:00 PM TO 7:00 AM

TOTAL CYCLE TIME = 79.0

| NORTHBOUND | SOUTHBOUND | YELLOW | ALL RED | GREEN |
|------------|------------|--------|---------|-------|
| RED | RED | | 22.0 | |
| GREEN | RED | | | 14.0 |
| YELLOW | RED | 3.5 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 14.0 |
| RED | YELLOW | 3.5 | | |
| TOTAL: | | 7.0 | 44.0 | 28.0 |



STAGE 4 NOTES:

1. ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
2. DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

LEGEND

| | | | |
|--|--|--|--|
| | TRAFFIC CONTROL CONE | | MARKING REMOVAL LINE |
| | TRAFFIC CONTROL DRUM | | STOP BAR |
| | TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT | | WORK AREA |
| | SIGN FLAGS, 16" X 16" MIN., (ORANGE) | | TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES |
| | SIGN ON PERMANENT SUPPORT | | 4" X 6" WOOD POST |
| | TYPE III BARRICADE WITH ATTACHED SIGN | | |
| | DIRECTION OF TRAFFIC | | |

PROJECT NO: 1009-46-60

HWY: STH 17/70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 4 (B-63-10)

SHEET

E

ALL TIMES LISTED IN SECONDS

TOTAL CYCLE TIME = 93.0

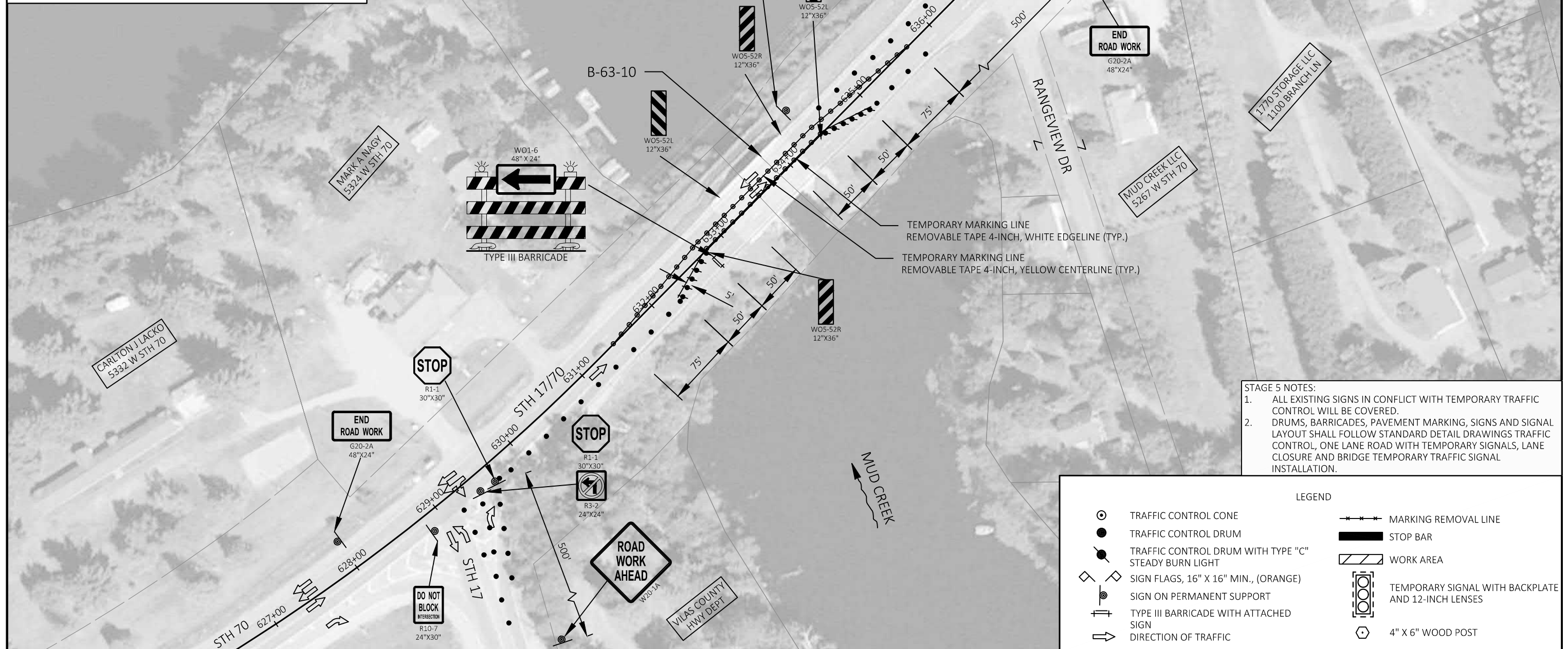
NORTHBOUND SOUTHBOUND

| | | | | |
|--------|--------|-----|------|------|
| RED | RED | | 22.0 | |
| GREEN | RED | | | 21.0 |
| YELLOW | RED | 3.5 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 21.0 |
| RED | YELLOW | 3.5 | | |
| TOTAL: | | 7.0 | 44.0 | 42.0 |

TOTAL CYCLE TIME = 79.0

NORTHBOUND SOUTHBOUND













| | | | | |
|--------|--------|-----|------|------|
| RED | RED | | 22.0 | |
| GREEN | RED | | | 14.0 |
| YELLOW | RED | 3.5 | | |
| RED | RED | | 22.0 | |
| RED | GREEN | | | 14.0 |
| RED | YELLOW | 3.5 | | |
| TOTAL: | | 7.0 | 44.0 | 28.0 |



STAGE 5 NOTES:

1. ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
2. DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS, LANE CLOSURE AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

LEGEND

- | | | | |
|---|---|---|---|
|  | TRAFFIC CONTROL CONE |  | MARKING REMOVAL LINE |
|  | TRAFFIC CONTROL DRUM |  | STOP BAR |
|  | TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT |  | WORK AREA |
|  | SIGN FLAGS, 16" X 16" MIN., (ORANGE) |  | TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES |
|  | SIGN ON PERMANENT SUPPORT |  | 4" X 6" WOOD POST |
|  | TYPE III BARRICADE WITH ATTACHED SIGN | | |
|  | DIRECTION OF TRAFFIC | | |

PROJECT NO: 1009-46-60

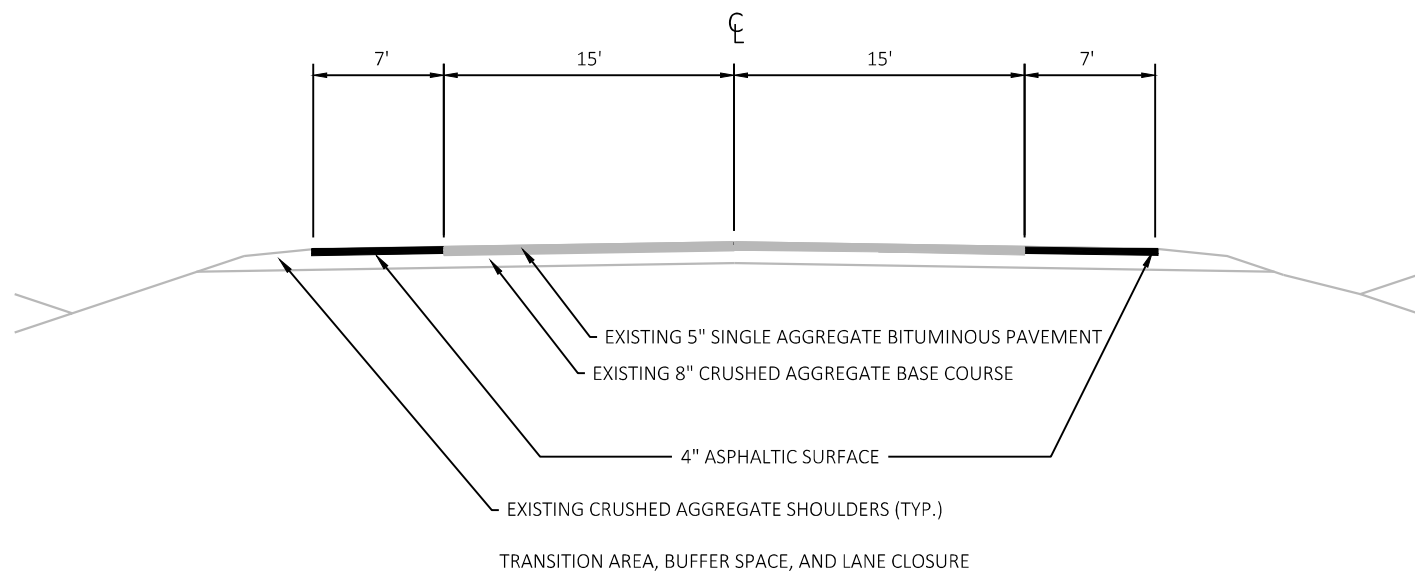
HWY: STH 17/70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 5 (B-63-10)

SHEET

E

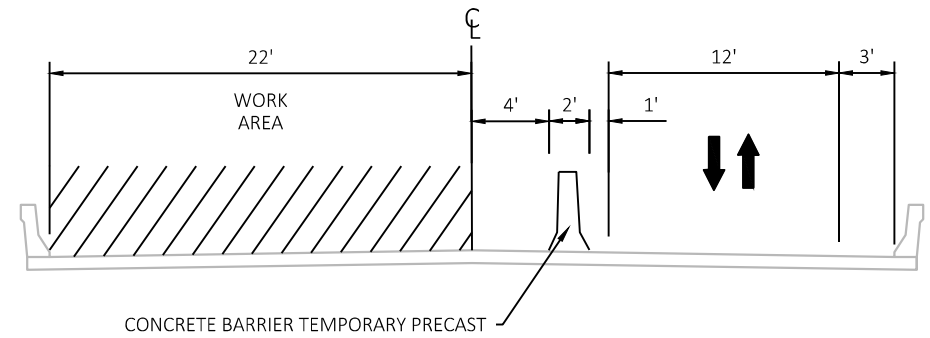


TRAFFIC CONTROL - STAGE 1

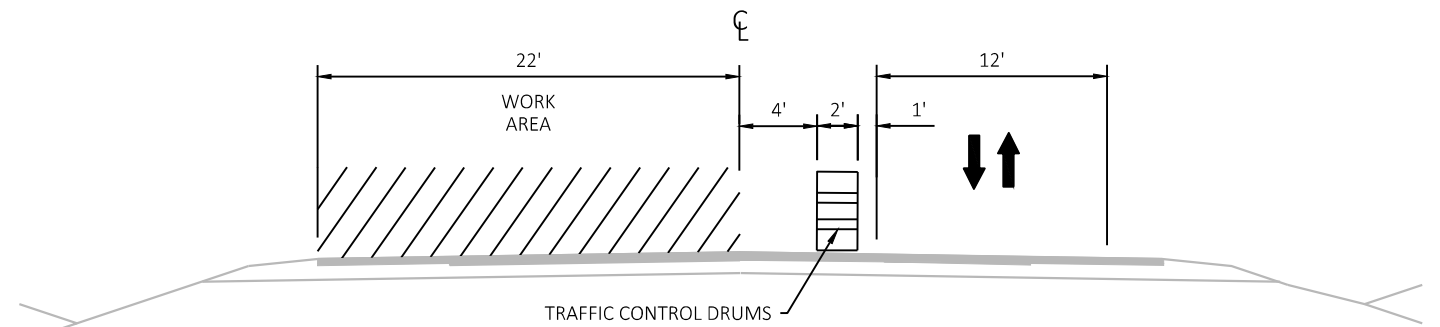
STH 70 LOOKING EAST

STAGE 1 NOTES:

1. STAGE 1 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. PAVE SHOULDERS (SEE PAVING PLAN FOR SPECIFIC LOCATIONS)



WORK AREA ON BRIDGE B-63-13



TRAFFIC CONTROL - STAGE 2

STH 70 LOOKING EAST

STAGE 2 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 2 (B-63-13)"
2. CONCRETE DECK REPAIR ON B-63-13 AND CONCRETE PAVEMENT REPAIR ON WB APPROACHES

PROJECT NO: 1009-46-60

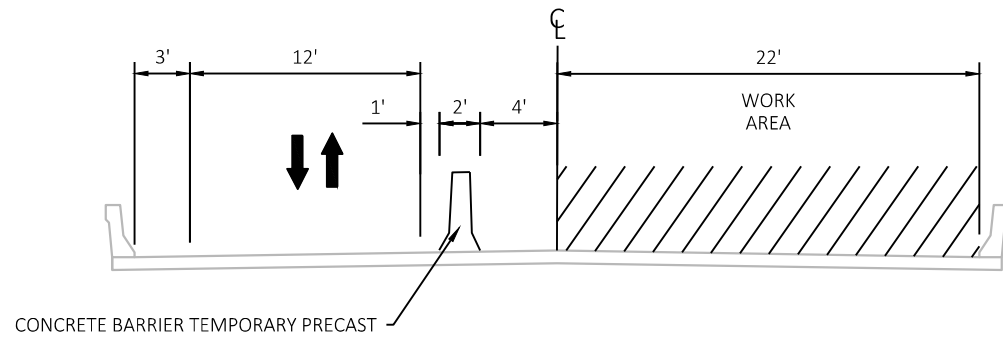
HWY: STH 70

COUNTY: VILAS

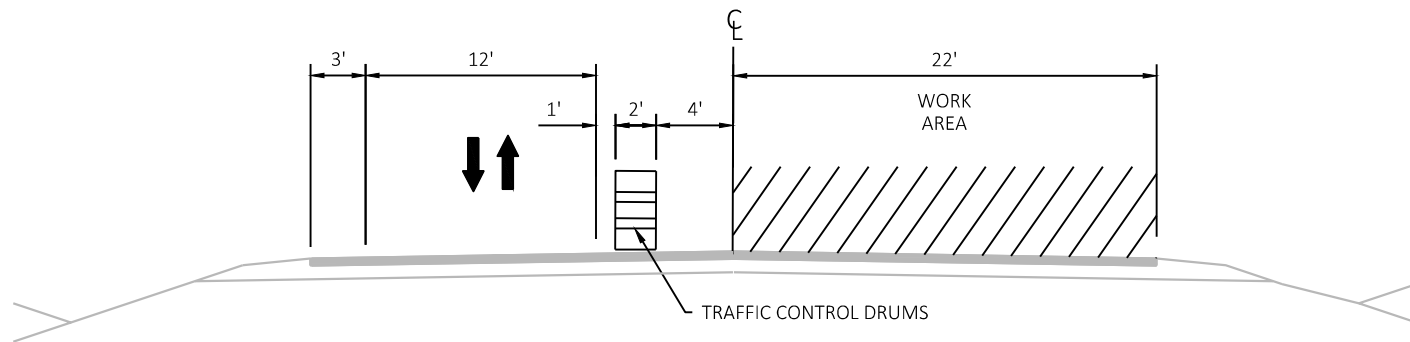
TRAFFIC CONTROL (B-63-13)

SHEET

E



WORK AREA ON BRIDGE B-63-13



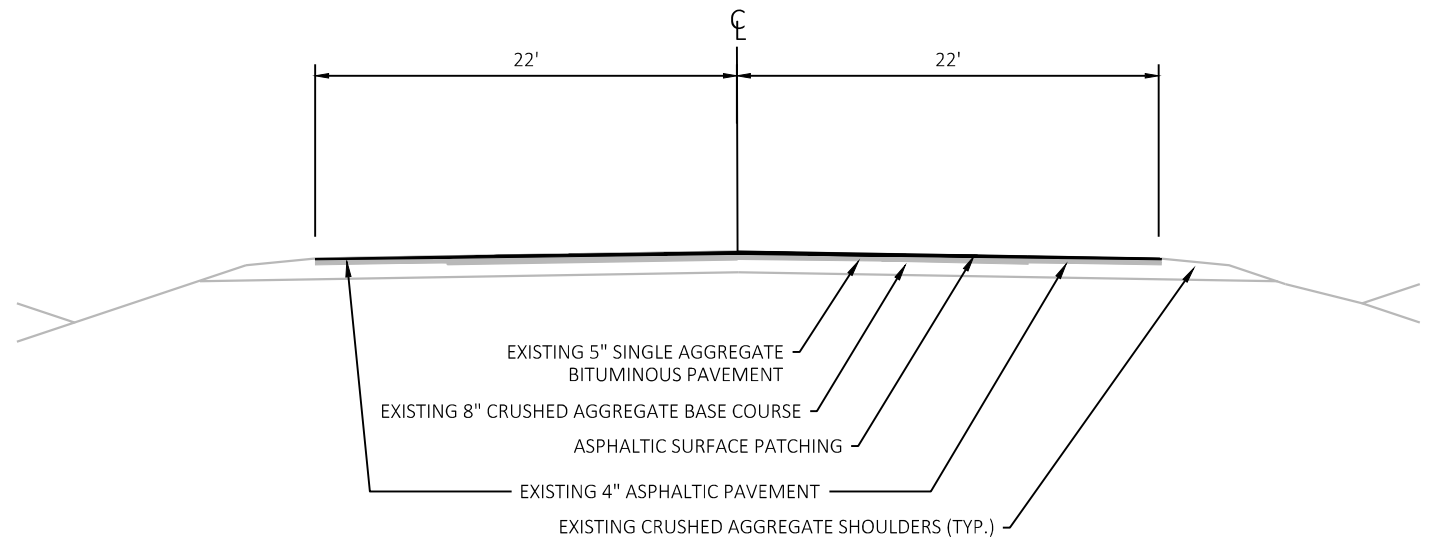
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 3

STH 70 LOOKING EAST

STAGE 3 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 3 (B-63-13)"
2. CONCRETE DECK REPAIR ON B-63-13 AND CONCRETE PAVEMENT REPAIR ON EB APPROACHES



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 4

STH 70 LOOKING EAST

STAGE 4 NOTES:

1. STAGE 4 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. ASPHALTIC SURFACE PATCHING THROUGH THE LANES AND SHOULDER, AS DETERMINED BY THE ENGINEER
3. INSTALL PERMANENT PAVEMENT MARKINGS ON APPROACH AND STRUCTURE

PROJECT NO: 1009-46-60

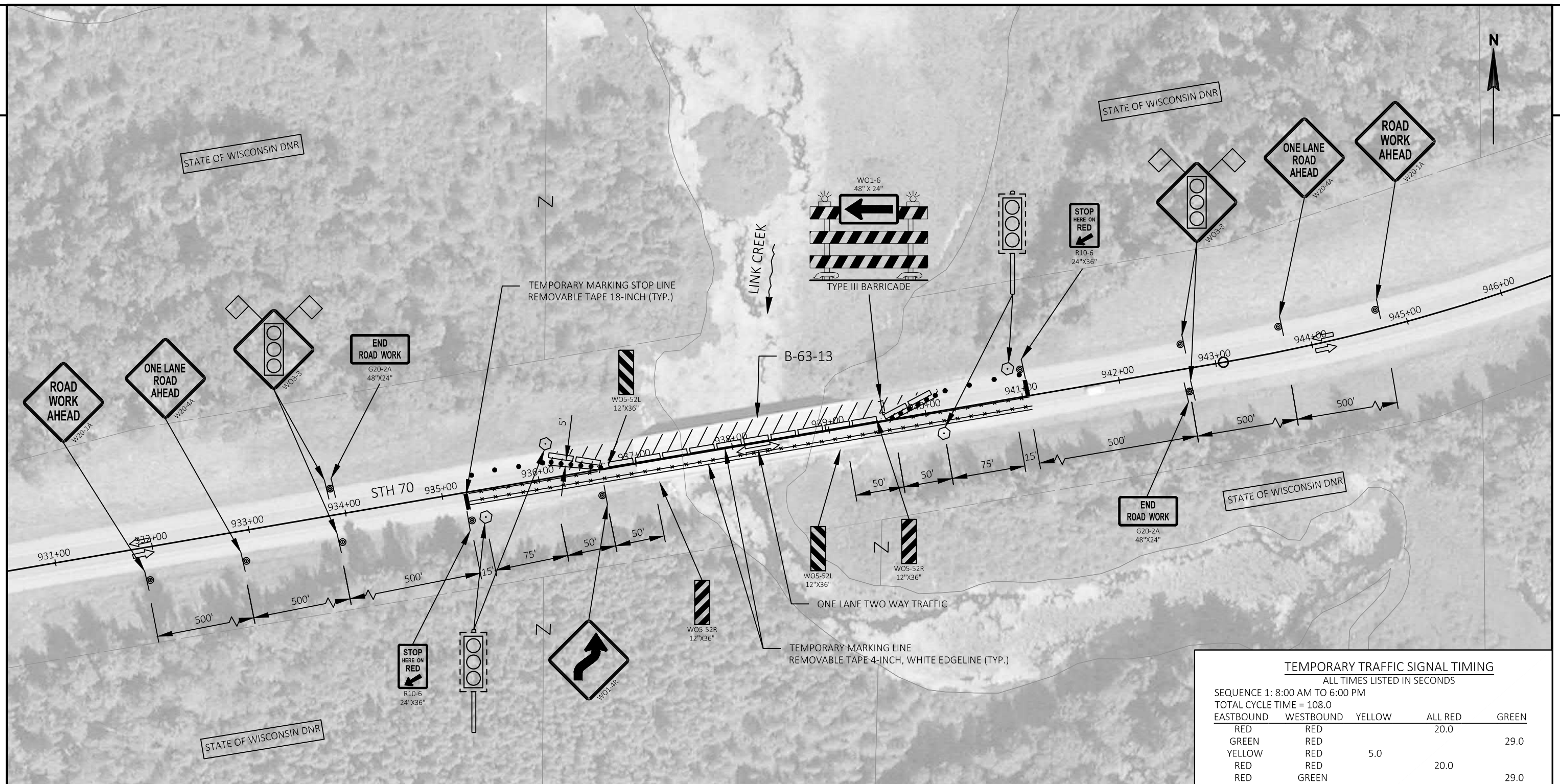
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL (B-63-13)

SHEET

E



LEGEND

- | | | |
|---|--|--|
| ● | TRAFFIC CONTROL DRUM | --- MARKING REMOVAL LINE |
| ● | TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT | ■ STOP BAR |
| ◇ | SIGN FLAGS, 16" X 16" MIN., (ORANGE) | ▨ WORK AREA |
| ⊙ | SIGN ON PERMANENT SUPPORT | ⌚ TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES |
| ⊢ | TYPE III BARRICADE WITH ATTACHED SIGN | ⬢ 4" X 6" WOOD POST |
| ➡ | DIRECTION OF TRAFFIC | |
| ▬ | CONCRETE BARRIER TEMPORARY PRECAST | |

STAGE 2 NOTES:

- ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
- DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

TEMPORARY TRAFFIC SIGNAL TIMING

ALL TIMES LISTED IN SECONDS

SEQUENCE 1: 8:00 AM TO 6:00 PM

TOTAL CYCLE TIME = 108.0

| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
|-----------|-----------|--------|---------|-------|
| RED | RED | | 20.0 | |
| GREEN | RED | | | 29.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 20.0 | |
| RED | GREEN | | | 29.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 40.0 | 58.0 |

SEQUENCE 2: 6:00 PM TO 8:00 AM

TOTAL CYCLE TIME = 96.0

| NORTHBOUND | SOUTHBOUND | YELLOW | ALL RED | GREEN |
|------------|------------|--------|---------|-------|
| RED | RED | | 20.0 | |
| GREEN | RED | | | 23.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 20.0 | |
| RED | GREEN | | | 23.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 40.0 | 46.0 |

PROJECT NO: 1009-46-60

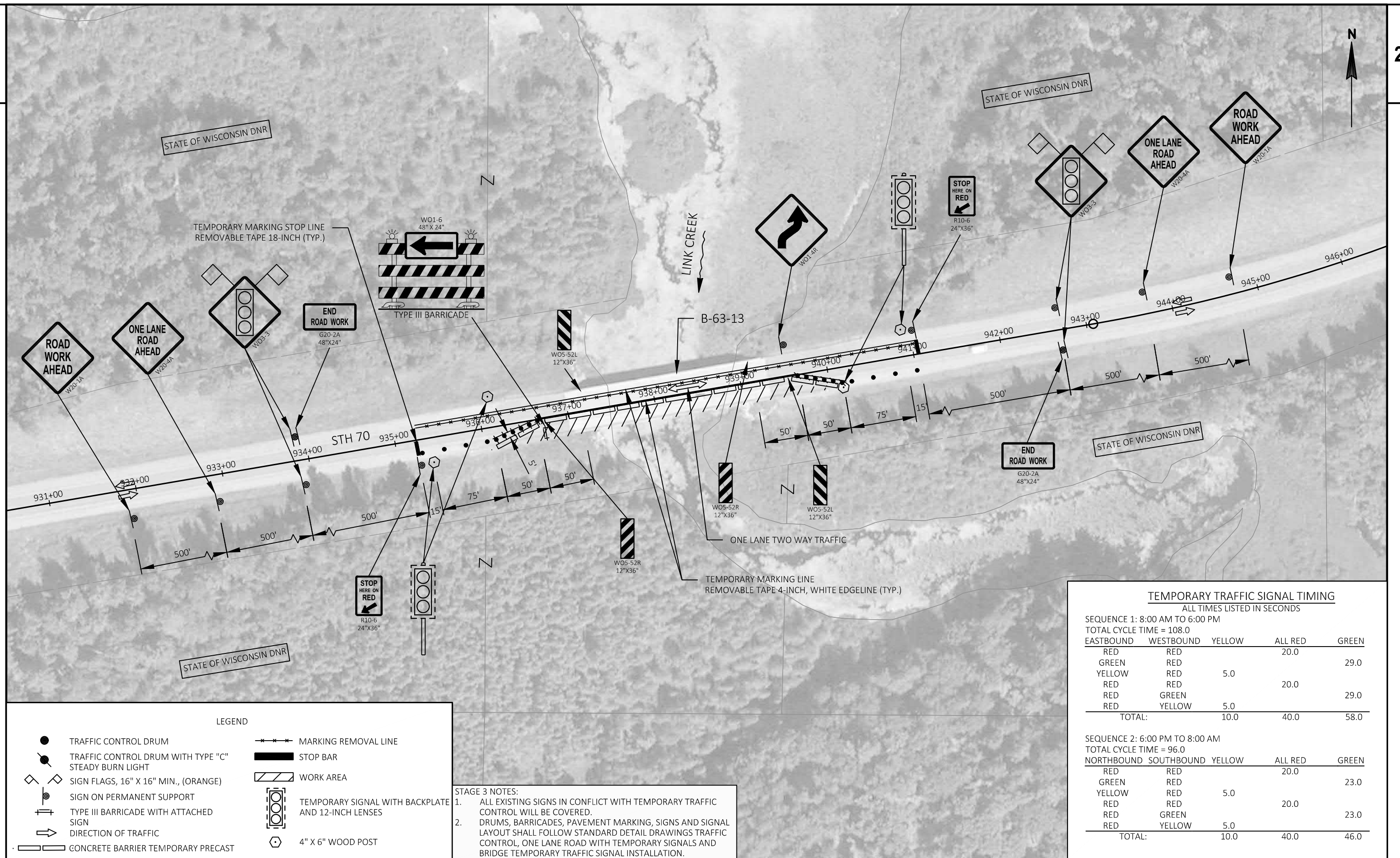
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 2 (B-63-13)

SHEET

E



PROJECT NO: 1009-46-60

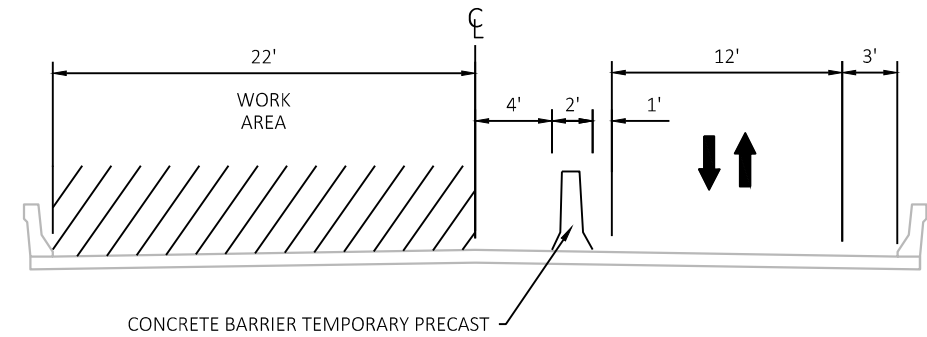
HWY: STH 70

COUNTY: VILAS

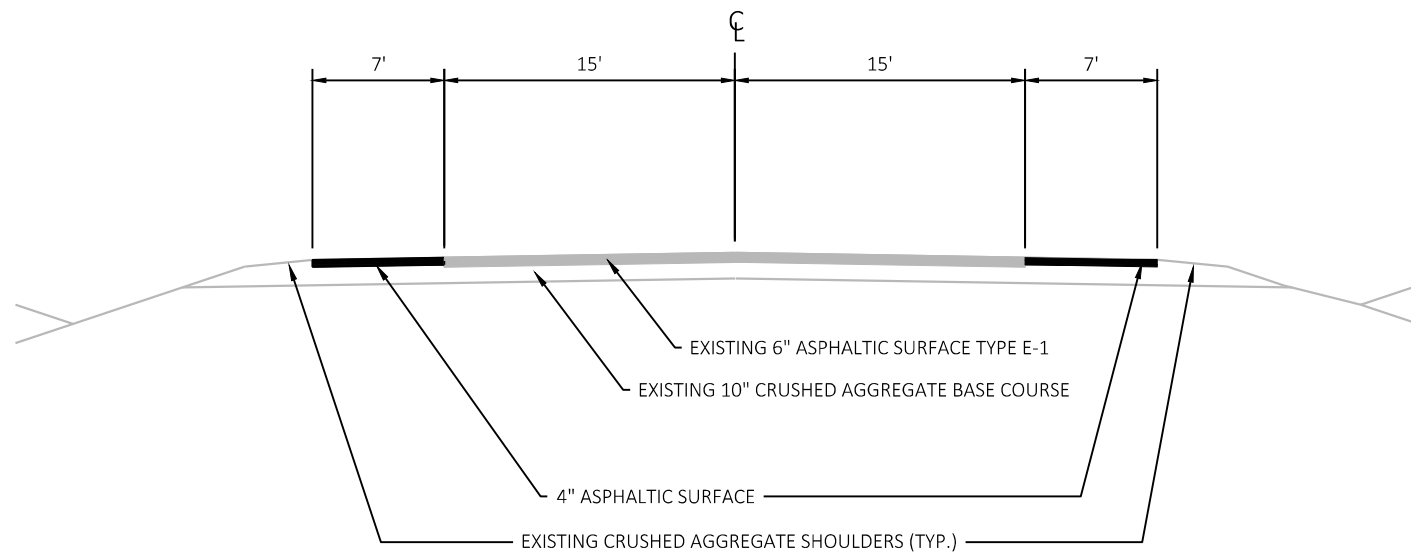
TRAFFIC CONTROL - STAGE 3 (B-63-13)

SHEET

E



WORK AREA ON BRIDGE B-63-14



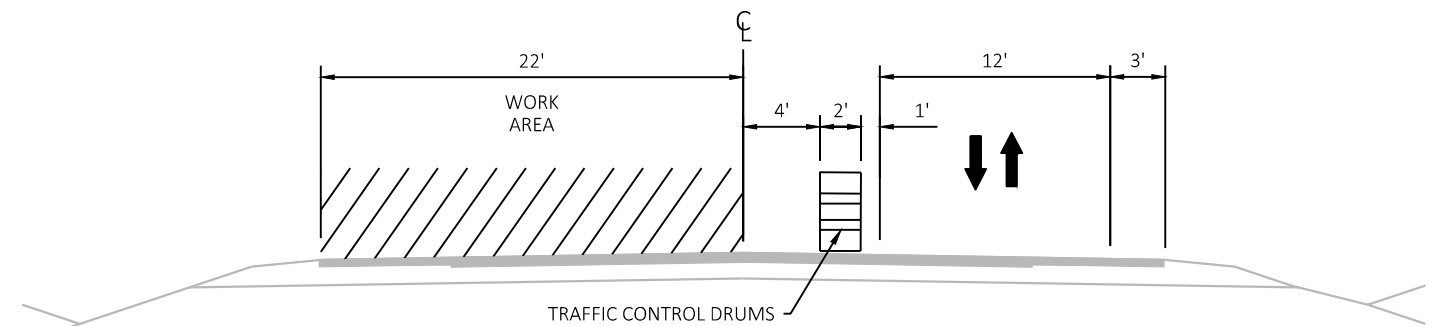
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 1

USH 45/STH 32 LOOKING NORTH

STAGE 1 NOTES:

1. STAGE 1 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. PAVE SHOULDERS (SEE PAVING PLAN FOR SPECIFIC LOCATIONS)



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 2

USH 45/STH 32 LOOKING NORTH

STAGE 2 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 2 (B-63-14)"
2. CONCRETE DECK REPAIR ON B-63-14 AND CONCRETE PAVEMENT REPAIR ON SB APPROACHES

PROJECT NO: 1009-46-60

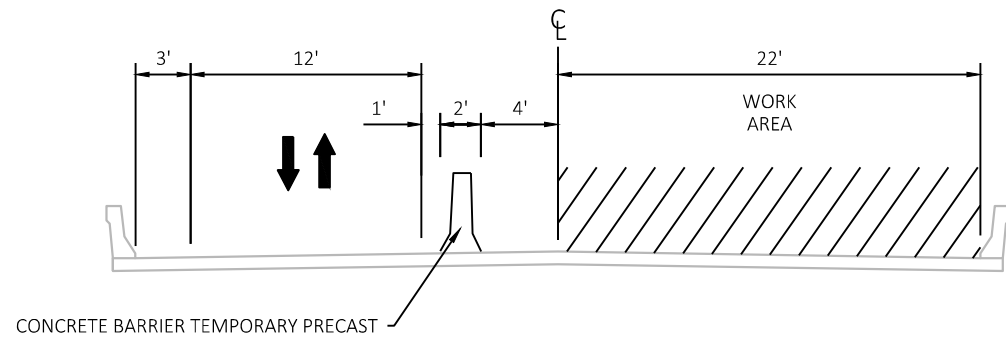
HWY: USH 45/STH 32

COUNTY: VILAS

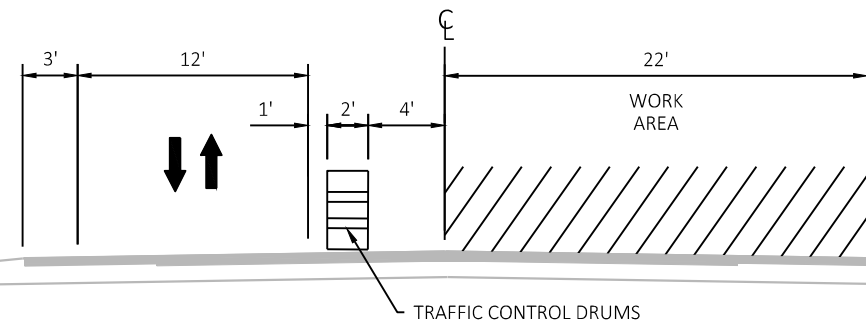
TRAFFIC CONTROL (B-63-14)

SHEET

E



WORK AREA ON BRIDGE B-63-14



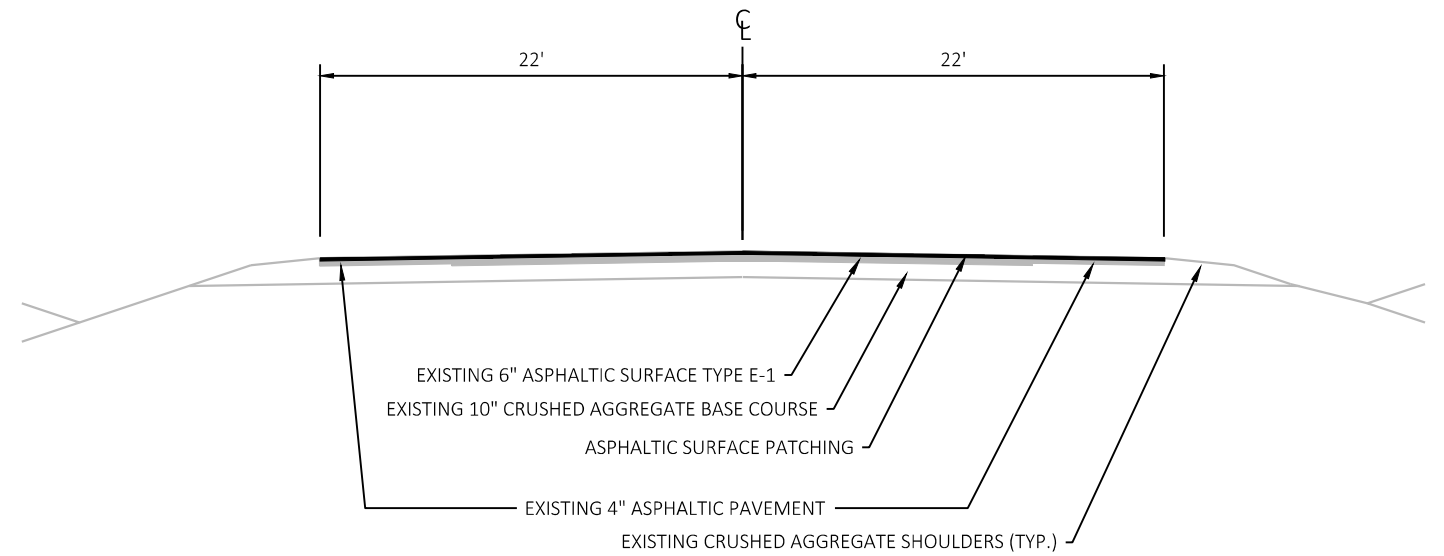
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 3

USH 45/STH 32 LOOKING NORTH

STAGE 3 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 3 (B-63-14)"
2. CONCRETE DECK REPAIR ON B-63-14 AND CONCRETE PAVEMENT REPAIR ON NB APPROACHES



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 4

USH 45/STH 32 LOOKING NORTH

STAGE 4 NOTES:

1. STAGE 4 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. ASPHALTIC SURFACE PATCHING THROUGH THE LANES AND SHOULDER, AS DETERMINED BY THE ENGINEER
3. INSTALL PERMANENT PAVEMENT MARKINGS ON APPROACH AND STRUCTURE

PROJECT NO: 1009-46-60

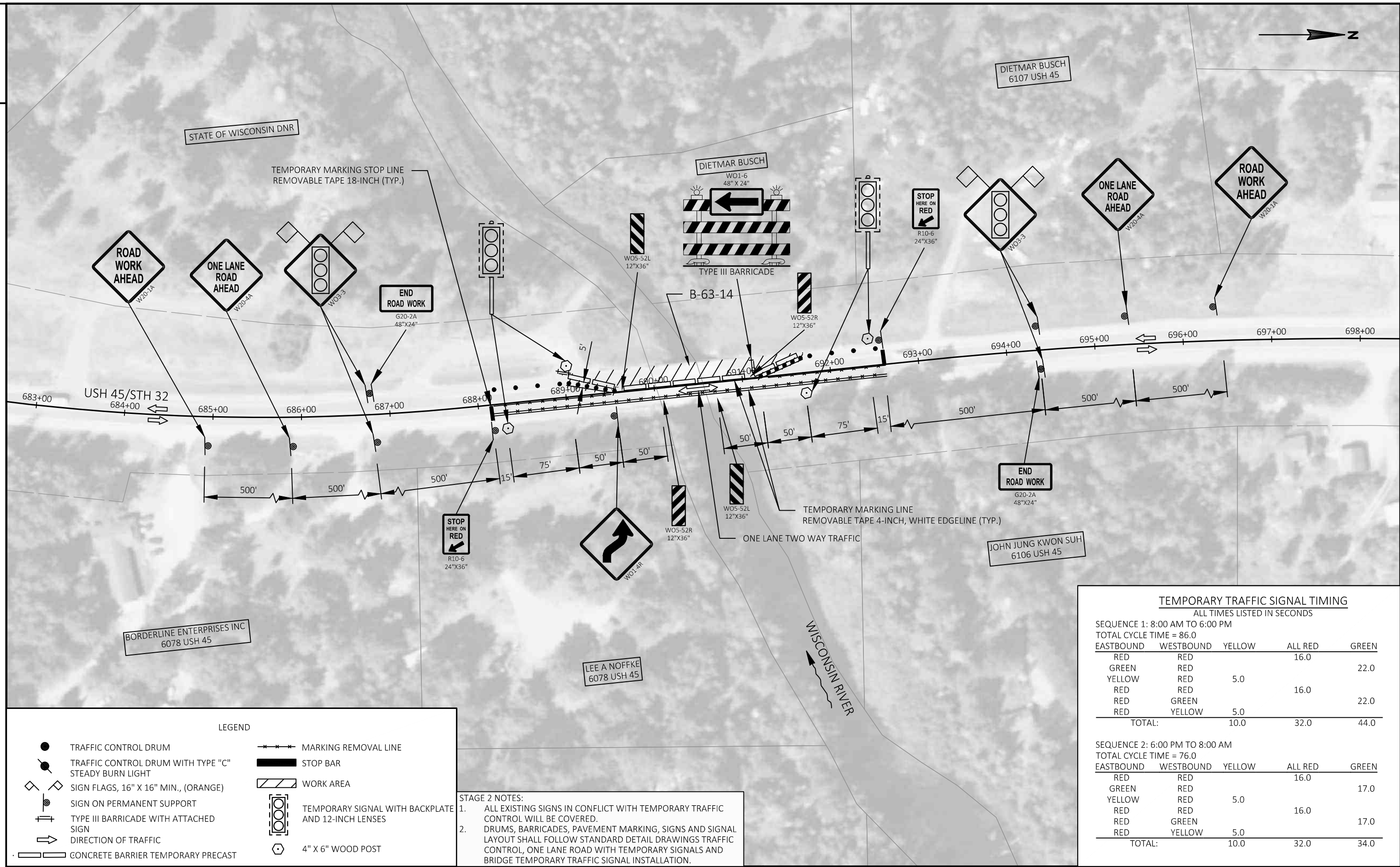
HWY: USH 45/STH 32

COUNTY: VILAS

TRAFFIC CONTROL (B-63-14)

SHEET

E



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ◇

SIGN FLAGS, 16" X 16" MIN., (ORANGE)
- ⦿

SIGN ON PERMANENT SUPPORT
- ⦿

TYPE III BARRICADE WITH ATTACHED SIGN
- ➡

DIRECTION OF TRAFFIC
- ▬

CONCRETE BARRIER TEMPORARY PRECAST
- ⋯

MARKING REMOVAL LINE
- ▬

STOP BAR
- ▨

WORK AREA
- ⦿

TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES
- ⦿

4" X 6" WOOD POST

STAGE 2 NOTES:

1. ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
2. DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

TEMPORARY TRAFFIC SIGNAL TIMING

ALL TIMES LISTED IN SECONDS

SEQUENCE 1: 8:00 AM TO 6:00 PM

TOTAL CYCLE TIME = 86.0

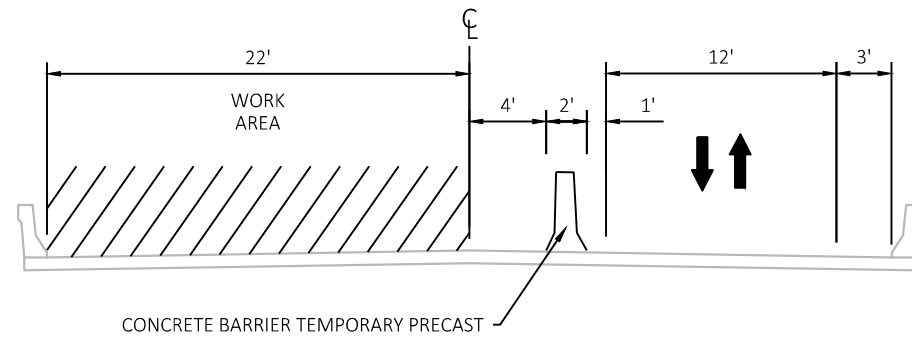
| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
|-----------|-----------|--------|---------|-------|
| RED | RED | | 16.0 | |
| GREEN | RED | | | 22.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 16.0 | |
| RED | GREEN | | | 22.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 32.0 | 44.0 |

SEQUENCE 2: 6:00 PM TO 8:00 AM

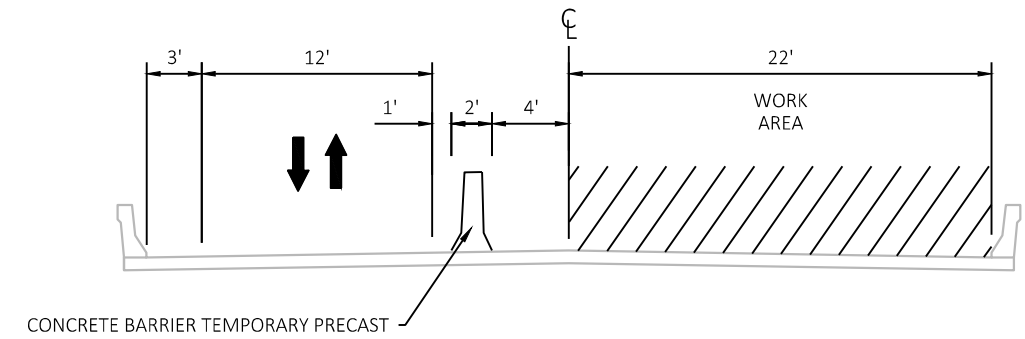
TOTAL CYCLE TIME = 76.0

| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
|-----------|-----------|--------|---------|-------|
| RED | RED | | 16.0 | |
| GREEN | RED | | | 17.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 16.0 | |
| RED | GREEN | | | 17.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 32.0 | 34.0 |

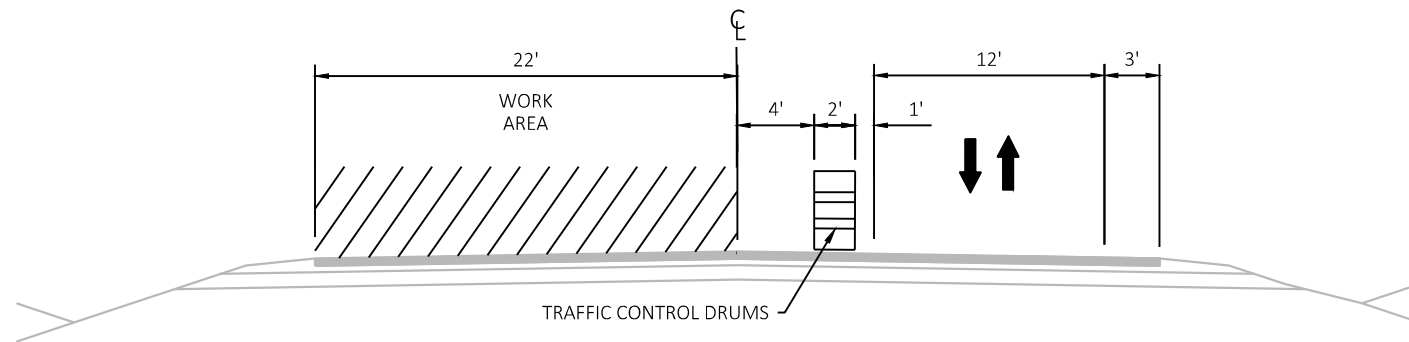




WORK AREA ON BRIDGE B-63-17



WORK AREA ON BRIDGE B-63-17



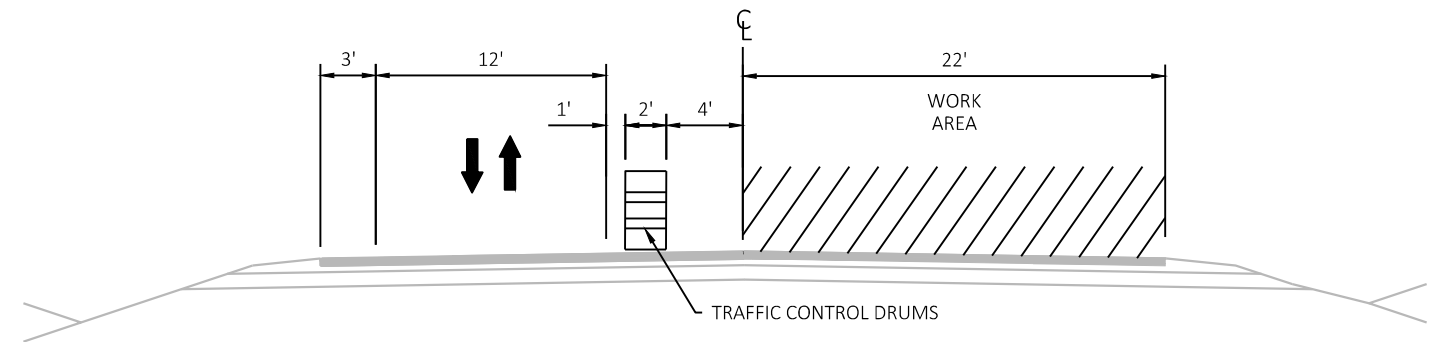
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 1

STH 70 LOOKING EAST

STAGE 1 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 1 (B-63-17)"
2. REPLACE WB CONCRETE APPROACH SLABS



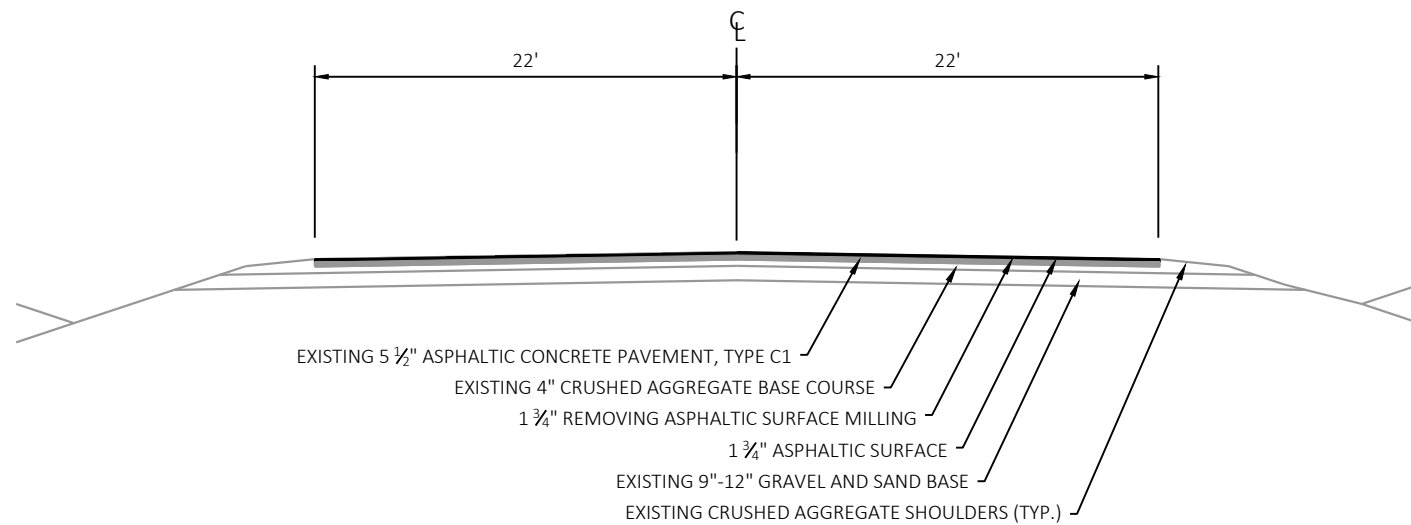
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 2

STH 70 LOOKING EAST

STAGE 2 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 2 (B-63-17)"
2. REPLACE EB CONCRETE APPROACH SLABS



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 3

STH 70 LOOKING EAST
STA. 588+15 - STA. 590+04.67
STA. 592+65.33 - STA. 594+55

STAGE 3 NOTES:

1. STAGE 3 (LANE CLOSURES SHALL FOLLOW STANDARD DETAIL DRAWING TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION)
2. MILL AND OVERLAY ASPHALT LANES AND SHOULDERS

PROJECT NO: 1009-46-60

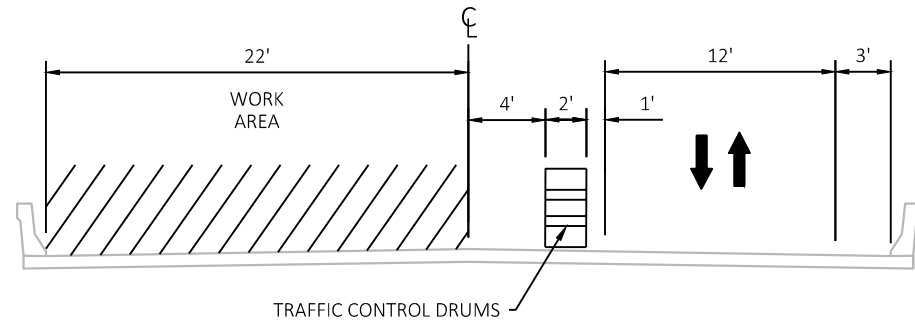
HWY: STH 70

COUNTY: VILAS

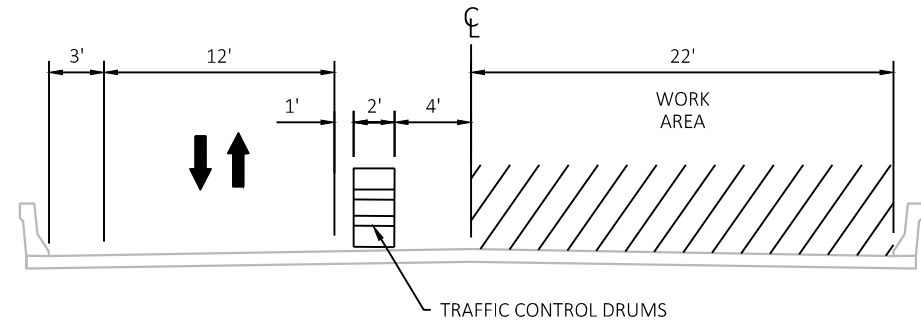
TRAFFIC CONTROL (B-63-17)

SHEET

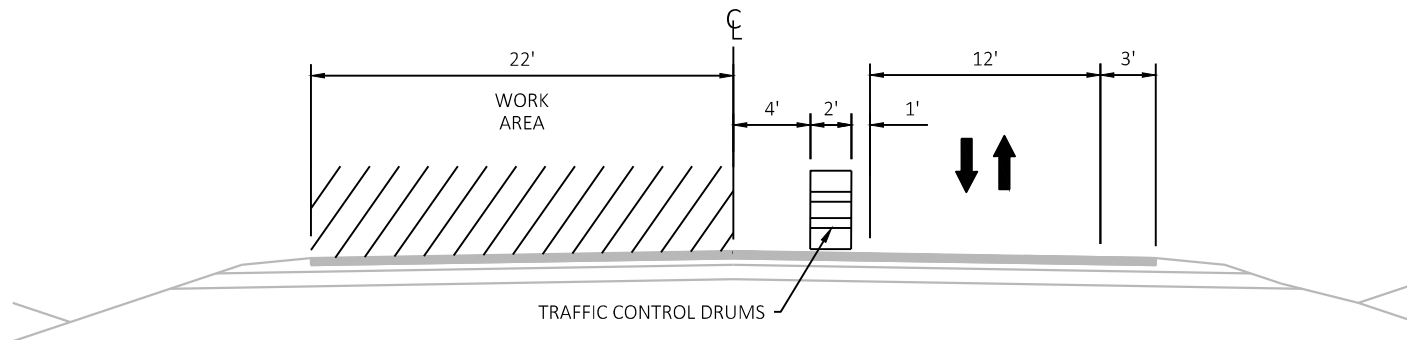
E



WORK AREA ON BRIDGE B-63-17



WORK AREA ON BRIDGE B-63-17



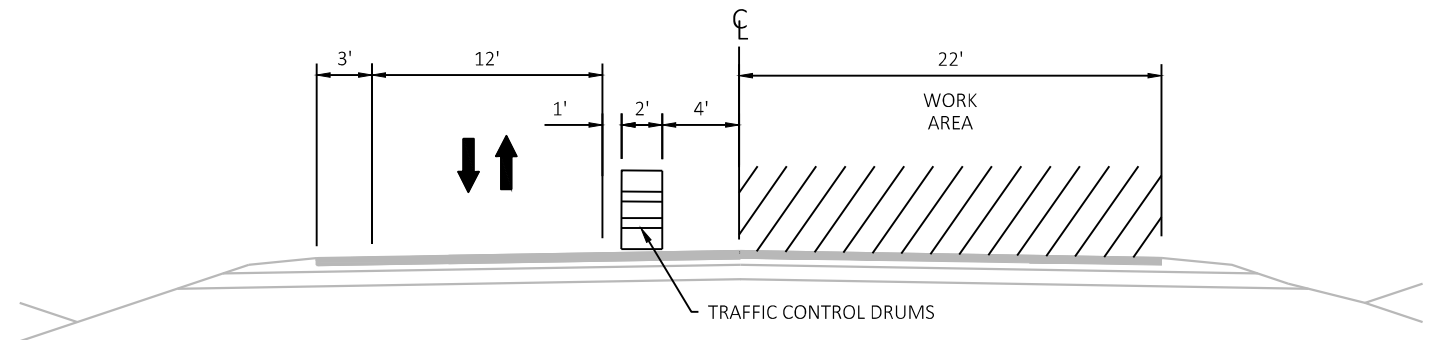
TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 4

