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REFERENCE SHEETS

16 SHEETS 1968 CONTRACT DOCUMENTS

FREDERICK COUNTY MARYLAND
DIVISION OF PUBLIC WORKS
OFFICE OF TRANSPORTATION ENGINEERING
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

FREDERICK COUNTY CONTRACT NO. C6017.6017.01

NOTICE TO BIDDERS

THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE STATE HIGHWAY ADMINISTRATION, TITLED "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS", DATED JULY 2024, REVISIONS THERETO, AND THE SPECIAL PROVISIONS.

SEDIMENT AND EROSION CONTROL WILL BE STRICTLY ENFORCED DURING CONSTRUCTION BY ENVIRONMENTAL COMPLIANCE SECTION PHONE No. 301-600-3507.

THE FREDERICK COUNTY DIVISION OF PUBLIC WORKS SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM FREDERICK COUNTY. FAILURE TO ATTACH ALL ADDENDA MAY CAUSE THE BID TO BE NON-RESPONSIVE.

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR THAT THE STANDARD PLATES IN HIS/HER POSSESSION ARE THE LATEST REVISED MDOT SHA STANDARD PLATES AS OF THE DATE OF THE AWARD OF THIS PROJECT.

THE GRADING LIMITS SHOWN ON THE PLANS ARE NOT TO BE EXCEEDED. CHANGES IN THE GRADING, EROSION AND SEDIMENT CONTROL PLAN, OR OTHER SEGMENT OF THE WORK MUST BE REVIEWED AND APPROVED BY THE FREDERICK COUNTY DIVISION OF PUBLIC WORKS.

RIGHT OF WAY LINES ON THESE PLANS DO NOT INCLUDE EASEMENTS. THEY ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL FEE SIMPLE RIGHT OF WAY AND EASEMENT INFORMATION, SEE APPROPRIATE R/W PLATS NUMBERED XXX

MDE PERMIT NO. *

OWNER'S / DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

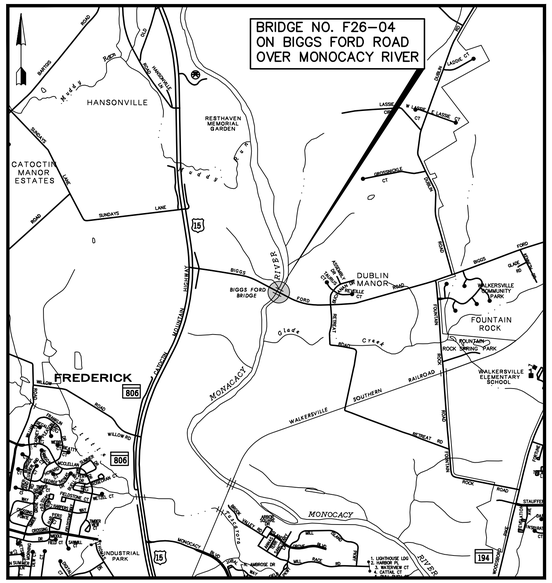
TRACY DIGGS, P. E., ACTING CHIEF DATE

FREDERICK COUNTY OFFICE OF TRANSPORTATION ENGINEERING
355 MONTEVUE LANE, SUITE 200
FREDERICK, MARYLAND 21702
301-600-1959

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01.07 AND 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (LATEST VERSION AND REVISIONS).

SIGNATURE 54350 REG. NO.



LOCATION MAP
SCALE 1" = 2000'

TRAFFIC DATA			
YEAR	ADT	DHT	% TRUCK
2021	4760	-	15%
2041	7075	-	15%

DESIGN DESIGNATION
LENGTH OF PROJECT - 0.18 MILES
HIGHWAY CLASSIFICATION - RURAL MINOR COLLECTOR
POSTED SPEED - 40 M.P.H.

EXISTING UTILITIES
THE TYPE AND LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. CONTACT "MISS UTILITY" AT 1-800-257-7777 A MINIMUM OF 5 DAYS PRIOR TO START OF WORK.

SURVEY INFORMATION*
THE SURVEY CONTROL DEPICTED HEREIN IS TIED TO FREDERICK COUNTY SURVEY CONTROL IN THE NORTH AMERICAN DATUM 83 (1991), AND PROJECTED TO THE MARYLAND COORDINATE SYSTEM (NATIONAL GEODETIC SURVEY STATE PLANE COORDINATE ZONE MD 1900 [IN U.S. SURVEY FEET NOW DEPRECATED]) AND TIED TO THE NORTH AMERICAN VERTCAL DATUM OF 1988 THROUGH TERRESTRIAL AND GNSS OBSERVATIONS MADE IN JANUARY 2023. SEE PLAN SHEET GS-1 FOR ON-SITE CONTROL MARKERS.

THE FOLLOWING STATIONS AND VALUES CONTROL THIS SURVEY:

	NORTH	EAST	ELEV.
OPPOSSUM	661423.0170	1191300.4920	366.800 BRASS DISK
OPPOSUM_AZ	662065.6530	1190706.5260	393.775 BRASS DISK

*FOR ADDITIONAL SURVEY INFORMATION, SEE SHEET NO. GS-1.

PROJECT DESCRIPTION
THE PROPOSED IMPROVEMENTS CONSIST OF REHABILITATION OF BRIDGE NO. F26-04 INCLUDING MINOR APPROACH WORK.

MONOCACY RIVER, WITHIN THE PROJECT SITE, IS CLASSIFIED AS A USE IV-P WATERWAY. NO IN-STREAM WORK IS PERMITTED BETWEEN MARCH 1ST AND MAY 31ST, INCLUSIVE, DURING ANY YEAR.

THE PROJECT IS WITHIN THE 100 YEAR FLOODPLAIN.

NO WETLANDS HAVE BEEN IDENTIFIED WITHIN THE PROJECT'S LIMIT OF DISTURBANCE.

DISTURBED AREA QUANTITY
THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 0.96 ACRES, AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE LESS THAN 100 CUBIC YARDS OF EXCAVATION AND LESS THAN 100 CUBIC YARDS OF FILL.

NAME LICENSE REG NO. DATE

Frederick Soil Conservation District
Erosion and Sediment Control Plan Approval

By: _____
District Manager or Designee

Date: _____
Plan is valid for 2 years from date of approval

SCD Approval for sediment and erosion control is in accordance with the 2011 Maryland standards and Specifications for Soil Erosion and Sediment Control and is contigent upon issuance of all applicable regulatory permits.

FREDERICK COUNTY DIVISION OF PUBLIC WORKS

DIRECTOR DATE

FREDERICK COUNTY OFFICE OF TRANSPORTATION ENGINEERING

CHIEF DATE

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

TT-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF HIGHWAYS AND TRANSPORTATION
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

TITLE SHEET

DATE: JULY 2024 SCALE: 1"=2000'

CONTRACT NO: C6017.6017.01 DWG. 1 OF 77

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07-30-24 MBB

SUPPLEMENT TO CONVENTIONAL SIGNS

EXISTING CONSTRUCTION

PROPERTY LINE OR RIGHT OF WAY LINE

EDGE OF ROADWAY PAVING

CURB OR CURB AND GUTTER

EXISTING GROUND CONTOURS (5')

EXISTING GROUND CONTOURS (1')

GRADING BREAKLINE

EDGE OF WOODED AREAS

EDGE OF STREAM

TREE (FREE STANDING)

WETLAND LIMITS

WETLAND BUFFER (25')

WATERS OF THE U.S. (WUS)

STREAM THALWEG

STREAM EDGE

SIGN

LIGHT POLE

UTILITY POLE

TRAFFIC BARRIER W-BEAM

STORM DRAIN (> 12")

STORM DRAIN (< 12")

SANITARY

WATER

GAS

ELECTRIC (UNDERGROUND)

ELECTRIC (OVERHEAD)

TELEPHONE (UNDERGROUND)

TELEPHONE (OVERHEAD)

METAL FENCE

WOOD FENCE

PROPOSED CONSTRUCTION

℄ CONSTRUCTION

TRAVERSE POINT

BENCH MARK LOCATIONS

RIGHT OF WAY LINE

FULL DEPTH ASPHALT PAVEMENT

FINE-MILLING AND RESURFACING

WEDGE /LEVEL AND RESURFACING

TRAFFIC BARRIER W-BEAM

REMOVAL OF ITEM INDICATED (PIPE, INLET, ETC.)

ABANDONMENT OF ITEM INDICATED (PIPE, INLET, ETC.)

EXISTING UTILITY TO BE ADJUSTED

EXISTING UTILITY TO BE RELOCATED

GRADING ELEVATION CONTOURS (5')

GRADING ELEVATION CONTOURS (1')

DITCHES (SDD, S.DIT.,OD,ID & SPEC. SDD)

STORM DRAINS

CONCRETE SIDEWALK / SIDEWALK RAMP

LIMIT OF CUT

LIMIT OF FILL

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATES HIGHWAY AND TRANSPORTATION OFFICIALS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
℄	BASELINE
℄ SURVEY	BASE LINE OF SURVEY
℄ CONSTR.	BASE LINE OF CONSTRUCTION
BA	BELL ATLANTIC
B.C.	BOTTOM CURB
BD	BERM DITCH
BM	BENCH MARK
℄	CENTERLINE
CMPA	CORRUGATED METAL PIPE ARCH (ALUM.)
CO	CURB OPENING
CONC	CONCRETE
C&G	COMBINATION CONCRETE CURB AND GUTTER
CG	CONCRETE GUTTER
CAB TV	CABLE T.V. (TELE-COMMUNICATIONS INC.)
CIP	CAST IRON PIPE
Ø	DIAMETER
E-OH	OVERHEAD ELECTRIC LINE
E	UNDERGROUND ELECTRIC LINE
EBR	EAST BOUND ROADWAY
EMH	ELECTRIC MANHOLE
EL.	ELEVATION
ELEV.	ELEVATION
ES	PIPE CULVERT END SECTION
EX	EXISTING
EXP.	EXPANSION
FH	FIRE HYDRANT
FIX.	FIXED
G	GAS LINE
GV	GAS VALVE
GB	GAS HANDBOX
GM	GAS METER
HW	HEADWALL
HB	HAND BOX
HR	HANDICAP RAMP
HSD	HEADLIGHT SIGHT DISTANCE
H/C	UTILITY HOUSE CONNECTION
HP	HIGH POINT
INV	INVERT
ID	INLET DITCH
LP	LIGHT POLE / LOW POINT
L / W	LIMIT OF WORK
SHA	MARYLAND STATE HIGHWAY ADMINISTRATION
MH	MANHOLE
MAX.	MAXIMUM
MIN.	MINIMUM
NBR	NORTHBOUND ROADWAY
NO.	NUMBER
OD	OUTLET DITCH
PROP	PROPOSED
PC	POINT OF CURVATURE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVATURE
ℙ	PROPERTY LINE
PGL	PROFILE GRADE LINE
PℊL	PROFILE OF GROUND LINE
P℟	POINT OF ROTATION
PℊE	POINT OF APPLICATION OF PROFILE GRADE ELEVATION
P℄	POINT OF CROWN
PD	PERIMETER DIKE
POT	POINT ON TANGENT
POL	POINT ON LINE
RCCP	REINFORCED CEMENT CONCRETE PIPE
R-1	REMOVE EXISTING ITEM AS INDICATED ON PLANS
Rel	EXISTING UTILITY TO BE RELOCATED BY OTHERS
R / W	RIGHT OF WAY LINE
SD	STORM DRAIN
SAN	SANITARY SEWER LINE
SMH	SANITARY MANHOLE
SDMH	STORM DRAIN MANHOLE
SD	SIDE DITCH
SDD	SURFACE DRAIN DITCH
SW	SIDEWALK
SE	SUPERELEVATION RATE
SSD	STOPPING SIGHT DISTANCE
SSM	SOIL STABILIZATION MATTING
SBR	SOUTHBOUND ROADWAY
STA	STATION
STY	STORY
TB	TRAFFIC BARRIER
TBW	TRAFFIC BARRIER W BEAM
T	TELEPHONE
T.C.	TOP CURB
TMH	TELEPHONE MANHOLE
T / OH	TELEPHONE LINE/OVERHEAD
TCP	TERRA COTTA PIPE
TYP.	TYPICAL
UD	LONGITUDINAL UNDERDRAIN
UDO	LONGITUDINAL UNDERDRAIN OUTLET
VD	VERTICAL DEPTH
W	WATER LINE
WBR	WEST BOUND ROADWAY
WV	WATER VALVE
WMH	WATER VALVE MANHOLE
WM	WATER METER
(A)	ABANDON EXISTING STORM DRAIN
(R)	REMOVE EXISTING ITEM

EXPLANATORY NOTES AND REFERENCES

VERTICAL CONTROL

THE LOCATION AND ELEVATION OF BENCH MARKS ARE SHOWN ON PLANS. ALL ELEVATIONS SHOWN ARE BASED ON NAVD 88.

HORIZONTAL CONTROL

THE PROJECT IS ORIENTED TO CONFORM TO NAD 83(1991).

STANDARD PLATES

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR THAT THE STANDARD PLATES IN THEIR POSSESSION ARE THE LATEST REVISED SHA STANDARD PLATES AS OF THE DATE OF AWARD OF THIS PROJECT.

DRAINAGE STRUCTURE STAKEOUT LOCATIONS

MANHOLE

GRATE OR COMBINATION ROADWAY INLET

FLOWLINE

CURB OR BARRIER

COS/COG INLET

GUTTER

FLOWLINE

CURB

END SECTION

JUNCTION BOX OR MEDIAN INLET

SHALLOW COG/ COG SCUPPER

GUTTER

FLOWLINE

CURB

X DENOTES LOCATION OF STATION AND OFFSET POINT FOR INLETS AND OTHER STRUCTURES.

AB-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

CONVENTIONAL SIGNS, ABBREVIATIONS AND NOTES

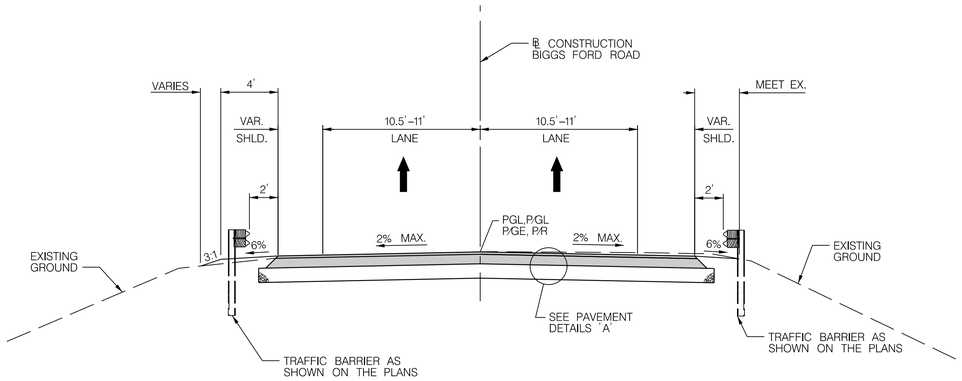
DATE: JULY 2024 SCALE: NONE

CONTRACT NO. C6017.6017.01 DWG. 2 OF 77

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

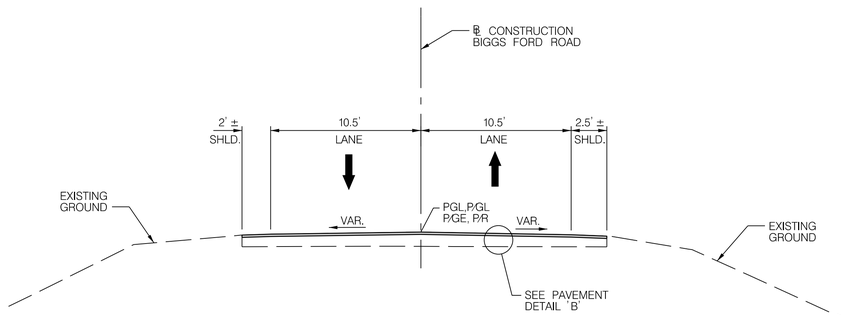
BY: JCW -
PLOTTED: 7/17/2024
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BIGGS FORD ROAD

STA. 23+00 TO STA. 23+50
STA. 28+50 TO STA. 29+00
SCALE: 1" = 5'

FOR STATIONS 23+50 TO 28+50 SEE BRIDGE PLANS



BIGGS FORD ROAD

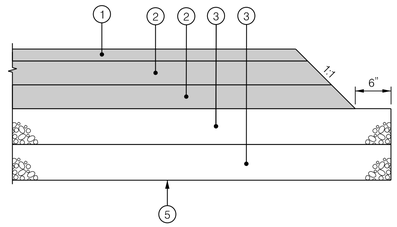
STA. 21+00 TO STA. 23+50
STA. 29+00 TO STA. 30+50
SCALE: 1" = 5'

PAVEMENT LEGEND

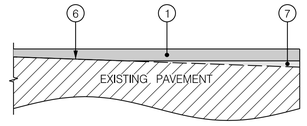
(1)	1"–2"	SUPERPAVE ASPHALT MIX 12.5 MM FOR SURFACE, PG 64S–22, LEVEL 2
(2)	4"	SUPERPAVE ASPHALT MIX 19.0 MM FOR BASE, PG 64S–22, LEVEL 2
(3)	6"	GRADED AGGREGATE BASE COURSE
(4)	4"	GRADED AGGREGATE BASE COURSE
(5)		TOP OF SUBGRADE AND LIMIT OF EXCAVATION
(6)		TOP OF EXISTING PAVEMENT AFTER 1" TO 2" VARIABLE DEPTH FINE MILLING
(7)		VARIABLE DEPTH SUPERPAVE ASPHALT MIX 9.5 MM FOR WEDGE /LEVEL, PG 64S–22, LEVEL–2 (MIN. 1" AND MAX. 2" LIFTS)
(8)		SAWCUT EXISTING PAVEMENT

NOTES:

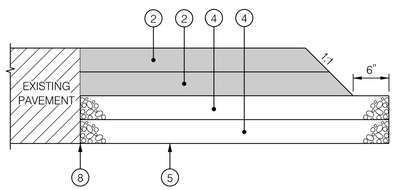
1. ALL FULL–DEPTH SAW CUTS FOR TEMPORARY PAVEMENT INSTALLATION AND REMOVAL SHALL BE INCIDENTAL TO OTHER PAVEMENT ITEMS.
2. UPON REMOVAL OF TEMPORAY PAVEMENT THE CONTRACTOR SHALL BACKFILL THE LOCATION TO MEET THE APROXIMENT ORIGINAL GRADE, FINISHING THE SURFACE WITH 4" OF TOPSOIL AND ESTABLISH TURF GRASS.



PAVEMENT DETAIL 'A'
NEW PAVEMENT SECTION
OPEN SECTION



PAVEMENT DETAIL 'B'
RESURFACING SECTION



PAVEMENT DETAIL 'C'
TEMP. PAVEMENT SECTION
OPEN SECTION
*NOTE 2 & 3

TS-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ROADWAY TYPICAL SECTIONS & DETAILS

DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 3 OF 77

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STR\C600-299.06 - Biggs Ford Rd\C600\Master\Station\pHT-X001_BIGGSFORD.dgn

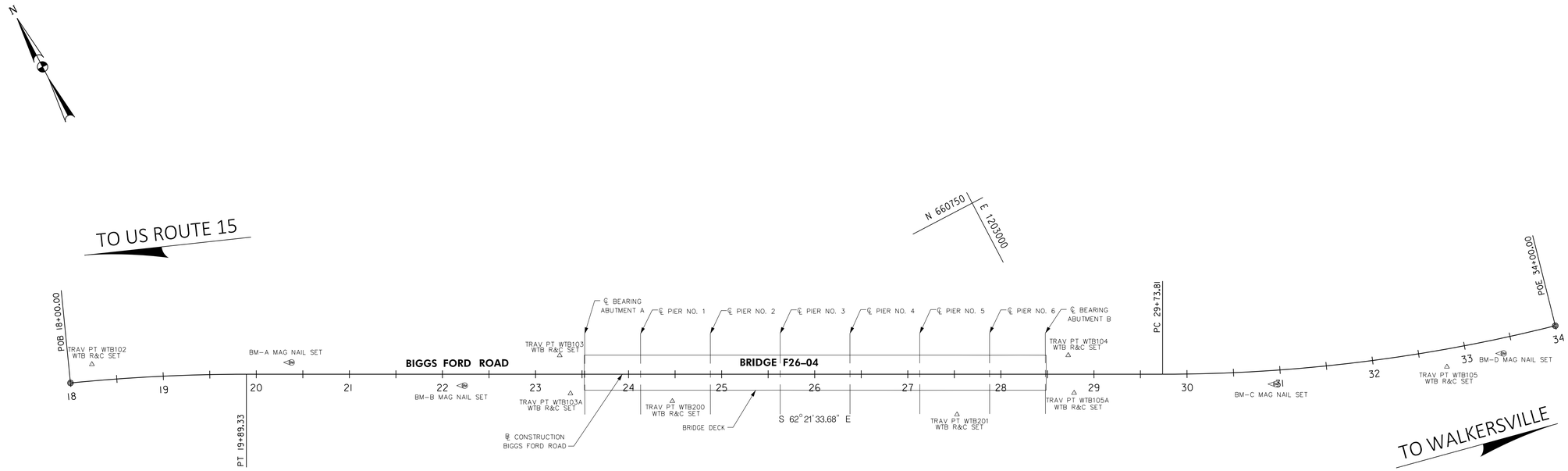
BENCHMARKS

BM A – MAG NAIL SET
ELEV. 291.288
N 660941.6090
E 1202265.2100

BM B – MAG NAIL SET
ELEV. 289.764
N 660833.2930
E 1202418.4100

BM C – MAG NAIL SET
ELEV. 287.725
N 660430.3130
E 1203191.4380

BM D – MAG NAIL SET
ELEV. 286.907
N 660346.0210
E 1203423.3780



GEOMETRIC LAYOUT – PLAN

SCALE: 1" = 60'

BASELINE OF CONSTRUCTION BIGGS FORD ROAD				
CURVE NO.	ALIGNMENT	NORTH	EAST	BEARING
1	PC	661028.3730	1202052.0714	
	PI	660992.9422	1202139.9390	
	CC	659257.0923	1201337.8376	
	PT	660948.9890	1202223.8686	S 62°21'33.68'' E
2	PC	660492.2661	1203095.9915	
	PI	660392.9053	1203285.7233	
	CC	662029.8047	1203901.1866	
	PT	660342.6484	1203493.9179	S 76°25'43.65'' E

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
WTB 102	661035.4550	1202081.7770	291.6970'
WTB 103	660810.6680	1202531.4660	288.0950'
WTB 103A	660769.1060	1202522.7460	287.5960'
WTB 104	660557.3840	1203015.6040	286.9190'
WTB 105	660357.5820	1203370.2970	286.3832'
WTB 105A	660518.5810	1203002.4210	286.9850'
WTB 200	660711.0430	1202615.8660	265.7040'
WTB 201	660556.3840	1202880.1770	266.9540'

CURVE DATA							
CURVE	PC STA.	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
1	18+00.00	5°40'47.52''	3°00'00.00''	1909.8600'	94.7421'	189.3290'	2.3485'
2	29+73.81	14°04'09.97''	3°18'04.24''	1735.6164'	214.1745'	426.1944'	13.1646'

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

GS-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

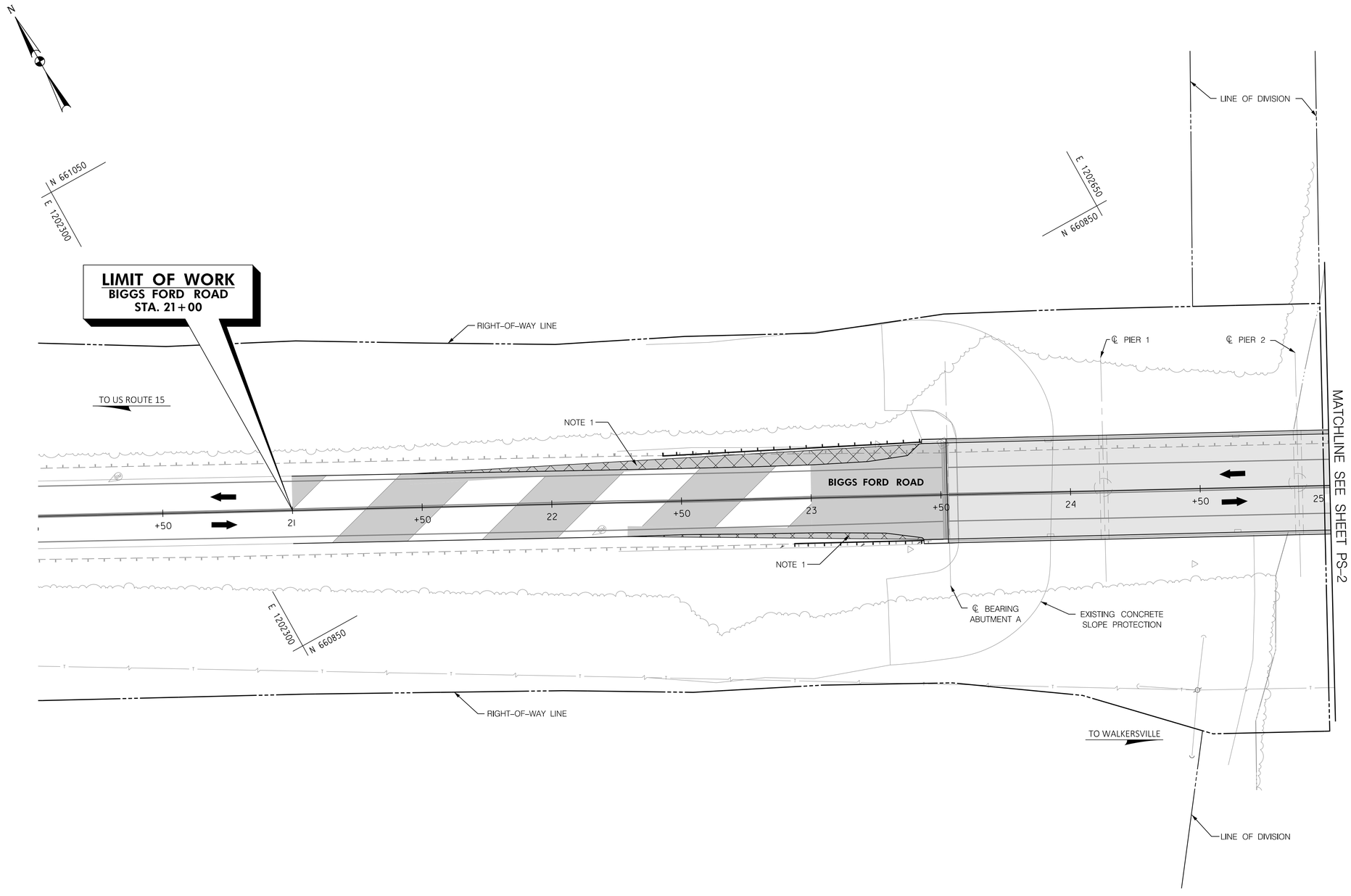
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

GEOMETRY SHEET

DATE: JULY 2024 SCALE: 1"=60'

CONTRACT NO. C6017.6017.01 DWG. 4 OF 77

BY: JCW -
PLOTTED: 7/17/2024
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NOTE:

1. TEMPORARY PAVEMENT INSTALLED FOR MAINTANCE OF TRAFFIC SHALL USE PAVEMENT DETAIL 'C' AND SHALL BE REMOVED AT THE END OF THE PROJECT.

2. THIS AREA IS A KNOWN ARCHEOLOGICAL SENSITIVE AREA. THEREFORE, NO STOCKPILE AND/OR STAGING IS ALLOWED OUTSIDE THE DESIGNATED LOD BOUNDARY OR ALONGSIDE THE ACCESS ROAD. ANY FINES OR PROJECT DELAYS THAT RESULT FROM WORK BEING PREFORMED OUTSIDE THE LOD OR ACCESS ROAD WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. SEE THE EROSION AND SEDIMENT CONTROL PLANS FOR LOD AND ACCESS ROAD BOUNDARIES.

LEGEND

- PROPOSED FULL DEPTH CONSTRUCTION
- PROPOSED FINE MILLING AND RESURFACING
- PROPOSED CONCRETE DECK RESURFACING
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

QUANTITY NOTES

PS-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

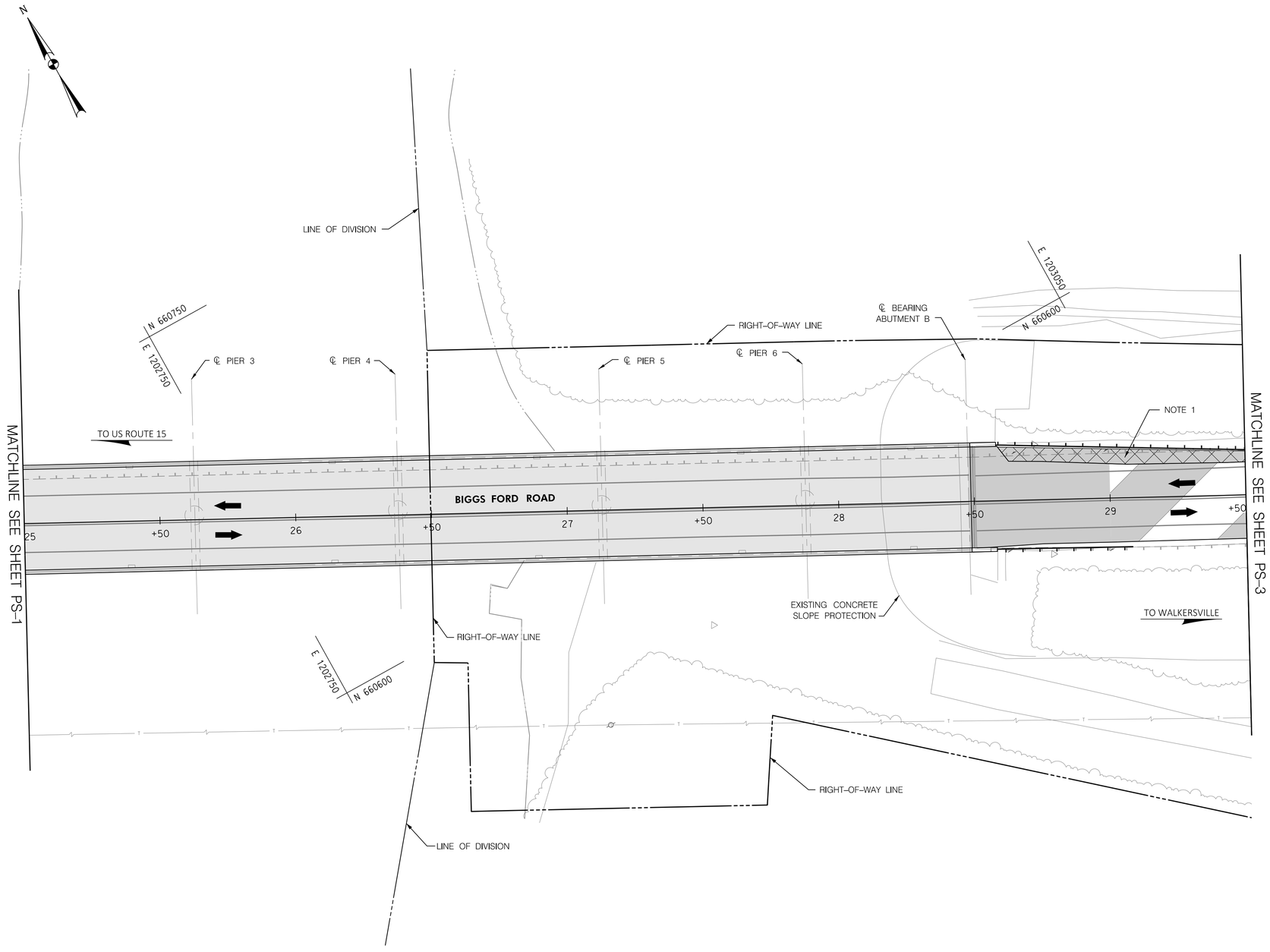
REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER

ROADWAY PLAN
STA. 20+00 TO STA. 25+00

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 5 OF 77

BY: JCW -
PLOTTED: 7/17/2024
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QUANTITY NOTES

PS-2

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
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FREDERICK COUNTY, MARYLAND

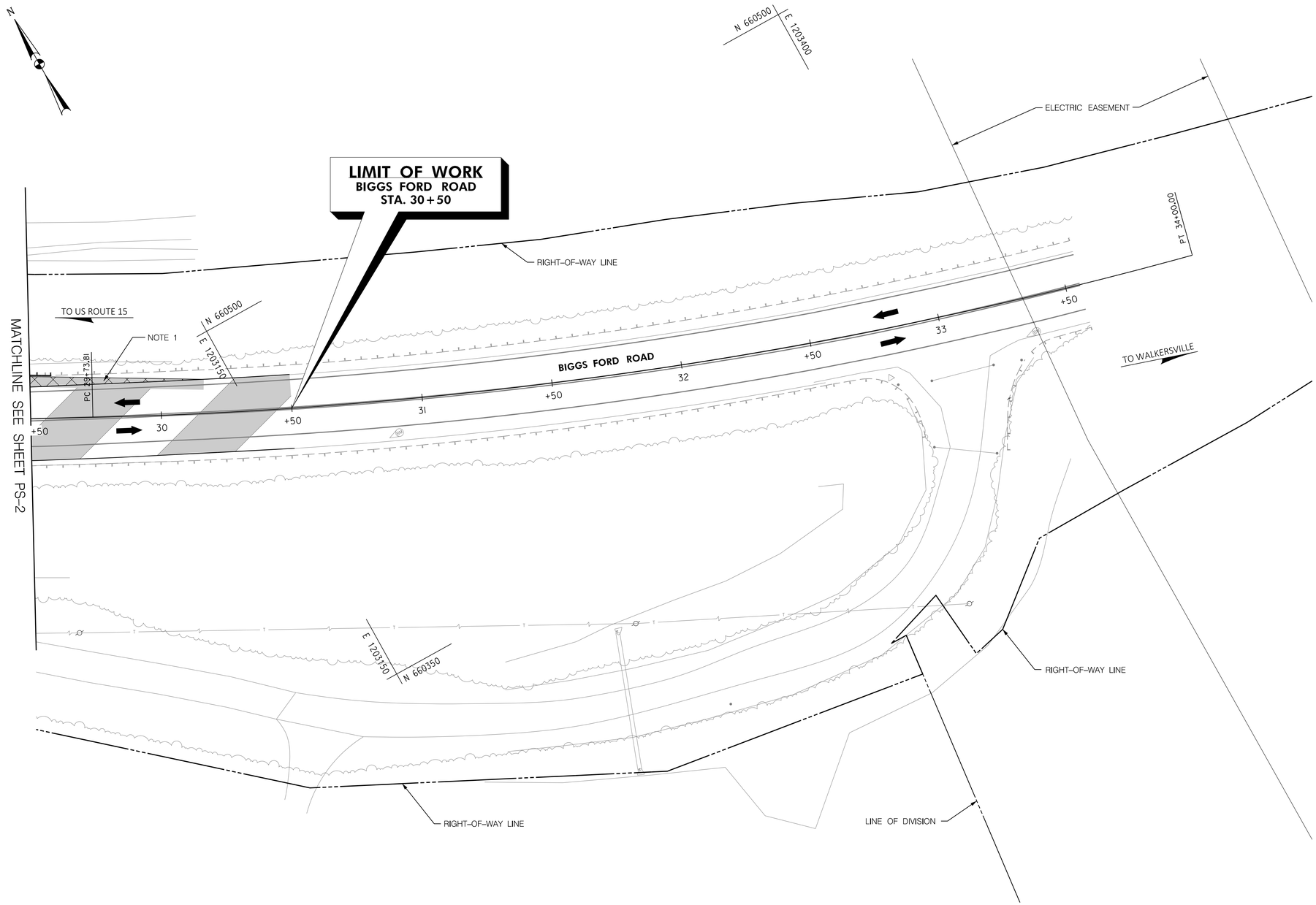
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ROADWAY PLAN STA. 25+00 TO STA. 29+50

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 6 OF 77

BY: JCW -
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LEGEND

- PROPOSED FULL DEPTH CONSTRUCTION
- PROPOSED FINE MILLING AND RESURFACING
- PROPOSED CONCRETE DECK RESURFACING
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

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QUANTITY NOTES

PS-3

FREDERICK COUNTY, MARYLAND
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DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
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FREDERICK COUNTY, MARYLAND

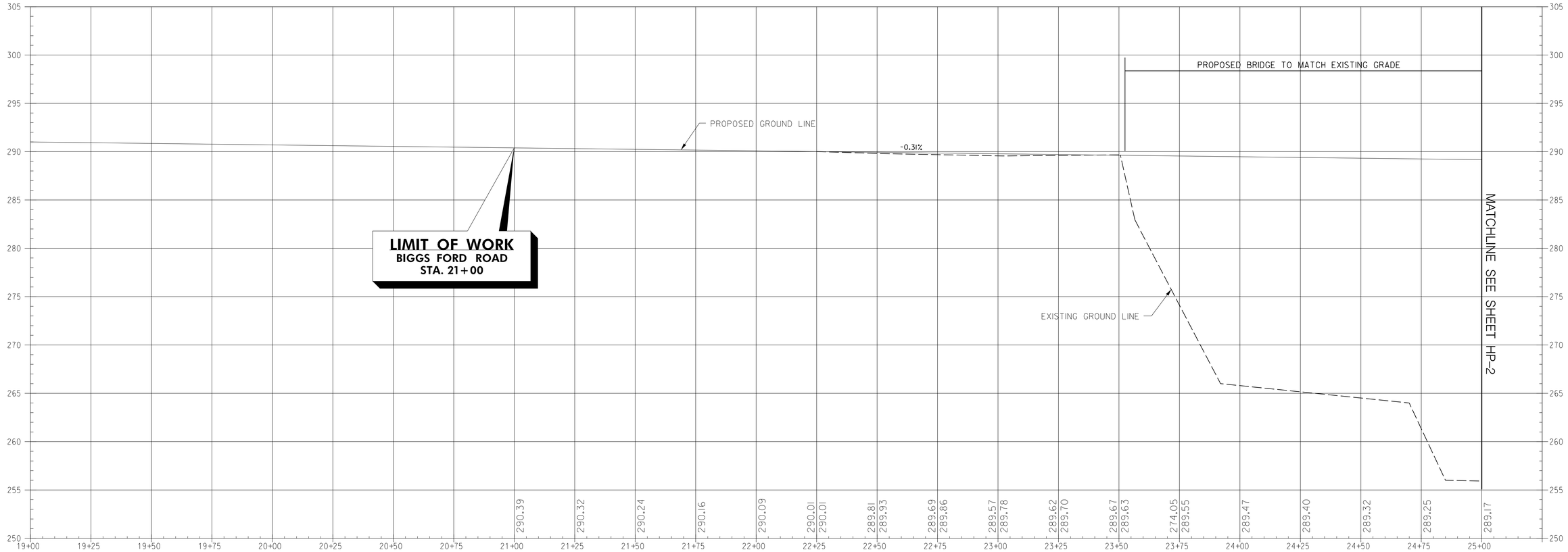
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ROADWAY PLAN STA. 29+50 TO STA. 33+50

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 7 OF 77

BY: JCW -
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BIGGS FORD ROAD PROFILE

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

NOTE:
1. THE PROPOSED GROUND LINE AND ELEVATIONS ARE FOR REFFERANCE ONLY. IT WAS DETERMINED A TANGENT OF –0.31% WAS BEST FIT FOR THE EXISTING PROFILE. ALL GRADES AND ELEVATIONS SHALL BE IN RELATION TO THE ULTIMATE DECK SURFACE.

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HP-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

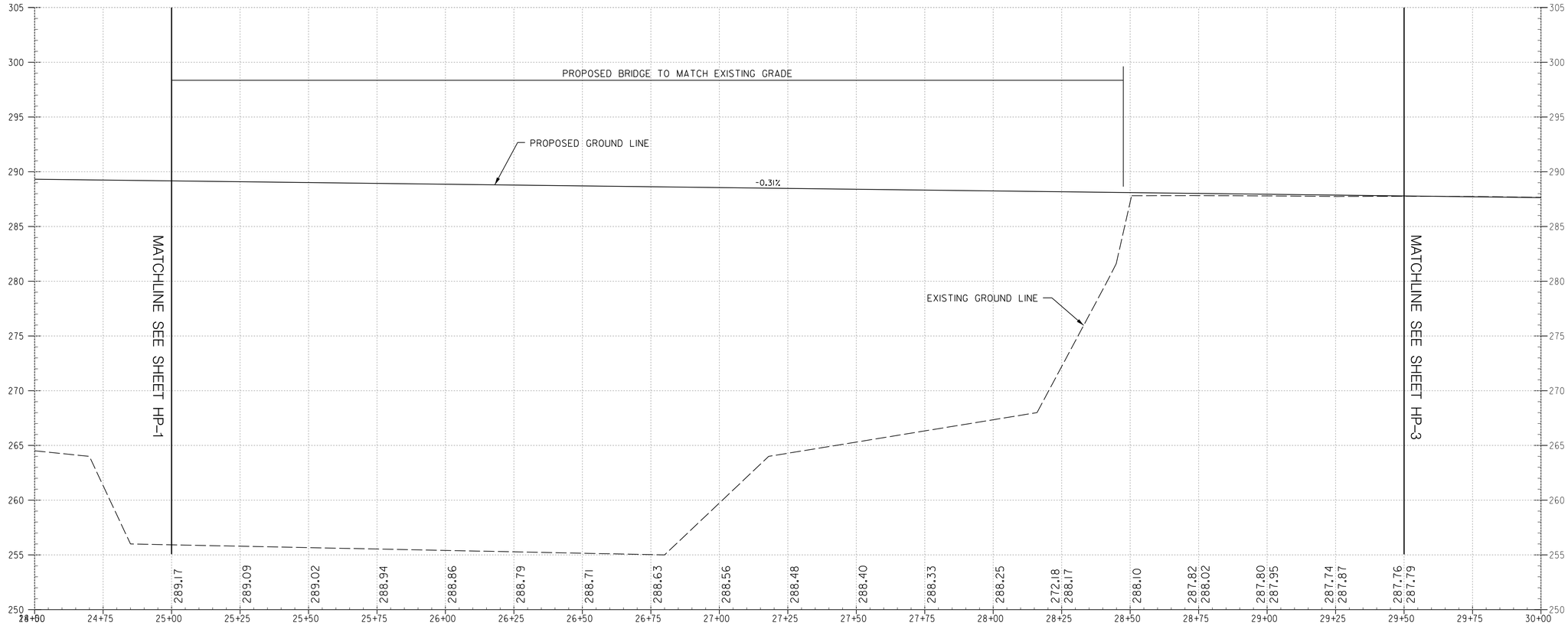
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ROADWAY PROFILE

DATE: JULY 2024 SCALE: H: 1"=20' V: 1"=5'

CONTRACT NO. C6017.6017.01 DWG. 8 OF 77

BY: JCW -
PLOTTED: 7/17/2024
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BIGGS FORD ROAD PROFILE

SCALE: HORIZONTAL: 1" = 20'
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HP-2

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ROADWAY PROFILE

DATE: JULY 2024 SCALE: H: 1"=20' V: 1"=5'

CONTRACT NO. C6017.6017.01 DWG. 9 OF 77

BY: JCW -
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BIGGS FORD ROAD PROFILE

SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

NOTE:
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THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

HP-3

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER

ROADWAY PROFILE

DATE: JULY 2024 SCALE: H: 1"=20' V: 1"=5'

CONTRACT NO. C6017.6017.01 DWG. 10 OF 77

BY: JCW -
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MAINTENANCE OF TRAFFIC GENERAL NOTES

I. GENERAL REQUIREMENTS

A PRIME REQUIREMENT OF THIS CONTRACT IS THAT TWO (2) WAY TRAFFIC BE MAINTAINED AT ALL TIMES ON BIGGS FORD ROAD IN AN ORDERLY, EXPEDITIOUS AND SAFE MANNER.

UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE NUMBER OF LANES OF TRAFFIC SHOWN ON THE MAINTENANCE OF TRAFFIC PLAN SHALL BE MAINTAINED AT ALL TIMES.

THE SEQUENCE OF OPERATIONS FOR EACH OF THE VARIOUS CONSTRUCTION STAGES THEREUNDER REFERS SPECIFICALLY TO THE CRITICAL ITEMS OF WORK WHICH MUST BE COMPLETED DURING THAT CONSTRUCTION STAGE BEFORE THE NEXT SEQUENCE OF THE STAGE OF WORK MAY BE COMMENCED. THE LISTED ITEMS UNDER EACH STAGE ARE A SUGGESTED SEQUENCE OF WORK TO BE FOLLOWED TO PROVIDE FOR ORDERLY COMPLETION OF WORK. THE MANY OTHER ITEMS OF WORK WHICH ARE NOT LISTED AND WHICH MAY BE PERFORMED DURING ANY OF THE STAGES WITHOUT INTERRUPTING TRAFFIC OR AFFECTING THE CONSTRUCTION SCHEDULING AND DO NOT CONTROL THE OVERALL SCHEDULE FOR COMPLETING THE PROJECT ARE NOT LISTED.

A ROAD CLOSURE OF ANY DURATION SHALL REQUIRE THE SUBMITTAL OF A WRITTEN REQUEST TO FREDERICK COUNTY AND/OR MDOT SHA DISTRICT 7 WITH THE JUSTIFICATION AS TO WHY WORK ACTIVITY CANNOT OCCUR WHILE TRAFFIC IS BEING MAINTAINED. ANY ROAD CLOSURES SHALL REQUIRE ADDITIONAL TRAFFIC CONTROLS INCLUDING ADVANCE NOTIFICATION, APPROACH, AND DETOUR SIGNAGE.

NO WORK ON HOLIDAYS UNLESS WRITTEN EXCEPTION IS GRANTED BY FREDERICK COUNTY.

NO CONSTRUCTION ACTIVITY, LOADING OR UNLOADING OF EQUIPMENT SHALL BLOCK ANY TRAFFIC LANE OTHER THAN THOSE DELINEATED WITHIN THE WORK ZONE.

EXCLUSIVE OF EMERGENCY WORK, THE CONTRACTOR SHALL CONTACT OCCUPANTS OF ALL PROPERTIES ADJACENT TO THE CONSTRUCTION SITE AND INFORM THEM OF THE SCOPE AND THE TIMING OF CONSTRUCTION A MINIMUM OF 24 HOURS PRIOR TO THE COMMENCEMENT OF ANY ACTIVITY ON THE SITE.

ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS /BUSINESSES UNLESS PERMISSION FOR CLOSURE IS GRANTED BY THE PROPERTY OWNER/MANAGER. HOWEVER, ACCESSIBILITY FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

PAVEMENT EXCAVATION SHALL BE LIMITED TO A MAXIMUM OF ONE TRAVEL LANE AT ANY TIME UNLESS OTHERWISE SPECIFIED ON THE MAINTENANCE OF TRAFFIC PLAN.

NO HAZARDOUS MATERIALS SHALL BE STORED WITHIN PUBLIC RIGHT-OF-WAY.

NO MATERIALS OR EQUIPMENT SHALL BE STORED ON THE ROADWAY SURFACE OR SIDEWALK DURING NON-WORK PERIODS. ALL STORED MATERIALS AND EQUIPMENT SHALL BE KEPT OUT OF THE ROADWAY CLEAR ZONE AND WITHIN PUBLIC RIGHT-OF-WAY OR EASEMENTS.

ANY EXCAVATION(S) IN THE ROADWAY SHALL BE PAVED TO LEVEL GRADE OR PLATED AND THE ROADWAY REOPENED TO ITS FULL CROSS-SECTION PRIOR TO THE END OF EACH WORK DAY. W8-24 "STEEL PLATE AHEAD" SIGNS SHALL BE INSTALLED APPROXIMATELY 250 FEET IN ADVANCE OF ANY STEEL PLATES. PLATES SHALL BE SECURED WITH STAKES OR SPIKES.

TRAFFIC SHALL NOT BE PERMITTED WITHIN TEN (10) FEET OF ANY EXCAVATION THAT RESULTS IN A VERTICAL DROP-OFF OF MORE THAN TWO AND A HALF (2.5) INCHES IN THE LEVEL OF PAVEMENT DURING NON-WORKING HOURS UNLESS PROTECTED BY TEMPORARY CONCRETE BARRIERS OR RAMPED WITH AGGREGATE MATERIAL AT A 4:1 OR FLATTER SLOPE FROM THE EDGE OF PAVEMENT. WHEN RAMPING IS UTILIZED, TRAFFIC DRUMS SHALL BE POSITIONED ADJACENT TO THE EDGE OF THE WORK AREA ON THE TRAFFIC SIDE OF THE SLOPE. REFER TO SHA STD. NO. MD 104.06-17 FOR DETAILS.

IN AREAS WHERE A DROP-OFF IN THE LEVEL OF PAVEMENT IS TWO AND A HALF (2.5) INCHES OR LESS, TRAFFIC MAY BE ALLOWED TO FREELY CROSS UNDER THE FOLLOWING CONDITIONS:

A) WHERE LONGITUDINAL PAVING JOINTS OF TWO AND A HALF (2.5) INCHES OR LESS ARE EXPOSED TO TRAFFIC, REFER TO SHA STD. NO. 104.06-15 AND 104.06-16.

B) WHERE LATERAL PAVING JOINTS OF TWO AND A HALF (2.5) INCHES OR LESS ARE EXPOSED TO TRAFFIC, A W8-1 "BUMP" SIGN SHALL BE INSTALLED 100 FEET IN ADVANCE OF THE JOINT.

TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE FLUORESCENT ORANGE, HIGH PERFORMANCE WIDE ANGLE RETROREFLECTIVE SHEETING.

BARRIER WALL DELINEATION SHALL BE IN ACCORDANCE WITH SHA STD. NO. 104.01-25.

ALL EXISTING TRAFFIC CONTROL DEVICES THAT MUST BE REMOVED SHALL BE REPLACED IN THEIR PROPER LOCATION PRIOR TO THE COMPLETION OF THE PROJECT. COST FOR THE REPLACEMENT AND/OR REPAIR OF DEVICES DAMAGED AS A RESULT OF THE PROJECT SHALL BE ASSESSED TO THE CONTRACTOR.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE MDOT SHA STANDARD SIGN BOOK, AND NCHRP REPORT 350.

THE IMPLEMENTATION DATE AND CONTINUANCE OF THIS PROJECT MAY BE ALTERED AT THE DISCRETION OF FREDERICK COUNTY IN THE EVENT OF CONFLICTS WITH PREVIOUSLY APPROVED OR EMERGENCY ACTIVITIES.

AT THE COMPLETION OF THE PERMITTED WORK ACTIVITY, CONDITIONS WITHIN THE PUBLIC SPACE SHALL BE FULLY RESTORED TO THOSE WHICH EXISTED PRIOR TO THE WORK ACTIVITY.

II. SPECIFIC MAINTENANCE OF TRAFFIC REQUIREMENTS

A. LANE AND SHOULDER CLOSURES

TRAVEL LANES SHALL NOT BE REDUCED TO LESS THAN THE FOLLOWING WIDTHS:

a. BIGGS FORD ROAD: 10 FEET

TEMPORARY LANE OR SHOULDER CLOSURES ARE PERMITTED DURING THE FOLLOWING HOURS OR AS APPROVED BY THE ENGINEER:

a. BIGGS FORD ROAD: 9:00 P.M. TO 5:00 A.M. M-F; 9:00 A.M. TO 3:00 P.M. M-F

B. TRAFFIC CONTROL DEVICES

SIGNAGE, TRAFFIC DRUMS, TRAFFIC CONES, AND ARROW PANELS SHALL BE PLACED IN ACCORDANCE WITH THE APPROPRIATE TYPICAL SPACING CHART AND AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS.

ALL SIGNS, TRAFFIC DRUMS AND CONES SHALL BE FULLY REFLECTORIZED WITH HIGH INTENSITY, REFLECTIVE SHEETING.

ALL WARNING SIGNS, UNLESS OTHERWISE SPECIFIED, SHALL BE A MINIMUM OF 36" X 36", BLACK SYMBOL OR LEGEND ON ORANGE BACKGROUND AND DIAMOND SHAPED.

FLASHING ARROW PANELS SHALL BE USED AT THE BEGINNING OF ANY LANE CLOSURE ON A MULTI-LANE ROADWAY. IN ADDITION, ARROW PANELS SHALL BE DIMMED BY 50% AT NIGHT.

A PORTABLE VARIABLE MESSAGE SIGN SHALL BE USED TO ANNOUNCE CHANGES IN THE TRAFFIC PATTERN. MESSAGES WILL BE PROVIDED BY FREDERICK COUNTY.

WORK AREA AHEAD SIGNS MUST BE INSTALLED AT THE END OF EACH WORK DAY WHEN TEMPORARY AGGREGATE RAMPING IS IMPLEMENTED. ALL WARNING SIGNS NOT APPLICABLE TO THE ACTUAL SITUATION SHALL BE REMOVED OR COVERED DURING NON-APPLICABLE PERIODS.

REFLECTORIZED TRAFFIC DRUMS THAT ARE A MINIMUM OF THIRTY SIX (36) INCHES IN HEIGHT SHALL BE USED TO DELINEATE THE WORK ZONE. THESE CHANNELIZING DEVICES SHALL BE PLACED IN ACCORDANCE WITH THE TYPICALS AND SPACING CHART AS SHOWN ON DRAWING. ADDITIONALLY, CHANNELIZING DEVICES SHALL BE PLACED ALONG EXCAVATIONS AT TEN (10) FOOT INTERVALS.

CONTRACTOR SHALL EXCAVATE ONLY AS MUCH AS IS TO BE COMPLETED IN A DAY. IN CASE ANY EXCAVATED AREA IS LEFT OVERNIGHT, TEMPORARY CONCRETE BARRIERS SHALL BE PLACED SURROUNDING THAT AREA.

ALL PORTABLE SIGNS SHALL BE MOUNTED A MINIMUM OF ONE (1) FOOT ABOVE THE LEVEL OF THE ROADWAY, WITH HIGHER MOUNTING HEIGHTS DESIRABLE.

WHEN PAVEMENT MARKINGS HAVE BEEN OBLITERATED BY THE WORK ACTIVITY, THE PERMITTEE SHALL INSTALL ANY CRITICAL INTERIM PAVEMENT MARKINGS PRIOR TO THE END OF THE WORK DAY AS SPECIFIED BY THE ENGINEER.

REMOVAL OF EXISTING PAVEMENT MARKINGS:

A) ON ROAD SECTIONS THAT ARE NOT SCHEDULED TO BE RESURFACED, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVABLE DETOUR GRADE MARKING TAPE. ANY CONFLICTING MARKINGS WHICH NEED TO BE TEMPORARILY REMOVED ARE TO BE FULLY MASKED USING BLACK REMOVABLE DETOUR GRADE MARKING TAPE. ANY MARKINGS WHICH NEED TO BE PERMANENTLY REMOVED ARE TO BE REMOVED BY WATERBLASTING.

B) ON ROAD SECTIONS THAT ARE TO BE OVERLAID, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE WATERBORNE PAINT. ANY CONFLICTING MARKINGS ARE TO BE REMOVED BY GRINDING OR WATERBLASTING.

SEQUENCE OF CONSTRUCTION

INITIAL STAGE:

1. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-02) OR FLAGGING OPERATION (AS PER MD STD. 104.02-10) INSTALL THE STABILZED CONSTRUCTION ENTRANCE ALONG THE SOUTH SIDE OF BIGGS FORD ROAD.
2. DURING OFF-PEAK HOURS, UNDER A FLAGGING OPERATION (AS PER MD STD. 104.02-10) INSTALL TEMPORARY ASPHALT ALONG THE SOUTH SIDE OF BIGGS FORD ROAD IN PREPARATION FOR STAGE 1 MOT.

STAGE 1:

1. INSTALL ALL ADVANCE WARNING SIGNS AND PVMS ON BIGGS FORD ROAD FOR STAGE 1.
2. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-02), A LANE SHIFT (AS PER MD STD. 104.02-04), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-10), ALONG BIGGS FORD ROAD, INSTALL TEMPORARY PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY CONCRETE BARRIER, AS SHOWN ON PLANS. SHIFT TRAFFIC IN BOTH DIRECTIONS TO THE SOUTH SIDE OF THE BRIDGE DECK.
3. ONCE TRAFFIC IS SHIFTED TO THE STAGE 1 ALIGNMENT, PERFORM STAGE 1 BRIDGE REHABILITATION WORK INCLUDING TEMPORARY ASPHALT WIDENING NEEDED FOR STAGE 2.
4. PREPARE NEWLY CONSTRUCTED BRIDGE DECK AND ROADWAY WIDENING FOR STAGE 2.

STAGE 2:

1. RELOCATE ANY ADVANCE WARNING SIGNS AND INSTALL PVMS ON BIGGS FORD ROAD FOR STAGE 2.
2. DURING OFF-PEAK HOURS, UNDER FLAGGING OPERATION (AS PER MD STD. 104.02-10), ALONG BIGGS FORD ROAD, INSTALL TEMPORARY PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY CONCRETE BARRIER, AS SHOWN ON PLANS. SHIFT WESTBOUND TRAFFIC TO THE NORTH SIDE OF THE BRIDGE DECK.
3. ONCE TRAFFIC IS SHIFTED TO THE STAGE 2 ALIGNMENT, PERFORM STAGE 2 BRIDGE REHABILITATION WORK.
4. PREPARE NEWLY CONSTRUCTED BRIDGE DECK FOR STAGE 3.

STAGE 3:

1. RELOCATE ANY ADVANCE WARNING SIGNS AND INSTALL PVMS ON BIGGS FORD ROAD FOR STAGE 3.
2. DURING OFF-PEAK HOURS, UNDER FLAGGING OPERATION (AS PER MD STD. 104.02-10), ALONG BIGGS FORD ROAD, INSTALL STAGE 3 TEMPORARY PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY CONCRETE BARRIER, AS SHOWN ON PLANS. SHIFT EASTBOUND TRAFFIC TO THE NORTH SIDE OF THE BRIDGE DECK.
3. ONCE TRAFFIC IS SHIFTED TO THE STAGE 3 ALIGNMENT, PERFORM STAGE 3 BRIDGE REHABILITATION WORK.
4. DURING OFF-PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02-02), A LANE SHIFT (AS PER MD STD. 104.02-04), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02-10), ALONG BIGGS FORD ROAD, REMOVE ALL TEMPORARY SIGNING, PAVEMENT MARKINGS, CHANNELIZATION DEVICES TEMPORARY CONCRETE BARRIER, AND TEMPORARY ASPHALT. PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS. SHIFT TRAFFIC TO ULTIMATE ALIGNMENT.