STH 70 LOOKING EAST

STAGE 4 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 4 (B-63-17)"
2. POLYMER OVERLAY ON WB APPROACH SLABS, SEE CONSTRUCTION
DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS



TRANSITION AREA, BUFFER SPACE, AND LANE CLOSURE

TRAFFIC CONTROL - STAGE 5

STH 70 LOOKING EAST

STAGE 5 NOTES:

1. SEE PLAN SHEET "TRAFFIC CONTROL STAGE 5 (B-63-17)"
2. POLYMER OVERLAY ON EB APPROACH SLABS, SEE CONSTRUCTION
DETAIL FOR TRANSITION OF POLYMER OVERLAY ON APPROACH SLABS
3. INSTALL PERMANENT PAVEMENT MARKINGS ON APPROACH AND STRUCTURE

PROJECT NO: 1009-46-60

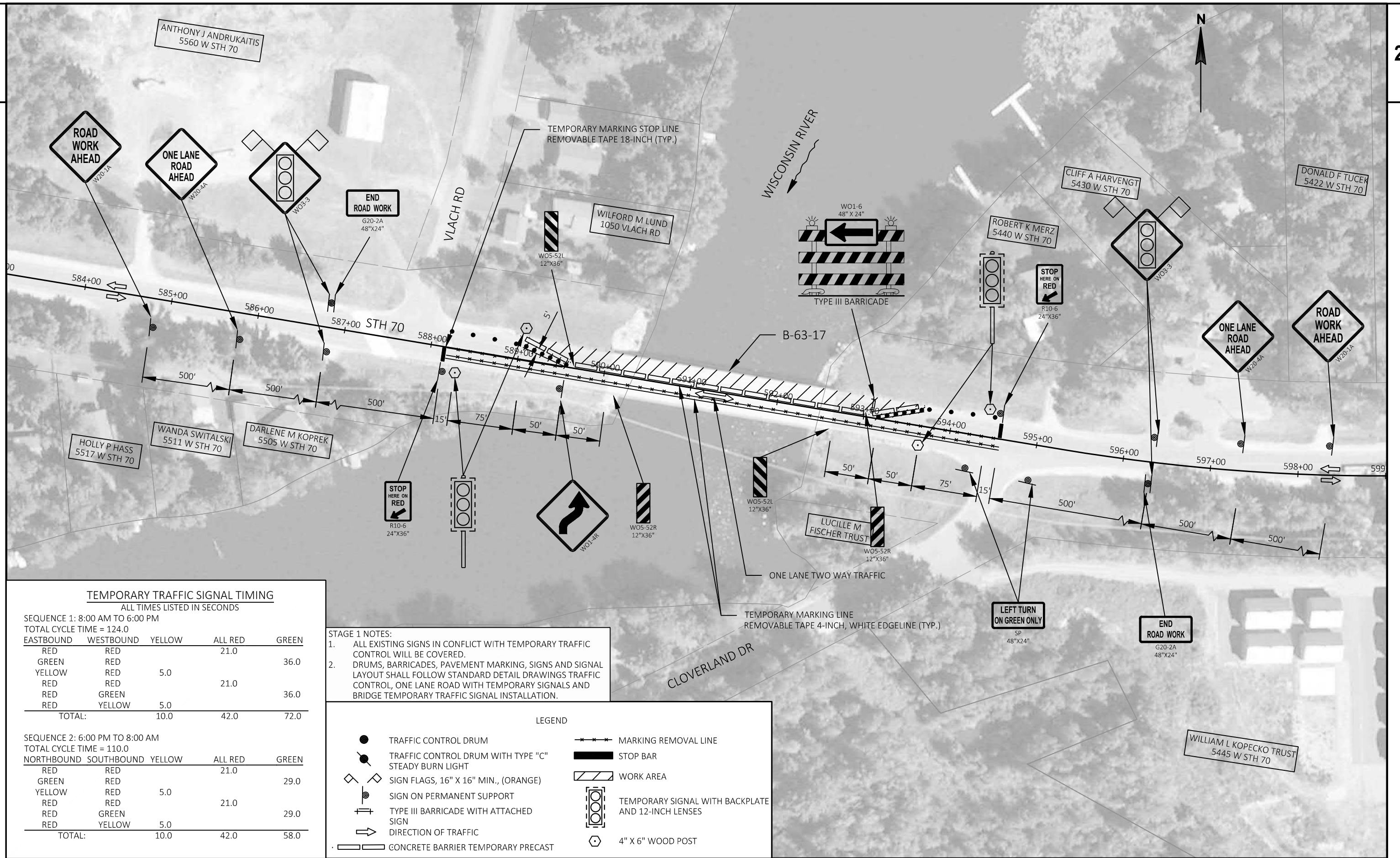
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL (B-63-17)

SHEET

E



PROJECT NO: 1009-46-60

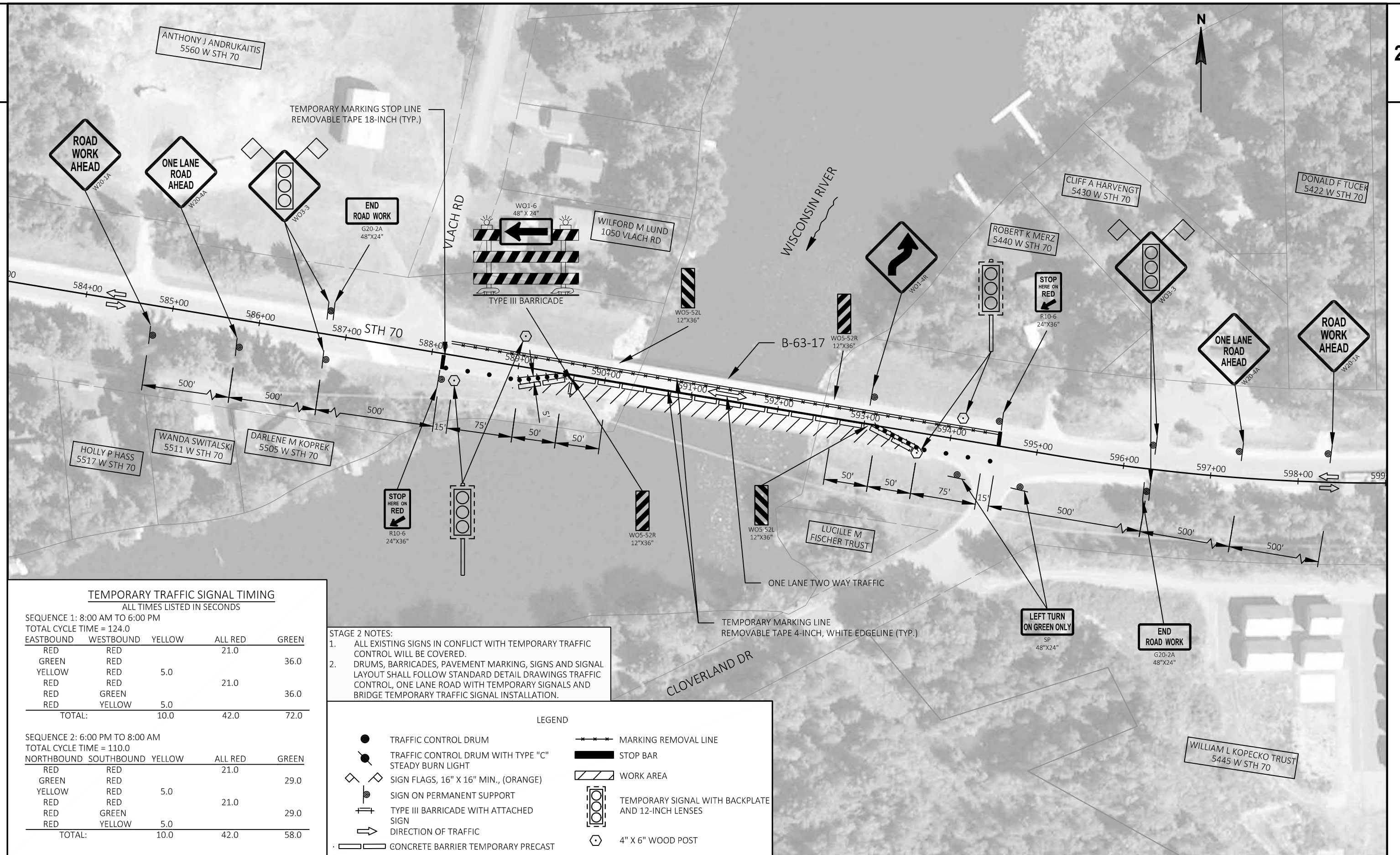
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 1 (B-63-17)

SHEET

E



PROJECT NO: 1009-46-60

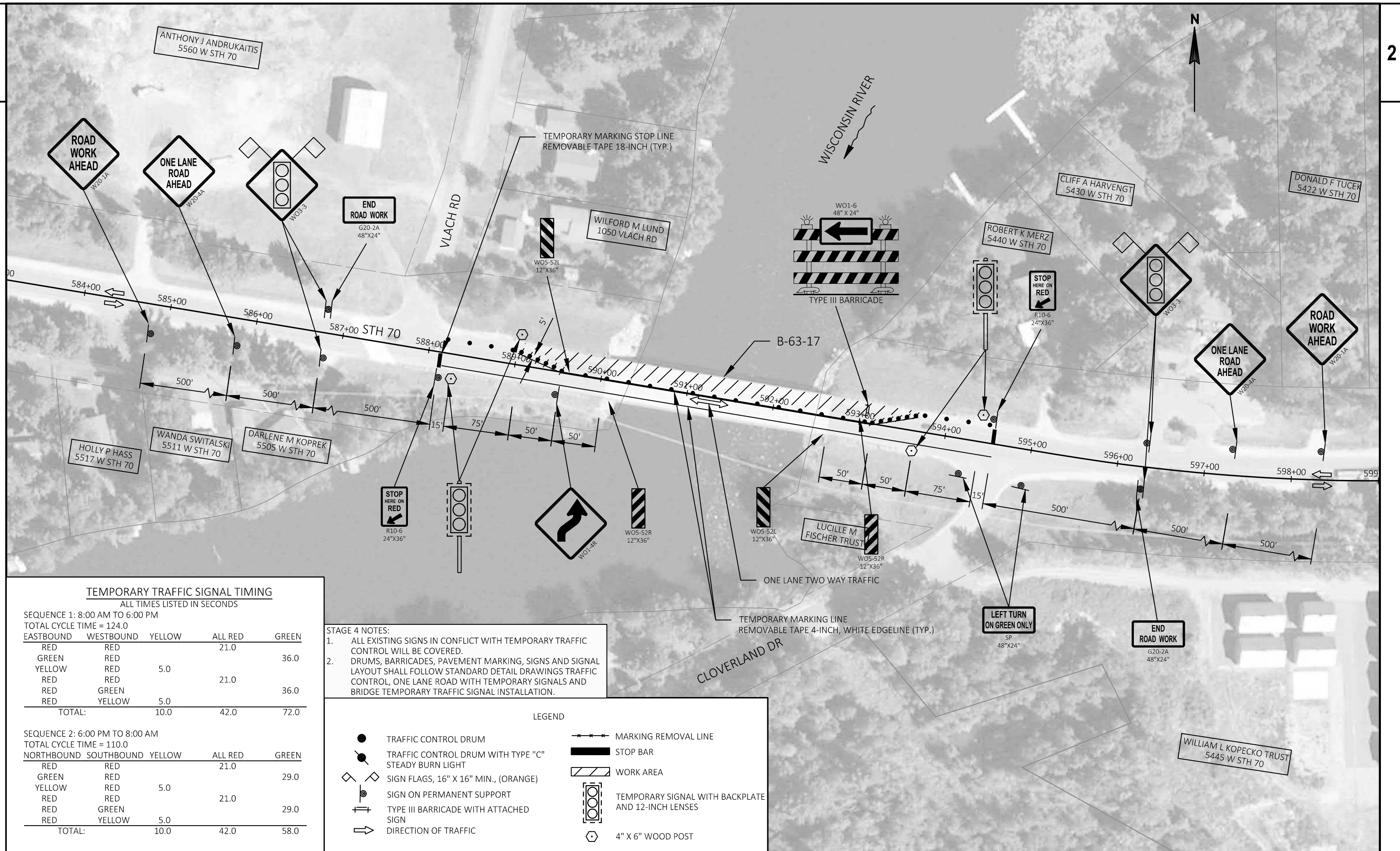
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 2 (B-63-17)

SHEET

E

**TEMPORARY TRAFFIC SIGNAL TIMING**

ALL TIMES LISTED IN SECONDS

SEQUENCE 1: 8:00 AM TO 6:00 PM

TOTAL CYCLE TIME = 124.0

| EASTBOUND | WESTBOUND | YELLOW | ALL RED | GREEN |
|-----------|-----------|--------|---------|-------|
| RED | RED | | 21.0 | |
| GREEN | RED | | | 36.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 21.0 | |
| RED | GREEN | | | 36.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 42.0 | 72.0 |

SEQUENCE 2: 6:00 PM TO 8:00 AM

TOTAL CYCLE TIME = 110.0

| NORTHBOUND | SOUTHBOUND | YELLOW | ALL RED | GREEN |
|------------|------------|--------|---------|-------|
| RED | RED | | 21.0 | |
| GREEN | RED | | | 29.0 |
| YELLOW | RED | 5.0 | | |
| RED | RED | | 21.0 | |
| RED | GREEN | | | 29.0 |
| RED | YELLOW | 5.0 | | |
| TOTAL: | | 10.0 | 42.0 | 58.0 |

STAGE 4 NOTES:

1. ALL EXISTING SIGNS IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL WILL BE COVERED.
2. DRUMS, BARRICADES, PAVEMENT MARKING, SIGNS AND SIGNAL LAYOUT SHALL FOLLOW STANDARD DETAIL DRAWINGS TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS AND BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION.

LEGEND

| | | | |
|---|--|-----------------|--|
| ● | TRAFFIC CONTROL DRUM | ---X---X---X--- | MARKING REMOVAL LINE |
| ● | TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT | ■ | STOP BAR |
| ◇ | SIGN FLAGS, 16" X 16" MIN., (ORANGE) | ▨ | WORK AREA |
| ⊙ | SIGN ON PERMANENT SUPPORT | ⊞ | TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES |
| ⊞ | TYPE III BARRICADE WITH ATTACHED SIGN | ⬆ | 4" X 6" WOOD POST |
| ➡ | DIRECTION OF TRAFFIC | | |

PROJECT NO: 1009-46-60

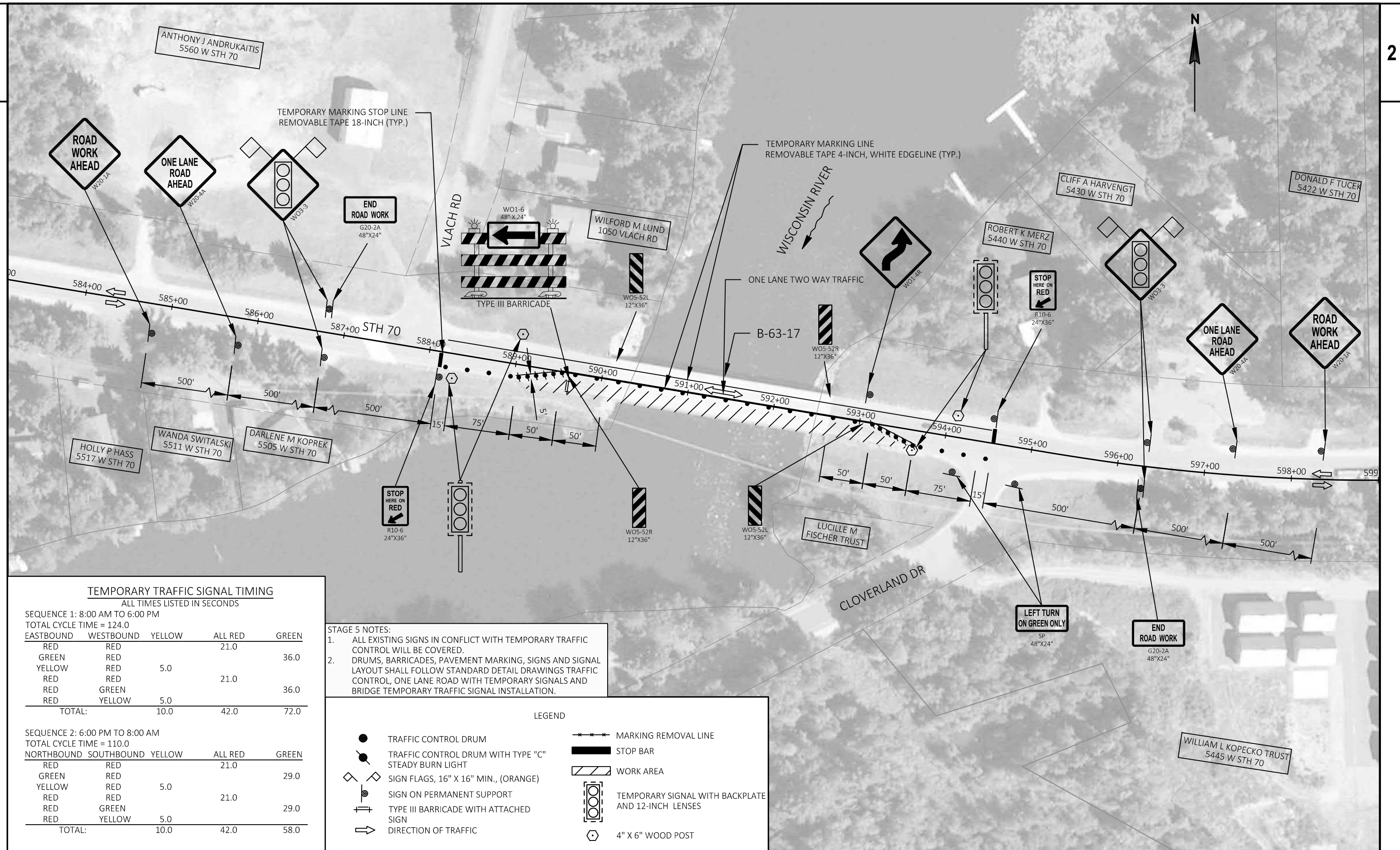
HWY: STH 70

COUNTY: VILAS

TRAFFIC CONTROL - STAGE 4 (B-63-17)

SHEET

E



Estimate Of Quantities

1009-46-60

| Line | Item | Item Description | Unit | Total | Qty |
|------|------------|---|------|-----------|-----------|
| 0002 | 203.0210.S | Abatement of Asbestos Containing Material (structure) 01. B-63-13 | LS | 1.000 | 1.000 |
| 0004 | 204.0100 | Removing Pavement | SY | 302.000 | 302.000 |
| 0006 | 204.0110 | Removing Asphaltic Surface | SY | 934.000 | 934.000 |
| 0008 | 204.0120 | Removing Asphaltic Surface Milling | SY | 7,345.000 | 7,345.000 |
| 0010 | 208.0100 | Borrow | CY | 136.000 | 136.000 |
| 0012 | 213.0100 | Finishing Roadway (project) 01. 1009-46-60 | EACH | 1.000 | 1.000 |
| 0014 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 310.000 | 310.000 |
| 0016 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 12.000 | 12.000 |
| 0018 | 415.0410 | Concrete Pavement Approach Slab | SY | 292.000 | 292.000 |
| 0020 | 416.0756.S | Concrete Pavement Partial Depth Repair Edge Repair | LF | 240.000 | 240.000 |
| 0022 | 455.0605 | Tack Coat | GAL | 648.000 | 648.000 |
| 0024 | 465.0105 | Asphaltic Surface | TON | 1,042.000 | 1,042.000 |
| 0026 | 465.0110 | Asphaltic Surface Patching | TON | 198.000 | 198.000 |
| 0028 | 492.2010.S | Sealing Cracks and Joints with Hot-Applied Sealant | GAL | 6.000 | 6.000 |
| 0030 | 502.0100 | Concrete Masonry Bridges | CY | 80.000 | 80.000 |
| 0032 | 502.3210 | Pigmented Surface Sealer | SY | 360.000 | 360.000 |
| 0034 | 502.4205 | Adhesive Anchors No. 5 Bar | EACH | 1,232.000 | 1,232.000 |
| 0036 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 8,640.000 | 8,640.000 |
| 0038 | 509.0301 | Preparation Decks Type 1 | SY | 144.000 | 144.000 |
| 0040 | 509.0302 | Preparation Decks Type 2 | SY | 47.000 | 47.000 |
| 0042 | 509.0310.S | Sawing Pavement Deck Preparation Areas | LF | 1,150.000 | 1,150.000 |
| 0044 | 509.0500 | Cleaning Decks | SY | 436.000 | 436.000 |
| 0046 | 509.0505.S | Cleaning Decks to Reapply Concrete Masonry Overlay | SY | 1,401.000 | 1,401.000 |
| 0048 | 509.0600 | Cleaning Approaches | SY | 348.000 | 348.000 |
| 0050 | 509.1500 | Concrete Surface Repair | SF | 425.000 | 425.000 |
| 0052 | 509.2000 | Full-Depth Deck Repair | SY | 28.000 | 28.000 |
| 0054 | 509.2100.S | Concrete Masonry Deck Repair | CY | 13.000 | 13.000 |
| 0056 | 509.2500 | Concrete Masonry Overlay Decks | CY | 106.000 | 106.000 |
| 0058 | 509.2600 | Concrete Masonry Overlay Approaches | CY | 18.000 | 18.000 |
| 0060 | 509.5100.S | Polymer Overlay | SY | 3,969.000 | 3,969.000 |
| 0062 | 509.9005.S | Removing Concrete Masonry Deck Overlay (structure) 01. B-63-8 | SY | 1,401.000 | 1,401.000 |
| 0064 | 509.9015.S | Removing Polymer Overlay (structure) 01. B-63-7 | SY | 316.000 | 316.000 |
| 0066 | 509.9015.S | Removing Polymer Overlay (structure) 02. B-63-17 | SY | 464.000 | 464.000 |
| 0068 | 603.8000 | Concrete Barrier Temporary Precast Delivered | LF | 2,325.000 | 2,325.000 |
| 0070 | 603.8125 | Concrete Barrier Temporary Precast Installed | LF | 4,650.000 | 4,650.000 |
| 0072 | 611.0430 | Reconstructing Inlets | EACH | 2.000 | 2.000 |
| 0074 | 614.0150 | Anchor Assemblies for Steel Plate Beam Guard | EACH | 4.000 | 4.000 |
| 0076 | 614.0400 | Adjusting Steel Plate Beam Guard | LF | 80.000 | 80.000 |

Estimate Of Quantities

1009-46-60

| Line | Item | Item Description | Unit | Total | Qty |
|------|------------|--|------|------------|------------|
| 0078 | 614.0950 | Replacing Guardrail Posts and Blocks | EACH | 36.000 | 36.000 |
| 0080 | 614.2300 | MGS Guardrail 3 | LF | 50.000 | 50.000 |
| 0082 | 614.2500 | MGS Thrie Beam Transition | LF | 157.600 | 157.600 |
| 0084 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 4.000 | 4.000 |
| 0086 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 1009-46-60 | EACH | 1.000 | 1.000 |
| 0088 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0090 | 624.0100 | Water | MGAL | 10.000 | 10.000 |
| 0092 | 625.0100 | Topsoil | SY | 540.000 | 540.000 |
| 0094 | 627.0200 | Mulching | SY | 725.000 | 725.000 |
| 0096 | 628.1504 | Silt Fence | LF | 840.000 | 840.000 |
| 0098 | 628.1520 | Silt Fence Maintenance | LF | 840.000 | 840.000 |
| 0100 | 628.1905 | Mobilizations Erosion Control | EACH | 2.000 | 2.000 |
| 0102 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0104 | 629.0210 | Fertilizer Type B | CWT | 0.500 | 0.500 |
| 0106 | 630.0120 | Seeding Mixture No. 20 | LB | 21.000 | 21.000 |
| 0108 | 631.0300 | Sod Water | MGAL | 16.000 | 16.000 |
| 0110 | 643.0300 | Traffic Control Drums | DAY | 14,064.000 | 14,064.000 |
| 0112 | 643.0310.S | Temporary Portable Rumble Strips | LS | 1.000 | 1.000 |
| 0114 | 643.0420 | Traffic Control Barricades Type III | DAY | 779.000 | 779.000 |
| 0116 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 940.000 | 940.000 |
| 0118 | 643.0715 | Traffic Control Warning Lights Type C | DAY | 5,640.000 | 5,640.000 |
| 0120 | 643.0900 | Traffic Control Signs | DAY | 9,867.000 | 9,867.000 |
| 0122 | 643.1070 | Traffic Control Cones 42-Inch | DAY | 833.000 | 833.000 |
| 0124 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0126 | 646.1020 | Marking Line Epoxy 4-Inch | LF | 11,693.000 | 11,693.000 |
| 0128 | 646.9000 | Marking Removal Line 4-Inch | LF | 8,205.000 | 8,205.000 |
| 0130 | 649.0150 | Temporary Marking Line Removable Tape 4-Inch | LF | 24,748.000 | 24,748.000 |
| 0132 | 649.0850 | Temporary Marking Stop Line Removable Tape 18-Inch | LF | 144.000 | 144.000 |
| 0134 | 650.4500 | Construction Staking Subgrade | LF | 380.000 | 380.000 |
| 0136 | 650.5000 | Construction Staking Base | LF | 380.000 | 380.000 |
| 0138 | 650.9910 | Construction Staking Supplemental Control (project) 01. 1009-46-60 | LS | 1.000 | 1.000 |
| 0140 | 650.9920 | Construction Staking Slope Stakes | LF | 380.000 | 380.000 |
| 0142 | 661.0100 | Temporary Traffic Signals for Bridges (structure) 01. B-63-7 | LS | 1.000 | 1.000 |
| 0144 | 661.0100 | Temporary Traffic Signals for Bridges (structure) 02. B-63-8 | LS | 1.000 | 1.000 |
| 0146 | 661.0100 | Temporary Traffic Signals for Bridges (structure) 03. B-63-10 | LS | 1.000 | 1.000 |
| 0148 | 661.0100 | Temporary Traffic Signals for Bridges (structure) 04. B- | LS | 1.000 | 1.000 |

Estimate Of Quantities

| 1009-46-60 | | | | | |
|------------|----------|---|------|---------|---------|
| Line | Item | Item Description | Unit | Total | Qty |
| | | 63-13 | | | |
| 0150 | 661.0100 | Temporary Traffic Signals for Bridges (structure) 05. B-63-14 | LS | 1.000 | 1.000 |
| 0152 | 661.0100 | Temporary Traffic Signals for Bridges (structure) 06. B-63-17 | LS | 1.000 | 1.000 |
| 0154 | 690.0150 | Sawing Asphalt | LF | 337.000 | 337.000 |
| 0156 | 715.0415 | Incentive Strength Concrete Pavement | DOL | 500.000 | 500.000 |
| 0158 | 715.0502 | Incentive Strength Concrete Structures | DOL | 500.000 | 500.000 |
| 0160 | SPV.0090 | Special 01. Parapet Surface Preparation | LF | 616.000 | 616.000 |
| 0162 | SPV.0090 | Special 02. Flashing Stainless Steel | LF | 126.000 | 126.000 |
| 0164 | SPV.0180 | Special 01. Protective Thermoplastic Coating at Snowmobile Trail Crossing | SY | 342.000 | 342.000 |

REMOVING PAVEMENT

| | | | | 204.0100 REMOVING PAVEMENT | 204.0110 REMOVING ASPHALTIC SURFACE | 204.0120 REMOVING ASPHALTIC SURFACE MILLING |
|----------|-----------|-----------------|---------------------------|----------------------------------|--|--|
| CATEGORY | STRUCTURE | STATION | LOCATION | SY | SY | SY |
| 0010 | B-63-7 | 53+83 - 54+03 | DRIVING LANES | 53 | --- | --- |
| | | 55+80 - 56+00 | DRIVING LANES | 53 | --- | --- |
| | | 53+88 - 54+03 | SHOULDERS | --- | 33 | --- |
| | | 55+80 - 55+95 | SHOULDERS | --- | 33 | --- |
| | | 52+00 - 53+88 | DRIVING LANES / SHOULDERS | --- | --- | 919 |
| | | 55+95 - 57+67 | DRIVING LANES / SHOULDERS | --- | --- | 841 |
| 0010 | B-63-8 | 124+75 - 126+58 | DRIVING LANES / SHOULDERS | --- | --- | 895 |
| | | 129+76 - 131+58 | DRIVING LANES / SHOULDERS | --- | --- | 890 |
| 0010 | B-63-10 | 631+36 - 633+10 | DRIVING LANES / SHOULDERS | --- | --- | 1,044 |
| | | 634+15 - 635+89 | DRIVING LANES / SHOULDERS | --- | --- | 1,044 |
| 0010 | B-63-13 | 935+25 - 937+00 | DRIVING LANES / SHOULDERS | --- | 214 | --- |
| | | 939+33 - 941+08 | DRIVING LANES / SHOULDERS | --- | 214 | --- |
| 0010 | B-63-14 | 688+15 - 690+06 | DRIVING LANES / SHOULDERS | --- | 220 | --- |
| | | 690+71 - 692+62 | DRIVING LANES / SHOULDERS | --- | 220 | --- |
| 0010 | B-63-17 | 589+85 - 590+05 | DRIVING LANES / SHOULDERS | 98 | --- | --- |
| | | 592+65 - 592+85 | DRIVING LANES / SHOULDERS | 98 | --- | --- |
| | | 588+15 - 589+90 | DRIVING LANES / SHOULDERS | --- | --- | 856 |
| | | 592+80 - 594+55 | DRIVING LANES / SHOULDERS | --- | --- | 856 |
| TOTALS | | | | 302 | 934 | 7,345 |

ASPHALT PAVEMENT ITEMS

| | | | | | 455.0605 | 465.0105 | 465.0105 |
|----------|-----------|-------------------|---------------------------|-----------|--------------|----------------------|----------------------------------|
| | | | | | TACK COAT | ASPHALTIC SURFACE | ASPHALTIC SURFACE PATCHING |
| CATEGORY | STRUCTURE | STATION - STATION | LOCATION | THICKNESS | GAL | TON | TON |
| 0010 | B-63-7 | 52+00 - 52+84 | LT SHOULDER | 4 | 5 | 15 | --- |
| | | 57+35 - 57+67 | LT SHOULDER | 4 | 2 | 6 | --- |
| | | 52+00 - 52+73 | RT SHOULDER | 4 | 4 | 13 | --- |
| | | 56+98 - 57+67 | RT SHOULDER | 4 | 4 | 13 | --- |
| | | 53+83 - 53+88 | DRIVING LANES | 4 | 1 | 4 | --- |
| | | 55+95 - 56+00 | DRIVING LANES | 4 | 1 | 4 | --- |
| | | 52+00 - 53+88 | DRIVING LANES / SHOULDERS | 2 | 65 | 104 | --- |
| | | 55+95 - 57+67 | DRIVING LANES / SHOULDERS | 2 | 59 | 96 | --- |
| 0010 | B-63-8 | 124+75 - 125+84 | LT SHOULDER | 4 | 6 | 20 | --- |
| | | 124+75 - 125+03 | RT SHOULDER | 4 | 1 | 3 | --- |
| | | 124+75 - 126+58 | DRIVING LANES / SHOULDERS | 2 | 63 | 102 | --- |
| | | 129+76 - 131+58 | DRIVING LANES / SHOULDERS | 2 | 63 | 101 | --- |
| 0010 | B-63-10 | 631+36 - 633+10 | DRIVING LANES / SHOULDERS | 2 | 74 | 118 | --- |
| | | 634+15 - 635+89 | DRIVING LANES / SHOULDERS | 2 | 74 | 118 | --- |
| 0010 | B-63-13 | 935+25 - 936+31 | LT SHOULDER | 4 | 6 | 19 | --- |
| | | 940+45 - 941+08 | LT SHOULDER | 4 | 4 | 12 | --- |
| | | 935+25 - 935+82 | RT SHOULDER | 4 | 4 | 11 | --- |
| | | 939+96 - 941+08 | RT SHOULDER | 4 | 7 | 20 | --- |
| | | 935+25 - 937+00 | DRIVING LANES / SHOULDERS | 4 | 15 | --- | 49 |
| | | 939+33 - 941+08 | DRIVING LANES / SHOULDERS | 4 | 15 | --- | 49 |
| 0010 | B-63-14 | 691+67 - 692+62 | LT SHOULDER | 4 | 6 | 17 | --- |
| | | 688+15 - 689+14 | RT SHOULDER | 4 | 6 | 18 | --- |
| | | 691+41 - 692+62 | RT SHOULDER | 4 | 7 | 22 | --- |
| | | 688+15 - 690+06 | DRIVING LANES / SHOULDERS | 4 | 16 | --- | 50 |
| | | 690+71 - 692+62 | DRIVING LANES / SHOULDERS | 4 | 16 | --- | 50 |
| 0010 | B-63-17 | 589+85 - 589+90 | DRIVING LANES / SHOULDERS | 4 | 2 | 6 | --- |
| | | 592+80 - 592+85 | DRIVING LANES / SHOULDERS | 4 | 2 | 6 | --- |
| | | 588+15 - 589+90 | DRIVING LANES / SHOULDERS | 2 | 60 | 97 | --- |
| | | 592+80 - 594+55 | DRIVING LANES / SHOULDERS | 2 | 60 | 97 | --- |
| TOTAL | | | | | 648 | 1,042 | 198 |

NOTE: TACK COAT CALCULATED AT 0.07 GALLONS PER SQUARE YARD

EARTHWORK

| CATEGORY | STATION - STATION | 205.0100 | FILL | EXPANDED FILL | WASTE | 208.0100 |
|----------|-------------------|----------------------------|--------|---------------|--------|--------------|
| | | EXCAVATION COMMON CY | CY (1) | CY (2) (1) | CY (1) | BORROW CY |
| 0010 | 631+36 - 633+13 | 0 | 46 | 60 | -60 | 60 |
| | 634+11 - 635+89 | 0 | 58 | 76 | -76 | 76 |
| TOTALS: | | 0 | 104 | 136 | -136 | 136 |

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.

(2) - FILL EXPANSION 30%

BASE AGGREGATE ITEMS

| CATEGORY | STATION - STATION | 305.0110 | 305.0120 | 624.0100 | COMMENTS |
|----------|-------------------|---|---|---------------|---|
| | | BASE AGGREGATE DENSE 3/4-INCH TON | BASE AGGREGATE DENSE 1 1/4-INCH TON | WATER MGAL | |
| 0010 | 631+36 - 633+13 | 135 | 6 | 4.2 | 1 1/4-INCH TO SUPPLEMENT B.A.D. UNDER NEW APPROACH SLAB |
| | 634+11 - 635+89 | 175 | 6 | 5.4 | 1 1/4-INCH TO SUPPLEMENT B.A.D. UNDER NEW APPROACH SLAB |
| TOTALS | | 310 | 12 | 10 | |

CONCRETE PAVEMENT

| | | | | 415.0410 | 416.0756.S |
|----------|-----------|-----------------|---------------------------|----------------------|----------------------|
| | | | | CONCRETE PAVEMENT | CONCRETE PAVEMENT |
| | | | | APPROACH SLAB | PARTIAL DEPTH REPAIR |
| CATEGORY | STRUCTURE | STATION | LOCATION | SY | EDGE REPAIR LF |
| 0010 | B-63-7 | 53+88 - 54+03 | DRIVING LANES / SHOULDERS | 73 | --- |
| | | 55+80 - 55+95 | DRIVING LANES / SHOULDERS | 73 | --- |
| 0010 | B-63-13 | 937+00 - 937+16 | DRIVING LANES / SHOULDERS | --- | 60 |
| | | 939+17 - 939+33 | DRIVING LANES / SHOULDERS | --- | 60 |
| 0010 | B-63-14 | 688+15 - 690+06 | DRIVING LANES / SHOULDERS | --- | 60 |
| | | 690+71 - 692+62 | DRIVING LANES / SHOULDERS | --- | 60 |
| 0010 | B-63-17 | 589+90 - 590+05 | DRIVING LANES / SHOULDERS | 73 | --- |
| | | 592+65 - 592+80 | DRIVING LANES / SHOULDERS | 73 | --- |
| TOTALS | | | | 292 | 240 |

CONCRETE OVERLAY

| | | | | 509.0600 | 509.2600 |
|----------|-----------|-----------------|---------------------------|------------------------|---|
| | | | | CLEANING APPROACHES | CONCRETE MASONRY OVERLAY APPROACHES |
| CATEGORY | STRUCTURE | STATION | LOCATION | SY | CY |
| 0010 | B-63-7 | 53+88 - 54+03 | DRIVING LANES / SHOULDERS | --- | --- |
| | | 55+80 - 55+95 | DRIVING LANES / SHOULDERS | --- | --- |
| 0010 | B-63-8 | 126+58 - 126+74 | DRIVING LANES / SHOULDERS | 78 | 4 |
| | | 129+60 - 129+76 | DRIVING LANES / SHOULDERS | 78 | 4 |
| 0010 | B-63-10 | 633+10 - 633+26 | DRIVING LANES / SHOULDERS | 96 | 5 |
| | | 633+99 - 634+15 | DRIVING LANES / SHOULDERS | 96 | 5 |
| 0010 | B-63-13 | 935+25 - 937+00 | DRIVING LANES / SHOULDERS | --- | --- |
| | | 939+33 - 941+08 | DRIVING LANES / SHOULDERS | --- | --- |
| 0010 | B-63-14 | 688+15 - 690+06 | DRIVING LANES / SHOULDERS | --- | --- |
| | | 690+71 - 692+62 | DRIVING LANES / SHOULDERS | --- | --- |
| 0010 | B-63-17 | 589+90 - 590+05 | DRIVING LANES / SHOULDERS | --- | --- |
| | | 592+65 - 592+80 | DRIVING LANES / SHOULDERS | --- | --- |
| TOTALS | | | | 348 | 18 |

| ROADWAY BARRIER ITEMS | | | | | | | | |
|-----------------------|-----------|-----------------------|----------|--|---|-----------------------|------------------------------------|---|
| CATEGORY | STRUCTURE | STATION - STATION | LOCATION | 614.0400 | 614.0950 | 614.2300 | 614.2500 | 614.2610 |
| | | | | ADJUSTING STEEL PLATE BEAM GUARD | REPLACING GUARDRAIL POSTS AND BLOCKS | MGS GUARDRAIL 3 | MGS THRIE BEAM TRANSITION | MGS GUARDRAIL TERMINAL EAT EACH |
| 0010 | B-63-8 | 126+44.67 - 126+64.67 | LT | 20 | 9 | --- | --- | --- |
| | | 126+44.67 - 126+64.67 | RT | 20 | 9 | --- | --- | --- |
| | | 129+69.16 - 129+89.16 | LT | 20 | 9 | --- | --- | --- |
| | | 129+69.16 - 129+89.16 | RT | 20 | 9 | --- | --- | --- |
| 0010 | B-63-10 | 632+13.15 - 633+18.17 | LT | --- | --- | 12.5 | 39.40 | 1 |
| | | 632+13.15 - 633+18.17 | RT | --- | --- | 12.5 | 39.40 | 1 |
| | | 634+06.83 - 635+11.85 | LT | --- | --- | 12.5 | 39.40 | 1 |
| | | 634+06.83 - 635+11.85 | RT | --- | --- | 12.5 | 39.40 | 1 |
| TOTALS | | | | 80 | 36 | 50.0 | 157.60 | 4 |

| RESTORATION ITEMS | | | | | | | |
|-------------------|-------------------|----------|----------|----------|----------------------|---------------------------|-----------|
| CATEGORY | STATION - STATION | LOCATION | 625.0100 | 627.0200 | 629.0210 | 630.0120 | 631.0300 |
| | | | TOPSOIL | MULCHING | FERTILIZER TYPE B | SEEDING MIXTURE NO. 20 | SOD WATER |
| 0010 | 631+36 - 633+26 | LT | 60 | 95 | 0.05 | 3 | 2.2 |
| | 631+36 - 633+26 | RT | 170 | 210 | 0.15 | 6 | 4.7 |
| | 633+99 - 635+89 | LT | 65 | 105 | 0.05 | 3 | 2.3 |
| | 633+99 - 635+89 | RT | 215 | 255 | 0.15 | 7 | 5.7 |
| | UNDISTRIBUTED | --- | 30 | 60 | 0.10 | 2 | 1.0 |
| TOTALS | | | 540 | 725 | 0.50 | 21 | 16.0 |

| PAVEMENT MARKING | | | |
|------------------|-----------|---|--|
| CATEGORY | STRUCTURE | 646.1020 | 646.1020 |
| | | MARKING LINE EPOXY 4-INCH WHITE LF | MARKING LINE EPOXY 4-INCH YELLOW LF |
| 0010 | B-63-7 | 1,134 | 503 |
| | B-63-8 | 1,366 | 858 |
| | B-63-10 | 1,156 | 906 |
| | B-63-13 | 1,166 | 733 |
| | B-63-14 | 894 | 894 |
| | B-63-17 | 1,280 | 803 |
| SUB-TOTALS | | 6,996 | 4,697 |
| TOTALS | | 11,693 | |

| MAINTENANCE AND REPAIR OF HAUL ROAD | | |
|-------------------------------------|--------------------|--|
| CATEGORY | DESCRIPTION | 618.0100 |
| | | MAINTENANCE AND REPAIR OF HAUL ROADS EACH |
| 0010 | PROJECT 1009-46-60 | 1 |
| TOTALS | | 1 |

| MOBILIZATION EROSION CONTROL | | | |
|------------------------------|--------------------|--|--|
| CATEGORY | DESCRIPTION | 628.1905 | 628.1910 |
| | | MOBILIZATION EROSION CONTROL EACH | MOBILIZATION EMERGENCY EROSION CONTROL EACH |
| 0010 | PROJECT 1009-46-60 | 2 | 2 |
| TOTALS | | 2 | 2 |

| RECONSTRUCTING INLETS | | | | |
|-----------------------|-----------|---------|----------|----------------|
| | | | | 611.0430 |
| | | | | RECONSTRUCTING |
| | | | | INLETS |
| CATEGORY | STRUCTURE | STATION | LOCATION | EA |
| 0010 | B-63-8 | 129+74 | LT | 1 |
| | | 129+74 | RT | 1 |
| TOTAL | | | | 2 |

| SILT FENCE | | | | |
|------------|-------------------|----------|---------------------|---------------------------------|
| CATEGORY | STATION - STATION | LOCATION | 628.1504 | 628.1520 |
| | | | SILT FENCE LF | SILT FENCE MAINTENANCE LF |
| 0010 | 631+36 - 633+26 | LT & RT | 387 | 387 |
| | 633+99 - 635+89 | LT & RT | 387 | 387 |
| | UNDISTRIBUTED | - | 66 | 66 |
| TOTALS | | | 840 | 840 |

| TEMPORARY PAVEMENT MARKING | | | | | |
|----------------------------|-----------|----------|---|--|--|
| CATEGORY | STRUCTURE | LOCATION | 646.9000 | 649.0150 | 649.0850 |
| | | | MARKING REMOVAL LINE 4-INCH LF | TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF | TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH LF |
| 0010 | B-63-7 | STAGE 2 | 750 | 2,390 | 24 |
| | | STAGE 3 | 515 | 900 | --- |
| | | STAGE 5 | --- | 988 | --- |
| | | STAGE 6 | --- | 900 | --- |
| 0010 | B-63-8 | STAGE 2 | 940 | 2,560 | 24 |
| | | STAGE 3 | 670 | 1,160 | --- |
| | | STAGE 5 | --- | 1,160 | --- |
| | | STAGE 6 | --- | 1,160 | --- |
| 0010 | B-63-10 | STAGE 1 | 725 | 730 | 24 |
| | | STAGE 2 | 455 | 730 | --- |
| | | STAGE 4 | --- | 715 | --- |
| | | STAGE 5 | --- | 715 | --- |
| 0010 | B-63-13 | STAGE 2 | 855 | 2,390 | 24 |
| | | STAGE 3 | 580 | 990 | --- |
| 0010 | B-63-14 | STAGE 2 | 720 | 720 | 24 |
| | | STAGE 3 | 445 | 720 | --- |
| 0010 | B-63-17 | STAGE 1 | 915 | 2,505 | 24 |
| | | STAGE 2 | 635 | 1,105 | --- |
| | | STAGE 4 | --- | 1,105 | --- |
| | | STAGE 5 | --- | 1,105 | --- |
| TOTALS | | | 8,205 | 24,748 | 144 |

3

3

| TRAFFIC CONTROL | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|-----------------|-----------------|--------------------|------|-------|-------|--------|-------|------|-----|-------|-----|-------|-----|------|-------|------|-----|----|---------------------------------------|--------|---------|---------|---------|---------|
| | | | | | | | | | | | | | | | | | | | | 661.0100 | | | | | |
| | | | | | | | | | | | | | | | | | | | | TEMPORARY TRAFFIC SIGNALS FOR BRIDGES | | | | | |
| | | | | | | | | | | | | | | | | | | | | 01. | 02. | 03. | 04. | 05. | 06. |
| | | | | | | | | | | | | | | | | | | | | B-63-7 | B-63-8 | B-63-10 | B-63-13 | B-63-14 | B-63-17 |
| | | | | | | | | | | | | | | | | | | | | LS | LS | LS | LS | LS | LS |
| CATEGORY | PROJECT | LOCATION | DURATION (DAYS) | EACH | LF | LF | EACH | DAY | EACH | DAY | EACH | DAY | EACH | DAY | EACH | DAY | EACH | DAY | LS | LS | LS | LS | LS | LS | |
| 0010 | 1009-46-60 | PROJECT | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-7 STAGE 1 | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 40 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-7 STAGE 2 | 26 | -- | 375 | 375 | 19 | 494 | 4 | 104 | 2 | 52 | 12 | 312 | 21 | 546 | -- | -- | 1 | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-7 STAGE 3 | 52 | -- | -- | 375 | 19 | 988 | 4 | 208 | 2 | 104 | 12 | 624 | 21 | 1,092 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-7 STAGE 4 | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 60 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-7 STAGE 5 | 7 | -- | -- | -- | 29 | 203 | 4 | 28 | 2 | 14 | 12 | 84 | 21 | 147 | -- | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 1009-46-60 | B-63-7 STAGE 6 | 10 | -- | -- | -- | 30 | 300 | 4 | 40 | 2 | 20 | 12 | 120 | 21 | 210 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-8 STAGE 1 | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 40 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-8 STAGE 2 | 23 | -- | 500 | 500 | 20 | 460 | 1 | 23 | 2 | 46 | 12 | 276 | 18 | 414 | -- | -- | -- | 1 | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-8 STAGE 3 | 48 | -- | -- | 500 | 20 | 960 | 1 | 48 | 2 | 96 | 12 | 576 | 18 | 864 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-8 STAGE 4 | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 60 | -- | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 1009-46-60 | B-63-8 STAGE 5 | 7 | -- | -- | -- | 35 | 245 | 1 | 7 | 2 | 14 | 12 | 84 | 18 | 126 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-8 STAGE 6 | 10 | -- | -- | -- | 35 | 350 | 1 | 10 | 2 | 20 | 12 | 120 | 18 | 180 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-10 STAGE 1 | 21 | -- | 300 | 300 | 63 | 1,323 | 1 | 21 | 2 | 42 | 12 | 252 | 23 | 483 | -- | -- | -- | -- | 1 | -- | -- | -- | |
| | 1009-46-60 | B-63-10 STAGE 2 | 52 | -- | -- | 300 | 65 | 3,380 | 1 | 52 | 2 | 104 | 12 | 624 | 23 | 1,196 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-10 STAGE 3 | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 60 | -- | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 1009-46-60 | B-63-10 STAGE 4 | 7 | -- | -- | -- | 69 | 483 | 1 | 7 | 2 | 14 | 12 | 84 | 17 | 119 | 49 | 343 | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-10 STAGE 5 | 10 | -- | -- | -- | 70 | 700 | 1 | 10 | 2 | 20 | 12 | 120 | 17 | 170 | 49 | 490 | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-13 STAGE 1 | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 40 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-13 STAGE 2 | 24 | -- | 400 | 400 | 20 | 480 | 1 | 24 | 2 | 48 | 12 | 288 | 18 | 432 | -- | -- | -- | -- | -- | 1 | -- | -- | |
| | 1009-46-60 | B-63-13 STAGE 3 | 27 | -- | -- | 400 | 20 | 540 | 1 | 27 | 2 | 54 | 12 | 324 | 18 | 486 | -- | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 1009-46-60 | B-63-13 STAGE 4 | 8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 80 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-14 STAGE 1 | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 40 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-14 STAGE 2 | 24 | -- | 275 | 275 | 20 | 480 | 2 | 48 | 2 | 48 | 12 | 288 | 19 | 456 | -- | -- | -- | -- | -- | -- | 1 | -- | |
| | 1009-46-60 | B-63-14 STAGE 3 | 27 | -- | -- | 275 | 20 | 540 | 1 | 27 | 2 | 54 | 12 | 324 | 18 | 486 | -- | -- | -- | -- | -- | -- | -- | -- | |
| 0010 | 1009-46-60 | B-63-14 STAGE 4 | 8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 80 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-17 STAGE 1 | 26 | -- | 475 | 475 | 20 | 520 | 1 | 26 | 2 | 52 | 12 | 312 | 20 | 520 | -- | -- | -- | -- | -- | -- | -- | 1 | |
| | 1009-46-60 | B-63-17 STAGE 2 | 52 | -- | -- | 475 | 20 | 1,040 | 1 | 52 | 2 | 104 | 12 | 624 | 20 | 1,040 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-17 STAGE 3 | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 60 | -- | -- | -- | -- | -- | -- | -- | -- | |
| | 1009-46-60 | B-63-17 STAGE 4 | 7 | -- | -- | -- | 34 | 238 | 1 | 7 | 2 | 14 | 12 | 84 | 20 | 140 | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1009-46-60 | B-63-17 STAGE 5 | 10 | -- | -- | -- | 34 | 340 | 1 | 10 | 2 | 20 | 12 | 120 | 20 | 200 | -- | -- | -- | -- | -- | -- | -- | -- | | |
| TOTALS | | | | 1 | 2,325 | 4,650 | 14,064 | | 779 | 940 | 5,640 | | 9,867 | | 833 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

| CONSTRUCTION STAKING | | | | | | SAWING PAVEMENT ITEMS | | | | PROTECTIVE THERMOPLASTIC | | | | | | | |
|----------------------|-------------------|-----|-----|-----|-----|---|---|--|--|-------------------------------|---------|----------|-----------|-------------------|----------|--|-----|
| CATEGORY | STATION - STATION | LF | LF | LF | LS | 650.4500 CONSTRUCTION STAKING SUBGRADE | 650.5000 CONSTRUCTION STAKING BASE | 650.9920 CONSTRUCTION STAKING SLOPE STAKES | 650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 1009-46-60 | 690.0150 SAWING ASPHALT | LF | CATEGORY | STRUCTURE | STATION - STATION | LOCATION | SPV.0180.01 PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSING | |
| | | | | | | | | | | | | | | | | | SY |
| 0010 | 631+36 - 633+26 | 190 | 190 | 190 | --- | | | | | 0010 | B-63-7 | 52+00 | 30 | | | | |
| | 633+99 - 635+89 | 190 | 190 | 190 | --- | | | | | | | 57+67 | 30 | | | | |
| | 1009-46-60 | --- | --- | --- | 1 | | | | | 0010 | B-63-8 | 124+75 | 37 | | | | |
| | | | | | | | | | | | | 131+58 | 44 | | | | |
| | | | | | | | | | | 0010 | B-63-10 | 631+36 | 54 | | | | |
| | | | | | | | | | | | | 635+89 | 54 | | | | |
| | | | | | | | | | | 0010 | B-63-13 | 935+25 | 0 | | | | |
| | | | | | | | | | | | | 941+08 | 0 | | | | |
| | | | | | | | | | | 0010 | B-63-14 | 688+15 | 0 | | | | |
| | | | | | | | | | | | | 692+62 | 0 | | | | |
| | | | | | | | | | | 0010 | B-63-17 | 588+15 | 44 | | | | |
| | | | | | | | | | | | | 594+55 | 44 | | | | |
| | TOTALS | 380 | 380 | 380 | 1 | | | | | | | TOTAL | 337 | | | | |
| | | | | | | | | | | | | | | | TOTALS | | 342 |

PROJECT NO: 1009-46-60

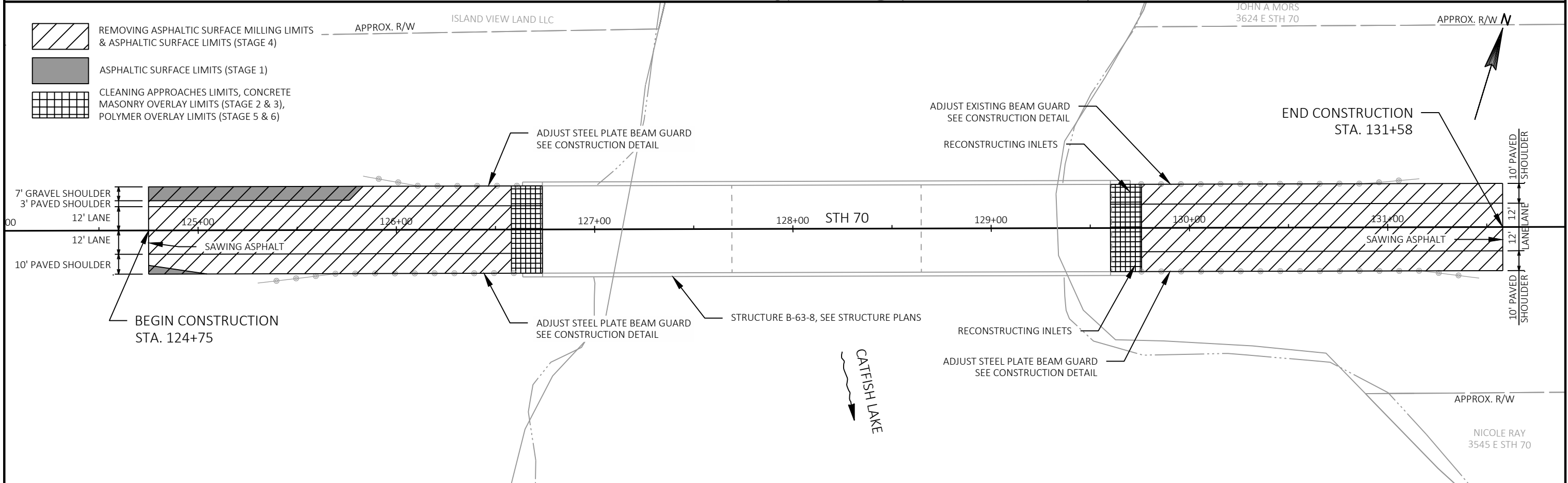
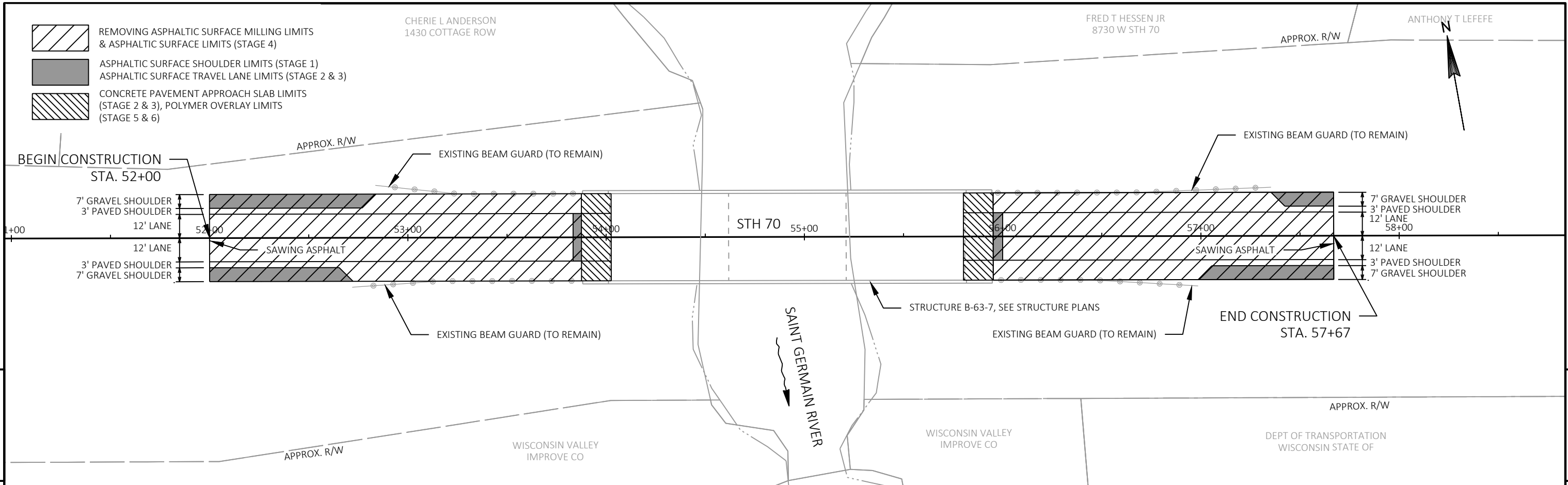
HWY: STH 70, STH 17/70, USH 45/STH 32

COUNTY: VILAS

MISCELLANEOUS QUANTITIES

SHEET

E



| | | | | | |
|------------------------|-------------|---------------|-----------------------------|-------|---|
| PROJECT NO: 1009-46-60 | HWY: STH 70 | COUNTY: VILAS | PAVING PLAN B-63-7 & B-63-8 | SHEET | E |
|------------------------|-------------|---------------|-----------------------------|-------|---|

- ASPHALTIC SURFACE PATCHING (STAGE 4)
- ASPHALTIC SURFACE LIMITS (STAGE 1)
- CONCRETE PAVEMENT PARTIAL DEPTH
EDGE REPAIR LIMITS (STAGE 2 & STAGE 3)

BEGIN CONSTRUCTION
STA. 935+25

7' GRAVEL SHOULDER
3' PAVED SHOULDER
12' LANE
12' LANE
3' PAVED SHOULDER
7' GRAVEL SHOULDER

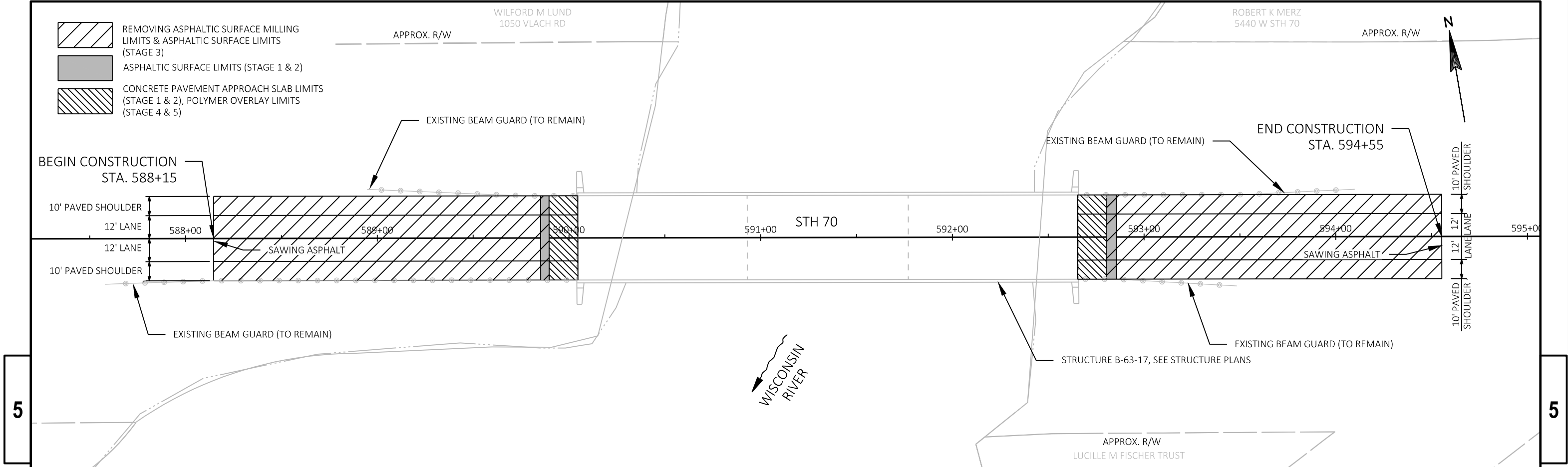
EXISTING BEAM GUARD (TO REMAIN)

EXISTING BEAM GUARD (TO REMAIN)

LINK CREEK

STH 70

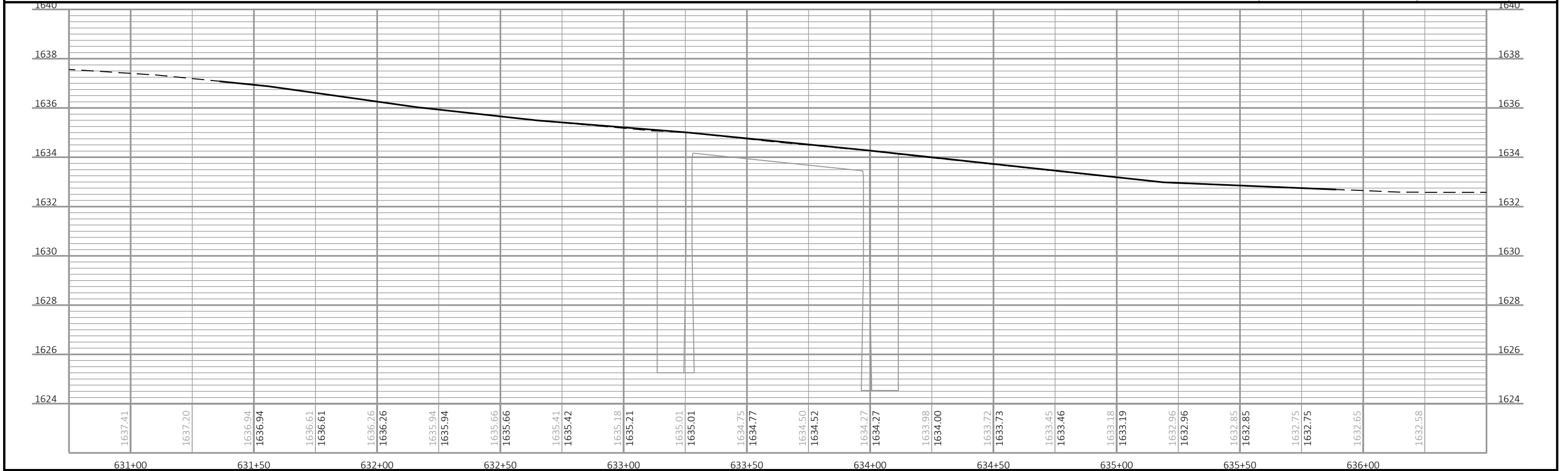
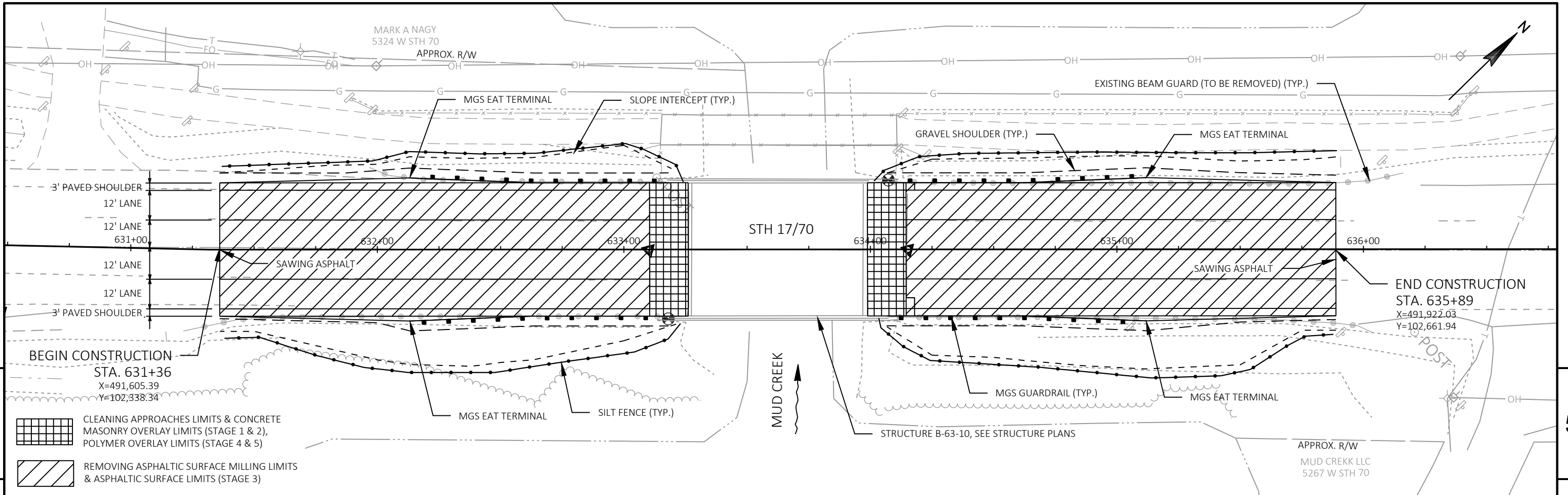
STRUCTURE B-63-13, SEE STRUCTURE PLANS



5

5

| | | | | | |
|------------------------|-------------|---------------|---------------------|-------|---|
| PROJECT NO: 1009-46-60 | HWY: STH 70 | COUNTY: VILAS | PAVING PLAN B-63-17 | SHEET | E |
|------------------------|-------------|---------------|---------------------|-------|---|



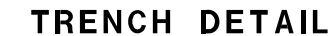
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| PROJECT NO: | 1009-46-60 | HWY: | USH 17/70 | COUNTY: | VILAS | PLAN AND PROFILE: | B-63-10 | SHEET | E |
|-------------|------------|------|-----------|---------|-------|-------------------|---------|-------|---|

Standard Detail Drawing List

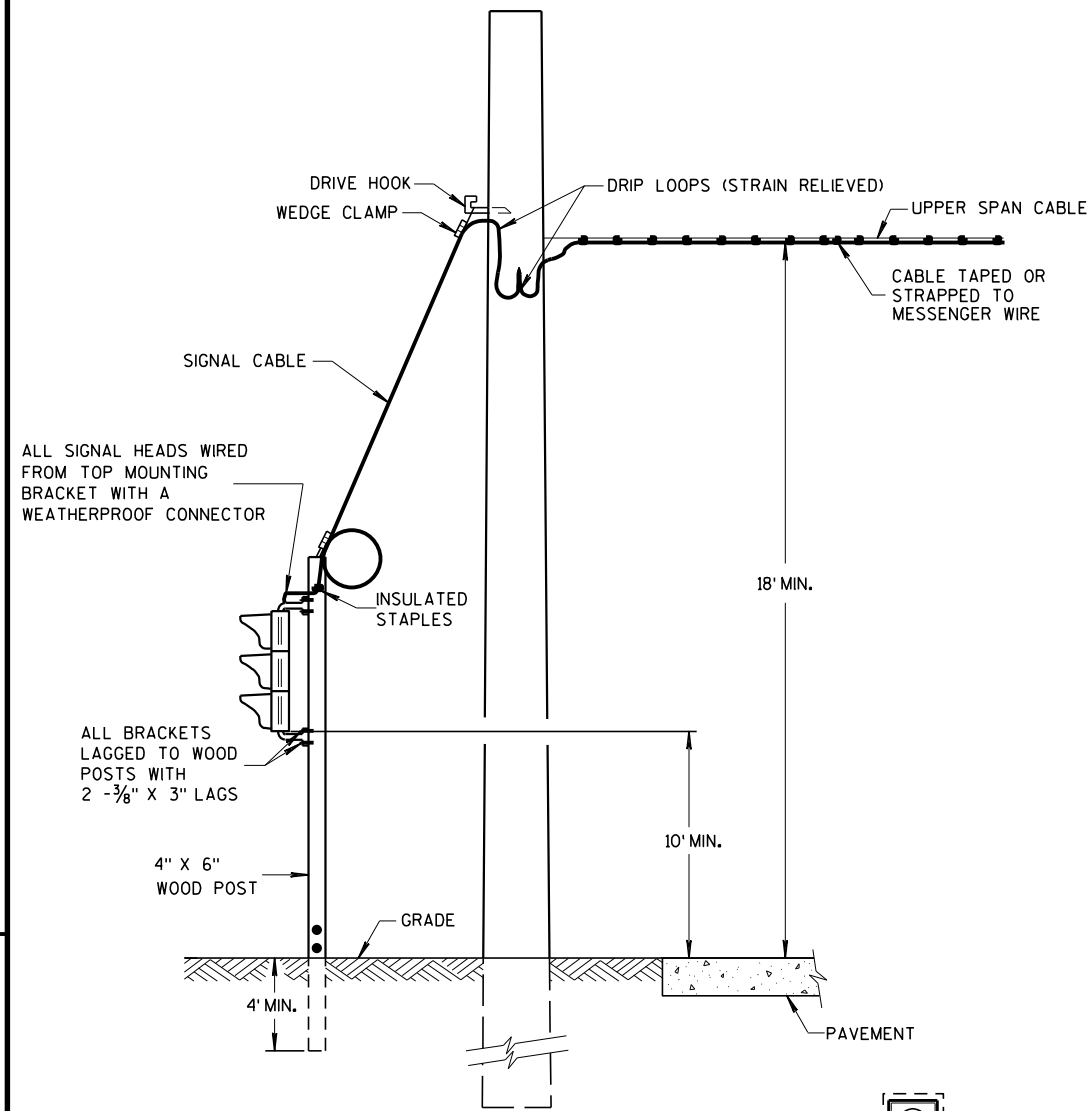
| | |
|-----------|--|
| 08E09-06 | SILT FENCE |
| 09G02-05A | BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 09G02-05B | BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 09G02-05C | BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 13B02-09A | CONCRETE PAVEMENT APPROACH SLAB |
| 13C08-02 | CONCRETE PAVEMENT PARTIAL DEPTH REPAIR |
| 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 |
| 14B42-06A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-06B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-06C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-06D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-05A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 15C06-09 | SIGNING & MARKING FOR TWO LANE BRIDGES |
| 15C08-19A | LONGITUDINAL MARKING (MAINLINE) |
| 15C11-07B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |
| 15C12-06 | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15D28-03 | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY |
| 15D33-05 | TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS |
| 15D38-02A | TEMPORARY TRAFFIC CONTROL SIGN MOUNTING |
| 15D38-02B | ATTACHMENT OF SIGNS TO POSTS |
| 15D39-02 | TRAFFIC CONTROL, DROP-OFF SIGNING |



- 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 1 1/8" X 1 1/8" 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.



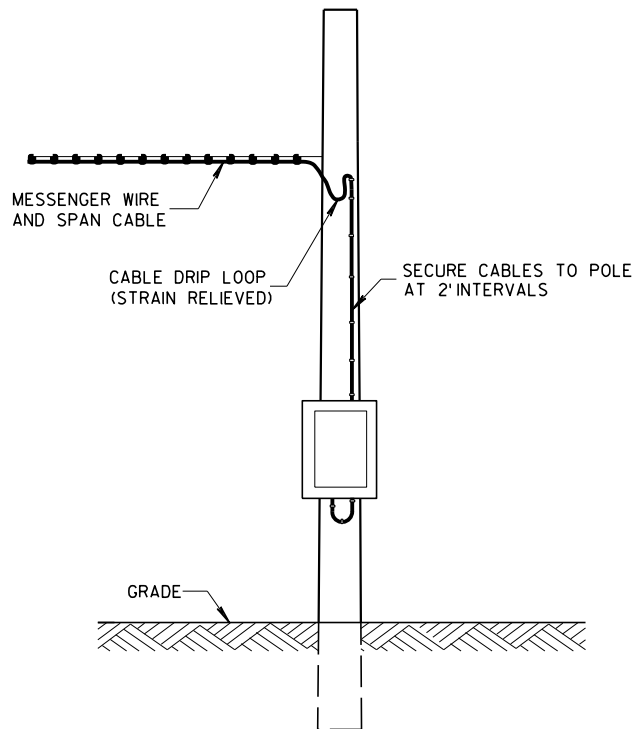
| | |
|--|---|
| SILT FENCE | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED <u>4-29-05</u> DATE | <u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER |
| FHWA | |



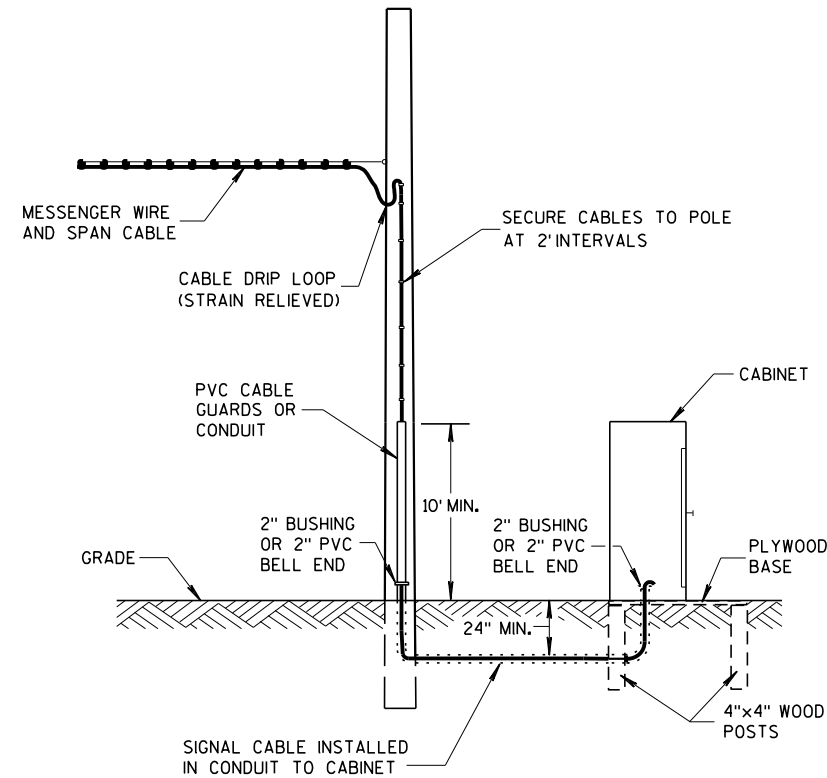
TYPICAL DROP TO TRAFFIC SIGNAL FACE

| OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES | |
|---|-------------------|
| SPEED LIMIT | OFFSET DISTANCE** |
| GREATER THAN 45 MPH | 18 FT |
| 45 MPH OR LESS | 12 FT |
| 45 MPH OR LESS W/ CURBS | 2 FT |
| **NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE. | |

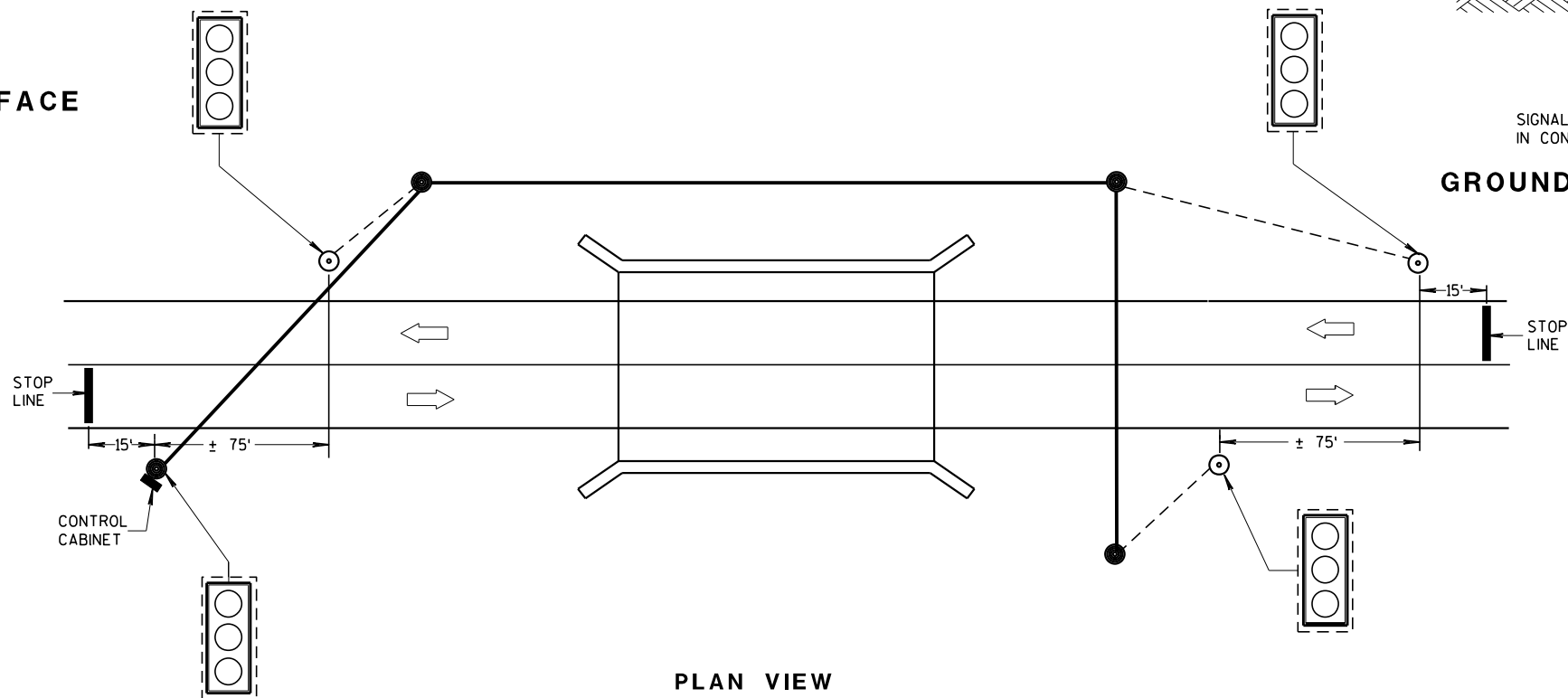
| MINIMUM POLE LENGTHS | CLASS | MINIMUM BURIAL DEPTHS |
|----------------------|-------|-----------------------|
| 25 FEET | V | 5 FEET |
| 30 FEET | V | 6 FEET |
| 35 FEET | IV | 7 FEET |
| 40 FEET | IV | 8 FEET |
| 45 FEET | IV | 9 FEET |



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION



PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.

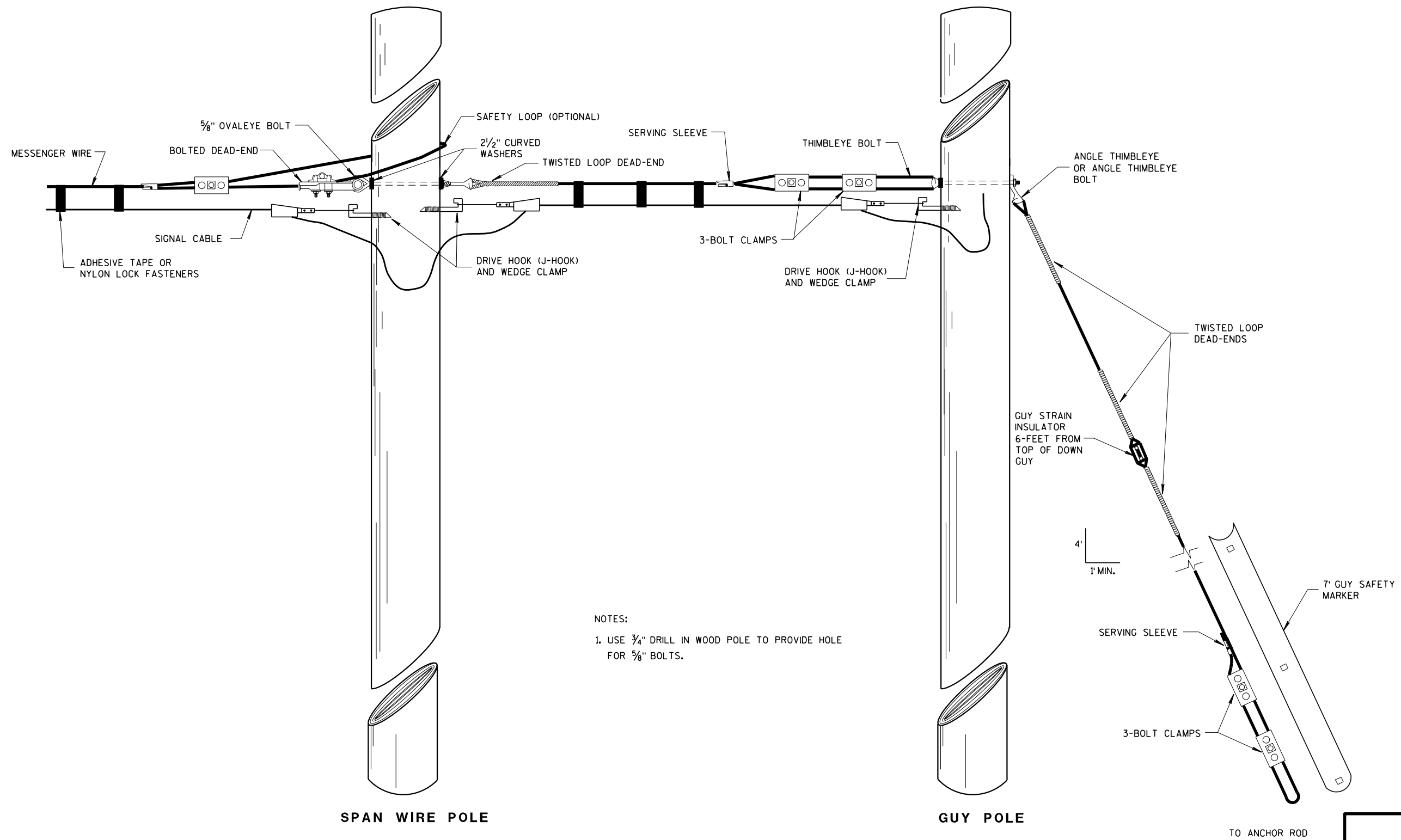
LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- LED TRAFFIC SIGNAL FACE WITH BACKPLATE
- 3'-12"
- DIRECTION OF TRAFFIC

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

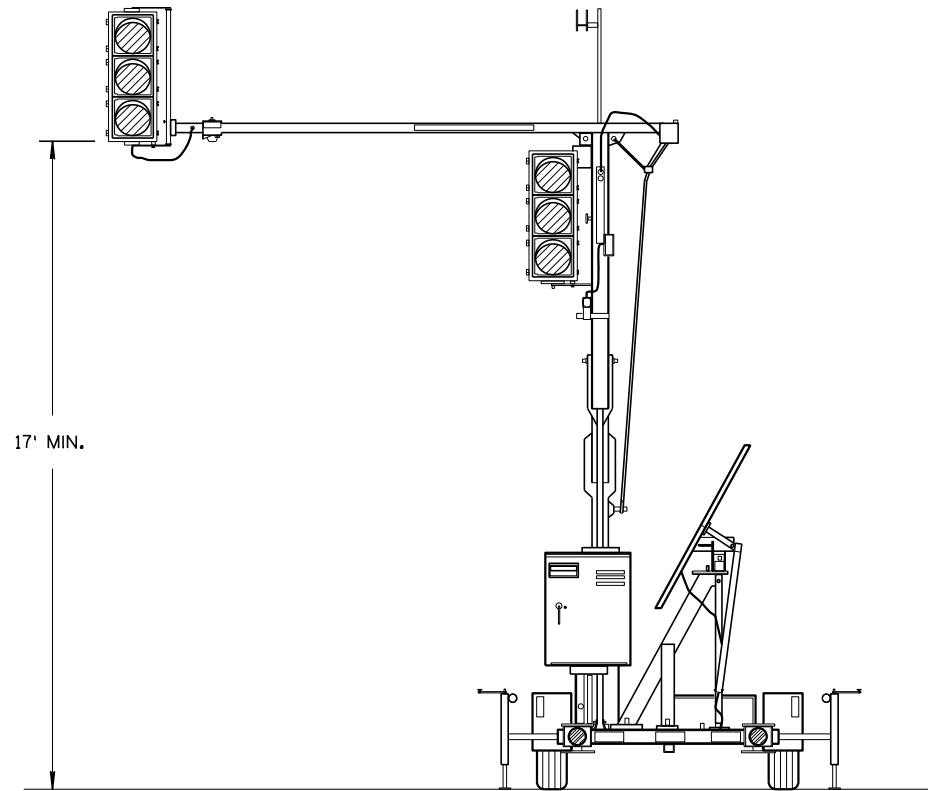
TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATIONSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2018
DATE/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA

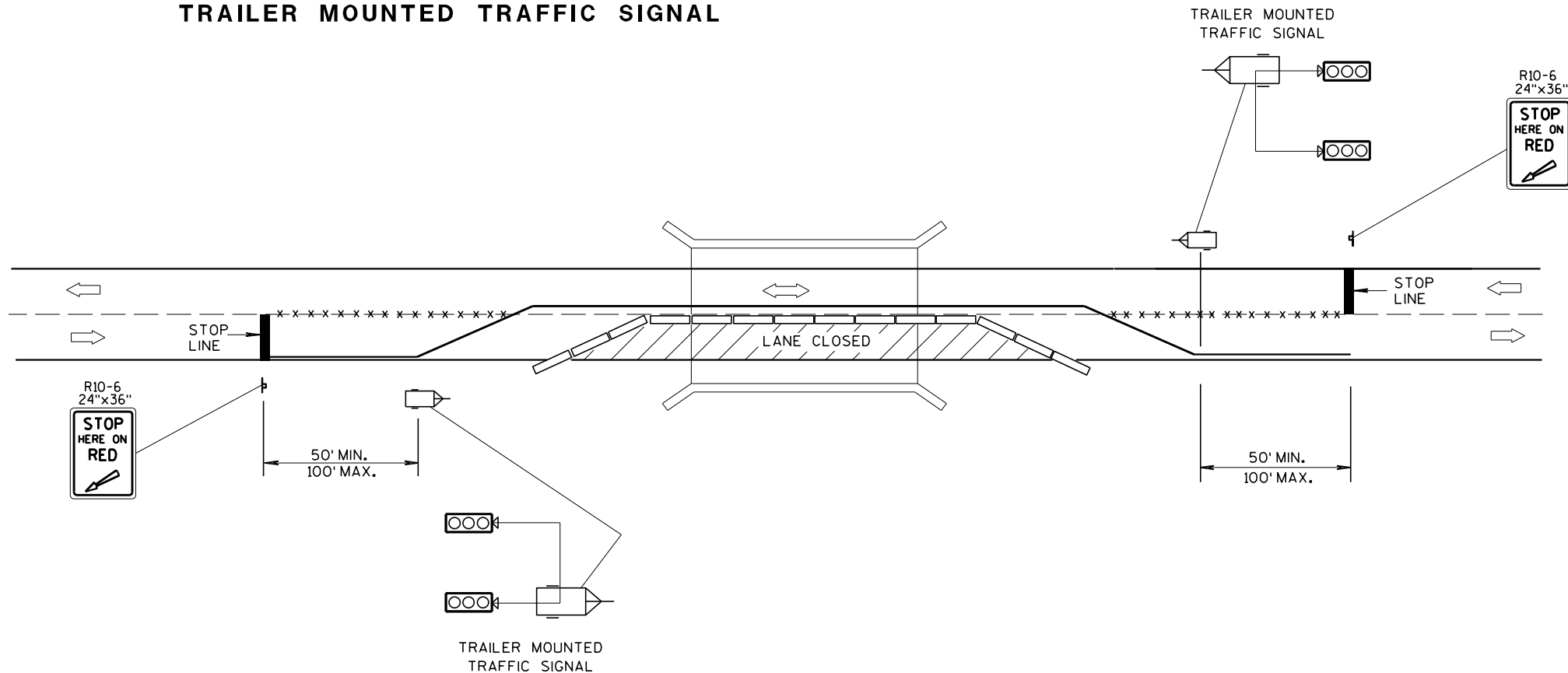


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

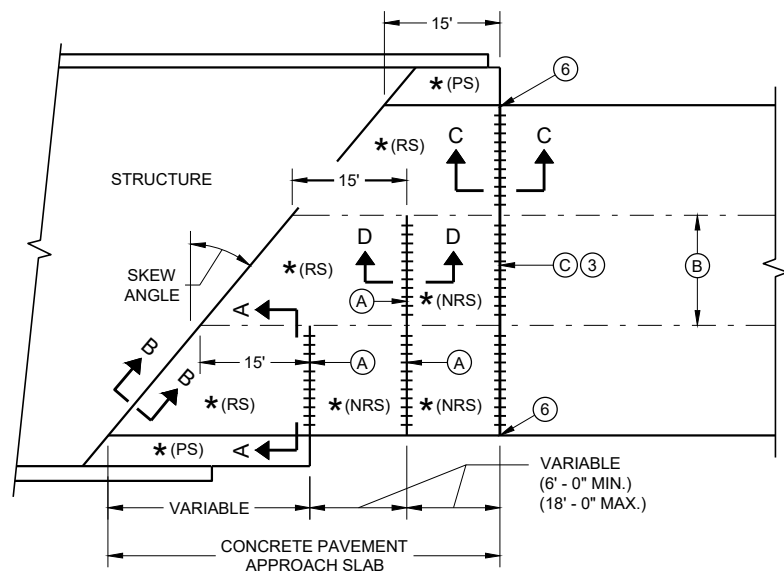
LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

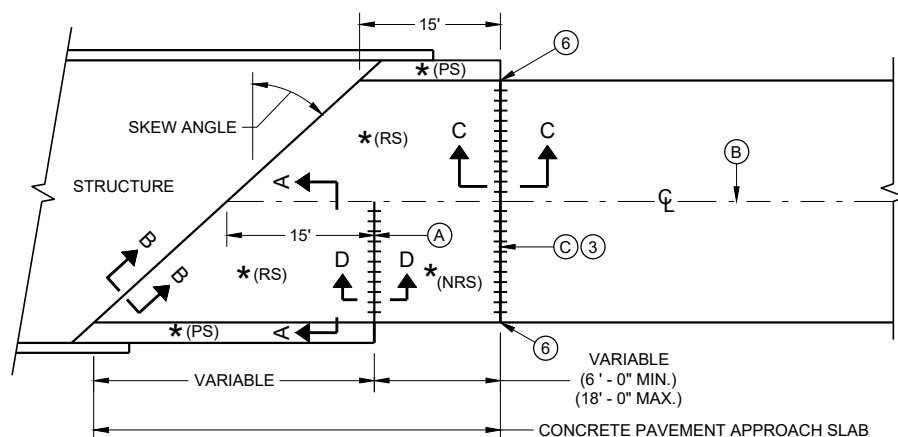
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

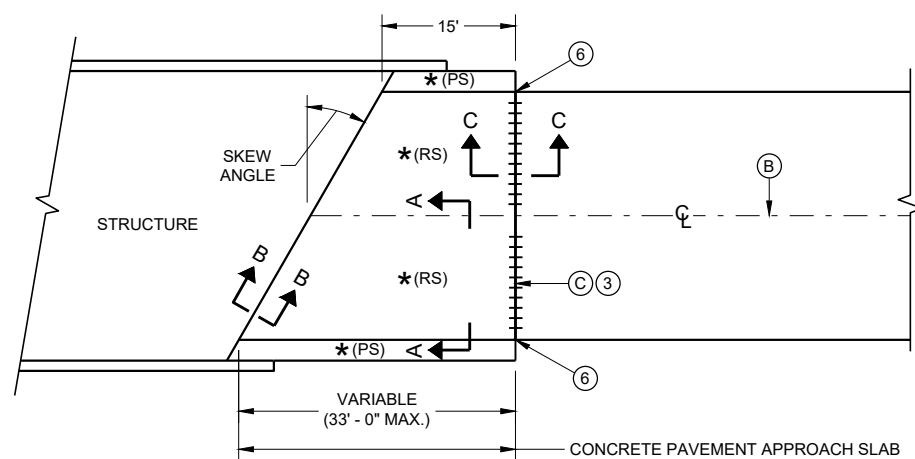
APPROVED
March 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



**SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)**



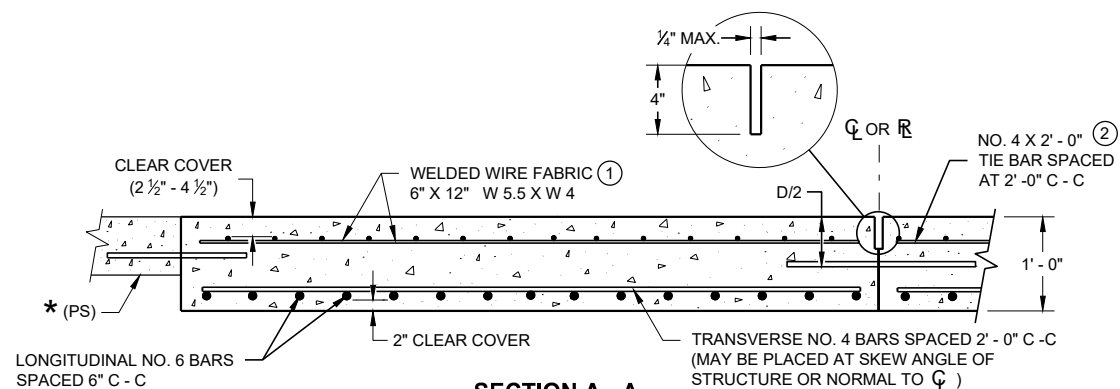
**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**



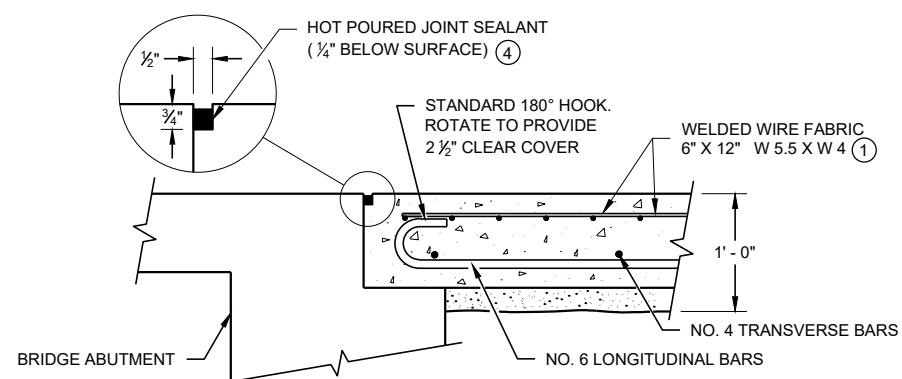
**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**

APPROACH SLAB AND ADJACENT PAVEMENT

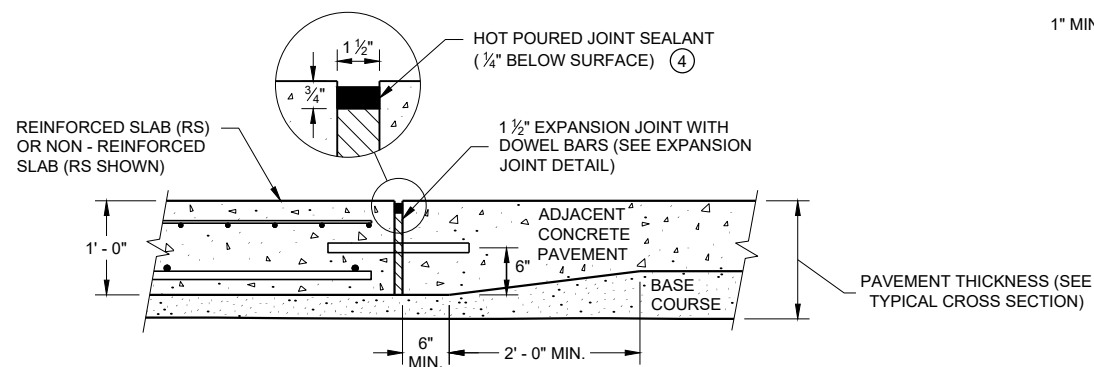
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



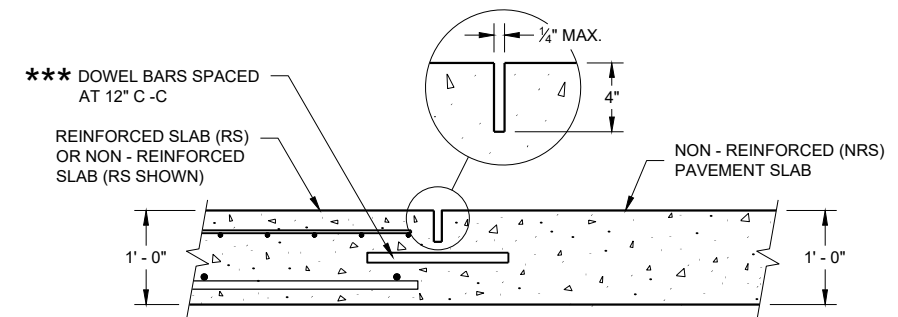
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

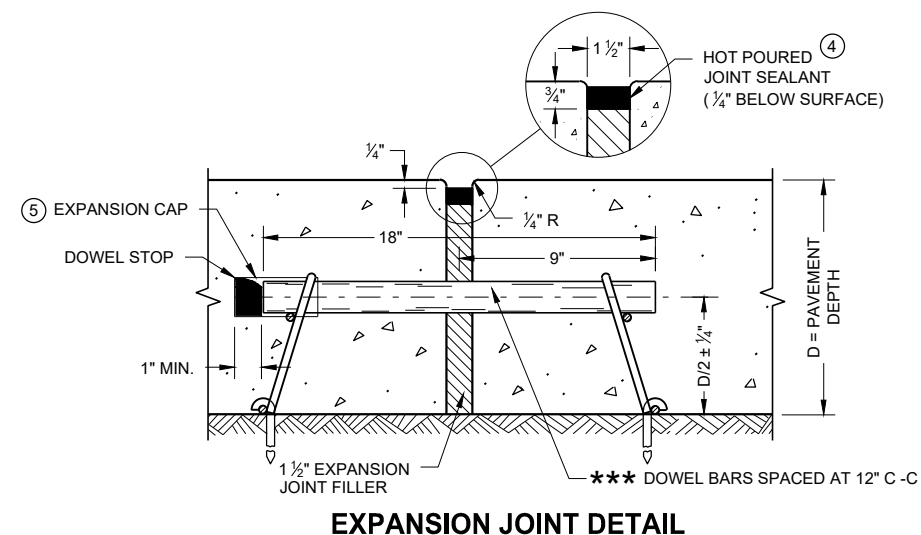
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- A STANDARD CONTRACTION JOINT NORMAL TO \overline{C} OR \overline{R} .
- B STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- C 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO \overline{C} OR \overline{R} .



**SECTION D - D
CONTRACTION JOINT**

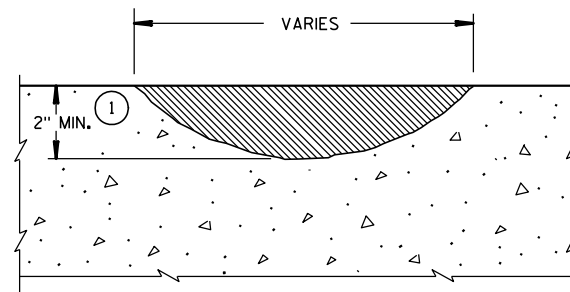


EXPANSION JOINT DETAIL

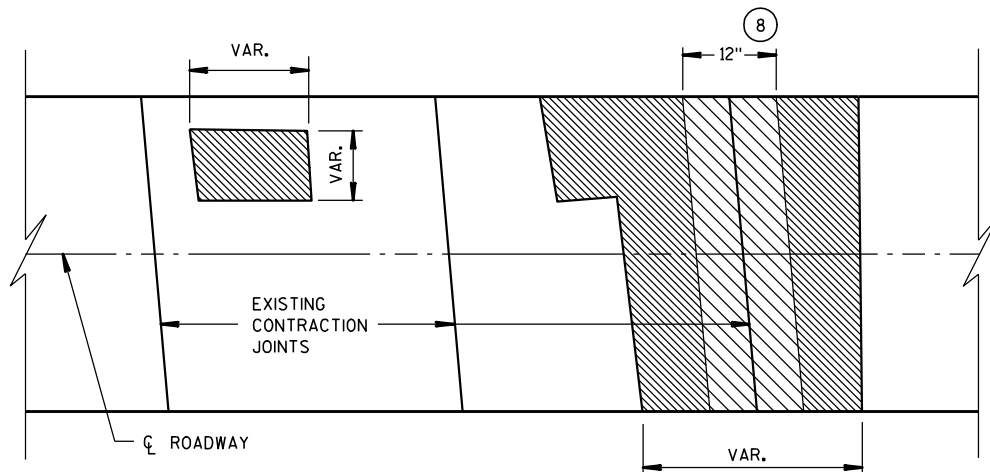
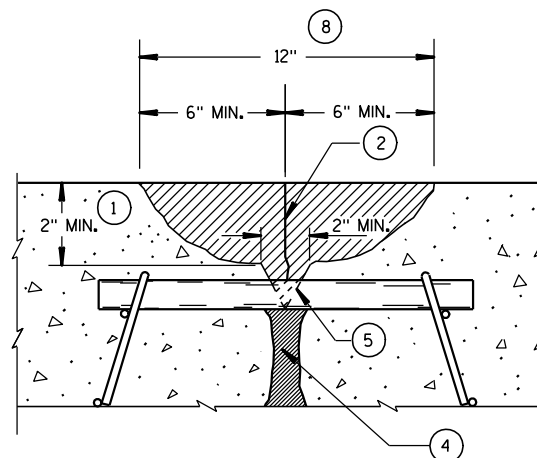
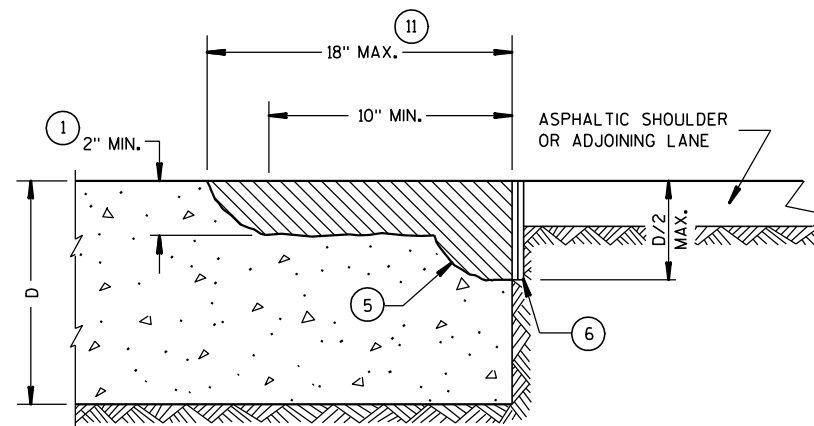
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISOR
FHWA

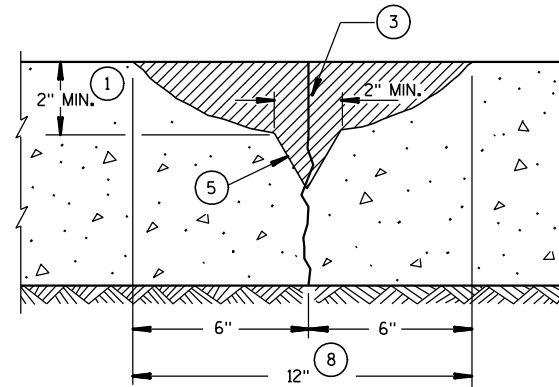


PROFILE VIEW

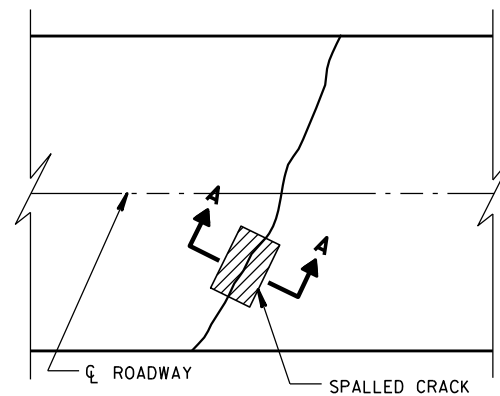
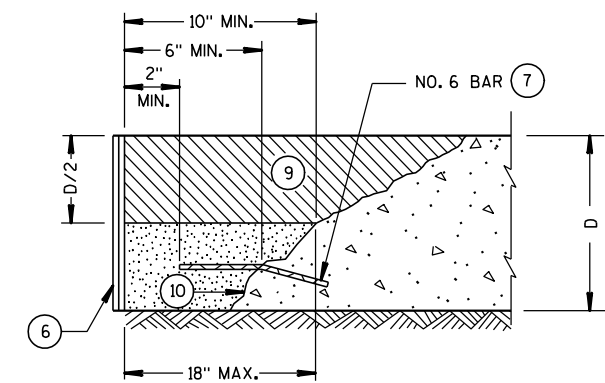
PLAN VIEW
SURFACE REPAIRPROFILE VIEW
JOINT REPAIR

PROFILE VIEW

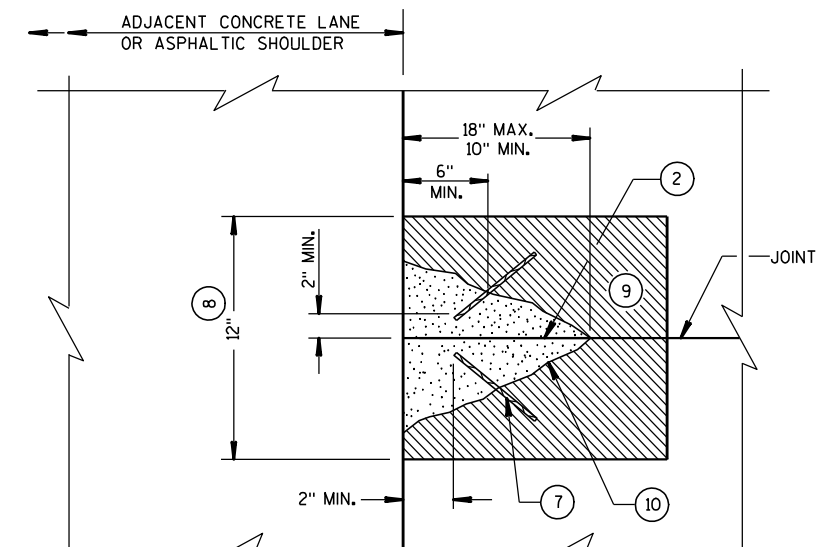
EDGE REPAIR



SECTION A-A

PLAN VIEW
CRACK REPAIR

PROFILE VIEW

PLAN VIEW
FULL DEPTH REPAIR ADJUSTMENT**GENERAL NOTES**

- ① REMOVE ALL CONCRETE, TO LIMITS SHOWN, TO A MAXIMUM OF $\frac{1}{2}$ THE PAVEMENT DEPTH OR TOP OF DOWELS.
- ② IF REPAIR IS DEEPER THAN ANTICIPATED SAWCUT, COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK ($\frac{1}{4}$ "), THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
- ③ COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK ($\frac{1}{4}$ "), THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
- ④ CLEAN, DRY SAND WHEN NECESSARY.
- ⑤ REMOVE UNSOUND MATERIAL BY CHIPPING AT 1:1 SLOPE.
- ⑥ $\frac{1}{4}$ " MINIMUM PREFORMED JOINT FILLER IF ADJACENT TO CONCRETE. EDGING REQUIRED, FULLY FORMED EDGE IF ADJACENT TO SHOULDER.
- ⑦ PAVEMENT TIES AS SHOWN. ALL EMBEDMENTS 6" MINIMUM AND INSTALLED WITH GROUT.
- ⑧ OVER 12" (NOMINAL WIDTH) WILL BE PAID AS SURFACE REPAIR.
- ⑨ PAID AS JOINT OR CRACK REPAIR.
- ⑩ FULL-DEPTH ADJUSTMENT SHALL BE CHIPPED TO BOTTOM OF PCC PAVEMENT AT 1:1 SLOPE.
- ⑪ BEYOND 18" WILL BE PAID AS SURFACE REPAIR.