MT-1

FREDERICK COUNTY, MARYLAND
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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC GENERAL NOTES AND SEQUENCE OF CONSTRUCTION

DATE: JULY 2024 SCALE: NONE

CONTRACT NO. C6017.6017.01 DWG. 11 OF 77

PROFESSIONAL CERTIFICATION.
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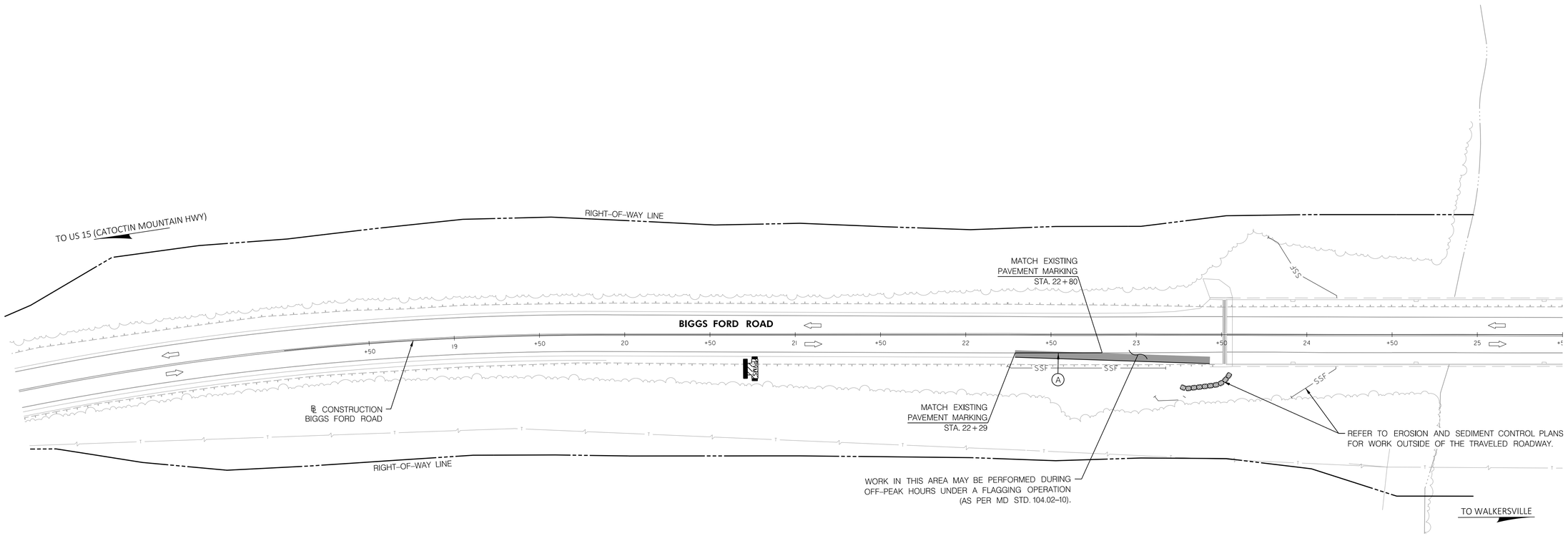
THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

BY: MAM -
PLOTTED: 7/29/2024
FILE: G:\ST\C6017\00-298.06 - Biggs Ford Rd\CADD\MicroStation\MT-N00_BIGGSFORD.dgn

SEQUENCE OF CONSTRUCTION – INITIAL STAGE

1. DURING OFF–PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02–02) OR FLAGGING OPERATION (AS PER MD STD. 104.02–10) INSTALL THE STABILZED CONSTRUCTION ENTRANCE ALONG THE SOUTH SIDE OF BIGGS FORD ROAD.

2. DURING OFF–PEAK HOURS, UNDER A FLAGGING OPERATION (AS PER MD STD. 104.02–10) INSTALL TEMPORARY ASPHALT ALONG THE SOUTH SIDE OF BIGGS FORD ROAD IN PREPARATION FOR STAGE 1 MOT.



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- ROAD WORK — PROPOSED SIGN
- ROAD WORK — EXISTING SIGN TO REMAIN OR TO BE RELOCATED
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (50 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- TEMPORARY SIGN AND POST

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE PAVEMENT MARKING PAINT – SOLID
- (B) 5" YELLOW PAVEMENT MARKING PAINT – SOLID
- (C) 5" DOUBLE YELLOW PAVEMENT MARKING PAINT – SOLID
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

MT-2

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC INITIAL STAGE

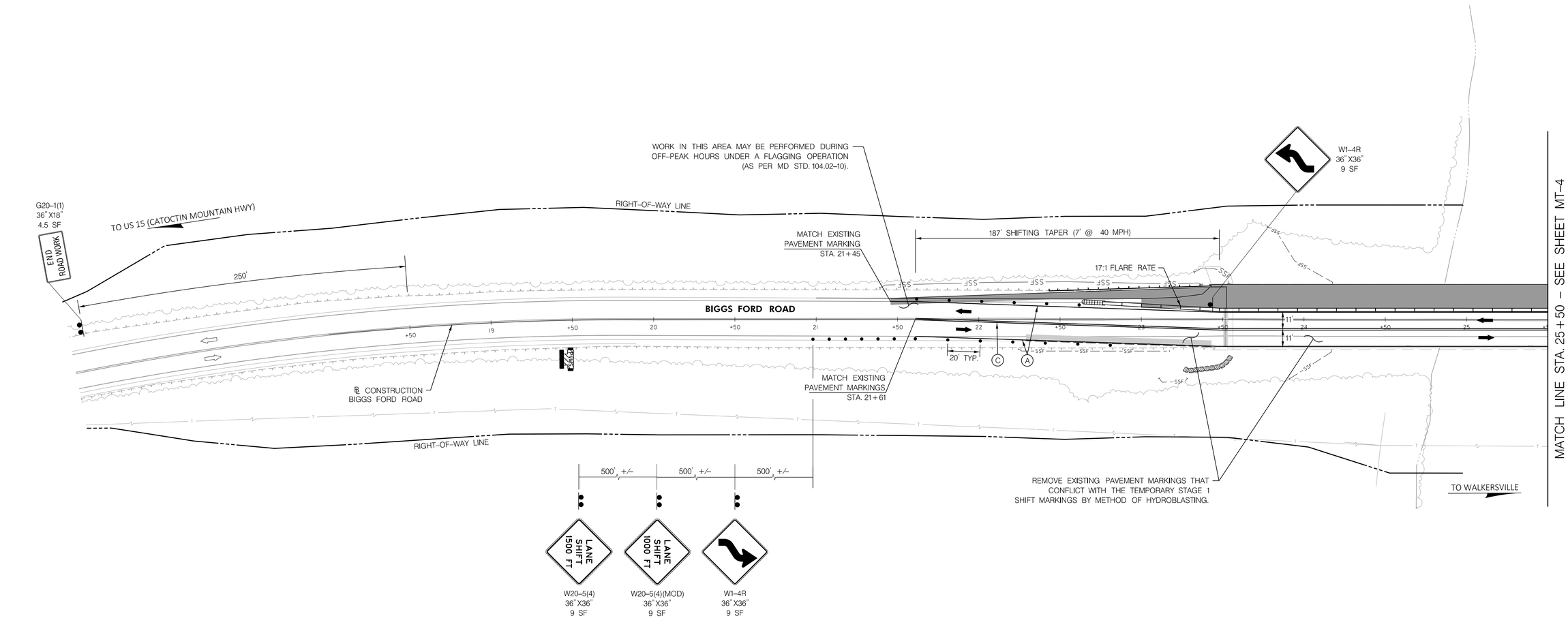
DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 12 OF 77

BY: MAM -
PLOTTED: 7/29/2024
FILENAME: H:\100-299.06 - Biggs Ford Rd\CADD\MicroStation\MT-PNT2_BIGGSFORD.dgn

SEQUENCE OF CONSTRUCTION – STAGE 1

1. INSTALL ALL ADVANCE WARNING SIGNS AND PVMS ON BIGGS FORD ROAD FOR STAGE 1.
2. DURING OFF–PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02–02), A LANE SHIFT (AS PER MD STD. 104.02–04), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02–10), ALONG BIGGS FORD ROAD, INSTALL TEMPORARY PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY CONCRETE BARRIER, AS SHOWN ON PLANS. SHIFT TRAFFIC IN BOTH DIRECTIONS TO THE SOUTH SIDE OF THE BRIDGE DECK.
3. ONCE TRAFFIC IS SHIFTED TO THE STAGE 1 ALIGNMENT, PERFORM STAGE 1 BRIDGE REHABILITATION WORK INCLUDING TEMPORARY ASPHALT WIDENING NEEDED FOR STAGE 2.
4. PREPARE NEWLY CONSTRUCTED BRIDGE DECK AND ROADWAY WIDENING FOR STAGE 2.



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PROPOSED SIGN
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (50 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- TEMPORARY SIGN AND POST

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE PAVEMENT MARKING PAINT – SOLID
- (B) 5" YELLOW PAVEMENT MARKING PAINT – SOLID
- (C) 5" DOUBLE YELLOW PAVEMENT MARKING PAINT – SOLID
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID

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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

MT-3

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

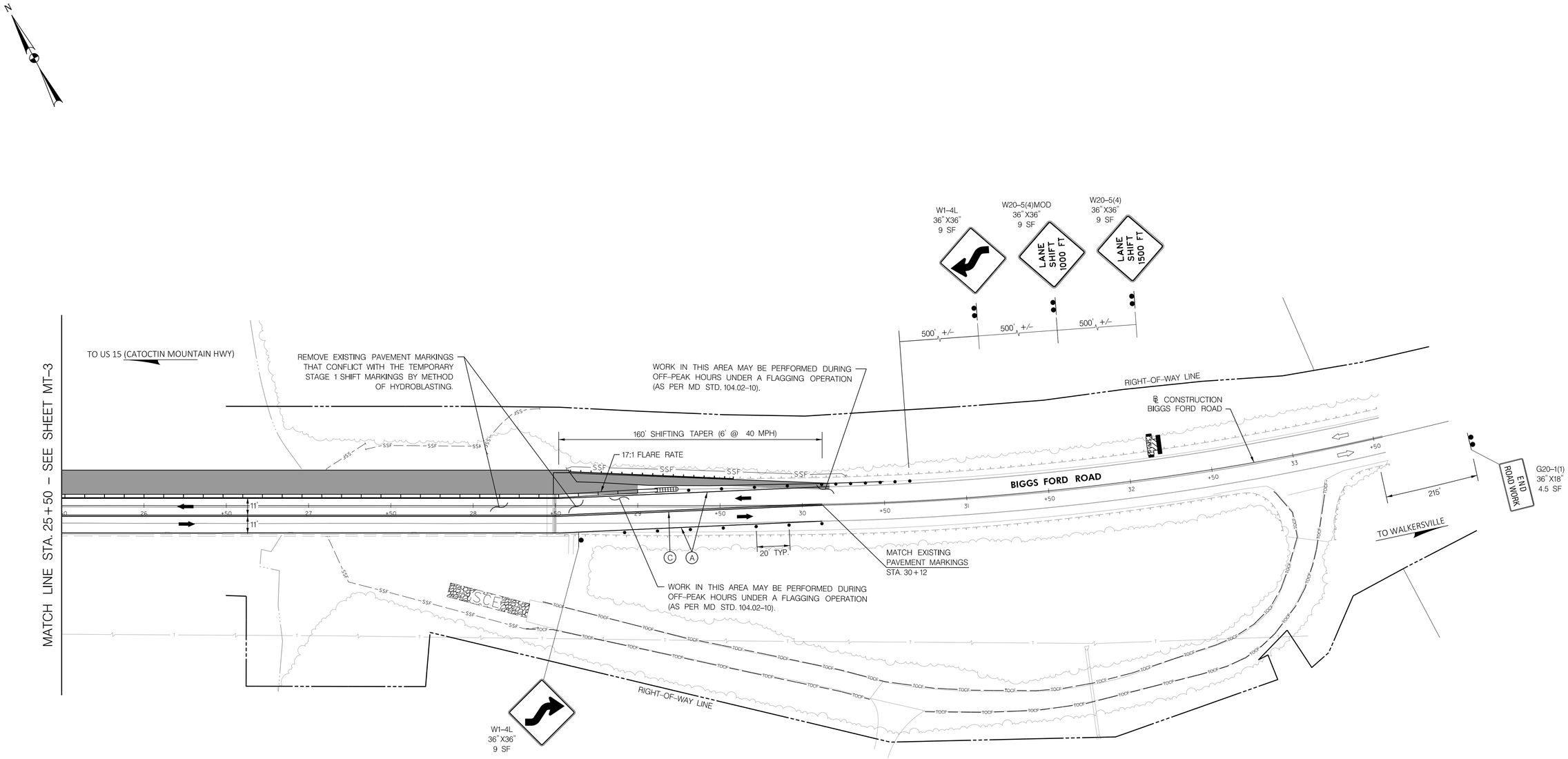
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC STAGE 1

DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 13 OF 77

BY: MMM - PLOTTED: 7/29/2024
FILE: I:\STP-\100-298.06 - Biggs Ford Rd\CADD\Microstation\MT-PH3_BIGGSFORD.dgn



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PROPOSED SIGN
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (50 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- TEMPORARY SIGN AND POST

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE PAVEMENT MARKING PAINT – SOLID
- (B) 5" YELLOW PAVEMENT MARKING PAINT – SOLID
- (C) 5" DOUBLE YELLOW PAVEMENT MARKING PAINT – SOLID
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID

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THE WILSON T. BALLARD CO.
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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC STAGE 1

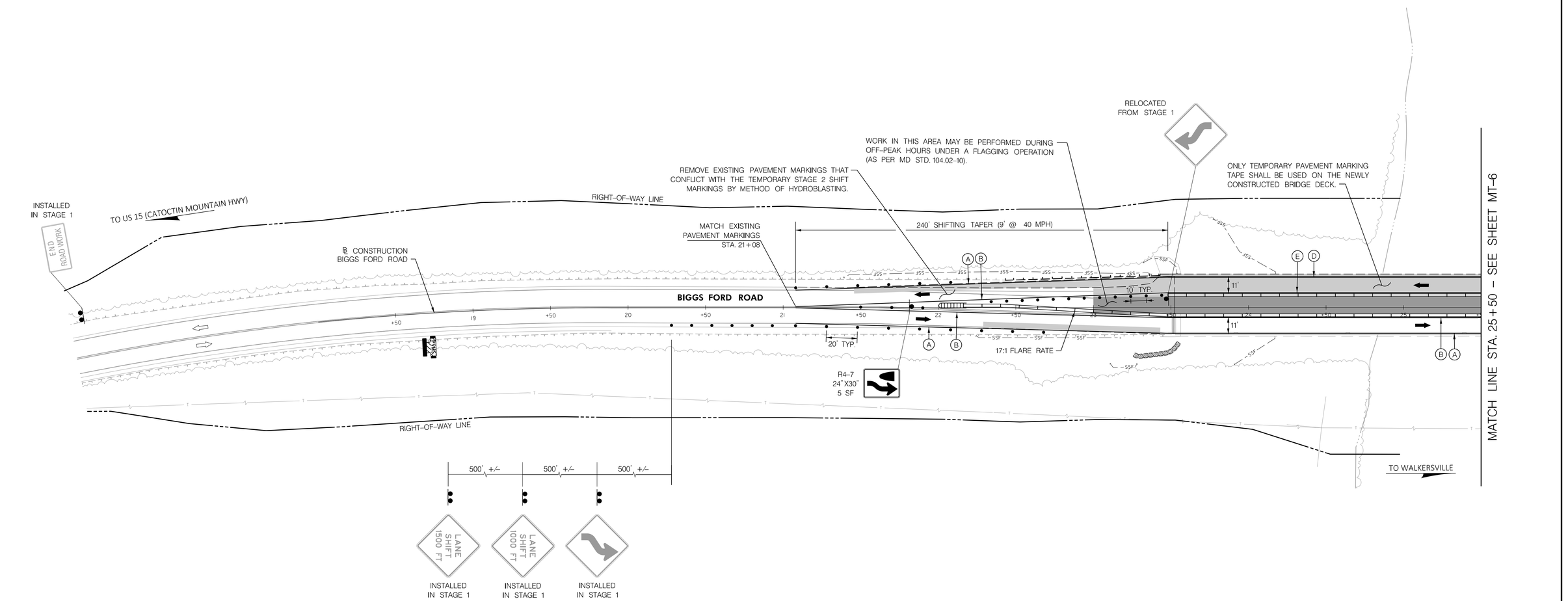
DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 14 OF 77

BY: MAM
PLOTTED: 7/29/2024
FILE: U:\STR\C6017.06-Biggs Ford Rd\C400\MT\Traffic Station\MT-PH04_BIGGSFORD.dgn

SEQUENCE OF CONSTRUCTION – STAGE 2

1. RELOCATE ANY ADVANCE WARNING SIGNS AND INSTALL PVMS ON BIGGS FORD ROAD FOR STAGE 2.
2. DURING OFF–PEAK HOURS, UNDER FLAGGING OPERATION (AS PER MD STD. 104.02–10), ALONG BIGGS FORD ROAD, INSTALL TEMPORARY PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY CONCRETE BARRIER, AS SHOWN ON PLANS. SHIFT WESTBOUND TRAFFIC TO THE NORTH SIDE OF THE BRIDGE DECK.
3. ONCE TRAFFIC IS SHIFTED TO THE STAGE 2 ALIGNMENT, PERFORM STAGE 2 BRIDGE REHABILITATION WORK.
4. PREPARE NEWLY CONSTRUCTED BRIDGE DECK FOR STAGE 3.



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PROPOSED SIGN
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (50 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- TEMPORARY SIGN AND POST

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE PAVEMENT MARKING PAINT – SOLID
- (B) 5" YELLOW PAVEMENT MARKING PAINT – SOLID
- (C) 5" DOUBLE YELLOW PAVEMENT MARKING PAINT – SOLID
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID

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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

MT-5

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

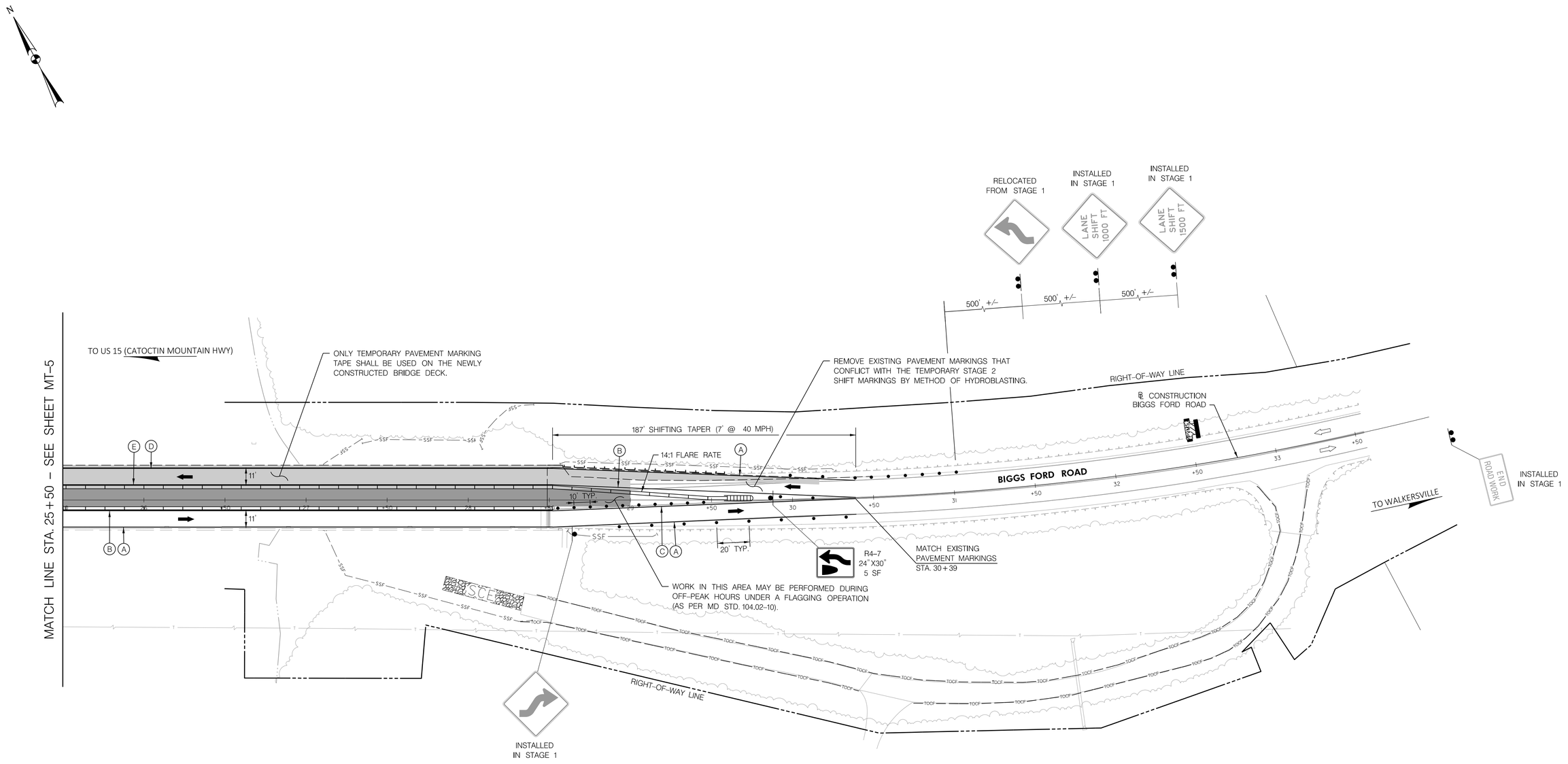
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC STAGE 2

DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 15 OF 77

BY: MKM - PLOTTED: 7/29/2024
FILE: U:\STA\C60-298.06 - Biggs Ford Rd\CADD\MicroStation\MT-P205_BIGGSFORD.dgn



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PROPOSED SIGN (ROAD WORK)
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED (ROAD WORK)
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (50 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- TEMPORARY SIGN AND POST

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE PAVEMENT MARKING PAINT – SOLID
- (B) 5" YELLOW PAVEMENT MARKING PAINT – SOLID
- (C) 5" DOUBLE YELLOW PAVEMENT MARKING PAINT – SOLID
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
- (F) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID

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LICENSE NO. 24828
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CONSULTING ENGINEERS | OWINGS MILLS, MD

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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC STAGE 2

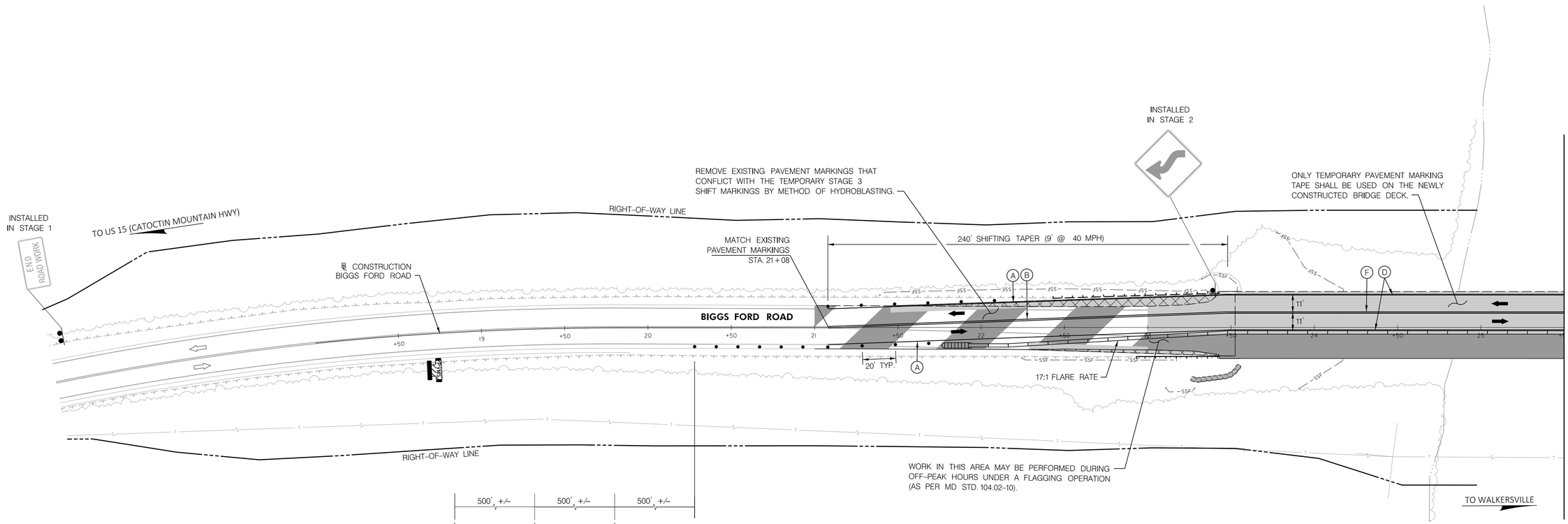
DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 16 OF 77

BY: MAM
PLOTTED: 7/29/2024
FILE: U:\STRUCT\C6017\MT\Construction\MT-P206_BIGGSFORD.dgn

SEQUENCE OF CONSTRUCTION – STAGE 3

1. RELOCATE ANY ADVANCE WARNING SIGNS AND INSTALL PVMS ON BIGGS FORD ROAD FOR STAGE 3.
2. DURING OFF–PEAK HOURS, UNDER FLAGGING OPERATION (AS PER MD STD. 104.02–10), ALONG BIGGS FORD ROAD, INSTALL STAGE 3 TEMPORARY PAVEMENT MARKINGS, CHANNELIZATION DEVICES, AND TEMPORARY CONCRETE BARRIER, AS SHOWN ON PLANS. SHIFT EASTBOUND TRAFFIC TO THE NORTH SIDE OF THE BRIDGE DECK.
3. ONCE TRAFFIC IS SHIFTED TO THE STAGE 3 ALIGNMENT, PERFORM STAGE 3 BRIDGE REHABILITATION WORK.
4. DURING OFF–PEAK HOURS, UNDER SHOULDER WORK (AS PER MD STD. 104.02–02), A LANE SHIFT (AS PER MD STD. 104.02–04), AND/OR FLAGGING OPERATION (AS PER MD STD. 104.02–10), ALONG BIGGS FORD ROAD, REMOVE ALL TEMPORARY SIGNING, PAVEMENT MARKINGS, CHANNELIZATION DEVICES TEMPORARY CONCRETE BARRIER, AND TEMPORARY ASPHALT. PLACE FINAL SURFACE COURSE AND INSTALL ULTIMATE PAVEMENT MARKINGS AND SIGNS. SHIFT TRAFFIC TO ULTIMATE ALIGNMENT.



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PROPOSED SIGN
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (50 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- TEMPORARY SIGN AND POST

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE PAVEMENT MARKING PAINT – SOLID
- (B) 5" YELLOW PAVEMENT MARKING PAINT – SOLID
- (C) 5" DOUBLE YELLOW PAVEMENT MARKING PAINT – SOLID
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (E) 5" YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID
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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

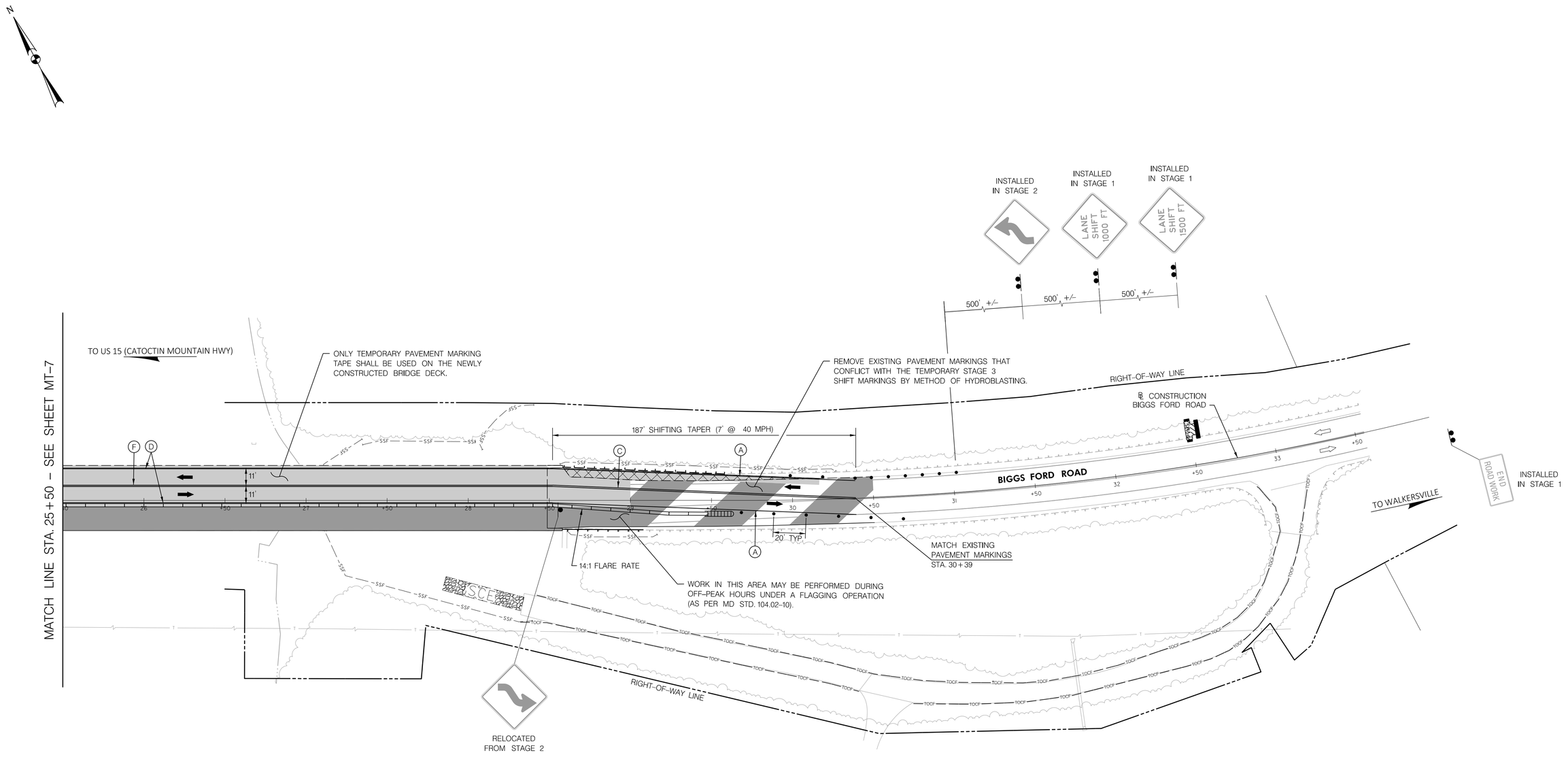
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC STAGE 3

DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 17 OF 77

BY: MMM
PLOTTED: 7/29/2024
FILE: U:\STR\100-299.dgn - Biggs Ford Rd\CADD\MicroStation\MT-P307 BIGGSFORD.dgn



SYMBOL LEGEND

- CURRENT STAGE WORK AREA
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WEDGE, LEVEL, AND/OR RESURFACING
- PROPOSED SIGN
- EXISTING SIGN TO REMAIN OR TO BE RELOCATED
- PORTABLE VARIABLE MESSAGE SIGN
- TYPE E END TREATMENT (50 MPH)
- TRAFFIC FLOW ARROW
- DRUMS
- TEMPORARY DOUBLE FACE CONCRETE TRAFFIC BARRIER
- TEMPORARY SIGN AND POST

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE PAVEMENT MARKING PAINT - SOLID
- (B) 5" YELLOW PAVEMENT MARKING PAINT - SOLID
- (C) 5" DOUBLE YELLOW PAVEMENT MARKING PAINT - SOLID
- (D) 5" WHITE CONTRAST PAVEMENT MARKING TAPE - SOLID
- (E) 5" YELLOW CONTRAST PAVEMENT MARKING TAPE - SOLID
- (F) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE - SOLID

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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MAINTENANCE OF TRAFFIC STAGE 3

DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 18 OF 77

BY: MMM
PLOTTED: 7/29/2024
FILE: U:\STR\100-299.06 - Biggs Ford Rd\CADD\MicroStation\MT-P308_BIGGSFORD.dgn

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

CHECKLIST FOR REQUIRED INSPECTION

TYPE OF INSPECTION	DEVELOPER ENGINEER APPROVAL/DATE	EEA INSPECTION/ DATE
1) PRECONSTRUCTION MEETINGS		
2) COMPLETION OF SEDIMENT CONTROL MEASURES (IF USING BASIN SEE #6 BELOW)		
3) PRIOR TO MODIFICATION OR REMOVAL OF SED. CNTRL.		
4) INFILTRATION SYSTEMS		
A. SITE READINESS PER SEQUENCE OF CONSTRUCTION		
B. INFILTRATION AREA PROTECTED FROM SEDIMENTATION		
C. DIMENSIONS		
D. FILTERING MATERIAL (TYPE/DEPTH)		
E. FILL MATERIAL		
F. SIZE, PLACEMENT, TYPE OF PIPING (IF APPLICABLE)		
G. OBSERVATION WELL		
H. COVER / STABILIZATION		
5) OPEN CHANNEL FLOW ATTENUATION		
A. SITE READINESS PER SEQUENCE OF CONSTRUCTION		
B. CROSS SECTION CONFORMANCE		
C. MATERIAL (TYPE/SIZE)		
D. STABILIZATION		
6) RETENTION / DETENTION STRUCTURES (BASIN/PONDS)		
A. SUBGRADE PREPARATION		
1. CORE TRENCH		
2. SUITABLE FILL		
3. COMPACTION		
B. EMBANKMENT CONSTRUCTION		
1. SUITABLE MATERIAL		
2. SLOPE GRADE		
C. BARREL AND RISER ASSEMBLY		
1. CORRECT MATERIAL ONSITE		
2. SIZING		
3. ANTI-SEEP COLLARS		
4. INSTALLATION / BACKFILL		
D. CONCRETE INLET STRUCTURES		
1. FOOTER EXCAVATION AND SIZE		
2. REINFORCING MATERIAL (TYPE, SIZE, PLACEMENT)		
3. WEIR POUR		
4. FORM STRIP AND FINISHING		
E. IMPOUNDING AREA		
1. LOW FLOW CHANNELS		
2. DEWATERING DEVICE		
3. EMERGENCY SPILLWAY		
F. OUTFALL AREA (LEVEL SPREADER, RIPRAP CHANNEL, ETC.)		
G. VEGETATION STABILIZATION		
H. MISCELLANEOUS		

YOU MUST NOTIFY THE DIVISION OF ENVIRONMENTAL COMPLIANCE SECTION (ECS) AT (301) 600-3507 BEFORE 9:00 AM 24 HOURS PRIOR TO THE REQUIRED INSPECTION. FAILURE TO NOTIFY THE AGENCY WILL RESULT IN A STOP WORK ORDER OR OTHER PENALTIES AS OUTLINED IN FREDERICK COUNTY CODES.

**** NOTICE ****

THIS LIST IS FOR SEQUENCE OF CONSTRUCTION ONLY. FREDERICK COUNTY ASSUMES NO RESPONSIBILITY OR LIABILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. THE AGENCY RECOMMENDS THAT A PROFESSIONAL ENGINEER BE PRESENT FOR EACH OF THE REQUIRED INSPECTIONS.

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____
District Manager

DATE: _____

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS CONTINGENT UPON ISSUANCE OF ALL APPLICABLE REGULATORY PERMITS.

SEDIMENT AND EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL CONTACT EPLD (REBECCA CHOJNACKI AT 410-545-8543 AND RCHOJNACKI@MDOT.MARYLAND.GOV) AND THE ENVIRONMENTAL MANAGER FOR THIS PROJECT IF BATS APPEAR TO BE ROOSTING IN THE CONSTRUCTION AREA.
2. THE CONTRACTOR IS ADVISED OF THE CULTURAL RESOURCES INADVERTENT DISCOVERY PLAN, WHICH IS INCLUDED IN THE INVITATION FOR BID UNDER THE HEADING "PROTECTION OF SENSITIVE ARCHAEOLOGICAL AREA".
3. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AS APPROVED BY THE COUNTY.
4. ALL DISTURBED AREAS NOT UNDER ACTIVE GRADING TO BE SEEDED WITHIN 7 DAYS OF INITIAL GRADING. FOR TEMPORARY SEEDING SPECIFICATIONS, SEE SECTION B1, "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER MANAGEMENT ADMINISTRATION, SOIL CONSERVATION SERVICE AND STATE SOIL CONSERVATION COMMITTEE.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE PRIOR TO OR AT THE INITIATION OF GRADING.
6. ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS AND NOT SUBJECT TO ACTIVE GRADING ARE TO BE MULCHED AND SEEDED WITHIN 7 DAYS OF INITIAL BACKFILL.
7. ELECTRIC POWER, TELEPHONE AND GAS LINES NOT IN ACTIVE GRADING AREAS ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 7 DAYS AFTER INITIAL BACKFILL.
8. ALL EARTH BERMS AND SEDIMENT DAMS ARE TO BE MULCHED AND SEEDED (SEE SECTION B OF ABOVE REFERENCE) WITHIN 7 DAYS AFTER GRADING. ALL SOIL STOCKPILES ARE TO BE MULCHED AND SEEDED WITHIN 7 DAYS.
9. DURING CONSTRUCTION, ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IF NECESSARY. SEDIMENT TO BE REMOVED TO A SUITABLE DISPOSAL AREA AND STABILIZED WITH PERMANENT VEGATATIVE COVER. (SEE SECTION B OF "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER MANAGEMENT ADMINISTRATION, SOIL CONSERVATION SERVICE AND STATE SOIL CONSERVATION COMMITTEE.)
10. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SEDIMENT EROSION CONTROL MEASURES UNTIL DISTURBED AREAS ARE STABILIZED.
11. AFTER FINE GRADING, ALL DISTURBED AREAS ARE TO BE PERMANENTLY MULCHED AND SEEDED (SEE PERMANENT SEEDING & SOD NOTES).
12. NO SLOPE SHALL BE GREATER THAN 2:1.
13. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THIS DOES NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
14. ALL ERSOSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN CONTINUOUS COMPLIANCE WITH THE LATEST VERSION OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
15. ALL UTILITIES, SUCH AS; STORM DRAIN, PUBLIC WATER, SANITARY SEWER, ELECTRIC POWER, TELEPHONE, CABLE AND GAS LINES, THAT ARE NOT IN PAVED AREAS AND ARE NOT UNDERGOING ACTIVE GRADING SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 3 DAYS OF INITIAL DISTURBANCE.
16. THE OWNER DEVELOPER OR THEIR DESIGNATE IS RESPONSIBLE FOR CONDUCTING ROUTINE MAINTENANCE. THE SITE AND CONTROLS SHOULD BE INSPECTED WEEKLY AND THE NEXT DAY AFTER EACH RAIN••. ANY ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN A SUITABLE AREA AND SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED.

•• ANY PROJECT THAT HAS A STATE ISSUED N.O.I. PERMIT MUST DOCUMENT EACH INSPECTION AND MAINTAIN AN INSPECTION LOG (PLEASE SEE N.O.I. FOR DETAILS).

IN-STREAM WORK RESTRICTIONS

MONOCACY RIVER, LOCATED WITHIN THE PROJECT SITE, IS CLASSIFIED AS A USE IV-P WATERWAY (RECREATIONAL TROUT WATERS). IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND THE GRADING, STORM DRAINAGE, SEDIMENT CONTROL AND STORM WATER MANAGEMENT REQUIREMENTS OF FREDERICK COUNTY, AND THE FREDERICK SOIL CONSERVATION DISTRICT."

_____
JOHN J. WEBSTER, P.E. REG. No. 24828

PROFESSIONAL CERTIFICATION

"I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND," LICENSE NO. 24828, EXPIRATION DATE: 02-25-2026.

_____ _____
JOHN J. WEBSTER DATE

PERMANENT SEEDING & SOD NOTES

GENERAL

1. SCOPE: PLANTING PERMANENT, LONG-LIVED VEGETATIVE COVER ON GRADED OR CLEARED AREAS.
2. STANDARDS: PERMANENT SEEDING SHALL CONFORM TO ALL REQUIREMENTS OF "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND THE STATE SOIL CONSERVATION COMMITTEE.

SPECIFICATIONS

1. SITE PREPARATION
   A) PRIOR TO SEEDING INSTALL ALL REQUIRED SEDIMENT AND EROSION CONTROL MEASURES.
   B) FINE GRADING REQUIRED FOR PERMANENT SEEDING.
2. SOIL AMENDMENTS
   A) FERTILIZER SHALL BE APPLIED AT THE RATE OF 1000 LBS./ACRE USING 10-10-10 OR EQUIVALENT.
3. SEEDBED PREPARATION
   A) SOIL SHALL BE LOOSENED TO A DEPTH OF 3 INCHES BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS PRIOR TO SEEDING.
4. SEEDING
   A) SELECT A MIXTURE FROM TABLE B.2 & B.3 IN STANDARD SPECIFICATIONS.
   B) APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER ON A FIRM, MOIST SEEDBED). MAXIMUM SEEDING DEPTH SHOULD BE ¼" ON CLAYEY SOILS AND ½" ON SANDY SOILS, WHEN USING OTHER THAN HYDROSEEDER METHOD OF APPLICATION. NOTE: IF HYDROSEEDING IS USED AND THE SEED AND FERTILIZER IS MIXED, THEY WILL BE MIXED ON SITE AND SEEDING SHALL BE IMMEDIATE WITHOUT INTERRUPTION.

PERMANENT STABILIZATION WITH SOD

1. ALL SPECIFICATIONS, SITE PREPARATION, INSTALLATION AND MAINTENANCE OF SOD FOR PERMANENT, LONG-LIVED VEGETATIVE COVER SHALL CONFORM TO SECTION B OF "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER MANAGEMENT ADMINISTRATION, SOIL CONSERVATION SERVICE AND STATE SOIL CONSERVATION COMMITTEE.

NOTE: ALL AREAS TO BE ROUGH GRADED AND/OR GRADED ONLY ARE TO BE STABILIZED BY PERMANENT SEEDING AND MULCHING WITHIN 7 DAYS AFTER GRADING IS COMPLETED. (SEE "TEMPORARY SEEDING NOTES").

FOR UTILITY WORK ONLY OR FOR OFF-SITE UTILITY WORK

1. DISTURBANCE OUTSIDE OF LOD CAN NOT EXCEED 5000 SQUARE FEET.
2. PLACE ALL EXCAVATED MATERIAL ON THE HIGH SIDE OF THE TRENCH.
3. ONLY DO AS MUCH WORK AS CAN BE DONE IN ONE DAY SO BACKFILLING, FINAL GRADING, SEEDING AND MULCHING CAN OCCUR
4. ANY SEDIMENT CONTROL MEASURES DISTURBED BY CONSTRUCTION WILL BE REPAIRED THE SAME DAY

STAGING/STOCKPILE AREAS

1. STOCKPILE SIDE SLOPE RATIO CANNOT BE STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING IF REQUIRED.
2. IF STOCKPILE AREA NEEDS TO BE ENLARGED DURING CONSTRUCTION, SILT FENCE SHOWN MUST BE EXPANDED TO WRAP AROUND STOCKPILE AREA IN THE MANNER SHOWN ON PLAN
3. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
4. STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
5. THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
6. NO STOCKPILING ALLOWED ON ASPHALT AND/OR GRAVEL ROADWAY
7. THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL FOR THE STAGING / STOCKPILE AREA, AND THE COST FOR THE SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE SEDIMENT CONTROLS SHOWN ON THE PLANS. THE CONTRACTOR SHALL CONTACT THE EROSION AND SEDIMENT CONTROL INSPECTOR FOR PROPER PLACEMENT OF THE STAGING / STOCKPILE AREA REGARDLESS OF WHETHER THE STAGING / STOCKPILE AREA IS WITHIN THE PROJECT SITE OR NOT.
8. THIS AREA IS A KNOWN ARCHEOLOGICAL SENSITIVE AREA, THEREFORE, NO STOCKPILE AND/OR STAGING IS ALLOWED OUTSIDE THE DESIGNATED LOD BOUNDARY OR ALONGSIDE THE ACCESS ROAD. ANY FINES OR PROJECT DELAYS THAT RESULT FROM WORK BEING PREFORMED OUTSIDE THE LOD OR ACCESS ROAD WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

TEMPORARY SEEDING NOTES

GENERAL

1. SCOPE: PLANTING SHORT TERM VEGETATION TO STABILIZED CLEARED OR GRADED AREA SUBJECT TO EROSION FOR A PERIOD OF 7 DAYS OR MORE.
2. STANDARDS: TEMPORARY SEEDING SHALL CONFORM TO ALL REQUIREMENTS OF "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND THE STATE SOIL CONSERVATION COMMITTEE.
3. SEDIMENT AND EROSION CONTROL: ALL PERIIMETER CONTROLS MUST BE STABILIZED IN 3 DAYS; ALL INTERIOR CONTROLS MUST BE STABILIZED IN 7 DAYS.

SPECIFICATIONS

1. SITE PREPARATION
   A) PRIOR TO SEEDING INSTALL ALL REQUIRED SEDIMENT AND EROSION CONTROL MEASURES.
   B) FINAL GRADING NOT REQUIRED FOR TEMPORARY SEEDING.
2. SOIL AMENDMENTS
   A) FERTILIZER SHALL BE APPLIED AT THE RATE OF 600 LBS./ACRE USING 10-10-10 OR EQUIVALENT.
   B) ACID SOILS SHALL BE LIMED.
3. SEEDBED PREPARATION
   A) SOIL SHALL BE LOOSENED TO A DEPTH OF 3 INCHES BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS PRIOR TO SEEDING.
4. SEEDING
   A) SELECT A MIXTURE FROM TABLE B.1 IN STANDARD SPECIFICATIONS.
   B) APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDRO SEEDER.
5. MULCHING
   A) MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. MULCH MATERIALS AND APPLICATIONS SHALL CONFORM TO THE STANDARD SPECIFICATIONS.

NOTE: ALL AREAS TO BE ROUGH GRADED AND/OR GRADED ONLY ARE TO BE STABILIZED BY TEMPORARY SEEDING AND MULCHING WITHIN 7 DAYS AFTER GRADING IS COMPLETED, IF PERMANENT SEEDING CANNOT BE PERFORMED AT THAT TIME. THESE AREAS SHALL BE STABILIZED WITH PERMANENT SEEDING AND MULCHING AT THE BEGINNING OF THE NEXT GROWING SEASON.

SITE INFORMATION

• (NOT FOR BIDDING PURPOSES)

TOTAL AREA OF SITE	1.15	ACRES
AREA DISTURBED	0.69	ACRES
AREA TO BE ROOFED OR PAVED	0.00	ACRES
TOTAL CUT	50	CU. YDS.
TOTAL FILL	0	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION (IF KNOWN)	UNKNOWN	

DISTURBED AREA QUANTITY

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 29,890 SQ. FT. AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 50 CU. YDS. OF EXCAVATION AND APPROXIMATELY 0.0 CU. YDS. OF FILL.

_____ _____
JOHN J. WEBSTER DATE

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT

LEO MILLER III, E.I.T.
FREDERICK CO. OFFICE OF TRANSP. ENGINEERING — _____
OWNER/DEVELOPER (NAME & TITLE) — SIGNATURE

355 MONTEVUE LANE, SUITE 200 — _____
ADDRESS — DATE

FREDERICK, MARYLAND 21702 — 301-600-2932
ADDRESS — PHONE

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

EN-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL GENERAL NOTES

DATE: JULY 2024 SCALE: NONE

CONTRACT NO. C6017.6017.01 DWG. 19 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: N:\STR\600-298.06 - Biggs Ford Rd\CADD\MicroStation\EN-N001-BIGGSFORD.dgn

EROSION AND SEDIMENT CONTROL – SEQUENCE OF CONSTRUCTION

SEQUENCE OF CONSTRUCTION

GENERAL:

1. THE CONTRACTOR SHALL NOTIFY THE COUNTY ENVIRONMENTAL COMPLIANCE SECTION AT(301) 600-3507. TWO WEEKS PRIOR TO THE START OF CONSTRUCTION FOR AN ON-SITE REVIEW OF PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.
2. THE CONTRACTOR SHALL NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) INSPECTION AND COMPLIANCE PROGRAM AT (410) 537-3510 AND THE COUNTY ENVIRONMENTAL COMPLIANCE SECTION AT (301) 600-3507 SEVEN (7) BUSINESS DAYS BEFORE ANY EARTH DISTURBANCE IN ORDER TO SCHEDULE A PRE-CONSTRUCTION MEETING, AND OBTAIN A COUNTY GRADING PERMIT.
3. STAKE OUT THE PROJECT FOR THE PRE-CONSTRUCTION MEETING.
4. AT THE PRE-CONSTRUCTION MEETING, THE FIELD ENGINEER WILL DELINEATE AREAS OF CONCRETE CRACK AND SPALL REPAIR.
5. THE EROSION AND SEDIMENT CONTROL SEQUENCE STAGES MUST BE COMPLETED IN CONJUNCTION WITH THE APPROPRIATE MAINTENANCE OF TRAFFIC (MOT) STAGE.
6. ALL DISTURBED AREAS SHALL BE STABILIZED AT THE END OF EACH DAY UNLESS DIRECTED TO AN MDE APPROVED SEDIMENT CONTROL DEVICE.
7. ANY CONSTRUCTION DEBRIS WILL BE TRANSPORTED TO AN APPROVED SITE.
8. THE NOTICE OF INTENT (NOI) SHALL BE IN HAND PRIOR TO THE START OF ANY CONSTRUCTION.
9. STAKEOUT THE LIMIT OF DISTURBANCE PRIOR TO THE START OF ANY CONSTRUCTION.

INITIAL STAGE (SHEETS ES-1 TO ES-3):

1. CLEAR AND GRUB WHAT IS NECESSARY FOR THE INSTALLATION OF THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES.
2. INSTALL TEMPORARY ORANGE CONSTRUCTION FENCE TOCF-IN.1, IN.2, IN.3, SUPER SILT FENCE SSF-IN.1, IN.2, IN.3, IN.4, IN.5, IN.6, AND DIVERSION FENCE DF-IN.1.
3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE SCE-IN.1.
4. INSTALL TEMPORARY ASPHALT IN PREPARATION FOR STAGE 1 MOT.

STAGE 1 (SHEETS ES-4 TO ES-6):

1. AT ANY POINT AFTER THE INITIAL STAGE, THE SUPERSTRUCTURE CLEANING AND PANTING, THE SUBSTRUCTURE CRACK AND SPALL REPAIR, AND THE ENCASEMENT OF THE COLUMNS WITH THE FIBERGLASS PROTECTIVE JACKET CAN TAKE PLACE.
2. ONCE STAGE 1 MOT IS IN PLACE AND THE TRAFFIC SHIFT HAS OCCURRED, REMOVE TRAFFIC BARRIER, AND INSTALL SUPER SILT FENCE SSF-1.1, 1.2, & 1.3.
3. COMPLETE STAGE 1 BRIDGE REHABILITATION IN ACCORDANCE WITH STAGE 1 IN THE STRUCTURE PLANS.
4. INSTALL STAGE 1 FULL DEPTH APPROACH, TEMPORARY ASPHALT SHOULDERS, AND TRAFFIC BARRIERS, AS SHOWN ON THE PLANS.

STAGE 2 (SHEETS ES-7 TO ES-9):

1. ONCE STAGE 2 MOT IS IN PLACE AND THE TRAFFIC SHIFT HAS OCCURRED, INSTALL SUPER SILT FENCE SSF-2.1 AND BLOCK CONCRETE CHANNEL UNTIL CONSTRUCTION IS COMPLETE.
2. COMPLETE STAGE 2 BRIDGE REHABILITATION IN ACCORDANCE WITH STAGE 2 IN THE STRUCTURE PLANS.
3. INSTALL STAGE 2 FULL DEPTH APPROACH, AS SHOWN ON THE PLANS.

STAGE 3 (SHEETS ES-10 TO ES-12):

1. ONCE STAGE 3 MOT IS IN PLACE AND THE TRAFFIC SHIFT HAS OCCURRED, PROCEED WITH CONSTRUCTION.
2. COMPLETE STAGE 3 BRIDGE REHABILITATION IN ACCORDANCE WITH STAGE 3 IN THE STRUCTURE PLANS.
3. INSTALL STAGE 3 FULL DEPTH APPROACH AND TRAFFIC BARRIERS, AS SHOWN ON PLANS.
4. AT THIS TIME COMPLETE ANY REMAINING REPAIRS.
5. ONCE THE REHABILITATION OF THE STRUCTURE IS COMPLETE, WITH THE APPROVAL OF THE FIELD ENGINEER THE MOT MAY BE REMOVED AND THE FULL STRUCTURE MAY BE REOPENED TO TRAFFIC.
6. PLACE FINAL TWO INCHES OF ASPHALT SURFACE ON THE AREAS OF FULL DEPTH PAVEMENT. RESURFACE THE REMANNING ROADWAY OUT TO THE EXTENTS OF THE LIMIT OF WORK AND ADD FINAL MARKINGS.
7. REMOVE ALL TEMPORARY ASPHALT FROM MOT OUTSIDE OF THE PROPOSED/EXISTING EDGE OF ROAD.
8. WITH THE WRITTEN APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR, ALL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED AND SURFACE STABILIZED.
9. REMOVE STABILIZED CONSTRUCTION ENTRANCE.
10. CONDUCT FINAL SITE WALK THROUGH AND INSPECTION WITH THE COUNTY DESIGNATED REPRESENTATIVE.

STANDARD SYMBOLS

AT-GRADE INLET PROTECTION	AGIP	ROCK OUTLET PROTECTION I	ROPI
BAFFLE BOARDS	BB	ROCK OUTLET PROTECTION II	ROPII
BENCHING	BENCHING	ROCK OUTLET PROTECTION III	ROPIII
CATCH BASIN INSERT	CBI	SILT FENCE	SF
CLEAR WATER DIVERSION PIPE	CWD - 12 (DESIGNATION CWD-12 REFERS TO 12 INCH CLEAR WATER DIVERSION.)	SILT FENCE ON PAVEMENT	SFOP
CLEAR WATER PIPE	CWP	SOD	
COMBINATION INLET PROTECTION	COIP	STABILIZED CONSTRUCTION ENTRANCE	SCE
CONCRETE WASHOUT STRUCTURE	CWS	STANDARD INLET PROTECTION	SIP
CURB INLET PROTECTION	CIP	STOCKPILE AREA	
DIVERSION FENCE	DF	STONE CHECK DAM	CD
EARTH DIKE	A-I (PLACE DESIGNATION (A-I, B-II, ETC.) ON FLOW CHANNEL SIDE OF DIKE.)	STONE/RIPRAP OUTLET SEDIMENT TRAP ST II	ST-II
EMERGENCY SPILLWAY	ES	SUBSURFACE DRAINS	SSD
FILTER BAG	FB	SUMP PIT	SP
FILTER BERM	FB-A / FB-B	SUPER SILT FENCE	SSF
FILTER LOG	FL-18 (DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.)	TEMPORARY ACCESS BRIDGE	TB
GABION INFLOW PROTECTION	GP	TEMPORARY ACCESS CULVERT	
GABION INLET PROTECTION	GIP	TEMPORARY ASPHALT BERM	TAB
HORIZONTAL DRAW-DOWN DEVICE	HDDD	TEMPORARY BARRIER DIVERSION	TBD
LIMIT OF CUT	C — C	TEMPORARY GABION OUTLET STRUCTURE	TGOS
LIMIT OF DISTURBANCE	LOD	TEMPORARY ORANGE CONSTRUCTION FENCE	TOCF
LIMIT OF FILL	F — F	TEMPORARY SOIL STABILIZATION MATTING-TYPE A	
MEDIAN INLET PROTECTION	MIP	TEMPORARY SOIL STABILIZATION MATTING-TYPE E	
MEDIAN SUMP INLET PROTECTION	MSIP	TEMPORARY SOIL STABILIZATION MATTING-TYPE D	
MODIFIED SWALE PROTECTION	MSP	TEMPORARY STONE OUTLET STRUCTURE	TSOS
MOUNTABLE BERM	MB	TEMPORARY SWALE	A-I (PLACE DESIGNATION (A-I, B-II, ETC.) ON FLOW CHANNEL SIDE OF SWALE.)
PERIMETER DIKE/SWALE	PDS-I	WASH RACK OPTION	WR
PERMANENT SOIL STABILIZATION MATTING-TYPE B		DRAINAGE BOUNDARY	DA
PERMANENT SOIL STABILIZATION MATTING-TYPE C		EXISTING CONTOURS	- 100 -
PIPE OUTLET SEDIMENT TRAP ST I	ST-I	PROPOSED CONTOURS	100
PIPE SLOPE DRAIN	PSD - 12 (DESIGNATION PSD-12 REFERS TO 12 INCH PIPE SLOPE DRAIN.)	TREE PROTECTION FENCE	TPF
PLUNGE POOL	PP	WETLAND	
PORTABLE SEDIMENT TANK	PST	WETLAND BUFFER	B
REMOVABLE PUMPING STATION	RPS	100-YEAR FLOODPLAIN	
RIPRAP INFLOW PROTECTION	RRP		
RIPRAP OUTLET SEDIMENT TRAP ST III	ST-III		

FREDERICK SOIL CONSERVATION DISTRICT

APPROVED BY: _____
District Manager

DATE: _____

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS CONTINGENT UPON ISSUANCE OF ALL APPLICABLE REGULATORY PERMITS.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

EN-2

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION

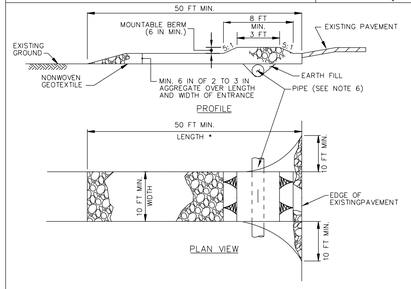
DATE: JULY 2024 SCALE: NONE

CONTRACT NO. C6017.6017.01 DWG. 20 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STR\1002-298.06 - Biggs Ford Rd\CADD\MicroStation\dEN-N002_BIGGSFORD.dgn

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

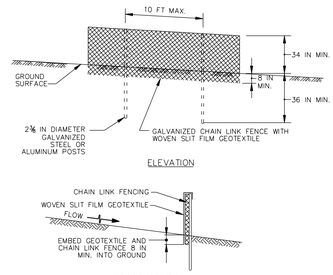
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	201 1	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

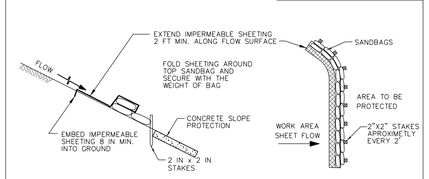
1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

CUSTOM DETAIL SANDBAG DIVERSION

MAXIMUM DRAINAGE AREA=1/4 ACRES



CONSTRUCTION SPECIFICATIONS

1. FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING, AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
2. USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNCTURING AND TEARING.
3. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF SANDBAGS.
4. STAKE BEHIND SANDBAGS EVERY 2 FEET OR CLOSER ALONG ENTIRE LENGTH OF BAGS TO PREVENT SLIDING DOWN SLOPE.
5. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE SANDBAGS.
6. ESTABLISH A TOP ELEVATION OF 12 INCHES ABOVE EXISTING SURFACE AT A MINIMUM FOR THE DURATION OF USE.
7. INSTALL DIVERSION STRUCTURE FROM UPGRADE TO DOWNGRADE.
8. PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 18 INCHES.
9. DISPOSE OF ALL EXCAVATED MATERIALS IN AN APPROVED DISPOSAL AREA OUTSIDE OF THE 100-YEAR FLOODPLAIN.
10. OUTFALL WORK AREA TO A STABLE SURFACE WITHIN AN EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
11. KEEP FLOW SURFACE ALONG SANDBAGS AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING AND SANDBAGS IF TORN. IF UNDERMINING OCCURS, REINSTALL SANDBAGS.