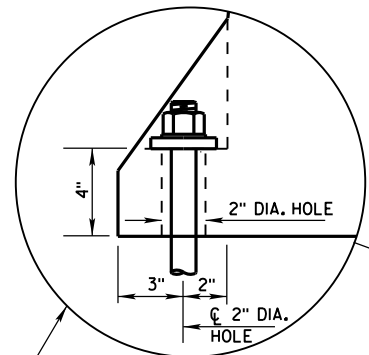
**CONCRETE PAVEMENT
PARTIAL DEPTH REPAIR**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

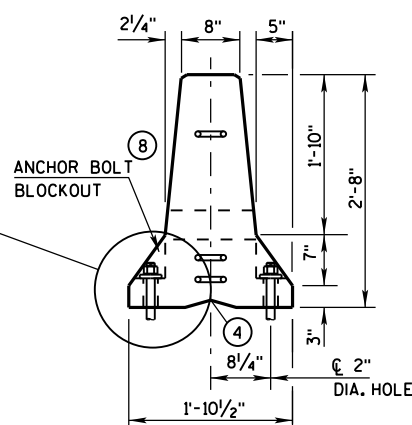
3/21/03
DATE

FHWA

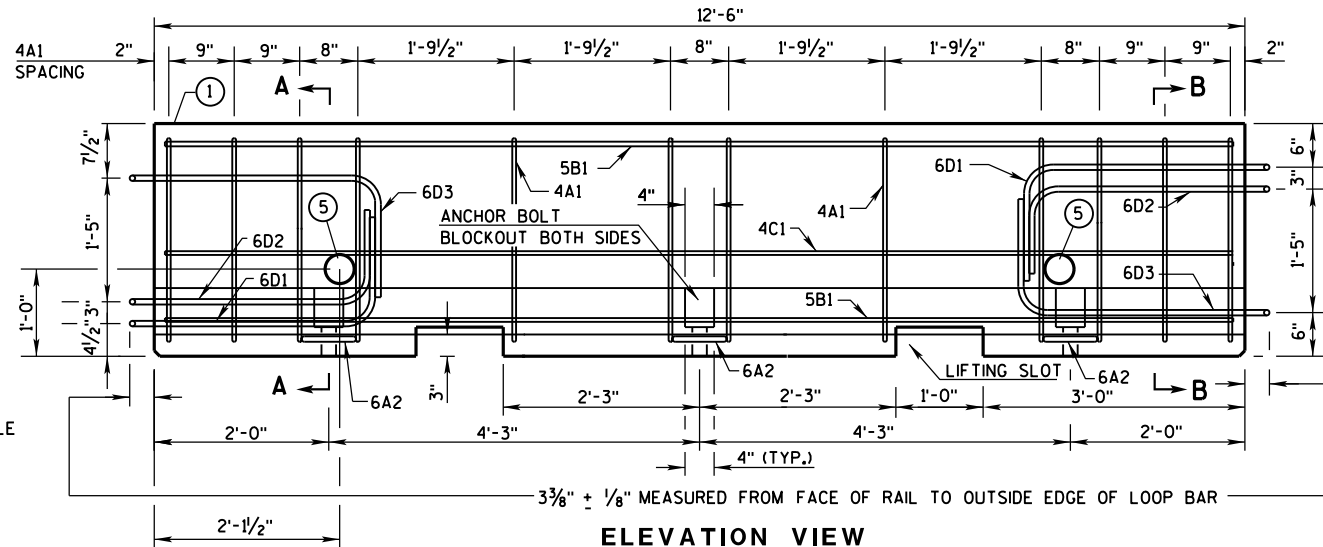
/S/ Bill Duckert
PAVEMENT ENGINEER



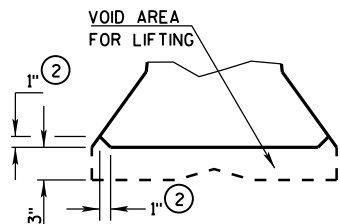
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



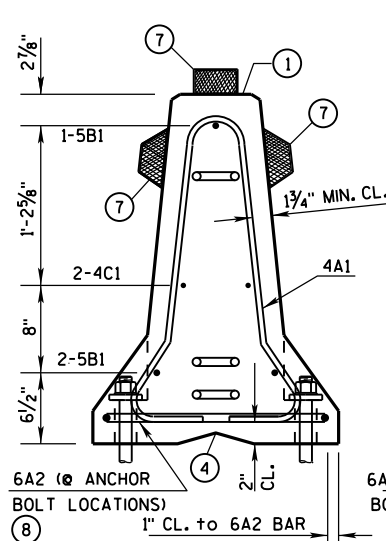
END VIEW



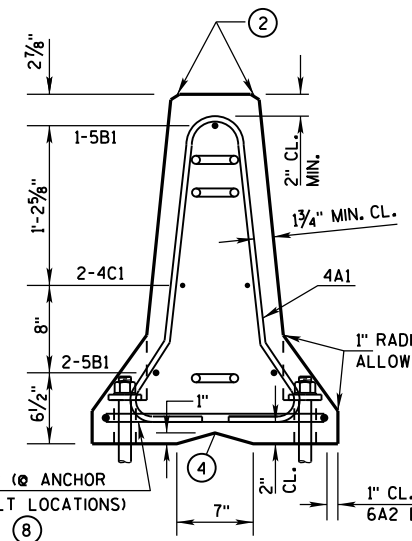
ELEVATION VIEW



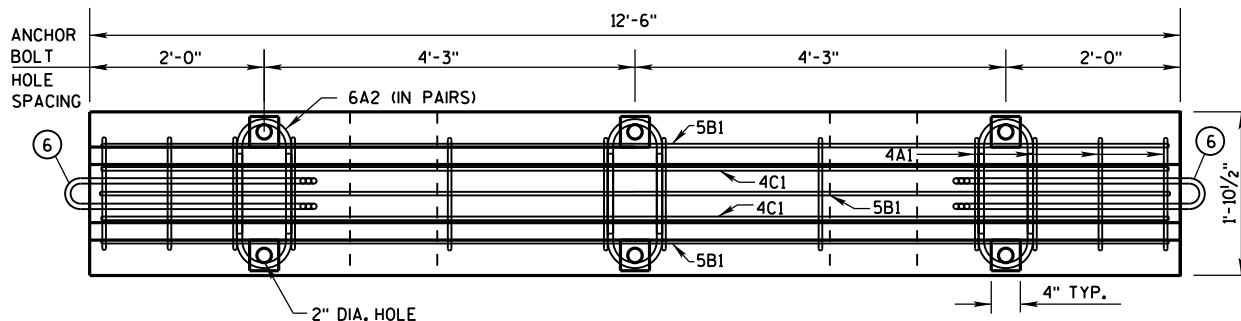
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

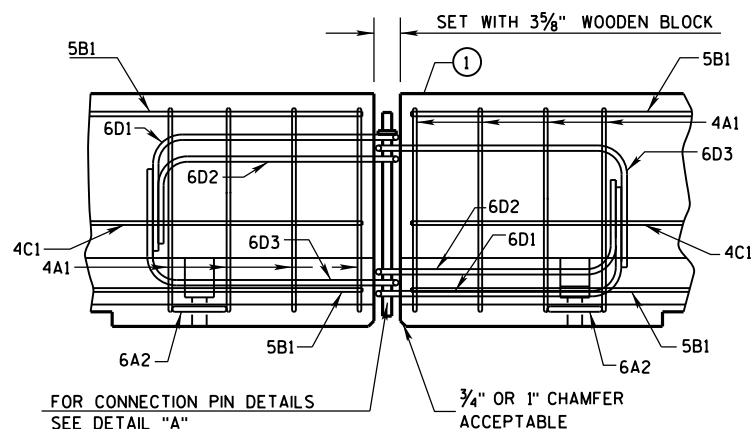


SECTION B-B
(STIRRUP PLACEMENT)

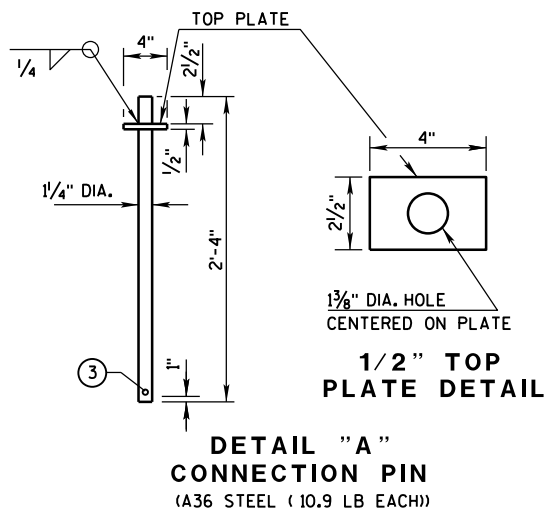


PLAN VIEW

DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



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

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.

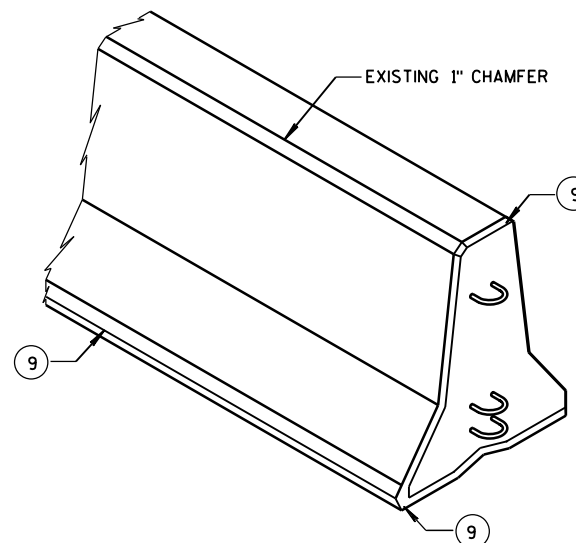
CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

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.

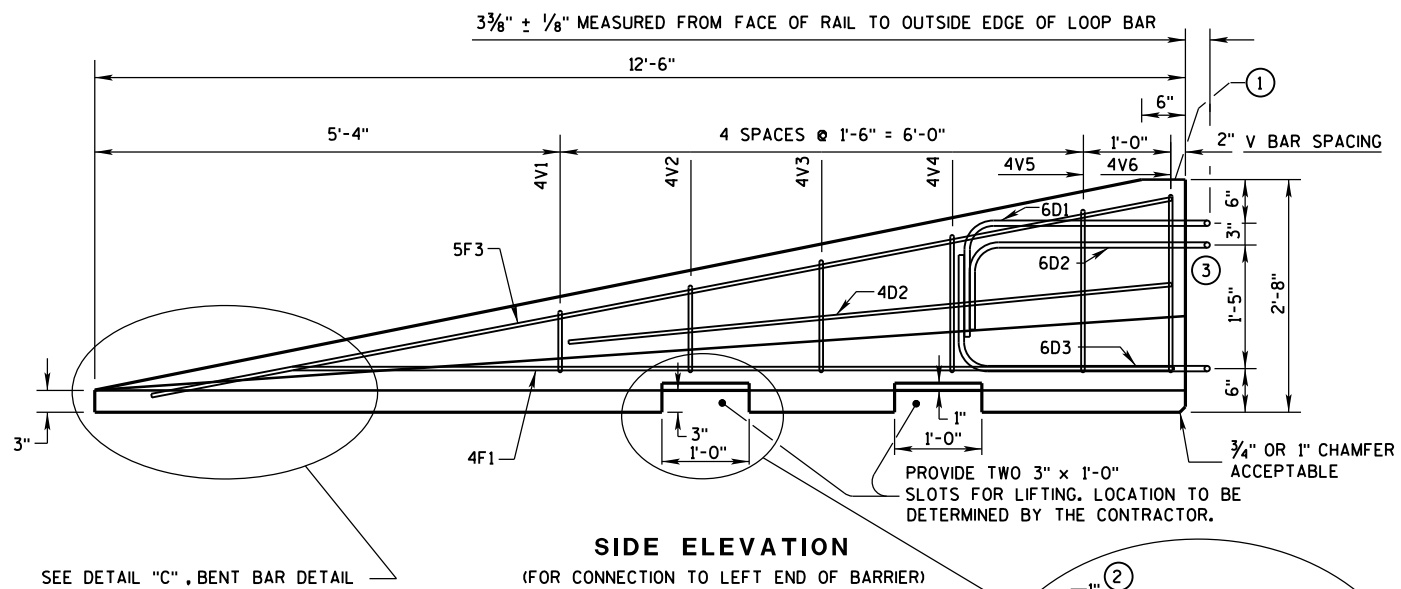
- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" 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.

f'c = 4,000 psi



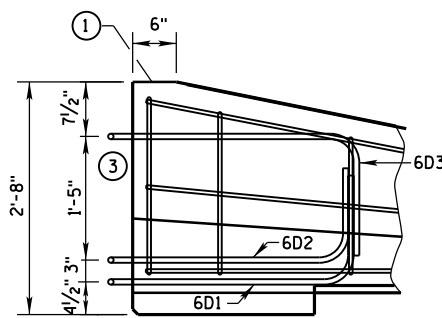
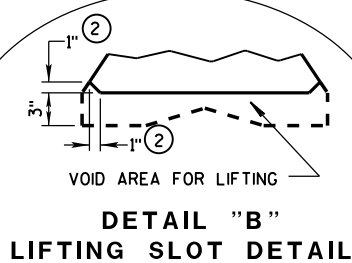
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)



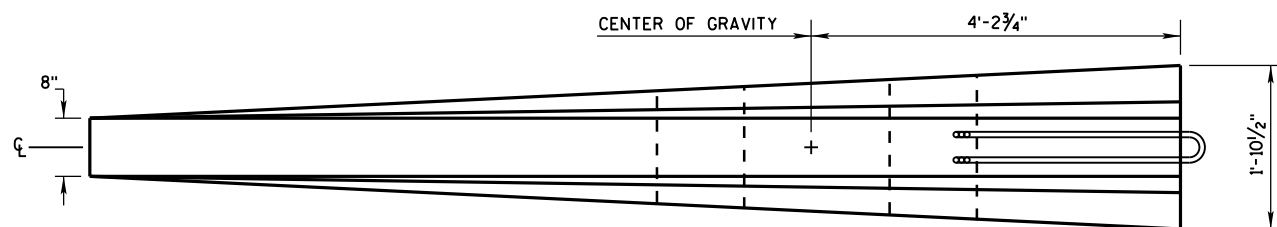
SIDE ELEVATION

LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.

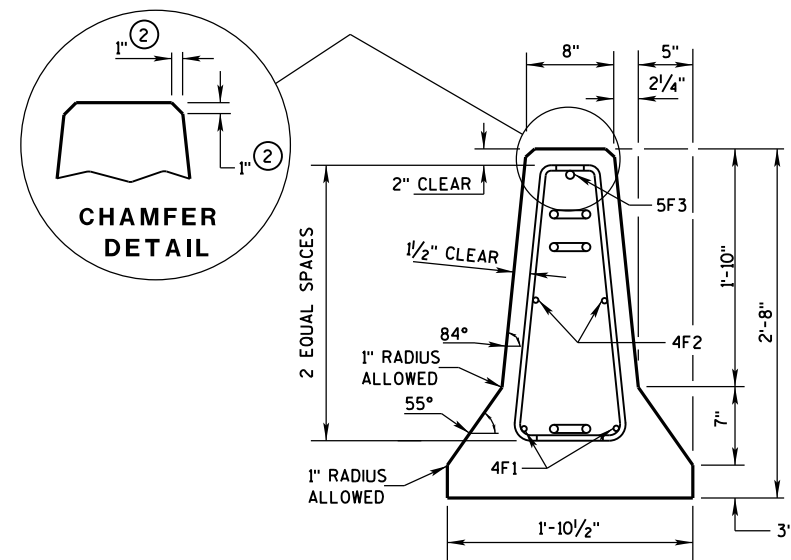
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

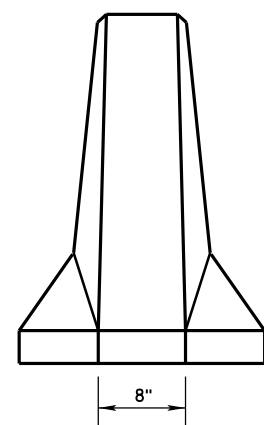
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



PLAN VIEW

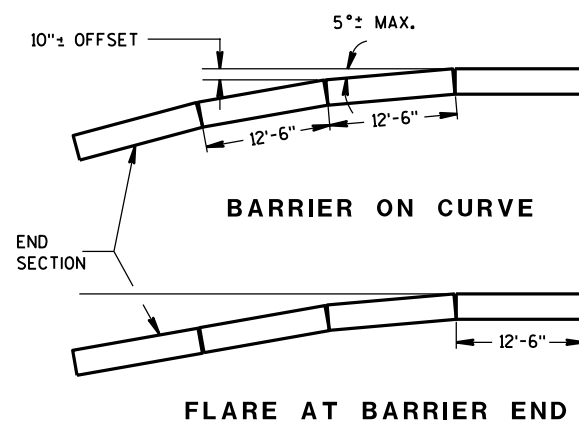


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION



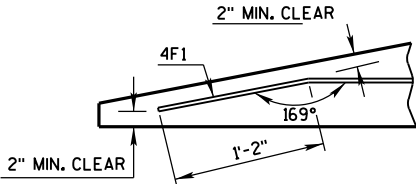
| POSTED SPEED, (MPH) | FLARE RATE |
|---------------------|------------|
| 40 OR LESS | 6:1 |
| 45 OR GREATER | 8:1 |

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

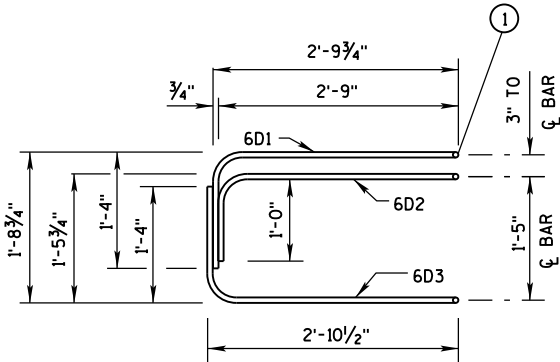
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

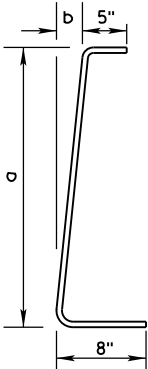
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---------------|----------|-------------|------------|
| 4V1 | 4 | 2 | 1'-11" |
| 4V2 | 4 | 2 | 2'-2" |
| 4V3 | 4 | 2 | 2'-6" |
| 4V4 | 4 | 2 | 2'-9" |
| 4V5 | 4 | 2 | 3'-2" |
| 4V6 | 4 | 2 | 3'-4" |
| 4F1 | 4 | 2 | 12'-0" |
| 4F2 | 4 | 2 | 7'-6" |
| 5F3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



| 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" |

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

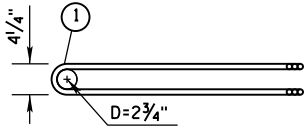
GENERAL NOTES

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

BARRIER SECTION
BILL OF MATERIALS

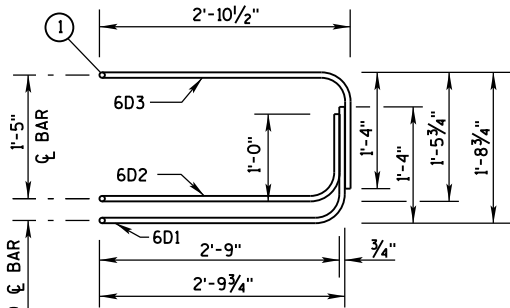
(PER 12'-6" BARRIER SECTION)

| 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" |

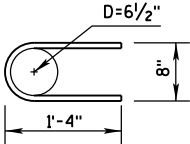


PLAN VIEW
LOOP BAR ASSEMBLY

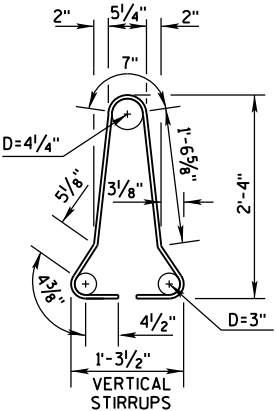
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

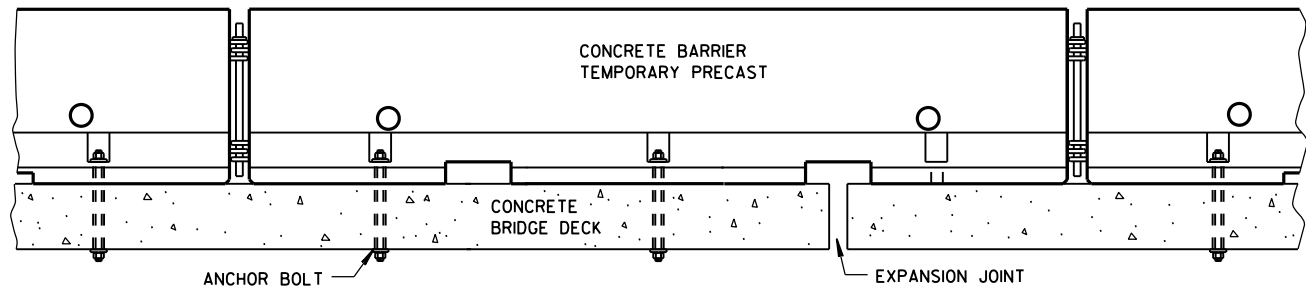
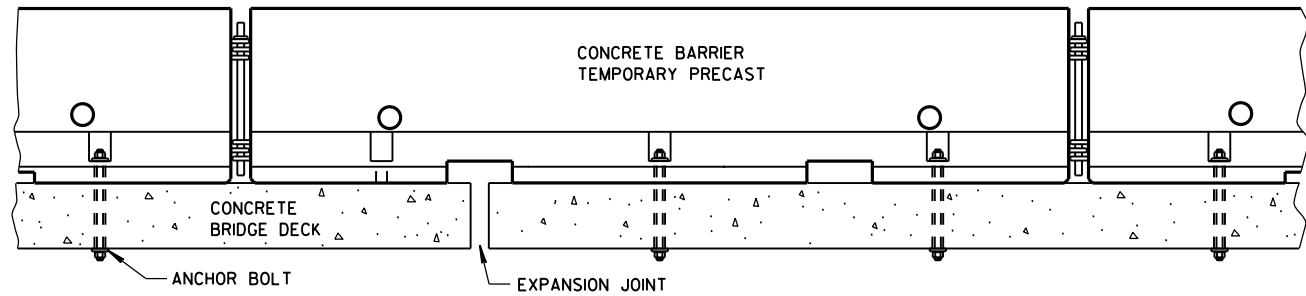


4A1

BARRIER SECTION

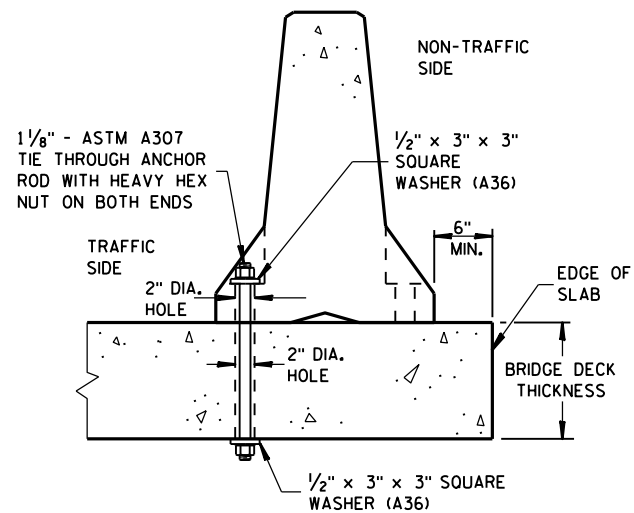
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



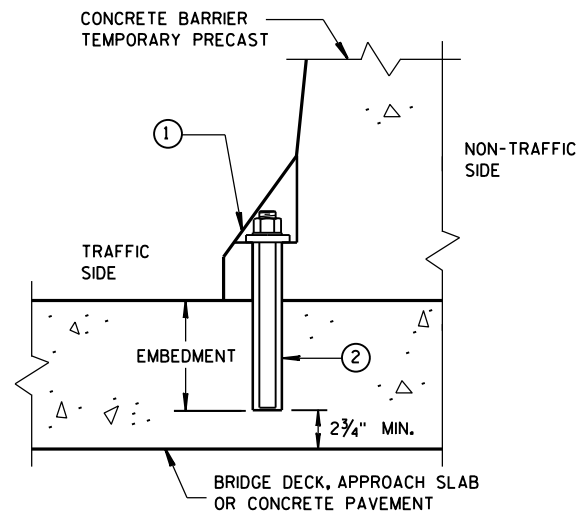
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.)



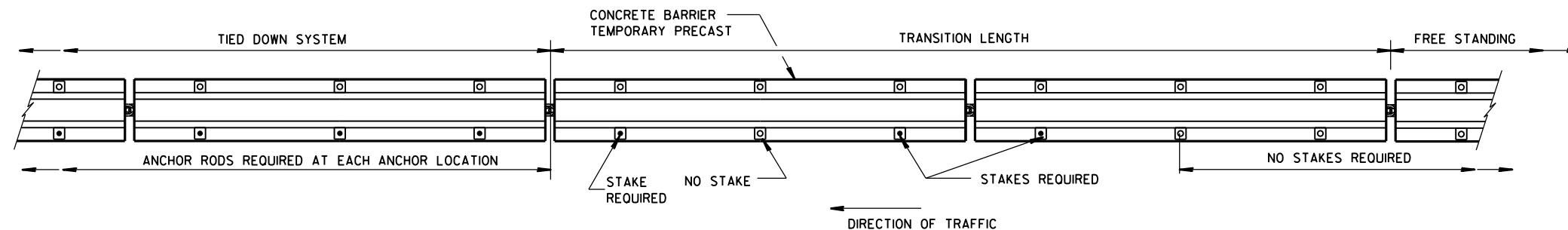
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(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

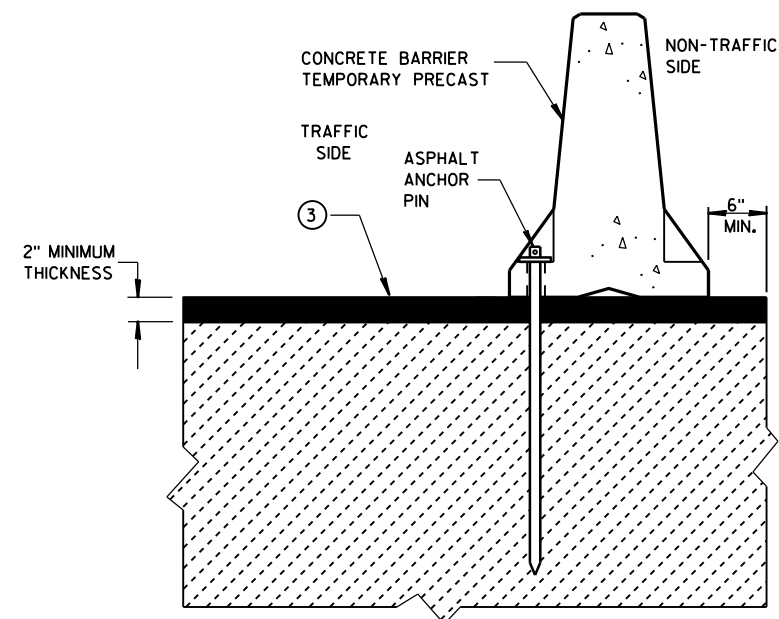
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

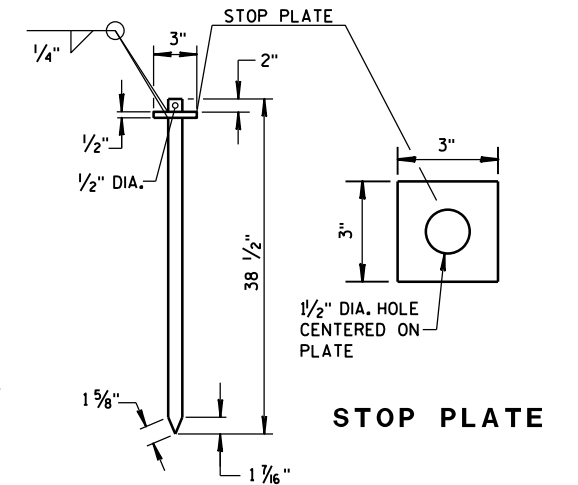
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

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.



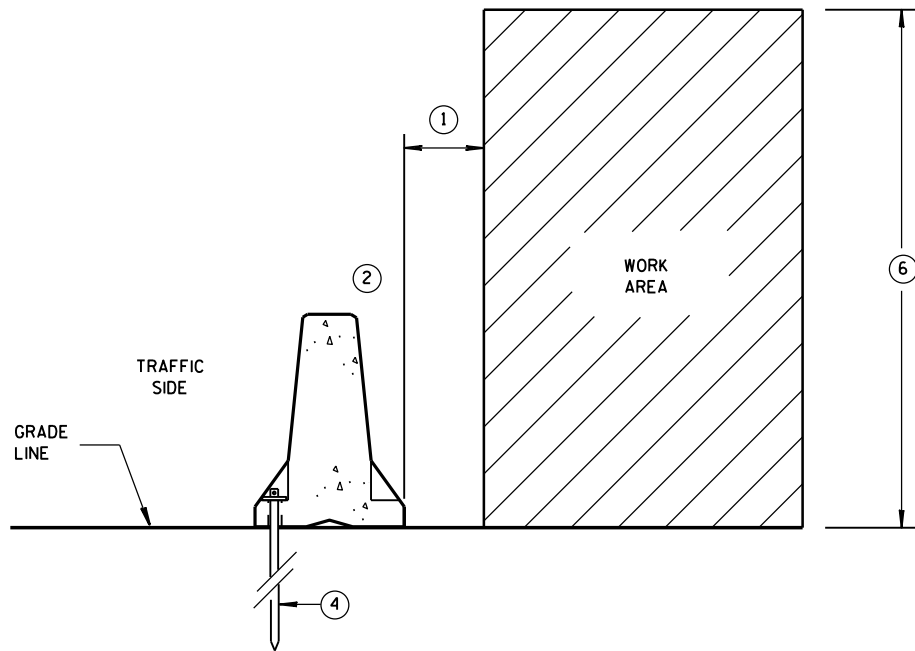
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



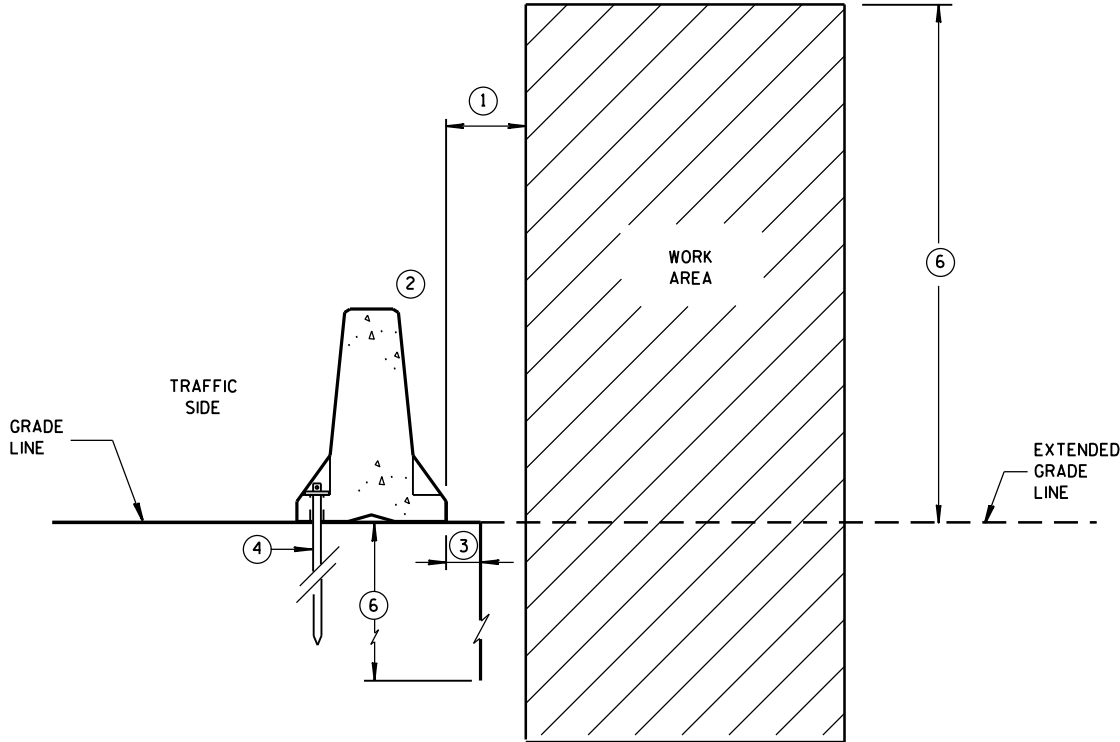
ASPHALT ANCHOR PIN (ASTM A36 STEEL)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



ANCHORED BARRIER SPACE REQUIREMENTS
FOR HAZARDS EXTENDED
ABOVE THE GRADE LINE

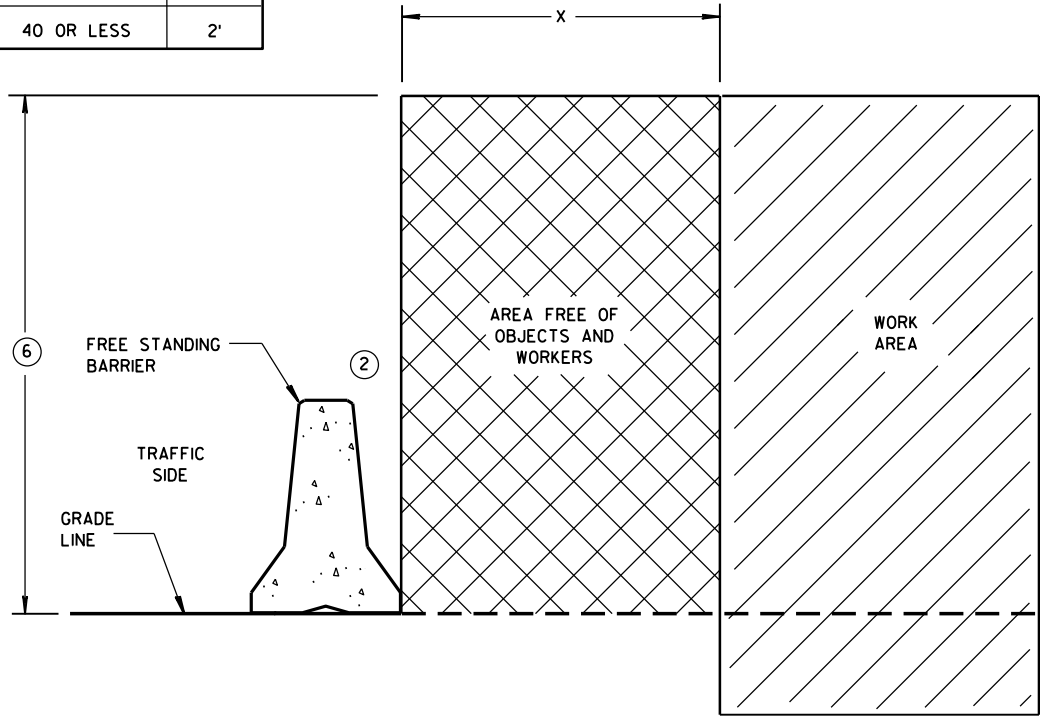


ANCHORED BARRIER SPACE REQUIREMENTS
ON VERTICAL DROP OFFS

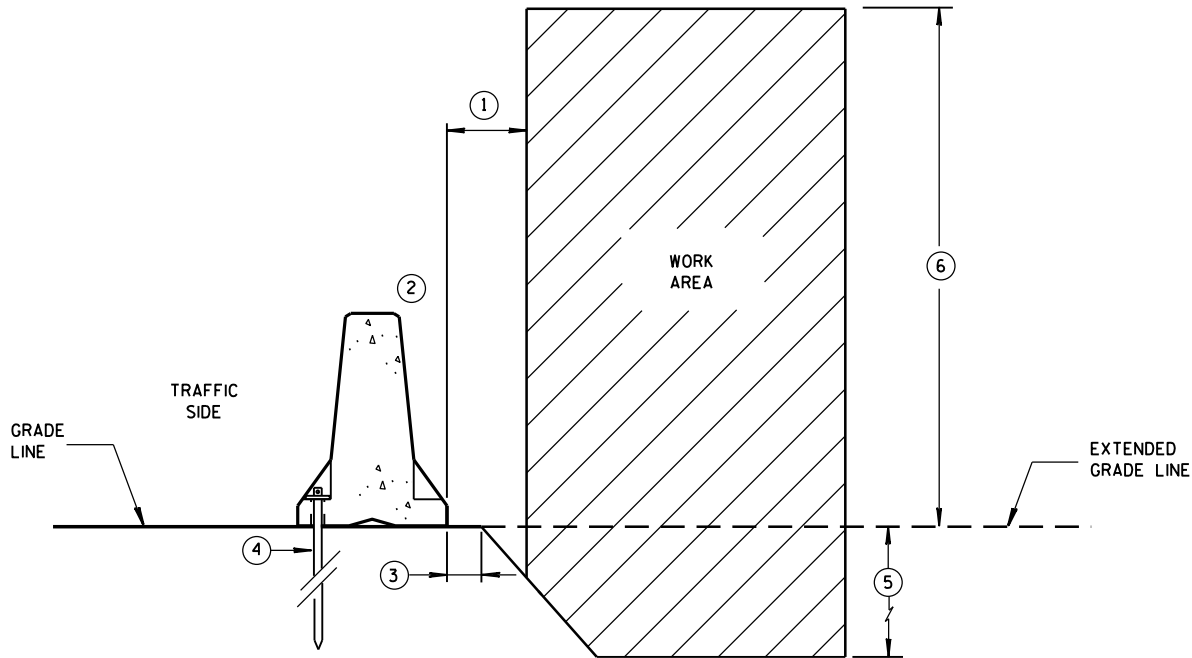
GENERAL NOTES

- 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 MPH | X |
|------------------|----|
| 45 OR GREATER | 4' |
| 40 OR LESS | 2' |



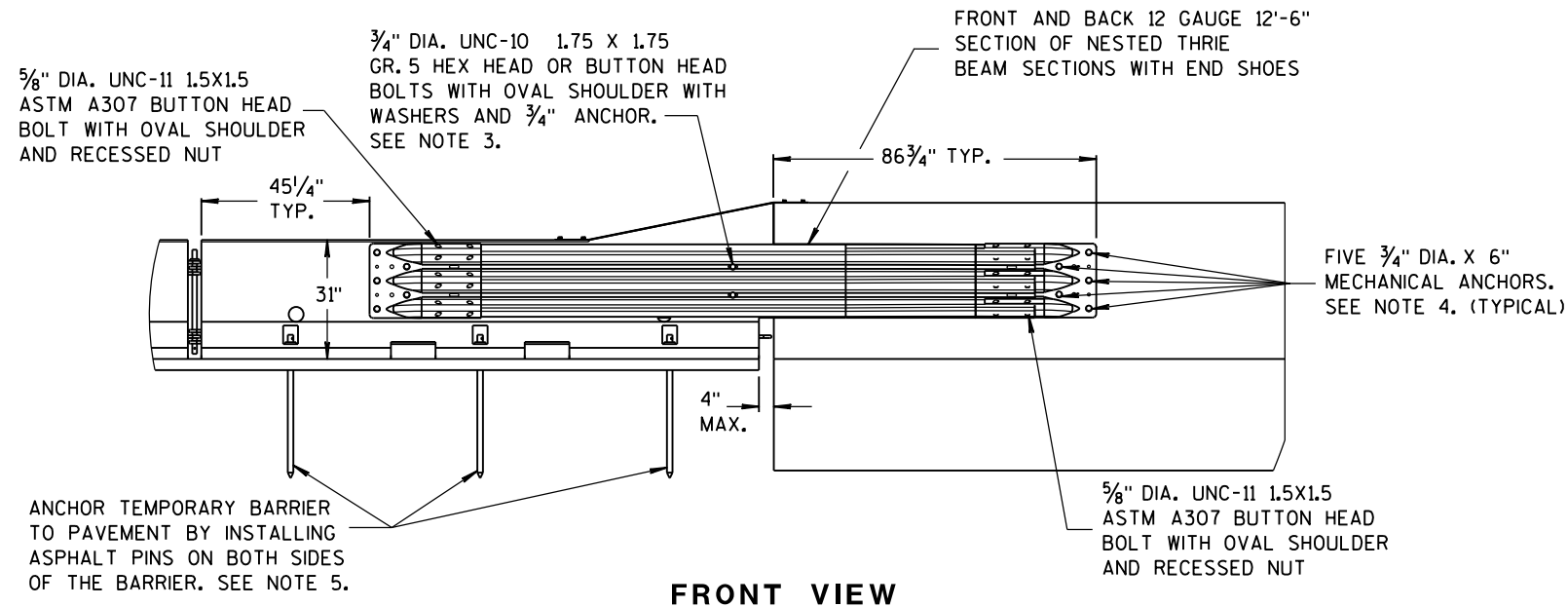
FREE STANDING BARRIER SPACE REQUIREMENTS



ANCHORED BARRIER SPACE REQUIREMENTS
ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

NOTES

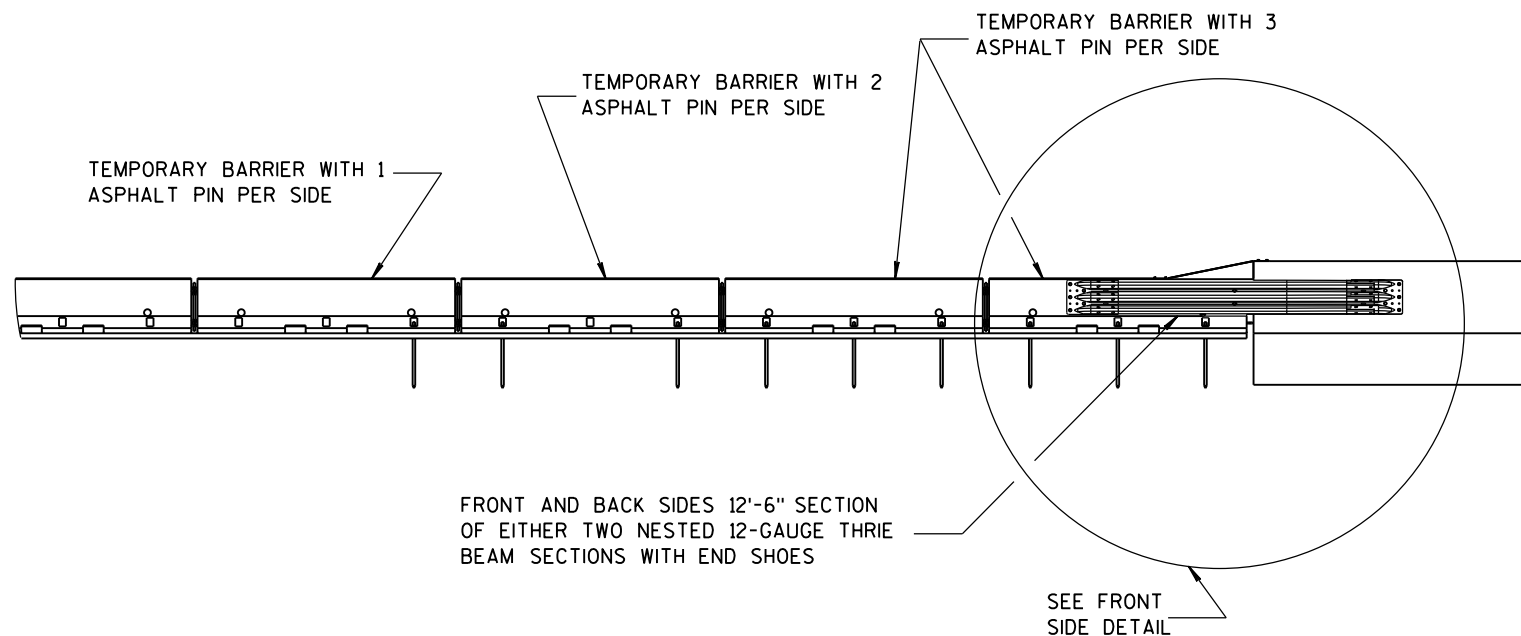
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

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.

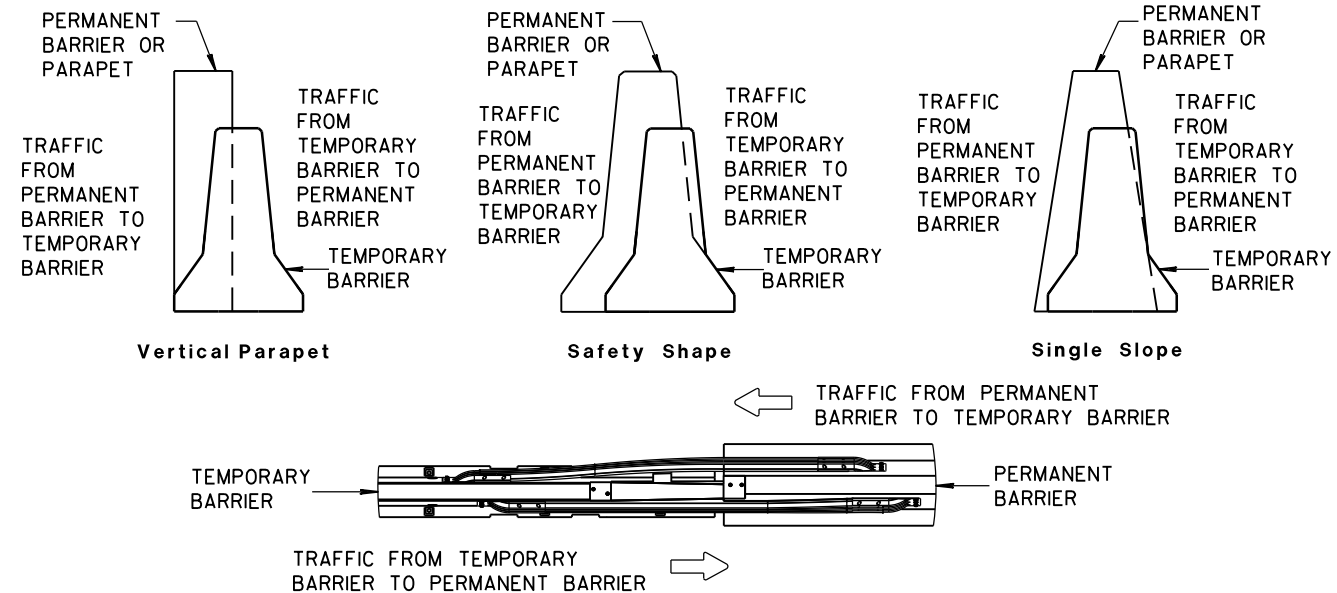
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.

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

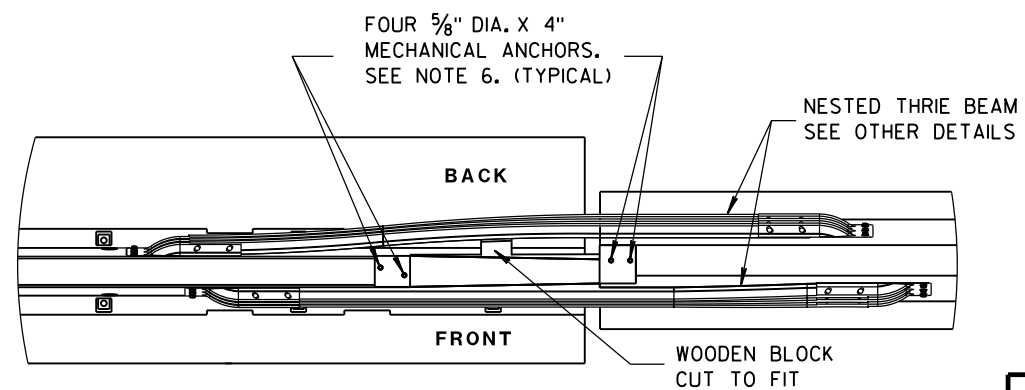
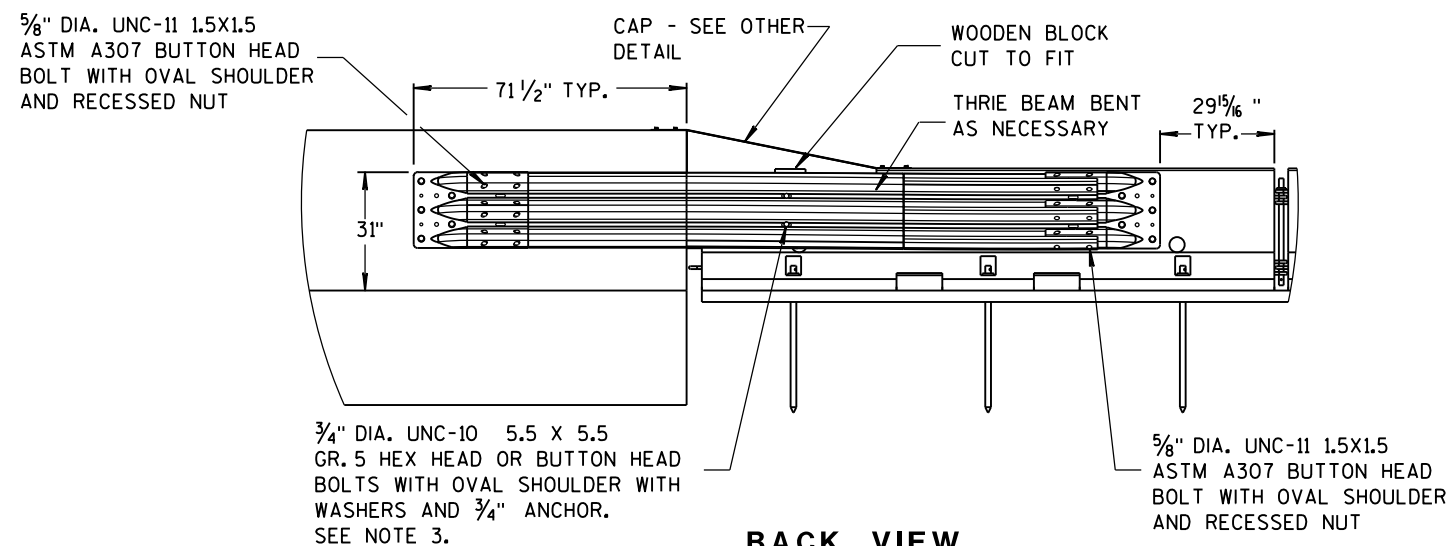


FRONT VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

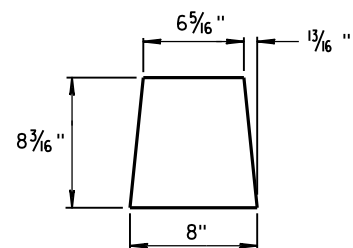


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

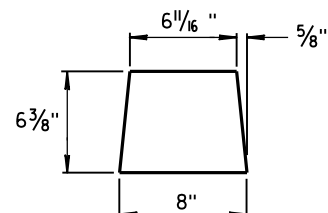


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

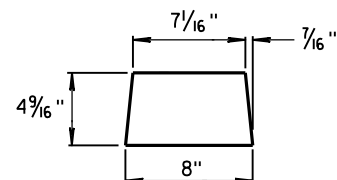
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



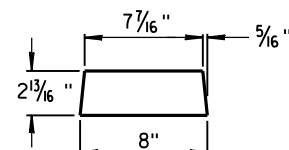
GUSSET 1



GUSSET 2

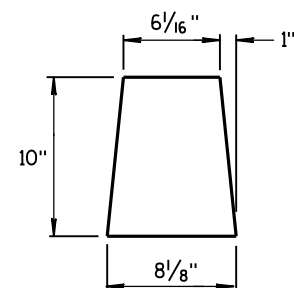


GUSSET 3

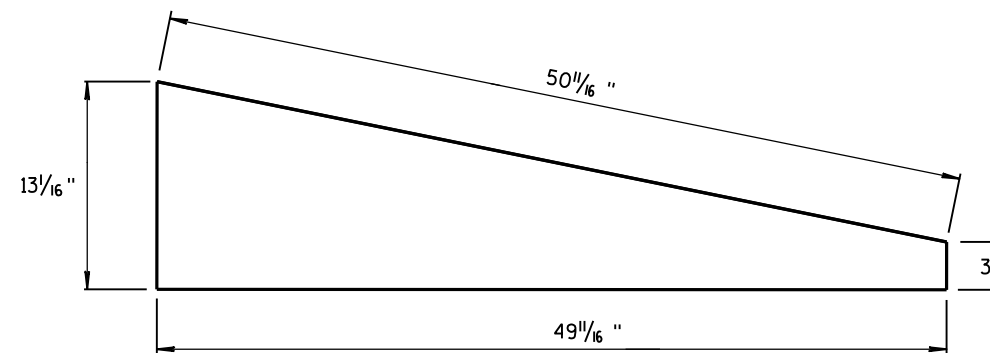


GUSSET 4

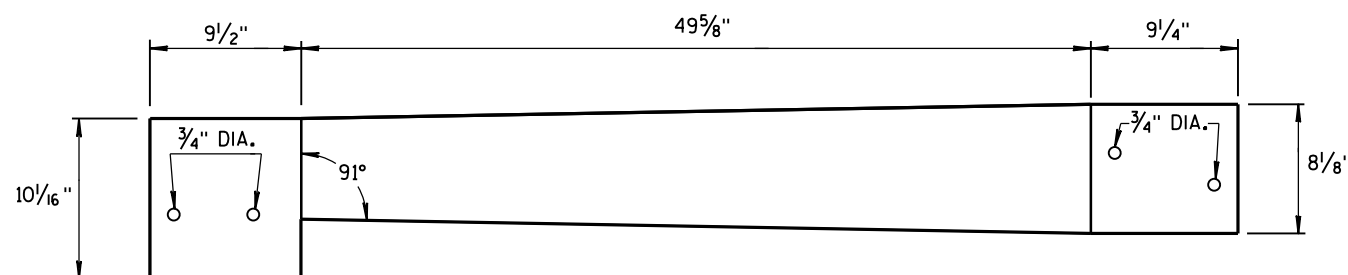
GUSSETS



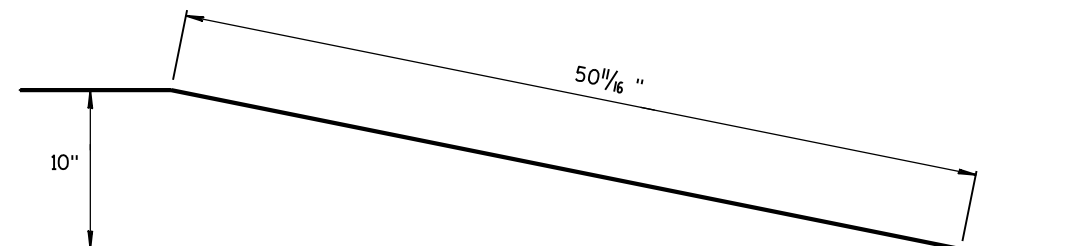
END PLATE



SIDE PLATE

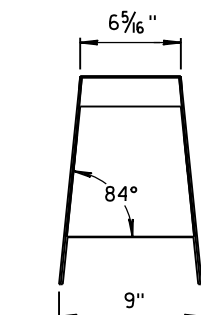
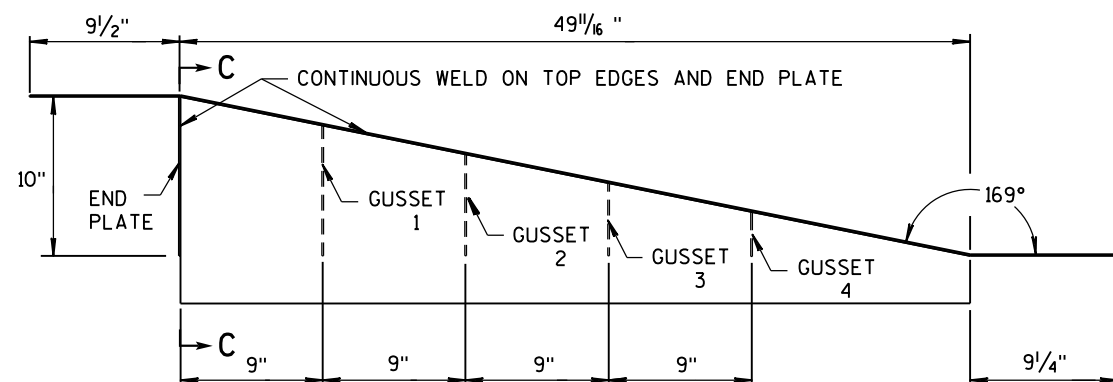
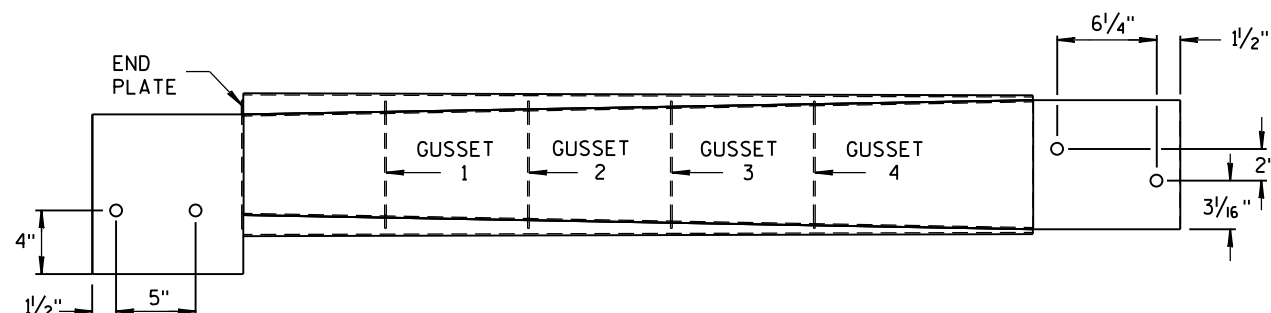


TOP PLATE



**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

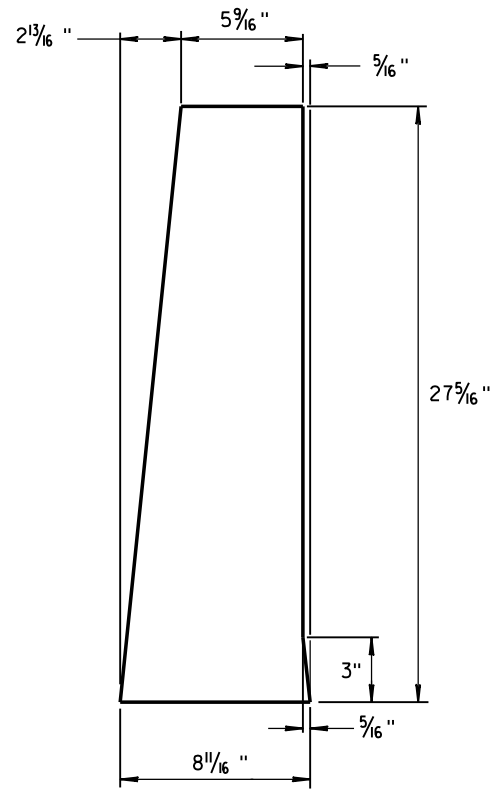
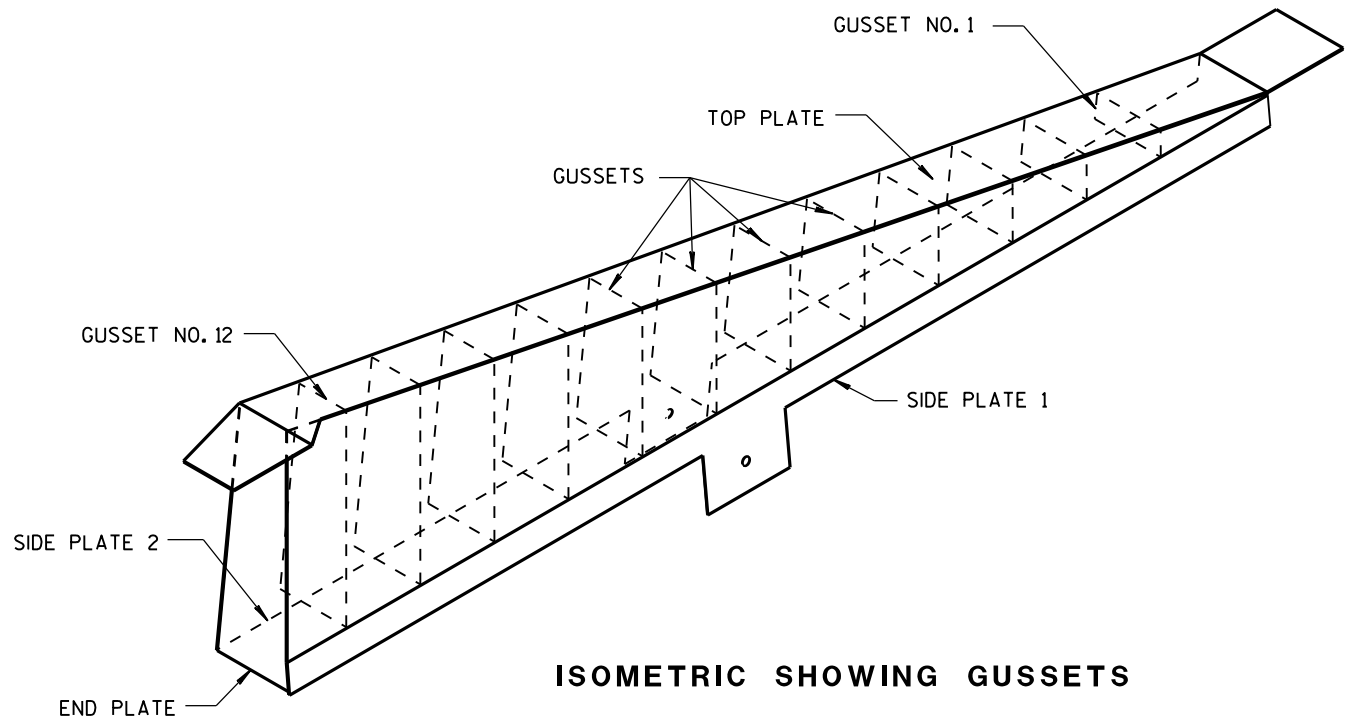
NOTES

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.

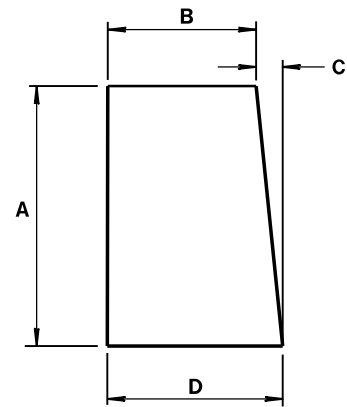
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END PLATE
1/8" STEEL PLATE

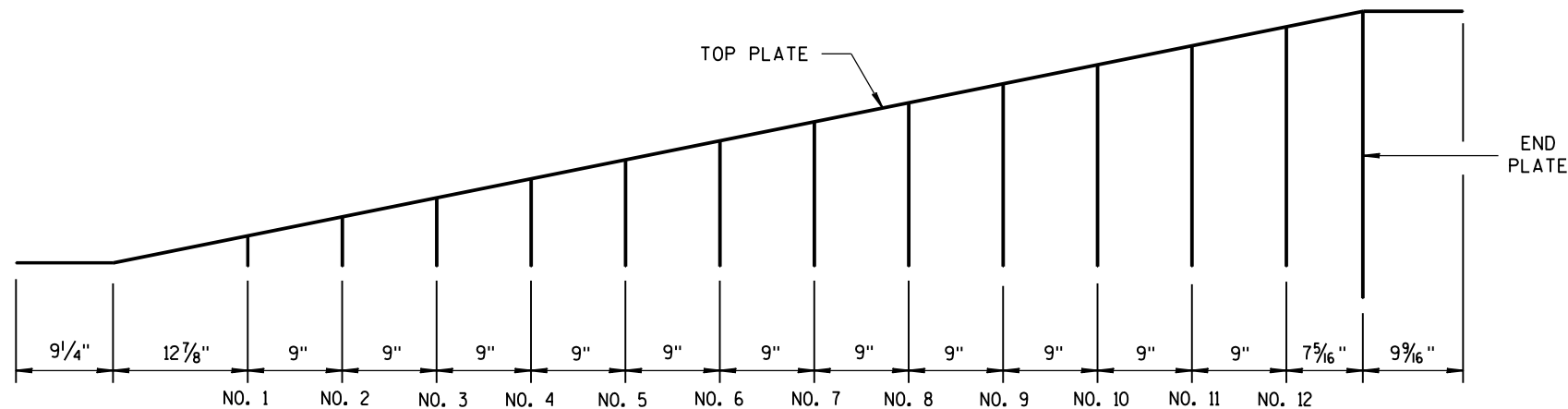


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

| 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 " | 1 1/16 " | 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.

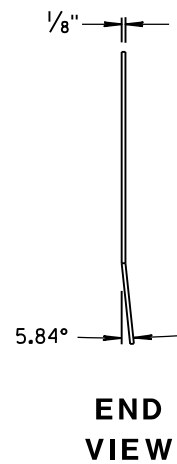
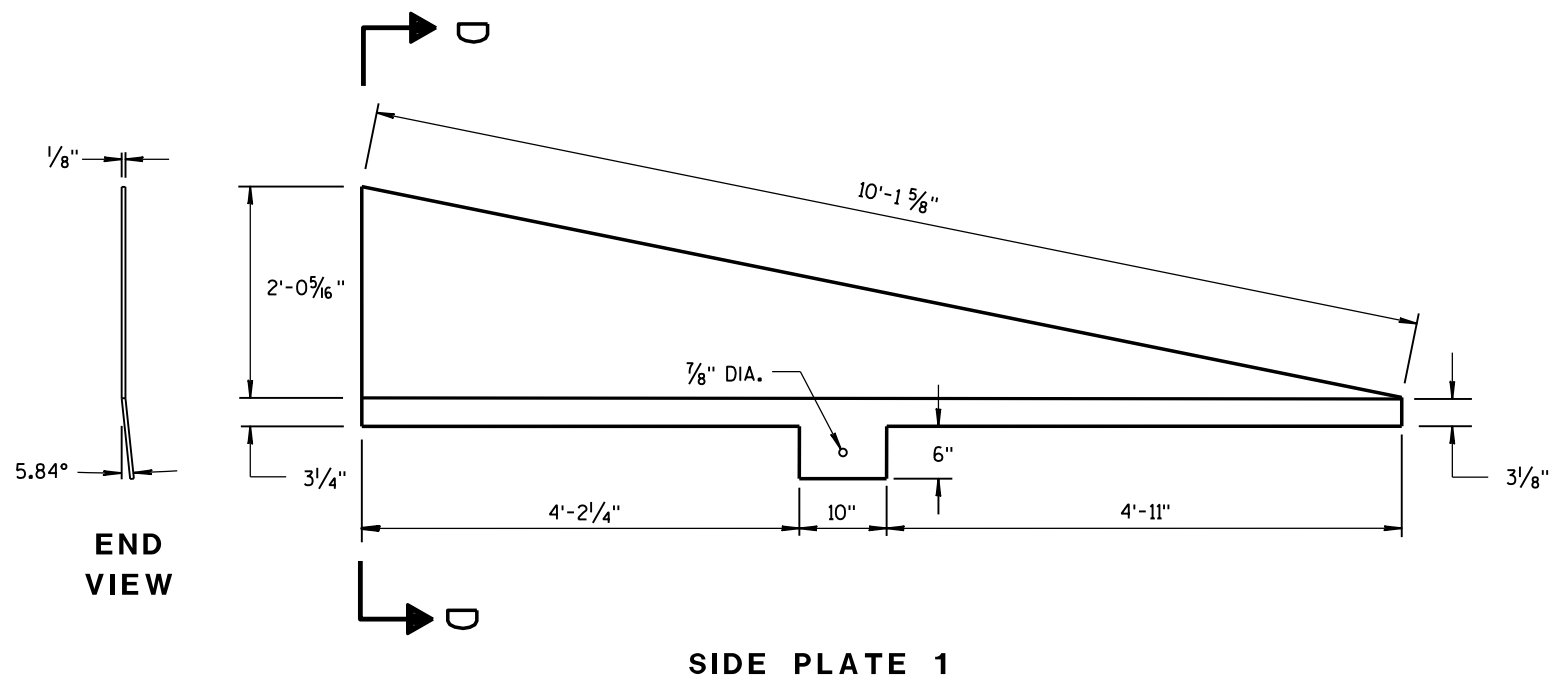
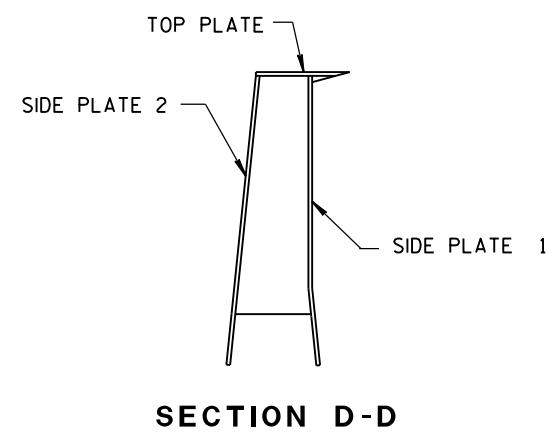
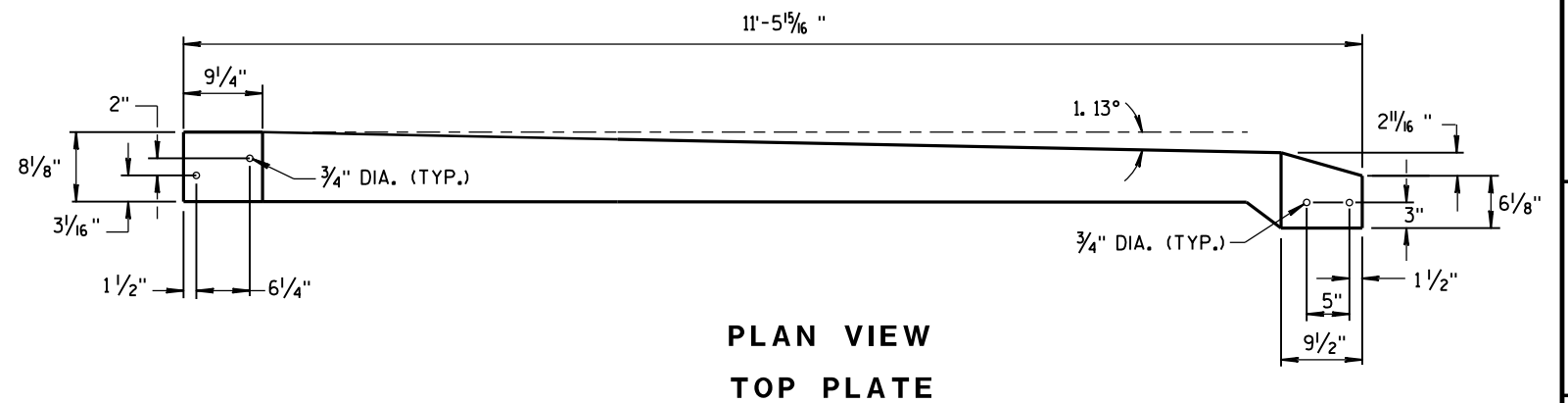
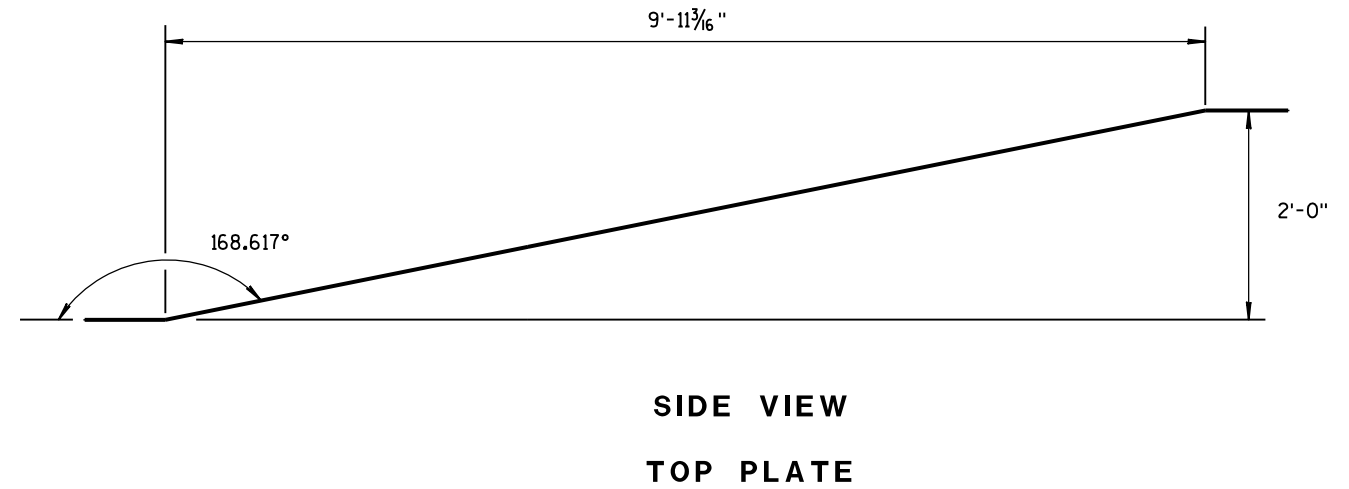
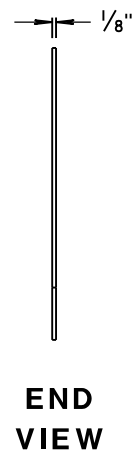
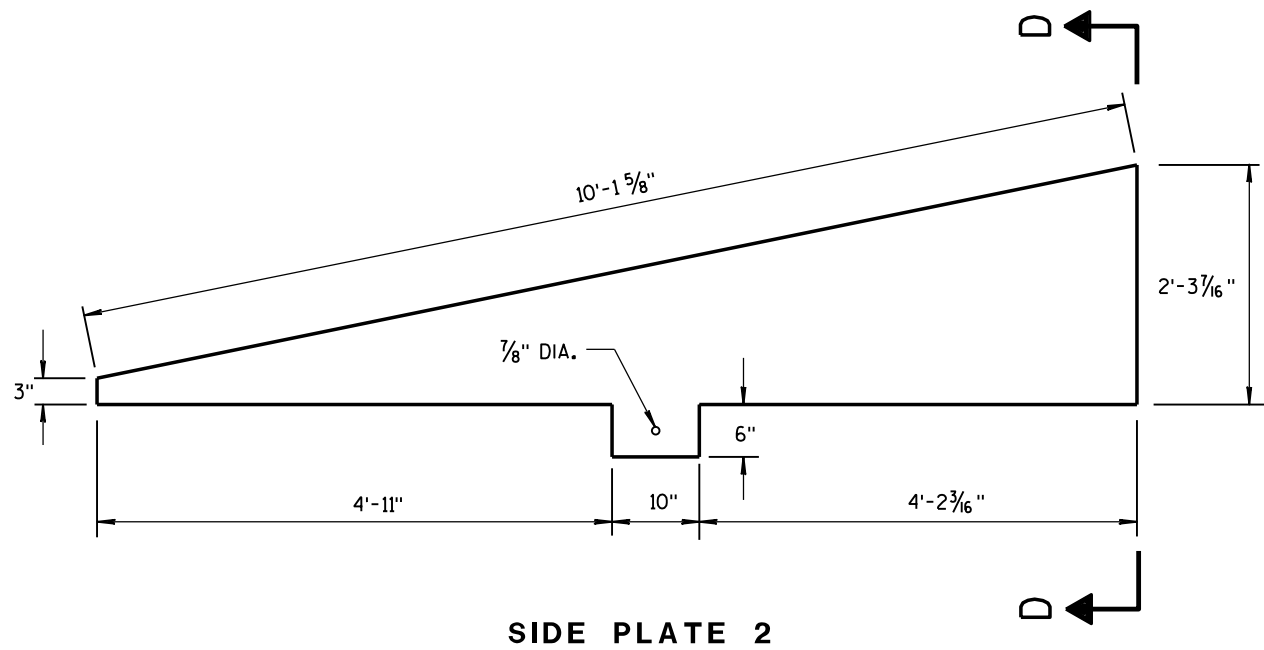


GUSSET LOCATION

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

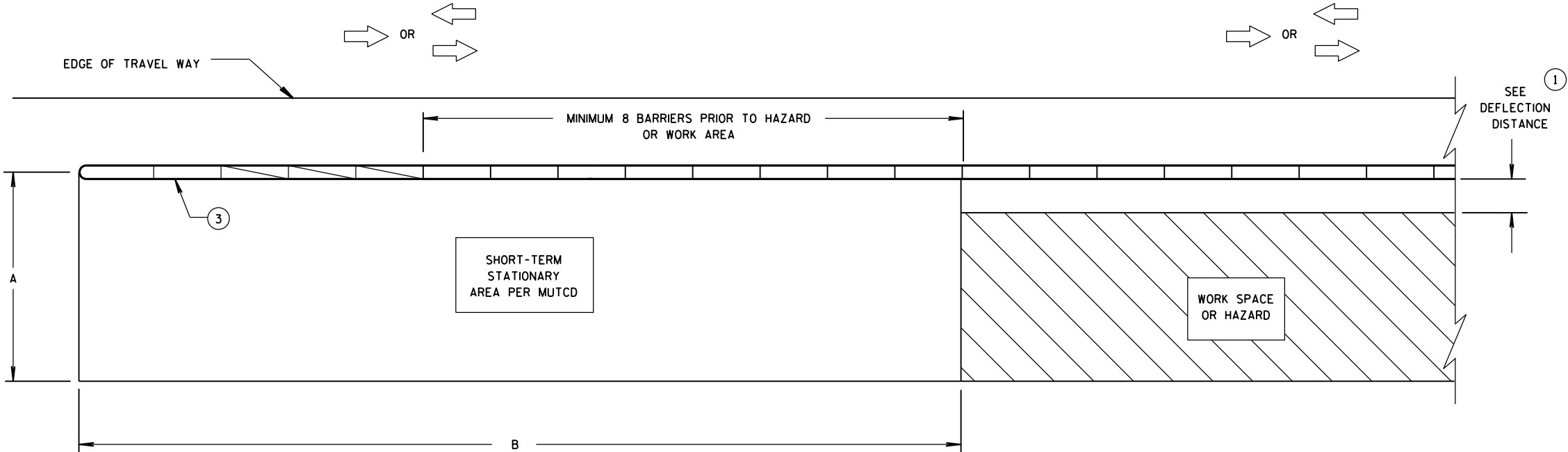
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

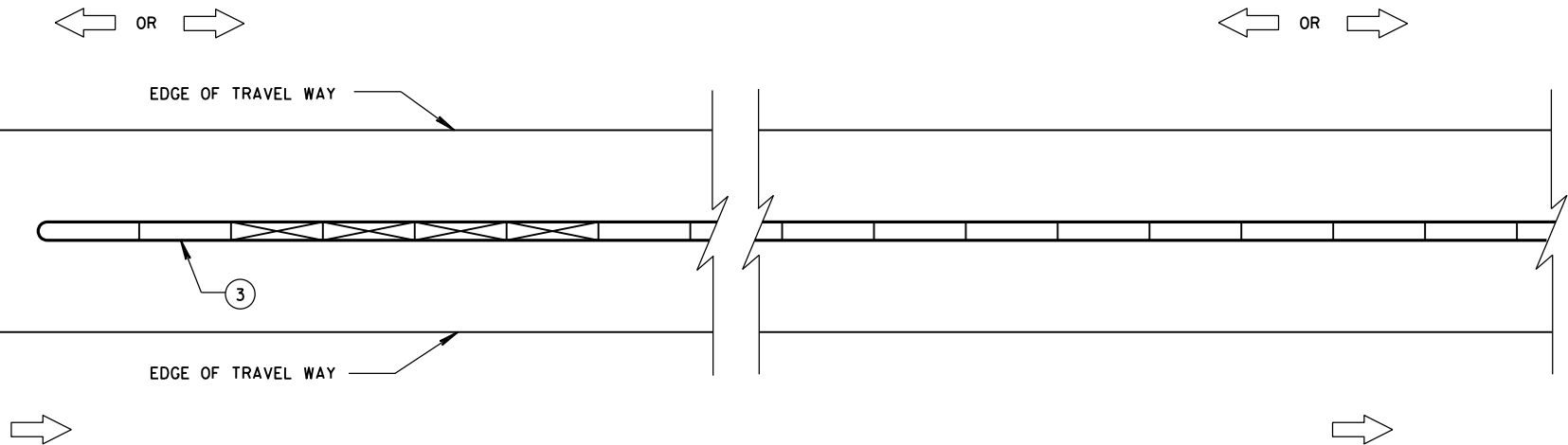


CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

| | |
|--|--|
| CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED June 2017 DATE | /S/ Rodney Taylor ROADWAY STANDARD DEVELOPMENT 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 MPH | DIMENSION A | |
|------------------------|--------------------------------|-------------|------------|
| | | MIN. FT | MAX. FT |
| FREEWAY/EXPRESSWAY | ALL | 15 | 20 |
| NON-FREEWAY/EXPRESSWAY | GREATER THAN 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

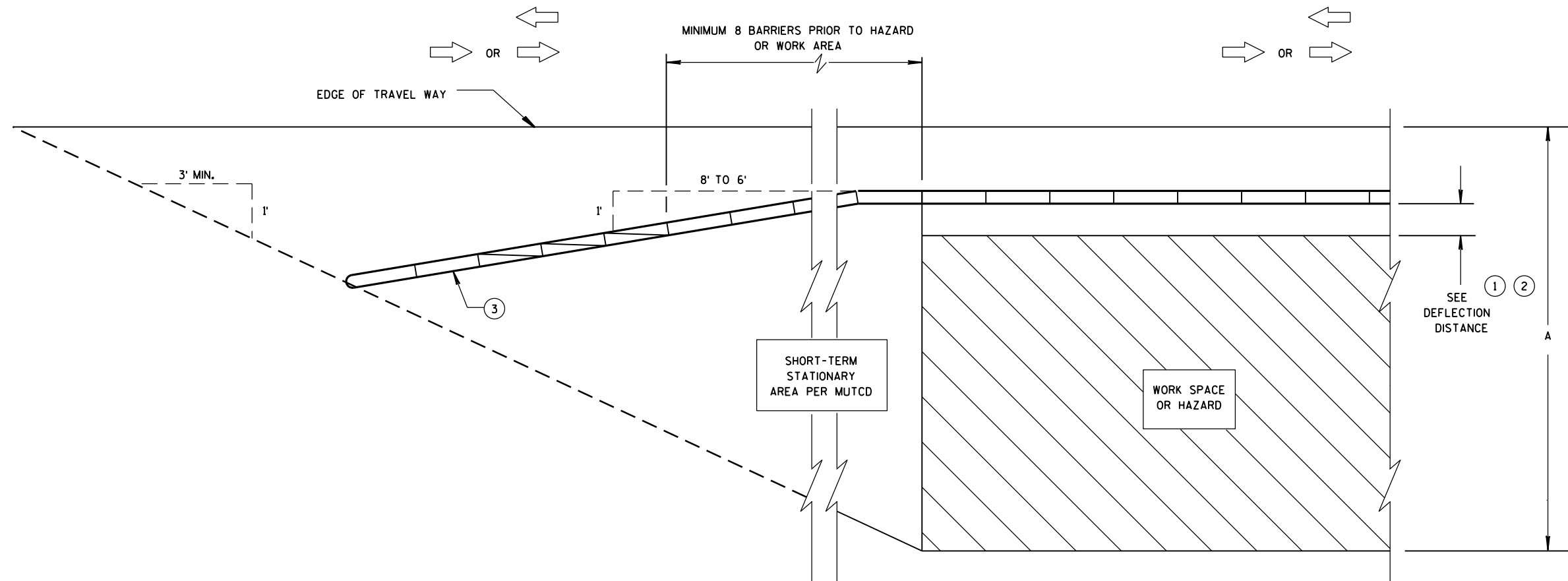
| POSTED SPEEDS MPH | DIMENSION B FT |
|----------------------|-------------------|
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |
| 60 | 570 |
| 65 | 645 |

LEGEND

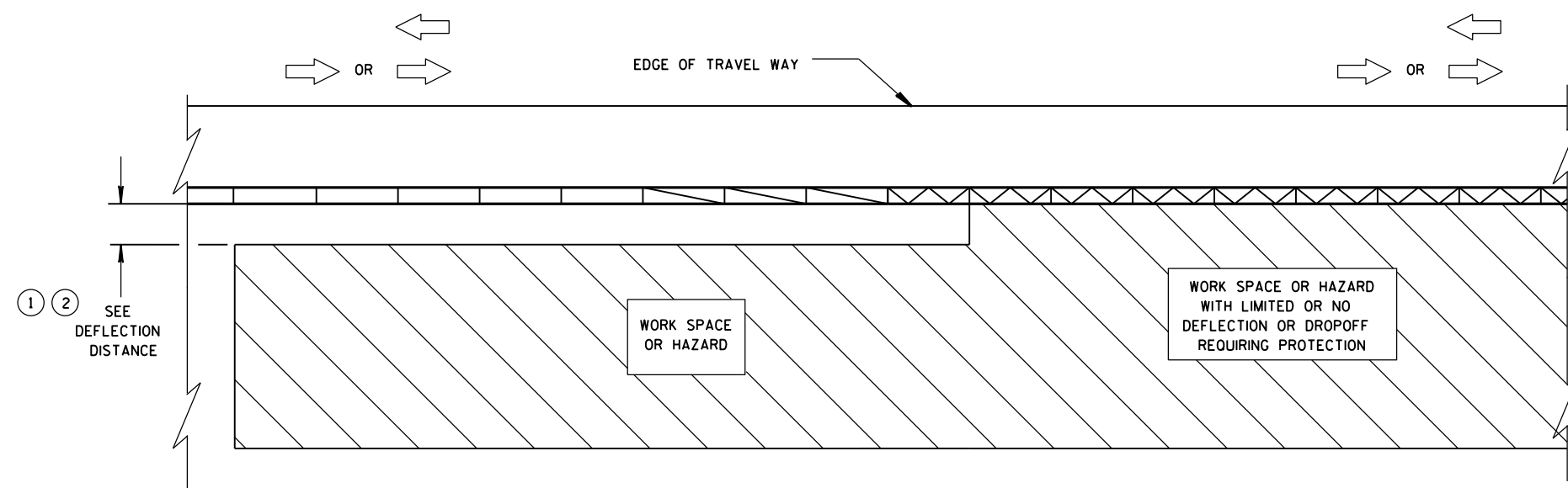
- DIRECTION OF TRAVEL →
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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**



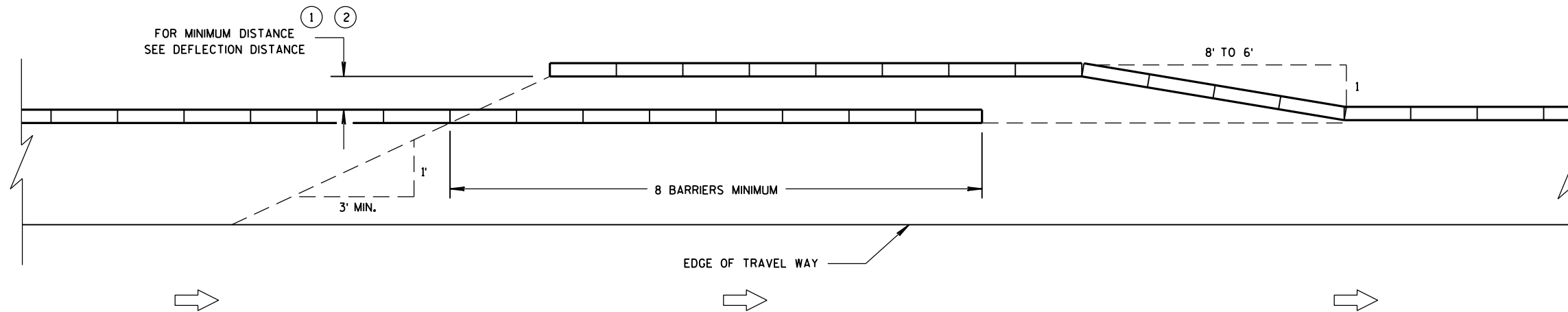
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

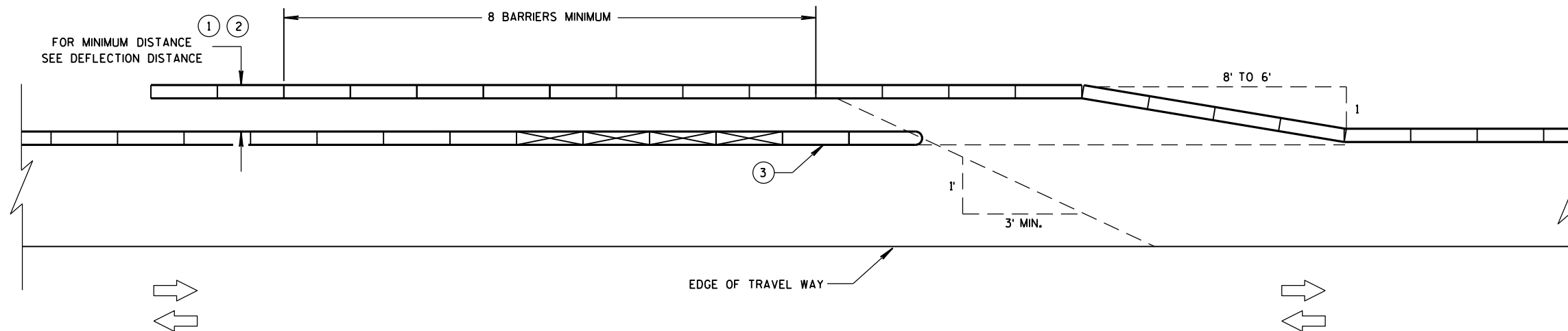
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

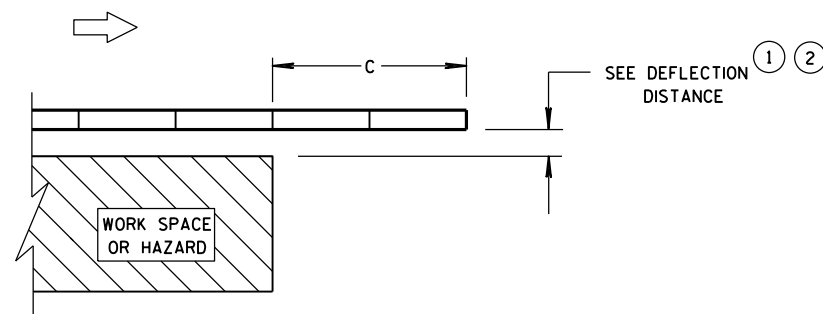
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



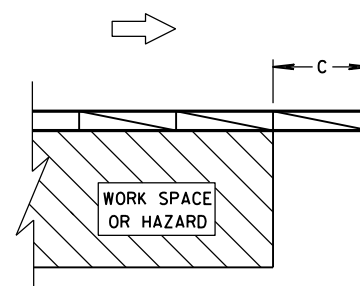
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



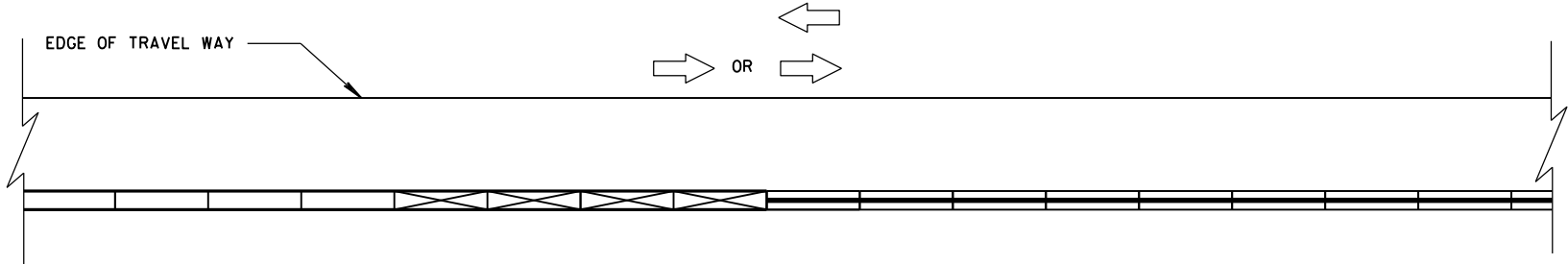
**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

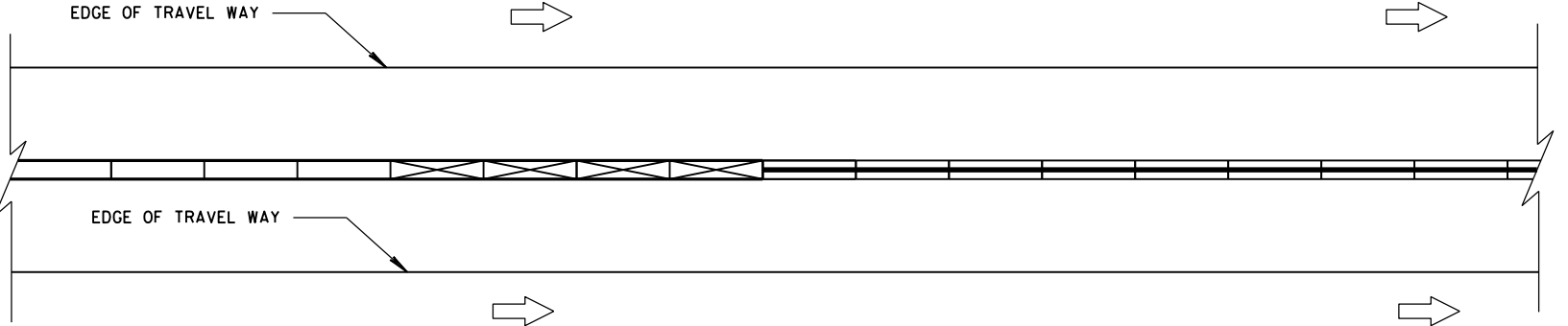
| | |
|---|--|
| DIRECTION OF TRAVEL | |
| CRASH CUSHION OR SAND BARREL ARRAY | |
| SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS | |
| SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS | |
| 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER | |
| PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



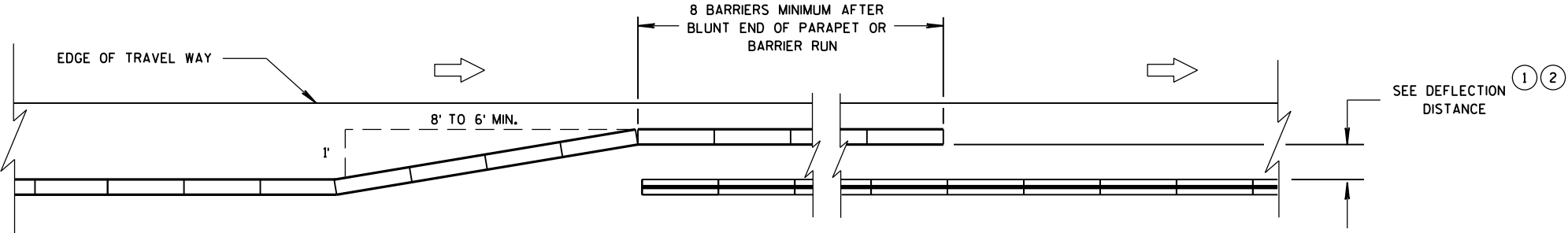
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



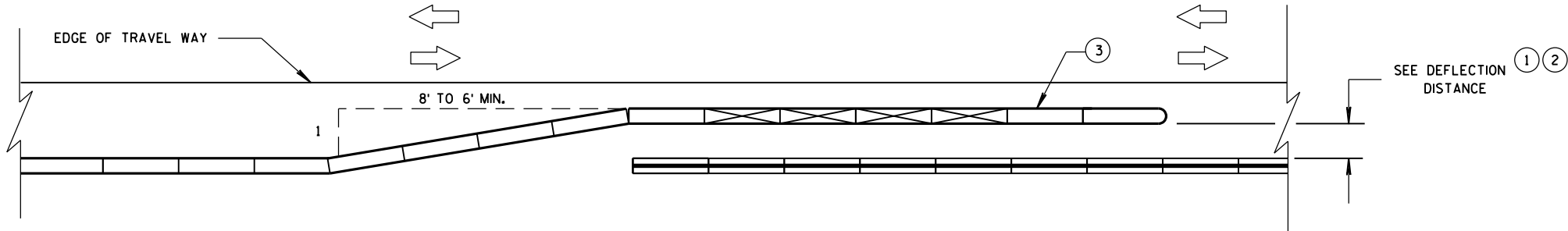
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

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

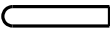


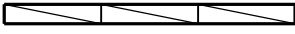
OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC


LEGEND


- DIRECTION OF TRAVEL

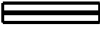

- CRASH CUSHION OR SAND BARREL ARRAY

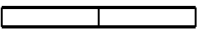

- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS


- 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

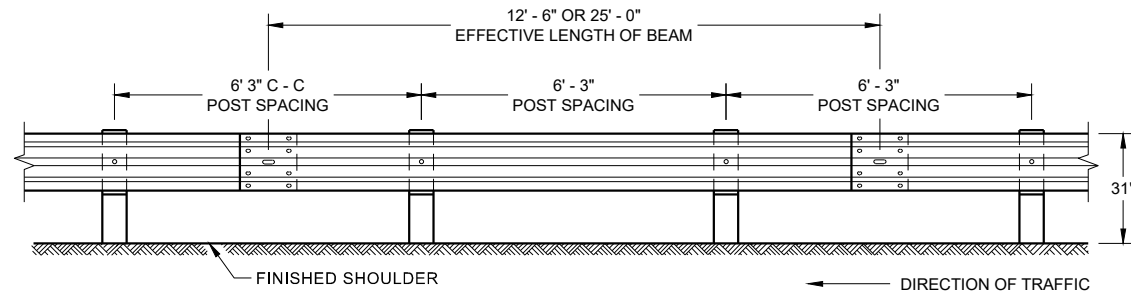
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

S.D.D. 14 B 8-2e

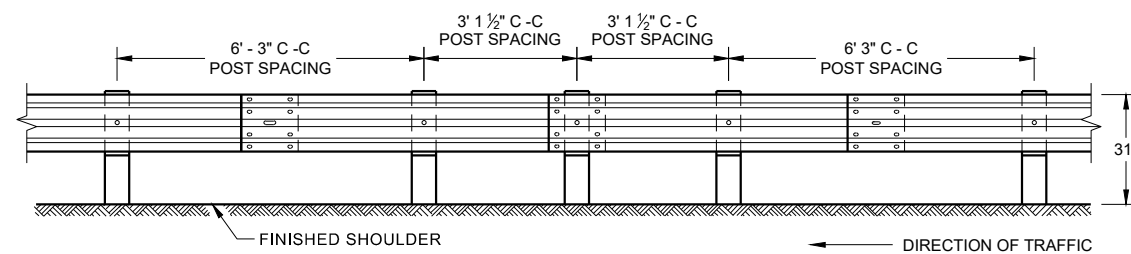
S.D.D. 14 B 8-2e

- SDD 14B42 - 06a**

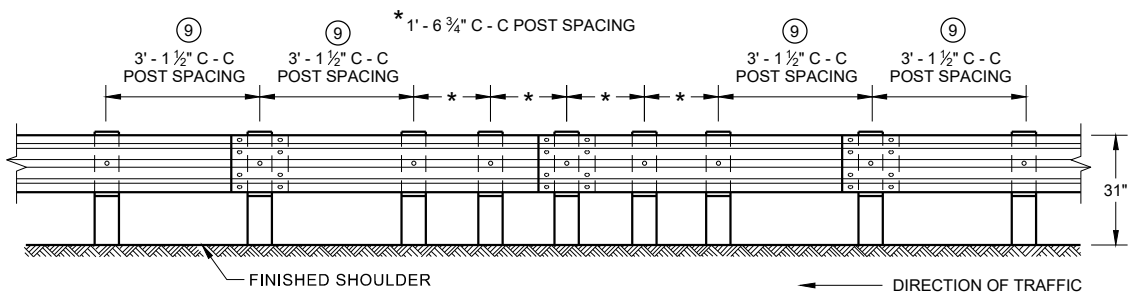




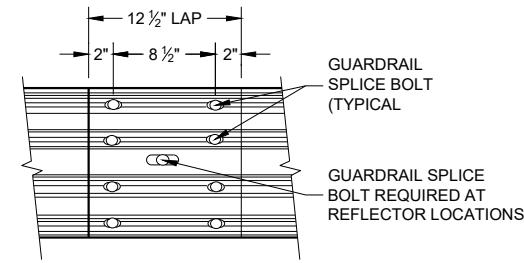
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



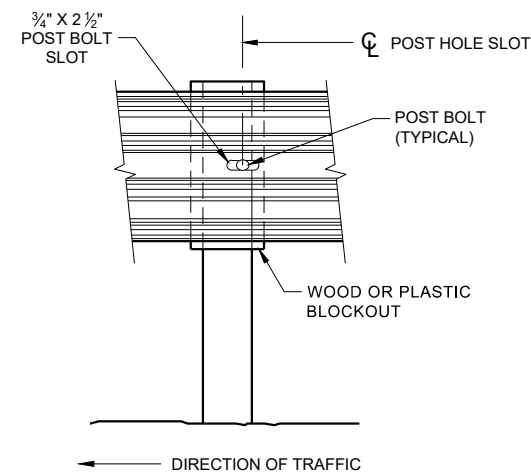
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



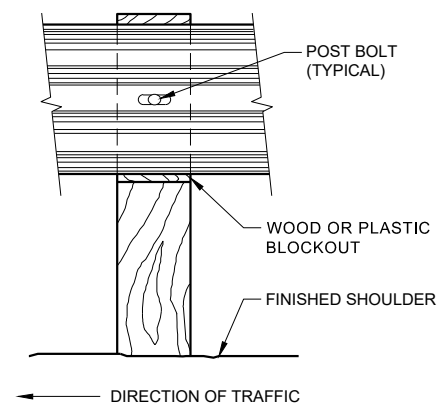
**FRONT VIEW
QUARTER POST SPACING (QS)**



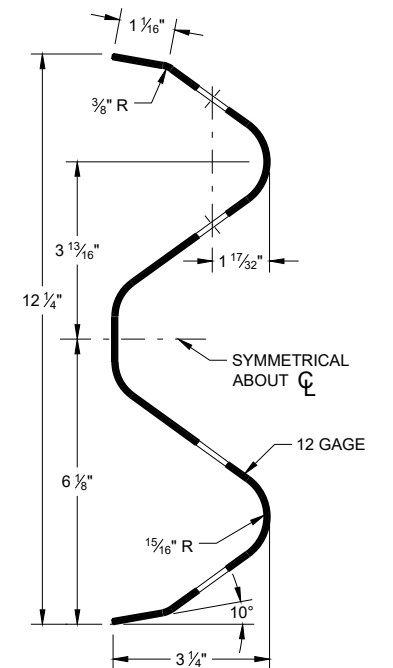
**FRONT VIEW
MID-SPAN BEAM SPLICE**



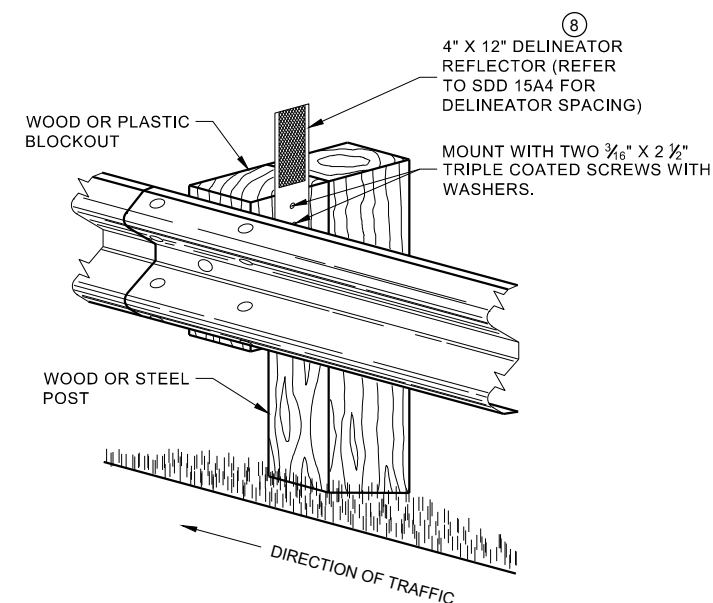
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

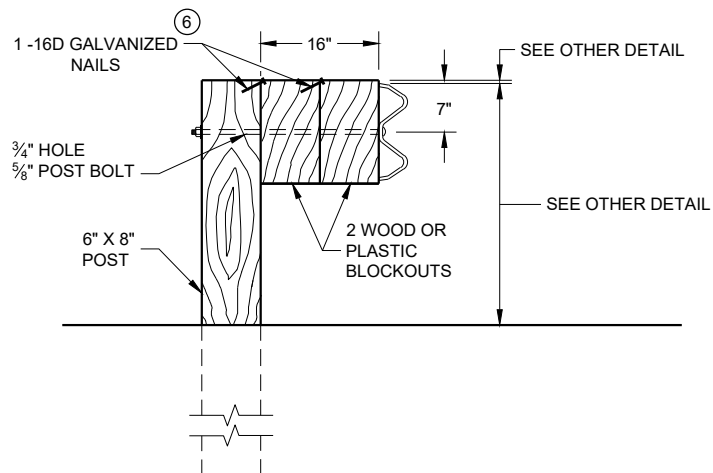
- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/4" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

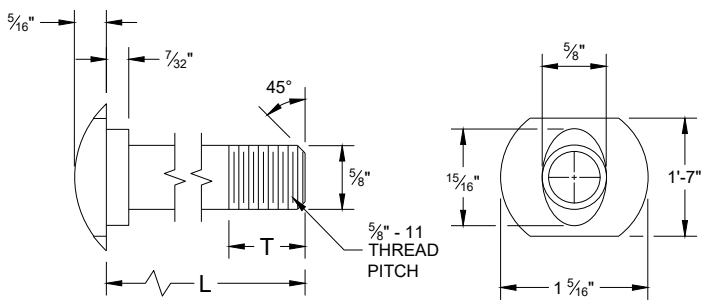
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

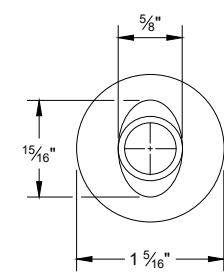
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
 - 2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

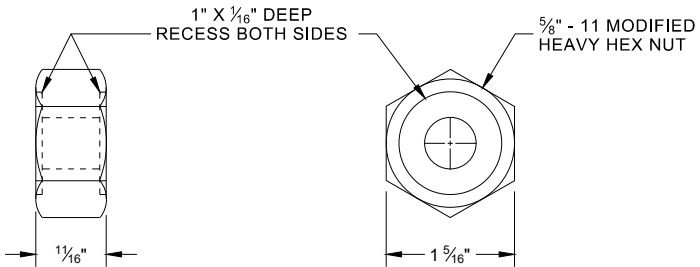


POST BOLT TABLE

| L | T (MIN.) |
|--------|----------|
| 1 1/4" | 1 1/8" |
| 2" | 1 3/4" |
| 10" | 4" |
| 14" | 4 1/16" |
| 18" | 4" |
| 21" | 4 1/16" |
| 25" | 4" |

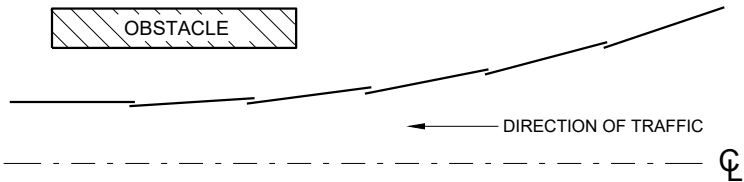


ALTERNATE BOLT HEAD

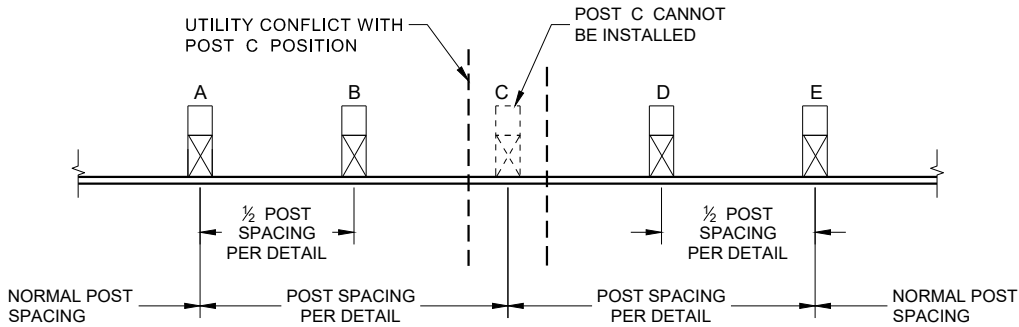


POST BOLT, SPLICE BOLT AND RECESS NUT

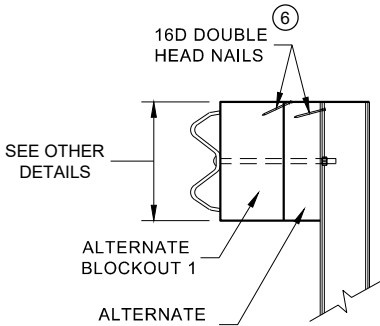
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



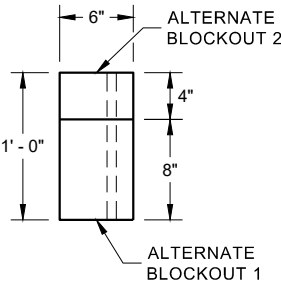
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW

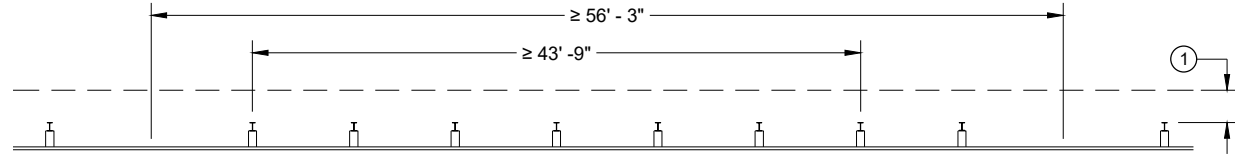


PLAN VIEW

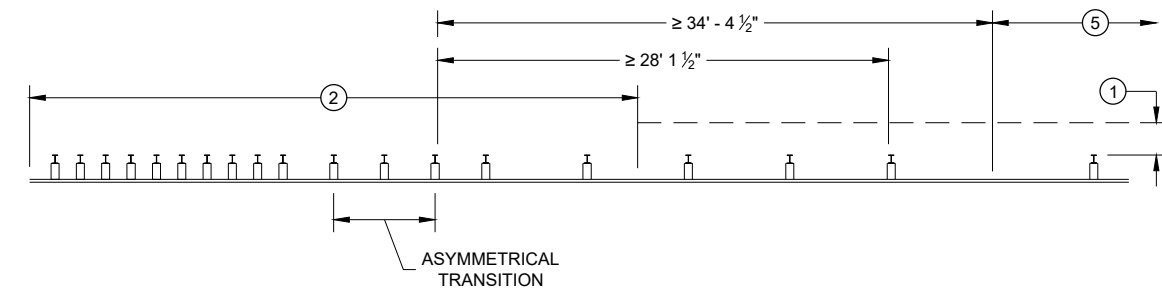
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

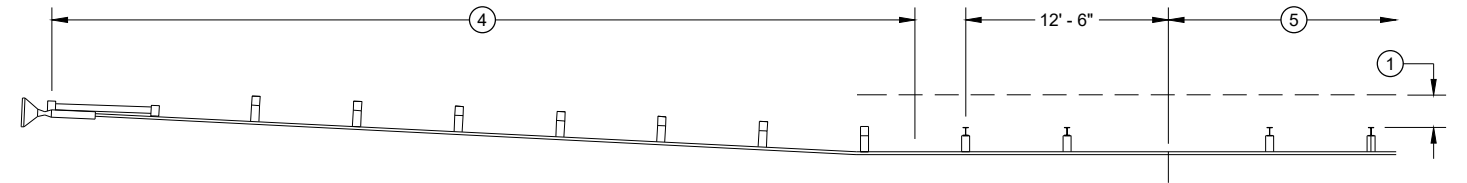
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



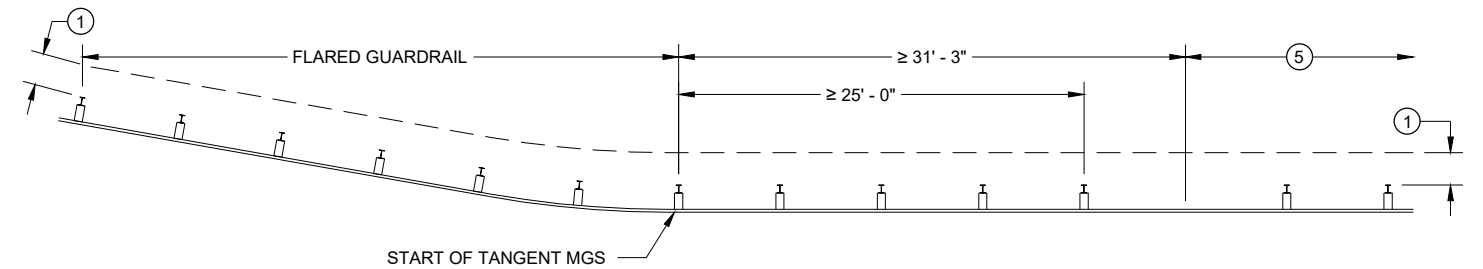
MISSING POST IN NORMAL BEAM GUARD RUN



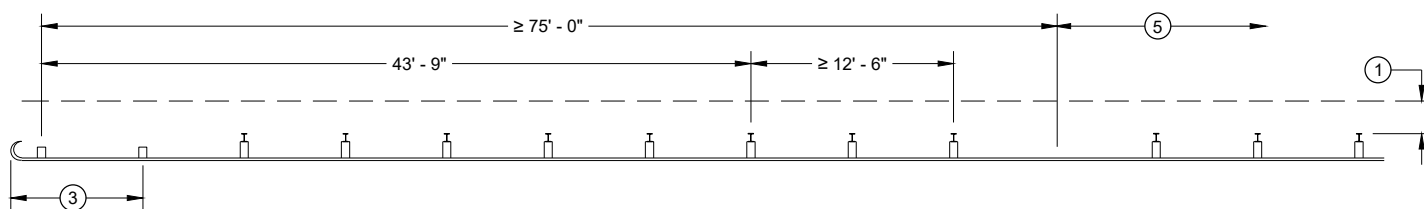
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



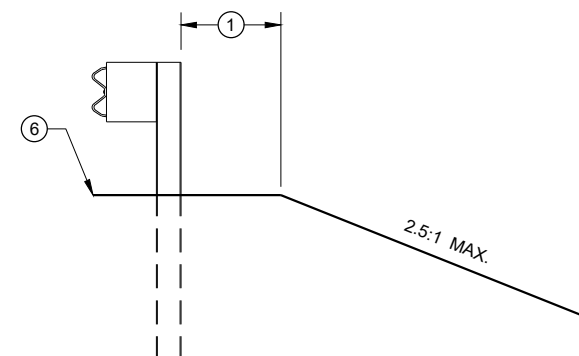
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

- (1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- (2) SEE SDD 14B45 FOR MORE DETAILS.
- (3) SEE SDD 14B47 FOR MORE DETAILS.
- (4) SEE SDD 14B44 FOR MORE DETAILS.
- (5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- (6) SEE PLAN FOR SHOULDER DESIGN.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
 - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
 - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
 - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
 - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

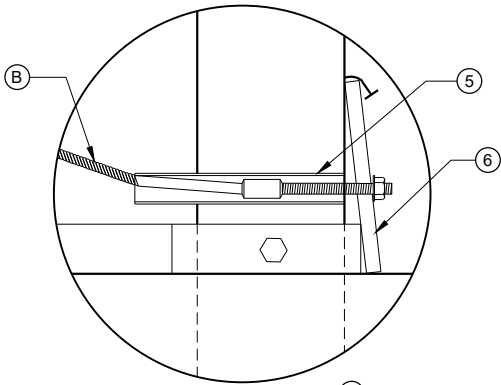
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