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

BY: _____
District Manager or Designee

DATE: _____
Plan is valid for 2 years from date of approval

SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

ED-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

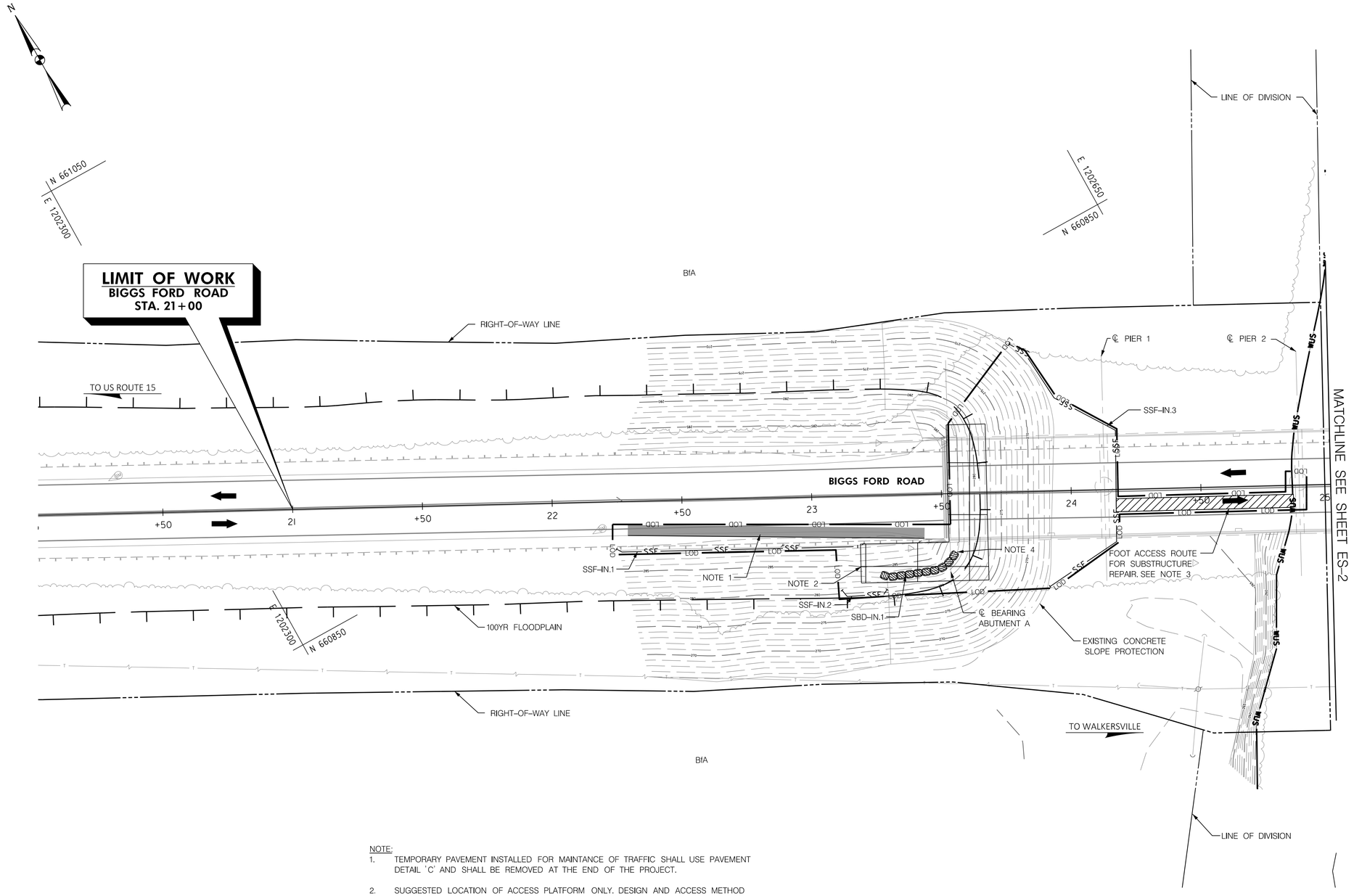
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL DETAILS

DATE: JULY 2024 SCALE: NONE

CONTRACT NO. C6017.6017.01 DWG. 21 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\ST-VOL-298.06 - Biggs Ford Rd\CADD\MicroStation\PEN-DOD\BIGGSFORD.dgn



NOTE:

1. TEMPORARY PAVEMENT INSTALLED FOR MAINTANCE OF TRAFFIC SHALL USE PAVEMENT DETAIL 'C' AND SHALL BE REMOVED AT THE END OF THE PROJECT.
2. SUGGESTED LOCATION OF ACCESS PLATFORM ONLY. DESIGN AND ACCESS METHOD TO BE ESTABLISHED BY THE CONTRACTOR.
3. AREA SHOWN HATCHED IS L.O.D. REQUIRED FOR FOOT ACCESS TO PREFORM SUBSTRUCTURE REPAIRS. NO ACTUAL SOIL DISTURBANCE, EXCAVATION, OR MOTORIZED EQUIPMENT IS ALLOWED WITHIN THIS AREA. IN THE EVENT DISTURBANCE OCCURS, THE AREA SHALL BE STABILIZED IMMEDIATELY. ACCESS FROM THE WATER VIA DIVERS AND BOAT IS ALLOWED FROM THE ACCESS ROAD ON EAST BANK.
4. OUTFALL SANDBAG DIVERSION ONTO EXISTING CONCRETE SLOPE PROTECTION.
5. ALL DEBRIS FROM REMOVAL AND CONSTRUCTION WORK SHALL BE CONTAINED AND PROPERLY DISPOSED OF. IF CONTAINMENT METHODS ARE INADEQUATE OR DEBRIS IS FOUND OUTSIDE OF THE LIMIT OF DISTURBANCE, CLEAN UP IMMEDIATELY AND RE-EVALUATE THE PROTECTION MEASURES.
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7. THIS ENTIRE SHEET FALLS WITHIN THE BfA SOIL BOUNDARY.

SOILS TABLE

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP	SOIL EROSION FACTOR	HYDRIC SOILS RATING
BfA	BERMUDIAN SILT LOAM 0% TO 3% SLOPE	A	LOW	NOT HYDRIC
WaA	WALKERSVILLE GRAVELLY LOAM 0% TO 3% SLOPES	B	LOW	NOT HYDRIC

LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

QUANTITY NOTES

SUPER SILT FENCE

ID	LOCATION - STATION	LF
SSF-IN.1	RT. STA. 22+24.39 TO RT. STA. 23+17.26	93
SSF-IN.2	RT. STA. 23+10.84 TO RT. STA. 23+28.20	16
SSF-IN.3	LT. STA. 27+77.39 TO RT. STA. 23+90.98	128

SANDBAG DIVERSION

ID	LOCATION - STATION	CY
SBD-IN.1	RT. STA. 23+26.24 TO RT. STA. 23+54.49	3

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

BY: _____
District Manager or Designee

DATE: _____
Plan is valid for 2 years from date of approval

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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

ES-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

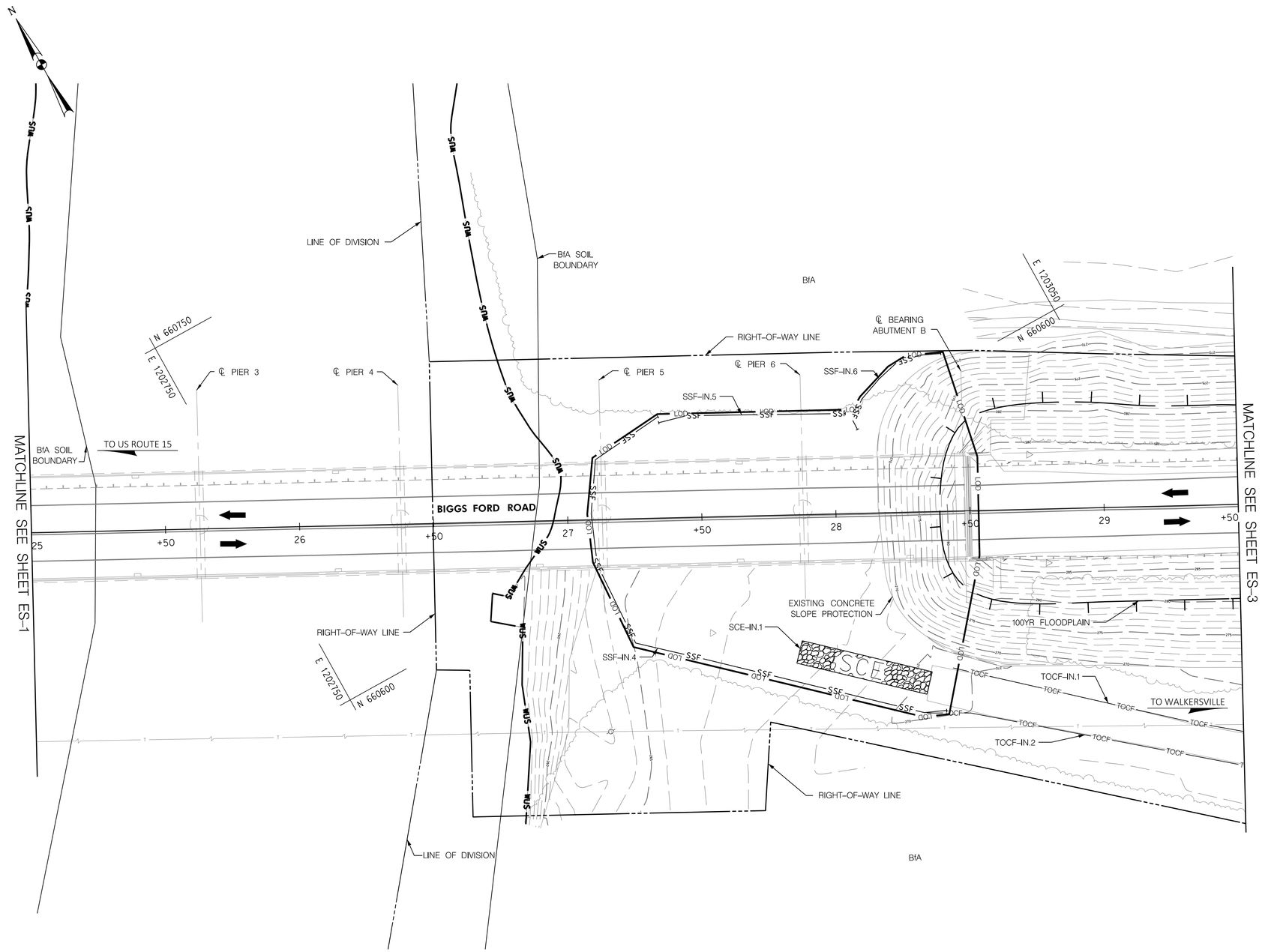
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL INITIAL STAGE STA. 20+00 TO STA. 25+00

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 22 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\ST\C6017\000-298.06 - Biggs Ford Rd\CADD\Micro Station\ES-PNL.BIGGSFORD.dgn



QUANTITY NOTES

STABILIZED CONSTRUCTION ENTRANCE

ID	LOCATION - STATION	EA
SCE-IN.1	RT. STA. 23+26.24 TO RT. STA. 23+54.49	1

SUPER SILT FENCE

ID	LOCATION - STATION	LF
SSF-IN.4	LT. STA. 27+34.53 TO RT. STA. 28+39.53	220
SSF-IN.5	LT. STA. 27+34.74 TO LT. STA. 28+04.37	70
SSF-IN.6	LT. STA. 28+07.75 TO LT. STA. 28+40.46	48

TEMPORARY ORANGE CONSTRUCTION FENCE

ID	LOCATION - STATION	LF
TOCF-IN.1	RT. STA. 28+32 TO RT. STA. 29+50	120
TOCF-IN.2	RT. STA. 28+42 TO RT. STA. 29+50	111

LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

NOTE:

1. ALL DEBRIS FROM REMOVAL AND CONSTRUCTION WORK SHALL BE CONTAINED AND PROPERLY DISPOSED OF. IF CONTAINMENT METHODS ARE INADEQUATE OR DEBRIS IS FOUND OUTSIDE OF THE LIMIT OF DISTURBANCE, CLEAN UP IMMEDIATELY AND RE-EVALUATE THE PROTECTION MEASURES.
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3. POST SIGNS APPROXIMATELY EVERY 200' ALONG THE TEMPORARY ORANGE CONSTRUCTION FENCE SPECIFYING, BEYOND IS AN ENVIRONMENTALLY SENSITIVE AREA. REFER TO SPECIAL PROVISION #### FOR MORE DETAILS. THESE SIGNS SHALL REMAIN INPLACE FOR THE DURATION OF THE CONSTRUCTION.

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

BY: _____
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THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

ES-2

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

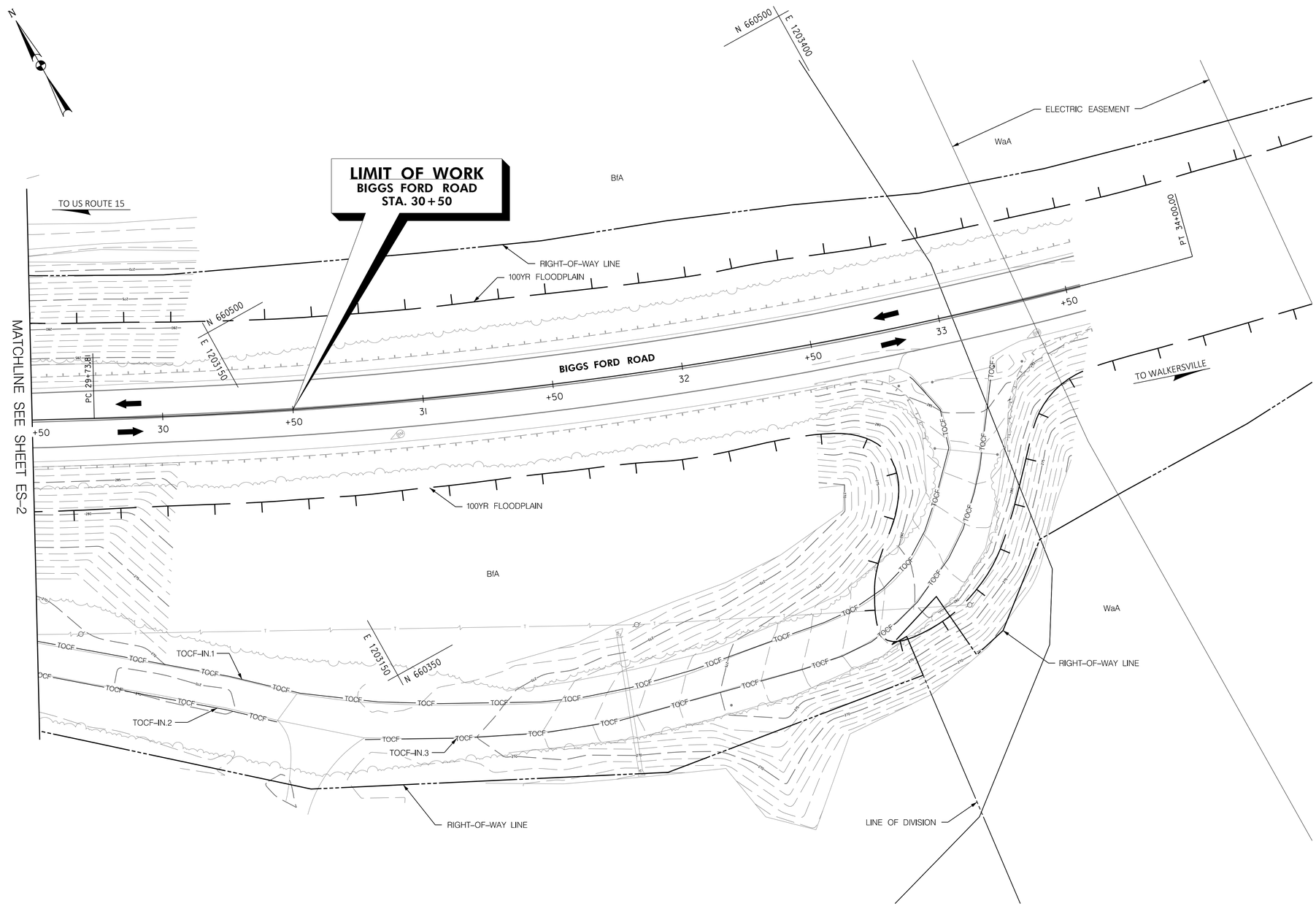
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL INITIAL STAGE STA. 25+00 TO STA. 29+50

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 23 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: G:\STRUCTURES\6017.06 - Biggs Ford Rd\CADD\MicroStation\ES-PIN2_BIGGSFORD.dgn



QUANTITY NOTES

TEMPORARY ORANGE CONSTRUCTION FENCE

ID	LOCATION - STATION	LF
TOCF-IN.1	RT. STA. 29+50 TO RT. STA. 30+39	93
TOCF-IN.2	RT. STA. 29+50 TO RT. STA. 32+35	427
TOCF-IN.3	RT. STA. 30+69 TO RT. STA. 33+17	323

LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

NOTE:

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Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

BY: _____
District Manager or Designee

DATE: _____
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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

ES-3

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL INITIAL STAGE STA. 29+50 TO STA. 33+50

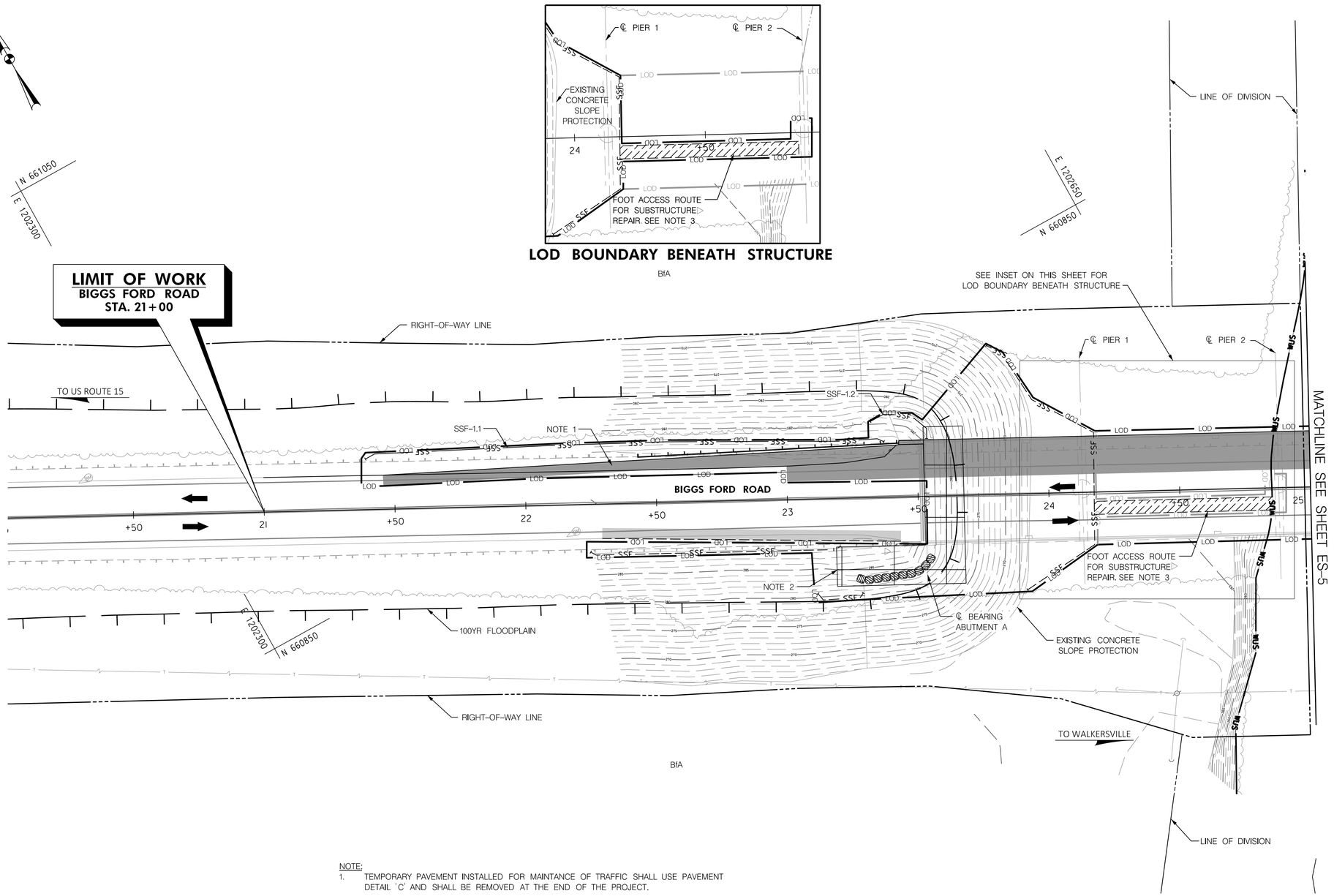
DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 24 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STP-\C6017.06 - Biggs Ford Rd\CADD\Microstation\ES-PM3-BIGGSFORD.dgn

LOD BOUNDARY BENEATH STRUCTURE

BfA



BfA

NOTE:

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LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

QUANTITY NOTES

SUPER SILT FENCE

ID	LOCATION - STATION	LF
SSF-1.1	LT. STA. 21+39.11 TO LT. STA. 23+37.40	199
SSF-1.2	LT. STA. 23+32.40 TO LT. STA. 23+53.75	28

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

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District Manager or Designee

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THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

ES-4

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

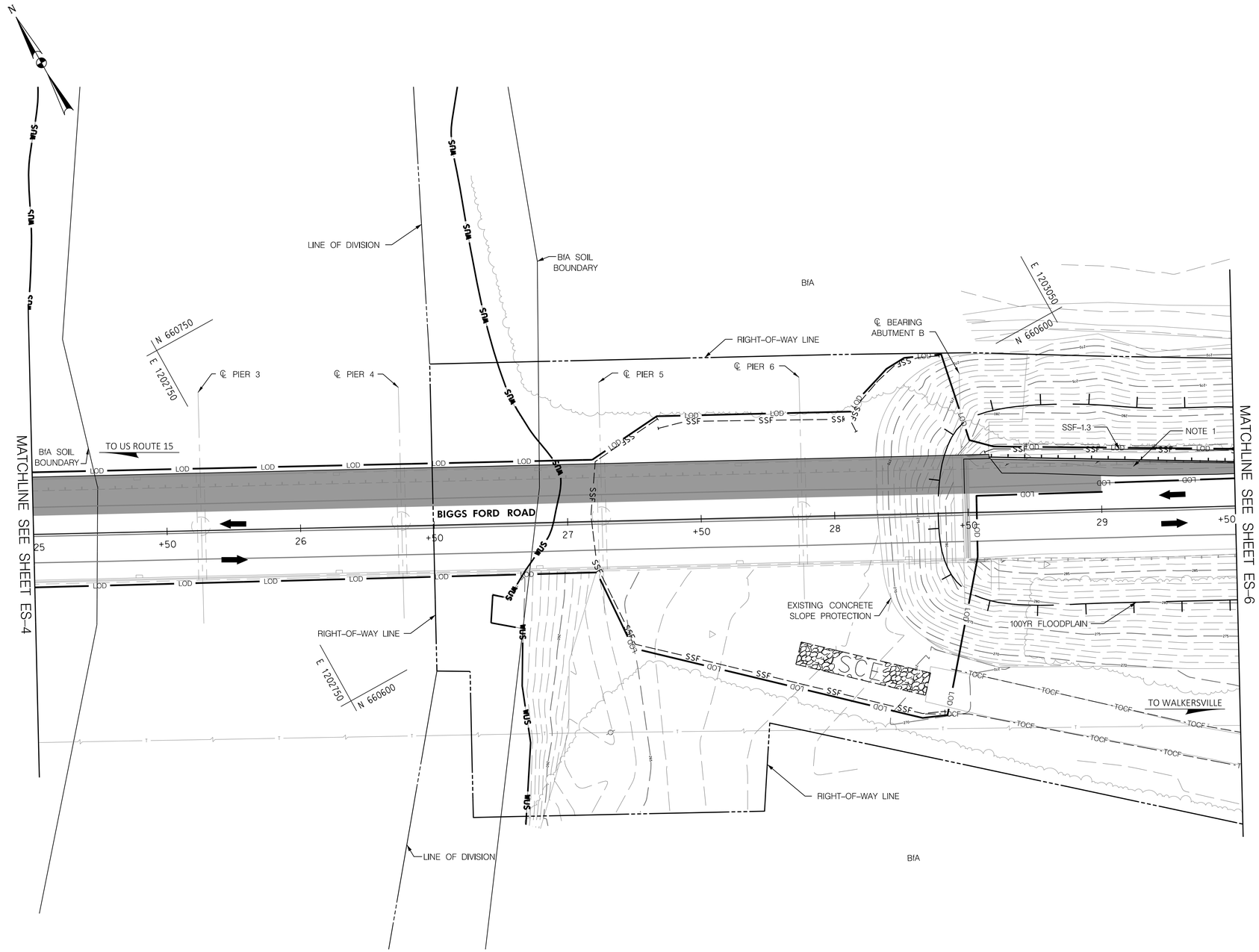
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 1 STA. 20+00 TO STA. 25+00

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 25 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\ST\C6017.00\298.06 - Biggs Ford Rd\CADD\MicroStation\ES-P01_BIGGSFORD.dgn



LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
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Frederick County Soil Conservation District
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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

QUANTITY NOTES

SUPER SILT FENCE

ID	LOCATION - STATION	LF
SSF-1.3	LT. STA. 28+56.66 TO LT. STA. 29+50.00	94

ES-5

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

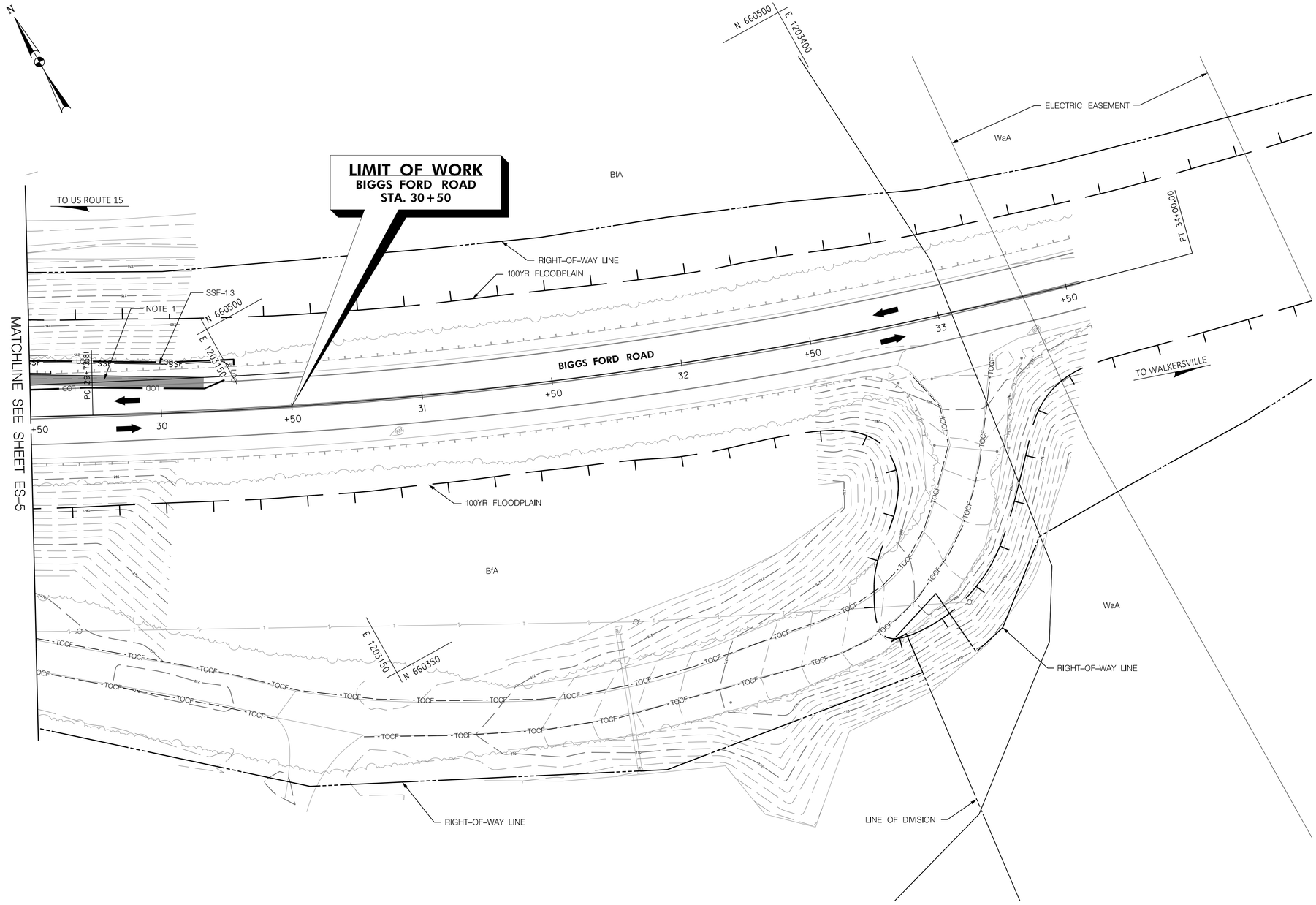
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 1 STA. 25+00 TO STA. 29+50

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 26 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STA\100-298.06 - Biggs Ford Rd\CADD\MicroStation\ES-P102_BIGGSFORD.dgn



QUANTITY NOTES

SUPER SILT FENCE		
ID	LOCATION - STATION	LF
SSF-1.3	LT. STA. 29+50.00 TO LT. STA. 30+26.84	77

LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
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THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

ES-6

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 1 STA. 29+50 TO STA. 33+50

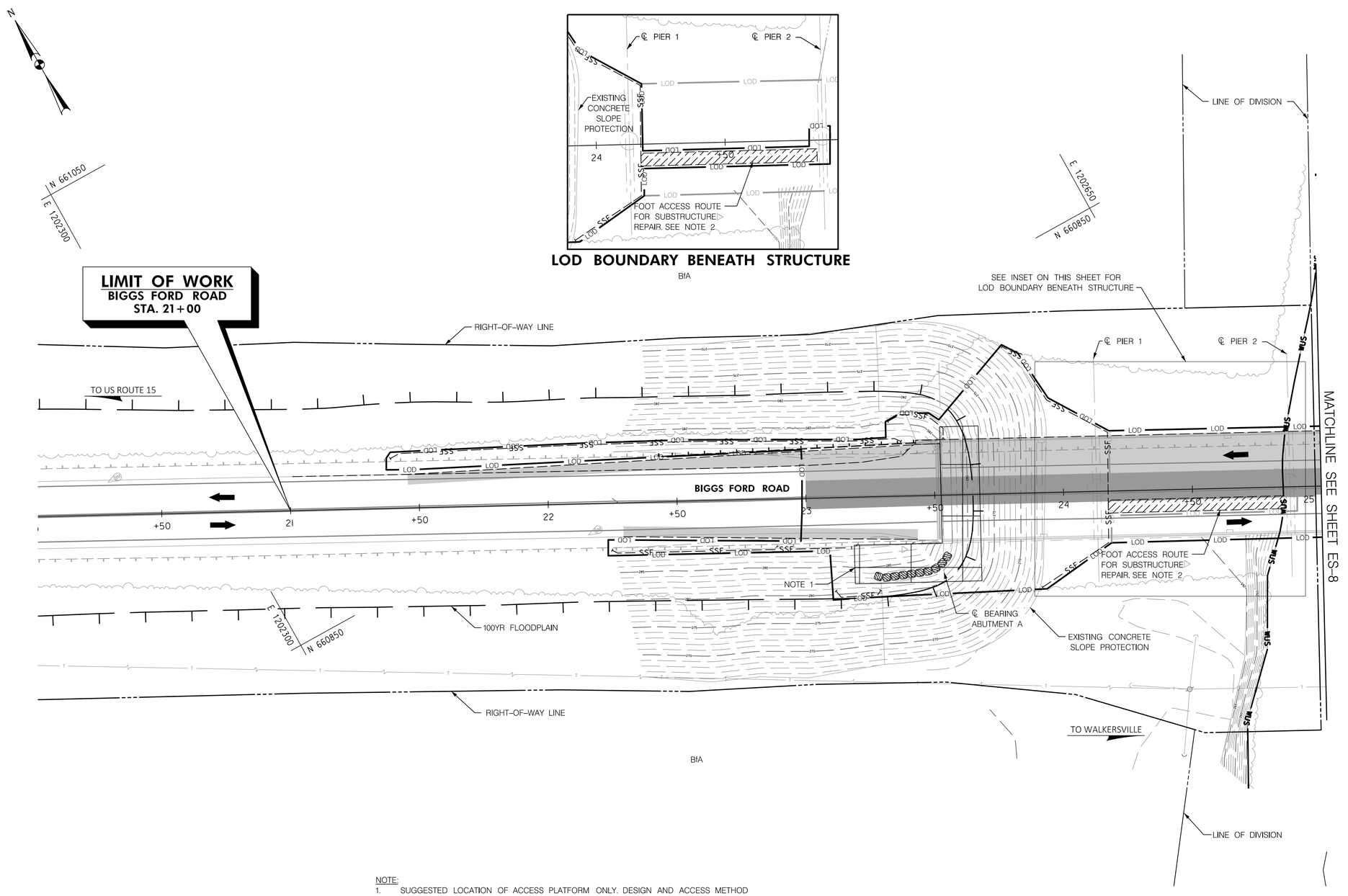
DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 27 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STr\100-298.06 - Biggs Ford Rd\CADD\Micro Station\ES-PH03_BIGGSFORD.dgn

LOD BOUNDARY BENEATH STRUCTURE

BfA



BfA

NOTE:

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5. THIS ENTIRE SHEET FALLS WITHIN THE BfA SOIL BOUNDARY.

LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

BY:_____
District Manager or Designee

DATE:_____
Plan is valid for 2 years from date of approval

SCD approval for sediment and erosion control is in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and is contingent upon issuance of all applicable regulatory permits.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

QUANTITY NOTES

ES-7

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

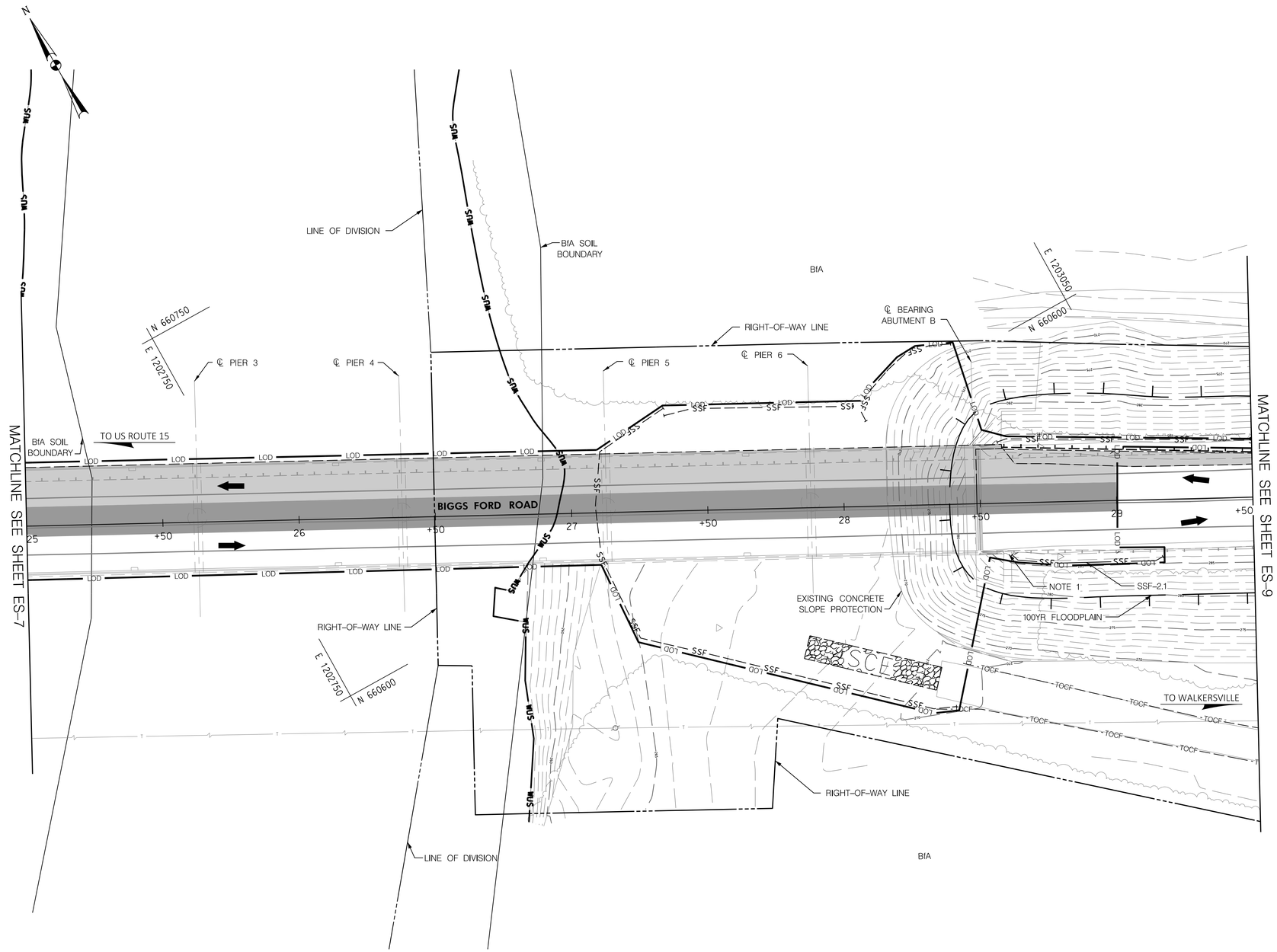
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 2 STA. 20+00 TO STA. 25+00

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 28 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\ST+\C6017.06 - Biggs Ford Rd\CADD\MicroStation\ES-P20\BIGGSFORD.dgn



QUANTITY NOTES

SUPER SILT FENCE		
ID	LOCATION - STATION	LF
SSF-2.1	RT. STA. 28+61.20 TO RT. STA. 29+16.52	57

LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

NOTE:

1. BLOCK CONCRETE CHANNEL UNTIL CONSRTUCTION IS COMPLETE.
2. ALL DEBRIS FROM REMOVAL AND CONSTRUCTION WORK SHALL BE CONTAINED AND PROPERLY DISPOSED OF. IF CONTAINMENT METHODS ARE INADEQUATE OR DEBRIS IS FOUND OUTSIDE OF THE LIMIT OF DISTURBANCE, CLEAN UP IMMEDIATELY AND RE-EVALUATE THE PROTECTION MEASURES.
3. THIS AREA IS A KNOWN ARCHEOLOGICAL SENSITIVE AREA, THEREFORE, NO STOCKPILE AND/OR STAGING IS ALLOWED OUTSIDE THE DESIGNATED LOD BOUNDARY OR ALONGSIDE THE ACCESS ROAD. ANY FINES OR PROJECT DELAYS THAT RESULT FROM WORK BEING PREFORMED OUTSIDE THE LOD OR ACCESS ROAD WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

BY: _____
District Manager or Designee

DATE: _____
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THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

ES-8

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

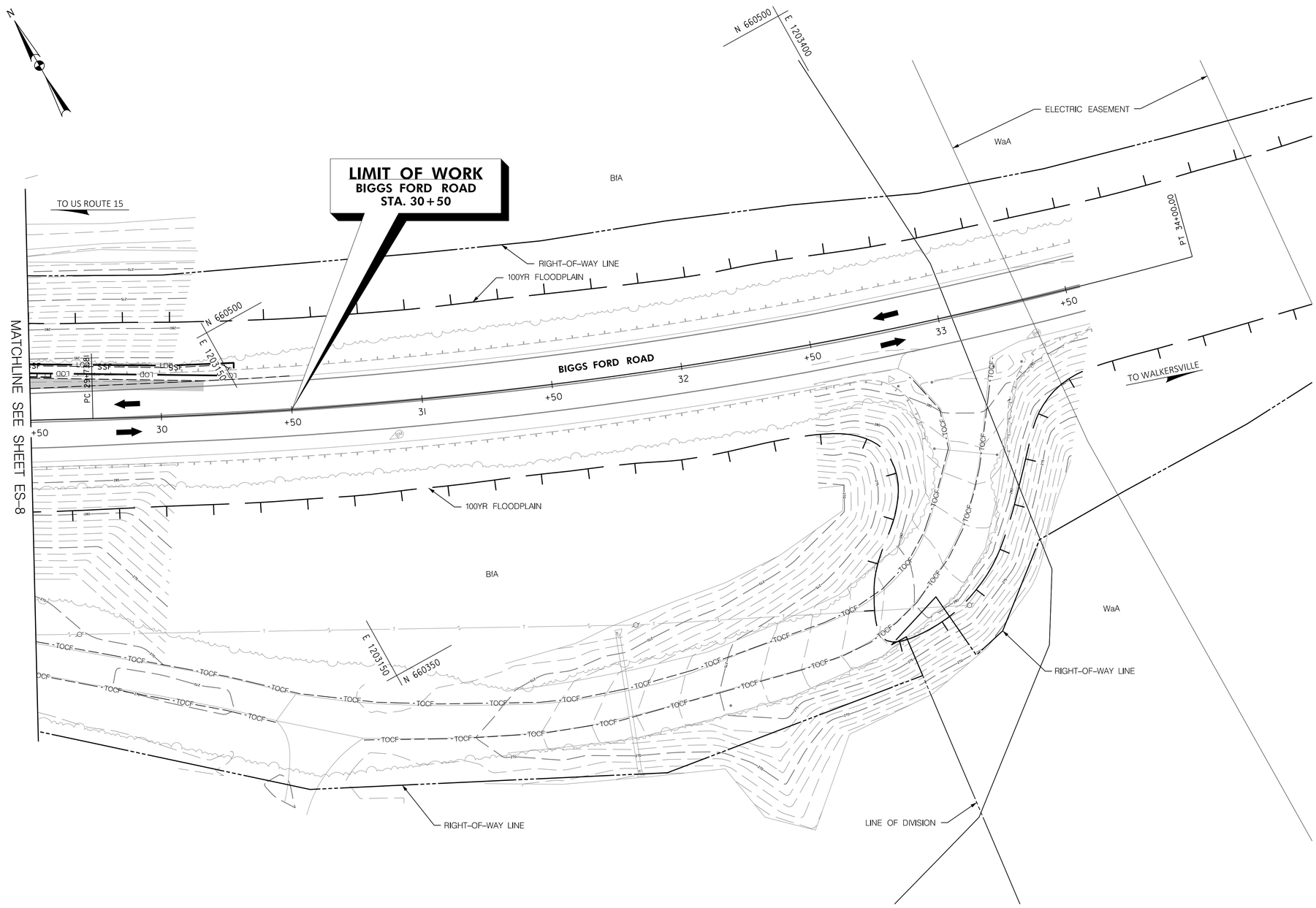
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 2 STA. 25+00 TO STA. 29+50

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 29 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STATIC\00-298.06 - Biggs Ford Rd\CADD\MicroStation\ES-P202_BIGGSFORD.dgn



LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

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Frederick County Soil Conservation District
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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

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CONSULTING ENGINEERS | OWINGS MILLS, MD

QUANTITY NOTES

ES-9

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 2 STA. 29+50 TO STA. 33+50

DATE: JULY 2024 SCALE: 1"=20'

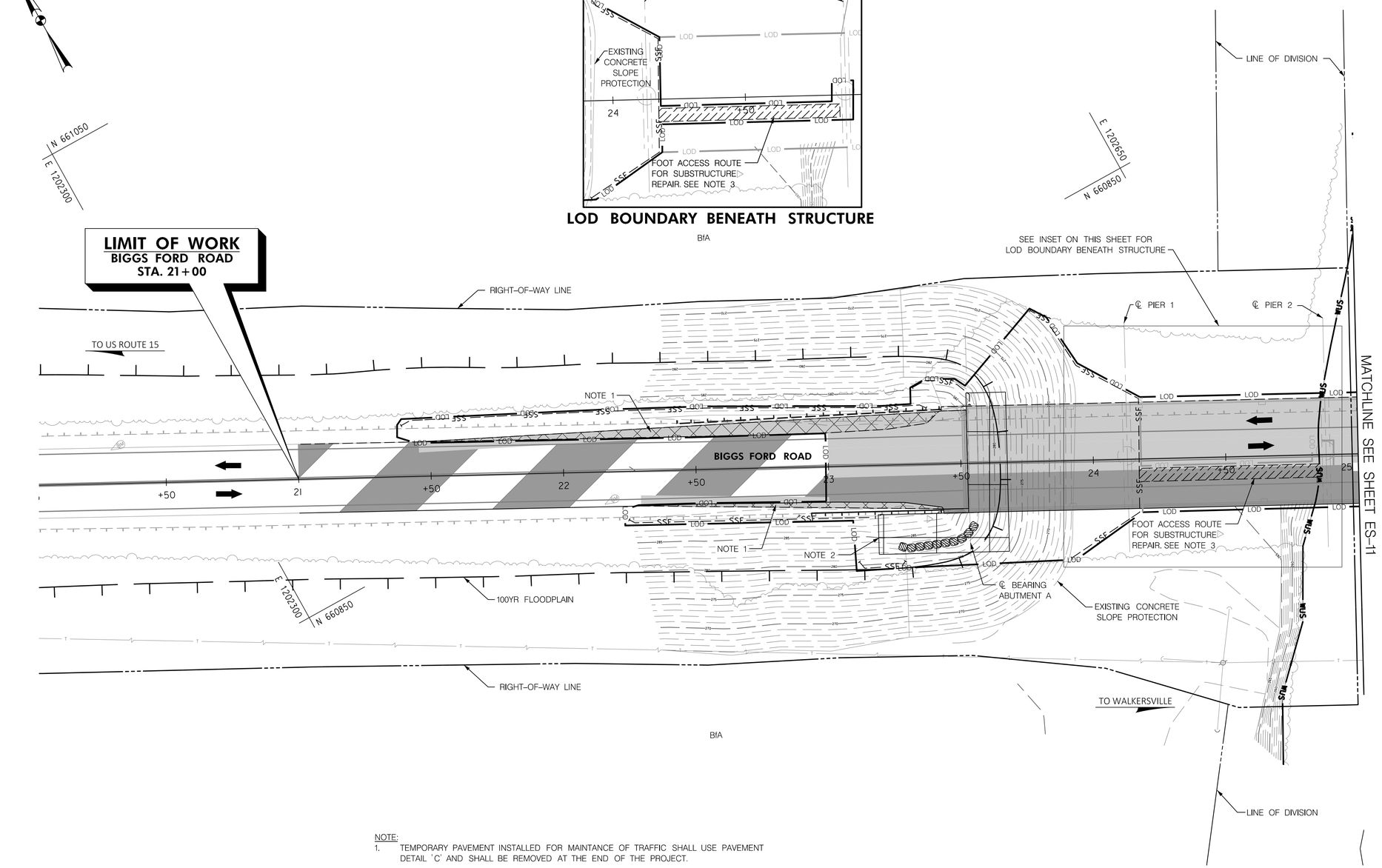
CONTRACT NO. C6017.6017.01 DWG. 30 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STR\600-298.06 - Biggs Ford Rd\CADD\Microstation\ES-P203_BIGGSFORD.dgn



LOD BOUNDARY BENEATH STRUCTURE

BfA



BfA

NOTE:

1. TEMPORARY PAVEMENT INSTALLED FOR MAINTANCE OF TRAFFIC SHALL USE PAVEMENT DETAIL 'C' AND SHALL BE REMOVED AT THE END OF THE PROJECT.
2. SUGGESTED LOCATION OF ACCESS PLATFORM ONLY. DESIGN AND ACCESS METHOD TO BE ESTABLISHED BY THE CONTRACTOR.
3. AREA SHOWN HATCHED IS L.O.D. REQUIRED FOR FOOT ACCESS TO PREFORM SUBSTRUCTURE REPAIRS. NO ACTUAL SOIL DISTURBANCE, EXCAVATION, OR MOTORIZED EQUIPMENT IS ALLOWED WITHIN THIS AREA. IN THE EVENT DISTURBANCE OCCURS, THE AREA SHALL BE STABILIZED IMMEDIATELY. ACCESS FROM THE WATER VIA DIVERS AND BOAT IS ALLOWED FROM THE ACCESS ROAD ON EAST BANK.
4. ALL DEBRIS FROM REMOVAL AND CONSTRUCTION WORK SHALL BE CONTAINED AND PROPERLY DISPOSED OF. IF CONTAINMENT METHODS ARE INADEQUATE OR DEBRIS IS FOUND OUTSIDE OF THE LIMIT OF DISTURBANCE, CLEAN UP IMMEDIATELY AND RE-EVALUATE THE PROTECTION MEASURES.
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6. THIS ENTIRE SHEET FALLS WITHIN THE BfA SOIL BOUNDARY.

LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
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Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

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District Manager or Designee

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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

QUANTITY NOTES

ES-10

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

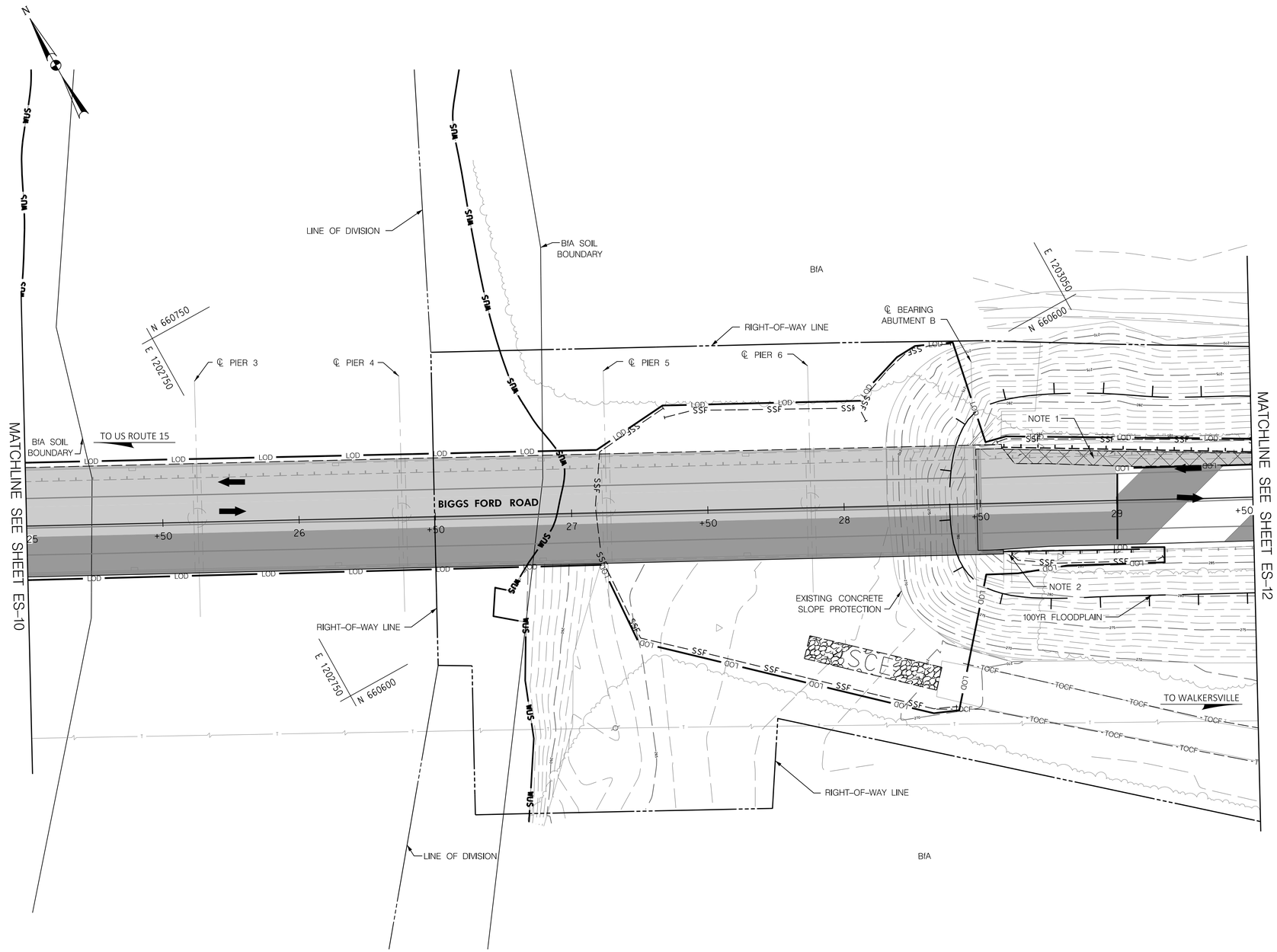
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 3 STA. 20+00 TO STA. 25+00

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 31 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\ST+\100-298.06 - Biggs Ford Rd\CADD\MicroStation\ES-P30\BIGGSFORD.dgn



NOTE:

1. TEMPORARY PAVEMENT INSTALLED FOR MAINTANCE OF TRAFFIC SHALL USE PAVEMENT DETAIL 'C' AND SHALL BE REMOVED AT THE END OF THE PROJECT.
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LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

BY: _____
District Manager or Designee

DATE: _____
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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

QUANTITY NOTES

ES-11

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

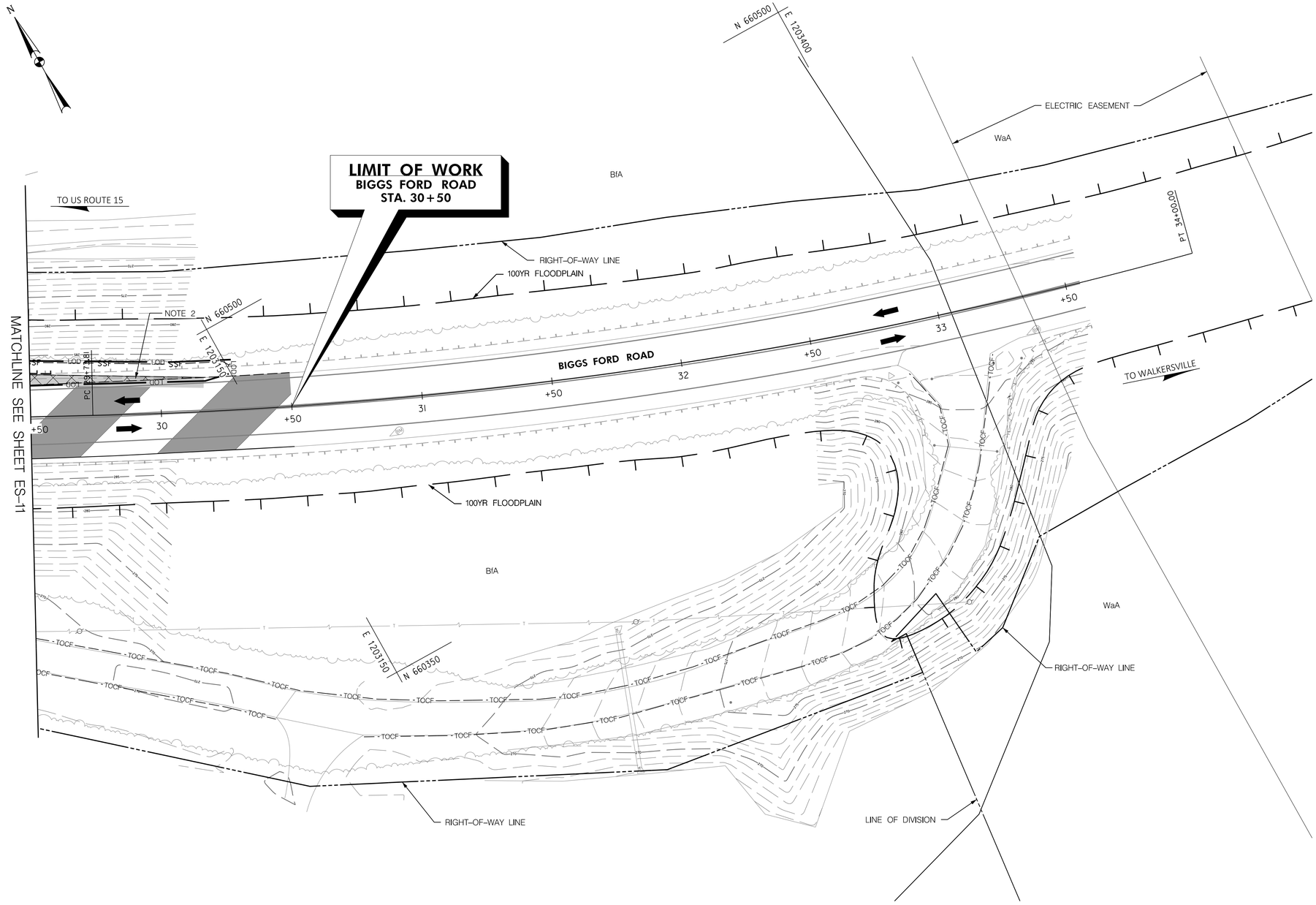
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 3 STA. 25+00 TO STA. 29+50

DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 32 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STRUCTURES\298.06 - Biggs Ford Rd\CADD\MicroStation\ES-P302_BIGGSFORD.dgn



LEGEND

- PROPOSED ROADWORK IN CURRENT STAGE
- PROPOSED ROADWORK IN PREVIOUS STAGE
- PROPOSED RESURFACING
- SUGGESTED WORK PLATFORM ACCESS
- SUGGESTED FOOT ACCESS ROUTE
- TEMPORARY FULL-DEPTH ASPHALT FOR MOT TO BE REMOVED

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LICENSE NO. 24828
EXPIRATION DATE: 02/25/2026

Frederick County Soil Conservation District
Erosion and Sediment Control Plan Approval

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District Manager or Designee

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CONSULTING ENGINEERS | OWINGS MILLS, MD

QUANTITY NOTES

ES-12

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

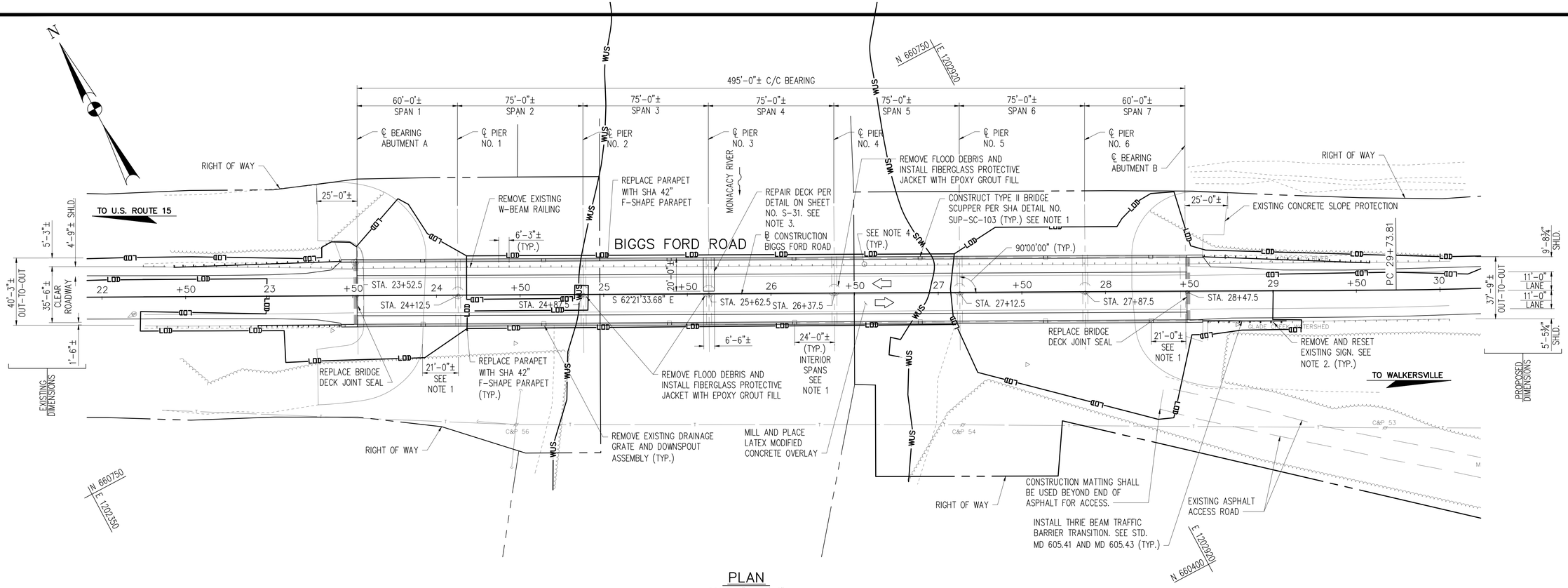
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

EROSION AND SEDIMENT CONTROL STAGE 3 STA. 29+50 TO STA. 33+50

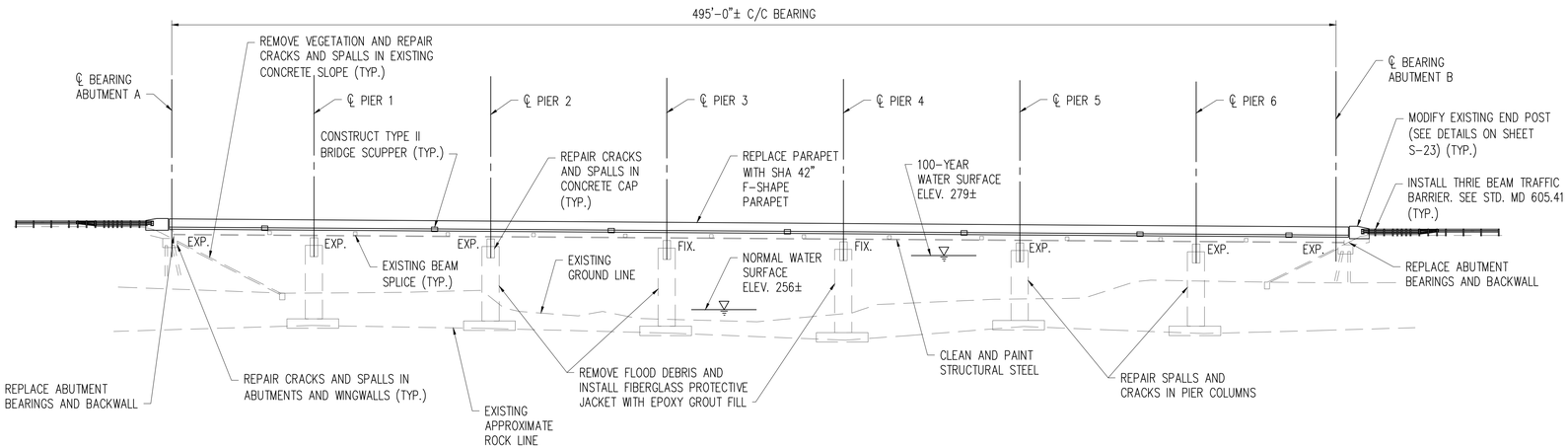
DATE: JULY 2024 SCALE: 1"=20'

CONTRACT NO. C6017.6017.01 DWG. 33 OF 77

BY: JCW -
PLOTTED: 7/17/2024
FILE: U:\STr\100-298.06 - Biggs Ford Rd\CADD\Micro Station\ES-P303_BIGGSFORD.dgn



PLAN
SCALE: 1" = 30'-0"



ELEVATION
SCALE: 1" = 30'-0"

NOTES:

1. DIMENSIONS SHOWN ARE FROM THE EXISTING SCUPPERS TO THE CENTERLINE OF BEARING. PROPOSED TYPE II SCUPPER LOCATION SHALL MATCH LOCATION OF EXISTING DRAINS THROUGH DECK. REFER TO SHA DETAIL NO. SUP-SC-103 ON SHEET SD-1.
2. REFER TO THE SIGNING AND MARKING PLAN FOR FINAL SIGN AND LANE STRIPING INFORMATION.
3. LOCATION AND LIMIT OF DECK REPAIR SHOWN IS APPROXIMATE AND SHALL BE DELINEATED IN THE FIELD BY THE ENGINEER AND CONTRACTOR PRIOR TO BEGINNING WORK OR ORDERING MATERIAL.
4. REMOVE POST AND ANCHOR BOLTS TO THE LIMITS SHOWN ON THE ANCHOR PLATE DETAILS ON SHEET S-29.