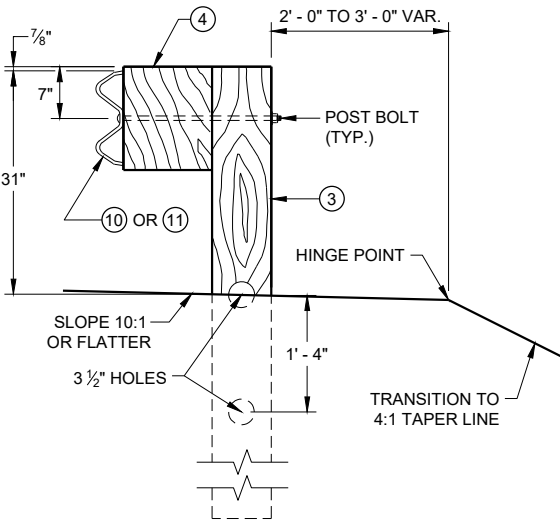
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

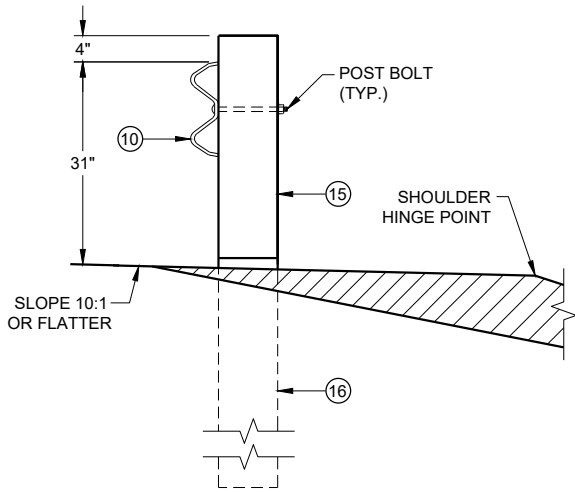
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



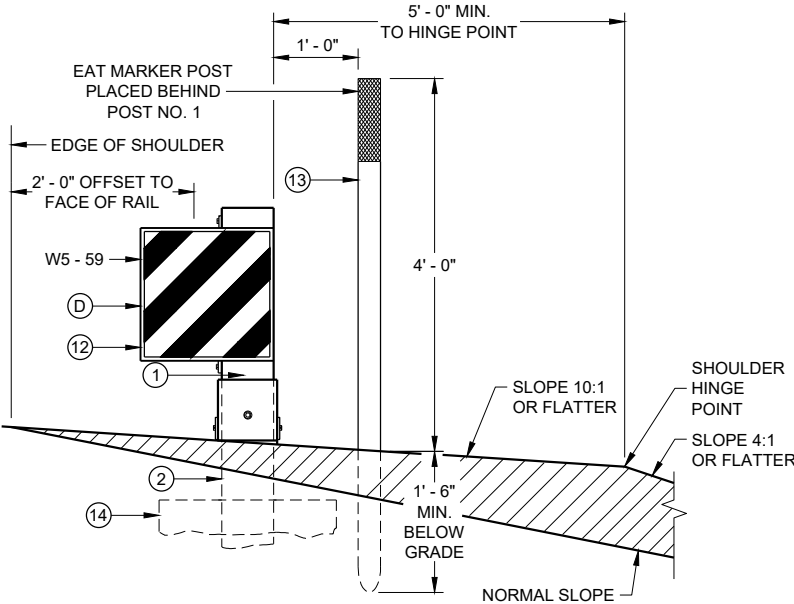
DETAIL "A"



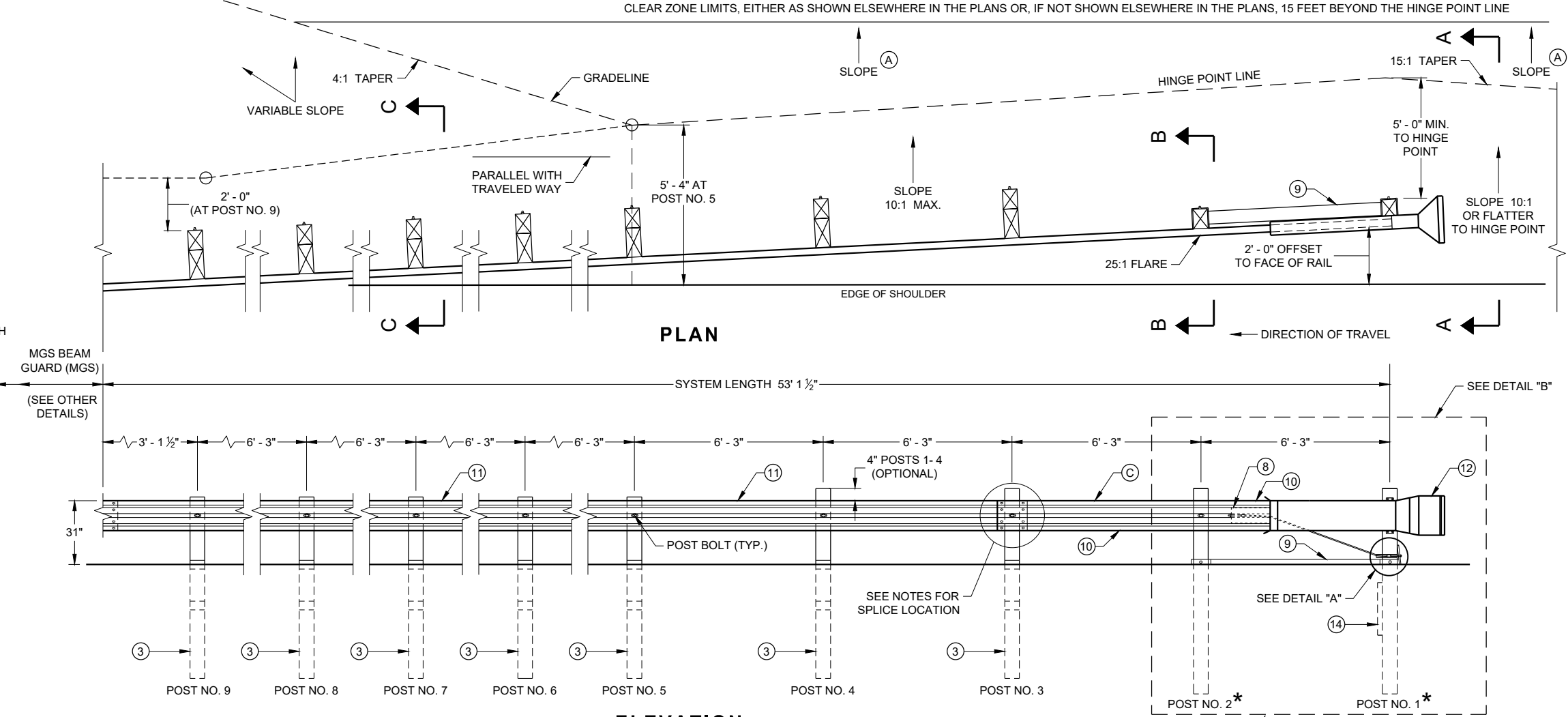
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*

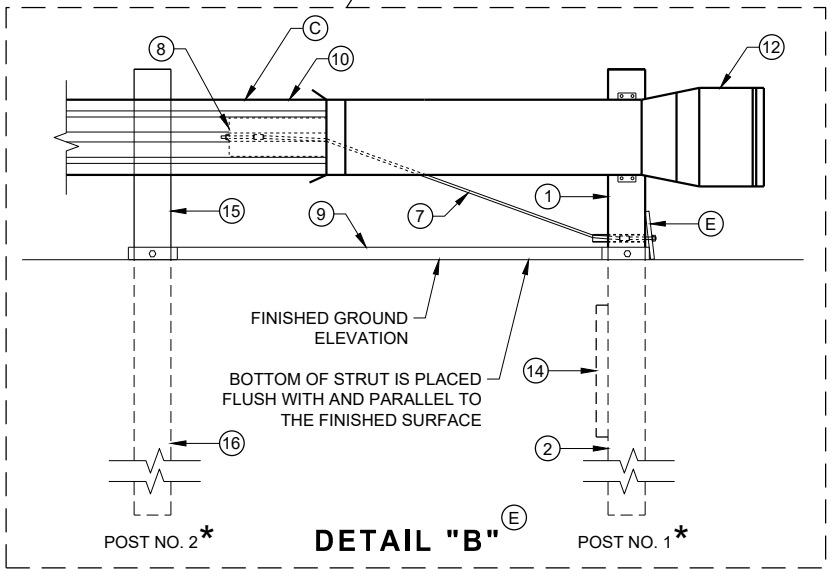


SECTION A - A
TYPICAL AT POST NO. 1*



PLAN

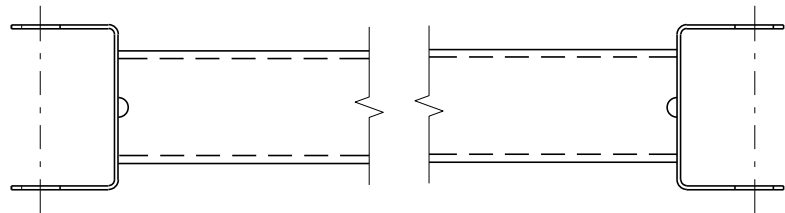
ELEVATION



DETAIL "B"

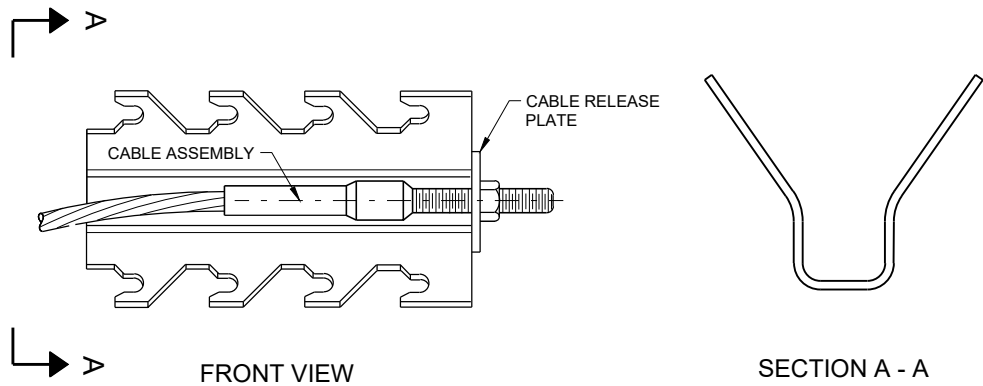
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

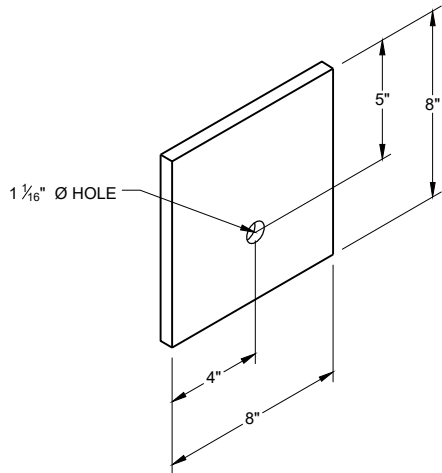


GENERIC GROUND STRUT⁹ ^E

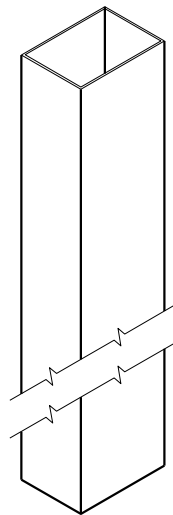
| BILL OF MATERIALS | |
|-------------------|--|
| PART NO. | DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. |
| ① | UPPER POST NO. 1 6" X 6" TUBE |
| ② | LOWER POST NO. 1 |
| ③ | WOOD CRT |
| ④ | WOOD BLOCKOUT |
| ⑤ | PIPE SLEEVE |
| ⑥ | BEARING PLATE |
| ⑦ | BCT CABLE ASSEMBLY |
| ⑧ | ANCHOR CABLE BOX |
| ⑨ | GROUND STRUT |
| ⑩ | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG. |
| ⑪ | STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH. |
| ⑫ | IMPACT HEAD |
| ⑬ | EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST) |
| ⑭ | SOIL PLATE |
| ⑮ | UPPER POST NO. 2 |
| ⑯ | LOWER POST NO. 2 |



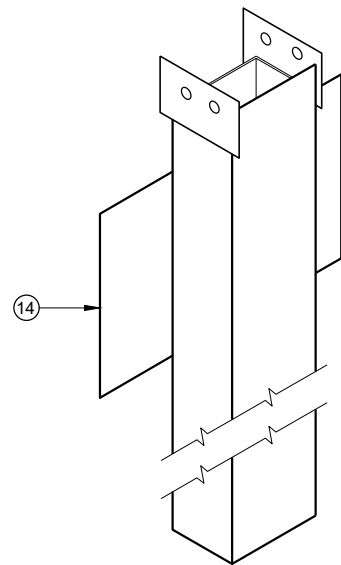
GENERIC ANCHOR CABLE BOX⁹ ^E



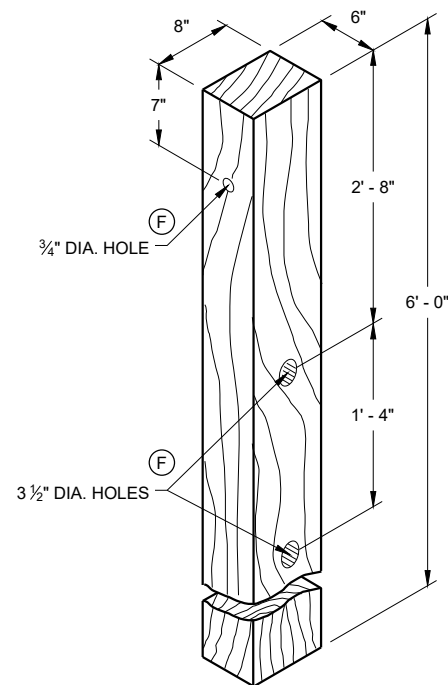
BEARING PLATE⁶ ^E



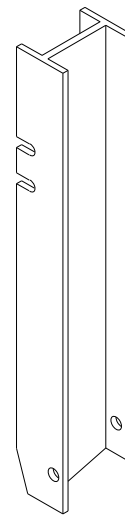
UPPER POST NO. 1 ⁽¹⁾ (E)



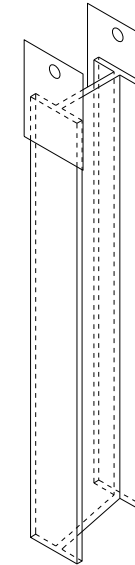
LOWER POST NO. 1 ⁽²⁾ (E)



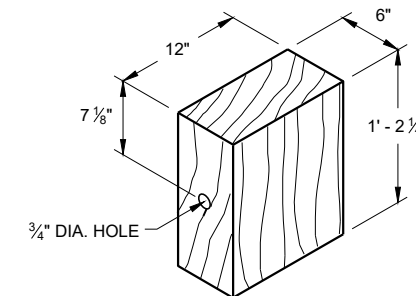
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



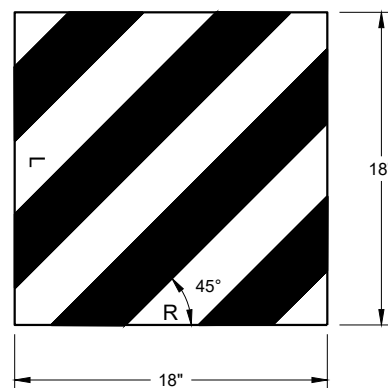
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



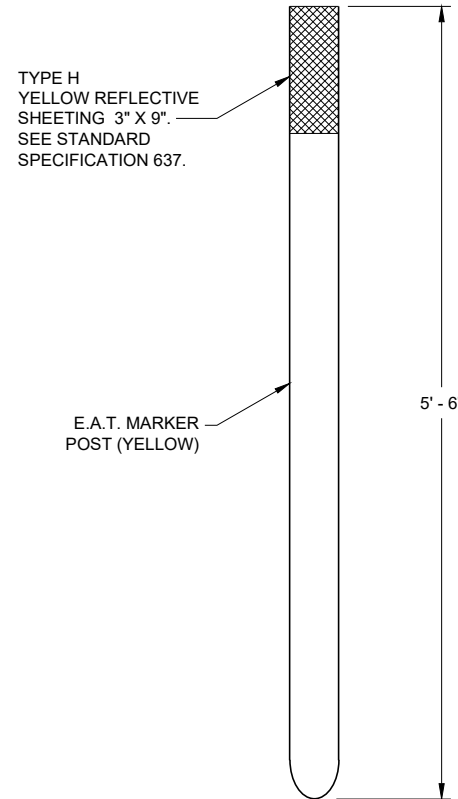
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



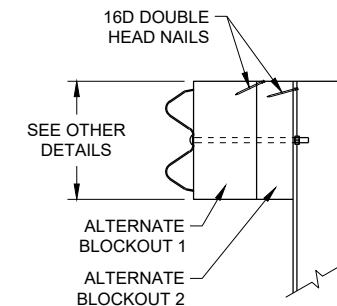
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



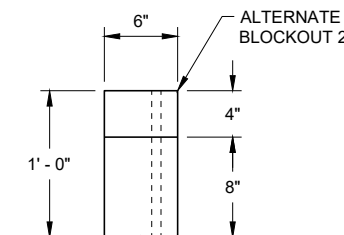
REFLECTIVE SHEETING DETAIL ^(E)



E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



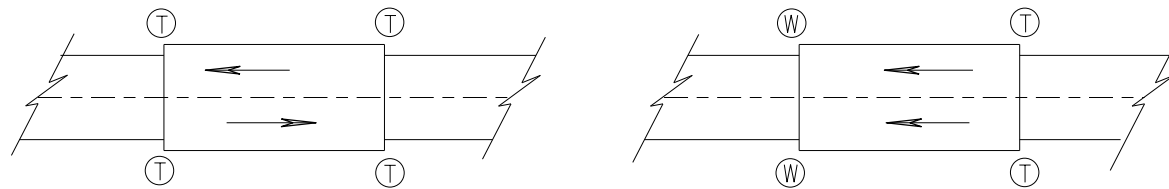
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

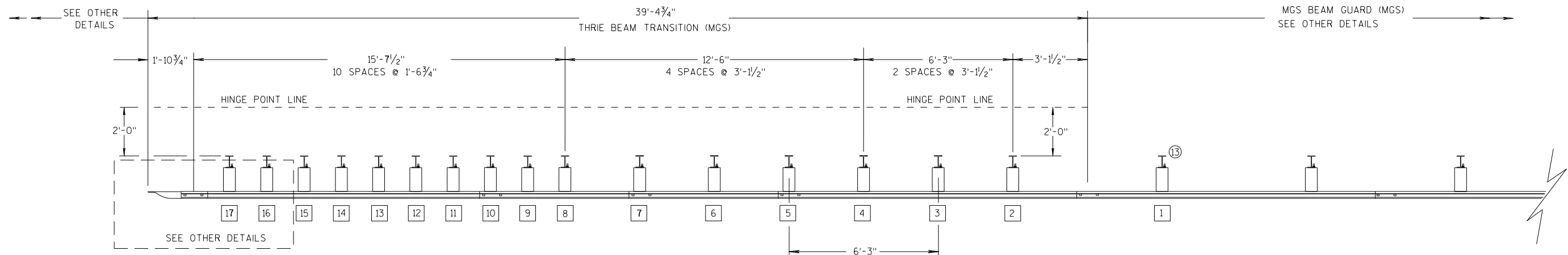
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

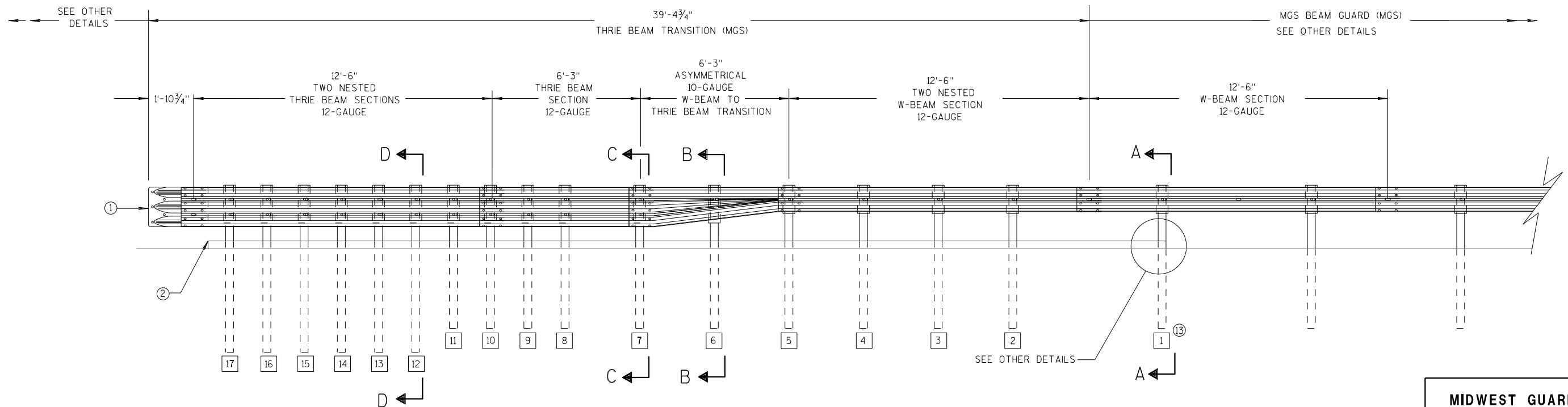
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

- S.D.D. 14 B 45-5b**

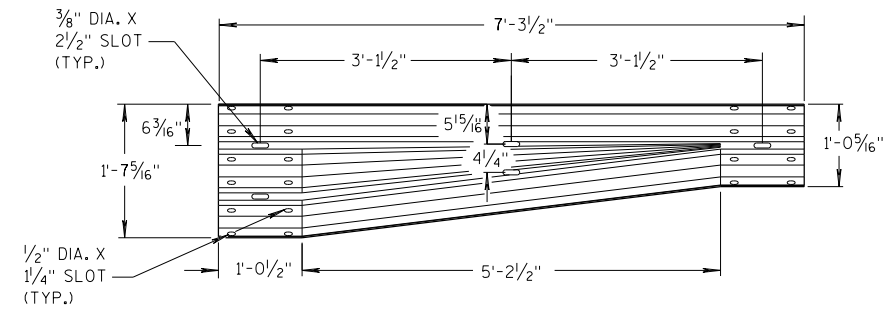


S.D.D. 14 B 45-5b

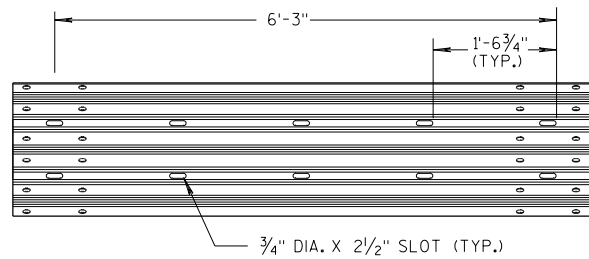


S.D.D. 14 B 45-5b

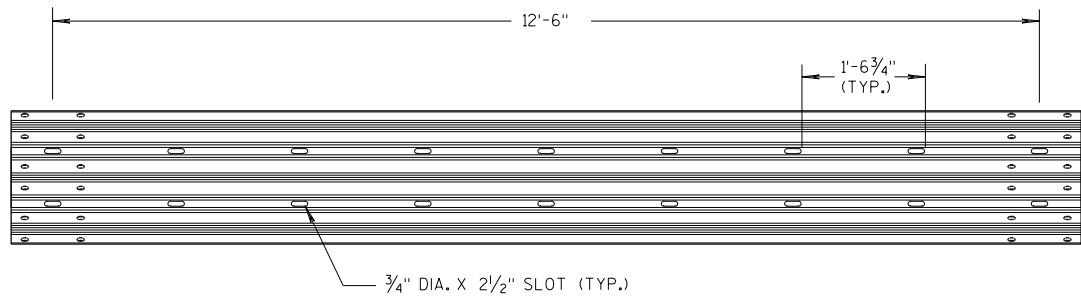




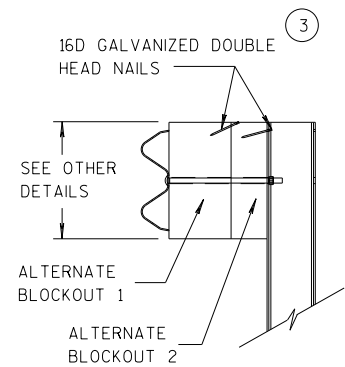
W-BEAM TO THRIE BEAM TRANSITION SECTION



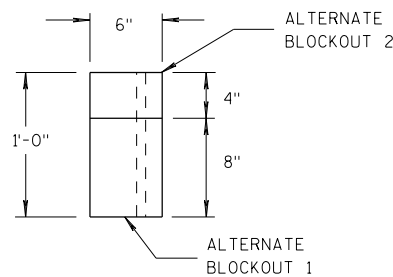
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

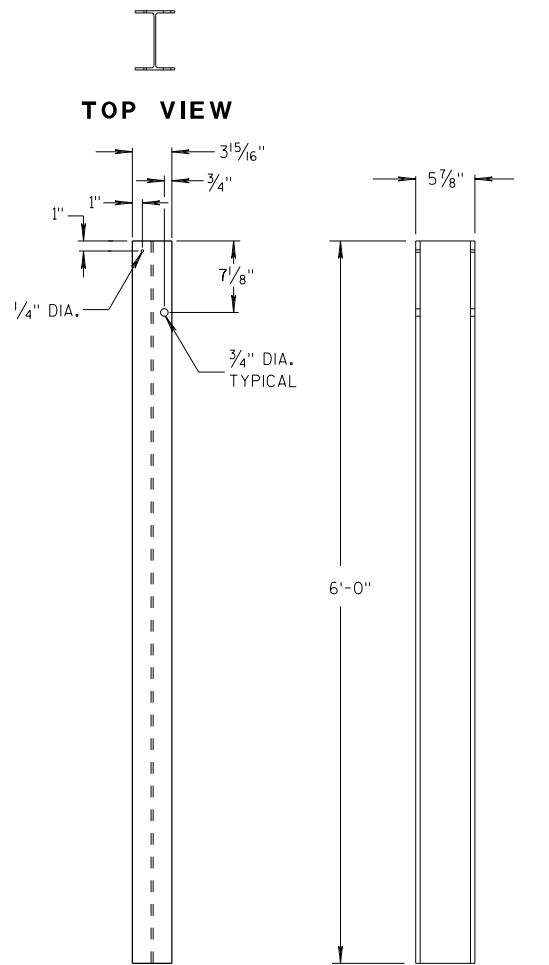


SIDE VIEW



TOP VIEW

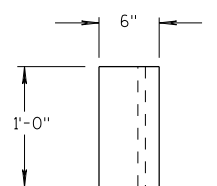
ALTERNATE WOOD BLOCKOUT DETAIL



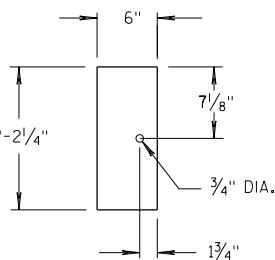
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

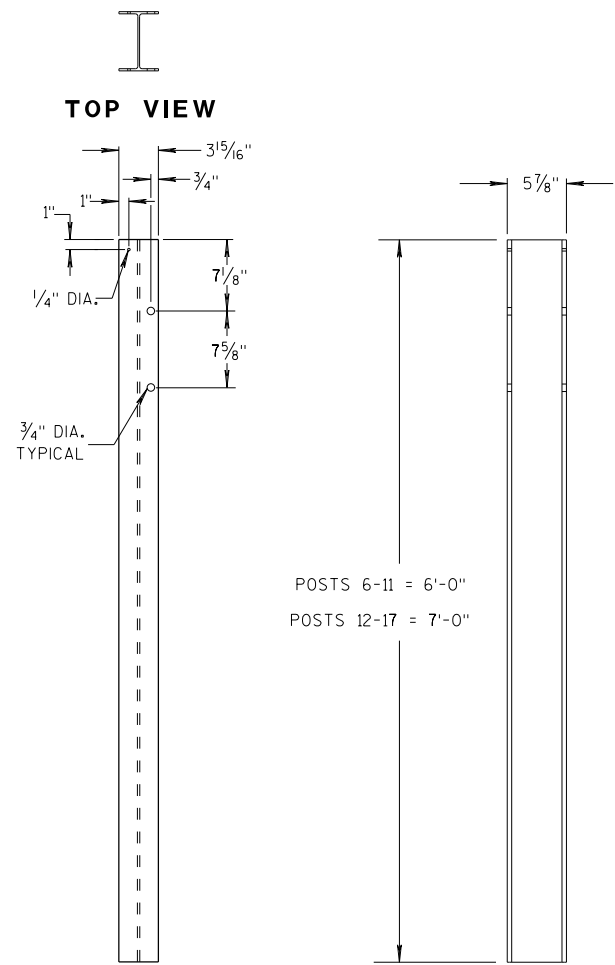


TOP VIEW



FRONT VIEW

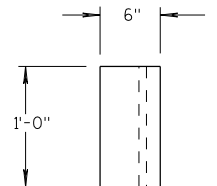
BLOCKOUT POSTS 1-5



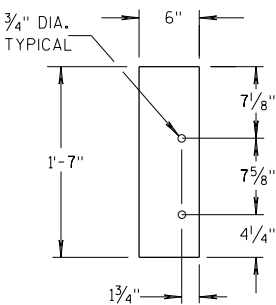
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

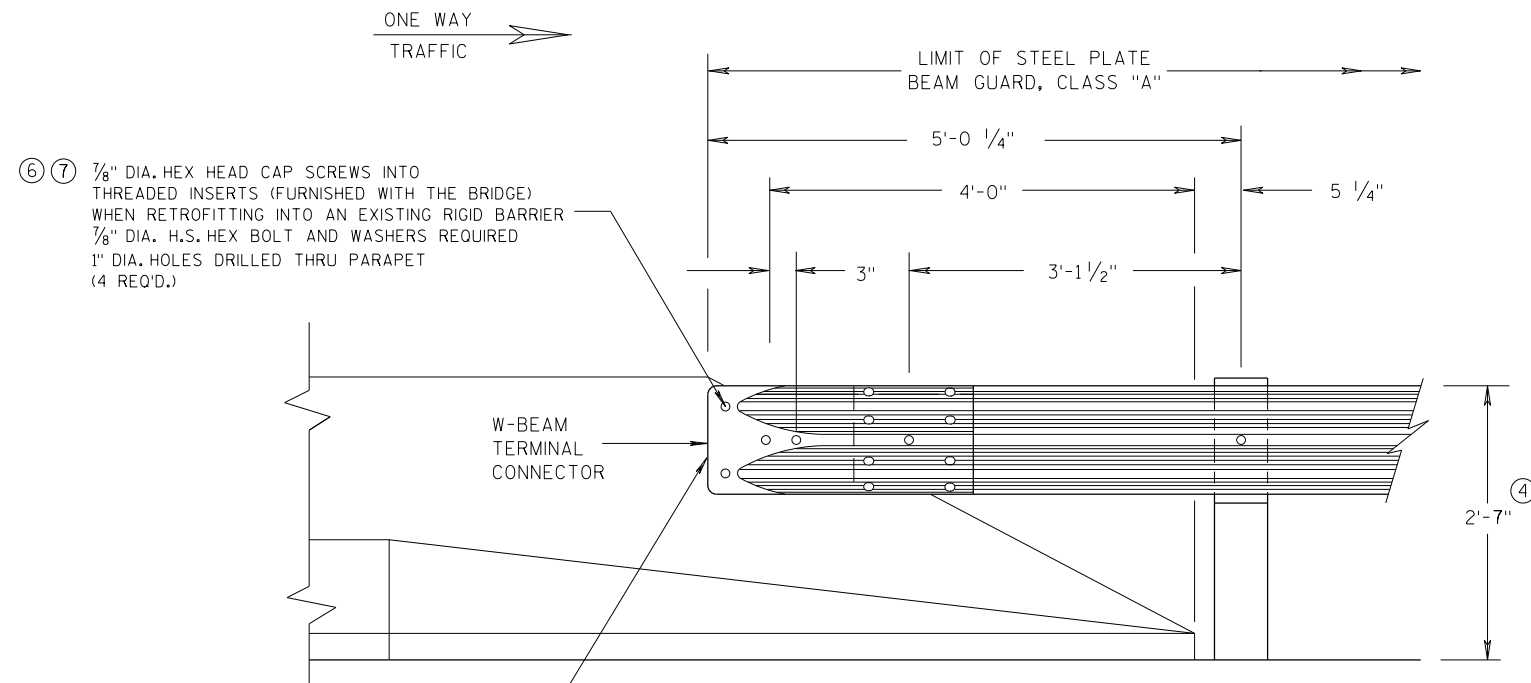
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

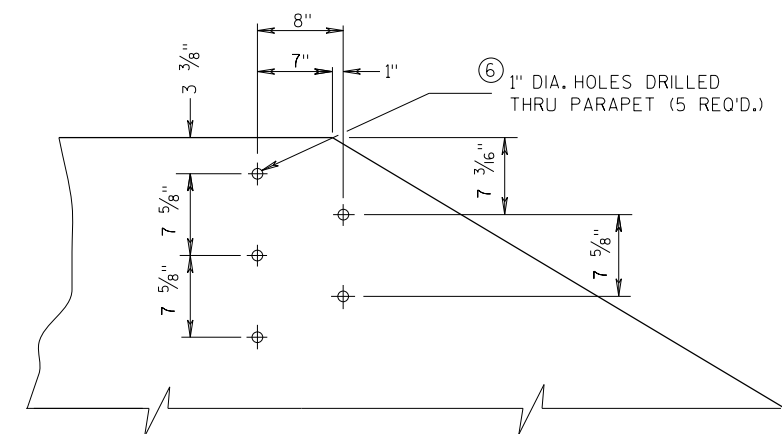
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

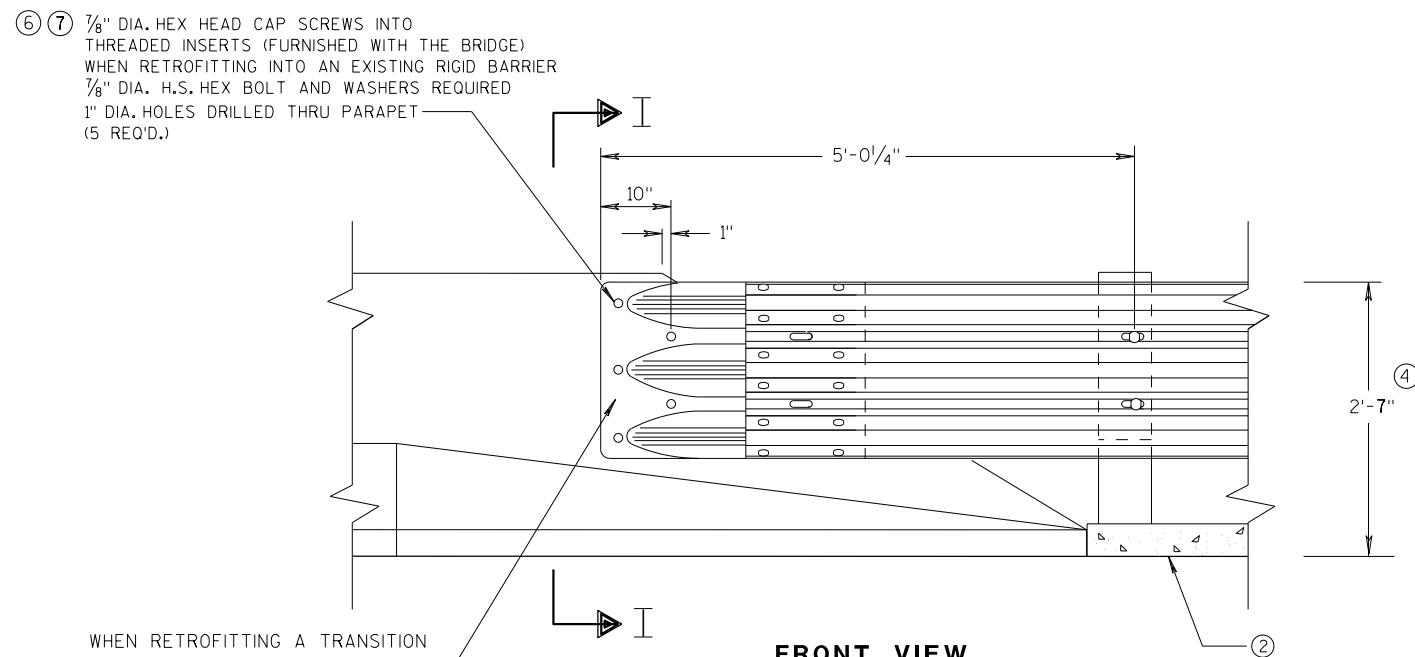


FRONT VIEW

**W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS**
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

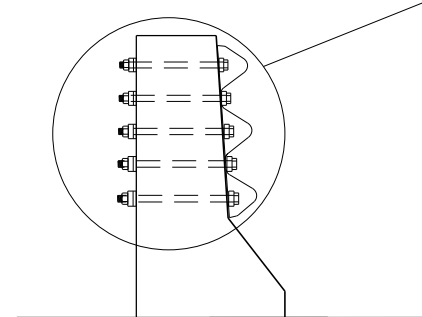


**DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION**

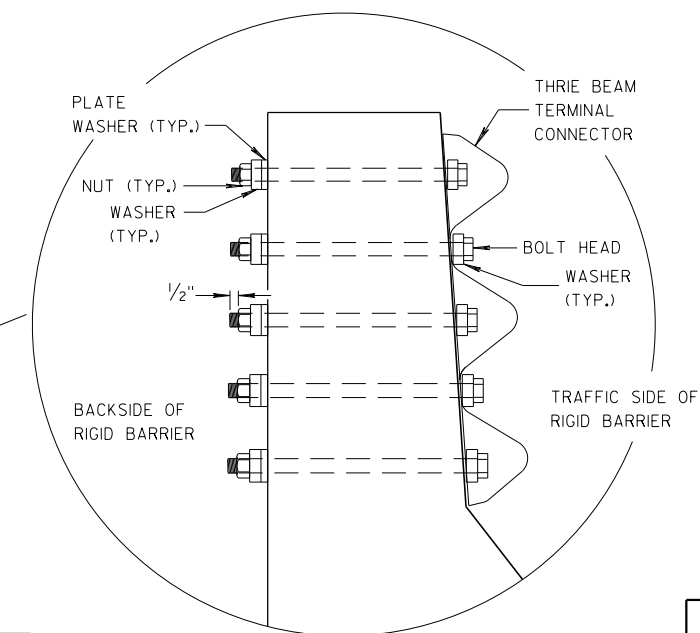


FRONT VIEW

**THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS**



SECTION I-I



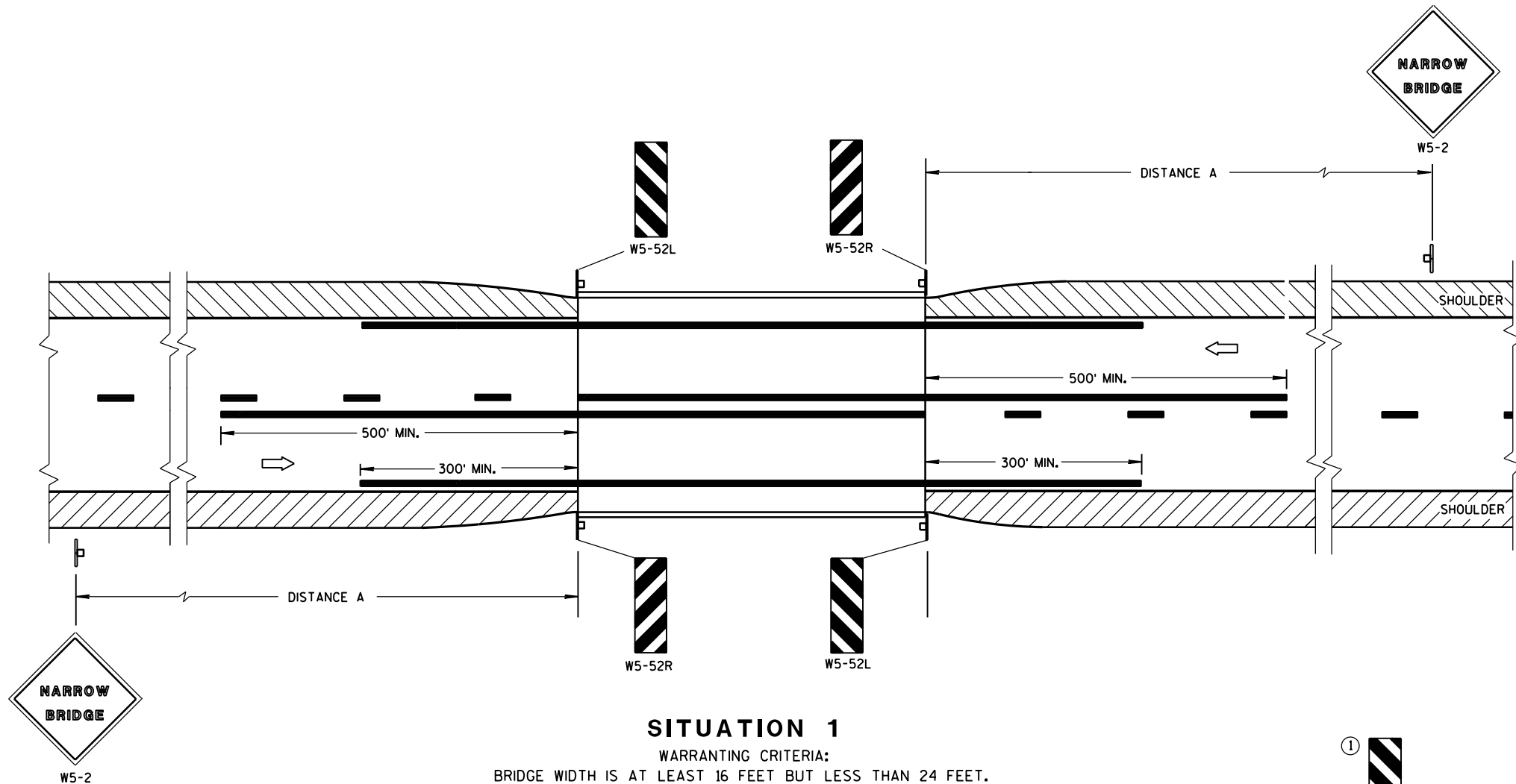
GENERAL NOTES

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

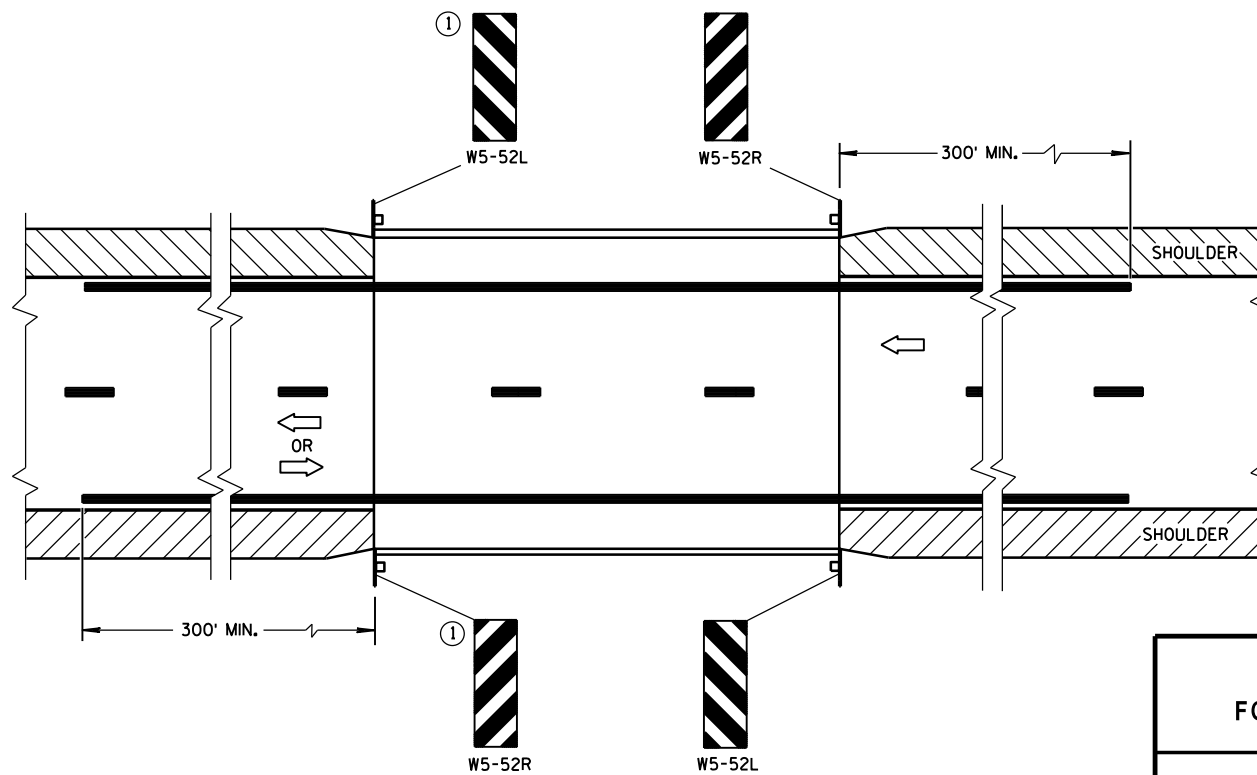
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 2

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

SIGNING & MARKING FOR TWO LANE BRIDGES

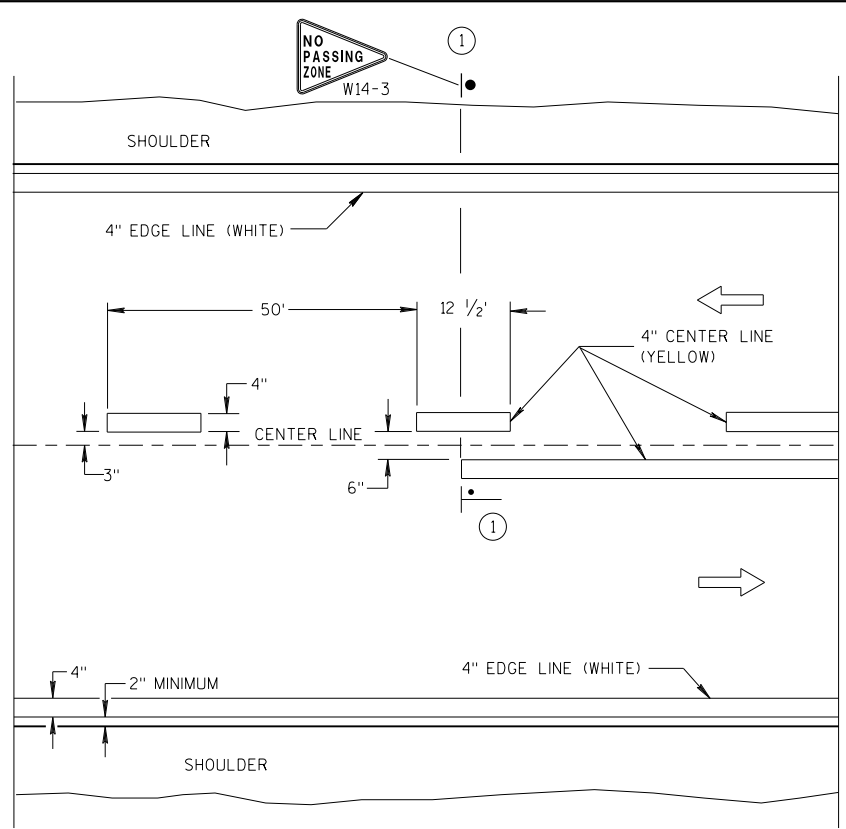
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

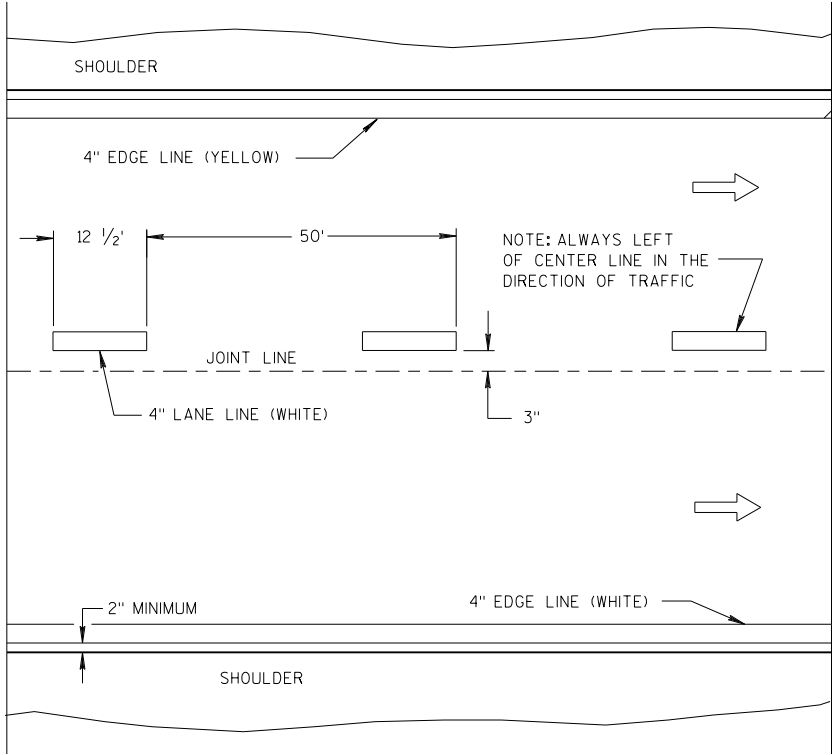
June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

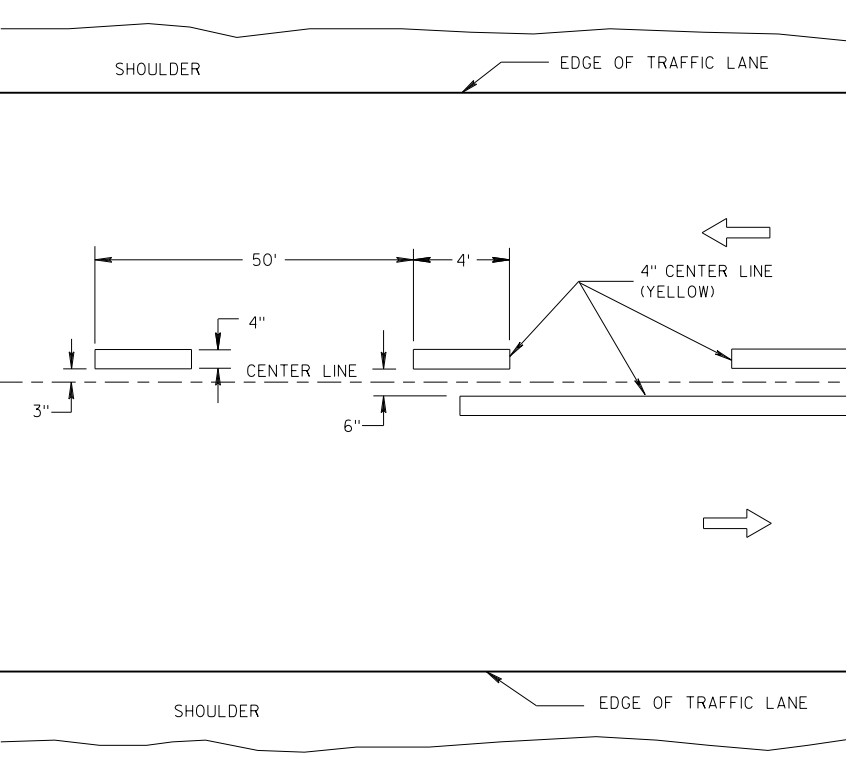


TWO WAY TRAFFIC

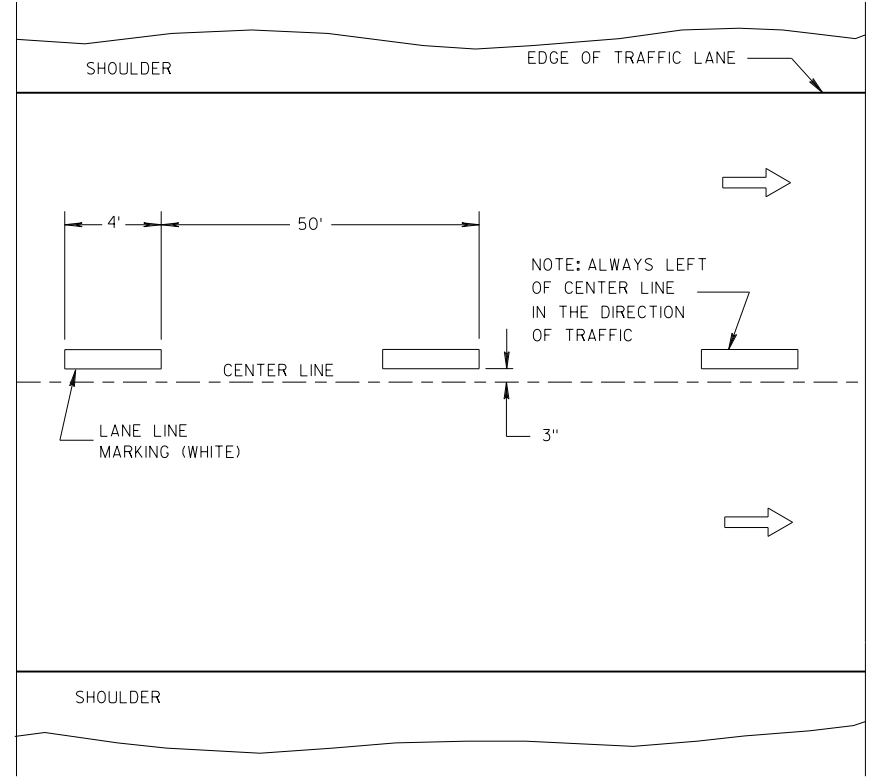


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

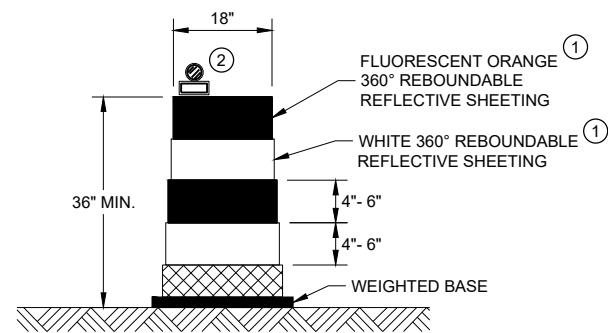
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

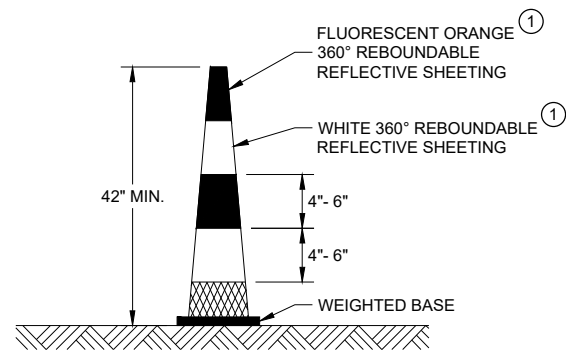
LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

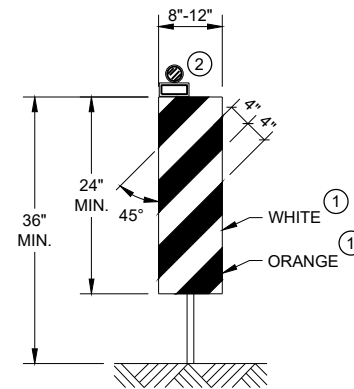


DRUM



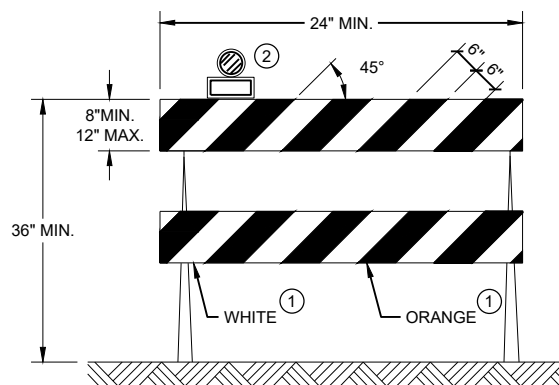
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



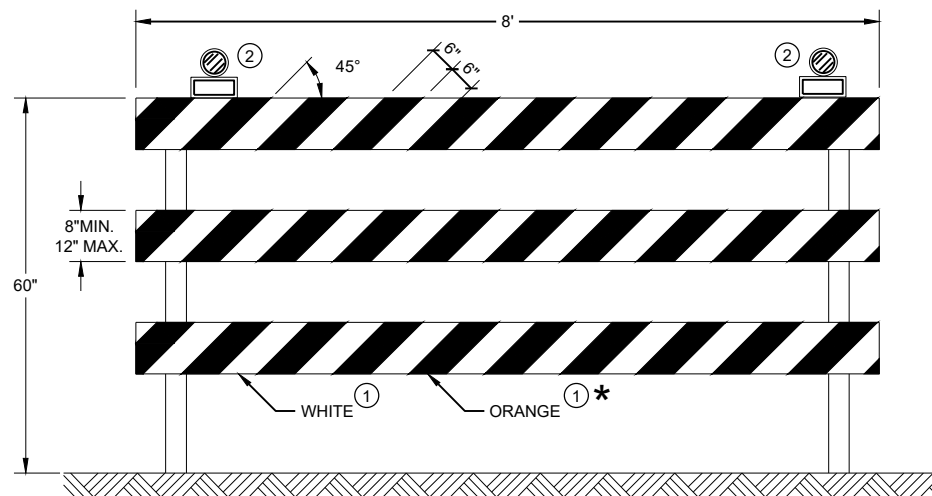
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

- REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

| | |
|--|--|
| CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED June 2017 DATE | /S/ Andrew Heidtke WORK ZONE ENGINEER |
| FHWA | |

LEGEND

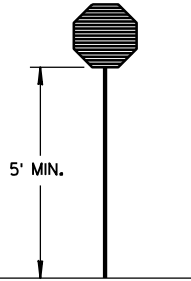
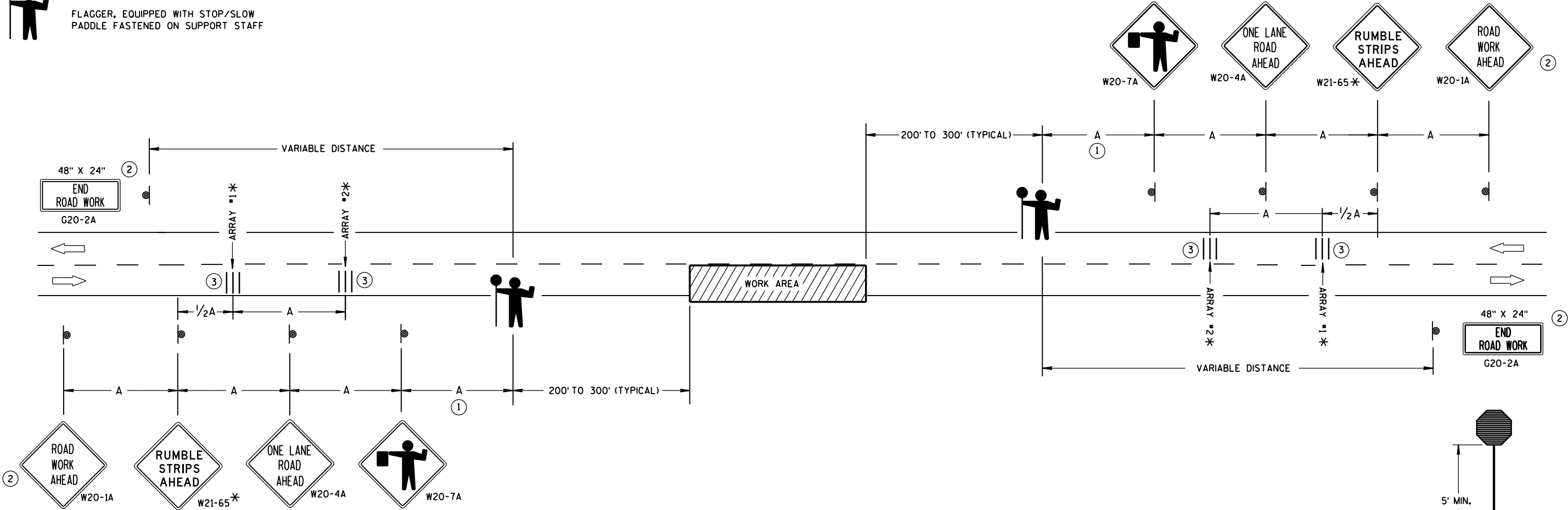
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING A |
|-------------|-----------|
| 25-35 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

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.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

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

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

- FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Andrew Heldtke
DATE WORK ZONE ENGINEER
FHWA

LEGEND





-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

TABLE A

| SHOULDER TAPER LENGTH (FEET) | | | | | BUFFER SPACE (FEET) |
|------------------------------|----|-----|-----|-----|---------------------|
| S \ W | 4 | 6 | 8 | 10 | |
| 30 | 20 | 30 | 40 | 50 | 200 |
| 35 | 30 | 45 | 55 | 70 | 250 |
| 40 | 40 | 55 | 75 | 90 | 305 |
| 45 | 60 | 90 | 120 | 150 | 360 |
| 50 | 70 | 100 | 135 | 170 | 425 |
| 55 | 75 | 110 | 150 | 185 | 495 |

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER
L = WS² / 60 AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = 1/3L

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

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

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

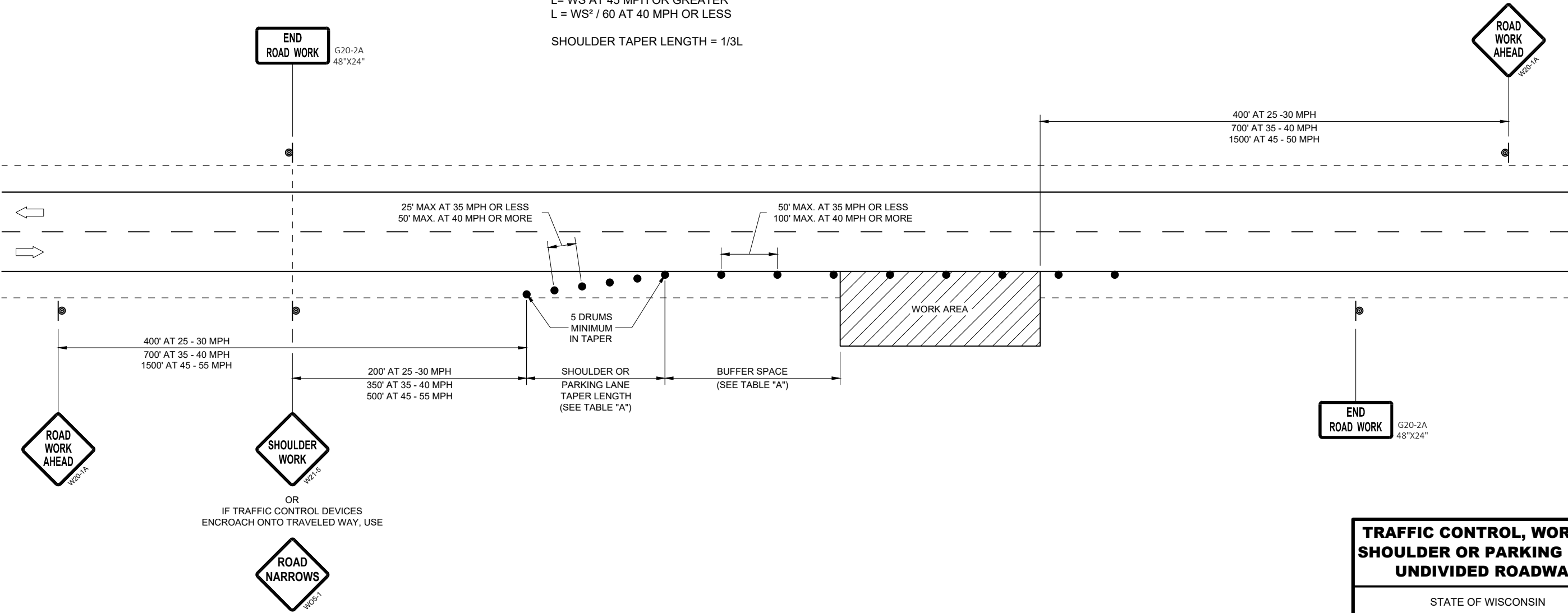
W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY RESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

6

SDD 15D28 - 03

SDD 15D28 - 03



TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION


APPROVED
August 2019
DATE


/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER


FHWA

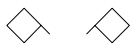
LEGEND


- 


TYPE III BARRICADE WITH ATTACHED SIGN
- 


SIGN ON PERMANENT SUPPORT
- 


TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- 


TRAFFIC CONTROL DRUM
- 

FLAGS, 16" X 16" MIN. (ORANGE)
- 

REMOVING PAVEMENT MARKING
- 

DIRECTION OF TRAFFIC
- 

ASPHALTIC PAVEMENT WIDENING
- 

CONCRETE BARRIER TEMPORARY PRECAST
- 

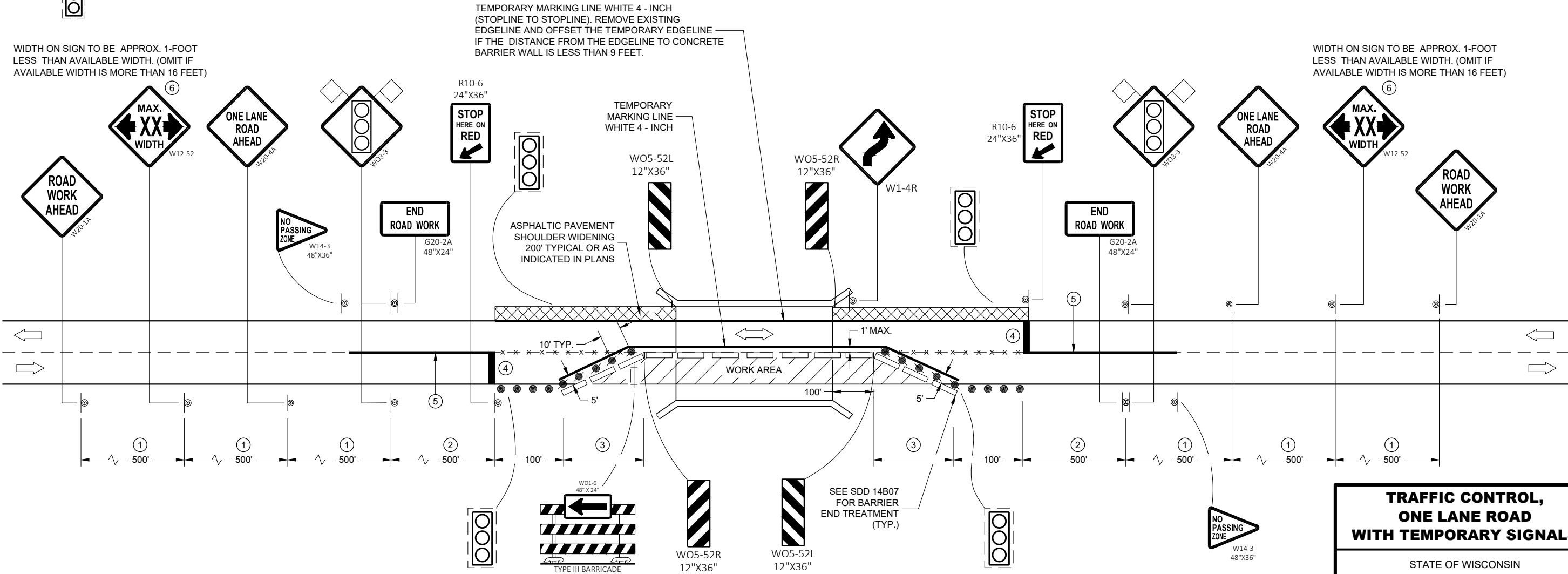
TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)

- ① 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.
- ② USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.
- ③ DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
- ④ TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18 - INCH.
- ⑤ 700 FOOT TEMPORARY MARKING DOUBLE YELLOW LINE 4 - INCH. WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
- ⑥ SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..
- THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.
- ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.
- "WO" 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.
- PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

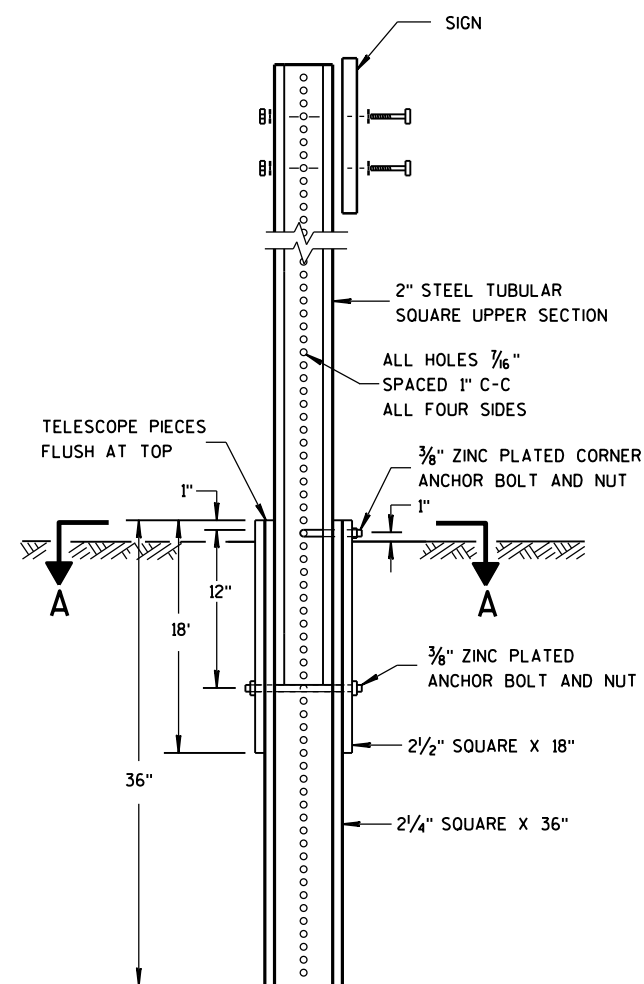


TRAFFIC CONTROL,
ONE LANE ROAD
WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



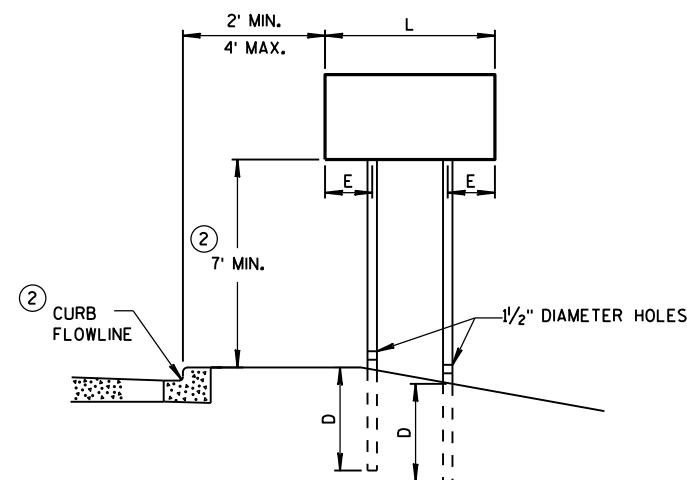
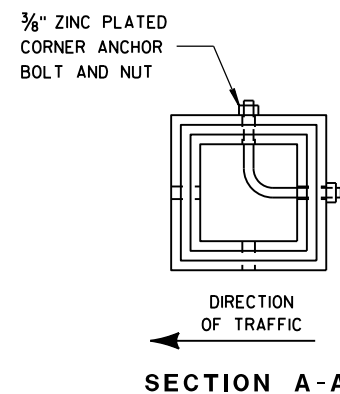
DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

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

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

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

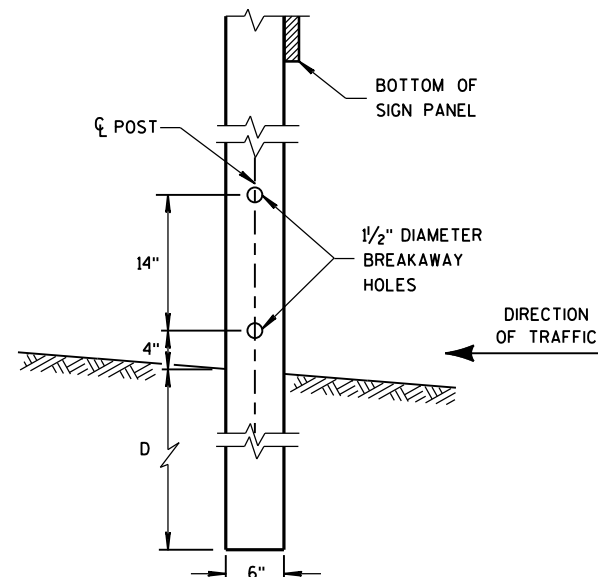


URBAN AREA

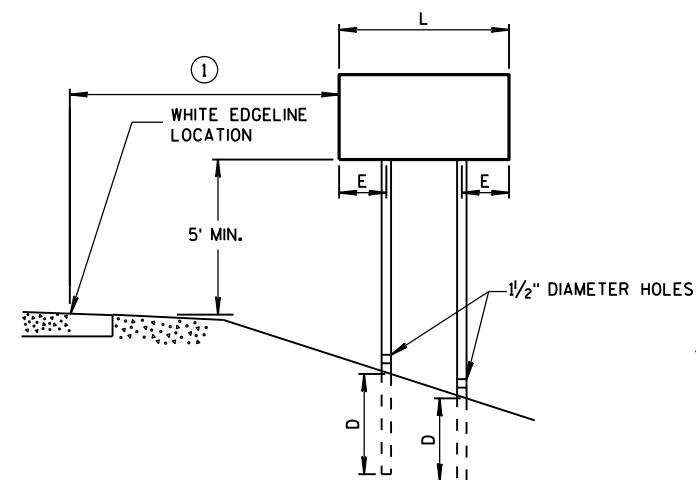
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

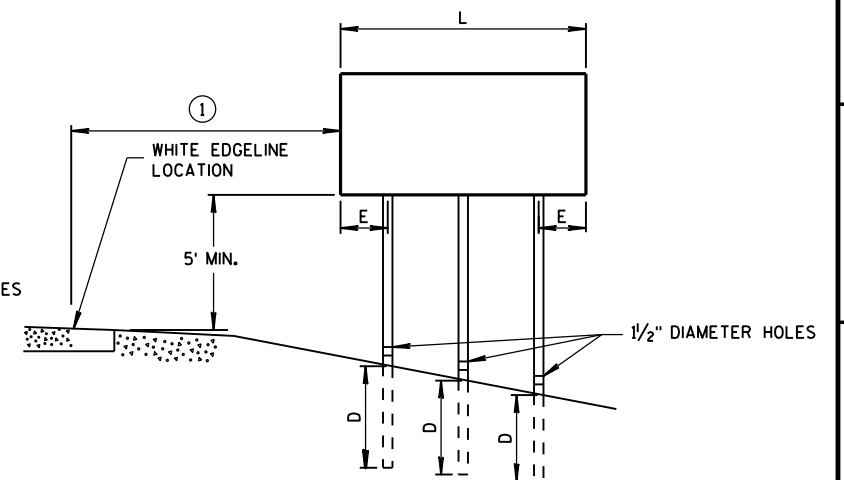
| | |
|---|------------|
| AREA OF SIGN INSTALLATION (SQ. FT.) | D (MIN) |
| 20 OR LESS | 4' |
| GREATER THAN 20 | 5' |



4" x 6" WOOD POST MODIFICATION



RURAL AREA



4" X 6" WOOD POST

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

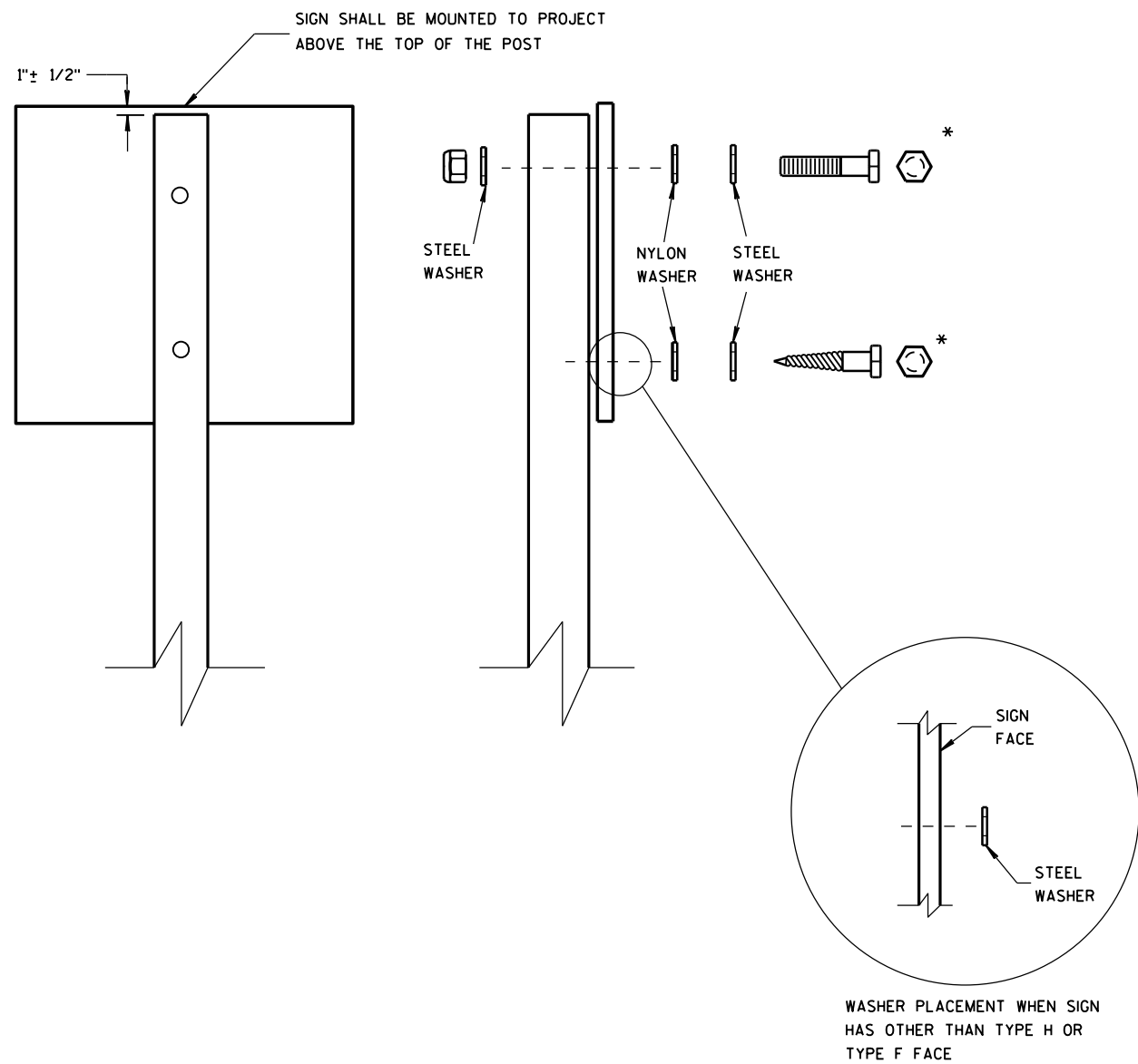
SEE NOTE (3)

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

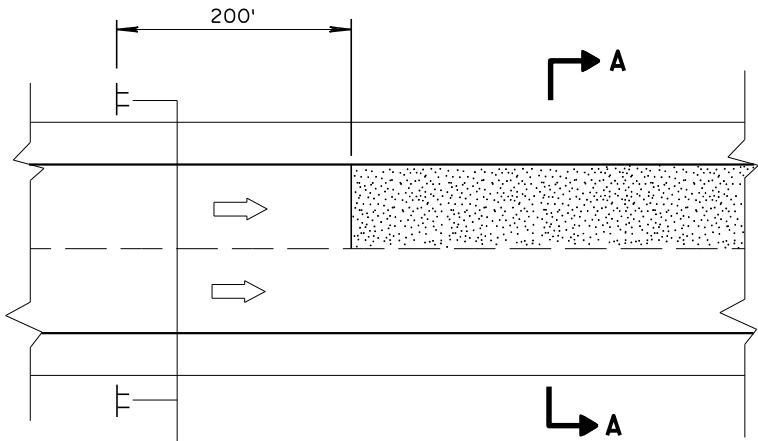
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

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

| | |
|--|--|
| ATTACHMENT OF SIGNS TO POSTS | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED June 2017 DATE | /S/ Andrew Heidtke WORK ZONE ENGINEER |
| FHWA | |

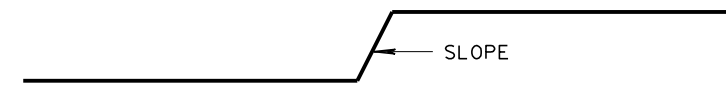


MULTI-LANE

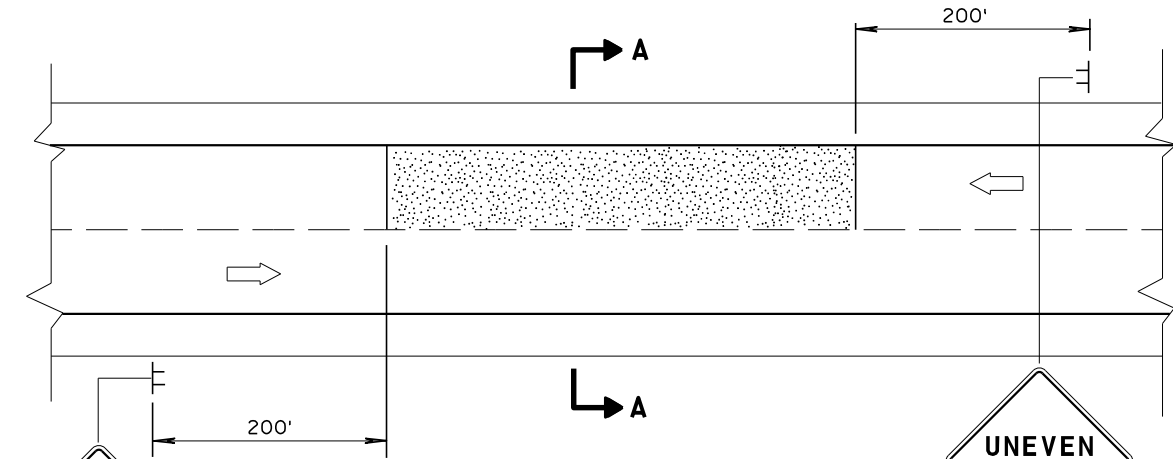


SECTION A-A

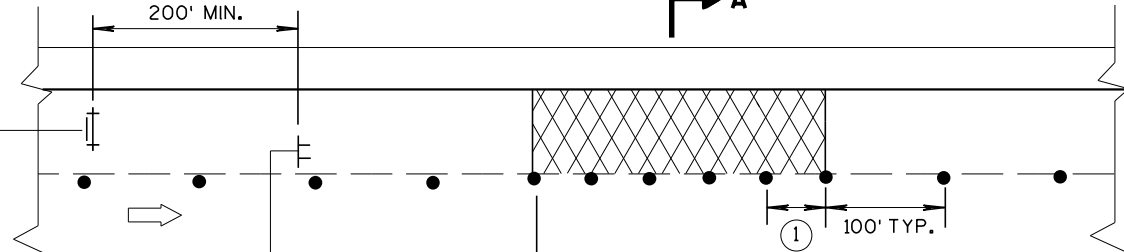
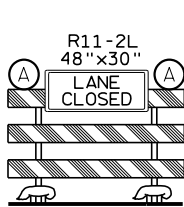
OR



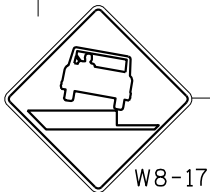
SECTION A-A



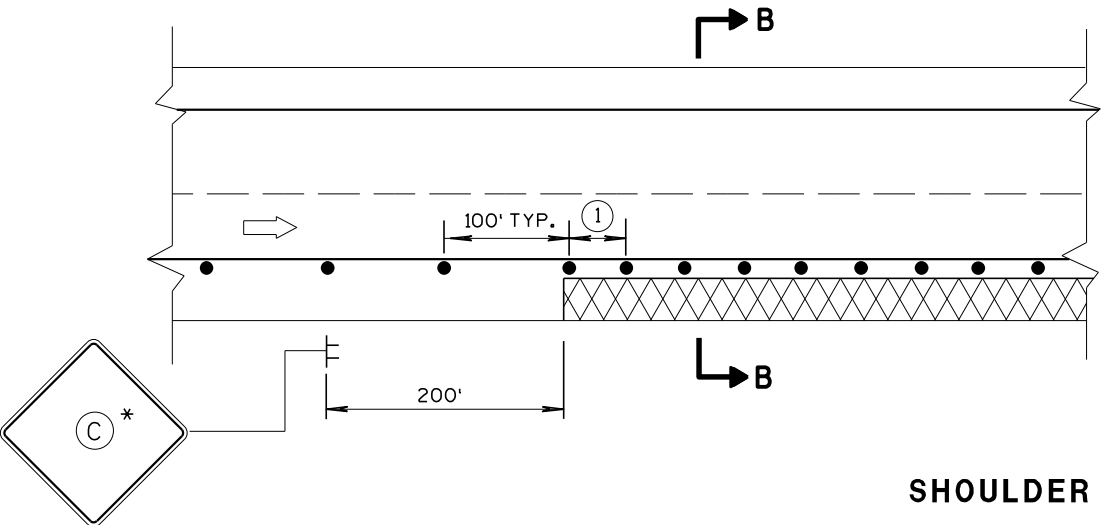
TWO-WAY TWO LANE



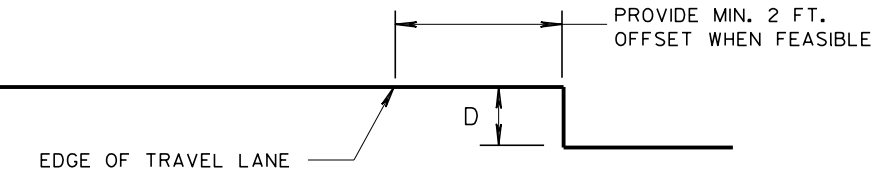
MULTI-LANE BASE PATCHING



ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B-B

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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



WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EACH ENTRANCE RAMP.

① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

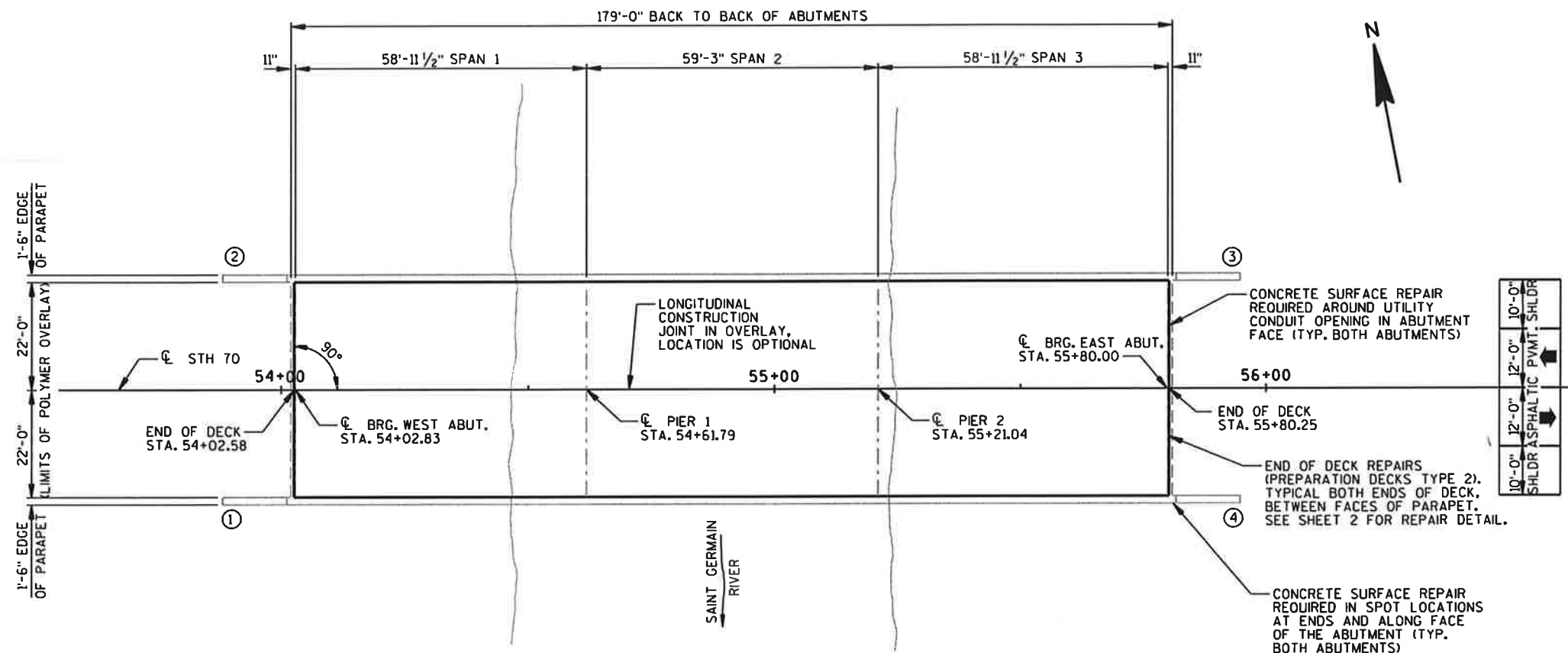
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

| D | SIGN (C) |
|---------------------------------------|---|
| < 2" WITH A SLOPE STEEPER THAN 3:1 |  W08-9 |
| 2" < 6" WITH A SLOPE STEEPER THAN 3:1 |  W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT |

TRAFFIC CONTROL,
DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

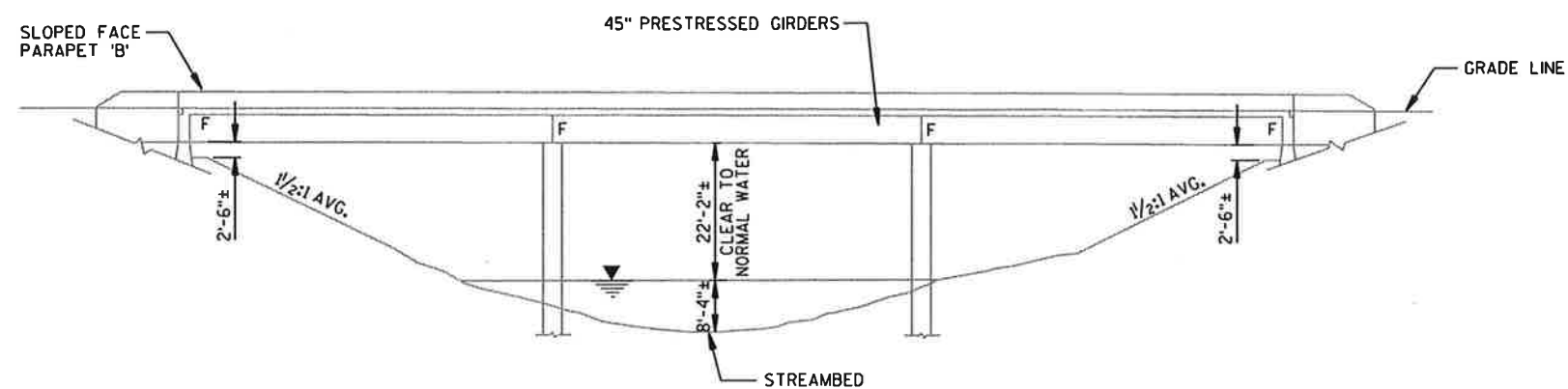


○ — INDICATES WING NUMBER

(REHAB - POLYMER OVERLAY ON EXISTING THREE SPAN PRESTRESSED CONCRETE GIRDER)

CONCRETE MASONRY - DECK REPAIR — $f'_c = 4,000$ P.S.I.


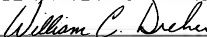
1. REHAB GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES



ELEVATION
(LOOKING NORTH)



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

| | | | | | | | |
|--|--|--|--|-------------------|--|---------------|--|
| NO. | | DATE | | REVISION | | BY | |
|  MSA | | ENGINEERING ARCHITECTURE SURVEYING FUNDING PLANNING ENVIRONMENTAL 1230 SOUTH BLVD., BARABOO WI 53913 (608) 356-2771 www.msa-ps.com <small>© MSA Professional Services, Inc.</small> | | | | | |
| | | | | | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | | | | | |
| ACCEPTED | |  SDR | | | | 05/07/19 | |
| | | CHIEF STRUCTURES DESIGN ENGINEER | | | | DATE | |
| STRUCTURE B-63-7 | | | | | | | |
| STH 70 OVER SAINT GERMAIN RIVER | | | | | | | |
| COUNTY | | VILAS | | TOWN/CITY/VILLAGE | | SAINT GERMAIN | |
| DESIGN SPEC. REHABILITATION - N/A | | | | | | | |
| DESIGNED BY | | DHW | | DESIGN CK'D. | | JLM | |
| DRAWN BY | | RLR | | PLANS CK'D. | | JRS | |
| REHAB GENERAL PLAN | | | | | | SHEET 1 OF 2 | |
| | | | | | | | |

ESTIMATED QUANTITIES

ALL ITEMS ARE CATEGORY 0020

| ITEM NUMBER | BID ITEM | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|---------------|--|------|------------|------------|-------|-------|
| * 509.0301 | PREPARATION DECKS TYPE 1 | SY | - | - | 25 | 25 |
| * 509.0302 | PREPARATION DECKS TYPE 2 | SY | - | - | 5 | 5 |
| 509.0310.S | SAWING PAVEMENT DECK PREPARATION AREAS | LF | - | - | 250 | 250 |
| * 509.1500 | CONCRETE SURFACE REPAIR | SF | 10 | 10 | - | 20 |
| * 509.2000 | FULL-DEPTH DECK REPAIR | SY | - | - | 3 | 3 |
| 509.2100.S | CONCRETE MASONRY DECK REPAIR | CY | - | - | 3 | 3 |
| 509.5100.S | POLYMER OVERLAY | SY | - | - | 869 | 869 |
| 509.9015.S.01 | REMOVING POLYMER OVERLAY B-63-7 | SY | - | - | 316 | 316 |

* QUANTITY LISTED IS AN ESTIMATE BASED ON A SITE REVIEW. THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER.

** CONCRETE SURFACE REPAIR SHALL BE USED FOR NEEDED REPAIRS. LOCATIONS AND LIMITS OF REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

SEE ROAD PLANS FOR TRAFFIC CONTROL.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VERTICAL CLEARANCES TAKEN FROM HSI ON 9/21/2017.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE NOT SHOWN.

IMPROVEMENTS INCLUDE A POLYMER OVERLAY OF THE BRIDGE DECK, DECK REPAIRS, AND ABUTMENT SURFACE REPAIRS.

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-63-7, A THREE SPAN, 179.0' PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS AND HAMMERHEAD PIERS.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

THE EXISTING POLYMER OVERLAY ALONG BOTH SHOULDERS SHALL BE REMOVED FROM THE BRIDGE DECK UNDER THE BID ITEM "REMOVING POLYMER OVERLAY B-63-7".

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAWCUT.

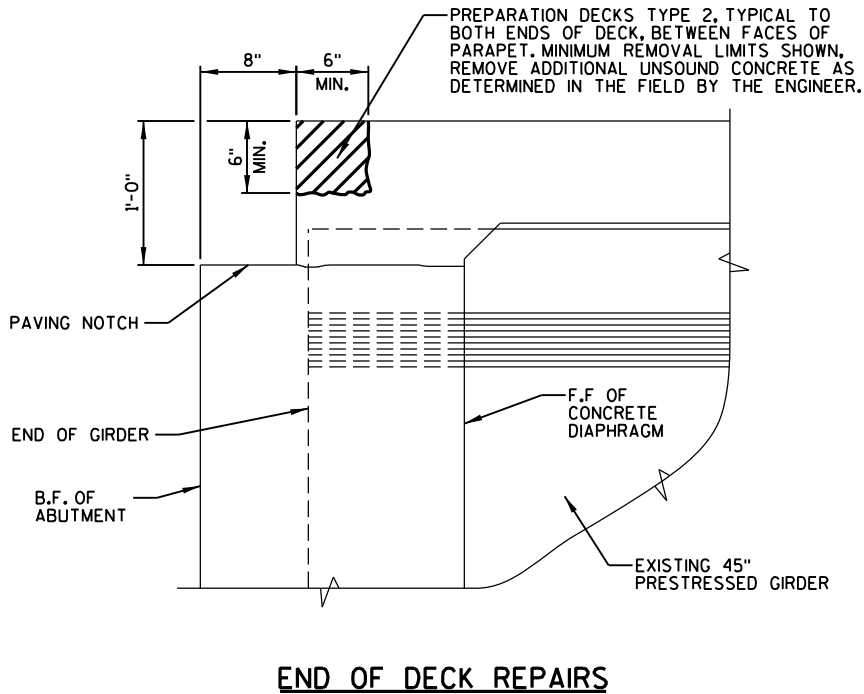
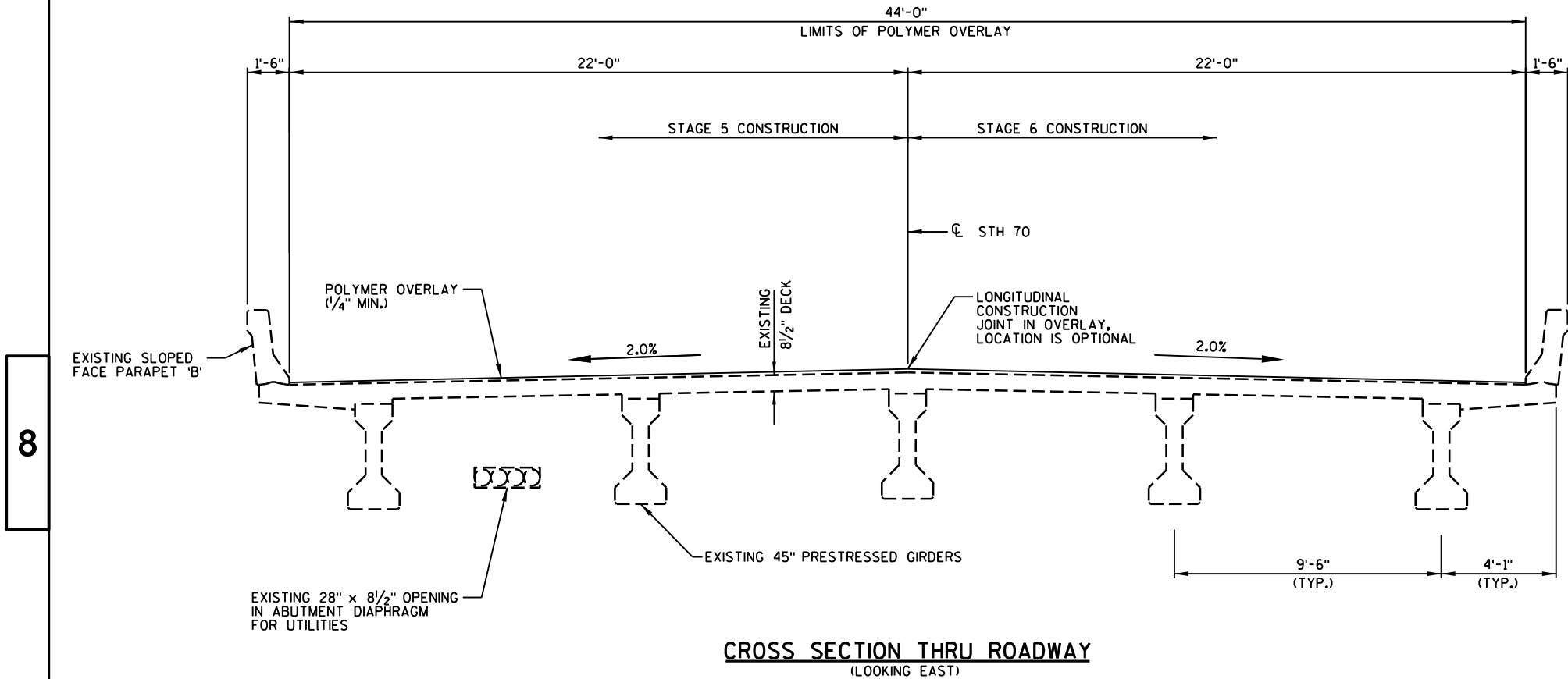
PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

CONSTRUCT TRANSITIONAL AREA POLYMER OVERLAY ON THE APPROACH PAVEMENT IN ACCORDANCE WITH THE DETAILS PROVIDED IN THE SPECIAL PROVISION "POLYMER OVERLAY" AND THE CONSTRUCTION DETAIL PROVIDED IN THE ROAD PLANS. TRANSITIONAL AREA POLYMER OVERLAY TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "POLYMER OVERLAY".

F.F. - FRONT FACE B.F. - BACK FACE

STATE PROJECT NUMBER

1009-46-60



| NO. | DATE | REVISION | BY |
|--|------|-----------------|--------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-63-7 | | | |
| DRAWN BY RLR | | PLANS CK'D. JRS | |
| CROSS SECTION, QUANTITIES & NOTES | | | SHEET 2 OF 2 |

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS20
INVENTORY RATING : HS19
OPERATIONAL RATING : HS35
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 220 KIPS

TRAFFIC DATA: STH 70

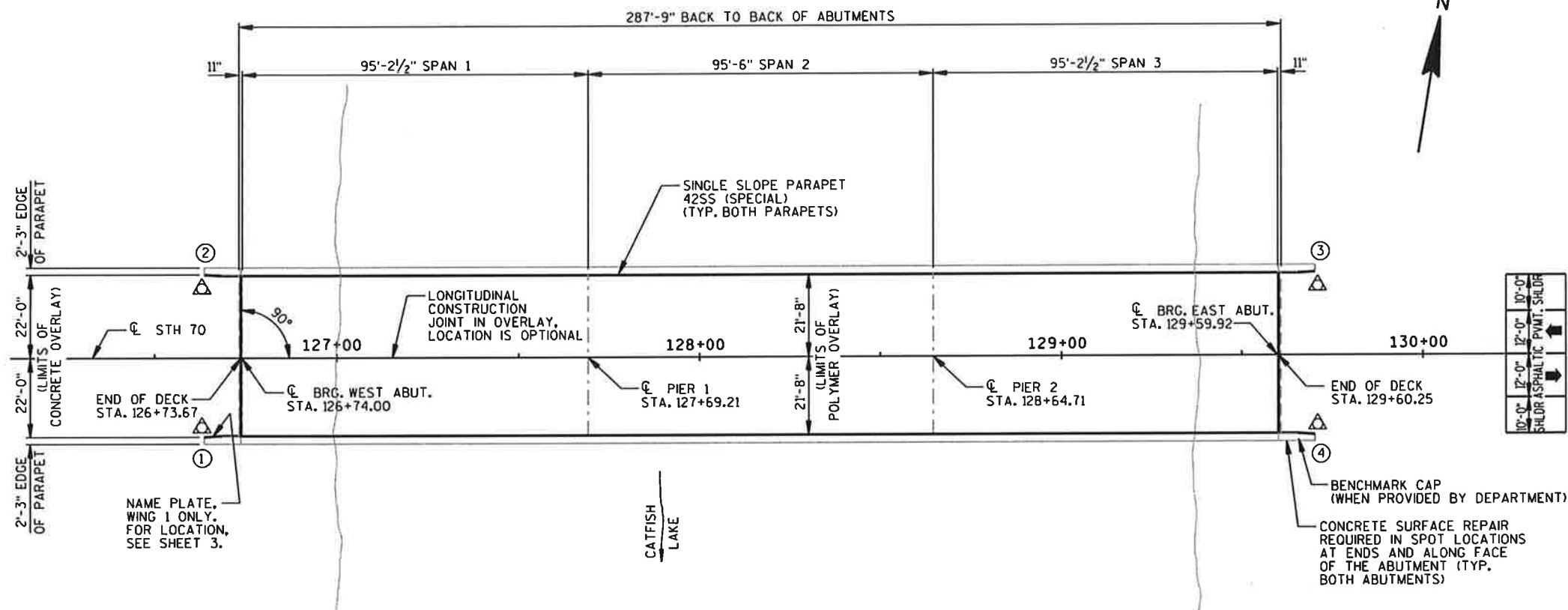
A.A.D.T. (2020) = 4,900
A.A.D.T. (2040) = 6,100

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS — $f'_c = 4,000$ P.S.I.
CONCRETE MASONRY PARAPET — $f'_c = 4,000$ P.S.I.
HIGH STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 — $f_y = 60,000$ P.S.I.

LIST OF DRAWINGS

1. REHAB GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SINGLE SLOPE PARAPET 42SS (SPECIAL)

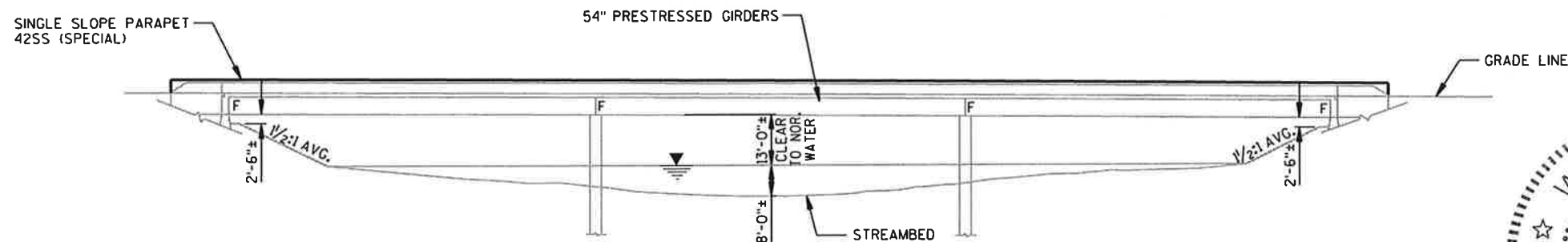


PLAN

(REHAB - CONCRETE OVERLAY AND POLYMER OVERLAY ON EXISTING THREE SPAN PRESTRESSED CONCRETE GIRDER)

○ — INDICATES WING NUMBER

△ — INDICATES LOCATION OF PROVISION FOR THREE BEAM GUARD ATTACHMENT AT WINGS

ELEVATION
(LOOKING NORTH)

DESIGN CONTACT:
JOSHUA SWENO
(608) 355-8852

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

| NO. | DATE | REVISION | BY |
|--|-------|-------------------|--------------|
| ENGINEERING ARCHITECTURE SURVEYING FUNDING PLANNING ENVIRONMENTAL 1230 SOUTH BLVD., BARABOO WI 53913 (608) 356-2771 www.msa-ps.com © MSA Professional Services, Inc. | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Dreher</i> SR 05/06/19 CHIEF STRUCTURES DESIGN ENGINEER DATE | | | |
| STRUCTURE B-63-8 | | | |
| STH 70 OVER CATFISH LAKE | | | |
| COUNTY | VILAS | TOWN/CITY/VILLAGE | WASHINGTON |
| DESIGN SPEC. REHABILITATION - N/A | | | |
| DESIGNED BY | DHW | DESIGN CK'D. | JLM |
| DRAWN BY | RLR | PLANS CK'D. | JRS |
| REHAB GENERAL PLAN | | | SHEET 1 OF 3 |

ESTIMATED QUANTITIES

ALL ITEMS ARE CATEGORY 0030

| ITEM NUMBER | BID ITEM | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|---------------|--|------|------------|------------|-------|-------|
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | - | - | 80 | 80 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | - | - | 360 | 360 |
| 502.4205 | ADHESIVE ANCHORS NO. 5 BAR | EACH | - | - | 1232 | 1232 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | - | - | 8640 | 8640 |
| 509.0505.S | CLEANING DECKS TO REAPPLY CONCRETE MASONRY OVERLAY | SY | - | - | 1401 | 1401 |
| * 509.0301 | PREPARATION DECKS TYPE 1 | SY | - | - | 14 | 14 |
| * 509.0302 | PREPARATION DECKS TYPE 2 | SY | - | - | 1 | 1 |
| * 509.1500 | CONCRETE SURFACE REPAIR | SF | 20 | 20 | - | 40 |
| * 509.2000 | FULL-DEPTH DECK REPAIR | SY | - | - | 3 | 3 |
| 509.2500 | CONCRETE MASONRY OVERLAY DECKS | CY | - | - | 79 | 79 |
| 509.5100.S | POLYMER OVERLAY | SY | - | - | 1390 | 1390 |
| 509.9005.S.01 | REMOVING CONCRETE MASONRY DECK OVERLAY B-63-8 | SY | - | - | 1401 | 1401 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | - | - | 4 | 4 |
| SPV.0090.01 | PARAPET SURFACE PREPARATION | LF | - | - | 616 | 616 |

* QUANTITY LISTED IS AN ESTIMATE BASED ON A SITE REVIEW. THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER.

* * CONCRETE SURFACE REPAIR SHALL BE USED FOR NEEDED REPAIRS. LOCATIONS AND LIMITS OF REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

SEE ROAD PLANS FOR TRAFFIC CONTROL.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VERTICAL CLEARANCES TAKEN FROM HSI ON 9/25/2017.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE NOT SHOWN.

IMPROVEMENTS INCLUDE A CONCRETE OVERLAY AND POLYMER OVERLAY OF THE BRIDGE DECK, DECK REPAIRS, PARAPET RECONSTRUCTION AND CONCRETE SURFACE REPAIRS.

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-63-8, A THREE SPAN, 287.75' PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS AND HAMMERHEAD PIERS.

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

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

APPLY PIGMENTED SURFACE SEALER TO THE TOP AND ROADWAY FACE OF THE PARAPET.

THE EXISTING CONCRETE OVERLAY OVER THE ENTIRE DECK AND POLYMER OVERLAY ALONG BOTH SHOULDERS SHALL BE REMOVED FROM THE BRIDGE DECK UNDER THE BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY B-63-8".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM CONCRETE OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE CONCRETE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE CONCRETE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

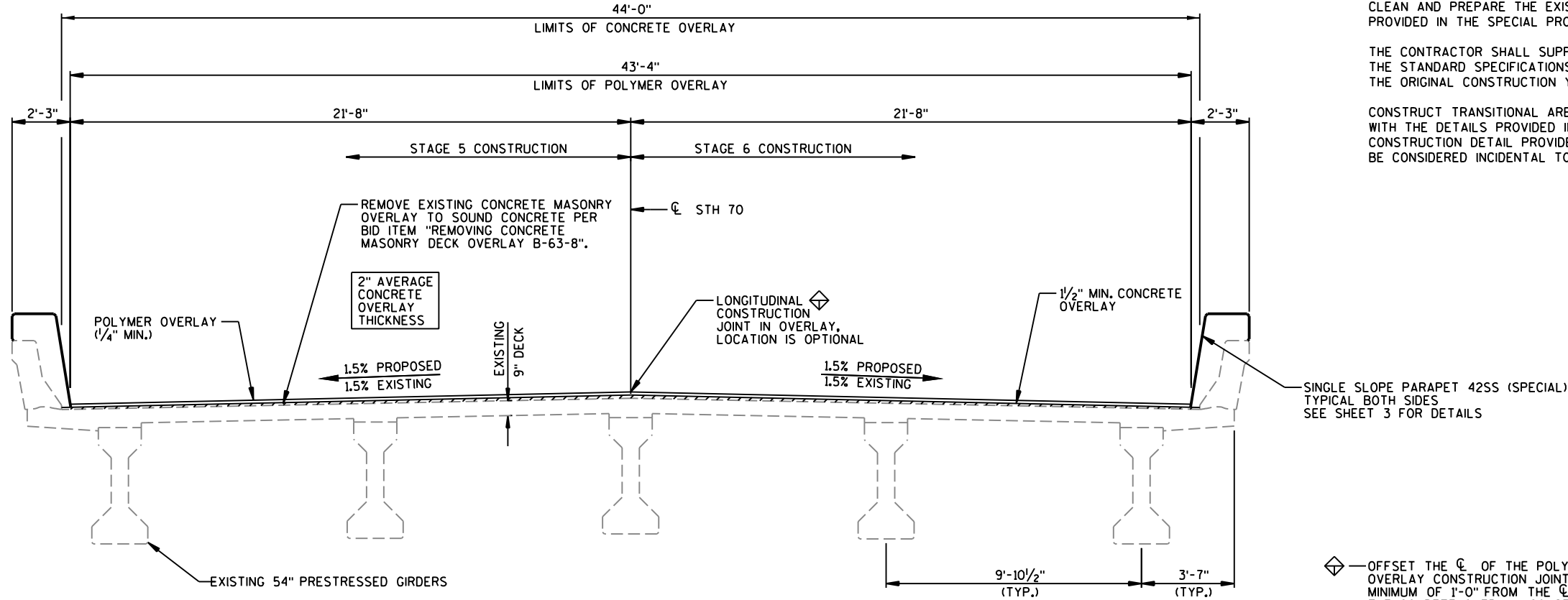
PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CLEAN AND PREPARE THE EXISTING PARAPET SURFACES IN ACCORDANCE WITH THE DETAILS PROVIDED IN THE SPECIAL PROVISION "PARAPET SURFACE PREPARATION".