CROSS REFERENCE NOTES

1. FOR ABUTMENT REPAIRS, SEE SHEET NOS. S-6 TO S-22.
2. FOR SUPERSTRUCTURE REPAIRS, SEE SHEET NOS. S-29 TO S-31.
3. FOR PIER REPAIRS, SEE SHEET NOS. S-25 AND S-26.
4. FOR GENERAL NOTES, SEE SHEET S-2.

S-1

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I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

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CONSULTING ENGINEERS | OWINGS MILLS, MD

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

GENERAL PLAN AND ELEVATION

DATE: JULY 2024 SCALE: 1"=30'-0"

CONTRACT NO. C6017.6017.01 DWG. 34 OF 77

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07-30-24 MAB

GENERAL NOTES

SPECIFICATIONS: MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JULY 2024.

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2020.

LOADING: HS20-44 WITH PROVISIONS FOR FUTURE 2" WEARING SURFACE.

LOAD RESTRICTIONS: THERE ARE RESTRICTIONS FOR PLACING EQUIPMENT AND MATERIAL ON EXISTING AND NEW STRUCTURE(S). REFER TO SECTION TC 6.14.

CONCRETE: CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE:
f'c = 3,000 PSI FOR ELEMENTS USING MIX NO. 3.
f'c = 4,000 PSI FOR ELEMENTS USING MIX NO. 6.

ALL CONCRETE FOR ABUTMENT BACKWALLS, PEDESTALS, PARAPETS, END POSTS, AND DECK OVERHANGS SHALL BE MIX NO. 6 (4,500 PSI) CONTAINING SYNTHETIC FIBERS (SEE SECTION 902.15.01).

ALL CONCRETE FOR SUPERSTRUCTURE OVERLAY SHALL BE LATEX MODIFIED CONCRETE PER SECTION 426 (3,500 PSI).

ALL OTHER STRUCTURE SHALL BE MIX NO. 3 (3,500 PSI).

FOR SURFACE CONCRETE REPAIRS TO ADDRESS SPALLING, USE MIX NO. 5 (3,500 PSI) CONCRETE OR EQUAL. OVERHEAD SPALLS IN THE PIER CAPS SHALL USE SIKAQUICK VOH OR APPROVED EQUIVALENT.

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 WITH A YIELD STRENGTH FOR DESIGN OF fy = 60,000 PSI.

ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS.

ALL PROPOSED REINFORCING SHALL BE EPOXY COATED.

MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2" EXCEPT FOR FOLLOWING LOCATIONS:

LOCATION	CLEAR COVER
BOTTOM OF BRIDGE DECK SLABS	1 IN.

FOR TIES AND STIRRUPS, STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCES.

STRUCTURAL STEEL: NEW STRUCTURAL STEEL SHALL CONFORM TO A709, GRADE 50, INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF M270 FOR PRIMARY LOAD CARRYING MEMBERS, REFER TO SECTION 909.01.

EXISTING STRUCTURAL STEEL CONFORMS TO ASTM DESIGNATION A-36.

ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 55.

CLEANING AND PAINTING: REFER TO MD SPECIFICATION SECTIONS 435 AND 436.

THE COLOR FOR THE FINISH COAT SHALL MATCH AMS-STD-595A, COLOR NO. 24180 (DARK GREEN) SYSTEM C.

EXISTING STRUCTURES: ALL DIMENSIONS AFFECTED BY THE GEOMETRY AND/OR LOCATION OF THE STRUCTURE SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR BEFORE ANY MATERIAL IS ORDERED OR FABRICATED OR CONSTRUCTION BEGINS.

THE EXISTING STRUCTURE WAS DESIGNED USING AASHTO 1965 SPECIFICATION FOR HS-20 44 LOADING WITH PROVISION FOR A 2" WEARING SURFACE.

CONSTRUCTION NOTES

MAINTENANCE OF TRAFFIC: REFER TO TRAFFIC CONTROL PLAN ON SHEET MT-1 THRU MT-8.

MAJOR ITEMS OF WORK REQUIRED:

1) INSTALL TRAFFIC BARRIER THRIE BEAM TRANSITIONS.
2) MILL AND RESURFACE DECK WITH LATEX MODIFIED CONCRETE.
3) CLEAN AND PAINT STEEL SUPERSTRUCTURE.
4) REMOVE EXISTING W-BEAM BRIDGE RAILING.
5) PATCH THE SPALLS AND SCALING IN THE DECK OVER PIER 3.
6) REPLACE ABUTMENT BRIDGE DECK JOINTS AND SEALS.
7) REPLACE SCUPPER GRATES AND DOWNSPOUT WITH FIBERGLASS SCUPPERS.
8) REPAIR CRACKS AND SPALLS IN SUBSTRUCTURE UNITS AND SLOPE PROTECTION.
9) REMOVE FLOOD DEBRIS AND INSTALL FIBERGLASS PROTECTIVE JACKET WITH EPOXY GROUT FILL AT PIERS 2, 3, AND 4.
10) JACK AND REPLACE ABUTMENT BEARINGS AND BEARING PEDESTALS.
11) REPLACE ABUTMENT BACKWALLS AND END POSTS.
12) REPLACE PARAPETS WITH SHA 42" F-SHAPE PARAPET.

S-2

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FREDERICK COUNTY, MARYLAND

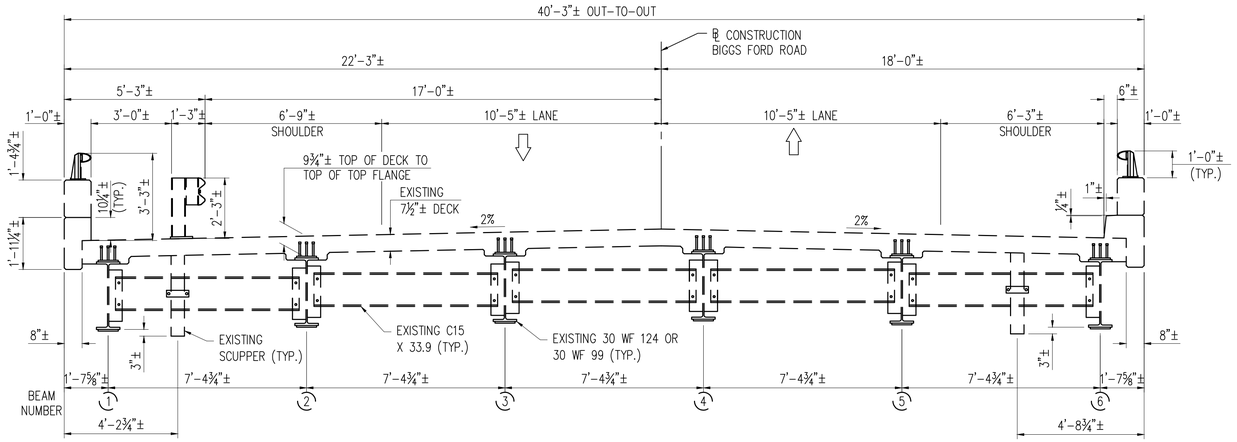
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

GENERAL NOTES

DATE: JULY 2024 SCALE: NONE

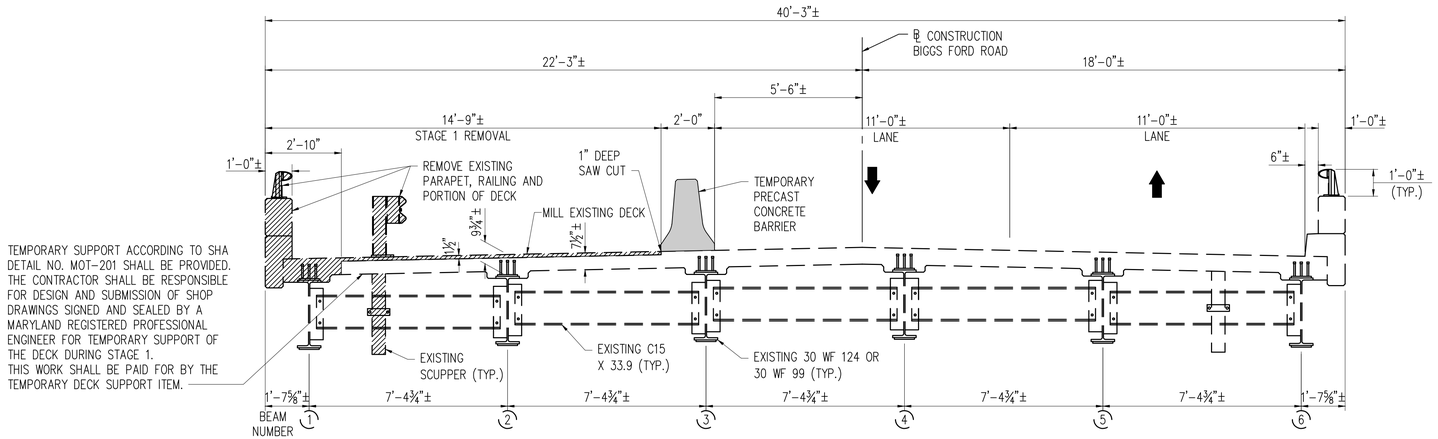
CONTRACT NO. C6017.6017.01 DWG. 35 OF 77

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01-30-24 MAB



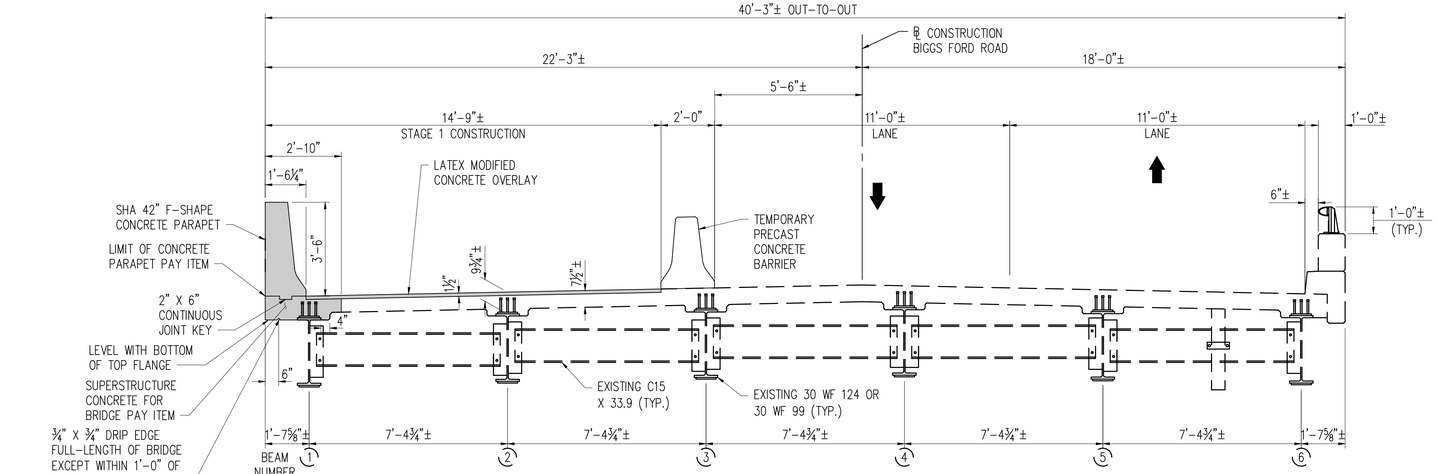
EXISTING TYPICAL SECTION

SCALE: ⅜" = 1'-0"



STAGE 1 REMOVAL

SCALE: ⅜" = 1'-0"



STAGE 1 CONSTRUCTION

SCALE: ⅜" = 1'-0"

LEGEND

- LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE
- PROPOSED CONSTRUCTION

STRUCTURAL REPAIRS - SEQUENCE OF CONSTRUCTION:

1. THE FOLLOWING WORK SHALL BE PERFORMED IN THREE STAGES:
   a. SET UP TRAFFIC CONTROL IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLANS.
   b. JACK AND REPLACE THE STEEL BEARINGS.
   c. REPLACE THE ABUTMENT BACKWALLS, END POSTS, AND BEARING PEDESTALS.
   d. REPLACE THE ROADWAY JOINTS SEALS.
   e. REPLACE THE NORTH PARAPET IN STAGE 1 AND THE SOUTH PARAPET IN STAGE 3.
   f. REPAIR THE DETERIORATED CONCRETE OVER PIER 3 IN STAGES 1 AND 2. REMOVE THE TOP 1½" OF THE EXISTING DECK CONCRETE AND REPLACE WITH 1½" OF LATEX MODIFIED CONCRETE.
   g. NOTIFY THE ENGINEER IF ADDITIONAL AREAS OF SOFT CONCRETE, DELAMINATED CONCRETE, OR VISUAL ANOMALIES ARE UNCOVERED DURING THE DECK RESURFACING PROCESS AND REPAIR ADDITIONAL AREAS AS DIRECTED BY THE ENGINEER. ADDITIONAL REPAIRS SHALL BE PAID AT THE UNIT PRICE BID FOR THE LATEX MODIFIED CONCRETE OVERLAY BID ITEM.
   h. REPLACE THE EXISTING APPROACH TRAFFIC BARRIERS WITH THRIE-BEAM TRAFFIC BARRIERS.
2. INSTALL DRAINAGE TROUGHS AT THE ABUTMENTS.
3. PATCH SPALLS AND SEAL CRACKS IN THE SUBSTRUCTURE UNITS AND SLOPE PROTECTION. THIS WORK MAY OCCUR CONCURRENT WITH OTHER TASKS. IF REPAIR AREAS ARE ADJACENT TO AREAS OF NEW CONCRETE, PERFORM THE REPAIR PRIOR TO CONSTRUCTING THE NEW CONCRETE.
4. CLEAN AND PAINT THE ENTIRE STEEL SUPERSTRUCTURE. REFER TO THE CLEANING AND PAINTING NOTES FOR ADDITIONAL INFORMATION.
5. REMOVE THE FLOOD DEBRIS FROM AROUND THE PIER COLUMNS. THIS WORK MAY OCCUR CONCURRENT WITH THE OTHER TASKS.
6. CONSTRUCT FIBERGLASS PROTECTIVE JACKET WITH EPOXY GROUT FILL AT PIER COLUMNS 2, 3, AND 4. THIS WORK MAY OCCUR CONCURRENT WITH THE OTHER TASKS.

STAGE 1 REMOVAL NOTES:

1. AFTER MAINTENANCE OF TRAFFIC HAS BEEN SET, REMOVE THE EXISTING W-BEAM TRAFFIC BARRIER. REMOVE THE EXISTING SCUPPERS AND SCUPPER DRAIN PIPES.
2. REMOVE EXISTING DECK OVERHANG AND TOP 1½" OF THE DECK.
3. LOCATE THE TOP FLANGES OF EXISTING BEAM NO. 1 PRIOR TO REMOVAL OPERATIONS AND ONLY USE HAND TOOLS FOR REMOVAL WITHIN 6" OF THE TOP FLANGE AND SHEAR STUDS.
4. THE TEMPORARY PRECAST CONCRETE BARRIER SHALL NOT BE BOLTED TO THE DECK.

STAGE 1 CONSTRUCTION NOTES:

1. CONSTRUCT PROPOSED DECK OVERHANG AND PARAPET.
2. PLACE LATEX MODIFIED CONCRETE OVERLAY.

CROSS REFERENCE NOTES

1. REFER TO SHEETS S-6 TO S-13 FOR ABUTMENT A SEQUENCE OF CONSTRUCTION.
2. REFER TO SHEETS S-14 TO S-21 FOR ABUTMENT B SEQUENCE OF CONSTRUCTION.

S-3

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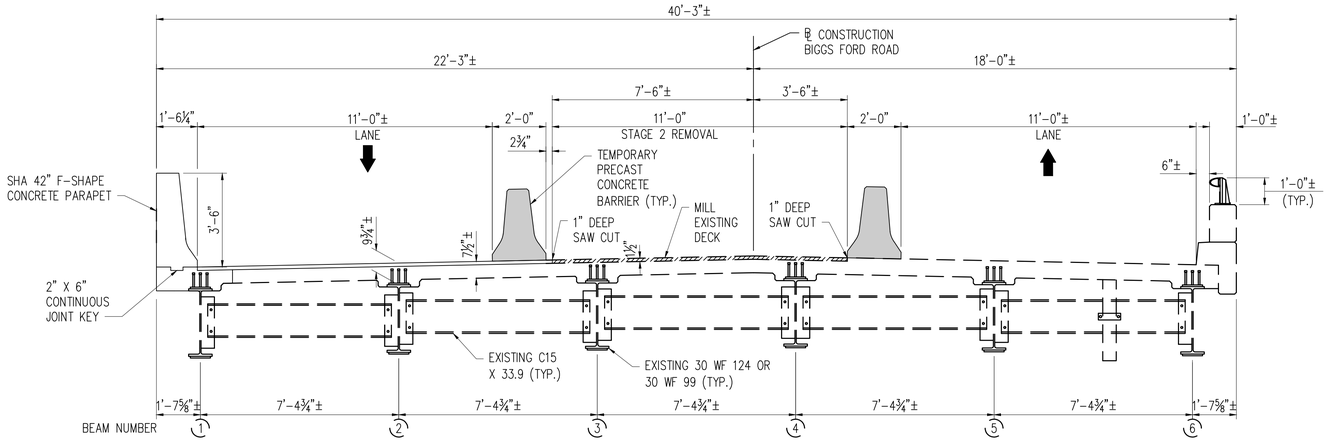
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FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
SUPERSTRUCTURE
SEQUENCE OF CONSTRUCTION - I

DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 36 OF 77

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10-22-24



STAGE 2 REMOVAL

SCALE: ⅜" = 1'-0"

STAGE 2 REMOVAL NOTES:

1. AFTER MAINTENANCE OF TRAFFIC HAS BEEN RESET, REMOVE TOP 1½" OF THE DECK.
2. THE TEMPORARY PRECAST CONCRETE BARRIER SHALL NOT BE BOLTED TO THE DECK.

STAGE 2 CONSTRUCTION

SCALE: ⅜" = 1'-0"

STAGE 2 CONSTRUCTION NOTES:

1. PLACE LATEX MODIFIED CONCRETE OVERLAY.

LEGEND

- LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE
- PROPOSED CONSTRUCTION

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S-4

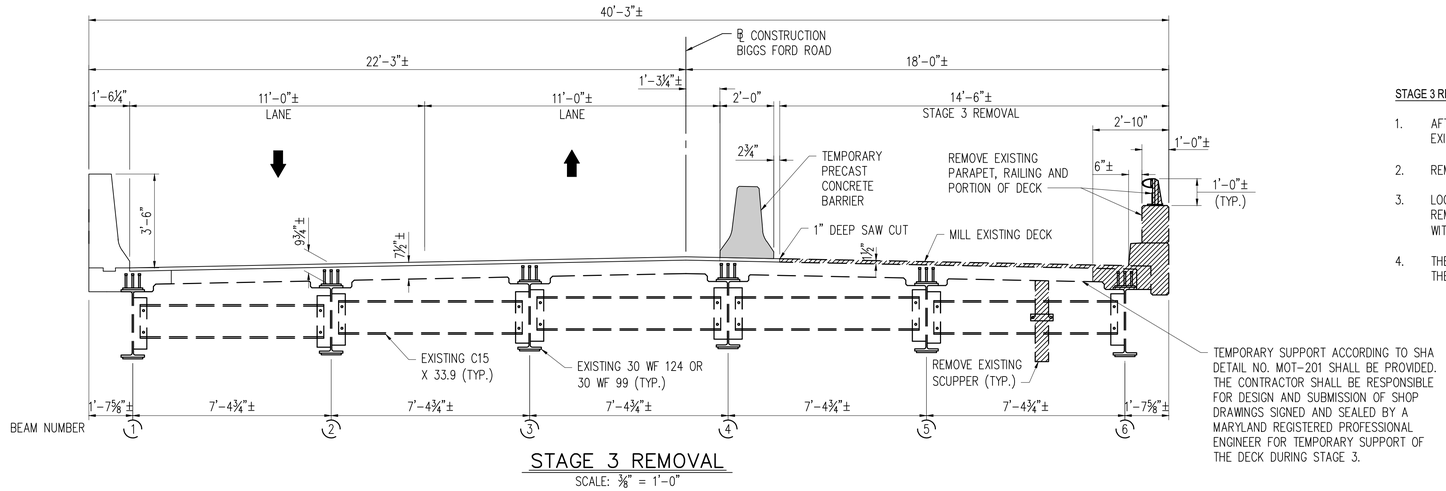
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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
SUPERSTRUCTURE
SEQUENCE OF CONSTRUCTION - II

DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 37 OF 77

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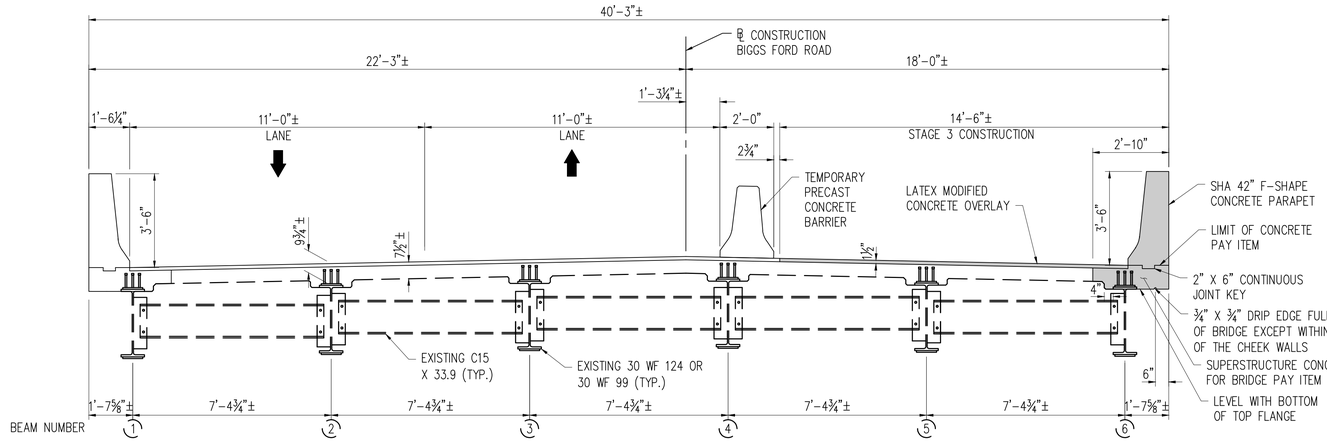


STAGE 3 REMOVAL

SCALE: ⅜" = 1'-0"

STAGE 3 REMOVAL NOTES:

1. AFTER MAINTENANCE OF TRAFFIC HAS BEEN RESET, REMOVE THE EXISTING SCUPPERS AND SCUPPER DRAIN PIPES.
2. REMOVE EXISTING DECK OVERHANG AND TOP 1½" OF THE DECK.
3. LOCATE THE TOP FLANGE OF EXISTING BEAM NO. 6 PRIOR TO REMOVAL OPERATIONS AND ONLY USE HAND TOOLS FOR REMOVAL WITHIN 6" OF THE TOP FLANGE AND SHEAR STUDS.
4. THE TEMPORARY PRECAST BARRIER SHALL NOT BE BOLTED TO THE DECK.

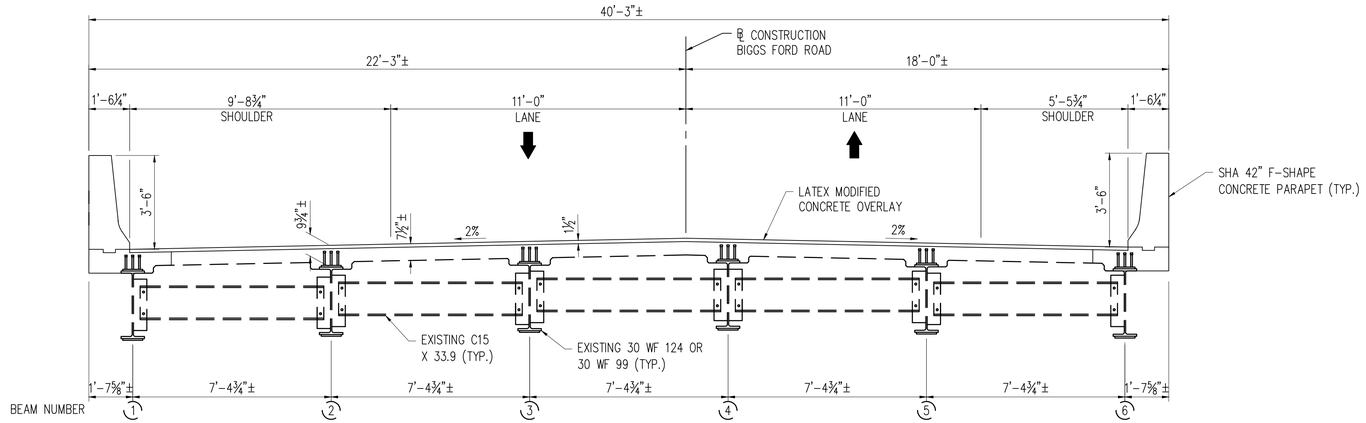


STAGE 3 CONSTRUCTION

SCALE: ⅜" = 1'-0"

STAGE 3 CONSTRUCTION NOTES:

1. CONSTRUCT PROPOSED DECK OVERHANG AND PARAPET.
2. PLACE LATEX MODIFIED CONCRETE OVERLAY.



PROPOSED TYPICAL SECTION

SCALE: ⅜" = 1'-0"

LEGEND

- LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE
- PROPOSED CONSTRUCTION

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S-5

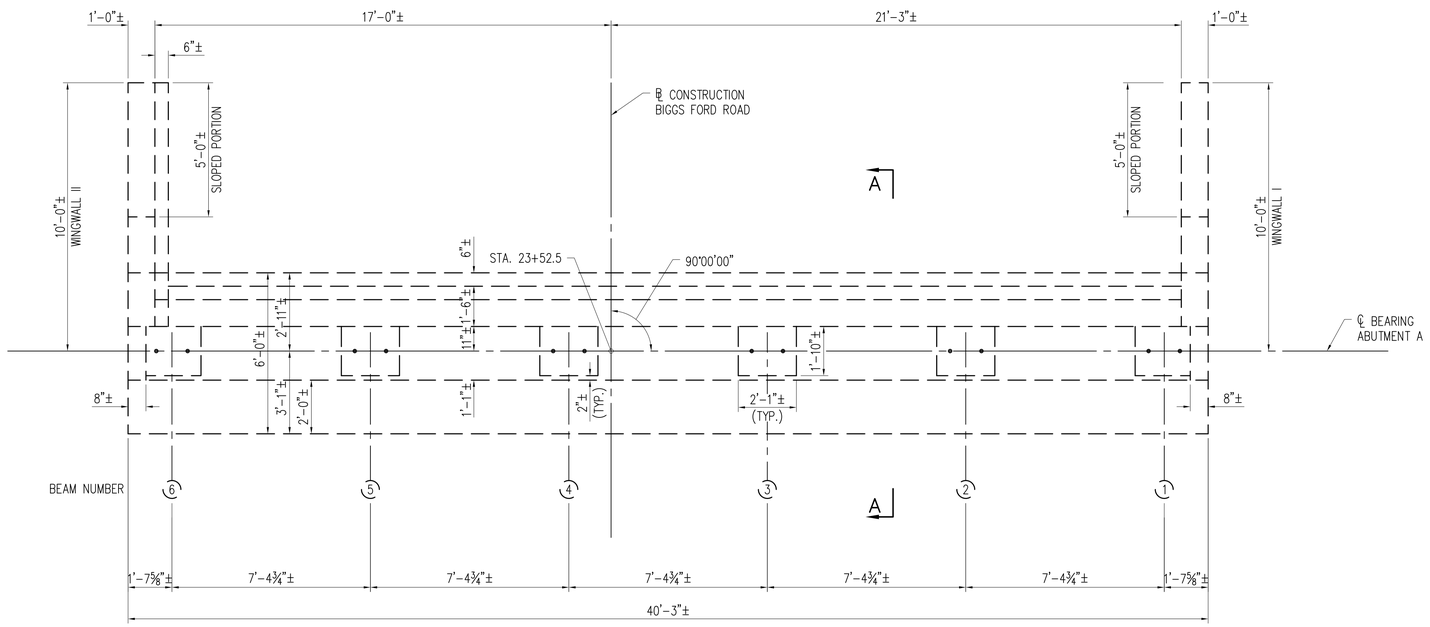
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FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
SUPERSTRUCTURE
SEQUENCE OF CONSTRUCTION - III

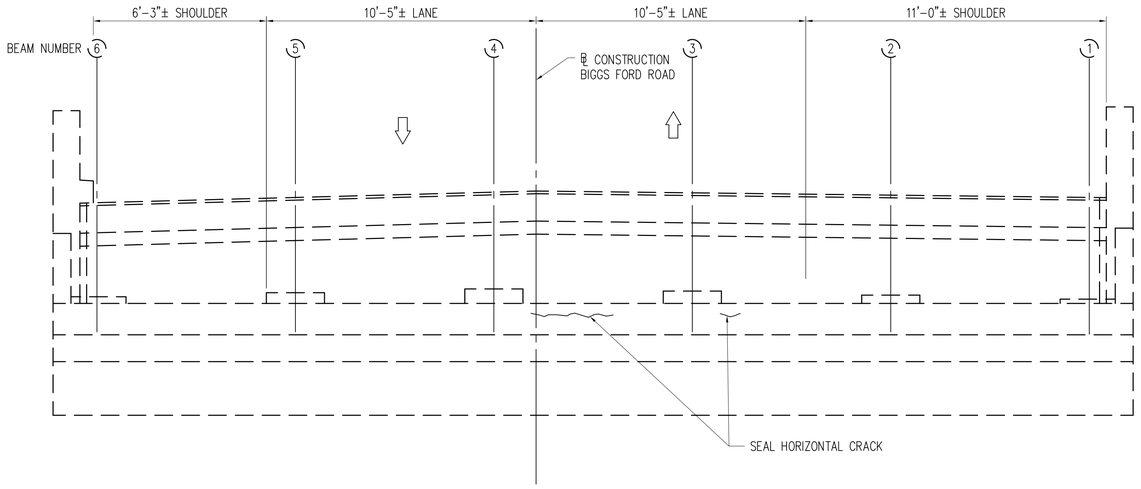
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CONTRACT NO. C6017.6017.01 DWG. 38 OF 77

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07-25-24 TL



PLAN
EXISTING ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
EXISTING ABUTMENT A
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES SEE NOTE 3		
LOCATION	CRACK QUANTITY	SPALL QUANTITY
ABUTMENT A	4 LINEAR FEET	–
ABUTMENT B	67 LINEAR FEET	2 SQUARE FEET
COLUMN 1	–	4 SQUARE FEET
COLUMN 5	–	8 SQUARE FEET
COLUMN 6	19 LINEAR FEET	–
PIER CAP 1	18 LINEAR FEET	–
PIER CAP 2	4 LINEAR FEET	–
PIER CAP 3	–	–
PIER CAP 4	–	3 SQUARE FEET
PIER CAP 5	10 LINEAR FEET	3 SQUARE FEET
PIER CAP 6	13 LINEAR FEET	6 SQUARE FEET
SLOPE PROTECTION	15 LINEAR FEET	–
WINGWALLS	–	–

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES ARE ESTIMATED BASED ON THE 2022 BRIDGE INSPECTION REPORT.

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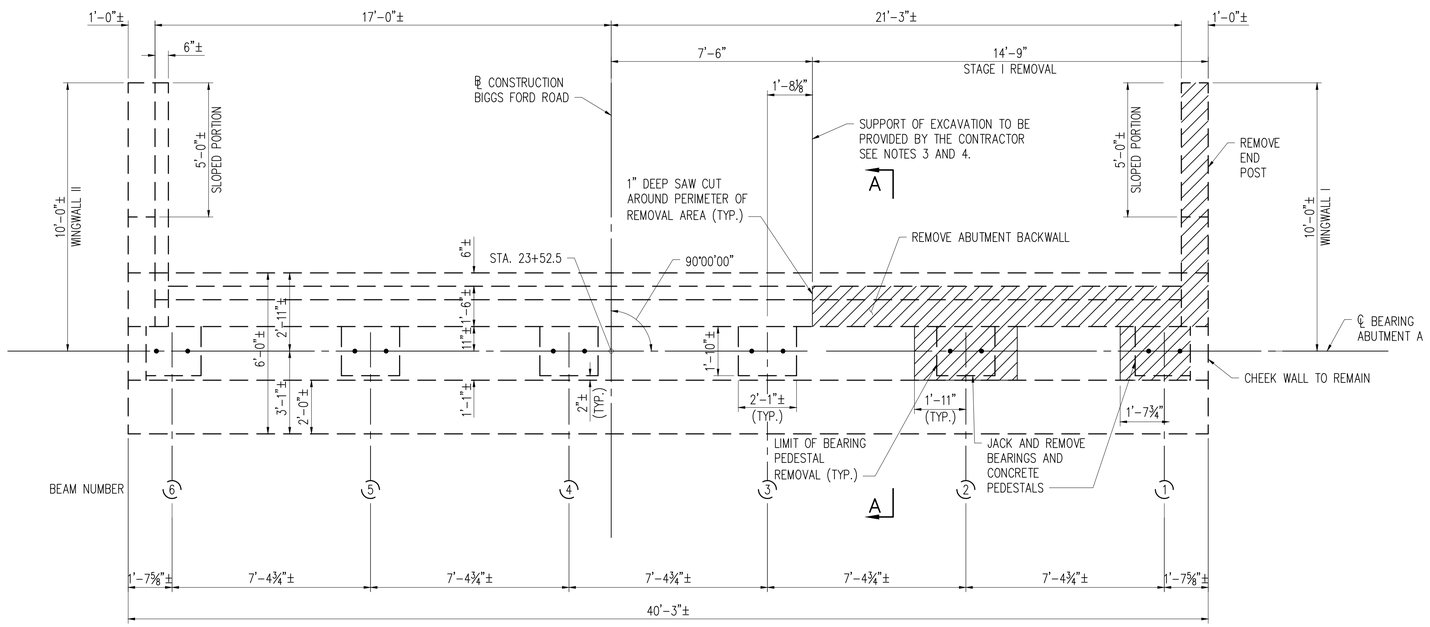
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REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - I

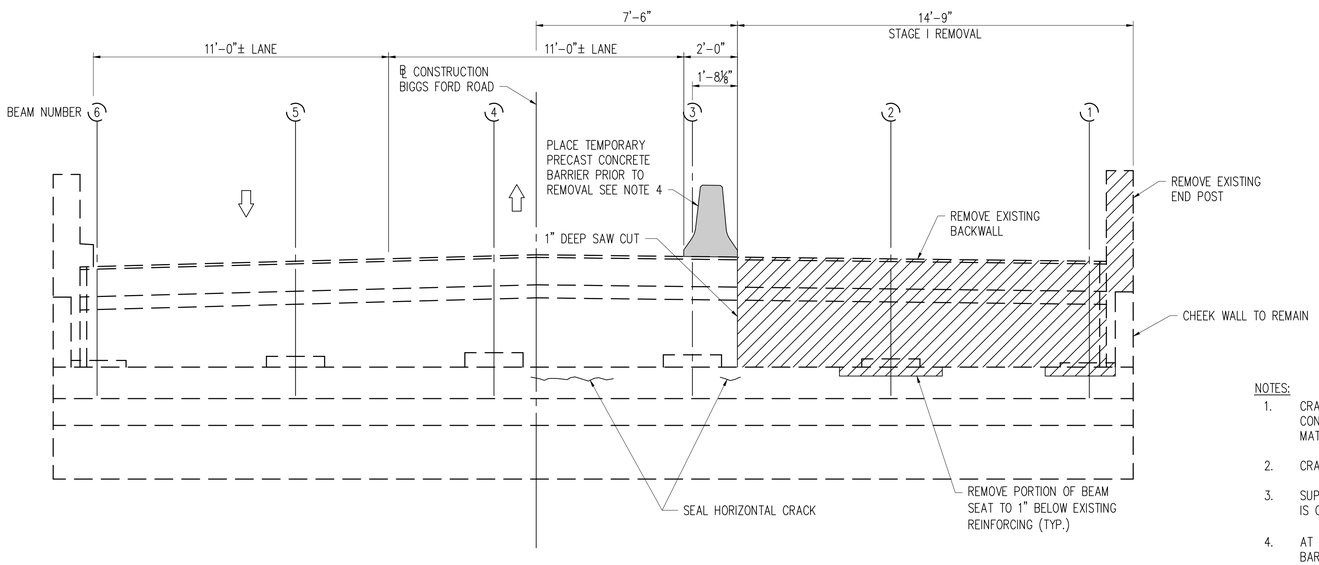
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CONTRACT NO. C6017.6017.01 DWG. 39 OF 77

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01-30-24 MAB



PLAN
STAGE 1 REMOVAL ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 1 REMOVAL ABUTMENT A
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

LIMITS OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. AT THE CONTRACTOR'S OPTION, A SINGLE FACE TEMPORARY PRECAST CONCRETE BARRIER IN ACCORDANCE WITH SHA DETAIL NO. MOT-101 MAY BE USED OFF THE BRIDGE WITHIN 15'-0" OF THE BRIDGE TO BETTER FACILITATE SUPPORT OF EXCAVATION.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
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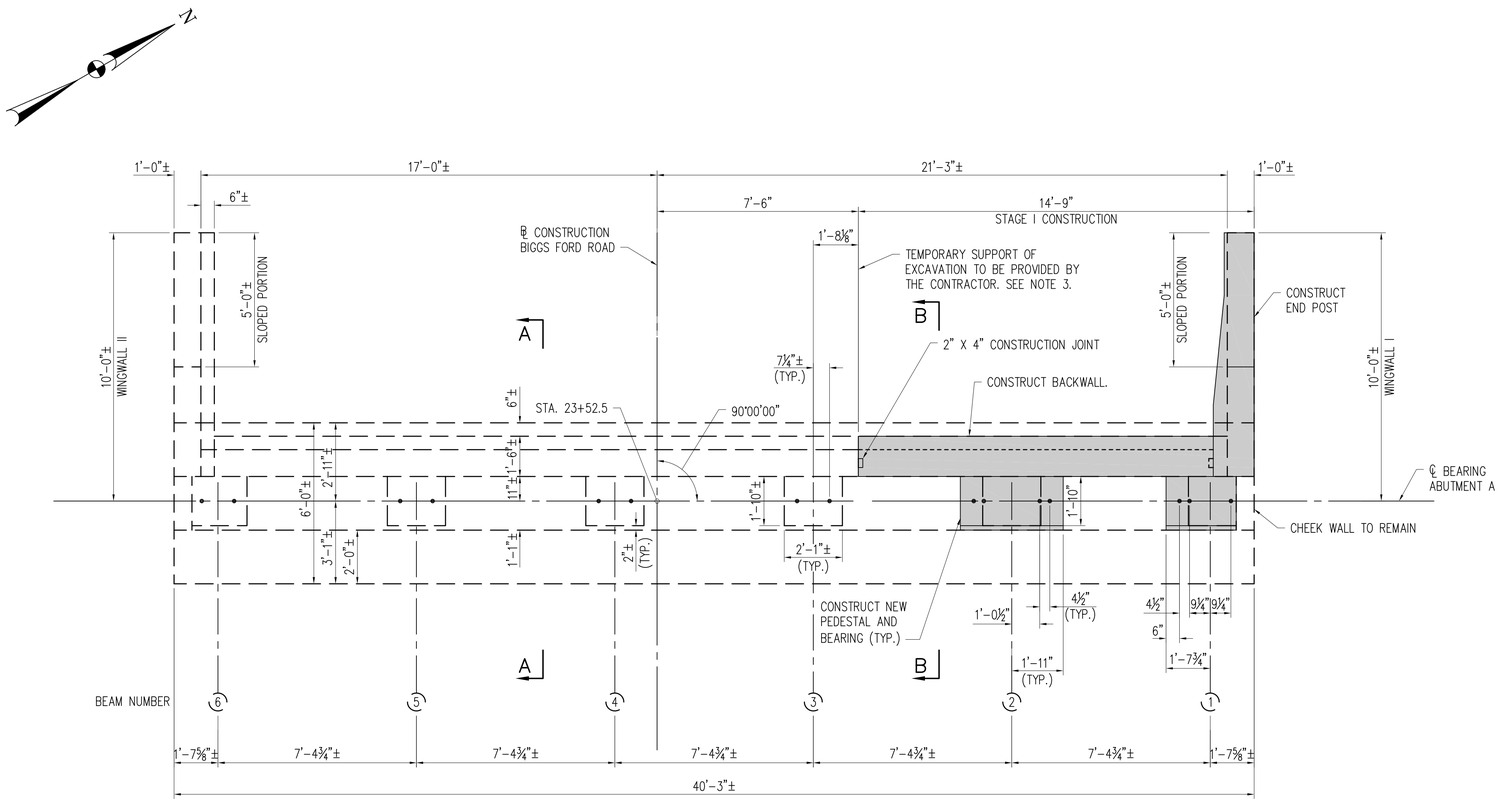
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FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - II

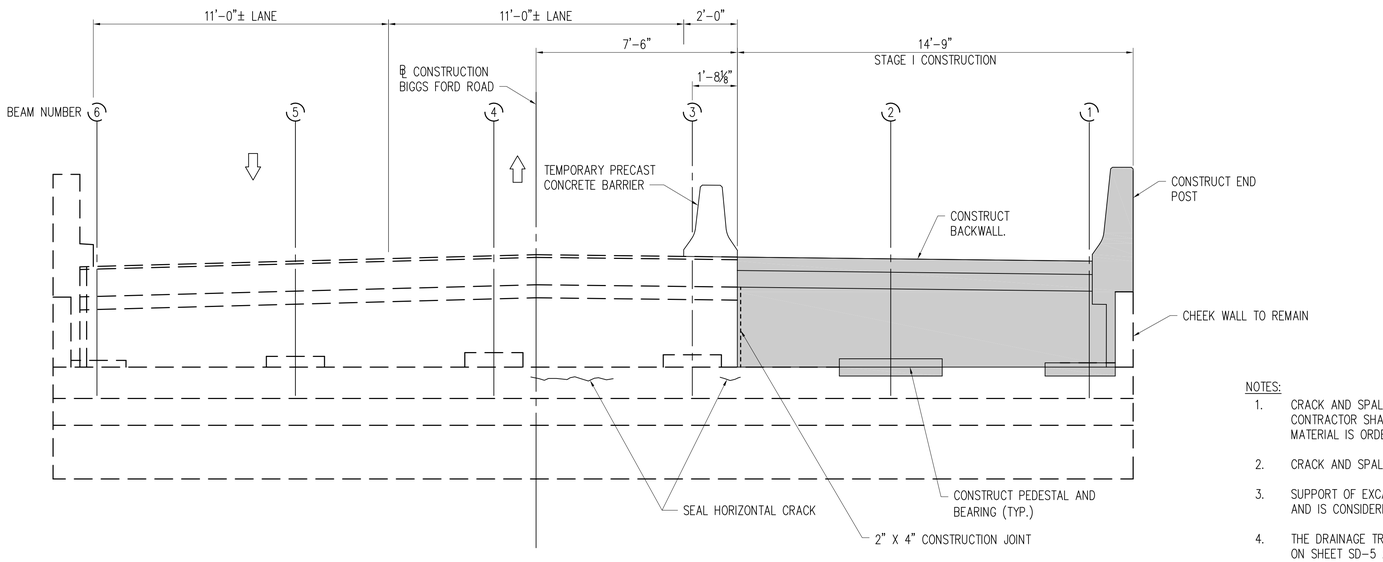
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 40 OF 77

U:\Shr\100-298.06 - Biggs Ford Rd\CAD\PBR-ABUTB_BIGGSFORD.dwg
01-26-24 TE



PLAN
STAGE 1 CONSTRUCTION ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 1 CONSTRUCTION ABUTMENT A
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

PROPOSED CONCRETE AND LIMIT OF SUBSTRUCTURE CONCRETE FOR BRIDGE

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-13.

PROFESSIONAL CERTIFICATION.
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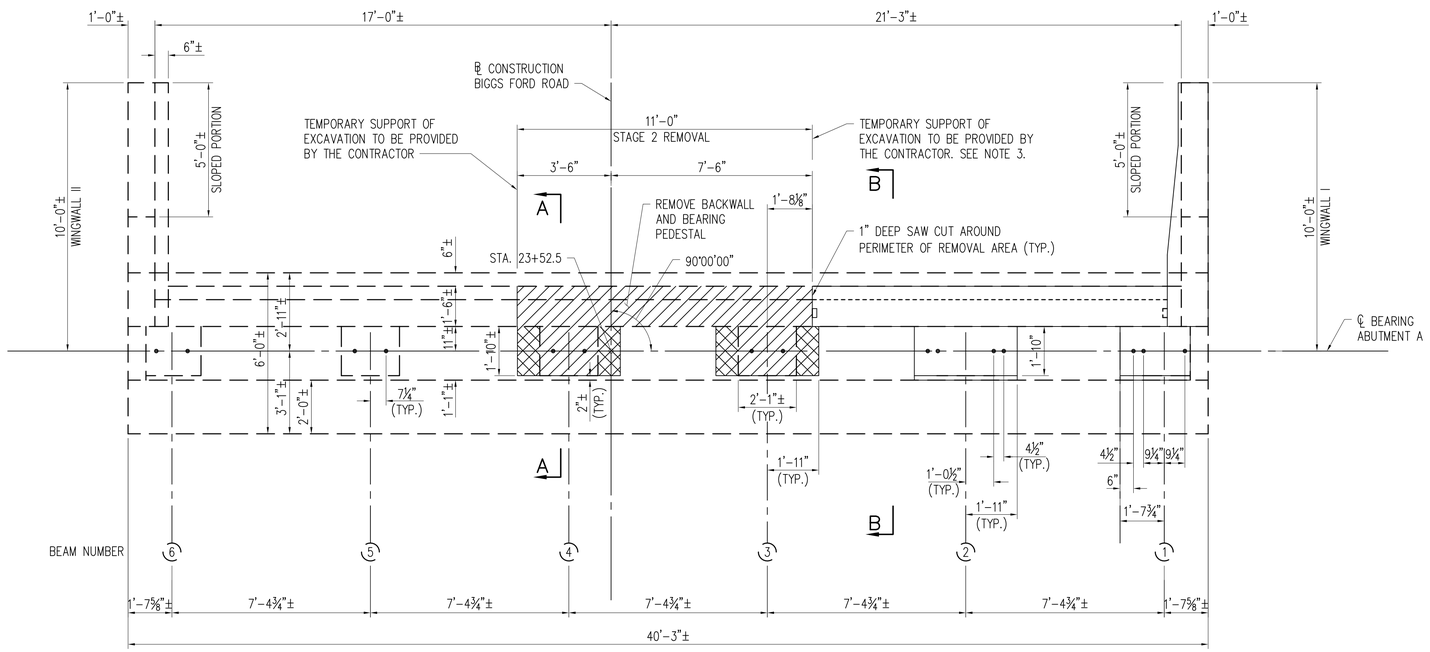
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FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - III

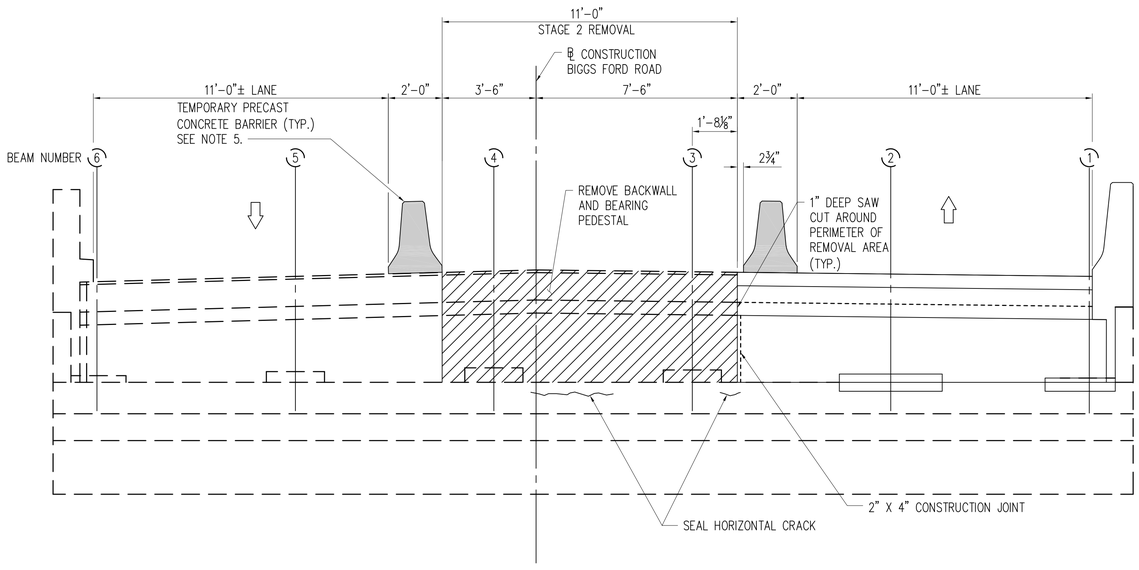
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CONTRACT NO. C6017.6017.01 DWG. 41 OF 77

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01-30-24 MAB



PLAN
STAGE 2 REMOVAL ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 2 REMOVAL ABUTMENT A
SCALE: ⅜" = 1'-0"

LEGEND

- CRACK TO BE SEALED
- LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE
- ROUGHEN EXISTING CONCRETE SURFACE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-13.
5. AT THE CONTRACTOR'S OPTION, A SINGLE FACE TEMPORARY PRECAST CONCRETE BARRIER IN ACCORDANCE WITH SHA DETAIL NO. MOT-101 MAY BE USED OFF OF BRIDGE WITHIN 15'-0" OF THE BRIDGE TO BETTER FACILITATE SUPPORT OF EXCAVATION.
6. MECHANIZED EQUIPMENT SHALL NOT BE USED FOR REMOVAL WITHIN 6" OF THE STAGE 1 CONCRETE. THE STAGE 1 CONCRETE SHALL BE PROTECTED FROM DAMAGE DURING THE REMOVAL PROCESS.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

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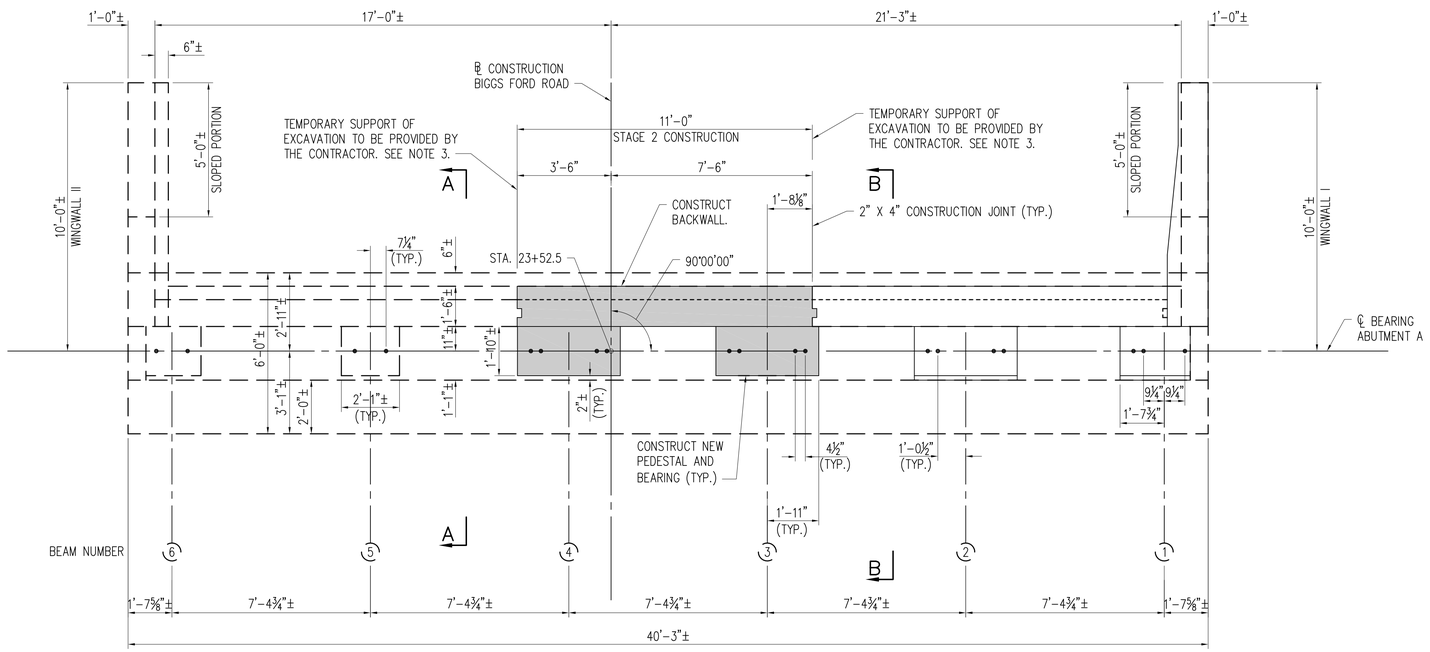
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REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - IV

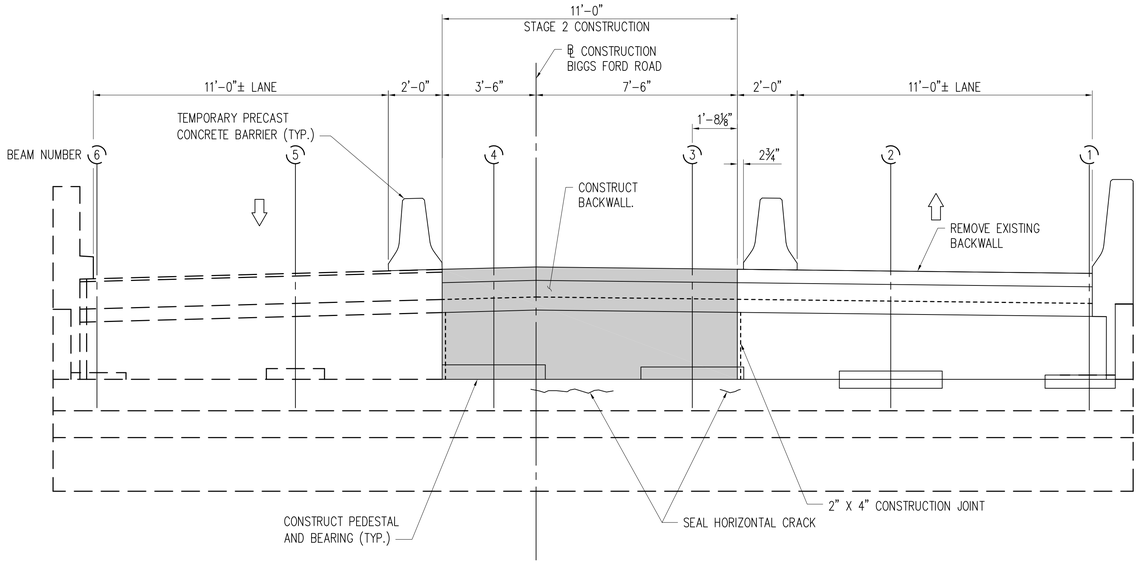
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CONTRACT NO. C6017.6017.01 DWG. 42 OF 77

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01-30-24 MAB



PLAN
STAGE 2 CONSTRUCTION ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 2 CONSTRUCTION ABUTMENT A
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

PROPOSED CONCRETE AND LIMIT OF SUBSTRUCTURE CONCRETE FOR BRIDGE

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-13.