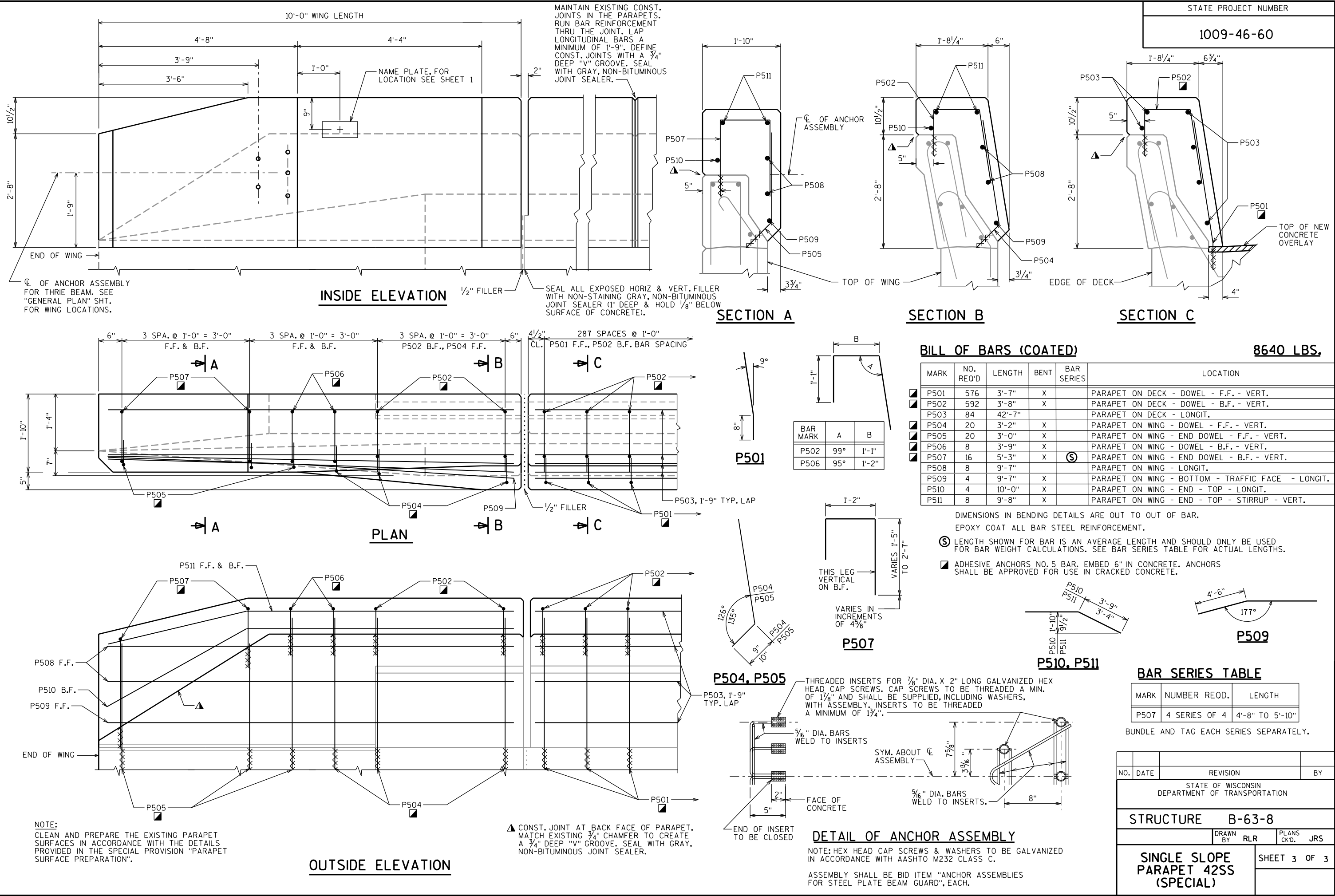
THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE SHALL SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1978.

CONSTRUCT TRANSITIONAL AREA POLYMER OVERLAY ON THE APPROACH PAVEMENT IN ACCORDANCE WITH THE DETAILS PROVIDED IN THE SPECIAL PROVISION "POLYMER OVERLAY" AND THE CONSTRUCTION DETAIL PROVIDED IN THE ROAD PLANS. TRANSITIONAL AREA POLYMER OVERLAY TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "POLYMER OVERLAY".



CROSS SECTION THRU ROADWAY
(LOOKING EAST)

| NO. | DATE | REVISION | BY |
|--|------|-----------------|--------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-63-8 | | | |
| DRAWN BY RLR | | PLANS CK'D. JRS | |
| CROSS SECTION, QUANTITIES & NOTES | | | SHEET 2 OF 3 |

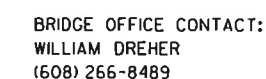




CONCRETE MASONRY OVERLAY DECKS — $f'_c = 4,000$ P.S.I.

1. REHAB GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES



(REHAB - CONCRETE OVERLAY AND POLYMER OVERLAY ON EXISTING SINGLE SPAN PRESTRESSED CONCRETE GIRDER)



| | | | | | | | |
|--|--|--|--|--|--|-------------------|--|
| NO. | | DATE | | REVISION | | BY | |
|  MSA | | | | ENGINEERING ARCHITECTURE SURVEYING FUNDING PLANNING ENVIRONMENTAL 1230 SOUTH BLVD., BARABOO WI 53911 (608) 356-2771 www.msa-ps.com <small>© MSA Professional Services, Inc.</small> | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | | | | | |
| ACCEPTED | |  SR | | | | 05/07/19 | |
| | | CHIEF STRUCTURES DESIGN ENGINEER | | | | DATE | |
| STRUCTURE | | | | B-63-10 | | | |
| STH 17/70 OVER MUD CREEK | | | | | | | |
| COUNTY | | | | VILAS | | TOWN/CITY/VILLAGE | |
| | | | | | | LINCOLN | |
| DESIGN SPEC. | | | | | | | |
| REHABILITATION - N/A | | | | | | | |
| DESIGNED BY | | DHW | | DRAWN BY | | JLR | |
| CHK'D. | | JLM | | CHK'D. | | JLR | |
| REHAB GENERAL PLAN | | | | SHEET 1 OF | | | |

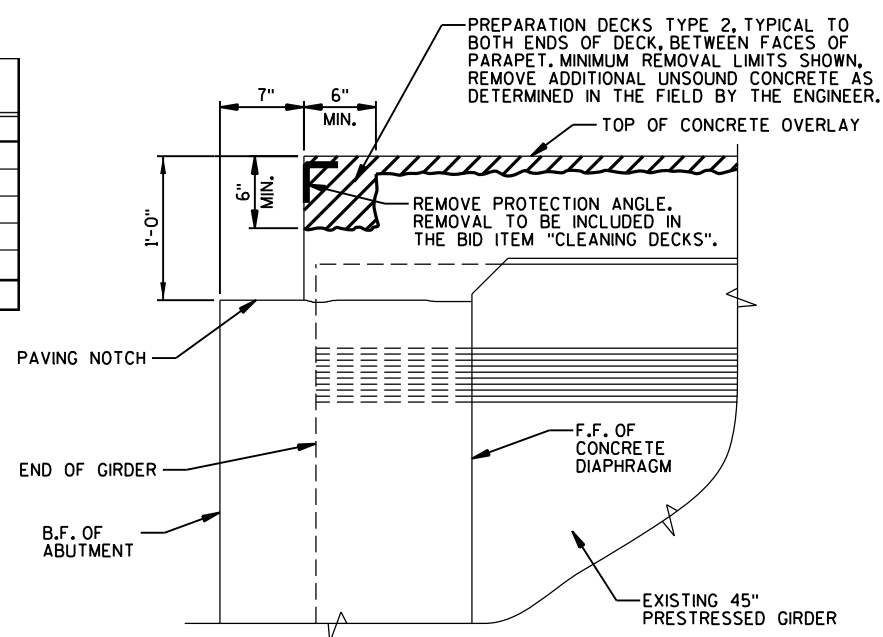
ESTIMATED QUANTITIES

ALL ITEMS ARE CATEGORY 0040

| ITEM NUMBER | BID ITEM | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|-------------|--------------------------------|------|------------|------------|-------|-------|
| * 509.0301 | PREPARATION DECKS TYPE 1 | SY | - | - | 15 | 15 |
| * 509.0302 | PREPARATION DECKS TYPE 2 | SY | - | - | 6 | 6 |
| 509.0500 | CLEANING DECKS | SY | - | - | 436 | 436 |
| * 509.1500 | CONCRETE SURFACE REPAIR | SF | 20 | 20 | - | 40 |
| * 509.2000 | FULL-DEPTH DECK REPAIR | SY | - | - | 13 | 13 |
| 509.2500 | CONCRETE MASONRY OVERLAY DECKS | CY | - | - | 27 | 27 |
| 509.5100.5 | POLYMER OVERLAY | SY | - | - | 436 | 436 |

* QUANTITY LISTED IS AN ESTIMATE BASED ON A SITE REVIEW. THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER.

** CONCRETE SURFACE REPAIR SHALL BE USED FOR NEEDED REPAIRS. LOCATIONS AND LIMITS OF REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.



END OF DECK REPAIRS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

SEE ROAD PLANS FOR TRAFFIC CONTROL.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VERTICAL CLEARANCES TAKEN FROM HSI ON 9/26/2017.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE NOT SHOWN.

IMPROVEMENTS INCLUDE A CONCRETE OVERLAY AND POLYMER OVERLAY OF THE BRIDGE DECK, DECK REPAIRS, AND ABUTMENT SURFACE REPAIRS.

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-63-10, A SINGLE SPAN, 73.83' PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS.

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

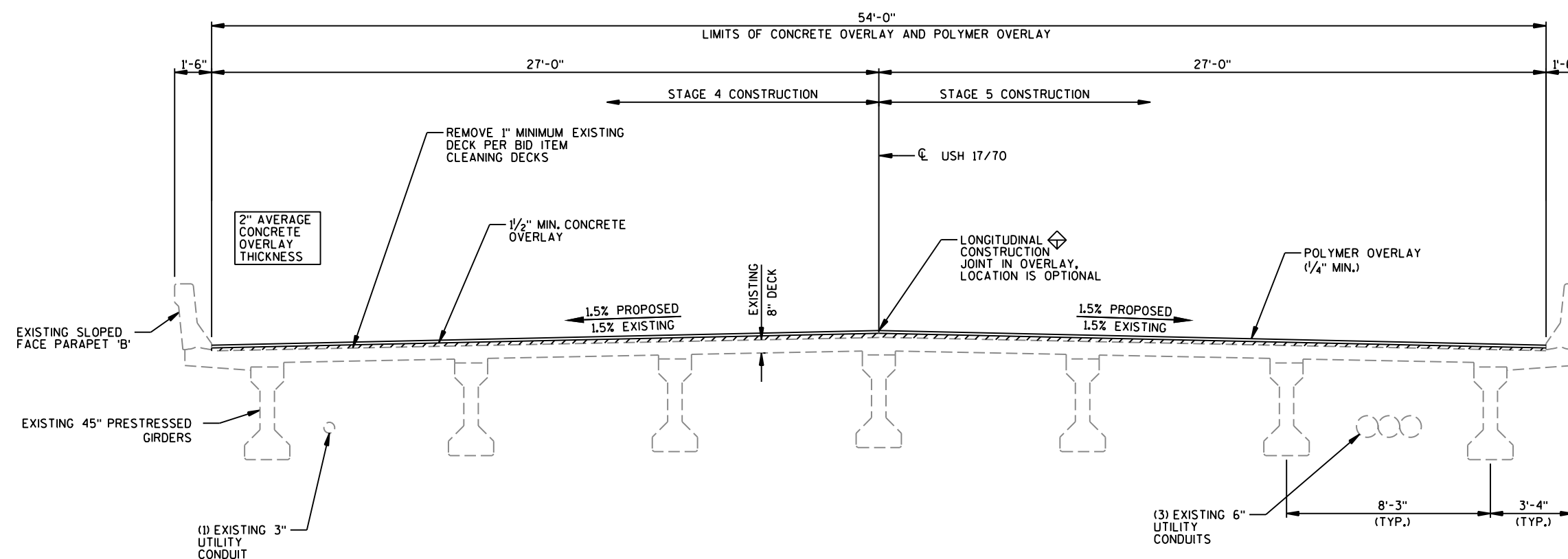
PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM CONCRETE OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE CONCRETE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE CONCRETE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONSTRUCT TRANSITIONAL AREA POLYMER OVERLAY ON THE APPROACH PAVEMENT IN ACCORDANCE WITH THE DETAILS PROVIDED IN THE SPECIAL PROVISION "POLYMER OVERLAY" AND THE CONSTRUCTION DETAIL PROVIDED IN THE ROAD PLANS. TRANSITIONAL AREA POLYMER OVERLAY TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "POLYMER OVERLAY".

F.F. - FRONT FACE B.F. - BACK FACE

CROSS SECTION THRU ROADWAY
(LOOKING EAST)

— OFFSET THE ϕ OF THE POLYMER OVERLAY CONSTRUCTION JOINT A MINIMUM OF 1'-0" FROM THE ϕ OF THE CONCRETE OVERLAY CONSTRUCTION JOINT.

| NO. | DATE | REVISION | BY |
|--|------|-----------------|----|
| | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-63-10 | | | |
| DRAWN BY RLR | | PLANS CK'D. JRS | |
| CROSS SECTION, QUANTITIES & NOTES | | SHEET 2 OF 2 | |

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS20 ★

★ - TAKEN FROM HSI,
9/21/2017

INVENTORY RATING : HS27 ★

OPERATIONAL RATING : HS43 ★

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS ★

TRAFFIC DATA:

STH 70

A.A.D.T. (2020) = 5,800

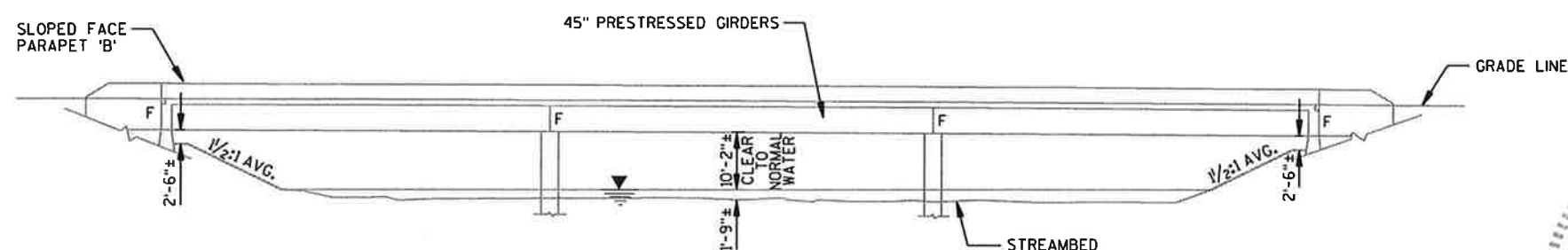
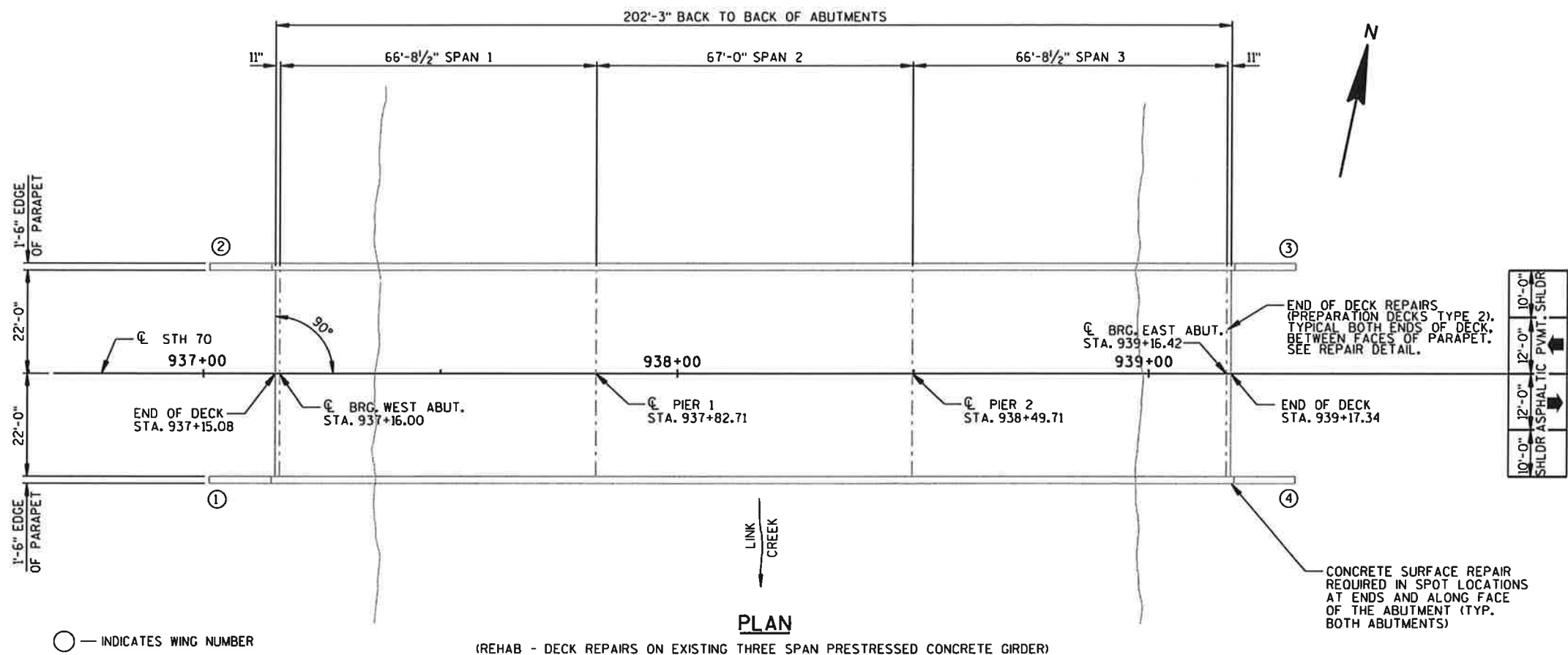
A.A.D.T. (2040) = 6,700

MATERIAL PROPERTIES:

CONCRETE MASONRY - DECK REPAIR — $f'_c = 4,000$ P.S.I.

LIST OF DRAWINGS

1. REHAB GENERAL PLAN



ESTIMATED QUANTITIES

ALL ITEMS ARE CATEGORY 0050

| ITEM NUMBER | BID ITEM | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|---------------|--|------|------------|------------|-------|-------|
| 203.0210.S.01 | ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-63-13 | LS | - | - | - | 1 |
| 492.2010.S | SEALING CRACKS AND JOINTS WITH HOT-APPLIED SEALANT | GAL | 3 | 3 | - | 6 |
| 509.0301 | PREPARATION DECKS TYPE 1 | SY | - | - | 13 | 13 |
| 509.0302 | PREPARATION DECKS TYPE 2 | SY | - | - | 5 | 5 |
| 509.0310.S | SAWING PAVEMENT DECK PREPARATION AREAS | LF | - | - | 130 | 130 |
| 509.1500 | CONCRETE SURFACE REPAIR | SF | 10 | 10 | - | 20 |
| 509.2000 | FULL-DEPTH DECK REPAIR | SY | - | - | 3 | 3 |
| 509.2100.S | CONCRETE MASONRY DECK REPAIR | CY | - | - | 2 | 2 |

* QUANTITY LISTED IS AN ESTIMATE BASED ON A SITE REVIEW. THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER.

** CONCRETE SURFACE REPAIR SHALL BE USED FOR NEEDED REPAIRS. LOCATIONS AND LIMITS OF REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

SEE ROAD PLANS FOR TRAFFIC CONTROL.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VERTICAL CLEARANCES TAKEN FROM HSI ON 9/21/2017.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE NOT SHOWN.

IMPROVEMENTS INCLUDE DECK REPAIRS, ABUTMENT SURFACE REPAIRS AND SEALING DECK END JOINTS.

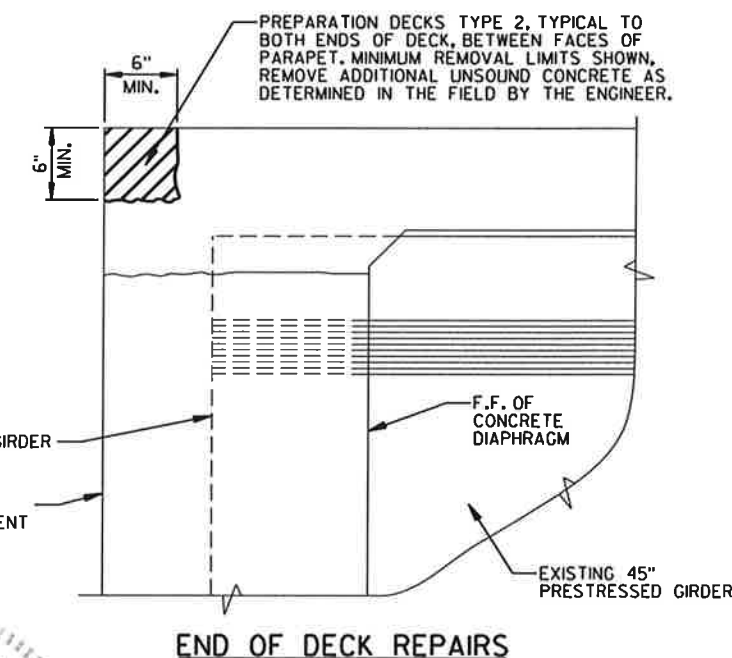
THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-63-13, A THREE SPAN, 202.25' PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS AND CONCRETE PILE BENT PIERS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAWCUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

SEAL JOINTS BETWEEN BRIDGE DECK AND APPROACH PAVEMENT WITH HOT-APPLIED SEALANT.

F.F. - FRONT FACE B.F. - BACK FACE



DESIGN CONTACT:
JOSHUA SWENO
(608) 355-8852

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

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

MSA ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
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(608) 356-2771 www.msa-ps.com
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED *William C. Debe* SDR **05/07/19**
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-63-13

STH 70 OVER LINK CREEK

COUNTY VILAS TOWN/CITY/VILLAGE ARBOR VITAE

DESIGN SPEC. REHABILITATION - N/A

DESIGNED BY DHW DESIGN CK'D. JRS DRAWN BY RLR PLANS CK'D. JRS

REHAB GENERAL PLAN

SHEET 1 OF 1

★- TAKEN FROM HSI,
9/25/2017

WIS-SPV): 250 KIPS ★

CONCRETE MASONRY - DECK REPAIR — $f'_c = 4,000$ P.S.I.

1. REHAB GENERAL PLAN



ALL ITEMS ARE CATEGORY 0060

* QUANTITY LISTED IS AN ESTIMATE BASED ON A SITE REVIEW. THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER.

**** CONCRETE SURFACE REPAIR SHALL BE USED FOR NEEDED REPAIRS. LOCATIONS AND LIMITS OF REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.**

DRAWINGS SHALL NOT BE SCALED.

SEE ROAD PLANS FOR TRAFFIC CONTROL.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VERTICAL CLEARANCES TAKEN FROM HSI ON 9/25/2017.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE NOT SHOWN.

IMPROVEMENTS INCLUDE DECK REPAIRS AND SURFACE REPAIRS AT ABUTMENTS AND DECK EDGES.

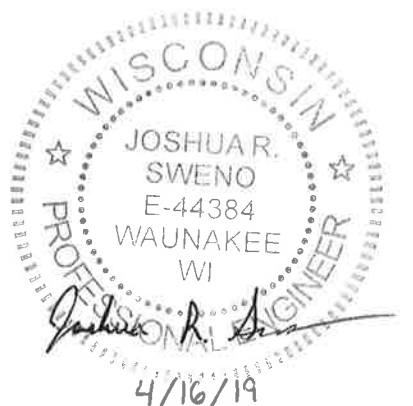
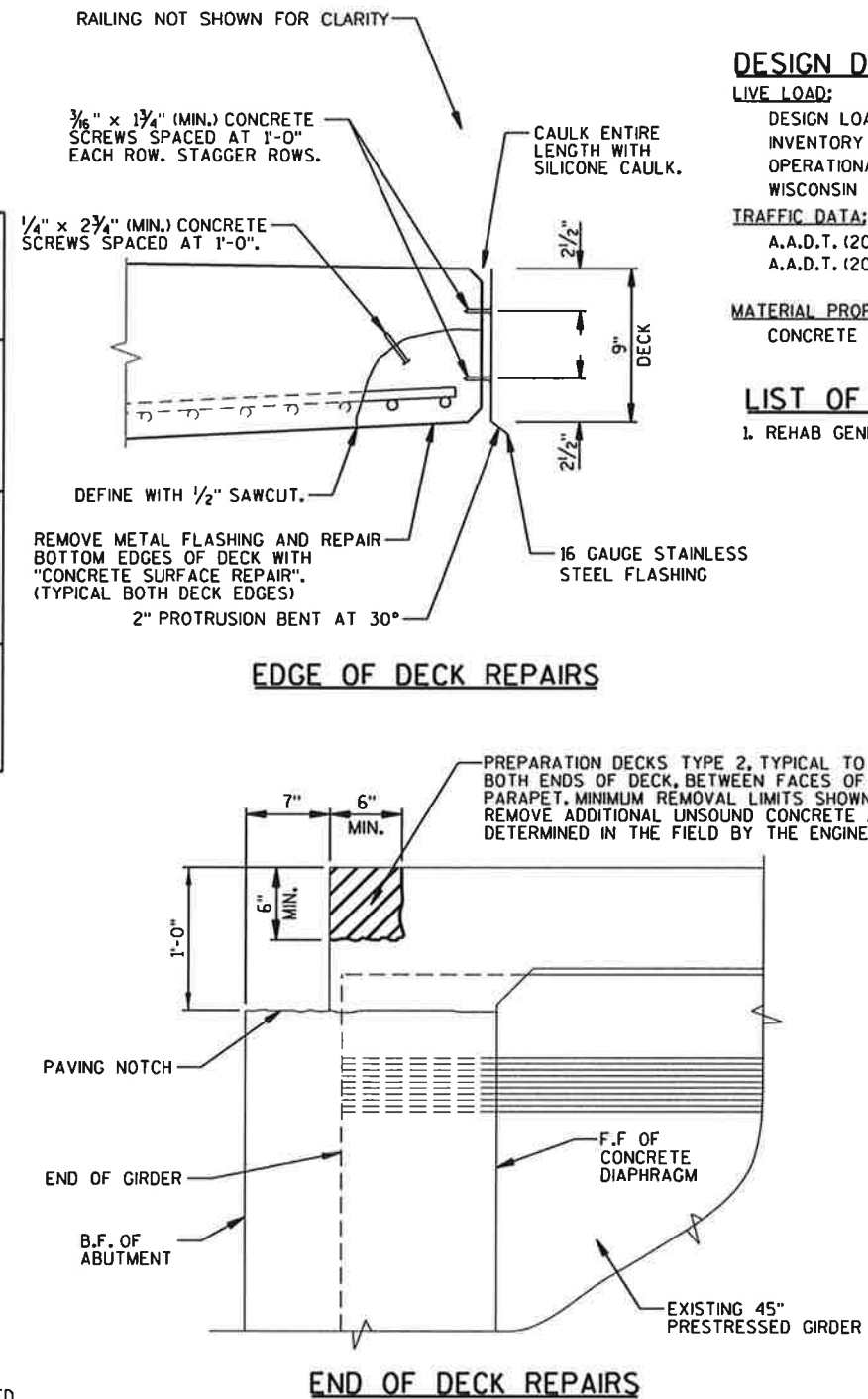
THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-63-14, A SINGLE SPAN, 66.83' PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS.

AREAS OF "PREPARATION DECKS TYPE I" SHALL BE DEFINED BY A SAWCUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".


THE ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICON CAULK, $\frac{3}{16}$ " AND $\frac{1}{4}$ " SCREWS, AND CLEANING THE EDGE OF DECK PRIOR TO ATTACHMENT OF THE FLASHING.

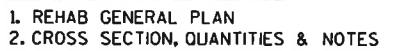
F.F. - FRONT FACE B.F. - BACK FACE



DESIGN CONTACT:
JOSHUA SWENO
(608) 355-8852

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

| | | | |
|--|-----------------------|-----------------------------------|----------------------|
| NO. | DATE | REVISION | BY |
|  MSA ENGINEERING ARCHITECTURE SURVEYING FUNDING PLANNING ENVIRONMENTAL 1230 SOUTH BLVD., BARABOO WI 53913 (608) 256-2771 www.msa-ps.com <small>© MSA Professional Services, Inc.</small> | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED <i>William C. Decker</i> ^{SDR} 05/07/19 CHIEF STRUCTURES DESIGN ENGINEER DATE | | | |
| STRUCTURE B-63-14 | | | |
| USH 45/STH 32 OVER WISCONSIN RIVER | | | |
| COUNTY VILAS | | TOWN/CITY/VILLAGE LAND O'LAKES | |
| DESIGN SPEC. <u>REHABILITATION - N/A</u> | | | |
| DESIGNED BY DHW | DESIGN CK'D. JRS | DRAWN BY RLR | PLANS CK'D. JRS |
| REHAB GENERAL PLAN | | SHEET 1 OF 1 | |



FILE= 93417-B-63-17-01.DCN
DATE= 4/5/2019

ESTIMATED QUANTITIES

ALL ITEMS ARE CATEGORY 0070

| ITEM NUMBER | BID ITEM | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|---------------|--|------|---------------|---------------|-------|-------|
| * 509.0301 | PREPARATION DECKS TYPE 1 | SY | - | - | 64 | 64 |
| * 509.0302 | PREPARATION DECKS TYPE 2 | SY | - | - | 25 | 25 |
| 509.0310.S | SAWING PAVEMENT DECK PREPARATION AREAS | LF | - | - | 640 | 640 |
| * 509.1500 | CONCRETE SURFACE REPAIR | SF | 10 | 10 | - | 20 |
| * 509.2000 | FULL-DEPTH DECK REPAIR | SY | - | - | 3 | 3 |
| 509.2100.S | CONCRETE MASONRY DECK REPAIR | CY | - | - | 6 | 6 |
| 509.5100.S | POLYMER OVERLAY | SY | - | - | 1274 | 1274 |
| 509.9015.S.02 | REMOVING POLYMER OVERLAY B-63-17 | SY | - | - | 464 | 464 |

- * QUANTITY LISTED IS AN ESTIMATE BASED ON A SITE REVIEW. THE CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER.
- * * CONCRETE SURFACE REPAIR SHALL BE USED FOR NEEDED REPAIRS. LOCATIONS AND LIMITS OF REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

SEE ROAD PLANS FOR TRAFFIC CONTROL.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VERTICAL CLEARANCES TAKEN FROM HSI ON 9/25/2017.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE NOT SHOWN.

IMPROVEMENTS INCLUDE A POLYMER OVERLAY OF THE BRIDGE DECK, DECK REPAIRS, AND ABUTMENT SURFACE REPAIRS.

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-63-17, A THREE SPAN, 261.83' PRESTRESSED CONCRETE GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS AND PILE ENCASED PIERS.

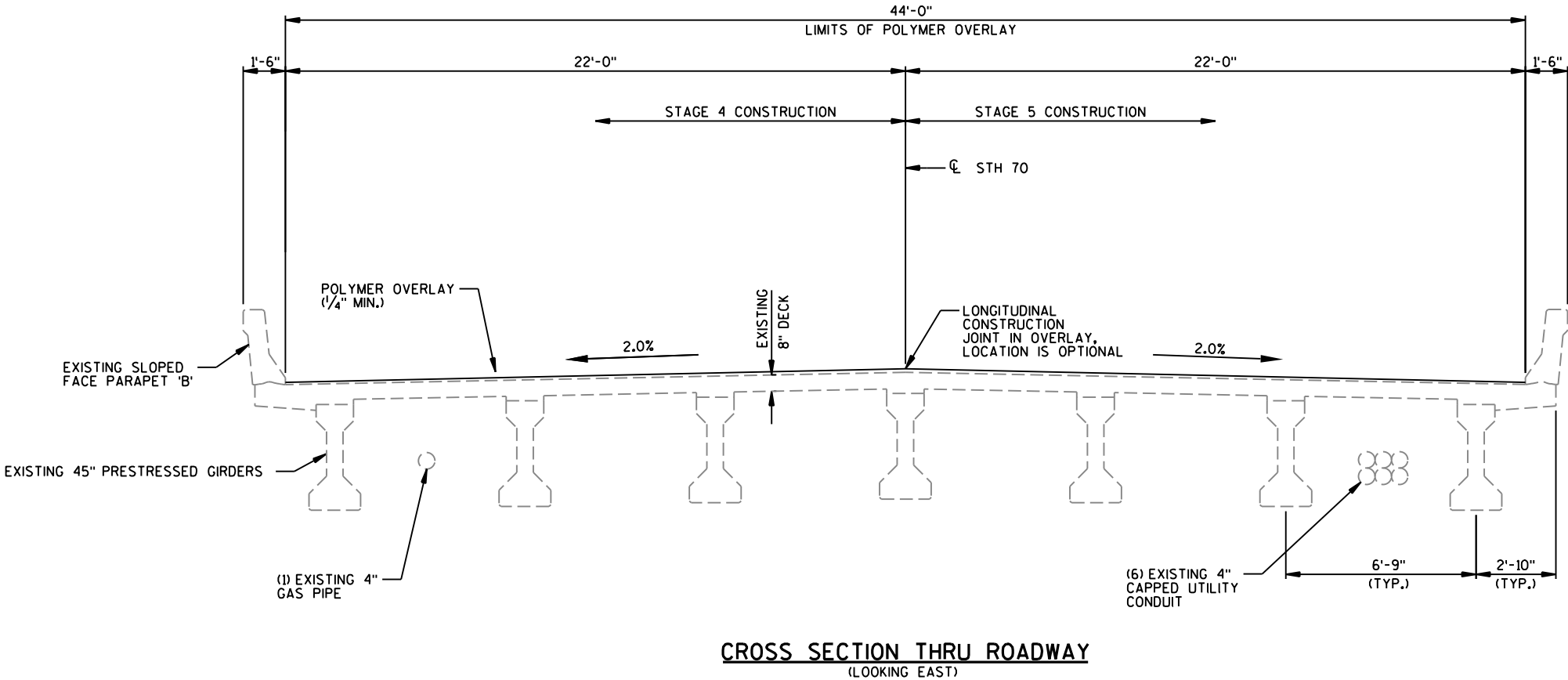
DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAWCUT.

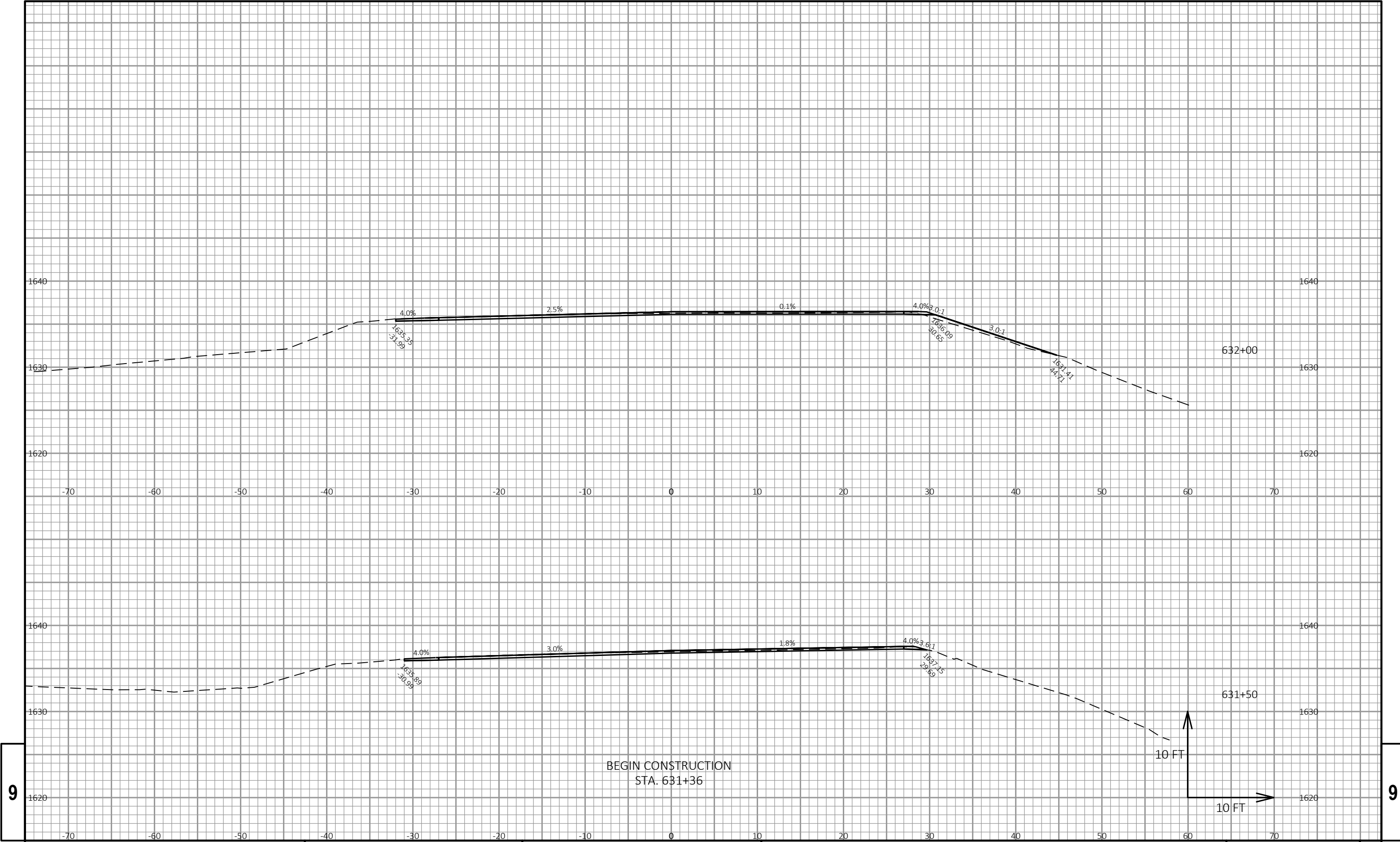
PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

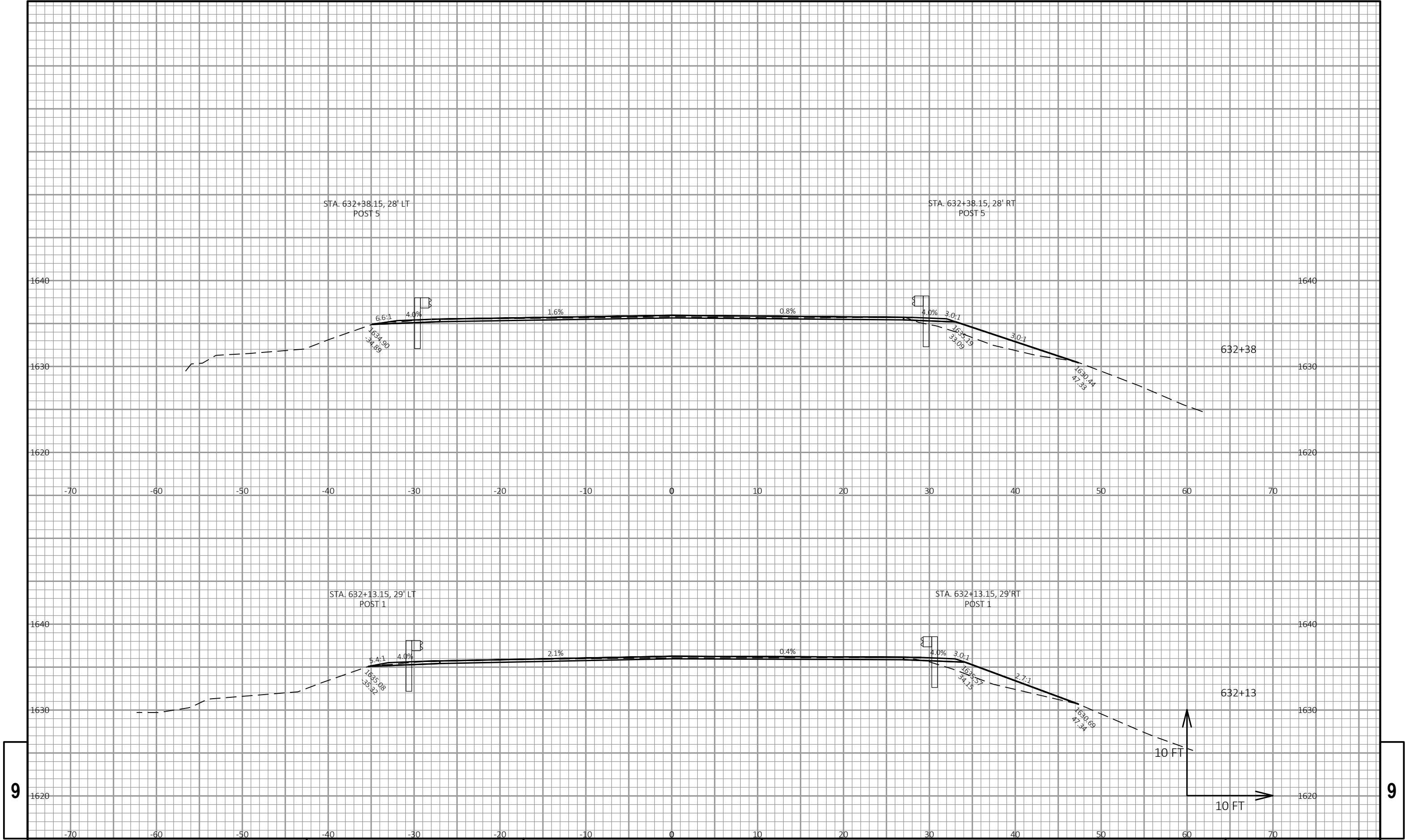
THE EXISTING POLYMER OVERLAY ALONG BOTH SHOULDERS SHALL BE REMOVED FROM THE BRIDGE DECK UNDER THE BID ITEM "REMOVING POLYMER OVERLAY B-63-17".

CONSTRUCT TRANSITIONAL AREA POLYMER OVERLAY ON THE APPROACH PAVEMENT IN ACCORDANCE WITH THE DETAILS PROVIDED IN THE SPECIAL PROVISION "POLYMER OVERLAY" AND THE CONSTRUCTION DETAIL PROVIDED IN THE ROAD PLANS. TRANSITIONAL AREA POLYMER OVERLAY TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "POLYMER OVERLAY".



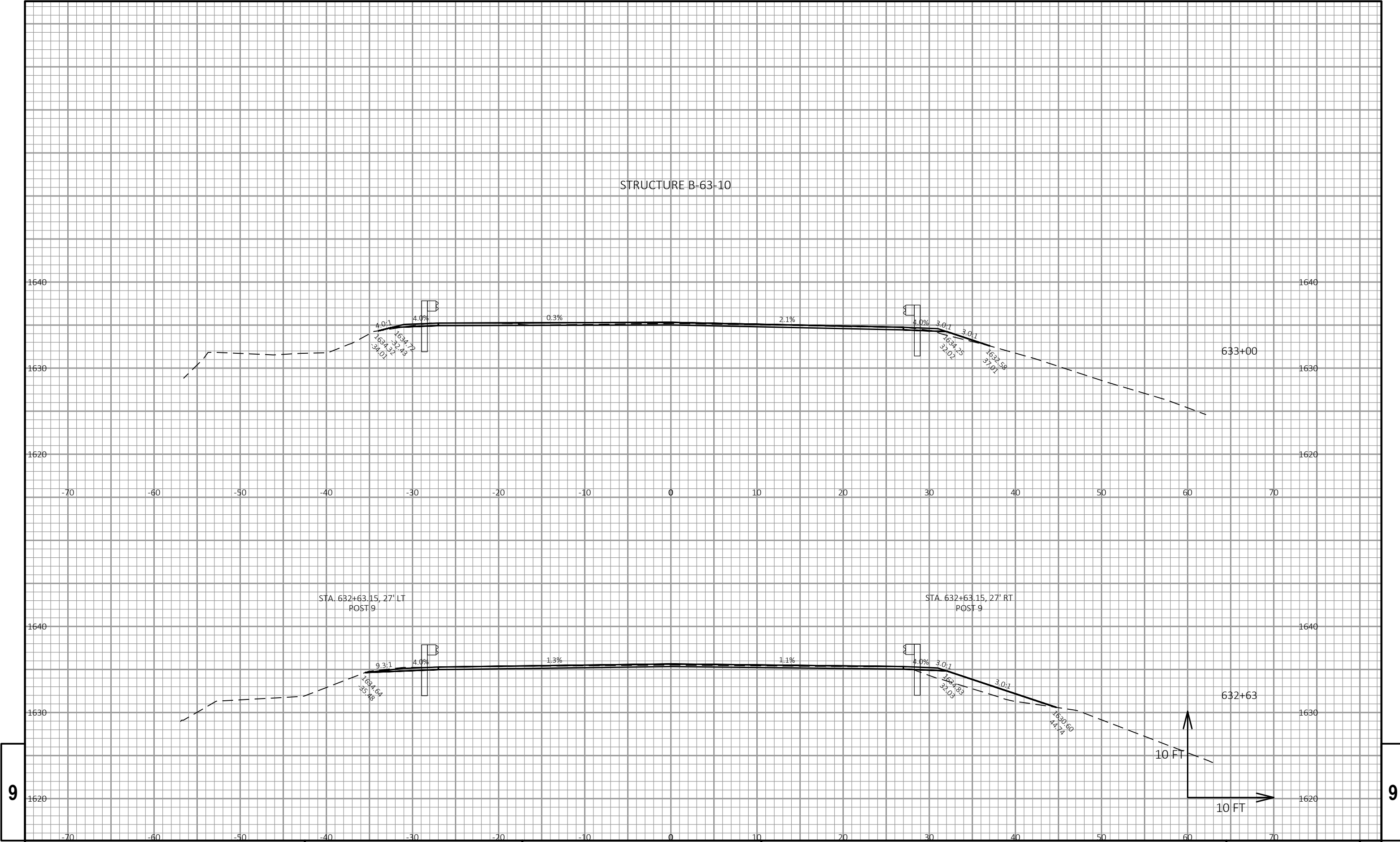
| NO. | DATE | REVISION | BY |
|--|------|-----------------|--------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-63-17 | | | |
| DRAWN BY RLR | | PLANS CK'D. JRS | |
| CROSS SECTION, QUANTITIES & NOTES | | | SHEET 2 OF 2 |





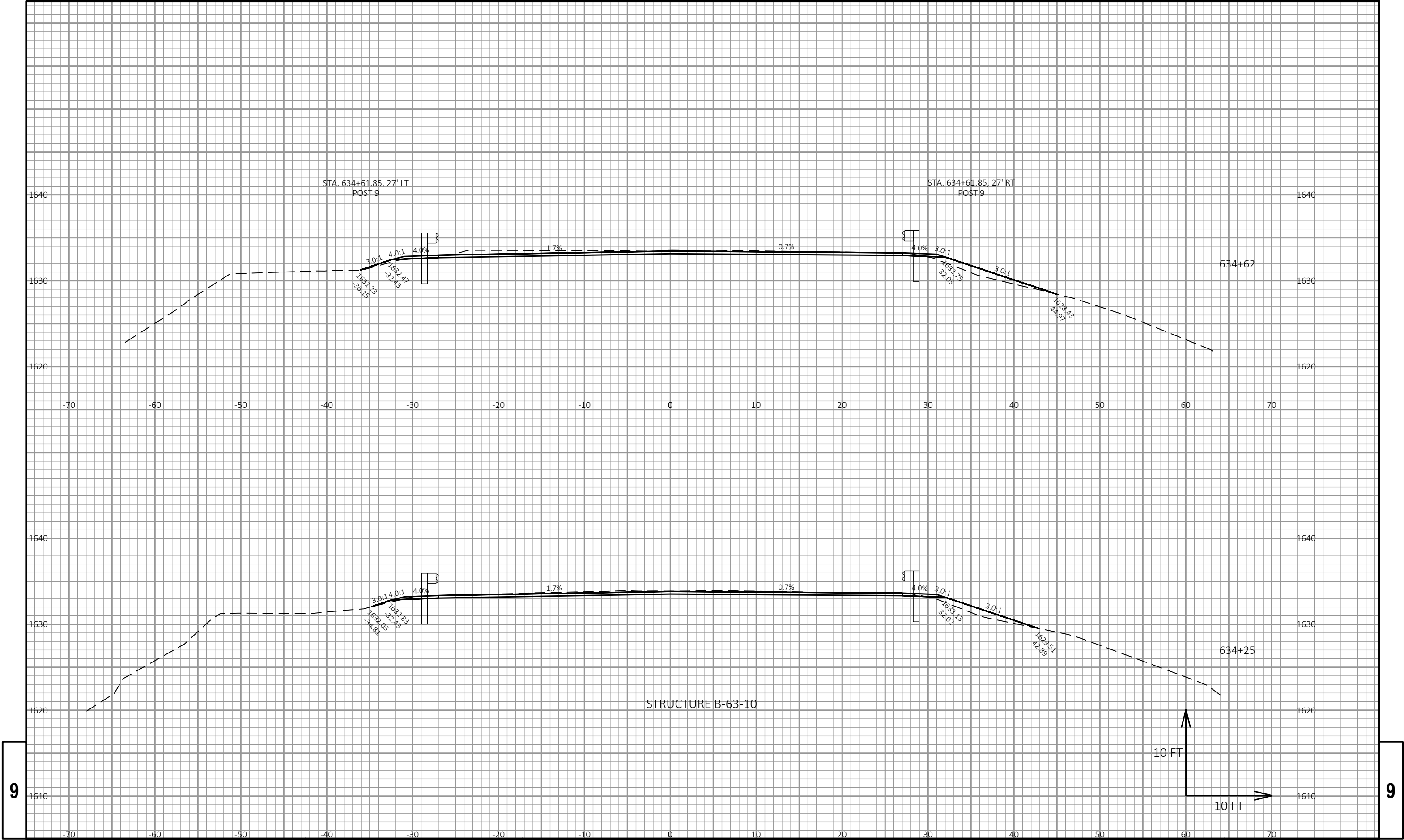
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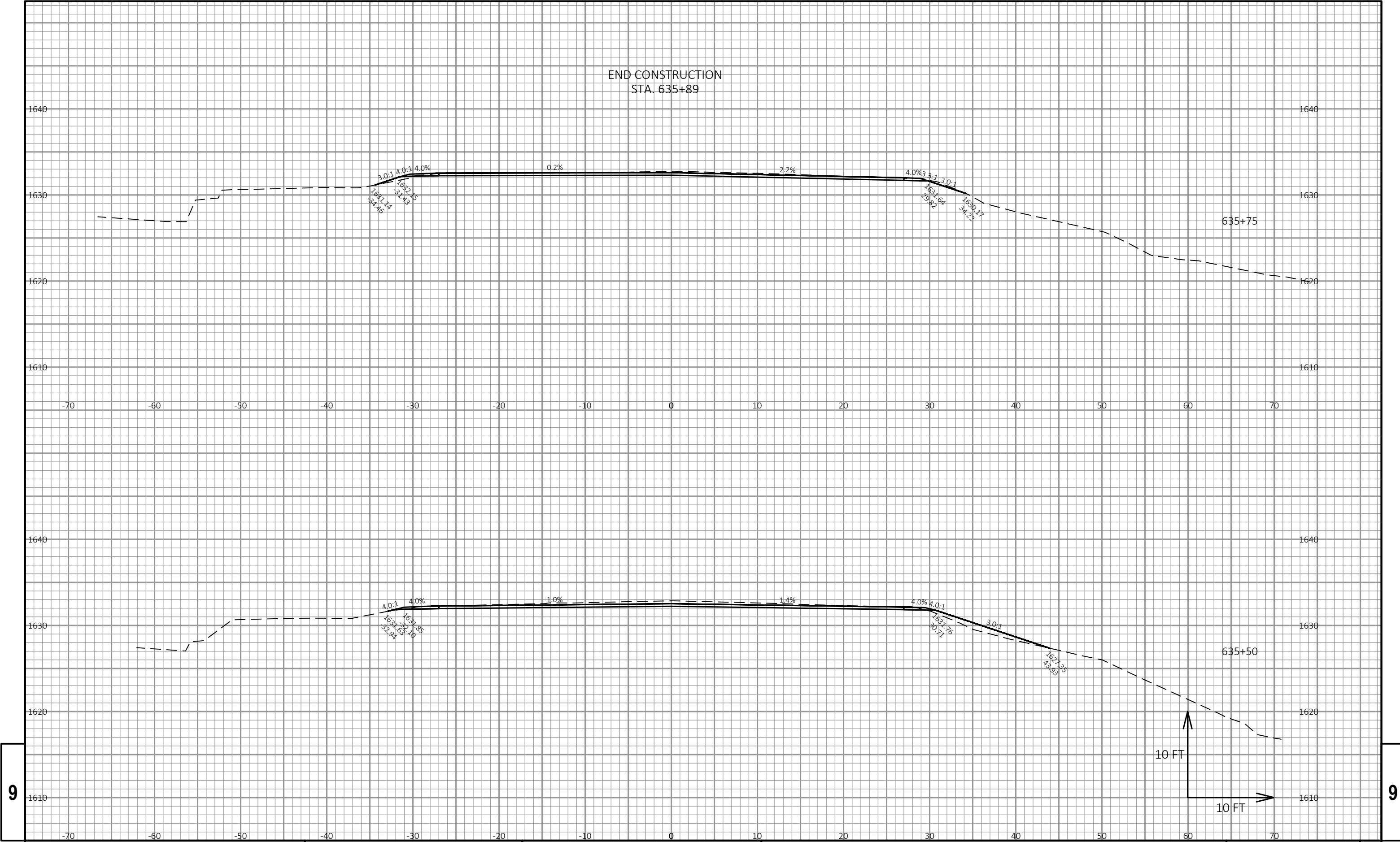
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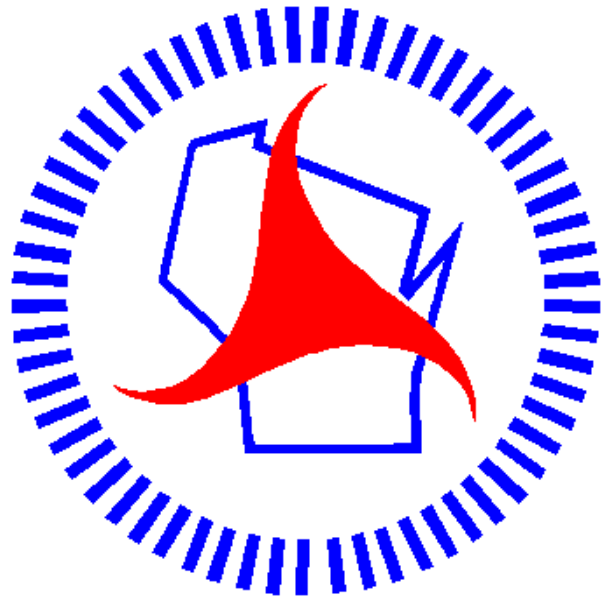
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Notes



Wisconsin Department of Transportation

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through innovation and exceptional service.

<http://www.dot.wisconsin.gov>