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S-10

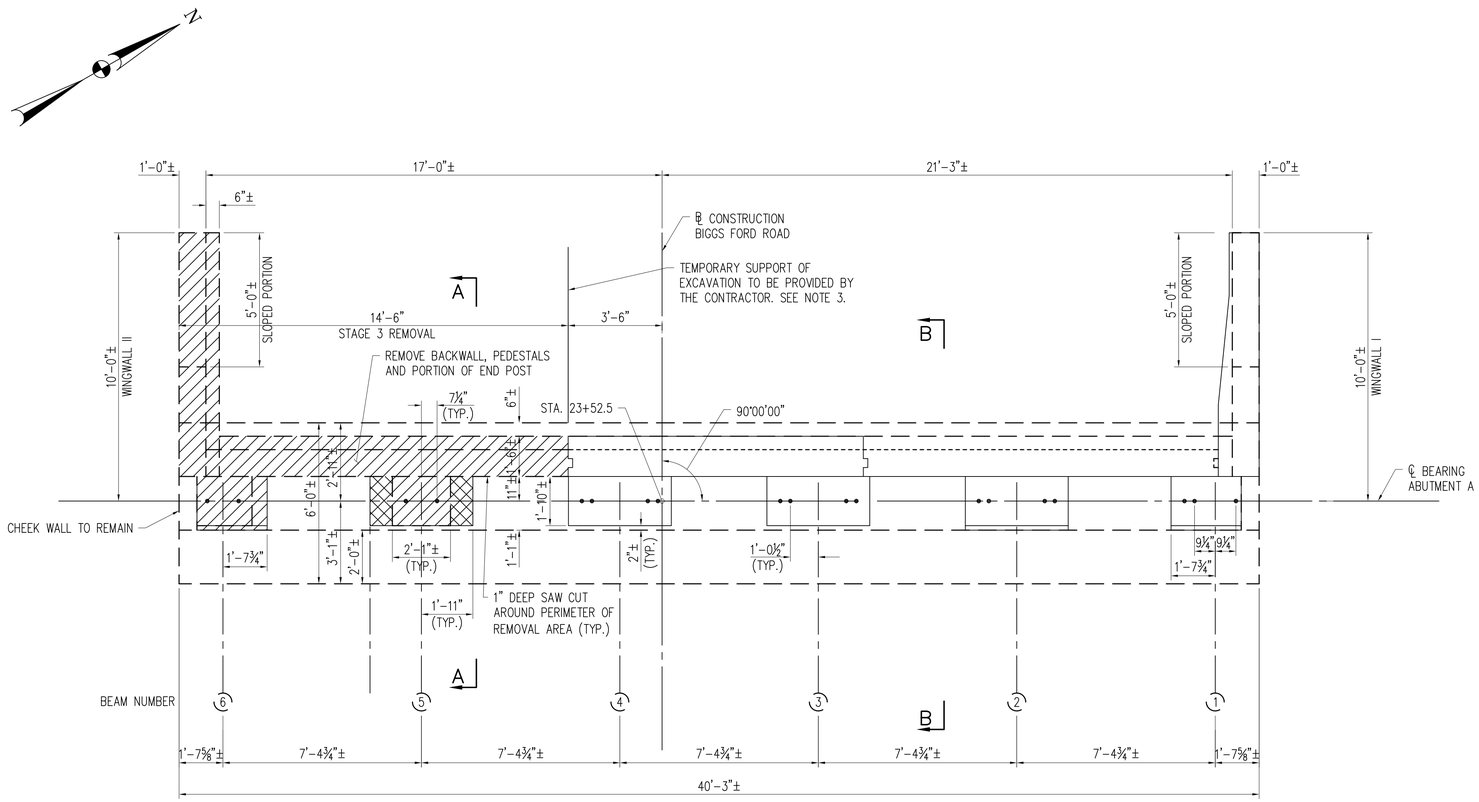
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - V

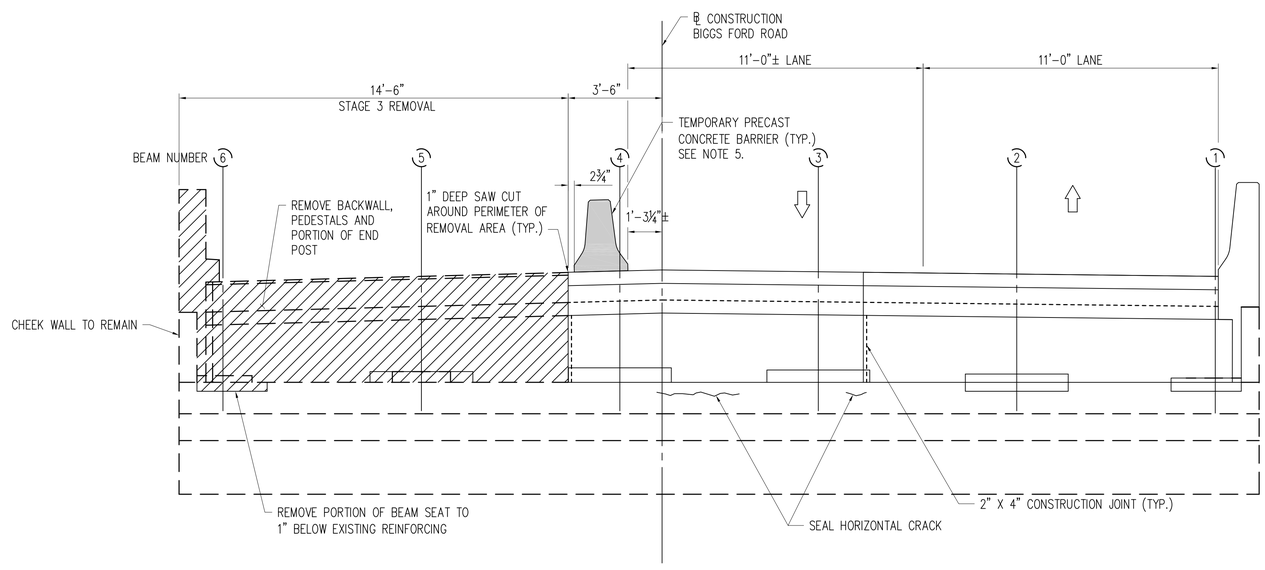
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 43 OF 77

U:\Shr\100-208.06 - Biggs Ford Rd\C6017\PBR-ABUTE_BIGGSFORD.dwg
01-30-24 MAB



PLAN
STAGE 3 REMOVAL ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 3 REMOVAL ABUTMENT A
SCALE: ⅜" = 1'-0"

LEGEND

- CRACK TO BE SEALED
- LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE
- ROUGHEN EXISTING CONCRETE SURFACE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-13.
5. AT THE CONTRACTOR'S OPTION, A SINGLE FACE TEMPORARY PRECAST CONCRETE BARRIER IN ACCORDANCE WITH SHA DETAIL NO. MOT-101 MAY BE USED OFF OF THE BRIDGE WITHIN 15'-0" OF THE BRIDGE TO BETTER FACILITATE SUPPORT OF EXCAVATION.
6. MECHANIZED EQUIPMENT SHALL NOT BE USED FOR REMOVAL WITHIN 6" OF THE STAGE 2 CONCRETE. THE STAGE 2 CONCRETE SHALL BE PROTECTED FROM DAMAGE DURING THE REMOVAL PROCESS.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-11

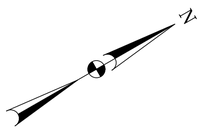
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

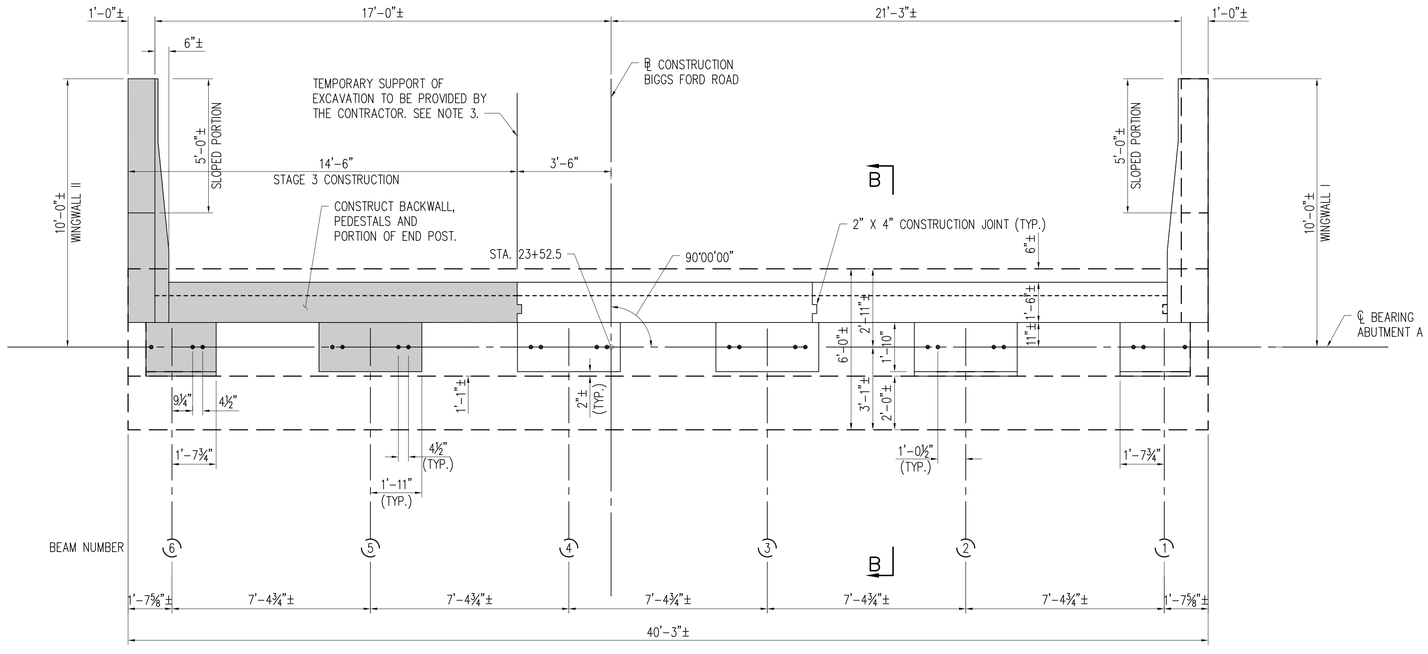
REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - VI

DATE: JULY 2024 SCALE: 3/8"=1'-0"

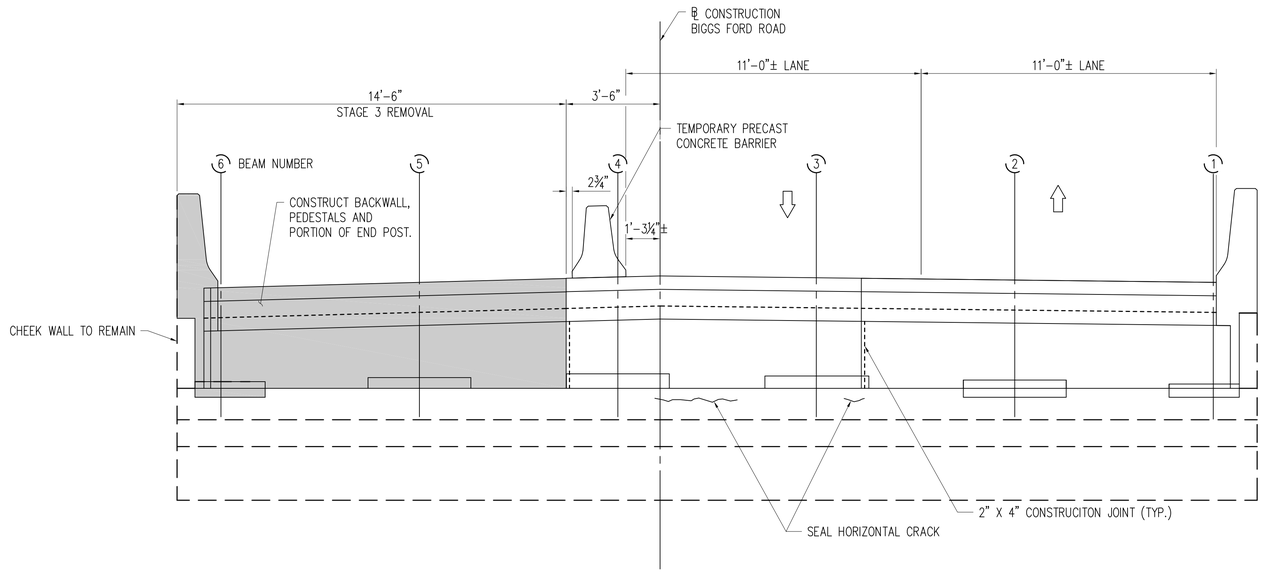
CONTRACT NO. C6017.6017.01 DWG. 44 OF 77

U:\SHA\100-208.06 - Biggs Ford Rd\C6017\PBR-ABUT_BIGGSFORD.dwg
01-30-24 MAB





PLAN
STAGE 3 CONSTRUCTION ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 3 CONSTRUCTION ABUTMENT A
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

PROPOSED CONCRETE AND LIMIT OF SUBSTRUCTURE CONCRETE FOR BRIDGE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-13.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

S-12

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
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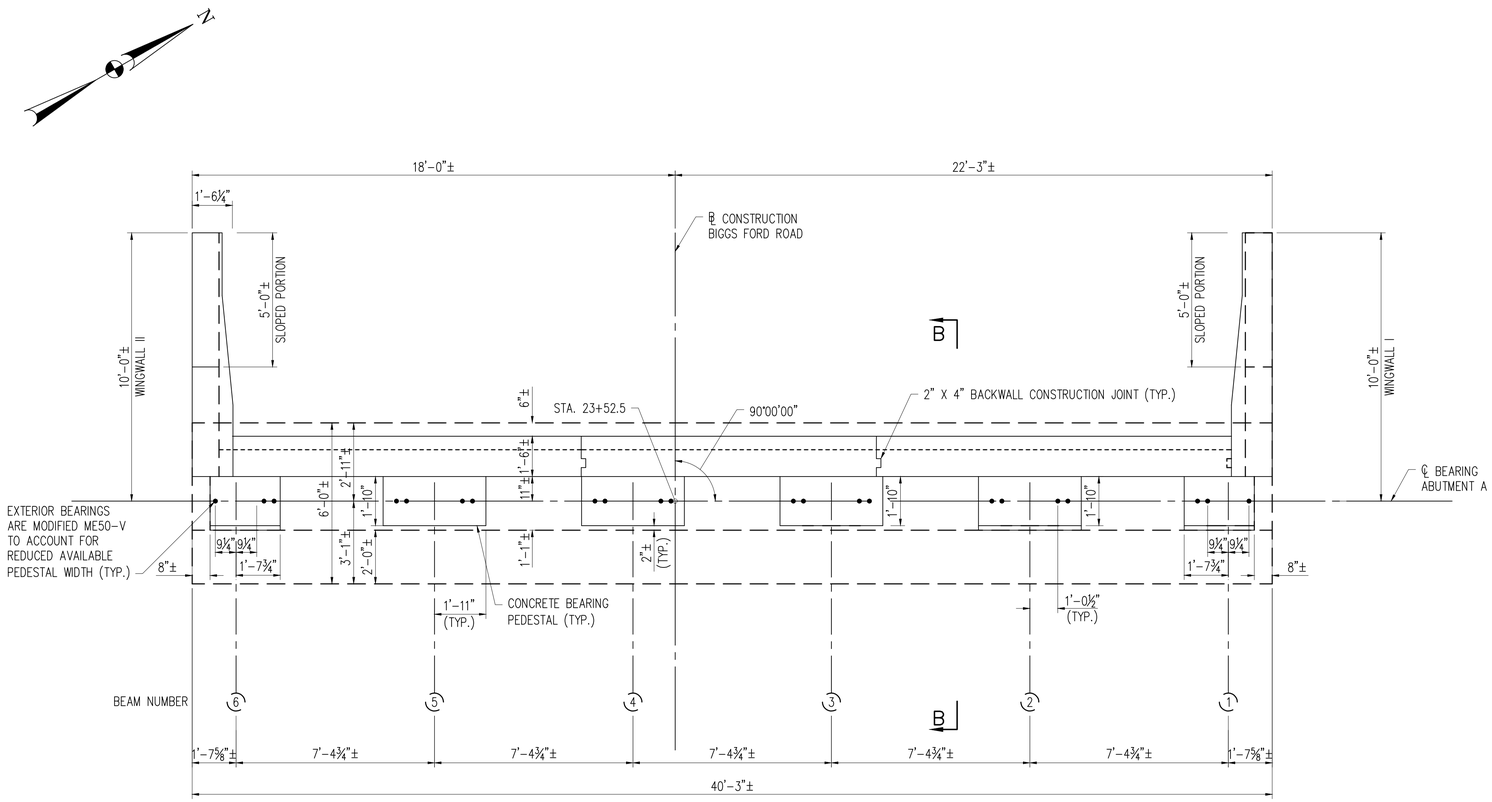
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - VII

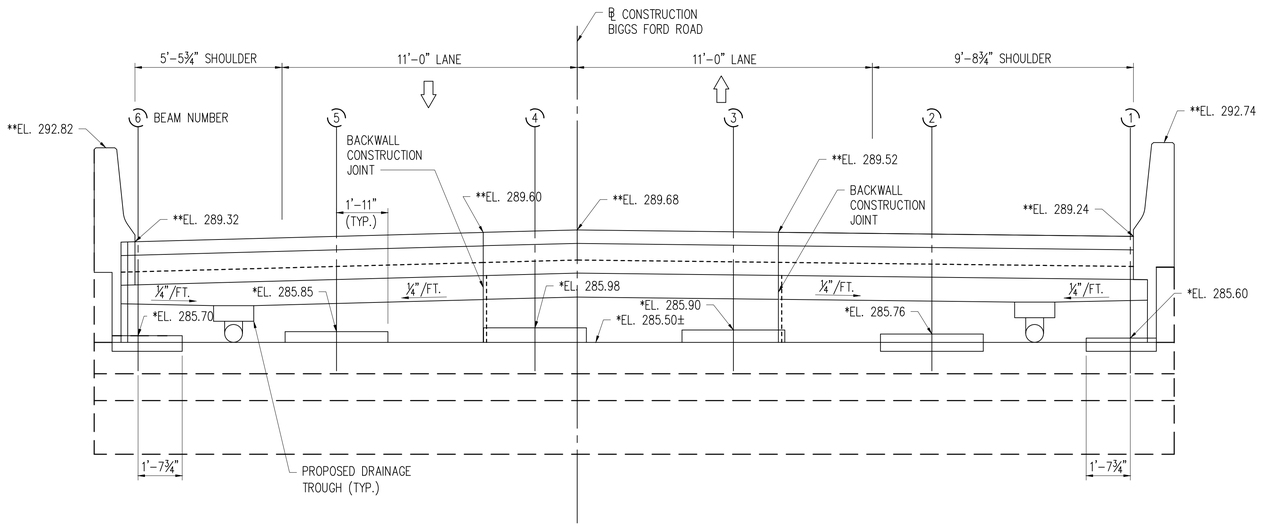
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 45 OF 77

U:\Shr\100-208.06 - Biggs Ford Rd\C6017\PBR-ABVII_BIGGSFORD.dwg
01-30-24 MAB



PLAN
PROPOSED ABUTMENT A
SCALE: ⅜" = 1'-0"



ELEVATION
PROPOSED ABUTMENT A
SCALE: ⅜" = 1'-0"

CROSS REFERENCE NOTES

1. FOR BEARING PAD AND BACKWALL REINFORCING DETAIL, SEE SHEET NO. S-22.
2. FOR INTERIOR BEARING DETAIL, SEE MDOT SHA DETAIL NO. SUP-BR(SB)-104, BEARING ME50-V ON SHEET NO. SD-1.
3. FOR EXTERIOR BEARING DETAIL, SEE DETAIL ON SHEET NO. S-27.
4. FOR DRAINAGE TROUGH DETAILS, SEE SHEET NO. SD-5.
5. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
6. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
7. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
8. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

* ELEVATIONS SHOWN ARE AT CENTERLINE OF BEARING.

** ELEVATIONS SHOWN ARE AT FRONT OF BACKWALL.

S-13

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT A
SEQUENCE OF CONSTRUCTION - VIII

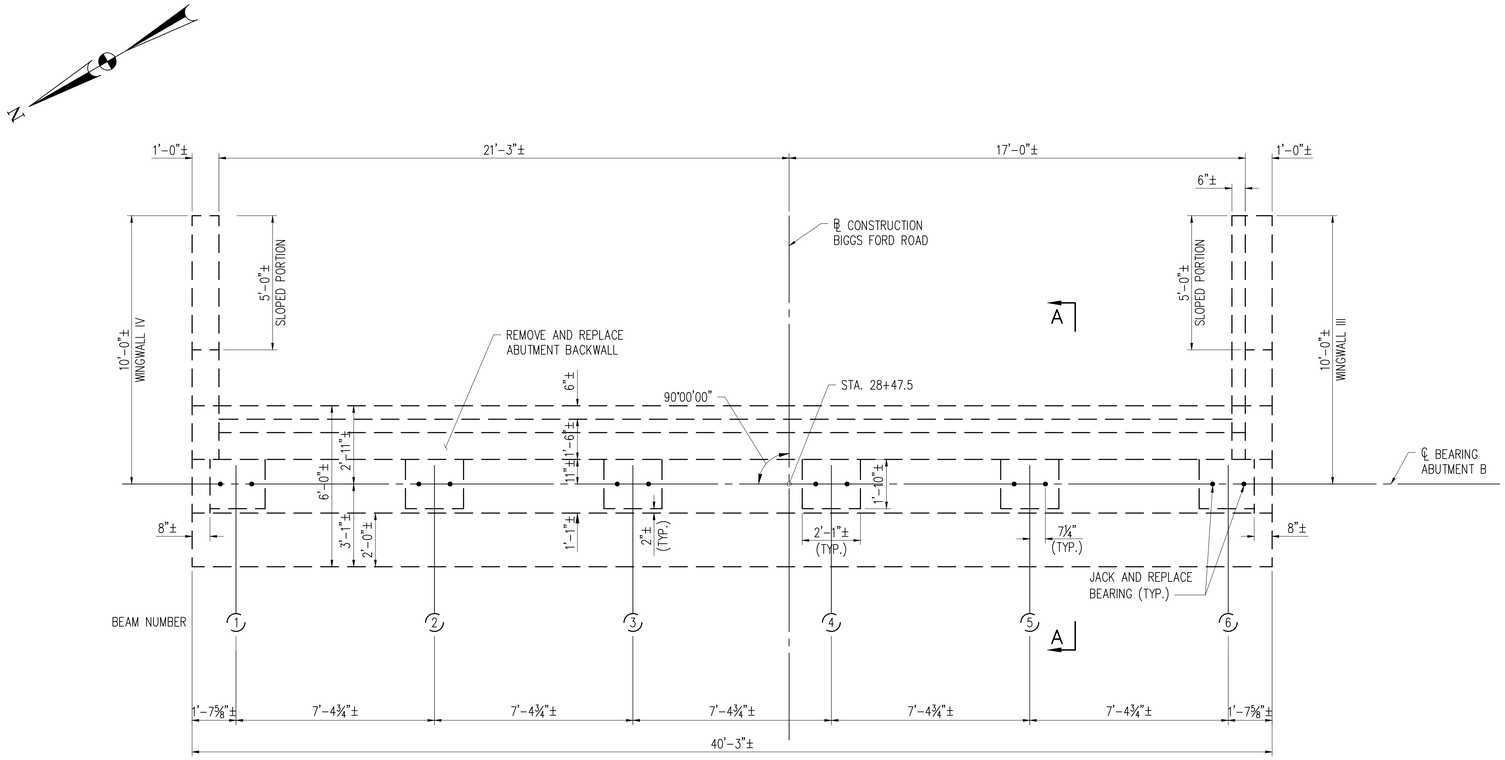
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CONTRACT NO. C6017.6017.01 DWG. 46 OF 77

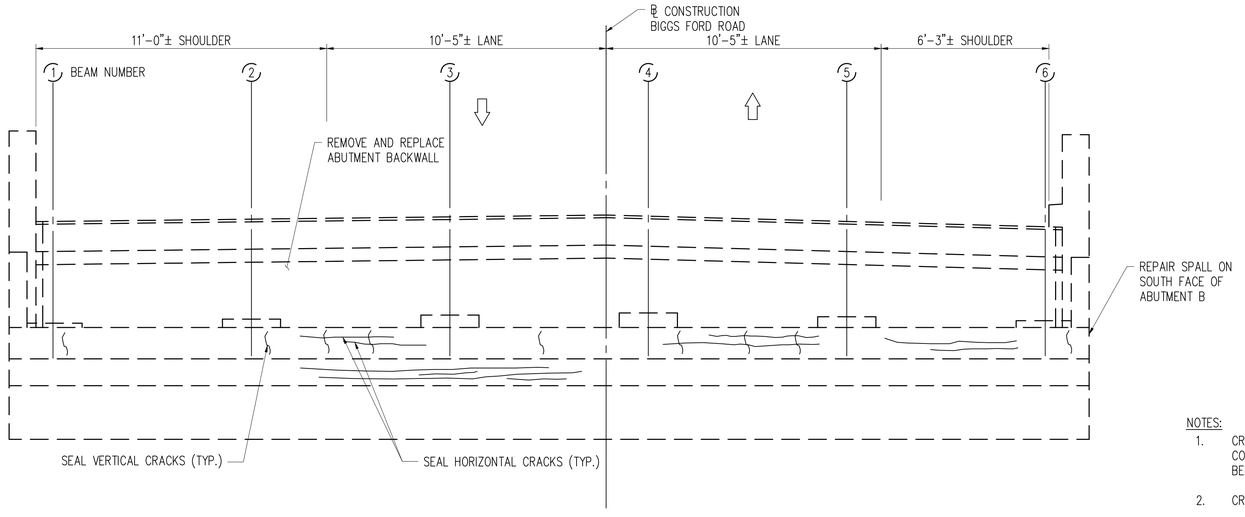
PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

U:\Shr\100-298.06 - Biggs Ford Rd\CAD\PBR-ABDTH_BIGGSFORD.dwg
01-26-24 TE



PLAN
EXISTING ABUTMENT B
SCALE: ⅜" = 1'-0"



ELEVATION
EXISTING ABUTMENT B
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

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S-14

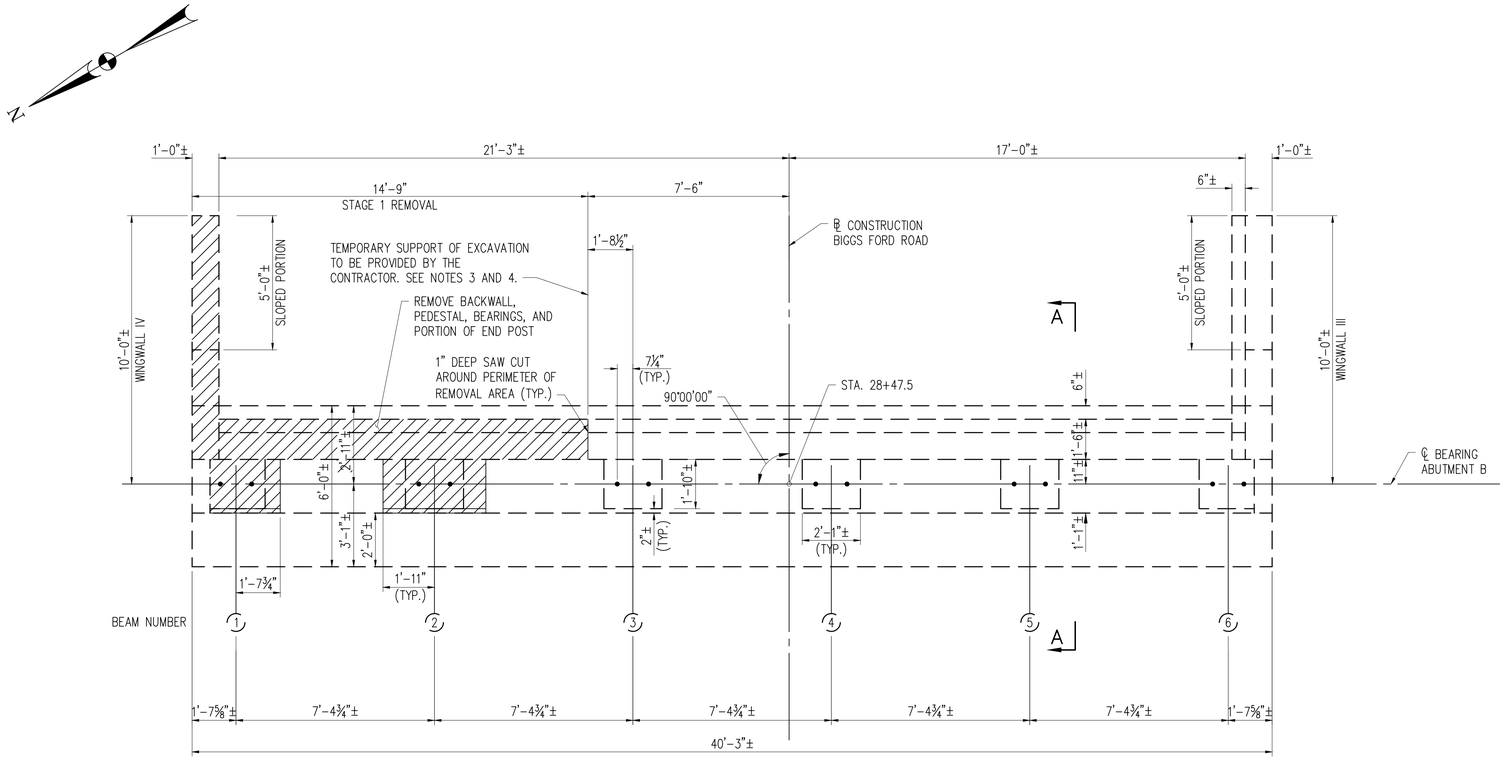
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT B
SEQUENCE OF CONSTRUCTION - I

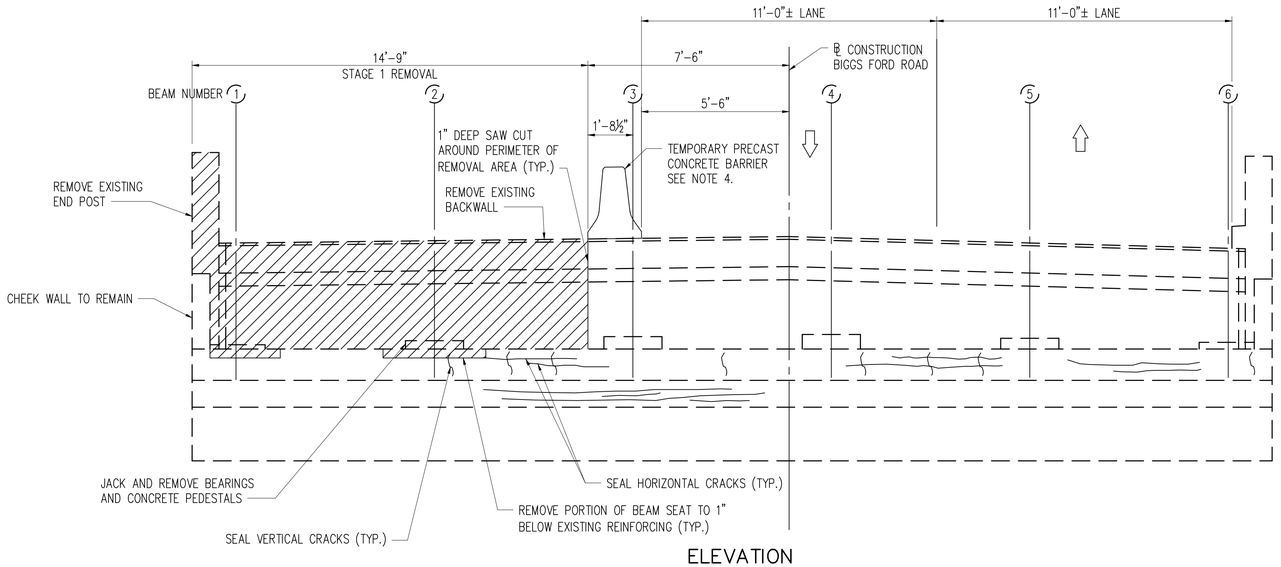
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CONTRACT NO. C6017.6017.01 DWG. 47 OF 77

U:\Shr\100-299.06 - Biggs Ford Rd\CAD\PBR-ABDTA_BIGGSFORD.dwg
07-30-24 MAB



PLAN
STAGE 1 REMOVAL ABUTMENT B
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 1 REMOVAL ABUTMENT B
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. AT THE CONTRACTOR'S OPTION, A SINGLE FACE TEMPORARY PRECAST CONCRETE BARRIER IN ACCORDANCE WITH SHA DETAIL NO. MOT-101 MAY BE USED OFF OF THE BRIDGE WITHIN 15'-0" OF THE BRIDGE TO BETTER FACILITATE SUPPORT OF EXCAVATION.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-15

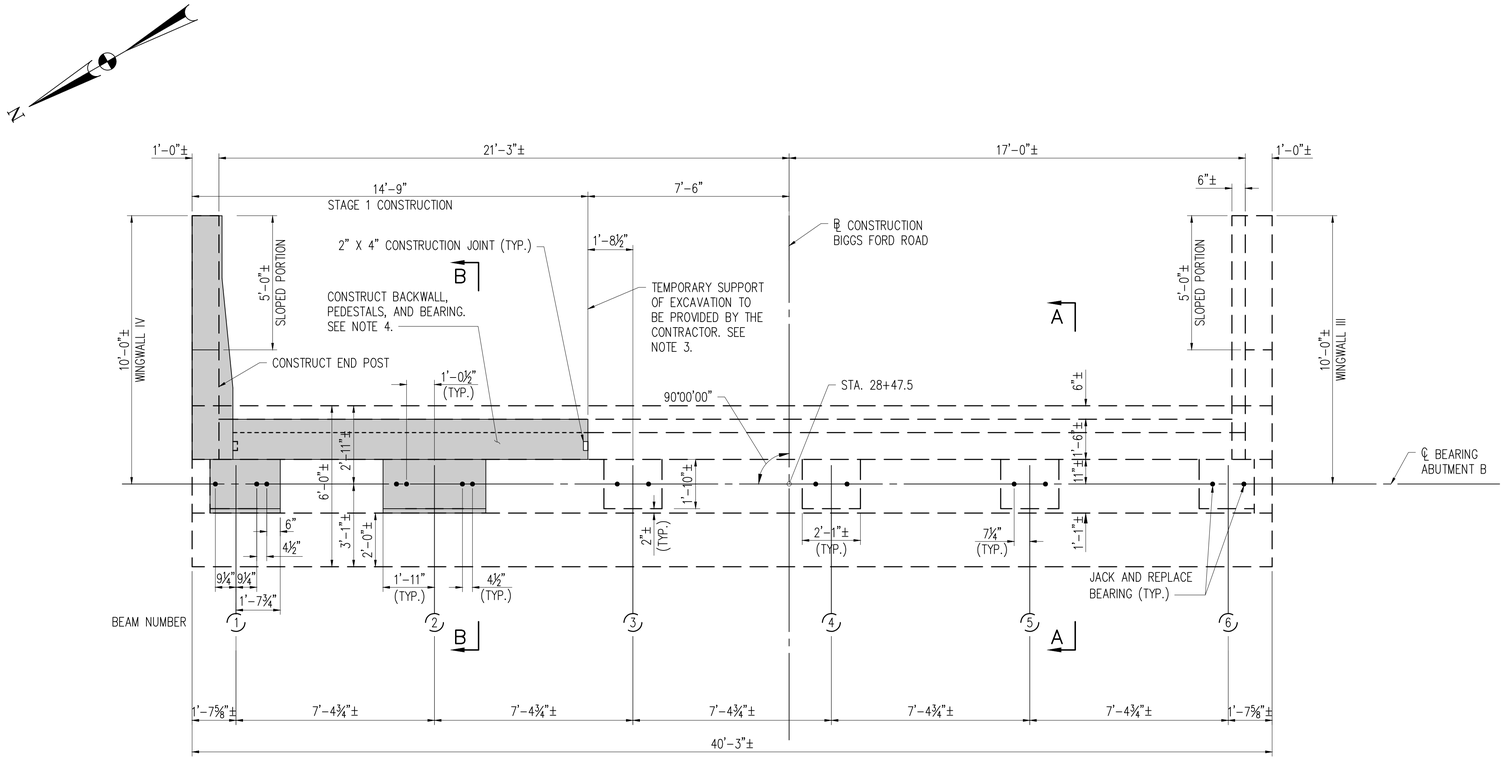
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT B
SEQUENCE OF CONSTRUCTION - II

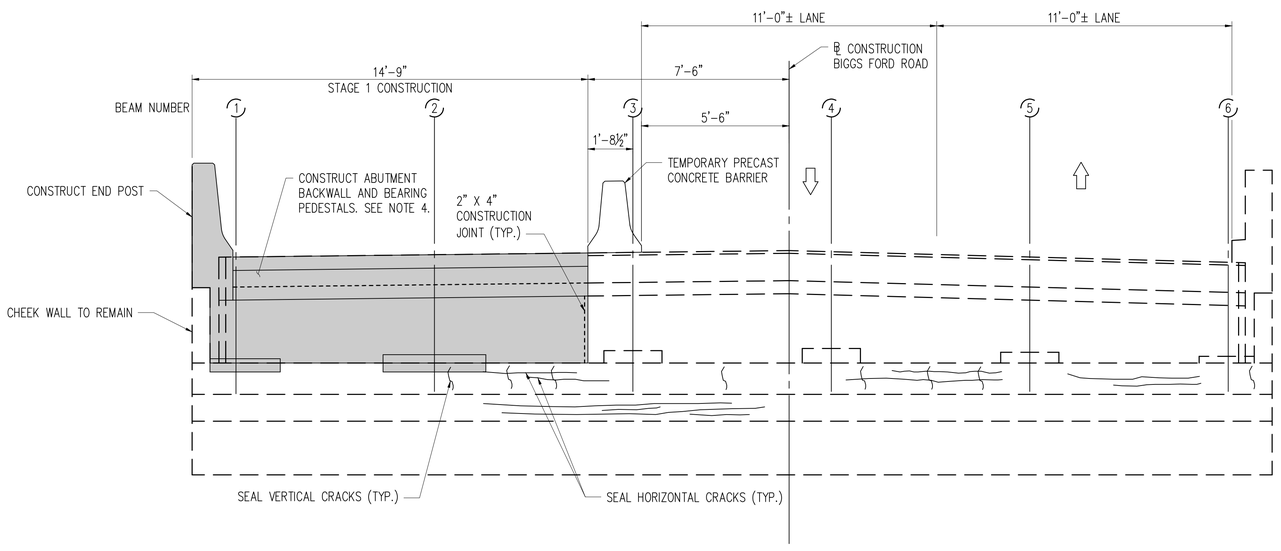
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 48 OF 77

U:\SHA\100-206.06 - Biggs Ford Rd\CAD\PBR-ABDSB_BIGGSFORD.dwg
01-30-24 MAB



PLAN
STAGE 1 CONSTRUCTION ABUTMENT B
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 1 CONSTRUCTION ABUTMENT B
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

PROPOSED CONCRETE AND LIMIT OF SUBSTRUCTURE CONCRETE FOR BRIDGE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-21.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-16

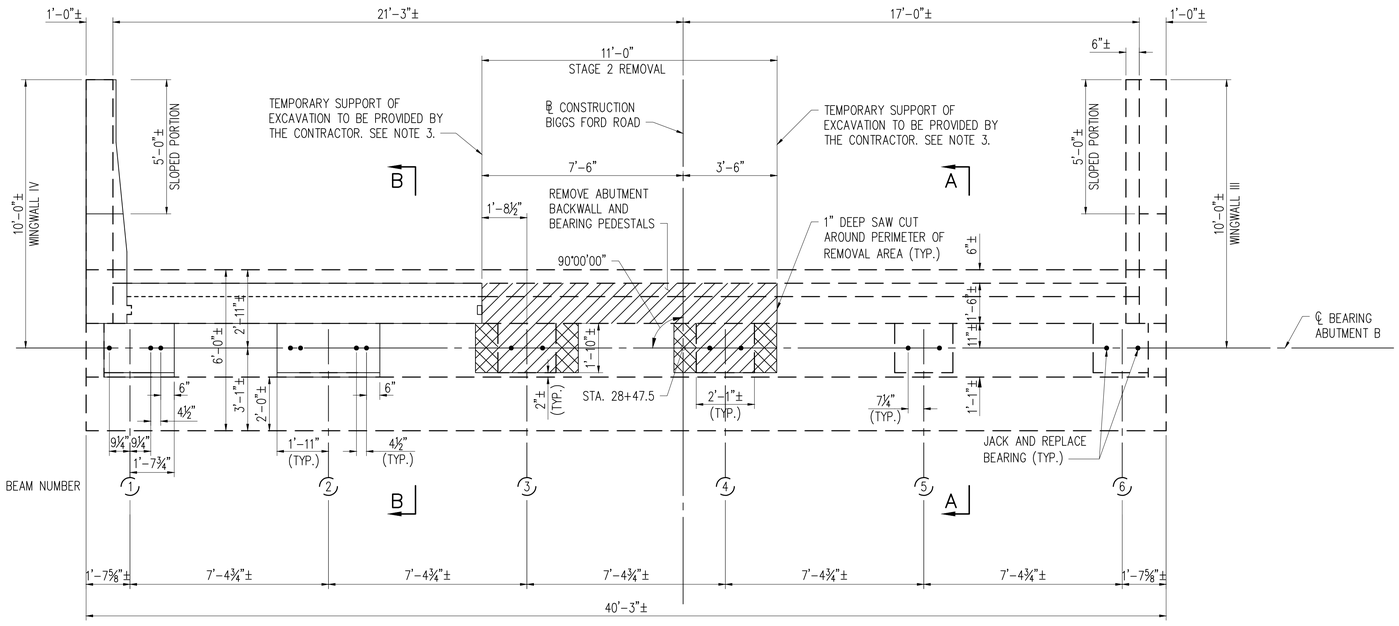
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT B
SEQUENCE OF CONSTRUCTION - III

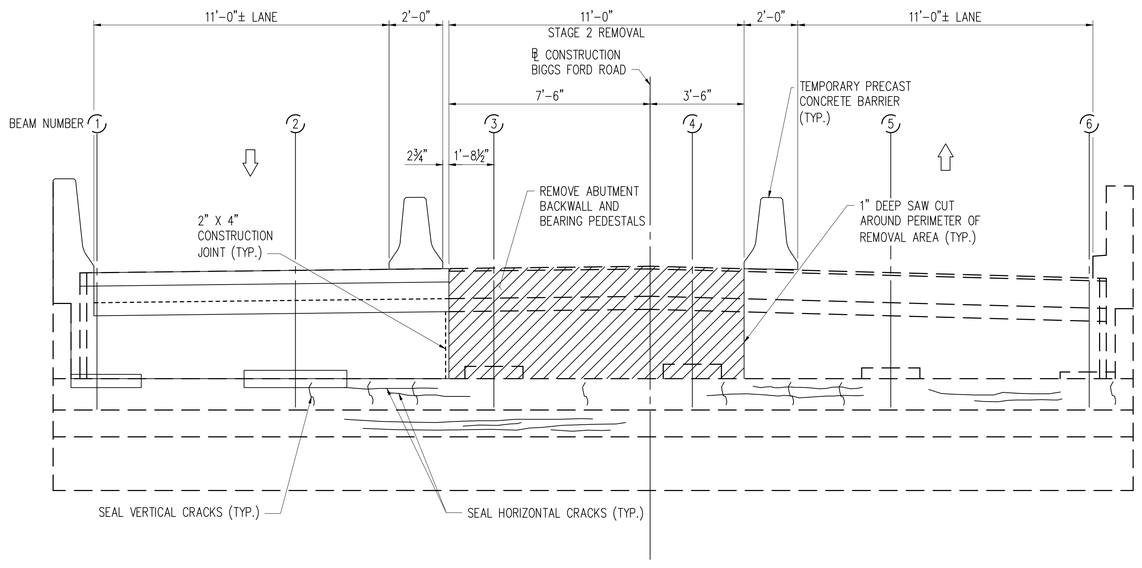
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 49 OF 77

U:\Shr\100-208.06 - Biggs Ford Rd\Civil\PBH-ABRDG_BIGGSFORD.dwg
01-30-24 MAB



PLAN
STAGE 2 REMOVAL ABUTMENT B
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 2 REMOVAL ABUTMENT B
SCALE: ⅜" = 1'-0"

LEGEND

- CRACK TO BE SEALED
- LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE
- ROUGHEN EXISTING CONCRETE SURFACE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-21.
5. MECHANIZED EQUIPMENT SHALL NOT BE USED FOR REMOVAL WITHIN 6" OF THE STAGE 1 CONCRETE. THE STAGE 1 CONCRETE SHALL BE PROTECTED FROM DAMAGE DURING THE REMOVAL PROCESS.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
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4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
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LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-17

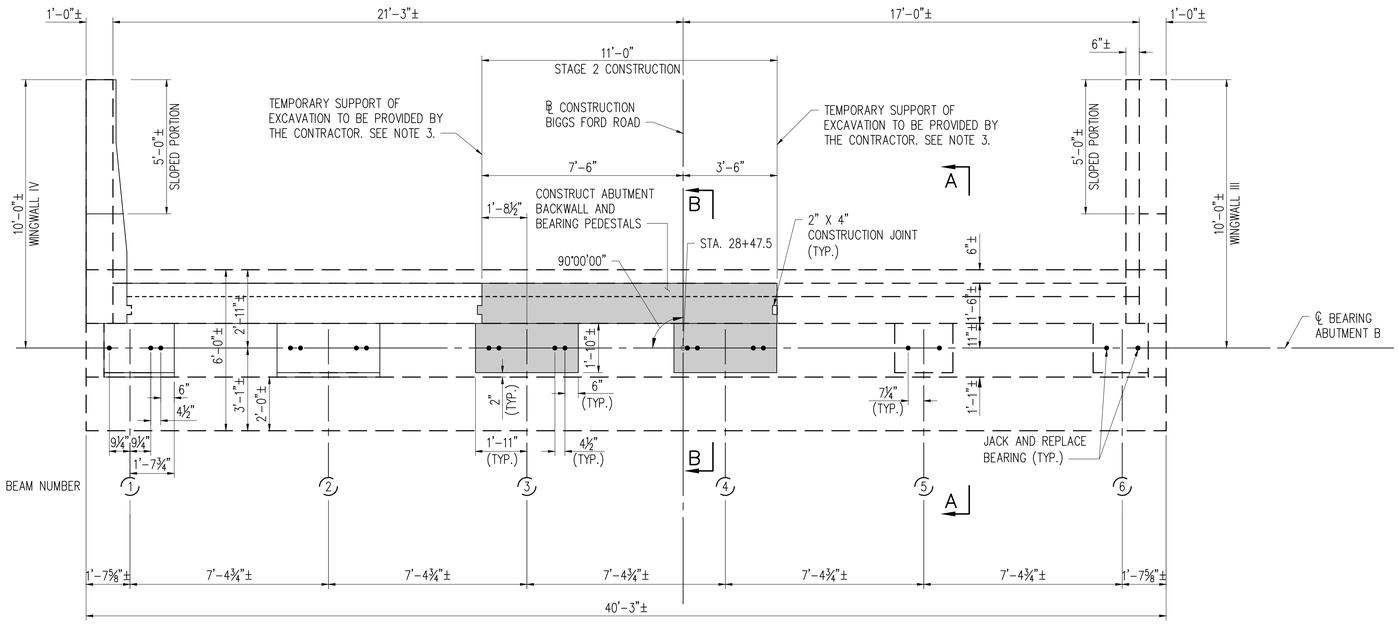
FREDERICK COUNTY, MARYLAND
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OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT B
SEQUENCE OF CONSTRUCTION - IV

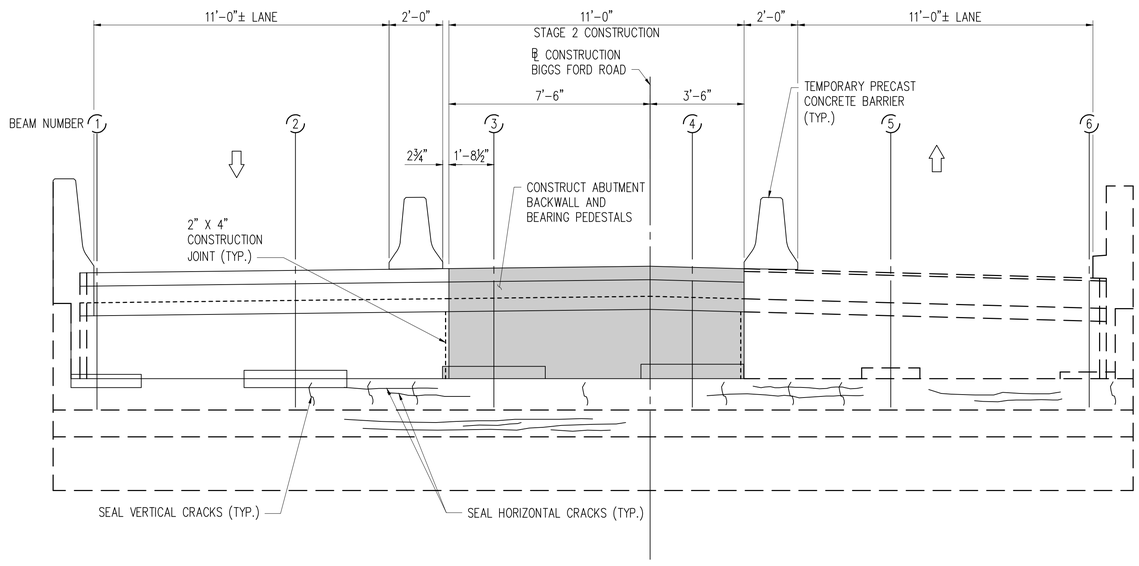
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 50 OF 77

U:\SDA\100-298.06 - Biggs Ford Rd\CADD\PSR-48020_BRIDGEFORD.dwg
07-30-24 MAB



PLAN
STAGE 2 CONSTRUCTION ABUTMENT B
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 2 CONSTRUCTION ABUTMENT B
SCALE: ⅜" = 1'-0"

LEGEND

CRACK TO BE SEALED

PROPOSED CONCRETE AND LIMIT OF SUBSTRUCTURE CONCRETE FOR BRIDGE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
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4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-21.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-18

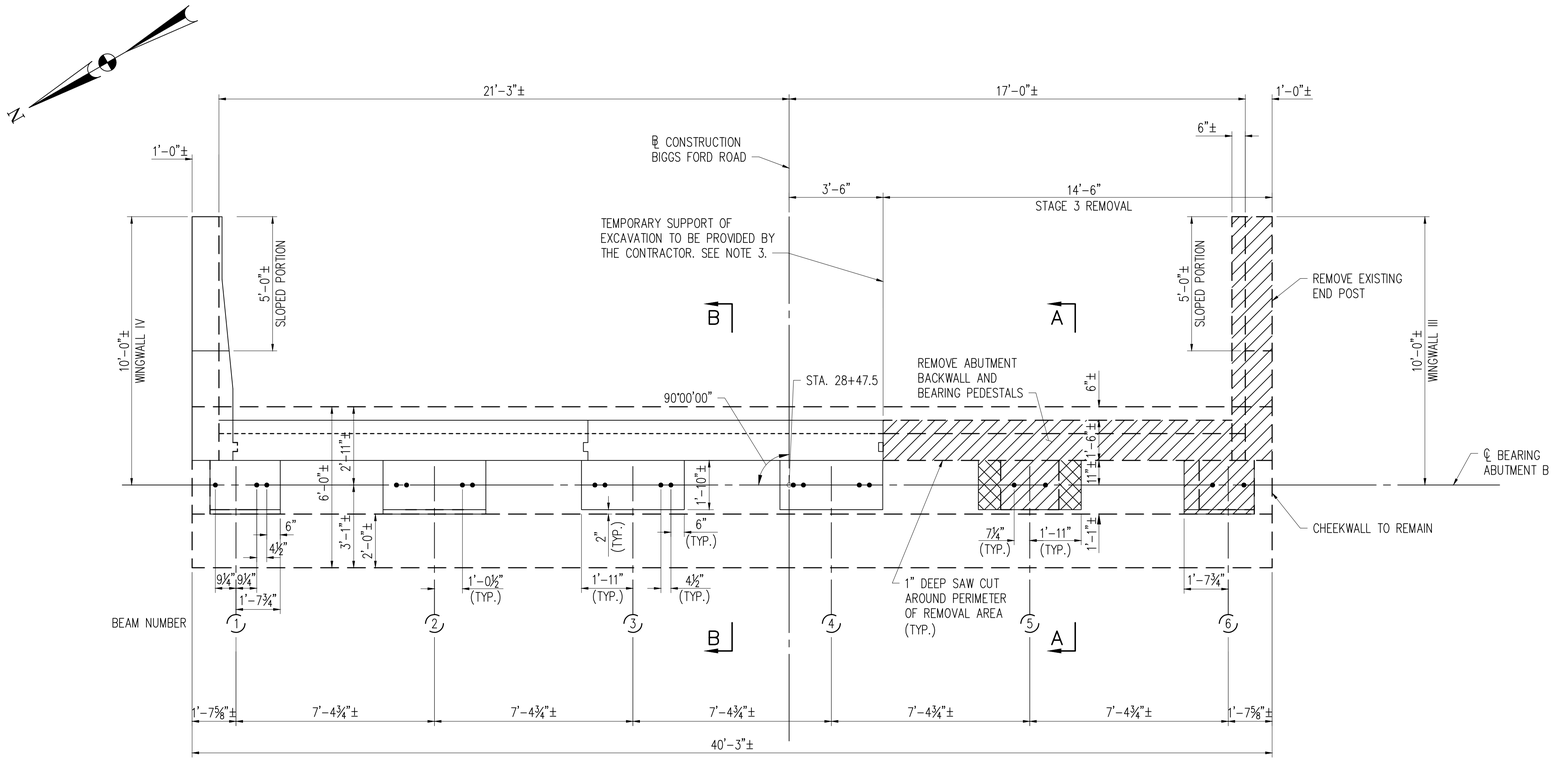
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT B
SEQUENCE OF CONSTRUCTION - V

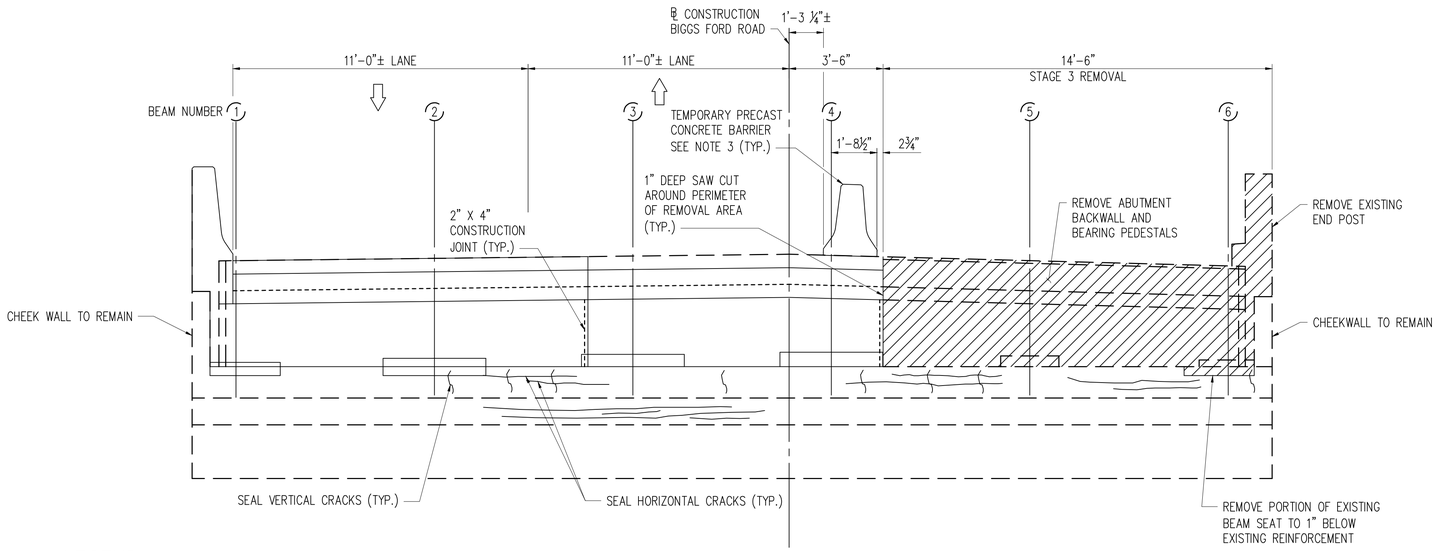
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 51 OF 77

U:\SDA\100-298.06 - Biggs Ford Rd\CADD\PW-480SE_BRIDGEPSHD.dwg
07-30-24 MAB



PLAN
STAGE 3 REMOVAL ABUTMENT B
SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 3 REMOVAL ABUTMENT B
SCALE: ⅜" = 1'-0"

LEGEND

- CRACK TO BE SEALED
- LIMIT OF REMOVAL OF PORTION OF EXISTING STRUCTURE
- ROUGHEN EXISTING CONCRETE SURFACE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-21.
5. MECHANIZED EQUIPMENT SHALL NOT BE USED FOR REMOVAL WITHIN 6" OF THE STAGE 2 CONCRETE. THE STAGE 2 CONCRETE SHALL BE PROTECTED FROM DAMAGE DURING THE REMOVAL PROCESS.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-19

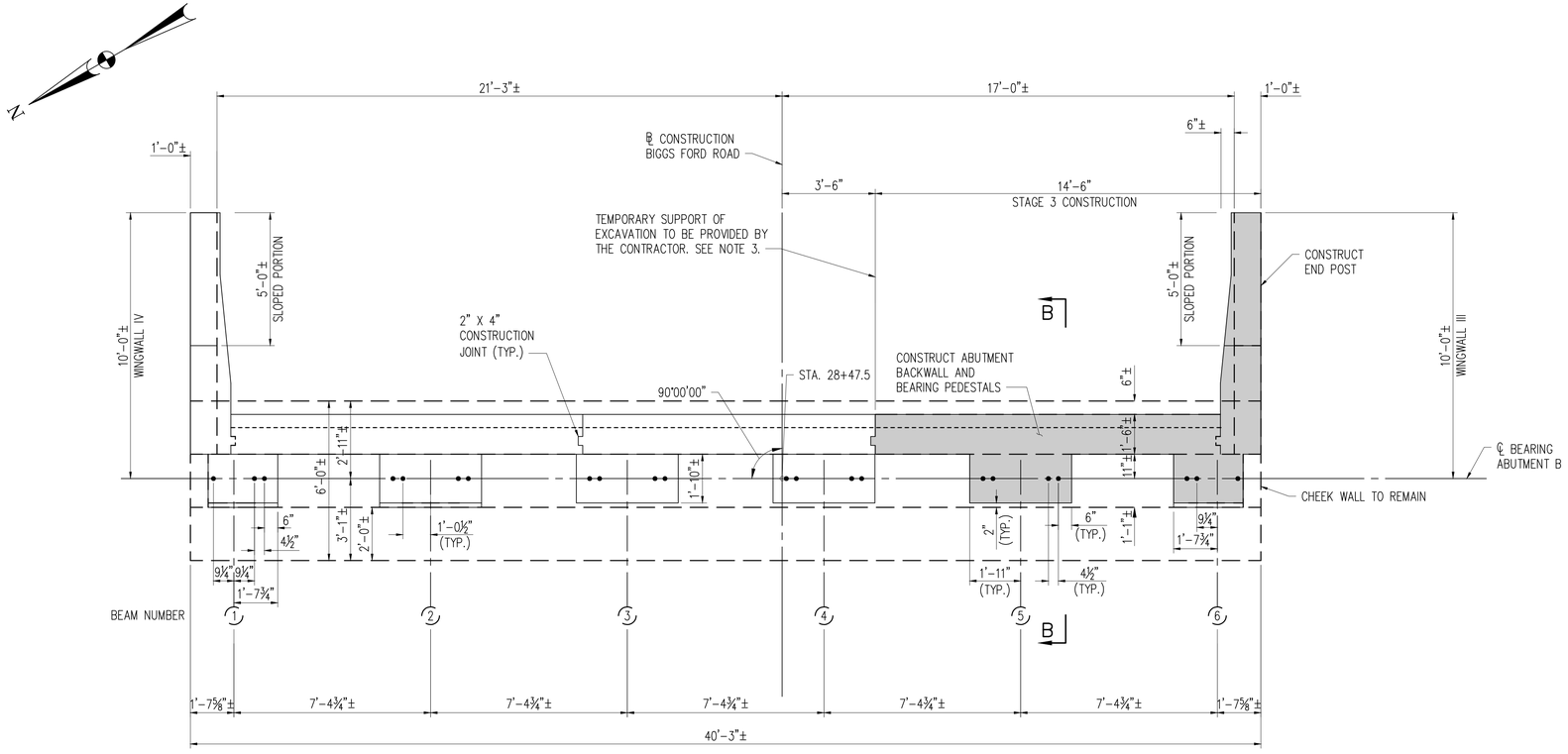
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT B
SEQUENCE OF CONSTRUCTION - VI

DATE: JULY 2024 SCALE: 3/8"=1'-0"

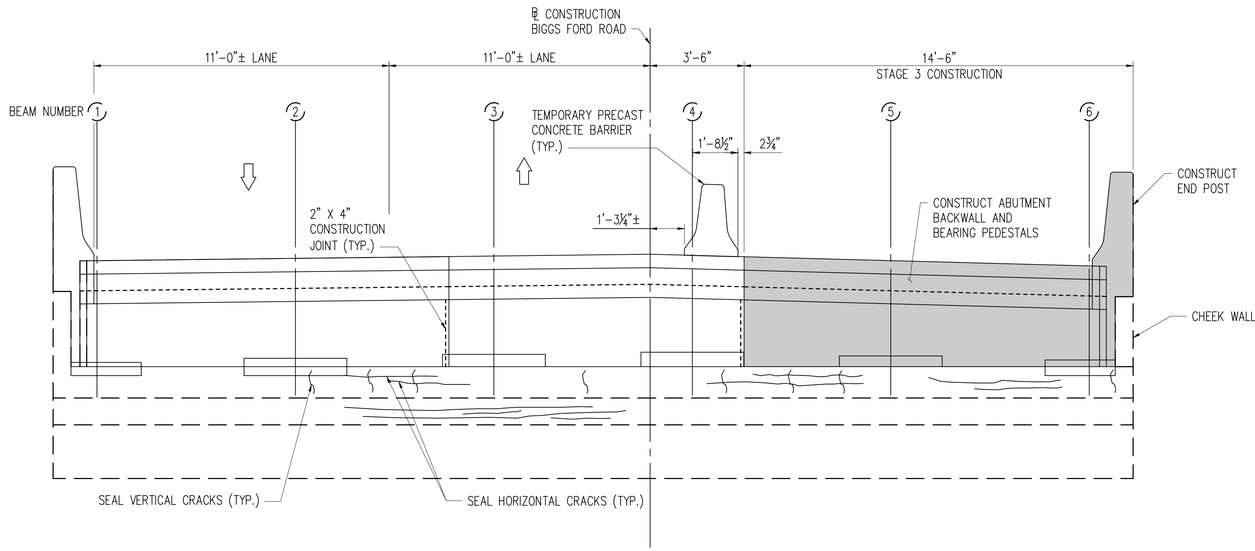
CONTRACT NO. C6017.6017.01 DWG. 52 OF 77

U:\SHA\109-298.06 - Biggs Ford Rd\CADD\PW#-480DF_BRIDGEWORK.dwg
07-30-24 MAB



PLAN
STAGE 3 CONSTRUCTION ABUTMENT B

SCALE: ⅜" = 1'-0"



ELEVATION
STAGE 3 CONSTRUCTION ABUTMENT B

SCALE: ⅜" = 1'-0"

LEGEND

- CRACK TO BE SEALED
- PROPOSED CONCRETE AND LIMIT OF SUBSTRUCTURE CONCRETE FOR BRIDGE

NOTES:

1. CRACK AND SPALL LOCATIONS SHOWN ARE APPROXIMATE. THE ENGINEER AND CONTRACTOR SHALL DELINEATE CRACK AND SPALL REPAIRS IN THE FIELD BEFORE MATERIAL IS ORDER OR WORKS BEGINS.
2. CRACK AND SPALL REPAIRS MAY OCCUR DURING ANY STAGE.
3. SUPPORT OF EXCAVATION IS THE MEANS AND METHODS OF THE CONTRACTOR AND IS CONSIDERED INCIDENTAL TO THE CLASS 3 EXCAVATION ITEM.
4. THE DRAINAGE TROUGH SHALL BE INSTALLED AFTER STAGE 3. REFER TO DETAILS ON SHEET SD-5 AND TROUGH LOCATIONS ON SHEET S-21.

CROSS REFERENCE NOTES

1. FOR ABUTMENT SECTIONS AND PEDESTAL REINFORCING, SEE SHEET S-22.
2. FOR BEARING REPLACEMENT NOTES AND SEQUENCE OF CONSTRUCTION, SEE SHEETS S-27 AND SD-1.
3. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
4. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
5. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
6. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-20

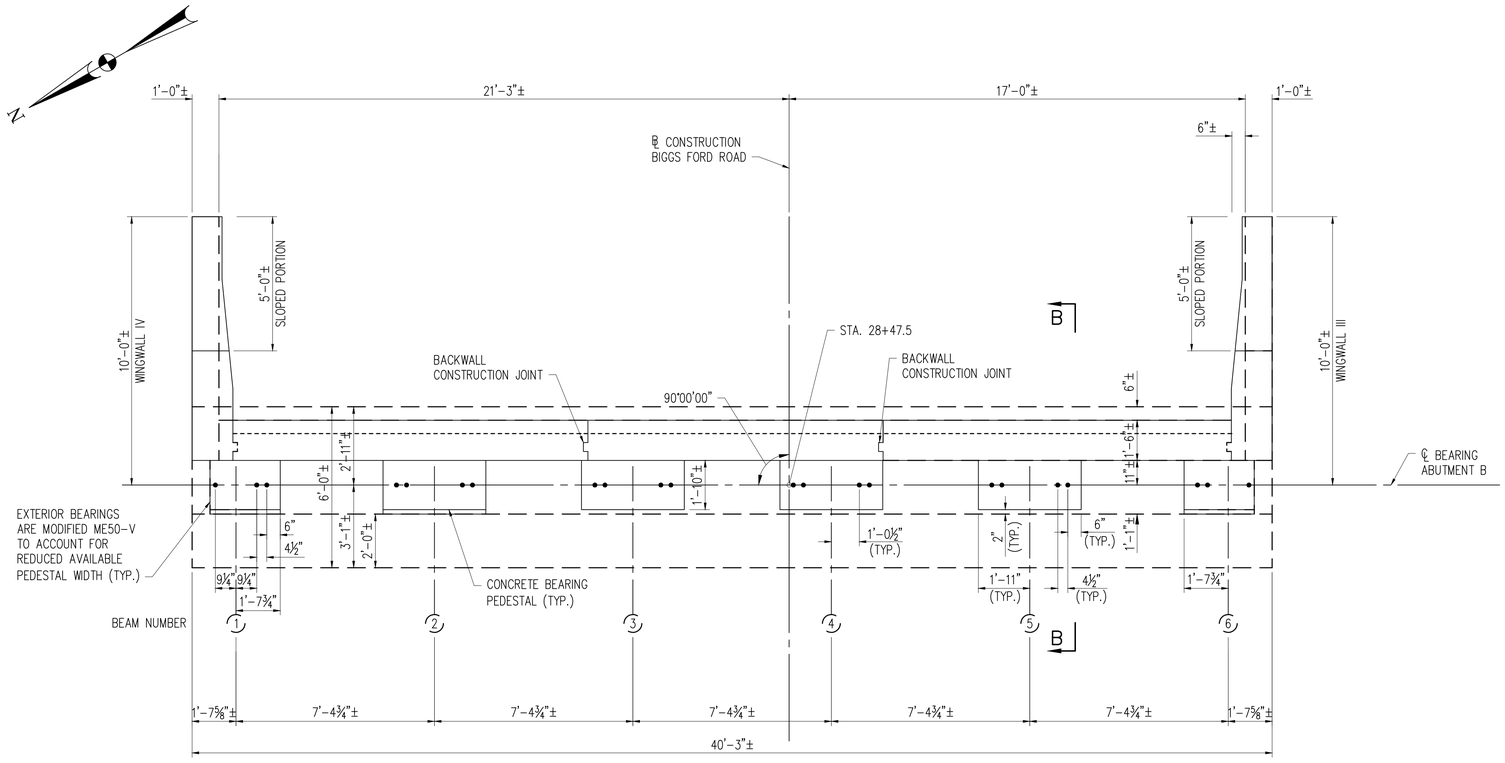
FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
ABUTMENT B
SEQUENCE OF CONSTRUCTION - VII

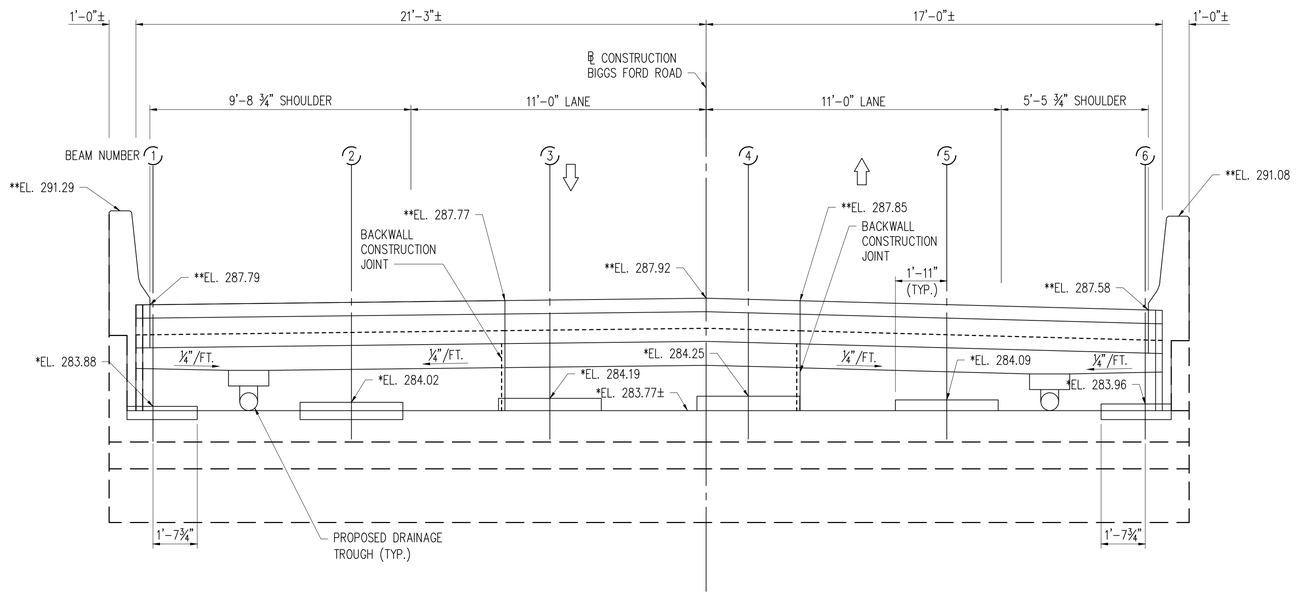
DATE: JULY 2024 SCALE: 3/8"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 53 OF 77

U:\SDA\100-298.06 - Biggs Ford Rd\CADD\PWR-48020_BRIDGEROAD.dwg
07-30-24 MAB



PLAN
PROPOSED ABUTMENT B
SCALE: ⅜" = 1'-0"



ELEVATION
PROPOSED ABUTMENT B
SCALE: ⅜" = 1'-0"

NOTES:
* ELEVATIONS SHOWN ARE AT CENTERLINE OF BEARING.

** ELEVATIONS SHOWN ARE AT FRONT OF BACKWALL.

CROSS REFERENCE NOTES

1. FOR BEARING PAD AND BACKWALL REINFORCING DETAIL, SEE SHEET NO. S-22.
2. FOR INTERIOR BEARING DETAIL, SEE SHA DETAIL NO. SUP-BR(SB)-104, BEARING ME50-V ON SHEET NO. SD-1.
3. FOR EXTERIOR BEARING DETAIL, SEE DETAIL ON SHEET NO. S-27.
4. FOR DRAINAGE TROUGH DETAILS, SEE SHEET NO. SD-5.
5. FOR WINGWALL DETAILS, SEE SHEETS S-23 AND S-24.
6. FOR ROADWAY JOINT DETAILS, SEE SHEET S-30.
7. FOR DRAINAGE TROUGH DETAILS, SEE SHEET SD-5.
8. FOR ANTICIPATED CRACK AND SPALL REPAIR QUANTITIES, REFER TO SHEET S-6.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

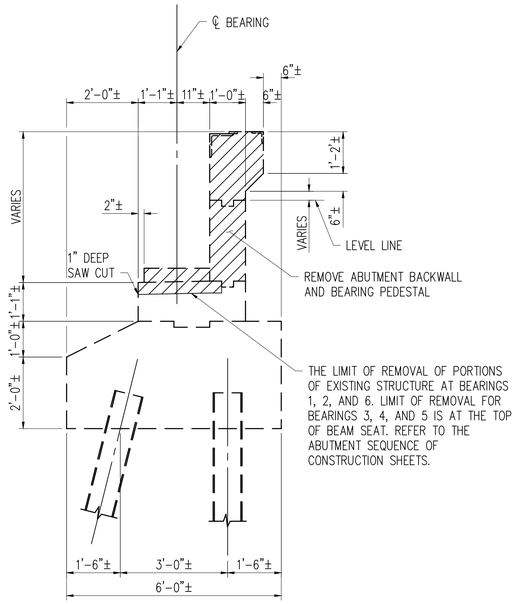
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ABUTMENT B
SEQUENCE OF CONSTRUCTION - VIII

DATE: JULY 2024 SCALE: 3/8"=1'-0"

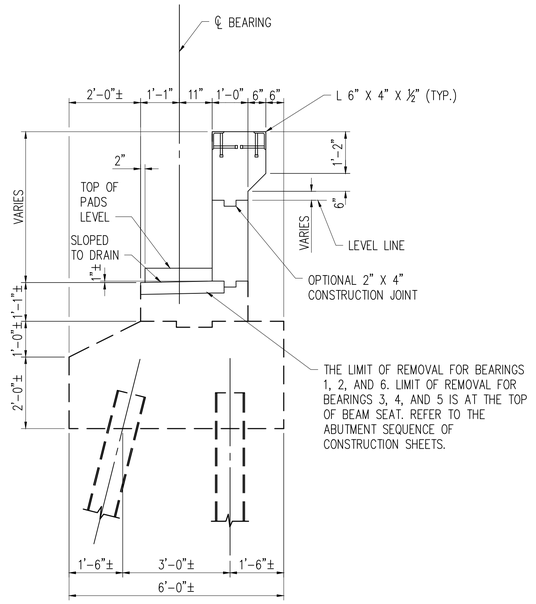
CONTRACT NO. C6017.6017.01 DWG. 54 OF 77

U:\SHA\109-298.06 - Biggs Ford Rd\CADD\PBR-480ph_BRIDGEPKG0.dwg
07-30-24 MAB



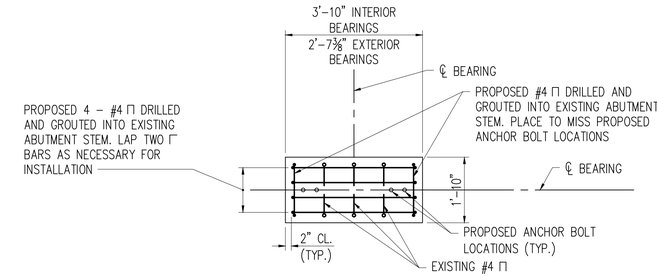
SECTION A–A – EXISTING

SCALE: ½" = 1'-0"



SECTION B–B – PROPOSED

SCALE: ½" = 1'-0"



PEDESTAL REINFORCING PLAN

SCALE: ½" = 1'-0"

EXISTING REINFORCING SECTION A–A

SCALE: ½" = 1'-0"

PROPOSED REINFORCING SECTION B–B

SCALE: ½" = 1'-0"

NOTES:

1. EXISTING REINFORCING DAMAGED DURING THE CONCRETE REMOVAL PROCESS SHALL BE REPAIRED OR REPLACED IN-KIND TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE COUNTY. REPLACED BAR SHALL BE DOWELED OR LAPPED ACCORING TO THE CHARTS ON SHEETS SD-8 AND SD-9.
2. CLEAN AND EPOXY COAT EXISTING REINFORCING TO BE INCORPORATED INTO THE NEW STRUCTURE.
3. ANY REINFORCING STEEL, WHICH IS TO BE INCORPORATED INTO THE NEW CONCRETE:
   - A. AND IN THE OPINION OF THE ENGINEER HAS LOST 20% OR MORE OF ITS ORIGINAL CROSS SECTIONAL AREA, SHALL BE CUT OUT. NEW EPOXY COATED REBAR OF SAME DIAMETER SHALL BE PROVIDED AND PLACED SO AS TO HAVE THE MINIMUM REQUIRED LAP AT EACH END OF THE NEW BAR, OR MODIFIED AS PER ITEM C BELOW.
   - B. WHERE THE REQUIRED LAP LENGTH IS AVAILABLE, SHALL BE USED AS A DOWEL.
   - C. WHERE THE REQUIRED BAR LAP IS NOT AVAILABLE OR LIMITS OF CONCRETE REMOVAL TO ACHIEVE BAR LAP WOULD BE TOO GREAT, AN APPROVED MECHANICAL SPLICE SHALL BE PROVIDED.
4. PROPOSED SECTIONS SHOWN ARE PRIOR TO INSTALLATION OF THE DRAINAGE TROUGH.

CROSS REFERENCE NOTES

1. FOR ROADWAY JOINT ANGLE AND SEAL DETAIL, SEE SHEET NOS. S-30 AND SD-2.
2. FOR BEARING DETAILS, SEE SHEET NOS. S-27 AND SD-1.
3. FOR LOCATION OF ABUTMENT SECTIONS, SEE SHEET NOS. S-6 TO S-21.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-22

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

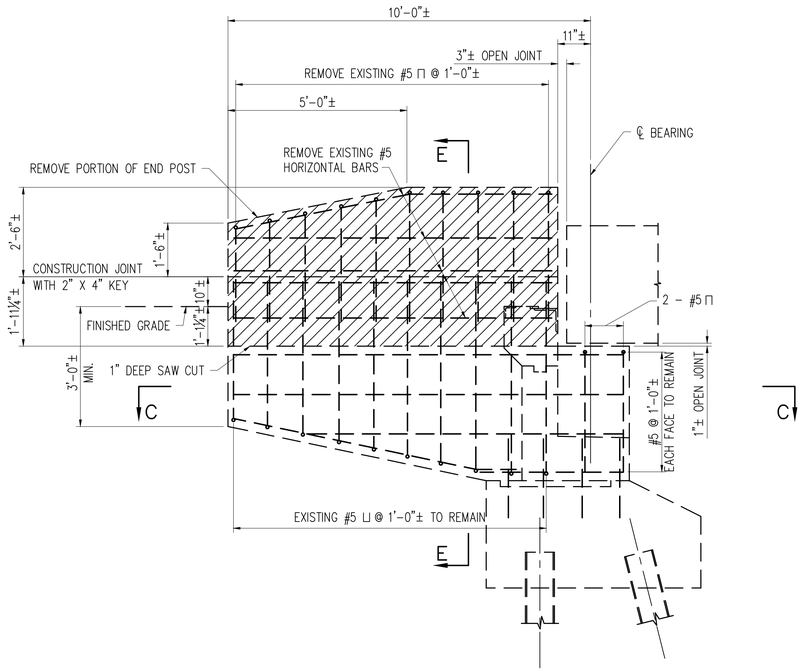
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ABUTMENT TYPICAL SECTIONS

DATE: JULY 2024 SCALE: 1/2"=1'-0"

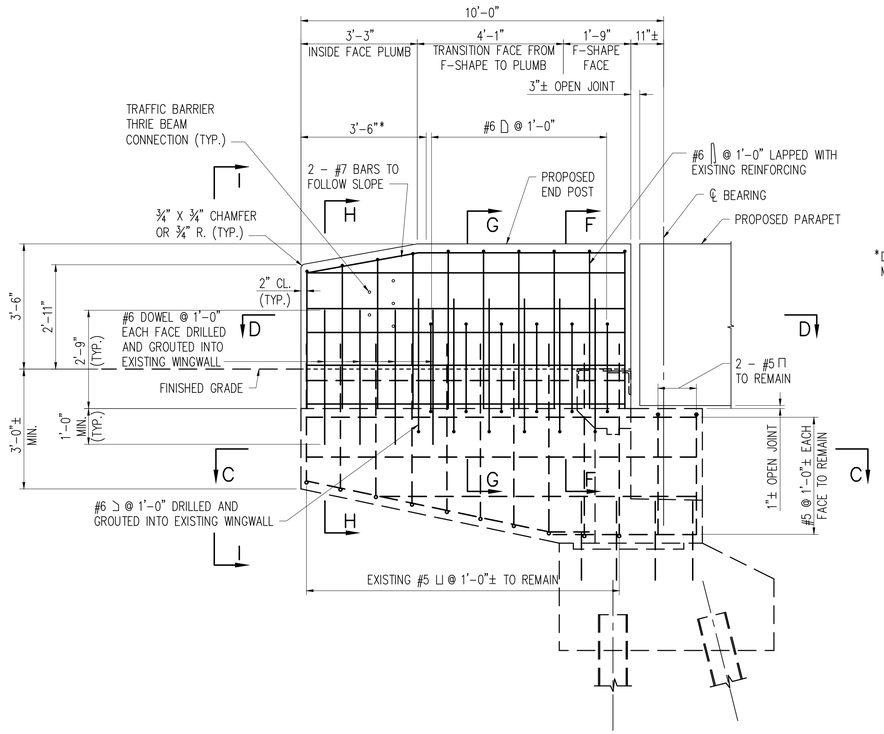
CONTRACT NO. C6017.6017.01 DWG. 55 OF 77

U:\Civil\100-208.06 - Biggs Ford Rd\CAD\PBR-REG1_BRIDGFORD.dwg
01-Jul-24 11:



EXISTING
ELEVATION OF WINGWALLS A & C
WINGWALLS B & D OPPOSITE HAND
(BRUSH CURB ON WINGWALLS A & D NOT SHOWN)

SCALE: ½" = 1'-0"



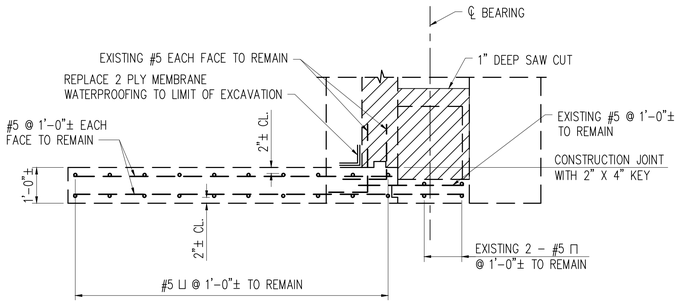
PROPOSED
ELEVATION OF WINGWALLS A & C
WINGWALLS B & D OPPOSITE HAND

SCALE: ½" = 1'-0"

*DO NOT PLACE YEAR BUILT MARKINGS IN THIS AREA.

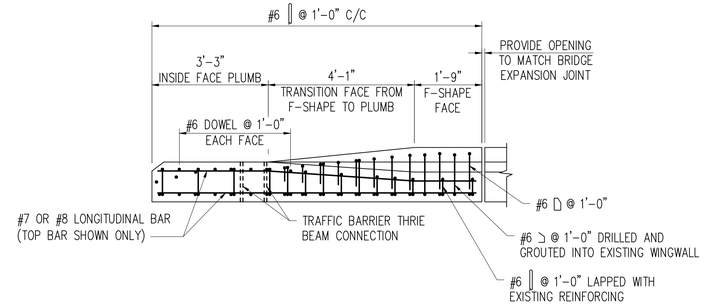
NOTES:

1. ALL END POST REINFORCING SHALL BE EPOXY COATED.
2. WINGWALL AND END POST CONSTRUCTION SHALL BE PAID FOR BY THE SUBSTRUCTURE CONCRETE FOR BRIDGE PAY ITEM.
3. REPAIR CRACKS ON THE WINGWALLS AS DIRECTED BY THE ENGINEER. REFER TO SHEET S-6 FOR ESTIMATED CRACK AND SPALL REPAIR QUANTITIES.



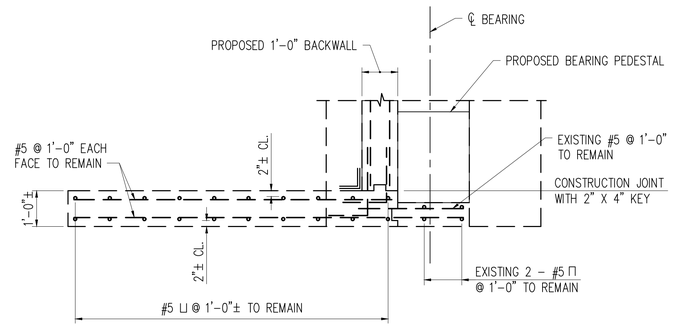
EXISTING
SECTION C-C

SCALE: ½" = 1'-0"



SECTION D-D

SCALE: ½" = 1'-0"



PROPOSED
SECTION C-C

SCALE: ½" = 1'-0"

CROSS REFERENCE NOTES

1. FOR SECTIONS E-E TO I-I, SEE SHEET S-24.

LEGEND

LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-23

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

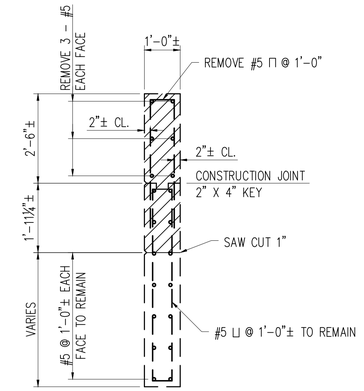
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

WINGWALL DETAILS - I

DATE: JULY 2024 SCALE: 1/2"=1'-0"

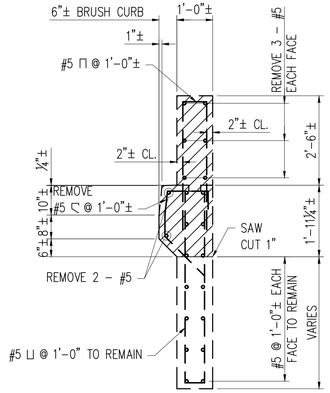
CONTRACT NO. C6017.6017.01 DWG. 56 OF 77

I:\SHOP\109-298.06 - Biggs Ford Rd\CADD\PERMIT\E02_BIGGSFORD.dwg
07-26-24 TL



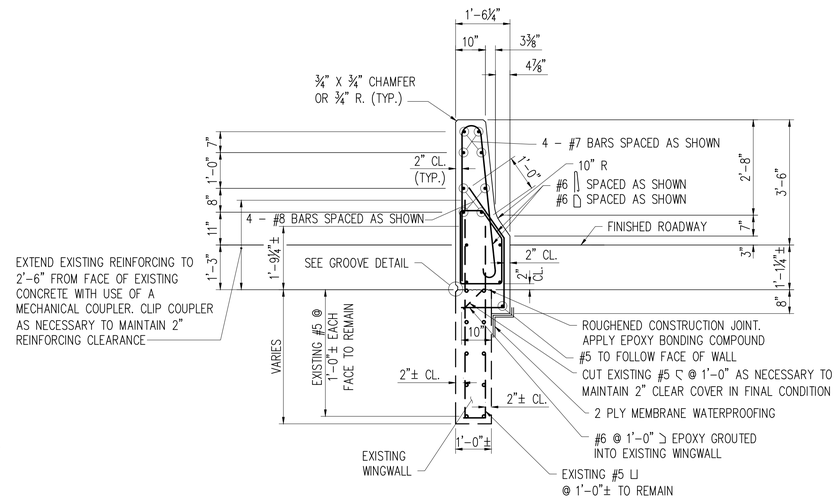
EXISTING NORTH END POSTS WINGWALLS B AND C SECTION E–E

SCALE: ½" = 1'–0"



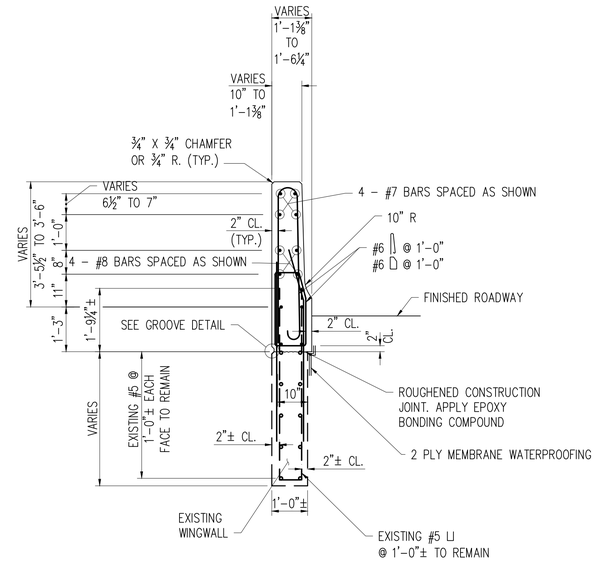
EXISTING SOUTH END POSTS WINGWALLS A AND D SECTION E–E

SCALE: ½" = 1'–0"



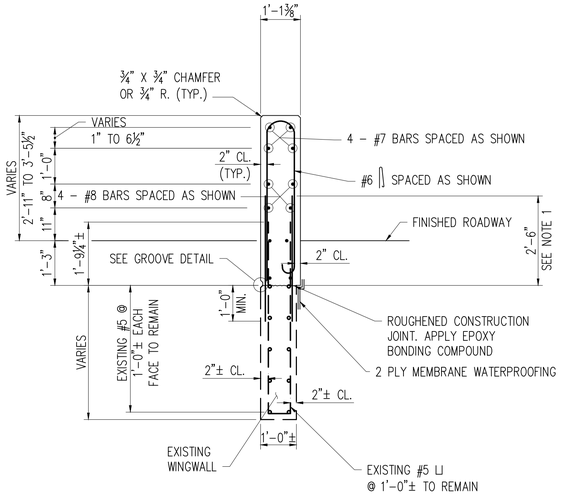
PROPOSED SECTION F–F

SCALE: ½" = 1'–0"



PROPOSED SECTION G–G

SCALE: ½" = 1'–0"

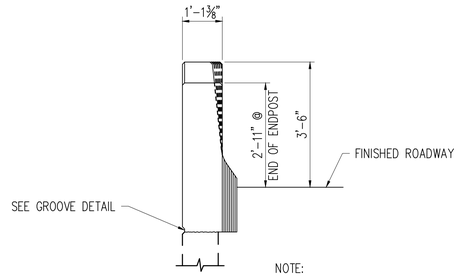


PROPOSED SECTION H–H

SCALE: ½" = 1'–0"

NOTES:

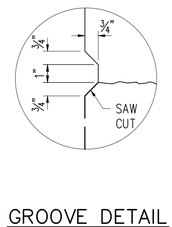
1. DRILL AND GROUT #6 @ 1'–0" INTO EXISTING CONCRETE.



NOTE:
REINFORCING STEEL NOT SHOWN.

VIEW I–I

SCALE: ½" = 1'–0"



GROOVE DETAIL

SCALE: 3" = 1'–0"

NOTES:

1. EXISTING REINFORCING DAMAGED DURING THE CONCRETE REMOVAL PROCESS SHALL BE REPAIRED OR REPLACED IN–KIND TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE COUNTY. REPLACED BAR SHALL BE DOWELED OR LAPPED ACCORING TO THE CHARTS ON SHEETS SD–8 AND SD–9.
2. CLEAN AND EPOXY COAT EXISTING REINFORCING TO BE INCORPORATED INTO THE NEW STRUCTURE.
3. ANY REINFORCING STEEL, WHICH IS TO BE INCORPORATED INTO THE NEW CONCRETE:
   - A. AND IN THE OPINION OF THE ENGINEER HAS LOST 20% OR MORE OF ITS ORIGINAL CROSS SECTIONAL AREA, SHALL BE CUT OUT. NEW EPOXY COATED REBAR OF SAME DIAMETER SHALL BE PROVIDED AND PLACED SO AS TO HAVE THE MINIMUM REQUIRED LAP AT EACH END OF THE NEW BAR, OR MODIFIED AS PER ITEM C BELOW.
   - B. WHERE THE REQUIRED LAP LENGTH IS AVAILABLE, SHALL BE USED AS A DOWEL.
   - C. WHERE THE REQUIRED BAR LAP IS NOT AVAILABLE OR LIMITS OF CONCRETE REMOVAL TO ACHIEVE BAR LAP WOULD BE TOO GREAT, AN APPROVED MECHANICAL SPLICE SHALL BE PROVIDED.

CROSS REFERENCE NOTES

1. FOR LOCATION OF SECTIONS, SEE SHEET S–23.

LEGEND

LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-24

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

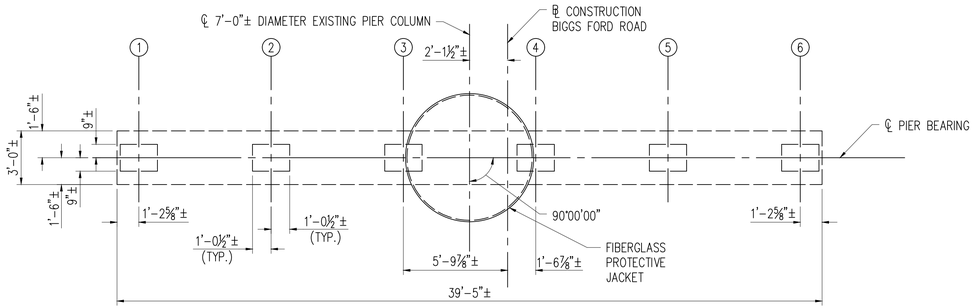
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

WINGWALL DETAILS - II

DATE: JULY 2024 SCALE: AS SHOWN

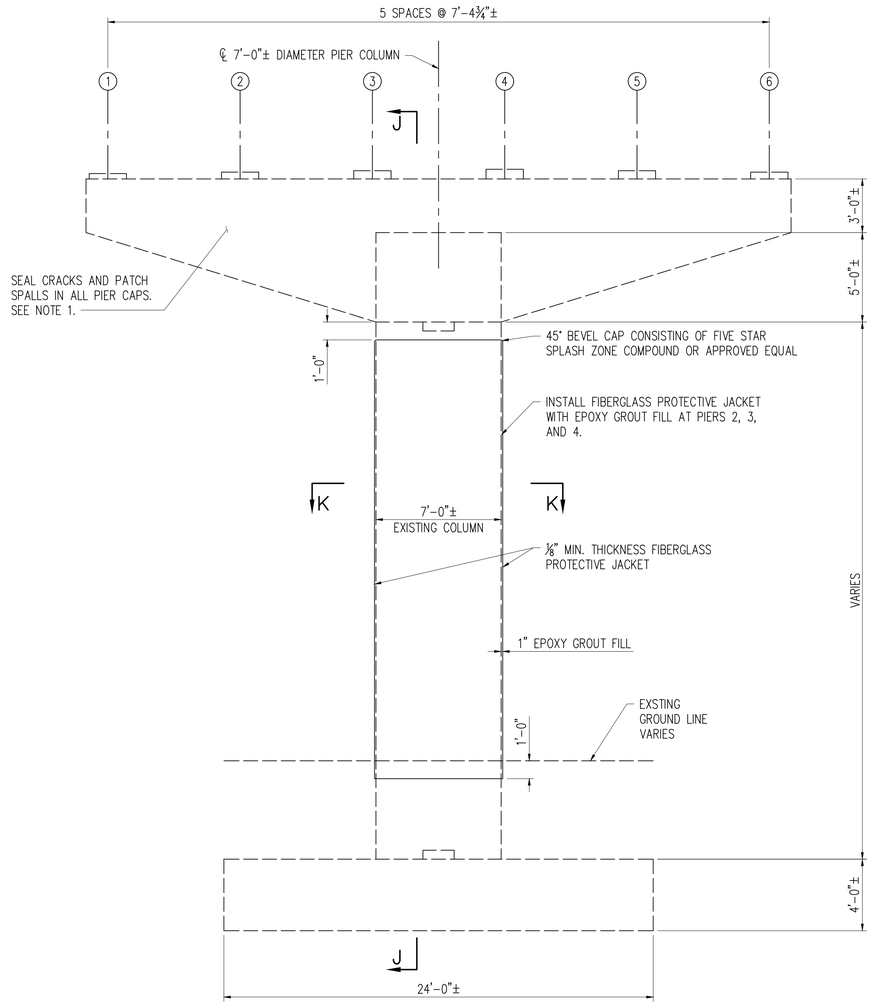
CONTRACT NO. C6017.6017.01 DWG. 57 OF 77

U:\SDA\300-2968.00 - Biggs Ford Rd\CADD\PSH-WDOT_BRIDGEWORKS.dwg
07-26-24 TL



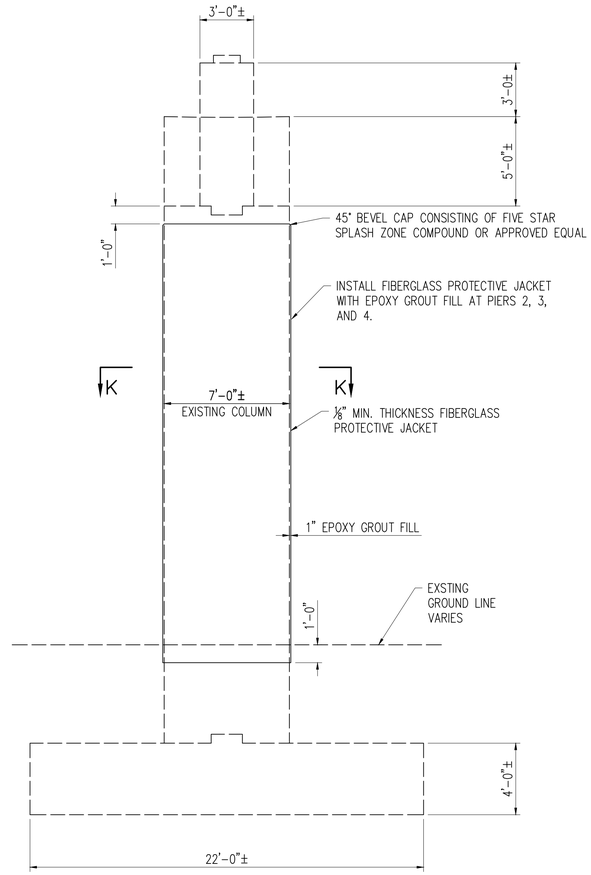
PIERS 2, 3, AND 4
PLAN

SCALE: ¼" = 1'-0"



PIERS 2, 3, AND 4
ELEVATION

SCALE: ¼" = 1'-0"



PIERS 2, 3, AND 4
SECTION J–J

SCALE: ¼" = 1'-0"

NOTES:

1. REPAIR SPALLS AND CRACKS IN ALL SIX PIER CAPS. REFER TO DETAILS ON SHEET S-31 FOR REPAIR DETAILS.
2. REPAIR SPALLS AND CRACKS IN COLUMNS 1, 5, AND 6 IN ACCORDANCE WITH THE DETAILS ON SHEET S-31. REPAIR LOCATIONS AND LIMITS SHALL BE DELINEATED IN THE FIELD PRIOR TO ORDERING MATERIAL OR BEGINNING WORK. BID QUANTITIES FOR CONCRETE SPALL REPAIR AND CRACK REPAIR TO SUBSTRUCTURE BY SEALING ARE BASED ON RECENT INSPECTION REPORTS. NO CLAIM MAY BE MADE FOR ADDITIONAL COMPENSATION IF QUANTITIES DIFFER FROM BID QUANTITIES. REFER TO SHEET S-6 FOR ESTIMATED CRACK AND SPALL REPAIR QUANTITIES.

CROSS REFERENCE NOTES

1. FOR SECTION K–K, SEE SHEET NO. S-26.

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-25

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER
PIER
PLAN, ELEVATION, AND SECTION

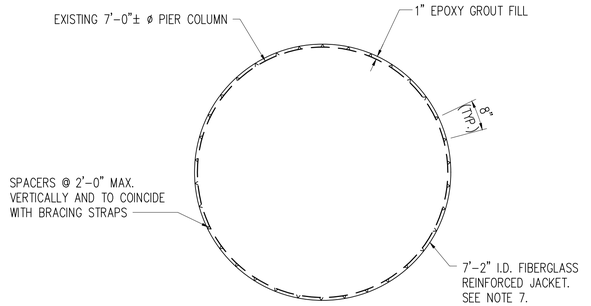
DATE: JULY 2024 SCALE: 1/4"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 58 OF 77

U:\SHOP\100-298.06 - Biggs Ford Rd\CAD\PIER-PLOT_BIGGSFORD.dwg
01-Aug-24 TL

NOTES:

1. FOLLOW ALL MANUFACTURER GUIDELINES FOR INSTALLATION OF FIBERGLASS PROTECTIVE JACKET WITH EPOXY GROUT FILL. SUBMIT SHOP DRAWINGS INCLUDING ALL PRODUCT SPECIFICATION SHEETS FOR PRODUCTS USED FOR INSTALLATION OF THE FIBERGLASS PROTECTIVE JACKETS PRIOR TO ORDERING MATERIAL OR BEGINNING WORK.
2. CLEAN CONCRETE SURFACE TO RECEIVE EPOXY GROUT FILL TO REMOVE MARINE GROWTH OR OTHER CONTAMINANTS. REMOVE LOOSE OR DELAMINATED CONCRETE DURING CLEANING PROCESS.
3. ROUGHEN CONCRETE SURFACE TO RECEIVE EPOXY GROUT FILL. CONTAIN AND PROPERLY DISPOSE OF ANY CONCRETE FRAGMENTS AND DEBRIS.
4. MINIMUM TEMPERATURE OF SUBSTRATE SHALL MEET MANUFACTURERS RECOMMENDATIONS. SUBSTRATE TEMPERATURE MEASUREMENT SHALL BE TAKEN USING A HANDHELD INFRARED THERMOMETER. WATER TEMPERATURE IN THE MONOCACY RIVER SHALL ALSO MEET THE MINIMUM MANUFACTURER'S TEMPERATURE REQUIREMENT OF THE EPOXY GROUT MATERIAL.
5. A PERISTALTIC PUMP SHALL BE USED TO PLACE THE EPOXY GROUT THROUGH PUMPING PORTS INSTALLED IN THE FIBERGLASS PROTECTIVE JACKET.
6. SEAL CRACKS AND PATCH SPALLS IN ALL PIER CAPS AND PIER COLUMNS 1, 5 AND 6 IN ACCORDANCE WITH THE CRACK AND SPALL REPAIR DETAILS ON SHEET S-31.
7. THE INNER DIAMETER OF THE FIBERGLASS REINFORCED JACKET SHALL BE 2" LARGER THAN THE EXISTING CONCRETE COLUMN. THE CONTRACTOR SHALL VERIFY COLUMN SIZE PRIOR TO ORDERING MATERIALS OR BEGINNING WORK.



SECTION K-K
SCALE: ½" = 1'-0"

CROSS REFERENCE NOTES

1. FOR LOCATION OF K-K, SEE SHEET NO. S-25.

S-26

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04
ON BIGGS FORD ROAD
OVER MONOCACY RIVER

PIER REPAIR DETAILS
DATE: JULY 2024 SCALE: 1/2"=1'-0"

CONTRACT NO. C6017.6017.01 DWG. 59 OF 77

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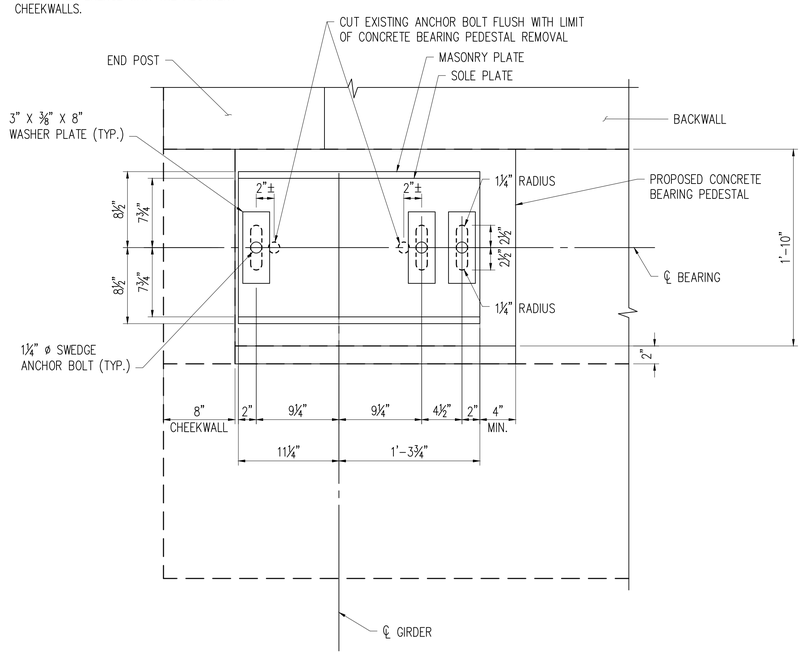
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U:\SHOP\20-208.06 - Biggs Ford Rd\CADD\PIER-PLOT_BIGGSFORD.dwg
07-30-24 MAB

NOTES:

1. ALL NOTES AND DIMENSIONS FROM SUP-BR(SB)-104 APPLY TO BEARINGS 1 AND 6, EXCEPT ONLY 3 ANCHOR BOLTS ARE REQUIRED AND THE WIDTH OF THE BEARINGS SHALL BE ADJUSTED AS SHOWN TO AVOID INTERFERENCE WITH THE ABUTMENT CHEEKWALLS.

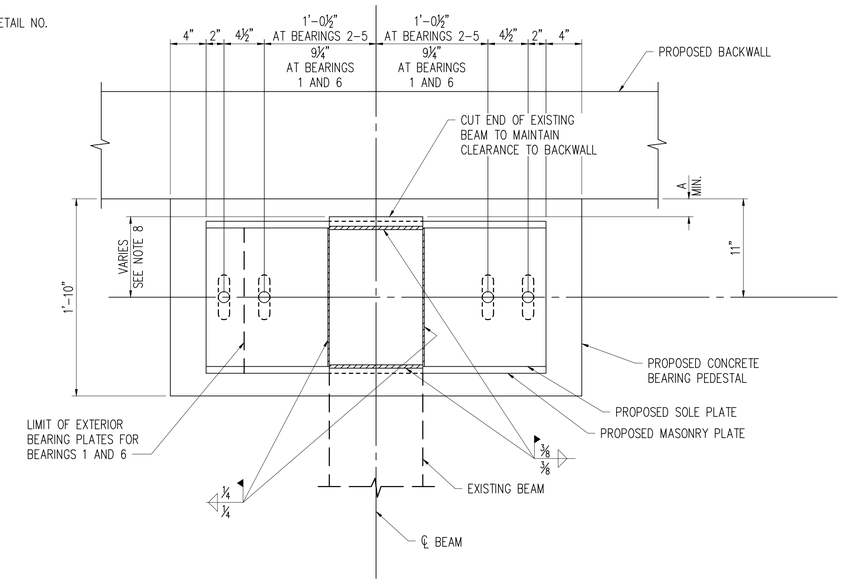
BEARINGS SHALL BE ME50-V PER SHA DETAIL NO. SUP-BR-104 ON SHEET SD-1.



PLAN
BEARING DETAIL AT BEAMS 1 AND 6

SCALE: 1½" = 1'-0"

GIRDER 6 AT ABUTMENT A AND GIRDER 1 AT ABUTMENT B SHOWN.
GIRDER 1 AT ABUTMENT A AND GIRDER 6 AT ABUTMENT B ARE OPPOSITE HAND.



BEAM END AND SOLE PLATE WELD DETAIL

SCALE: 1½" = 1'-0"

BACKWALL CLEARANCE TABLE						
TEMP.	40°F	50°F	60°F	70°F	80°F	90°F
A	2 5/16"	2 3/16"	2"	1 13/16"	1 11/16"	1½"

JACKING NOTES

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE METHOD OF RECORDING AND MEASURING LIFT PRESSURE FOR APPROVAL PRIOR TO ORDERING MATERIALS OR BEGINNING WORK. RECORDING AND MEASURING LIFT PRESSURE SHALL NOT BE MEASURED FOR PAYMENT, BUT IS CONSIDERED INCIDENTAL TO THE JACKING EXISTING STRINGER BID ITEM. REFER TO SHEET SD-4 FOR ADDITIONAL JACKING DETAILS.

1. EXPECTED MAXIMUM INCLUDES THE LIVE LOAD EFFECT OF TRAFFIC.
2. EXPECTED MINIMUM INCLUDES DEAD LOAD ONLY.
3. EMPTY TABLE VALUES SHALL BE FILLED IN BY THE INSPECTOR DURING THE JACKING PROCESS AND SUBMITTED TO THE ENGINEER.
4. CALCULATED MAX. FORCE = [RECORDED MAX. PRESSURE READING] * [0.785*JACK PISTON DIAMETER^2]

JACKING CHART							
SUPPORT AND SPAN	BEAM	EXPECTED MIN. FORCE (LBS.)	EXPECTED MAX. FORCE (LBS.)	JACK PISTON DIAMETER (IN.)	RECORDED LIFT PRESSURE READING (PSI)	RECORDED MAX. PRESSURE READING (PSI)	CALCULATED MAX. FORCE (LBS.)
ABUTMENT A	1	37,000	160,000				
ABUTMENT A	2	29,000	100,000				
ABUTMENT A	3	29,000	100,000				
ABUTMENT A	4	29,000	100,000				
ABUTMENT A	5	29,000	100,000				
ABUTMENT A	6	37,000	160,000				
ABUTMENT B	1	37,000	160,000				
ABUTMENT B	2	29,000	100,000				
ABUTMENT B	3	29,000	100,000				
ABUTMENT B	4	29,000	100,000				
ABUTMENT B	5	29,000	100,000				
ABUTMENT B	6	37,000	160,000				

BEARING REPLACEMENT NOTES AND SUGGESTED SEQUENCE OF CONSTRUCTION

1. BEARING REPLACEMENT SHALL OCCUR IN THREE STAGES, TO COINCIDE WITH THE MAINTENANCE OF TRAFFIC STAGING.
2. JACK THE CORRESPONDING BEAMS FOR THE CURRENT STAGE OF CONSTRUCTION.
3. REMOVE BEARINGS AND BEARING PEDESTALS INCLUDING REMOVAL OF SOLE PLATE FROM BOTTOM FLANGE OF THE EXISTING BEAM.
   a. SOLE PLATE SHALL BE REMOVED BY CUTTING AND GRINDING. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE EXISTING BEAM. GOUGES OR DAMAGE CAUSED TO THE EXISTING BEAM AS A RESULT OF THE REMOVAL SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE COUNTY. GRIND ALL IMPERFECTIONS SMOOTH PRIOR TO WELDING.
   b. SAW CUT 1" DEEP AROUND THE PERIMETER OF CONCRETE REMOVAL LIMITS.
   c. EXISTING ANCHOR BOLTS SHALL BE CUT AND REMOVED TO THE LIMIT OF CONCRETE PEDESTAL REMOVAL.
4. CONSTRUCT NEW CONCRETE BEARING PEDESTALS WITH NEW EPOXY COATED REBAR. SPACE REINFORCING TO CLEAR ANCHOR BOLT LOCATIONS.
   a. REFER TO SECTION 420.03.07(C) FOR CONCRETE SURFACE PREPARATION ON THE TOP SURFACE OF THE BEARING PEDESTAL.
5. LOCATE BEARING ANCHOR BOLTS BASED ON THE DESIGN EXPANSION LENGTH ACCOUNTING FOR THE TEMPERATURE MEASURED IN THE FIELD. THE TEMPERATURE MEASURED IN THE FIELD SHOULD BE AN AVERAGE OF THE TEMPERATURE MEASURED ON TOP OF THE DECK AND ON THE GIRDER.
   a. USE 1 1/4" DIAMETER SWEDGE ANCHOR BOLTS WITH HEX NUTS AND 3" X 3/8" X 8" WASHER PLATES.
   b. FOUR ANCHOR BOLTS SHALL BE USED AT EACH OF BEARINGS 2 THROUGH 5 ON EACH ABUTMENT IN ACCORDANCE WITH SHA DETAIL NO. SUP-BR(SB)-104. BEARINGS 1 AND 6 ON EACH ABUTMENT SHALL HAVE THREE ANCHOR BOLTS EACH IN ACCORDANCE WITH THE DETAILS ON THIS SHEET.
6. DRILL OR CORE ANCHOR BOLT LOCATIONS AT LEAST 1" DIAMETER LARGER THAN THE SIZE OF THE ANCHOR BOLT. REFER TO SECTION 430.03.31 FOR ADDITIONAL ANCHOR BOLT NOTES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE FABRICATED STRUCTURAL STEEL ITEM.
7. CUT THE ENDS OF THE EXISTING BEAMS TO PROVIDE ADEQUATE CLEARANCE BETWEEN THE PROPOSED BACKWALLS AND ENDS OF THE BEAMS. SEE BACKWALL CLEARANCE TABLE ON THIS SHEET. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE FABRICATED STRUCTURAL STEEL ITEM.
8. PLACE THE PROPOSED BEARING SOLE PLATE AND FIELD WELD TO THE EXISTING BEAM.
   a. THE SOLE PLATE AND EXISTING BEAM IN THE VICINITY OF THE WELD LOCATION SHALL BE CLEANED THOROUGHLY PRIOR TO WELDING AND AGAIN AFTER WELDING. AFTER WELDING AND CLEANING, THE BEARING SOLE PLATE SHALL BE PAINTED. REFER TO SECTION 432 FOR ADDITIONAL REQUIREMENTS.
   b. THE ORIGINAL AS-BUILT AND PROPOSED CENTERLINE OF BEARING SHALL COINCIDE IN REGARDS TO THE PLACEMENT OF THE ANCHOR BOLTS IN THE ABUTMENT. THE EXISTING BEARINGS MAY HAVE SHIFTED COMPARED TO THE AS-BUILT CONDITION. AS A RESULT, THE PROPOSED WELD LOCATION OF THE BEARING SOLE PLATES MAY DIFFER FROM THE EXISTING CONDITION.
9. PLACE ANCHOR BOLTS AND MASONRY PLATES.
   a. MASONRY PLATES SHALL BE SHOP PAINTED IN ACCORDANCE WITH SECTION 435.
   b. ANCHOR BOLTS SHALL BE GALVANIZED AND MASKED OFF PRIOR TO PAINTING.
   c. ANCHOR BOLT HOLES SHALL BE PLACED IN NON-SHRINK GROUT IN ACCORDANCE WITH SECTION 902.11(C).
10. LOWER SUPERSTRUCTURE AND REMOVE JACKS.
11. PAINT THE BEARINGS AND ENDS OF BEAMS.

CROSS REFERENCE NOTES

1. FOR SHA DETAIL NO. SUP-BR(SB)-104, SEE SHEET NO. SD-1.
2. FOR FRAMING PLAN AND RETROFIT PLATING LOCATIONS, SEE SHEET NO. S-28.

PROFESSIONAL CERTIFICATION.
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LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

S-27

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

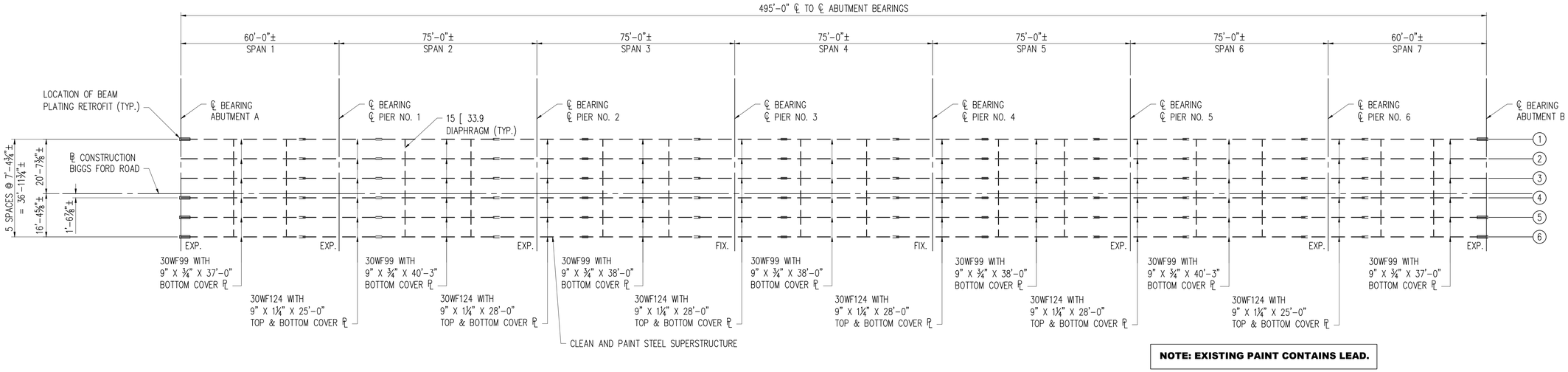
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

BEARING DETAILS

DATE: JULY 2024 SCALE: 1½" = 1'-0"

CONTRACT NO. C6017.6017.01 DWG. 60 OF 77

U:\SIA\109-298.06 - Biggs Ford Rd\LAD\Y&R-BRDG\BIGGSFORD.dwg
07-26-24 TL



NOTE: EXISTING PAINT CONTAINS LEAD.

EXISTING FRAMING PLAN

SCALE: 1" = 20'-0"

CLEAN AND PAINTING NOTES

1. CLEAN AND PAINT THE ENTIRE STEEL SUPERSTRUCTURE.
2. MASK THE GALVANIZED ANCHOR BOLTS PRIOR TO PAINTING.
3. REFER TO SECTIONS 435 AND 436 FOR ADDITIONAL REQUIREMENTS FOR CLEANING AND PAINTING NEW AND EXISTING STRUCTURAL STEEL.
4. THE EXISTING PAINT CONTAINS LEAD AND SHALL BE CONTAINED AND DISPOSED OF PROPERLY. REFER TO SECTION 436 FOR ADDITIONAL REQUIREMENTS.
5. DO NOT PAINT THE BEAMS IN THE VICINITY OF THE PROPOSED BEARING SOLE PLATES AND RETROFIT STEEL PLATING AT THE ABUTMENTS UNTIL THE REPAIRS ARE COMPLETE.
6. THE SUPERSTRUCTURE SHALL BE CLEANED AND PAINTED AFTER ALL CONCRETE WORK TO THE PARAPETS, DECK OVERHANG, BACKWALLS, AND BEARING PEDESTALS HAVE BEEN COMPLETED.

CROSS REFERENCE NOTES

1. FOR BEAM PLATING DETAILS, SEE SHEET NO. SD-3.
2. FOR BEAM END DETAIL, SEE SHEET NO. S-27.

S-28

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

BEAM PLATING DETAILS

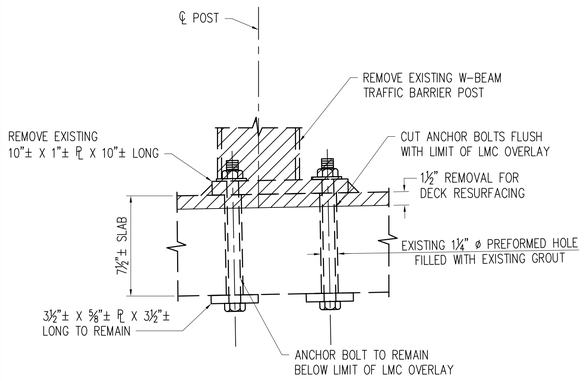
DATE: JULY 2024 SCALE: 1"=20'-0"

CONTRACT NO. C6017.6017.01 DWG. 61 OF 77

PROFESSIONAL CERTIFICATION.
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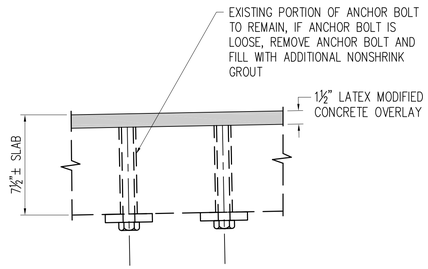
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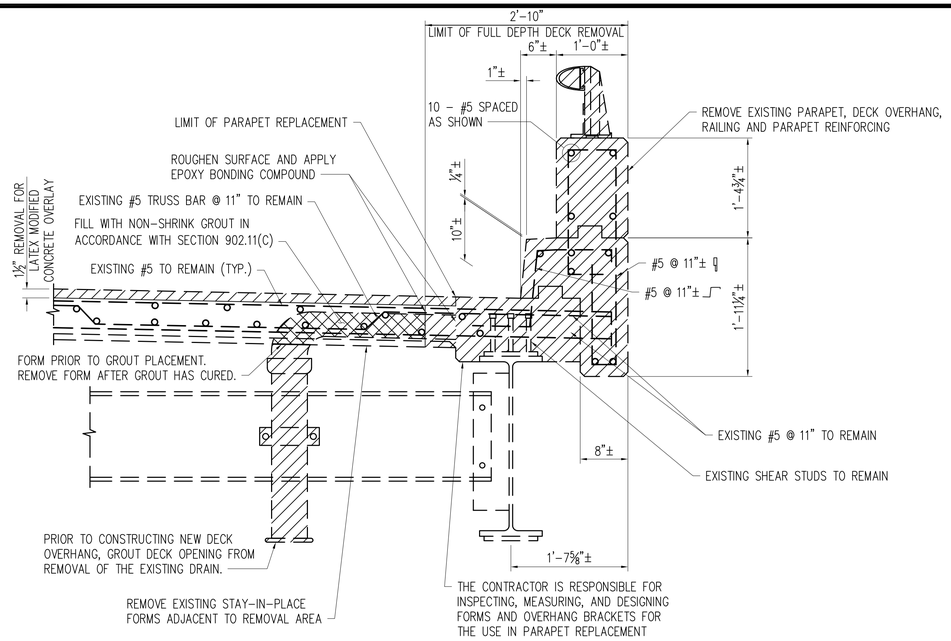
EXISTING W-BEAM INTERMEDIATE ANCHOR PLATE DETAILS

SCALE: 1½" = 1'-0"



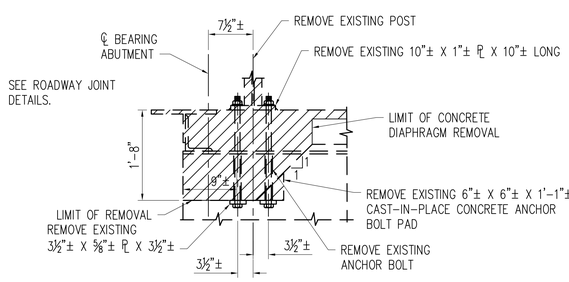
PROPOSED W-BEAM INTERMEDIATE ANCHOR PLATE DETAILS

SCALE: 1½" = 1'-0"



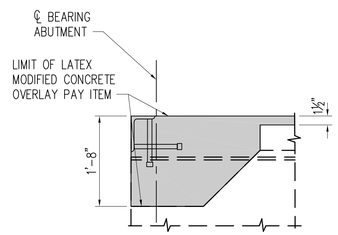
EXISTING SOUTH PARAPET SECTION

SCALE: 1" = 1'-0"
(NORTH PARAPET SIMILAR, BUT WITHOUT 10" H X 6" CURB)



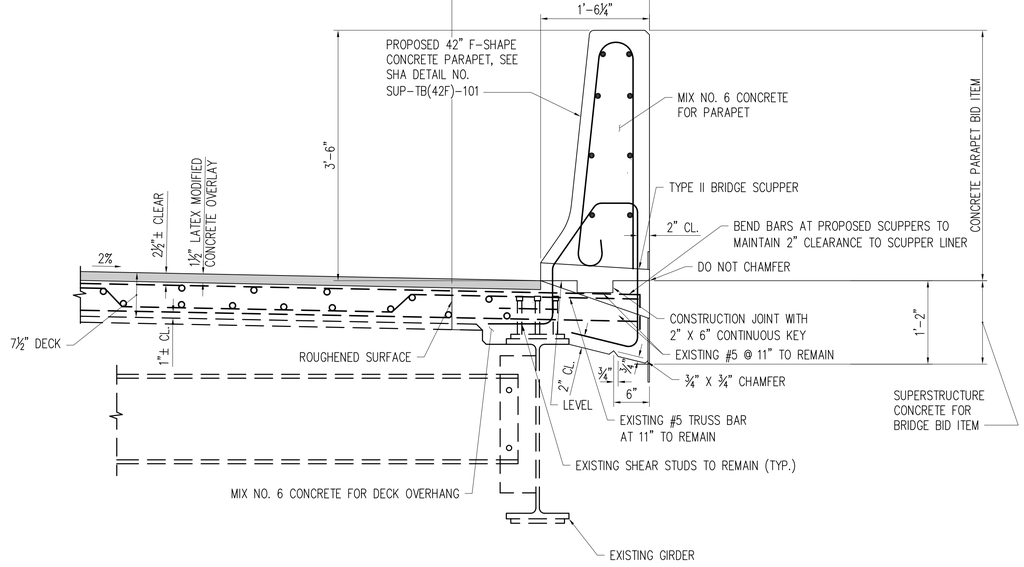
EXISTING W-BEAM ANCHOR PLATE DETAIL AT END DIAPHRAGM

SCALE: 1" = 1'-0"



PROPOSED W-BEAM ANCHOR PLATE DETAIL AT END DIAPHRAGM

SCALE: 1" = 1'-0"



PROPOSED PARAPET AND DECK OVERHANG SECTION

SCALE: 1" = 1'-0"

CROSS REFERENCE NOTES

1. FOR PARAPET AND SCUPPER DETAILS, SEE SHEET NO. SD-1.

LEGEND

- LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE
- FILL WITH NON-SHRINK GROUT
- LATEX MODIFIED CONCRETE

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CONSULTING ENGINEERS | OWINGS MILLS, MD

S-29

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

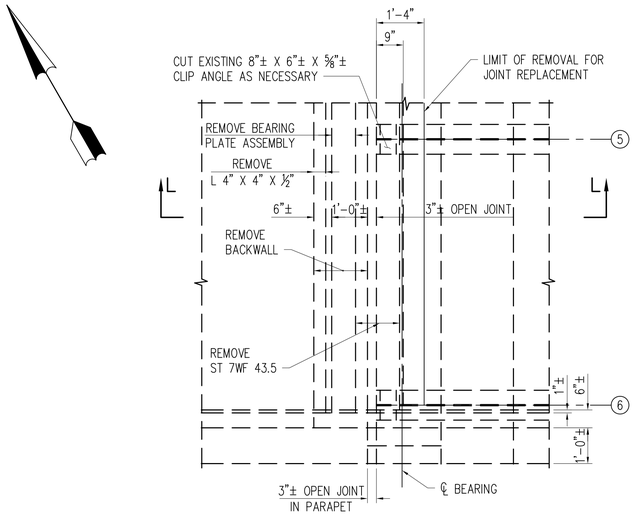
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

DECK AND PARAPET DETAILS

DATE: JULY 2024 SCALE: 1"=1'-0"

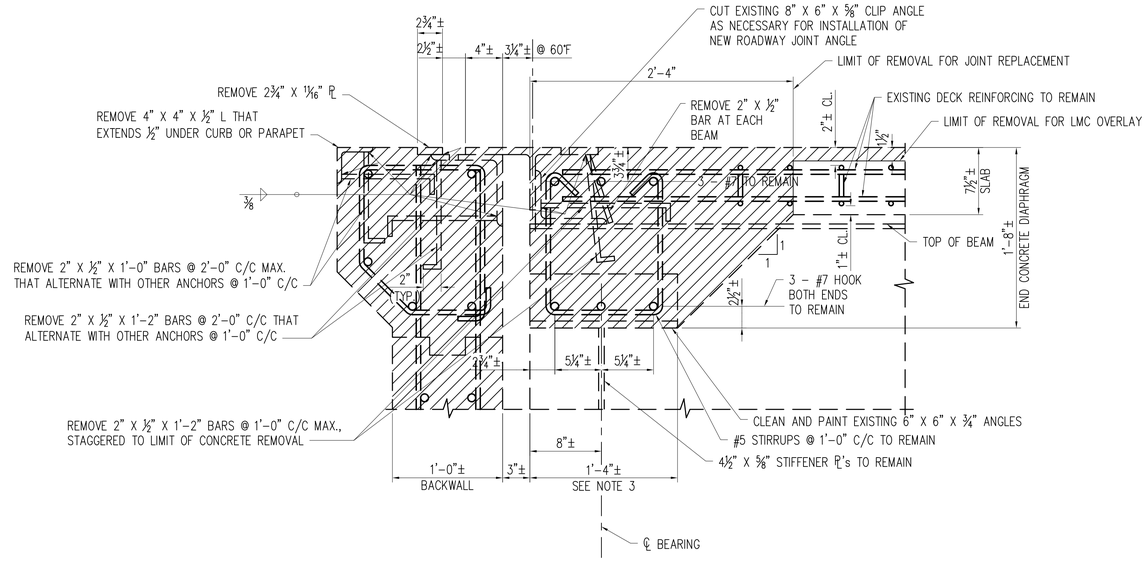
CONTRACT NO. C6017.6017.01 DWG. 62 OF 77

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07-30-24 MAB



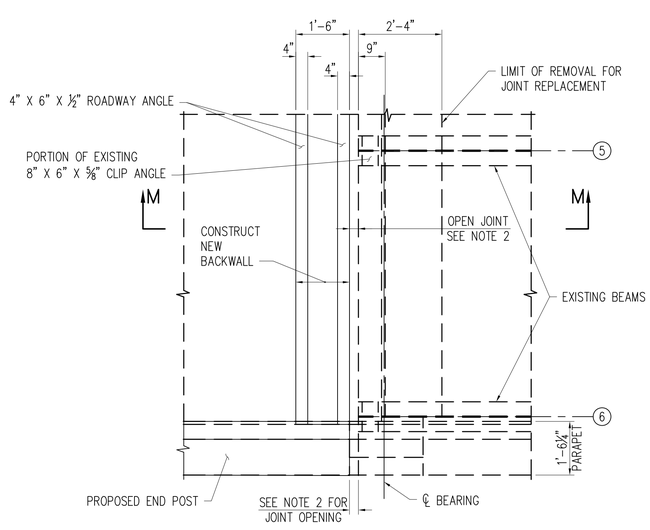
EXISTING PLAN ROADWAY JOINT

SCALE: ½" = 1'-0"



EXISTING SECTION L–L

SCALE: 1½" = 1'-0"

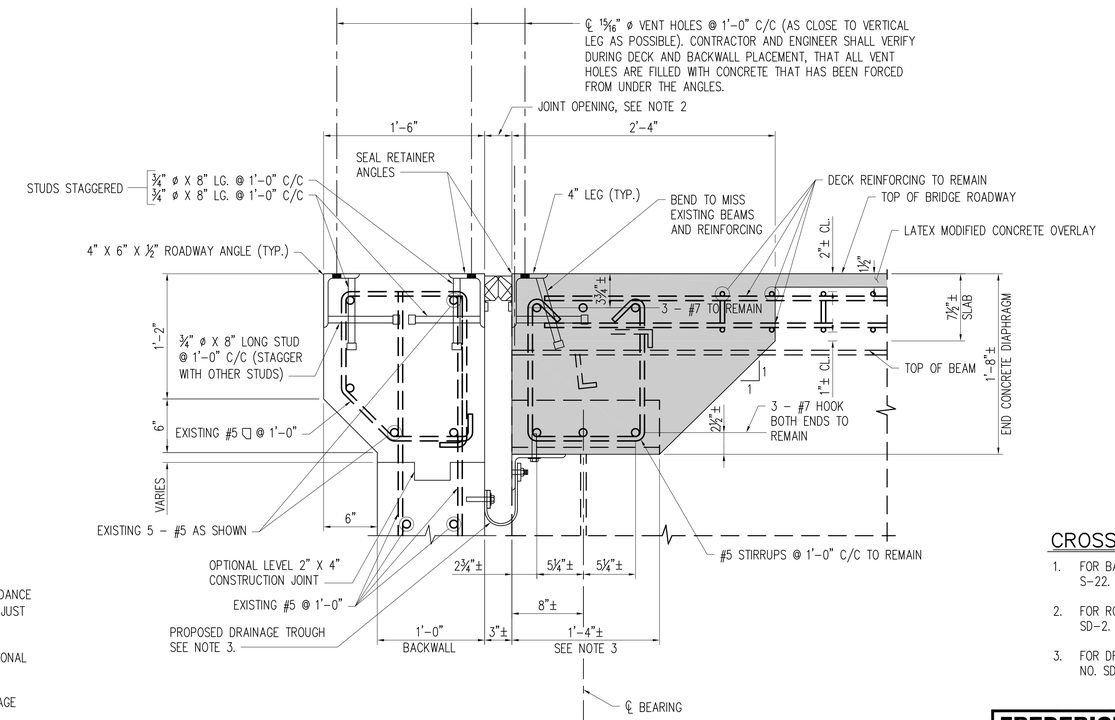


PROPOSED PLAN ROADWAY JOINT

SCALE: ½" = 1'-0"

NOTES:

1. JOINT IS TO BE THOROUGHLY CLEANED IN ACCORDANCE WITH JOINT MANUFACTURER'S RECOMMENDATIONS JUST PRIOR TO PLACING OF SEAL.
2. SEE SHA DETAIL NO. SUP–JT(JS)–101 FOR ADDITIONAL DETAILS ON SHEET SD–2.
3. REMOVE FORM PRIOR TO INSTALLATION OF DRAINAGE TROUGH.
4. AT NO ADDITIONAL COST TO THE COUNTY EXISTING REINFORCING MAY BE REPLACED WITH NEW EPOXY COATED REINFORCING OF THE SAME SIZE PROVIDED MINIMUM LAPS ARE USED BETWEEN STAGES OF CONSTRUCTION BY UTILIZING PORTIONS OF THE EXISTING REINFORCING OR BY THE USE OF MECHANICAL COUPLERS.



PROPOSED SECTION M–M

SCALE: 1½" = 1'-0"

LEGEND

LIMIT OF REMOVAL OF PORTIONS OF EXISTING STRUCTURE

LATEX MODIFIED CONCRETE OVERLAY

CROSS REFERENCE NOTES

1. FOR BACKWALL REINFORCING, SEE SHEET NO. S–22.
2. FOR ROADWAY JOINT DETAILS, SEE SHEET NO. SD–2.
3. FOR DRAINAGE TROUGH DETAILS, SEE SHEET NO. SD–5.

S-30

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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

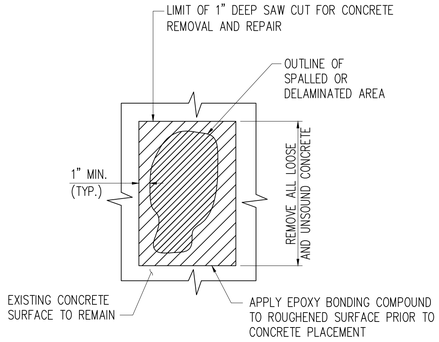
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

ROADWAY JOINT DETAILS

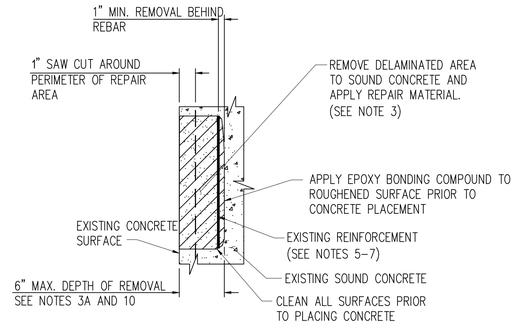
DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 63 OF 77

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01-30-24 MAB



ELEVATION



SECTION

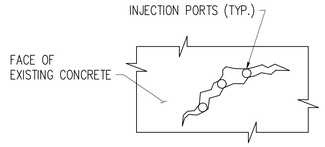
DETAILS FOR CONCRETE SPALL AND/OR DELAMINATION REPAIR

SCALE: NOT TO SCALE

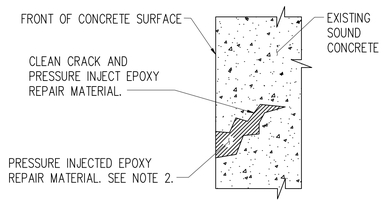
LEGEND

CONCRETE TO BE REMOVED

CONCRETE SPALL AND/OR DELAMINATION



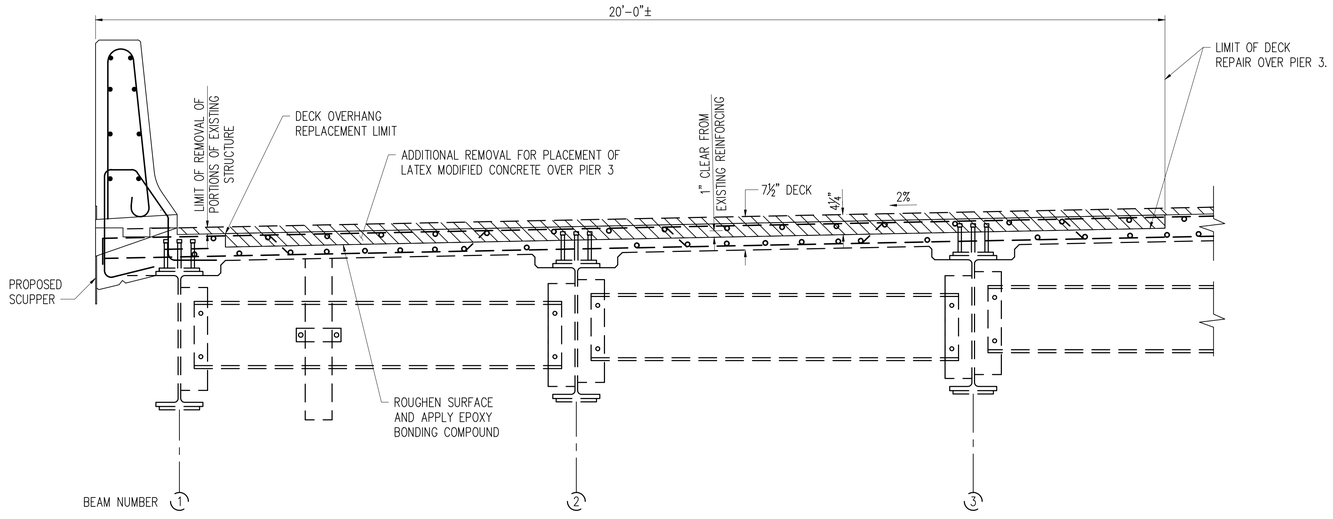
CONCRETE CRACK – ELEVATION



CONCRETE CRACK – SECTION

EPOXY PRESSURE INJECTION CONCRETE CRACK REPAIR

(CRACK WIDTH 1/16" OR GREATER)
SCALE: NOT TO SCALE



DECK REPAIR DETAIL OVER PIER 3

SCALE: ¼" = 1'-0"

CROSS REFERENCE NOTES

1. FOR LOCATION OF SPALL AND DELAMINATION REPAIRS AND CRACK REPAIRS IN ABUTMENTS, SEE SHEET NOS. S-6 TO S-21.

SPALL AND DELAMINATION REPAIR NOTES

1. THIS REPAIR PROCEDURE SHALL APPLY TO SPALLS AND/OR DELAMINATIONS ON THE EXISTING ABUTMENTS, DECK, PIER COLUMNS, AND PIER CAPS.
2. PRIOR TO CONSTRUCTION AND ORDERING MATERIALS, THE CONTRACTOR AND THE ENGINEER WILL DETERMINE ON SITE BY SOUNDING AND VISUAL INSPECTION WHICH AREAS OF THE EXISTING CONCRETE ARE DELAMINATED OR SPALLED AND REQUIRE REPAIR. HANDS-ON ACCESS TO PIER CAP REPAIRS SHALL BE PROVIDED BY THE CONTRACTOR, AND DELINEATION OF THE REPAIR AREAS AT THE CAPS MAY COINCIDE WITH PLATFORM ACCESS INSTALLED FOR CLEANING AND PAINTING.
3. FOR DELAMINATED CONCRETE REMOVAL: (MEASURED FROM THE SURFACE OF THE AS-BUILT EXISTING CONCRETE)
   A. OF GREATER THAN 4¼", HAND POWER TOOLS OR HYDRODEMOLTITION SHALL BE USED. IMMEDIATELY NOTIFY THE ENGINEER IF REMOVAL GREATER THAN 4¼" IS REQUIRED.
   B. OF UP TO 4¼": THE UNSOUND CONCRETE SHALL BE REMOVED USING HAND POWER TOOLS OR HYDRODEMOLITION. CONTRACTOR SHALL REFER TO STEP 3A ABOVE IF REMOVAL BEYOND 4¼" DEPTH IS REQUIRED TO REACH SOUND CONCRETE.
4. THE CONTRACTOR SHALL SAWCUT 1" DEEP AT ALL REMOVAL LIMITS TO PROVIDE A NEAT LINE IN THE FINISHED CONSTRUCTION. SQUARE OFF ALL REPAIR AREAS.
5. ALL EXISTING REINFORCING STEEL EXPOSED AS A RESULT OF REMOVING DELAMINATED CONCRETE SHALL BE CLEANED, EPOXY COATED, AND INCORPORATED IN THE NEW CONCRETE.
6. ANY REINFORCING STEEL, WHICH IS TO BE INCORPORATED INTO THE NEW CONCRETE:
   A. AND IN THE OPINION OF THE ENGINEER HAS LOST 20% OR MORE OF ITS ORIGINAL CROSS SECTIONAL AREA, SHALL BE CUT OUT. NEW EPOXY COATED REBAR OF SAME DIAMETER SHALL BE PROVIDED AND PLACED SO AS TO HAVE THE MINIMUM REQUIRED LAP AT EACH END OF THE NEW BAR, OR MODIFIED AS PER ITEM C BELOW.
   B. WHERE THE REQUIRED LAP LENGTH IS AVAILABLE, SHALL BE USED AS A DOWEL.
   C. WHERE THE REQUIRED BAR LAP IS NOT AVAILABLE OR LIMITS OF CONCRETE REMOVALTO ACHIEVE BAR LAP WOULD BE TOO GREAT, AN APPROVED MECHANICAL SPLICE SHALL BE PROVIDED.
7. ANY DAMAGE TO EXISTING REINFORCEMENT DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED TO THE COMPLETE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE COUNTY.
8. APPLY EPOXY BONDING AGENT ACCORDING TO C881 TYPE V AT THE INTERFACE BETWEEN EXISTING CONCRETE AND PROPOSED PATCHING PRIOR TO APPLYING PATCHING MATERIAL.
9. ALL PATCHING MATERIAL USED IN CONCRETE REPAIRS SHALL BE FREE OF CHLORIDES.
10. REPAIRS 4¼" DEEP OR LESS SHALL BE COMPLETED IN SEGMENTS NO GREATER THAN 10'-0" WIDE WITH 7 CALENDAR DAYS BETWEEN ADJACENT REPAIRS TO ALLOW CONCRETE TO CURE. NONADJACENT REPAIRS MAY BE COMPLETED SIMULTANEOUSLY PROVIDED THAT THEY ARE AT LEAST 6'-0" APART FROM EACH OTHER. IF ADDITIONAL SPALL AREAS GREATER THAN 4¼" IN DEPTH ARE FOUND, CONTACT THE ENGINEER IMMEDIATELY TO DETERMINE REPAIR METHODS.
11. MATCH THE EXISTING CHAMFER IF ONE IS PRESENT AT THE REPAIR.
12. DO NOT MAKE REPAIRS TO SPALLS LESS THAN 6 IN. LONG AND LESS THAN 1.5 IN. WIDE.

CRACK REPAIR NOTES

1. THIS REPAIR PROCEDURE SHALL APPLY TO REPAIRING CRACKS AS DIRECTED BY THE ENGINEER.
2. ANY CRACKS 1/16" WIDE OR GREATER SHALL BE REPAIRED USING THE PRESSURE INJECTION METHOD AS SHOWN ON THIS PLAN. REFER TO SECTION 481 EPOXY PRESSURE INJECTION FOR CRACK REPAIR IN CONTRACT DOCUMENTS.
3. MATERIAL FOR REPAIRING CRACKS USING THE PRESSURE INJECTION METHOD (CRACK WITH EQUAL TO OR GREATER THAN 1/16") SHALL BE CI-LV LOW-VISCOSITY STRUCTURAL INJECTION EPOXY MANUFACTURED BY SIMPSON STRONG-TIE OR AN APPROVED EQUAL.
4. CRACKS LESS THAN 1/16" WIDE SHALL BE REPAIRED BY CI-LV LOW-VISCOSITY STRUCTURAL INJECTION EPOXY MANUFACTURED BY SIMPSON STRONG-TIE OR AN APPROVED EQUAL.
5. WHEN REPAIRING FULL DEPTH CRACKS, MEANS SHALL BE PROVIDED TO PREVENT EXCESS REPAIR MATERIAL FROM EXITING THROUGH THE FAR END OF THE CRACK AND ACCUMULATING ON OTHER SURFACES.

SLOPE PROTECTION SPALL REPAIR NOTES

1. TROWEL GRADE MORTAR SHALL BE USED TO PATCH SPALLS IN SLOPE PROTECTION AFTER VEGETATION, AND LOOSE AND DELAMINATED CONCRETE IS REMOVED. APPLY EPOXY BONDING COMPOUND AT THE INTERFACE BETWEEN THE EXISTING CONCRETE AND PATCH MATERIAL.

DECK REPAIR DETAIL OVER PIER 3 NOTES

1. THE REPAIR AREA SHALL BE DELINEATED BY THE CONTRACTOR AND ENGINEER PRIOR TO ORDERING MATERIAL OR BEGINNING WORK.
2. NO HEAVY EQUIPMENT IS ALLOWED WITHIN 10 FEET OF THE REPAIR ARE UNTIL THE REPAIR CONCRETE HAS REACHED 3500 PSI.
3. THE TOP OF THE GIRDERS IN THE REMOVAL AREA SHALL BE MARKED PRIOR TO BEGINNING DEMOLITION. ONLY HAND TOOLS OR HYDRO-DEMOLITION MAY BE USED WITH 6" OF THE GIRDER TOP FLANGES.
4. THE BOTTOM 1" OF REMOVAL SHALL BE DONE USING HAND TOOLS OR HYDRO-DEMOLITION IF ADEQUATE DEPTH REMOVAL CONTROL CAN BE PROVEN TO THE ENGINEER.
5. DO NOT REMOVE CONCRETE BELOW THE LIMITS SHOWN ON THE PLANS WITHOUT FIRST CONSULTING THE ENGINEER.
6. ADDITIONAL REMOVAL FOR PLACEMENT OF LATEX MODIFIED CONCRETE OVER PIER 3 SHALL BE PAID FOR BY THE REMOVAL OF PORTIONS OF EXISTING STRUCTURE ITEM.
7. REPAIR MATERIAL SHALL BE LATEX MODIFIED CONCRETE POURED MONOLITHIC WITH THE 1 ½" THICK LMC OVERLAY AND WILL BE PAID BY THE LATEX MODIFIED CONCRETE OVERLAY ITEM.

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FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

CRACK AND SPALL REPAIR DETAILS

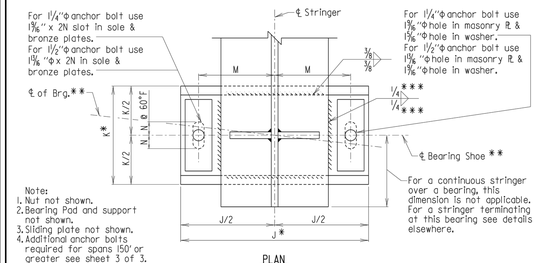
DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 64 OF 77

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

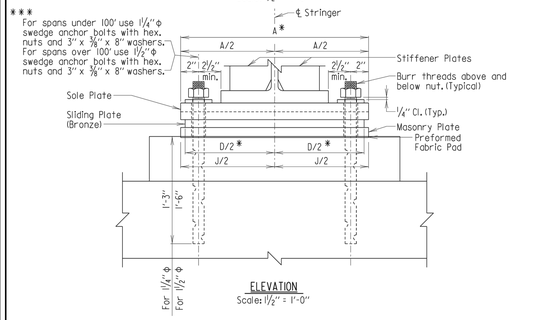
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07-30-24 MAB



Note:
1. Nut not shown.
2. Bearing Pad and support not shown.
3. Sliding plate not shown.
4. Additional anchor bolts required for spans 150' or greater see sheet 3 of 3.

PLAN
Scale: 1½" = 1'-0"



ELEVATION
Scale: 1½" = 1'-0"

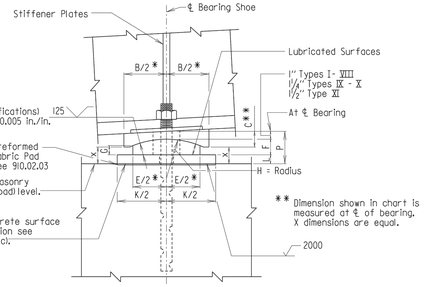
*Edges may be left as cut or cast.

**Where bridge is not skewed, ℄ Brg. and ℄ shoe are coincident.

***Minimums shown. Engineer Shall Design.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 04/03/2018	BRONZE EXPANSION BEARING MEDIUM LENGTH SPANS (GRADE 50 STEEL)
VERSION 2.0	DETAIL NO. SUP-BR(SB)-104 SHEET 1 OF 3

SUPER - BEARINGS



SIDE VIEW
Scale: 1½" = 1'-0"

DATA SCHEDULE

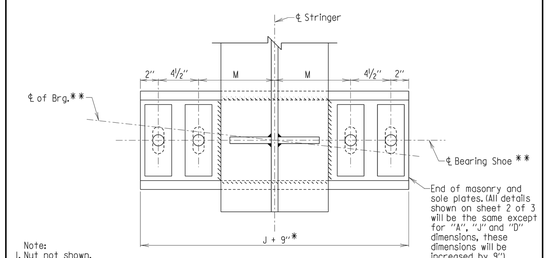
Type	Sole Plate A	B	C	Sliding Plate D	E	F	G	Radius H	Masonry ℄ J	K	Hole Loc. L	Slot M	N	Wgt. P	Max. Bottom Fl. W.	Strength Limit State 1000k	Service Limit State Loads	Allow Exp. (+/-) (Note 4)
ME50 - I	21	9½	1¾	20	7½	1¾	1 ±	11	21	11	1	8½	1½	33¾	12	200 k	120 k	
ME50 - II	23	10½	1⅞	22	8½	1¾	1 ±	12	23	12	1	9½	1¾	37¾	14	300 k	185 k	1
ME50 - III	25	12½	2	24	9½	1¾	1 ±	15	25	13	1¼	10½	2	4	16	400 k	250 k	1¼
ME50 - IV	27	13½	2⅛	26	11	2	1 ±	16	27	16	1¼	11½	2¼	49¼	18	500 k	310 k	1½
* ME50 - V	29	15½	2⅜	28	13	2¼	1 ±	18	29	17	1½	12½	2½	53¾	20	600 k	375 k	1¾
ME50 - VI	31	17	2½	30	14½	2⅝	1 ±	20	31	20	1½	13½	2¾	57¾	22	700 k	440 k	2
ME50 - VII	33	18½	2½	32	15½	2⅝	1 ±	23	33	23	2	14½	3	61⅞	24	800 k	505 k	2¼
ME50 - VIII	35	19	2⅝	34	16½	2½	1 ±	23	35	24	2½	15½	3¼	66	26	900 k	570 k	2½
ME50 - IX	37	21	3	36	17½	2¾	1¼ ±	26	37	25	2½	16½	3½	70½	28	1000 k	635 k	2¾
ME50 - X	39	21	3	38	17½	2¾	1¼ ±	26	39	26	2¾	17½	4	74¾	30	1100 k	700 k	3¼
ME50 - XI	41	22	3¼	40	18	3	1½ ±	28	41	27	3	18½	4½	79½	32	1200 k	760 k	3½

Note: All dimensions are in inches.

Note:
1. Sole and masonry plates to be ASTM A 709 Grade 50, steel painted to match finished bridge color, contractor shall be a self lubricating bronze bearing plate conforming to 910.01.
2. Fill slots and holes around anchor bolts with nonhardening caulking compound or elastic joint sealer.
3. 1000 RMS (finish all over) except where otherwise noted.
4. Allowable expansion is based on a 60°F. temperature change from center slot setting at 60°F.
5. Compressive strength of concrete bearing area shall be 3.5 ksi or greater.
6. Top of sole plate must be beveled to fit grade of bottom flange.
7. Unless otherwise noted, bearings shall be placed normal to ℄ of stringer.
8. Plates are to be shipped as units.
9. If more than one size bearing is called for, Contractor may furnish all bearings of the larger size provided the bearing pads are altered to accommodate same. No increase in any prices bid will be allowed if this option is selected.
10. All anchor bolts and shall be unpainted ASTM F 1554 Grade 55 galvanized steel. All nuts shall be unpainted ASTM A 563 galvanized steel. All washers shall be unpainted ASTM F 436 galvanized steel.
11. The maximum design rotation due to strength load combinations (8u) = 0.75".

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 04/03/2018	BRONZE EXPANSION BEARING MEDIUM LENGTH SPANS (GRADE 50 STEEL)
VERSION 2.0	DETAIL NO. SUP-BR(SB)-104 SHEET 2 OF 3

SUPER - BEARINGS



Note:
1. Nut not shown.
2. Bearing Pad and support not shown.
3. Sliding plate not shown.

PLAN
FOR ALL GIRDERS WITH SPAN LENGTHS (CONTRIBUTING TO EXPANSION) 150' OR GREATER
Scale: 1½" = 1'-0"

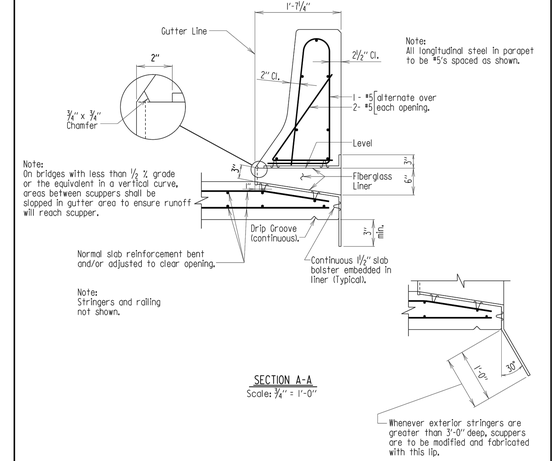
Note:
Bearings for girders with span lengths contributing to expansion of 150' or greater shall be extended to accommodate 2 additional bolts. Size and details of all 4 anchor bolts to be the same as that required for 2 bolt bearings.

*Edges may be left as cut or cast.

**Where bridge is not skewed, ℄ Brg. and ℄ shoe are coincident.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 04/03/2018	BRONZE EXPANSION BEARING MEDIUM LENGTH SPANS (GRADE 50 STEEL)
VERSION 2.0	DETAIL NO. SUP-BR(SB)-104 SHEET 3 OF 3

SUPER - BEARINGS

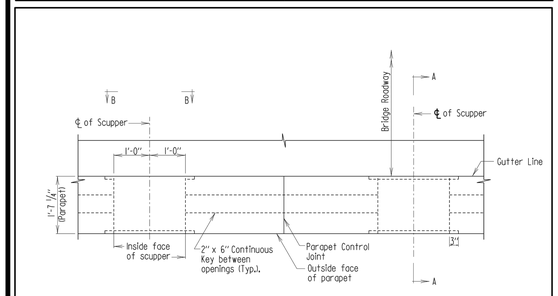


SECTION A-A
Scale: ¾" = 1'-0"

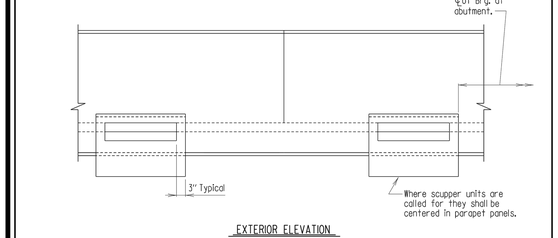
Notes:
1. Fiberglass lining shall extend 3" beyond sides and top of opening on exterior face of parapet and 3" min. below bottom of slab on exterior face of parapet. Slab bolsters shall have upturned feet embedded in the fiberglass.
2. Omit openings in panels 10' each side of piers and abutments and in those sections which carry light posts support brackets. Normal parapet and sidewalk reinforcing shall be provided in all sections without openings.
3. Fiberglass shall conform to 921.11. The surface of the fiberglass designed to bond with other materials shall be free of bond inhibiting agents.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 01/22/2001	TYPE II BRIDGE SCUPPER
VERSION 1.0	DETAIL NO. SUP-SC-103 SHEET 1 OF 3

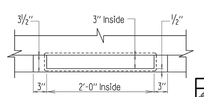
SUPER - SCUPPERS



PLAN
Scale: ½" = 1'-0"



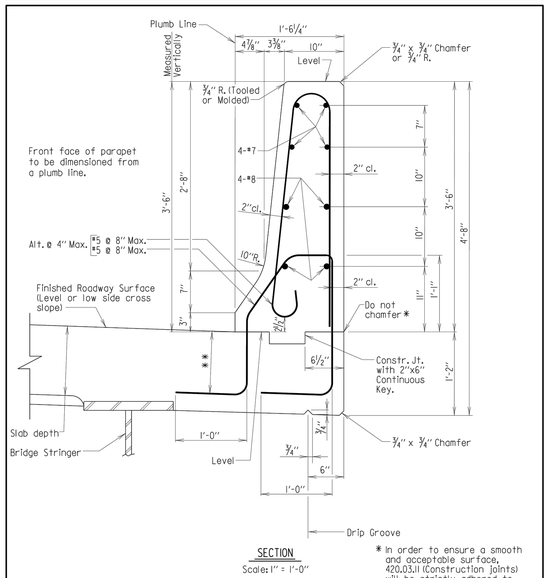
EXTERIOR ELEVATION
Scale: ½" = 1'-0"



VIEW B-B
Scale: ½" = 1'-0"

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 01/22/2001	TYPE II BRIDGE SCUPPER
VERSION 1.0	DETAIL NO. SUP-SC-103 SHEET 2 OF 2

SUPER - SCUPPERS



SECTION
Scale: 1" = 1'-0"

* In order to ensure a smooth and acceptable surface, 420.03.11 (Construction Joints) will be strictly adhered to.

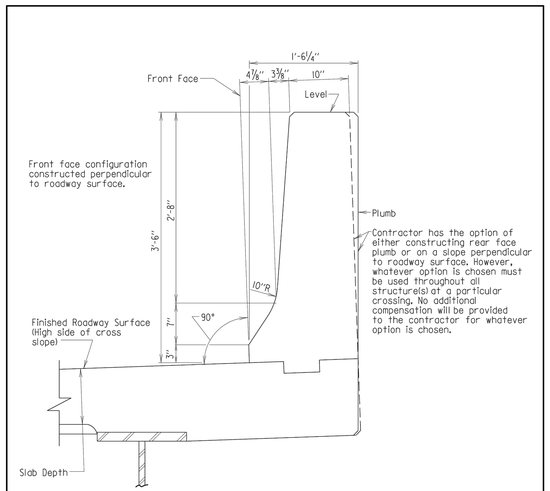
** Slab depth minus 1".

Notes:
1. All #7 and #8 longitudinal bars shall be placed continuously in the parapet from expansion opening to expansion opening in a simple span bridge and expansion opening to centerline of pier in a multi span bridge.
2. Key is nominal size.
3. All reinforcing steel to be epoxy coated.
4. Concrete deck reinforcing steel not shown.

MASH COMPLIANT TL-5 BRIDGE RAILING

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 08/16/2019	LEVEL OR LOW SIDE OF CROSS SLOPE 42" F-SHAPE PARAPET WITH STRAIGHT BACK
VERSION 1.01	DETAIL NO. SUP-TB(42F)-101 SHEET 1 OF 2

SUPER - TRAFFIC BARRIERS



SECTION
Scale: 1" = 1'-0"

Note:
For all details not shown see sheet 1 of 2.

MASH COMPLIANT TL-5 BRIDGE RAILING

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 08/16/2019	HIGH SIDE OF CROSS SLOPE 42" F-SHAPE PARAPET WITH STRAIGHT BACK
VERSION 1.01	DETAIL NO. SUP-TB(42F)-101 SHEET 2 OF 2

SUPER - TRAFFIC BARRIERS

*BEARING SELECTION AT ABUTMENTS

SD-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

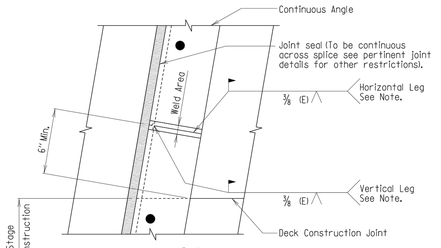
BEARING AND PARAPET DETAILS
DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 65 OF 77

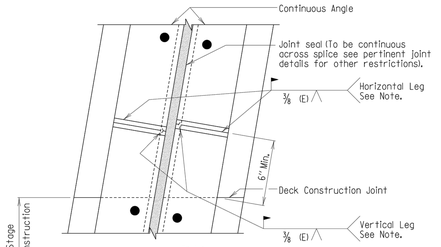
PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

U:\Structures\6017.6017.01 - Biggs Ford Rd\Cadd\Plan Sheets\6017601702SD65.dwg 07-30-24 MAB



PLAN
JOINT AT ABUTMENTS - WHERE ONE SIDE OF JOINT IS ARMORED
Scale: None

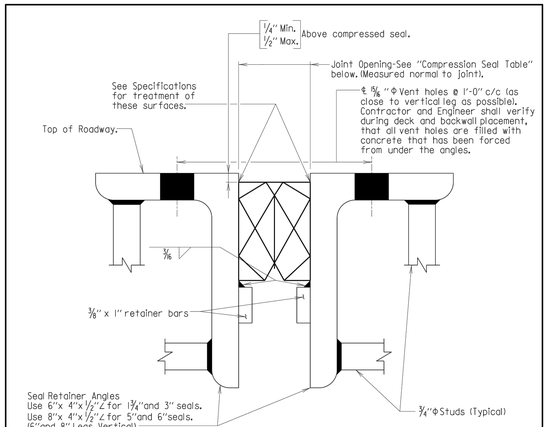


PLAN
JOINT AT PIERS AND ABUTMENTS - WHERE BOTH SIDES OF JOINTS ARE ARMORED
Scale: None

Notes:
The minimum effective throat (E) shall be determined by the angle thickness as follows:
Min. E = 3/8" for thicknesses over 1/4" to 1/2" incl.
Min. E = 1/4" for thicknesses over 1/2" to 3/4" incl.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 01/09/2011	ROADWAY JOINT ANGLE SPLICES FOR SEQUENTIAL CONSTRUCTION
VERSION 1.0	DETAIL NO. SUP-JT(JC)-101 SHEET __ OF __

SUPER - ROADWAY JOINTS



SECTION
Scale: 3"=1'-0"

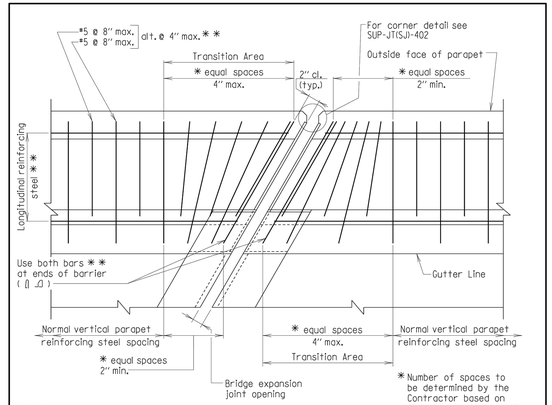
COMPRESSION SEAL TABLE

Location	Uncompressed Seal Width	Joint Opening ℄						Movement Rating
		40°F	50°F	60°F	70°F	80°F	90°F	
	1 3/4"			1 1/8"				0.66"
	3"			1 5/8"				1.25"
ABUT. A & B	5"	3 5/16"	3 3/16"	3"	2 13/16"	2 7/16"	2 1/8"	2.50"
	6"			3 5/8"				2.85"

Note:
1. The 1 3/4" and 3" seals to be one piece for full length of seal (no joints).
2. The 5" and 6" seals may have one shop splice per joint, if the length of joint exceeds 50'. Splice shall be at least 15' from gutter line.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 09/24/2015	COMPRESSION SEAL JOINT AND RETAINING ANGLE DETAIL
VERSION 1.0	DETAIL NO. SUP-JT(JS)-101 SHEET __ OF __

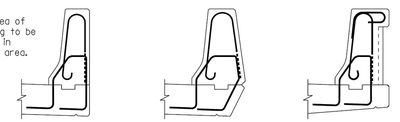
SUPER - ROADWAY JOINTS



* * Number, shape and size of bars is contingent upon the height and style of parapet that is chosen. See Typical Section for details.

PLAN
Scale: 1" = 1'-0"

Note:
Dashed area of reinforcing to be eliminated in transition area.



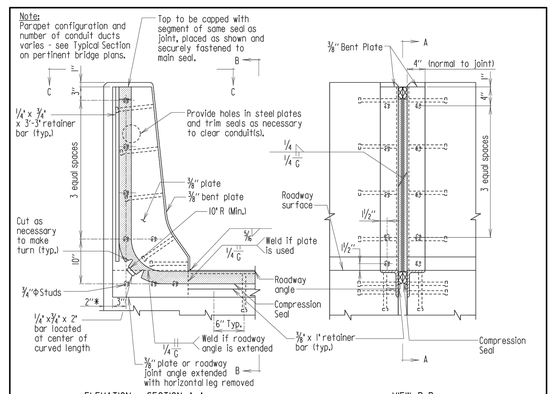
REINFORCING PATTERN FOR TRANSITION AREA ONLY

Notes:
1. All reinforcing steel to be epoxy coated.
2. Compression seal not shown.
3. F-Shape barrier is for illustrative purposes only. See plans for barrier type.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 09/16/2019	PARAPET REINFORCING STEEL PLACEMENT AT EXPANSION JOINT
VERSION 1.01	DETAIL NO. SUP-TB(MISC)-201 SHEET __ OF __

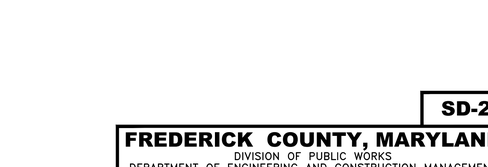
SUPER TRAFFIC BARRIER

Note:
Parapet configuration and number of conduit ducts varies - see Typical Section on pertinent bridge plans.



ELEVATION - SECTION A-A
Scale: 3/4" = 1'-0"

VIEW B-B
Scale: 3/4" = 1'-0"



VIEW C-C
Scale: 3/4" = 1'-0"

Note:
1. All studs shall 3/4"Φ-8" long.
2. Section A-A & B-B shown 90° skew.
3. Roadway angles and plate to be painted ASTM A 709 Grade 36.
4. Joint area to be thoroughly cleaned in accordance with joint manufacturer's recommendations just prior to placing of seal.
5. F-Shape barrier is for illustrative purposes only. See plans for barrier type.

42'' PARAPET

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 07/25/2019	FULL HEIGHT ROADWAY JOINT FOR 42" F-SHAPE AND SINGLE SLOPE PARAPET FOR BRIDGES WITH EXPANSION BEARINGS WITH LENGTH CONTRIBUTING TO EXPANSION > 70 FT.
VERSION 1.01	DETAIL NO. SUP-JT(EXP)-301 SHEET __ OF __

SUPER - ROADWAY JOINTS

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07-30-24 MAB

SD-2

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

JOINT DETAILS

DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 66 OF 77

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

GENERAL NOTES

1. The Contractor shall verify all dimensions, including but not limited to the height between the beam flange and the diaphragm, the angle between the beam and stiffener, the plumbness of the stiffener, the slope of the top of the bottom flange, limits of section loss, the chamfer for the existing beam fillet, and bolt spacing, etc., before any material is ordered or fabricated. The number of bolts shown in this standard are for representation only. The Contractor shall be responsible for selecting the number of bolts, and the pattern that will satisfy the requirements of the standard.
2. The contractor is to complete the installation of each plating location prior to the end of the work day. No location is to be left with bolt holes drilled and plating not fully bolted.
3. To eliminate any knife edge grind the edge until a 1/8" min. thickness is attained. Polish surface to RMS 128.
4. All bolts shall be A325, Type 1, 7/8" diameter galvanized bolts. All bolts shall be off-vented a minimum of 24 days before installation.
5. The minimum acceptable edge distance for any bolt shall be 1½". The maximum acceptable edge distance for any bolt shall be 3".
6. The minimum acceptable center-to-center bolt spacing shall be 3".
7. All bolt holes shall be 15/16 " diameter.
8. The areas of section loss and pitting shall be filled with an approved metal reinforced epoxy filler just prior to installing new steel plates and new fabricated sections.
9. Seal the edges of adjoining plates prior to painting.
10. All new steel and areas to be plated shall be cleaned and painted in accordance with Section 430. The color shall match the existing beams, unless otherwise specified in the contract.
11. All structural steel shall be 3/4" thick and conform to A709, Grade 50.
12. The Contractor shall submit as built plans to the Office of Structures of the details of the bearing stiffener plating used at each location. The bolt spacing specified is the maximum spacing allowed. Bolt spacing should be evenly spaced.
13. Bolt heads shall be on the exterior face of the fascia beam/girder.

PLATING LOCATION AND SIZE CHART								
BEAM	SPAN	SUPPORT	L	H	X	Y	S	COMMENTS
1, 4, 5	1	ABUT. A	2'-9"	1'-0"	5"	3⅜"	3⅜"	
1, 5	7	ABUT. B	2'-9"	1'-0"	5"	3⅜"	3⅜"	
6	1	ABUT. A	3'-2"	2'-3½"	5"	5⅜16"	3⅜16"	
6	7	ABUT. B	3'-2"	2'-3½"	5"	5⅜16"	3⅜16"	

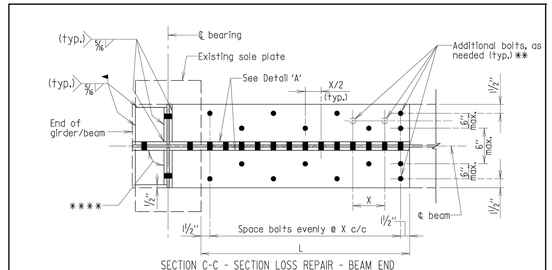
Legend:
L - length of bottom flange retrofit
H - height of retrofit
X - bolt spacing (horizontal)
Y - bolt spacing (vertical)
S - stiffener vertical bolt spacing

APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 06/28/2017
VERSION 1.0

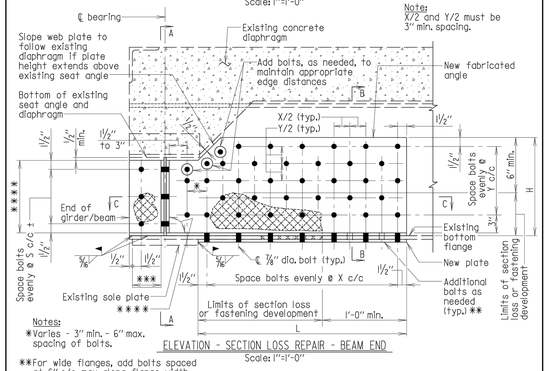
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

GIRDER/BEAM END PLATING
GENERAL NOTES

DETAIL NO. SR-ST(SR)-101 SHEET 1 OF 1



SECTION C-C - SECTION LOSS REPAIR - BEAM END
Scale: 1"=1'-0"



Note:
X/2 and Y/2 must be 3" min. spacing.

Notes:
*Varies - 3" min. - 6" max. spacing of bolts.

ELEVATION - SECTION LOSS REPAIR - BEAM END
Scale: 1"=1'-0"

**For wide flanges, add bolts spaced at 6" c/c max. along flange width, as needed.

***Requires 4½" min.

****See Note 1 of General Notes.

See General Notes for detail sizing.

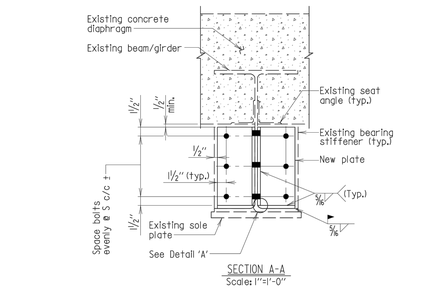
See sheet 2 of 2 for Section A-A and Section B-B.

APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 06/28/2017
VERSION 1.0

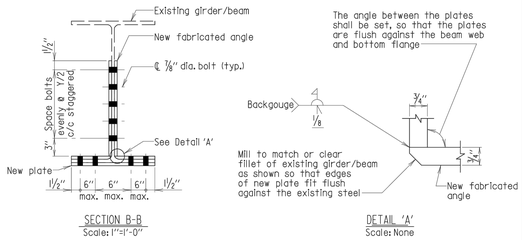
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

INTERIOR GIRDER/BEAM END PLATING
DETAILS - CONCRETE DIAPHRAGM

DETAIL NO. SR-ST(SR)-102 SHEET 1 OF 2



SECTION A-A
Scale: 1"=1'-0"



SECTION B-B
Scale: 1"=1'-0"

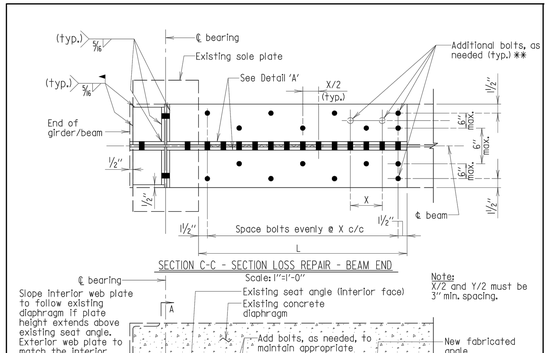
DETAIL 'A'
Scale: None

APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 06/28/2017
VERSION 1.0

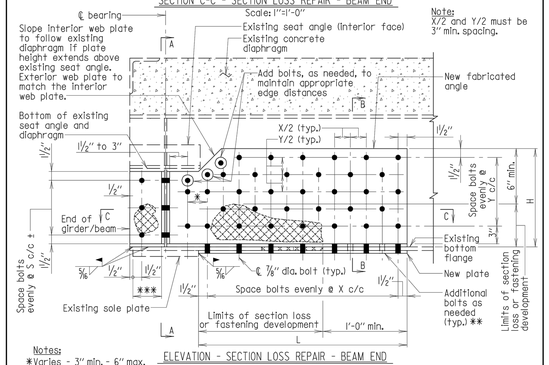
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

INTERIOR GIRDER/BEAM END PLATING
DETAILS - CONCRETE DIAPHRAGM

DETAIL NO. SR-ST(SR)-102 SHEET 2 OF 2



SECTION C-C - SECTION LOSS REPAIR - BEAM END
Scale: 1"=1'-0"



Note:
X/2 and Y/2 must be 3" min. spacing.

Notes:
*Varies - 3" min. - 6" max. spacing of bolts.

ELEVATION - SECTION LOSS REPAIR - BEAM END
Scale: 1"=1'-0"

**For wide flanges, add bolts spaced at 6" c/c max. along flange width, as needed.

***Requires 4½" min.

See General Notes for detail sizing.

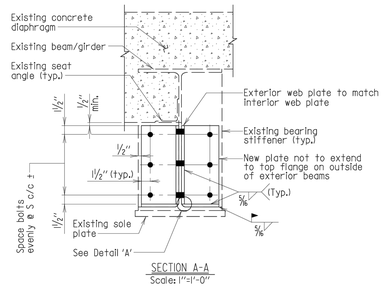
See sheet 2 of 2 for Section A-A and Section B-B.

APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 06/28/2017
VERSION 1.0

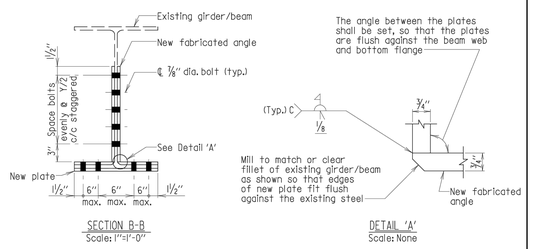
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

EXTERIOR GIRDER/BEAM END PLATING
OUTSIDE FACE WITH STIFFENER
DETAILS - CONCRETE DIAPHRAGM

DETAIL NO. SR-ST(SR)-105 SHEET 1 OF 2



SECTION A-A
Scale: 1"=1'-0"



SECTION B-B
Scale: 1"=1'-0"

DETAIL 'A'
Scale: None

APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 06/28/2017
VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

EXTERIOR GIRDER/BEAM END PLATING
OUTSIDE FACE WITH STIFFENER
DETAILS - CONCRETE DIAPHRAGM

DETAIL NO. SR-ST(SR)-105 SHEET 2 OF 2

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SD-3

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

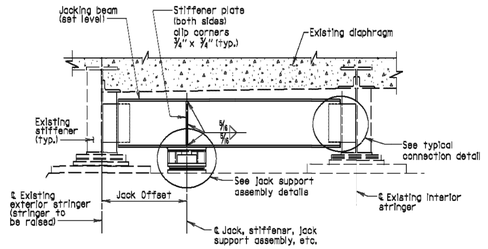
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

END PLATING DETAILS

DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 67 OF 77

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07-30-24 MAB



EXTERIOR - JACKING BEAM

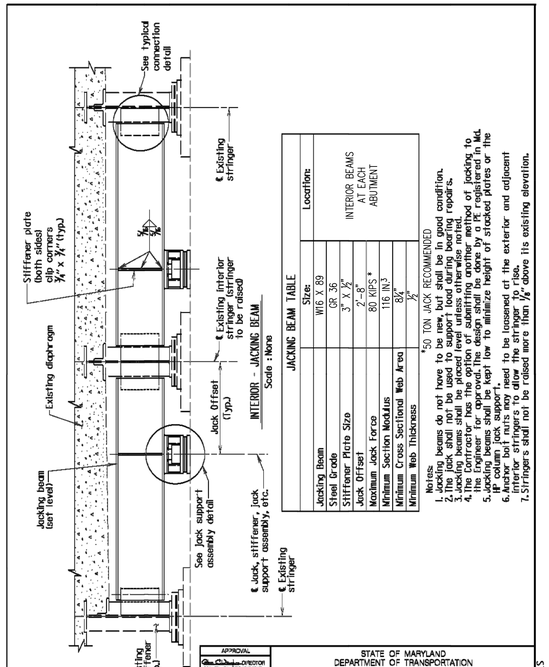
Scale : None

JACKING BEAM TABLE		
	Size:	Location:
Jacking Beam	W16 X 89	EXTERIOR BEAMS AT EACH ABUTMENT
Steel Grade	GR 36	
Stiffener Plate Size	3" X ½"	
Jack Offset	1'-9"	
Maximum Jack Force	130 KIPS*	
Minimum Section Modulus	116 IN.³	
Minimum Cross Sectional Web Area	8¼"	
Minimum Web Thickness	½"	

*80 TON JACK RECOMMENDED

Notes:
1. Jacking beams do not have to be new, but shall be in good condition.
2. The jack shall not be used to support load during bearing repairs.
3. Jacking beams shall be placed level unless otherwise noted.
4. The Contractor has the option of submitting another method of jacking to the Engineer for approval. The design shall be done by a PE registered in Md.
5. Jacking beams shall be kept low to minimize height of stacked plates or the HP column jack support.
6. Anchor bolt nuts may need to be loosened at the exterior and adjacent interior stringers to allow the stringer to rise.
7. Stringers shall not be raised more than 1/8" above its existing elevation.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	STRUCTURAL REPAIRS
DIRECTOR OFFICE OF STRUCTURES DATE: 05/23/2017 VERSION 1.0	EXTERIOR BEAM JACKING DETAILS DETAIL NO. SR-JS(JB)-102 SHEET 1 OF 6	



INTERIOR - JACKING BEAM

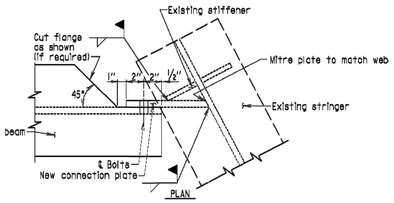
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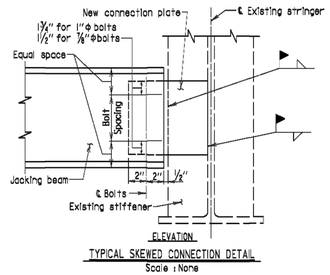
JACKING BEAM TABLE		
	Size:	Location:
Jacking Beam	W16 X 89	INTERIOR BEAMS AT EACH ABUTMENT
Steel Grade	GR. 36	
Stiffener Plate Size	3" X ½"	
Jack Offset	1'-9"	
Maximum Jack Force	80 KIPS*	
Minimum Section Modulus	116 IN.³	
Minimum Cross Sectional Web Area	8¼"	
Minimum Web Thickness	½"	

*50 TON JACK RECOMMENDED

Notes:
1. Jacking beams do not have to be new, but shall be in good condition.
2. The jack shall not be used to support load during bearing repairs.
3. Jacking beams shall be placed level unless otherwise noted.
4. The Contractor has the option of submitting another method of jacking to the Engineer for approval. The design shall be done by a PE registered in Md.
5. Jacking beams shall be kept low to minimize height of stacked plates or the HP column jack support.
6. Anchor bolt nuts may need to be loosened at the exterior and adjacent interior stringers to allow the stringer to rise.
7. Stringers shall not be raised more than 1/8" above its existing elevation.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	STRUCTURAL REPAIRS
DIRECTOR OFFICE OF STRUCTURES DATE: 05/23/2017 VERSION 1.0	INTERIOR BEAM JACKING DETAILS DETAIL NO. SR-JS(JB)-102 SHEET 2 OF 6	





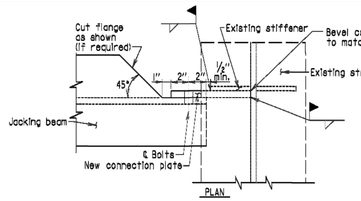
TYPICAL SKEWED CONNECTION DETAIL

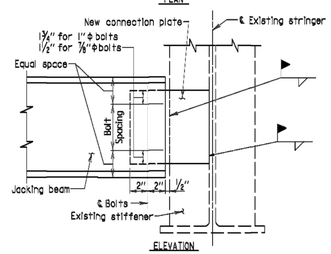
Scale : None

CONNECTION DETAILS		
	Materials:	Location:
Connection Plate Size	N/A	
Connection Plate Weld	N/A	
Number of Bolts	N/A	
Bolt (Type and Size)	N/A	
Bolt Spacing c/c	N/A	
Existing Stiffener Plate Size	N/A	
Steel Grade	N/A	

Notes:
Any steel that has been welded to the existing bridge shall remain in place. The repaired area and any other areas damaged shall be repaired in conformance with 430.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	STRUCTURAL REPAIRS
DIRECTOR OFFICE OF STRUCTURES DATE: 05/23/2017 VERSION 1.0	SKEWED CONNECTION DETAILS DETAIL NO. SR-JS(JB)-102 SHEET 3 OF 6	





TYPICAL 90° CONNECTION DETAIL

Scale : None

CONNECTION DETAILS		
	Materials:	Location:
Connection Plate Size	13"H X 11"W X ½"T	ALL BEAMS AT EACH ABUTMENT
Connection Plate Weld	⅛"	
Number of Bolts	4	
Bolt (Type and Size)	1" ø A325	
Bolt Spacing c/c	3"	
Existing Stiffener Plate Size	4½" X ⅝"	
Steel Grade	GR 36	

Notes:
Any steel that has been welded to the existing bridge shall remain in place. The repaired area and any other areas damaged shall be repaired in conformance with 430.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	STRUCTURAL REPAIRS
DIRECTOR OFFICE OF STRUCTURES DATE: 05/23/2017 VERSION 1.0	90° CONNECTION DETAILS DETAIL NO. SR-JS(JB)-102 SHEET 4 OF 6	

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01-30-24 MAB

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SD-4

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

JACKING DETAILS

DATE: JULY 2024 SCALE: NONE

CONTRACT NO. C6017.6017.01 DWG. 68 OF 77

GENERAL NOTES

Specifications: Latest Specifications and Special Provisions for materials and construction, Latest AASHTO Standard Specifications for Highway Bridges for design.

Materials: Drainage trough shall conform to 911.11.

Fusion bonded epoxy powder coatings for steel shall conform to 917.02.

Catch basins shall be fiberglass conforming to 921.11.*

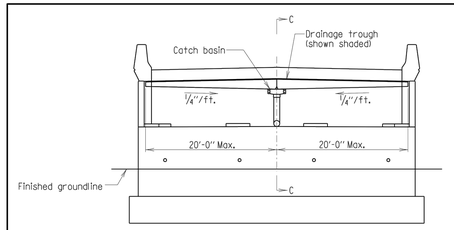
Downspouts shall be PVC.

Stainless steel bolts shall conform to ASTM A 193, Identification Symbol B 8, Type 304.

Measurement and Payment: Catch basins, downspouts, troughs, etc. will be measured and paid for as specified in 460.04.

* Contractor may substitute stainless steel (10 gauge min.) or galvanized steel (10 gauge min.) catch basins in lieu of fiberglass, at no additional cost to the Administration.

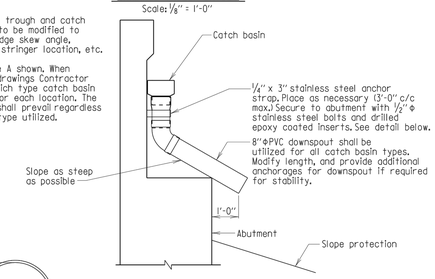
APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	SUPER-ROADWAY JOINTS
DIRECTOR OFFICE OF STRUCTURES DATE: 09/11/2019		
VERSION 1.01	DRAINAGE TROUGH CATCH BASIN GENERAL NOTES	
	DETAIL NO. SUP-JT(DT)-101 SHEET 1 OF 5	



DRAINAGE TROUGH LAYOUT
Scale: 3/8" = 1'-0"

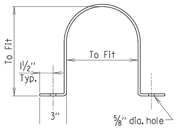
Note:
Actual layout of trough and catch basin may need to be modified to accommodate bridge skew angle, super elevation, stringer location, etc.

Catch Basin Type A shown. When preparing shop drawings Contractor shall indicate which type catch basin is appropriate for each location. The Contract price shall prevail regardless of catch basin type utilized.



SECTION C-C
Scale: 3/8" = 1'-0"

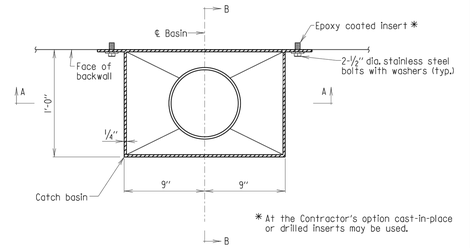
Note:
Designer shall detail exact location of troughs and downspouts on Contract Drawings.



ANCHOR STRAP DETAIL
Scale: 1 1/2" = 1'-0"

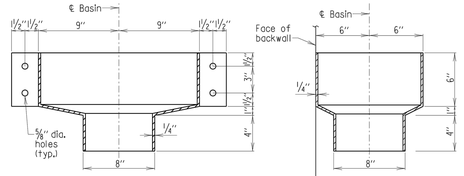
Note:
F-Shape barrier is for illustrative purposes only. See plans for barrier type.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	SUPER-ROADWAY JOINTS
DIRECTOR OFFICE OF STRUCTURES DATE: 09/11/2019		
VERSION 1.01	DRAINAGE TROUGH CATCH BASIN CATCH BASIN LOCATION DETAILS	
	DETAIL NO. SUP-JT(DT)-101 SHEET 2 OF 5	

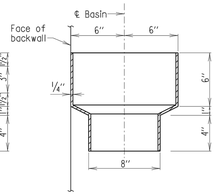


* At the Contractor's option cast-in-place or drilled inserts may be used.

DRAINAGE TROUGH CATCH BASIN
Scale: 1 1/2" = 1'-0"

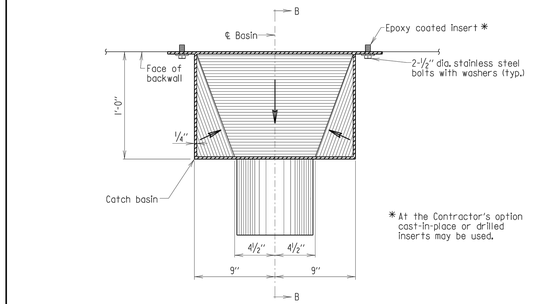


SECTION A-A
Scale: 1 1/2" = 1'-0"



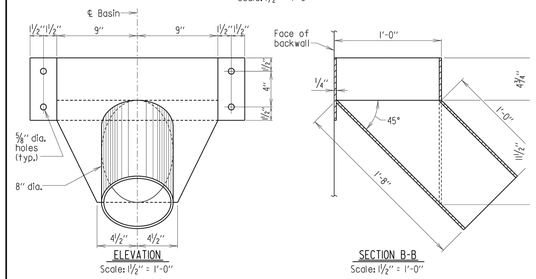
SECTION B-B
Scale: 1 1/2" = 1'-0"

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	SUPER-ROADWAY JOINTS
DIRECTOR OFFICE OF STRUCTURES DATE: 09/11/2019		
VERSION 1.01	DRAINAGE TROUGH CATCH BASIN - TYPE A DETAILS	
	DETAIL NO. SUP-JT(DT)-101 SHEET 3 OF 5	



* At the Contractor's option cast-in-place or drilled inserts may be used.

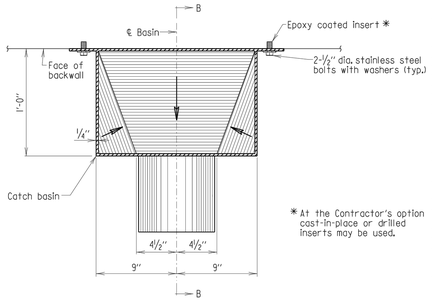
DRAINAGE TROUGH CATCH BASIN
Scale: 1 1/2" = 1'-0"



ELEVATION
Scale: 1 1/2" = 1'-0"

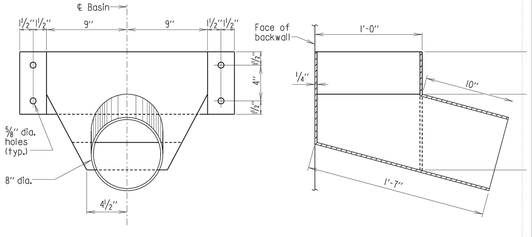
SECTION B-B
Scale: 1 1/2" = 1'-0"

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	SUPER-ROADWAY JOINTS
DIRECTOR OFFICE OF STRUCTURES DATE: 09/11/2019		
VERSION 1.01	DRAINAGE TROUGH CATCH BASIN - TYPE B DETAILS	
	DETAIL NO. SUP-JT(DT)-101 SHEET 4 OF 5	



* At the Contractor's option cast-in-place or drilled inserts may be used.

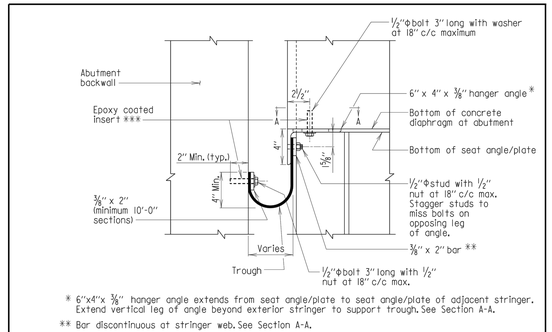
DRAINAGE TROUGH CATCH BASIN
Scale: 1 1/2" = 1'-0"



ELEVATION
Scale: 1 1/2" = 1'-0"

SECTION B-B
Scale: 1 1/2" = 1'-0"

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	SUPER-ROADWAY JOINTS
DIRECTOR OFFICE OF STRUCTURES DATE: 09/11/2019		
VERSION 1.01	DRAINAGE TROUGH CATCH BASIN - TYPE C DETAILS	
	DETAIL NO. SUP-JT(DT)-101 SHEET 5 OF 5	



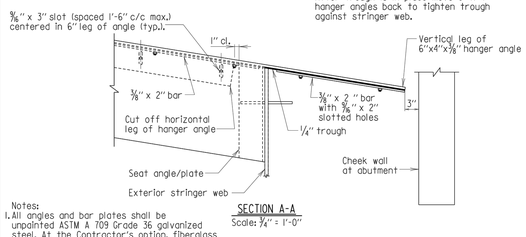
* 6"x4"x 3/8" hanger angle extends from seat angle/plate to seat angle/plate of adjacent stringer. Extend vertical leg of angle beyond exterior stringer to support trough. See Section A-A.

** Bar discontinuous at stringer web. See Section A-A.

*** At the Contractor's option drilled anchor inserts or cast-in-place studs may be used. No additional compensation will be allowed for either of these options.

SECTION
Scale: 1 1/2" = 1'-0"

After trough is in place move 6" x 4" hanger angles back to tighten trough against stringer web.



SECTION A-A
Scale: 3/4" = 1'-0"

Notes:
1. All angles and bar plates shall be unpainted ASTM A 709 Grade 36 galvanized steel. At the Contractor's option, fiberglass conforming to 921.11 may be substituted for the steel hanger angle. No additional compensation will be allowed for this option.
2. All bolts, studs, and nuts shall be unpainted ASTM A 709 Grade 36 galvanized steel.
3. Trough material shall conform to 911.11.
4. Holes in trough material shall be drilled in the field.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	SUPER-ROADWAY JOINTS
DIRECTOR OFFICE OF STRUCTURES DATE: 09/16/2019		
VERSION 1.0	NEOPRENE TROUGH DETAILS FOR ROADWAY JOINTS AT ABUTMENTS	
	DETAIL NO. SUP-JT(DT)-102 SHEET 1 OF 1	

SD-5

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

DRAINAGE TROUGH DETAILS
DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 69 OF 77

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

U:\Civil\100-208.06 - Biggs Ford Rd\CAD\PSR-SD03_BRIDGEPKG.dwg
07-30-24 MAB

GENERAL NOTES

Concrete:	All concrete shall conform to Mix. No. 6 (4500 psi).
Welded Steel Wire Fabric:	All wire fabric shall be 6 x 6 - W2.9 x W2.9.
Reinforcing Steel:	Reinforcing steel shall conform to ASTM A 615 Grade 60.
Structural Steel:	All structural steel conforms to ASTM A 709 Grade 36 or better.
Anchor Bolts:	All anchor bolts shall be ASTM A 325 unless otherwise specified on details.
Connector Loop:	¾"Φ galvanized or stainless steel rod. Stainless steel rods shall conform to ASTM A 276 for the type specified, galvanizing shall conform to ASTM A 153.
Connector Pin:	The 1¼" x 25" connector pin shall be a threaded rod or bolt conforming to ASTM A 307, Grade A. Nuts shall conform to ASTM A 563, Grade DH or DH3 or ASTM A 94, Grade 2H. Washers shall conform to ASTM F 436. The connector pin, nuts and washers shall be galvanized in conformance with ASTM A 153.
Other Connector Devices:	Contractor may use any other connection devices between barrier sections in lieu of the pin and loop, provided they appear on S.H.A. standard plates and have written approval of Chief Engineer.
Temporary Shield:	When specified on the Plans, a shield shall be connected to the temporary precast concrete barrier. The shield shall be designed, furnished, and installed by the Contractor. The height of the shield shall be 6 ft - 6 in. above the roadway surface, and shall have no cracks or openings through which material or debris can pass. The shield will not be measured but the cost will be incidental to the pertinent Temporary Concrete Traffic Barrier for Maintenance of Traffic item.

METHODS OF ANCHORAGE CONNECTION TO CONCRETE DECKS

EXISTING BRIDGE DECK TO BE REMOVED.

Holes for anchor bolts in existing bridge deck shall be drilled. Use 1¼"Φ bolts with 5½" x 5½" x ¾" square washer under existing deck slab, as shown. Bolts shall be of sufficient length that when nut is tight, all the threads of the nut are engaged. Provide Type 'A' plain washer SAE N (narrow) for each 1¼"Φ bolt at connection plate.

EXISTING BRIDGE DECK TO REMAIN.

Holes for anchor bolts in existing bridge deck shall be cored. Use 1¼"Φ bolts with 5½" x 5½" x ¾" square washer under existing deck slab, as shown. Bolts shall be of sufficient length that when nut is tight, all the threads of the nut are engaged. Provide Type 'A' plain washer SAE N (narrow) for each 1¼" bolt at connection plate. The Contractor is alerted that as little damage as possible shall be done to the existing reinforcement steel. Therefore, the Contractor shall locate the reinforcement steel and space the bolts to miss the reinforcement steel, all as directed by the Engineer. Fill all cored holes with epoxy grout after barrier is removed. (See below for grout composition).

NEW BRIDGE DECK

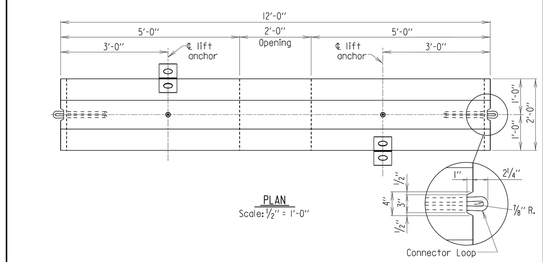
1¼"Φ bolt to be placed in an epoxy coated open coil anchor insert (cast in slab) having a minimum working load tension strength of 16 000 lb and shear strength of 13 000 lb with a minimum 7½" length. Coil to be tapped for a 1¼" N.C. thread bolt. No insert shall be longer than slab depth minus 1". Provide Type 'A' plain washer SAE N (narrow) for each 1¼"Φ bolt at connection plate. Fill all inserts with epoxy grout after barrier is removed. (See below for grout composition).

The option to use bolts in drilled holes in lieu of the coiled insert is no longer allowed.

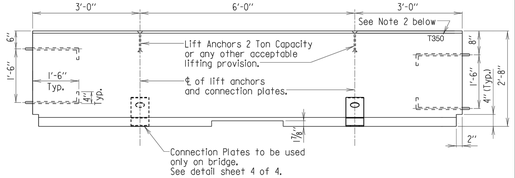
GROUT COMPOSITION

Any areas of bridge decks, to remain in place, damaged as a result of anchoring temporary concrete barriers (anchor holes, etc.) shall be repaired to the satisfaction of the Engineer using an epoxy grout conforming to 902.11 (d).

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	MAINTENANCE OF TRAFFIC
E.S. Sperry Cvetkovic, DIRECTOR OFFICE OF STRUCTURES DATE: 10/21/2013	TEMPORARY PRECAST DOUBLE FACE F-TYPE CONCRETE BARRIER	
VERSION 1.0	DETAIL NO. MOT-102 SHEET 1 OF 4	



PLAN
Scale: ½" = 1'-0"

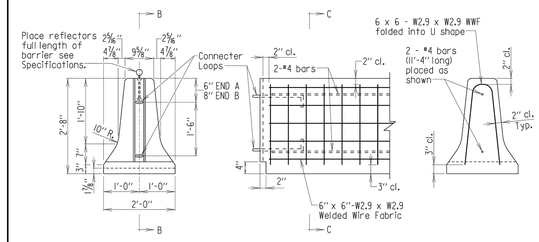


END A — END B

ELEVATION
Scale: ½" = 1'-0"

Notes:
1. One connector pin shall be furnished with each barrier. The cost of the connector pin shall be incidental to the item precast temporary concrete barrier.
2. All barriers shall have "T350" imprinted on top end of barrier. Imprint shall have a minimum depth of ¼" and a minimum height of 2".

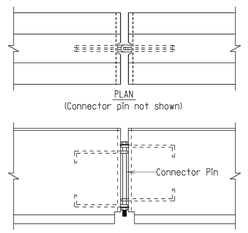
APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	MAINTENANCE OF TRAFFIC
E.S. Sperry Cvetkovic, DIRECTOR OFFICE OF STRUCTURES DATE: 10/21/2013	TEMPORARY PRECAST DOUBLE FACE F-TYPE CONCRETE BARRIER	
VERSION 1.0	DETAIL NO. MOT-102 SHEET 2 OF 4	



END VIEW
Scale: ½" = 1'-0"

SECTION B-B — SECTION C-C

REINFORCING STEEL DETAILS
Scale: ½" = 1'-0"

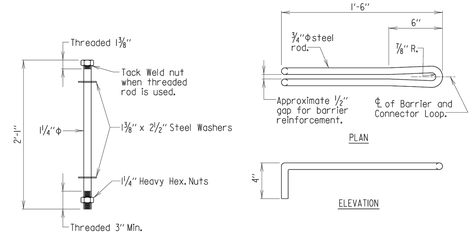


PLAN
(Connector pin not shown)

ELEVATION

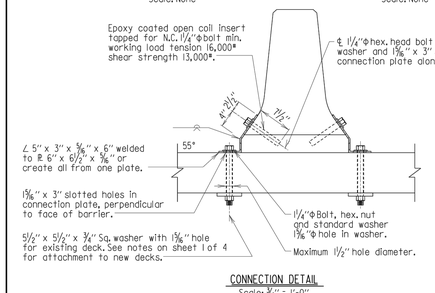
JOINT DETAILS
Scale: ½" = 1'-0"

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	MAINTENANCE OF TRAFFIC
E.S. Sperry Cvetkovic, DIRECTOR OFFICE OF STRUCTURES DATE: 10/21/2013	TEMPORARY PRECAST DOUBLE FACE F-TYPE CONCRETE BARRIER	
VERSION 1.0	DETAIL NO. MOT-102 SHEET 3 OF 4	



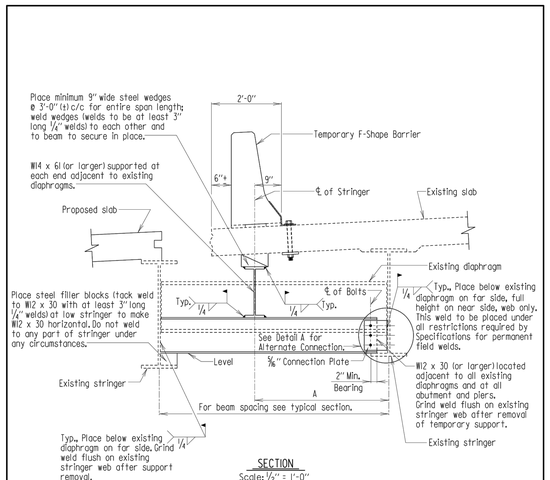
CONNECTOR PIN
Scale: None

CONNECTOR LOOP
Scale: None

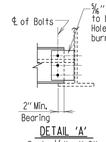


CONNECTION DETAIL
Scale: ¾" = 1'-0"

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	MAINTENANCE OF TRAFFIC
E.S. Sperry Cvetkovic, DIRECTOR OFFICE OF STRUCTURES DATE: 10/21/2013	TEMPORARY PRECAST DOUBLE FACE F-TYPE CONCRETE BARRIER	
VERSION 1.0	DETAIL NO. MOT-102 SHEET 4 OF 4	



SECTION
Scale: ½" = 1'-0"



DETAIL 'A'
Scale: ½" = 1'-0"

Notes:
1. Existing structure shown in dashed lines.
2. This detail is only required where A dimension is 2'-6" or greater.
3. This detail can be used for maximum stringer spacing of 10' and maximum diaphragm spacing of 25'.
4. All structural steel to be ASTM A 709 Grade 36 or better.
5. All bolts to be ⅞"Φ ASTM A-325 and holes to be ⅞"Φ.
6. Member sizes and connections shown are minimums. Engineer shall design.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	MAINTENANCE OF TRAFFIC
E.S. Sperry Cvetkovic, DIRECTOR OFFICE OF STRUCTURES DATE: 10/09/2007	DETAIL OF TEMPORARY SLAB UNDERPINNING DURING STAGE CONSTRUCTION	
VERSION 1.0	DETAIL NO. MOT-201 SHEET ___ OF ___	

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SD-6

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

MOT DETAILS

DATE: JULY 2024 SCALE: AS SHOWN

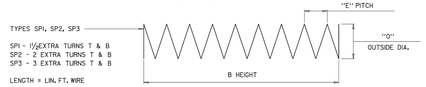
CONTRACT NO. C6017.6017.01 DWG. 70 OF 77

U:\Shl\100-208.06 - Biggs Ford Rd\CAD\PBR-2004_BIGGSFORD.dwg
07-30-24 MAB

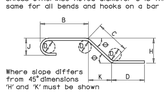
TYPICAL BAR BENDS

DETAILS AND NOTES

SPIRAL



Unless otherwise noted diameter D is the same for all bends and hooks on a bar



Where slope differs from 45° dimensions 'H' and 'K' must be shown

ENLARGED VIEW SHOWING BAR BENDING DETAILS

Notes:
1. All dimensions are out-to-out of bar or to tangent points for 135° and 180° hooks.
2. 'J' dimensions on 180° hooks to be shown only where necessary to restrict hook size. Otherwise standard hooks are to be used.
3. Where 'J' is not shown, "J" will be kept equal to or less than 'H' on truss bars. Where 'J' can exceed 'H' it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to fit within concrete.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

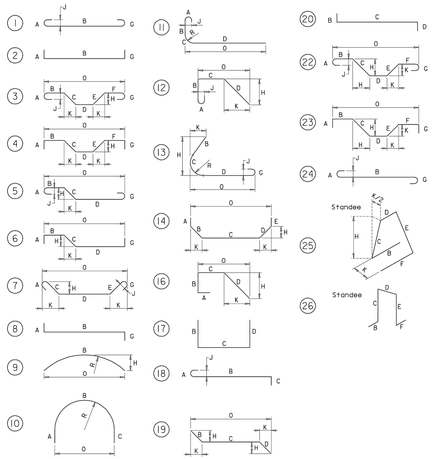
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES GENERAL NOTES
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 1 OF 8

REBAR BAR BENDS

ACI TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

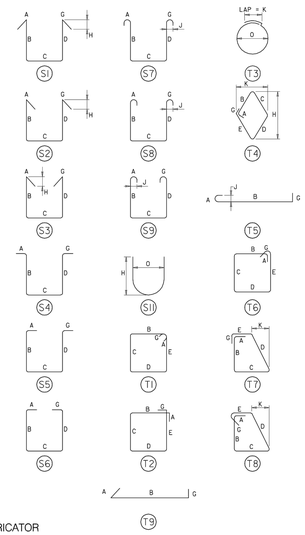
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES ACI - STANDARD PIN BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 2 OF 8

REBAR BAR BENDS

ACI TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

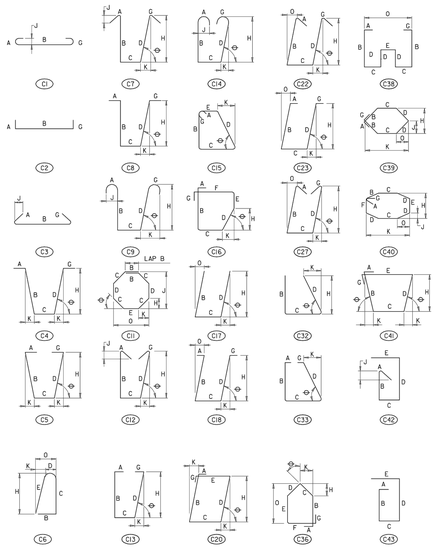
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES ACI - TIES A
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 3 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

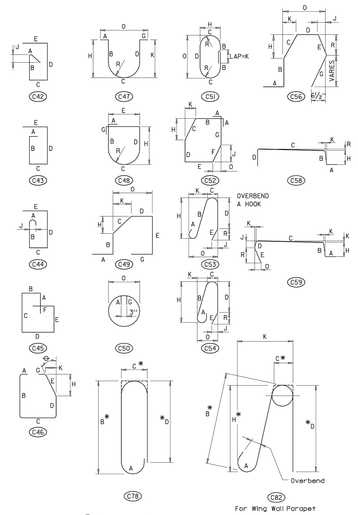
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 4 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



* Measured to Tangents of Curves.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

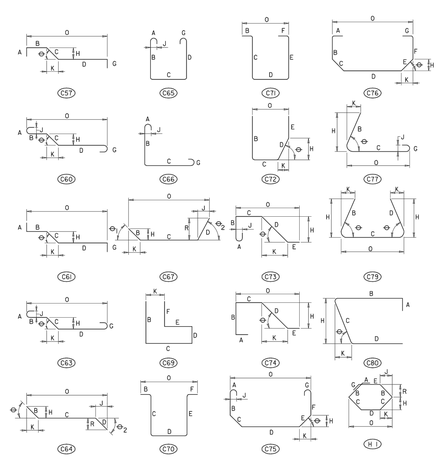
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 5 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.F. Hahn, DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - STANDARD PIN BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 6 OF 8

REBAR BAR BENDS

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SD-7

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

BAR BEND DETAILS

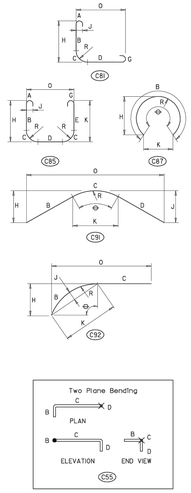
DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 71 OF 77

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07-30-24 MAB

SHA TYPICAL BAR BENDS

RADIUS BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

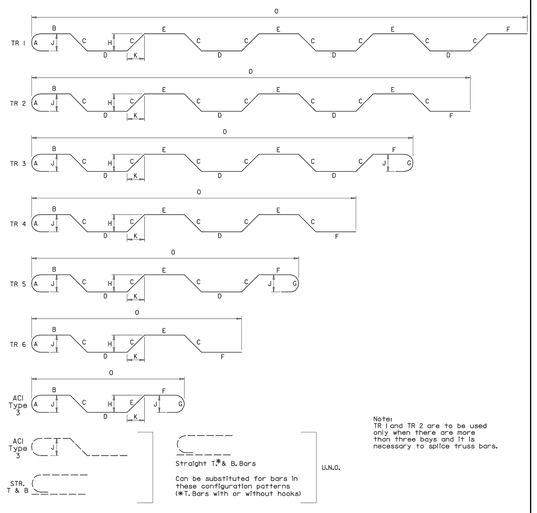
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - RADIUS BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 7 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TRUSS BAR CONFIGURATIONS



Notes:
TR 1 and TR 2 are to be used only when there are more than three bays and it is necessary to splice truss bars.

Hooks for truss bars optional.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

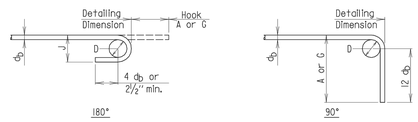
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES TRUSS BAR CONFIGURATIONS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 8 OF 8

REBAR BAR BENDS

HOOKS TABLE I REFERENCES

1. ACI Types 1 thru 26
2. SHA Standard Pin Bending
3. SHA Radius Bending



RECOMMENDED END HOOKS, ALL GRADES				
BAR SIZE	Finished bend diameter	180 - deg hook		90 - deg hook
	D, In.	A or G In	J, In.	A or G In
#3	2¼	5	3	6
#4	3	6	4	8
#5	3¾	7	5	10
#6	4½	8	6	1-0
#7	5¼	10	7	1-2
#8	6	11	8	1-4
#9	9½	1-3	11¾	1-7
#10	10¾	1-5	1-1¼	1-10
#11	12	1-7	1-2¾	2-0
#14	18¼	2-3	1-9¾	2-7
#18	24	3-0	2-4½	3-5

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 11/17/1997	REINFORCING STEEL HOOK TABLES AND DIAGRAMS
VERSION 1.0	DETAIL NO. REBAR-BB-102 SHEET 1 OF 2

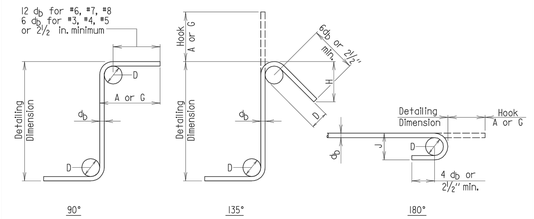
REBAR BAR BENDS

HOOKS TABLE II REFERENCES

1. ACI Types S1 thru S11
2. ACI Types T1 thru T8
3. SHA Ties and Stirrups

(Note: Tie and stirrup types supplied in sizes #3-#8)

STIRRUP AND TIE HOOKS



STIRRUP AND TIE HOOK DIMENSIONS, In.				
BAR SIZE	D, In.	90 - deg hook	135 - deg hook	
		A or G	A or G	H, approx
#3	1½	4	4	2½
#4	2	4½	4½	3
#5	2½	6	5½	3¾
#6	4½	1-0	7¾	4½
#7	5¼	1-2	9	5¼
#8	6	1-4	10¼	6

RECOMMENDED END HOOKS, ALL GRADES			
BAR SIZE	Finished bend diameter	180 - deg hook	
	D, In.	A or G In	J, In.
#3	2¼	5	3
#4	3	6	4
#5	3¾	7	5
#6	4½	8	6
#7	5¼	10	7
#8	6	11	8

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 11/17/1997	REINFORCING STEEL HOOK TABLES AND DIAGRAMS
VERSION 1.0	DETAIL NO. REBAR-BB-102 SHEET 2 OF 2

REBAR BAR BENDS

LOCATION CATEGORY A								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	2'-5"	3'-1"	2'-5"	2'-10"	2'-5"	2'-10"	2'-5"	2'-10"
#5	3'-1"	4'-0"	3'-0"	3'-10"	3'-0"	3'-7"	3'-0"	3'-7"
#6	4'-5"	5'-9"	3'-7"	4'-8"	3'-7"	4'-8"	3'-7"	4'-8"
#7	6'-0"	7'-10"	4'-6"	5'-11"	4'-2"	5'-5"	4'-2"	5'-5"
#8	7'-10"	10'-3"	5'-11"	7'-8"	4'-9"	6'-2"	4'-9"	6'-2"
#9	10'-0"	13'-0"	7'-6"	9'-9"	6'-0"	7'-10"	5'-10"	7'-8"
#10	-	-	9'-6"	12'-5"	7'-7"	9'-11"	7'-2"	9'-5"
#11	-	-	11'-8"	15'-3"	9'-4"	12'-3"	8'-8"	11'-4"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-9"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-7"	2'-4"	3'-5"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	5'-1"	2'-9"	4'-1"	2'-9"	4'-1"	2'-9"	4'-1"
#7	4'-8"	6'-11"	3'-6"	5'-3"	3'-2"	4'-9"	3'-2"	4'-9"
#8	6'-1"	9'-1"	4'-7"	6'-10"	3'-8"	5'-5"	3'-8"	5'-5"
#9	7'-8"	11'-6"	5'-9"	8'-8"	4'-8"	6'-11"	4'-6"	6'-9"
#10	-	-	7'-4"	10'-11"	5'-10"	8'-9"	5'-7"	8'-4"
#11	-	-	9'-0"	13'-6"	7'-2"	10'-9"	6'-8"	10'-0"

Location Category B - All bars not in Location Category A.

= Non-epoxy coated = Epoxy coated

Note:
1. When bar lap is not specified on the Plans, the above dimensions shall be used.
2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These bar laps only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These bar laps assume cover of 2". Greater lap lengths will be required for cover less than 2".
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-101. Class B splices are 1.3 times the development length.
6. Class A splices may be used when (a) the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (b) one-half or less of the total reinforcement is spliced within the required lap splice length. Class A splices are 1.0 times the development length.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 03/21/2017	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE
VERSION 1.0	DETAIL NO. REBAR-BL-101 SHEET 1 OF 1

REBAR - BAR LAP

LOCATION CATEGORY A								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	2'-1"	2'-8"	2'-1"	2'-6"	2'-1"	2'-6"	2'-1"	2'-6"
#5	2'-8"	3'-6"	2'-7"	3'-4"	2'-7"	3'-1"	2'-7"	3'-1"
#6	3'-10"	5'-0"	3'-1"	4'-0"	3'-1"	4'-0"	3'-1"	4'-0"
#7	5'-3"	6'-10"	3'-11"	5'-1"	3'-7"	4'-8"	3'-7"	4'-8"
#8	6'-10"	8'-11"	5'-1"	6'-8"	4'-1"	5'-4"	4'-1"	5'-4"
#9	8'-8"	11'-3"	6'-6"	8'-6"	5'-2"	6'-9"	5'-1"	6'-7"
#10	-	-	8'-3"	10'-9"	6'-7"	8'-7"	6'-3"	8'-2"
#11	-	-	10'-1"	13'-3"	8'-1"	10'-7"	7'-6"	9'-9"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-7"	2'-5"	1'-7"	1'-11"	1'-7"	1'-11"	1'-7"	1'-11"
#5	2'-1"	3'-1"	2'-0"	3'-0"	2'-0"	2'-5"	2'-0"	2'-5"
#6	3'-0"	4'-5"	2'-5"	3'-7"	2'-5"	3'-7"	2'-5"	3'-7"
#7	4'-0"	6'-0"	3'-0"	4'-6"	2'-9"	4'-2"	2'-9"	4'-2"
#8	5'-3"	7'-10"	3'-11"	5'-11"	3'-2"	4'-9"	3'-2"	4'-9"
#9	6'-8"	10'-0"	5'-0"	7'-6"	4'-0"	6'-0"	3'-11"	5'-10"
#10	-	-	6'-4"	9'-6"	5'-1"	7'-7"	4'-10"	7'-2"
#11	-	-	7'-10"	11'-8"	6'-3"	9'-4"	5'-9"	8'-8"

Location Category B - All bars not in Location Category A.

= Non-epoxy coated = Epoxy coated

Note:
1. When bar lap is not specified on the Plans, the above dimensions shall be used.
2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These bar laps only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 4000 psi.
4. These bar laps assume cover of 2". Greater lap lengths will be required for cover less than 2".
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-103. Class B splices are 1.3 times the development length.
6. Class A splices may be used when (a) the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (b) one-half or less of the total reinforcement is spliced within the required lap splice length. Class A splices are 1.0 times the development length.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 03/21/2017	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 (4500 P.S.I.) CONCRETE
VERSION 1.0	DETAIL NO. REBAR-BL-103 SHEET 1 OF 1

REBAR - BAR LAP

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07-30-24 MAB

SD-8

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

REBAR DETAILS - I

DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 72 OF 77

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

BAR SIZE	LOCATION CATEGORY A — CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-5"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-1"	2'-4"	3'-0"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	4'-5"	2'-9"	3'-7"	2'-9"	3'-7"	2'-9"	3'-7"
#7	4'-8"	6'-1"	3'-6"	4'-7"	3'-2"	4'-2"	3'-2"	4'-2"
#8	6'-1"	7'-11"	4'-7"	5'-11"	3'-8"	4'-9"	3'-8"	4'-9"
#9	7'-8"	10'-0"	5'-9"	7'-6"	4'-8"	6'-0"	4'-6"	5'-11"
#10	-	-	7'-4"	9'-6"	5'-10"	7'-8"	5'-7"	7'-3"
#11	-	-	9'-0"	11'-9"	7'-2"	9'-5"	6'-8"	8'-8"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

BAR SIZE	LOCATION CATEGORY B — CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-5"	2'-1"	1'-5"	1'-8"	1'-5"	1'-8"	1'-5"	1'-8"
#5	1'-10"	2'-5"	1'-9"	2'-8"	1'-9"	2'-1"	1'-9"	2'-1"
#6	2'-8"	3'-11"	2'-1"	3'-2"	2'-1"	3'-2"	2'-1"	3'-2"
#7	3'-7"	5'-4"	2'-8"	4'-0"	2'-6"	3'-8"	2'-6"	3'-8"
#8	4'-8"	7'-0"	3'-6"	5'-3"	2'-10"	4'-2"	2'-10"	4'-2"
#9	5'-11"	8'-10"	4'-5"	6'-8"	3'-7"	5'-4"	3'-6"	5'-2"
#10	-	-	5'-8"	8'-5"	4'-6"	6'-9"	4'-3"	6'-5"
#11	-	-	6'-11"	10'-4"	5'-7"	8'-4"	5'-2"	7'-8"

Location Category B - All bars not in Location Category A.

□ = Non-epoxy coated ▨ = Epoxy coated

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These development lengths assume cover of 2". Greater development lengths will be required for cover less than 2".
5. The Excess Reinforcement Factor was assumed to be 1.0 when calculating these dimensions.
6. Atr was assumed to be 0 when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B; then hooks shall be added to all bars not conforming, as per D, E, and F per Det. No. REBAR-DL-201.

APPROVAL: Glenn Clayton, DIRECTOR, OFFICE OF STRUCTURES — DATE: 03/21/2017 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-101 SHEET 1 OF X

REBAR - DEVELOPMENT LENGTH

BAR SIZE	LOCATION CATEGORY A — CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-7"	2'-1"	1'-7"	1'-11"	1'-7"	1'-11"	1'-7"	1'-11"
#5	2'-1"	2'-8"	2'-0"	2'-7"	2'-0"	2'-5"	2'-0"	2'-5"
#6	3'-0"	3'-10"	2'-5"	3'-1"	2'-5"	3'-1"	2'-5"	3'-1"
#7	4'-0"	5'-3"	3'-0"	3'-11"	2'-9"	3'-7"	2'-9"	3'-7"
#8	5'-3"	6'-10"	3'-11"	5'-2"	3'-2"	4'-1"	3'-2"	4'-1"
#9	6'-8"	8'-8"	5'-0"	6'-6"	4'-0"	5'-3"	3'-11"	5'-1"
#10	-	-	6'-4"	8'-3"	5'-1"	6'-7"	4'-10"	6'-3"
#11	-	-	7'-10"	10'-2"	6'-3"	8'-2"	5'-9"	7'-6"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

BAR SIZE	LOCATION CATEGORY B — CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-3"	1'-10"	1'-3"	1'-6"	1'-3"	1'-6"	1'-3"	1'-6"
#5	1'-7"	2'-5"	1'-6"	2'-3"	1'-6"	1'-10"	1'-6"	1'-10"
#6	2'-3"	3'-5"	1'-10"	2'-9"	1'-10"	2'-9"	1'-10"	2'-9"
#7	3'-1"	4'-8"	2'-4"	3'-6"	2'-2"	3'-2"	2'-2"	3'-2"
#8	4'-0"	6'-0"	3'-0"	4'-6"	2'-5"	3'-8"	2'-5"	3'-8"
#9	5'-2"	7'-8"	3'-10"	5'-9"	3'-1"	4'-7"	3'-0"	4'-6"
#10	-	-	4'-11"	7'-4"	3'-11"	5'-10"	3'-9"	5'-7"
#11	-	-	6'-0"	9'-0"	4'-10"	7'-2"	4'-5"	6'-8"

Location Category B - All bars not in Location Category A.

□ = Non-epoxy coated ▨ = Epoxy coated

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 4000 psi.
4. These development lengths assume cover of 2". Greater development lengths will be required for cover less than 2".
5. The Excess Reinforcement Factor was assumed to be 1.0 when calculating these dimensions.
6. Atr was assumed to be 0 when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B; then hooks shall be added to all bars not conforming, as per D, E, and F per Det. No. REBAR-DL-203.

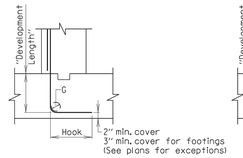
APPROVAL: Glenn Clayton, DIRECTOR, OFFICE OF STRUCTURES — DATE: 03/21/2017 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

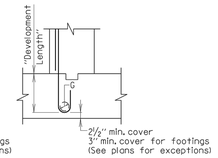
DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEL IN MIX NO.6 (4500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-103 SHEET 1 OF 1

REBAR - DEVELOPMENT LENGTH



STANDARD 90° HOOK



STANDARD 180° HOOK

BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	8"	11"	9"
#5	10"	1'-2"	11"
#6	1'-0"	1'-5"	1'-2"
#7	1'-2"	1'-8"	1'-4"
#8	1'-4"	1'-10"	1'-6"
#9	1'-6"	2'-1"	1'-8"
#10	1'-8"	2'-4"	1'-11"
#11	1'-10"	2'-7"	2'-1"

Note:
For Hook Dimensions and Bends, see Detail No. REBAR-BB-102.

* LOCATION CATEGORY:
D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2½", and for 90° deg. hook, cover on bar extension beyond hook not less than 2".
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. If depth of member does not allow bar development length indicated in Categories A, B, and C; Detail No. REBAR-DL-101; then hook shall be added to all bars not conforming, as per D, E & F.

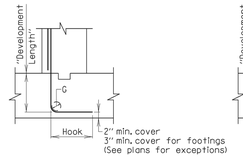
APPROVAL: E.S. Sheridan, DIRECTOR, OFFICE OF STRUCTURES — DATE: 05/10/2011 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

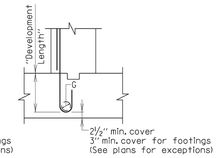
DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING

DETAIL NO. REBAR-DL-201 SHEET 1 OF 1

REBAR - DEVELOPMENT LENGTH



STANDARD 90° HOOK



STANDARD 180° HOOK

BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	7"	10"	8"
#5	9"	1'-0"	10"
#6	10"	1'-3"	1'-0"
#7	1'-0"	1'-5"	1'-2"
#8	1'-2"	1'-7"	1'-4"
#9	1'-4"	1'-10"	1'-6"
#10	1'-5"	2'-1"	1'-8"
#11	1'-7"	2'-3"	1'-10"

Note:
For Hook Dimensions and Bends, see Detail No. REBAR-BB-102.

* LOCATION CATEGORY:
D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2½", and for 90° deg. hook, cover on bar extension beyond hook not less than 2".
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 4000 psi.
4. If depth of member does not allow bar development length indicated in Categories A, B, and C; Detail No. REBAR-DL-103; then hook shall be added to all bars not conforming, as per D, E & F.

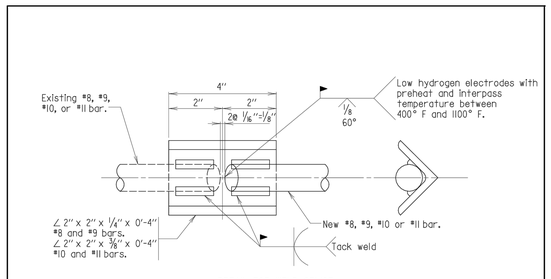
APPROVAL: E.S. Sheridan, DIRECTOR, OFFICE OF STRUCTURES — DATE: 05/10/2011 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

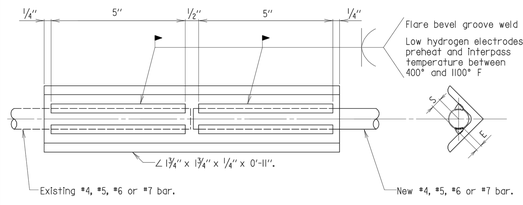
DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 (4500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING

DETAIL NO. REBAR-DL-203 SHEET 1 OF 1

REBAR - DEVELOPMENT LENGTH



DETAIL FOR WELD SPLICE FOR #8, #9, #10 OR #11 BARS
Scale: ⅜" = 1"



E = Effective throat weld
E = .45S
S = Radius rebar

DETAIL FOR WELD SPLICE FOR #4, #5, #6 OR #7 BARS
Scale: ⅜" = 1"

Notes:
1. All welding to be in conformance with ANSI/AWS-latest addition.
2. Prequalification required in conformance with ANSI/AWS-latest addition.
3. Angles shall be made of ASTM A 709 Grade 36 or AISI1010, 1015 or 1020 steel.
4. E7018 electrodes shall be used in making the above welded splices.
5. If sufficient bar lap is not available when existing reinforcing steel is exposed, this detail to extend bars shall be used. Cost of these connections shall be included in contract prices bid on pertinent concrete items.
6. Welded splices shall not be used in decks.

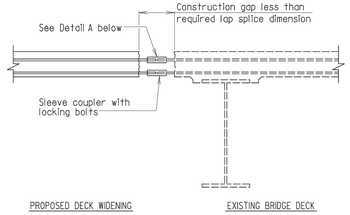
APPROVAL: E.S. Sheridan, DIRECTOR, OFFICE OF STRUCTURES — DATE: 11/25/2007 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

SPLICING TO EXISTING REINFORCING STEEL WELDED SPLICE

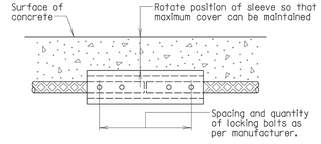
DETAIL NO. REBAR-ER-101 SHEET 1 OF 2

REBAR - EXISTING



PROPOSED DECK WIDENING EXISTING BRIDGE DECK

SECTION THROUGH SLAB
Scale: 1" = 1'-0"



DETAIL A
Scale: 3" = 1'-0"

Notes:
1. The coupler must develop a minimum of 125% of the specified yield strength of the reinforcing bar being spliced.
2. Couplers used to connect epoxy coated reinforcing bars must be epoxy coated.
3. The uncoated surface of the sheared off indicator bolt must be covered with epoxy prepared from an approved epoxy touchup kit.
4. Longitudinal deck reinforcing steel is not shown.
5. Existing slab shown dashed.
6. These couplers will not be measured for payment, but all costs thereof shall be included in the Contract lump sum price for the pertinent Reinforcing Steel items.

APPROVAL: E.S. Sheridan, DIRECTOR, OFFICE OF STRUCTURES — DATE: 11/25/2007 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

SPLICING TO EXISTING REINFORCING STEEL MECHANICAL SPLICE

DETAIL NO. REBAR-ER-101 SHEET 2 OF 2

REBAR - EXISTING

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01-30-24 MAB

SD-9

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

REBAR DETAILS - II

DATE: JULY 2024 SCALE: AS SHOWN

CONTRACT NO. C6017.6017.01 DWG. 73 OF 77

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54350
EXPIRATION DATE: 05/19/2025

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

CRITERIA

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT:

DESIGN

MDOT SHA - "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MDMUTCD)

A A S H T O - "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" -1997

A A S H T O - "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2013 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

MATERIALS AND CONSTRUCTION

MDOT SHA - "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

MDOT SHA - "BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

DESIGN WIND

100 MPH - WOOD SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH - GROUND MOUNT SIGN STEEL SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH - OVERHEAD AND CANTILEVER STRUCTURES
50 YEAR RECURRENCE INTERVAL

} ALL DISTRICTS

DESIGN STRESS

SOIL BEARING PRESSURE - S = 3,000 P.S.F. (ASSUMED)
SEE MATERIAL & CONSTRUCTION ABOVE AND SPECIAL PROVISIONS FOR DESIGN STRESSES FOR STRUCTURAL STEEL, ALUMINUM, REINFORCING STEEL AND CONCRETE.

CHAMFER

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" X 3/4" CHAMFER.

CLASSIFICATION OF SIGNS

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

1. GUIDE SIGNS
   - A) STRUCTURAL TYPES
     - OH - OVERHEAD
     - C - CANTILEVER
     - GM - GROUND MOUNT, BREAKAWAY OR NON-BREAKWAY
     - BM - BRIDGE MOUNTED
   - B) PANELS
     - MATERIAL - EXTRUDED ALUMINUM
     - COPY - DIRECT APPLIED
       - I) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)

2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
   - A) STRUCTURAL TYPES
     - WOOD SUPPORTS
     - SQUARE TUBE
   - B) PANELS
     - MATERIAL - SHEET ALUMINUM
     - COPY - DIRECT APPLIED

IDENTIFICATION OF SIGNS AND PANELS

GUIDE SIGNS

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM-1, GM-2, GM-3, etc)
SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH-1a, OH-1b, OH-1c)

STANDARD SIGNS

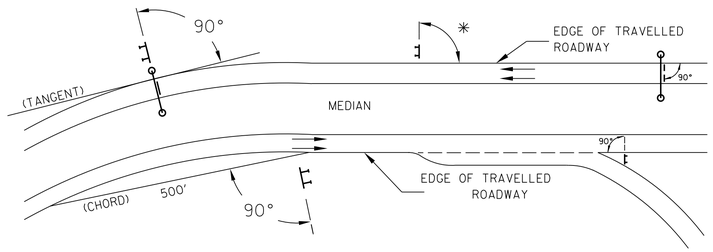
STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS
- R - REGULATORY
- W - WARNING
- M - ROUTE MARKERS AND ACCESSORIES
- D - DESTINATION AND MILEAGE PANELS
- S - SCHOOL

PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK. EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN.
FOR EXAMPLE SHEET SN 2.1-101,102,103, ETC. SHEET SN 2.2-201,202,203,ETC.

PANEL LAYOUT AND ALPHABETS

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.
2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MDMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE AT http://apps.roads.maryland.gov/businesswithsha/bizstdsspecs/desmanualstdpub/publicationsonline/oots/internet_signbook.asp

ORIENTATION OF SIGN FACES



* UNDER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 93° AWAY FROM THE ROAD TO AVOID SPECULAR REFLECTION AS INDICATED IN 813.03 OF THE MARYLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

OVER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 90°

REFLECTORIZATION

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE NOTED. REFER TO PROJECT REQUIREMENTS FOR MORE DETAIL.

SIGN LOCATIONS

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSION TO SURVEY STATIONS, OR WHEN NECESSARY, TO IDENTIFIABLE PHYSICAL FEATURES.
2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLAN SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

EXISTING UTILITIES

THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION SHOWN ON THE PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATION.

ROADSIDE SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANEL SO FACE IS PLUMB.
2. HORIZONTAL ALIGNMENT (SEE DIAGRAM ABOVE)
   - A) ON STRAIGHT ROADWAY SECTIONS, ANGLE OF SIGN FACE TO ROADWAY VARIES WITH DISTANCE FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - SEE DIAGRAM.
   - B) ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90° WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500' IN ADVANCE OF SIGN.
   - C) ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT THE SIGN LOCATION.
   - D) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

OVERHEAD SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT PANEL FACE IS PLUMB.
2. OVERHEAD SIGN STRUCTURES SHALL NOT BE ERECTED WITHOUT ATTACHING LUMINAIRES, SUPPORTS, AND/OR SIGNS.
3. HORIZONTAL ALIGNMENT
   - A) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE NORMAL EDGE OF ROADWAY, IF ON A STRAIGHT ROADWAY SECTION.
   - B) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT SIGN LOCATION, IF ON A HORIZONTAL CURVE.
   - C) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.
4. VERTICAL CLEARANCE
   - A) OVERHEAD SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 17'-9" FROM ROADWAY TO THE BOTTOM OF LIGHT FIXTURES. ALL LIGHT FIXTURES ARE TO BE AT THE SAME ELEVATION.
   - B) IF THE CONTRACTOR CANNOT OBTAIN 17'-9" (SEE 3A) CLEARANCE, HE IS TO CEASE WORK AND CONTACT THE PROJECT ENGINEER FOR FURTHER INSTRUCTIONS. THE PROJECT ENGINEER MAY CONTACT THE TRAFFIC ENGINEERING DESIGN DIVISION FOR ASSISTANCE.
   - C) ON ALL OVERHEAD SIGNS, THE MINIMUM CLEARANCE TO BOTTOM OF DESIGN SIGN: 20'-9".

PROJECT REQUIREMENTS

ALL NEW SIGNS ON THIS PROJECT SHALL BE FABRICATED FROM SHEETING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER:

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDOT SHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

2. LISTED ON MDOT SHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL).

PROJECT REQUIREMENTS CONT'D

3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS:

GENERAL NOTE: ALL COLORS SHALL BE RETROREFLECTIVE EXCEPT BLACK. BLACK TEXT, BORDERS, SYMBOLS OR ANY BLACK ELEMENTS OF ANY SIGN SHALL BE NON-REFLECTIVE. THIS APPLIES TO ALL MDOT SHA SIGNS AS SHOWN BELOW.

A) GUIDE, EXIT GORE, GENERAL INFORMATION, AND SERVICE SIGNS - FALL INTO TWO SUB CATEGORIES:

(I). GROUND MOUNTED:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).

(II). OVERHEAD STRUCTURE SIGNS AND OVERHEAD CANTILEVER SIGNS:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF ALL OVERHEAD SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE XI(II). (THIS SECTION DOES NOT APPLY TO OVERHEAD SIGNALIZED INTERSECTION SIGNING; MAST ARM OR SPAN WIRE. FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION FOR SIGNAL SIGNING.)

B) WARNING SIGNS - RETROREFLECTIVE SHEETING FOR WARNING SIGNS (FLUORESCENT YELLOW AND FLUORESCENT ORANGE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

C) SCHOOL SIGNS - RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (FLUORESCENT YELLOW AND FLUORESCENT YELLOW-GREEN) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

D) REGULATORY SIGNS - FALL INTO THREE SUBCATEGORIES:

(I). "RED" REGULATORY SIGNS; (SPECIFICALLY - STOP, YIELD, DO NOT ENTER AND WRONG WAY). ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).

(II). ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE REQUIREMENTS FOR ASTM TYPE IV (4).

(III). ALL OTHER REGULATORY SIGNS - ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET ASTM TYPE IV (4) INCLUDING RED ELEMENTS. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE REQUIREMENTS FOR WARNING SIGNS.

E) ROUTE MARKERS (INDEPENDENT USE AND GUIDE SIGN USE)

INDEPENDENT USE: ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET BUT NOT TO EXCEED THE REQUIREMENTS FOR ASTM TYPE IV (4).

GUIDE SIGN USE: WHEN INCORPORATED IN THE BODY OF A GUIDE SIGN, ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE SHEETING REQUIREMENTS OF THE GUIDE SIGNS FOR WHICH THEY ARE TO BE APPLIED; GROUND MOUNT ASTM TYPE IX (9) OR OVERHEAD ASTM TYPE XI(II).

F) LOGOS AND / OR GRAPHICS - WITHIN SIGNS SHALL FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.

G) SPECIFIC SERVICE (LOGO) SIGNING - ALL COPY, DIVIDER BORDERS, LOGOS AND ARROWS SHALL BE DEMOUNTABLE ALUMINUM OVERLAYS, .032 MINIMUM TO .063 MAXIMUM. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). DISTANCES ON DIRECTIONAL ARROWS WHEN SPECIFIED SHALL BE BLACK. THE OVERLAYS ARE TO BE APPLIED WITH .125 ALUMINUM POP RIVETS TO THE BODY OF THE MAIN SIGN.

H) CIVIL DEFENSE SIGNS AND OTHER SIGNS - NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE, SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.

4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS:

LONGEST DIMENSION	MINIMUM THICKNESS
UP TO 12"	0.040"
GREATER THAN 12" TO 24"	0.063"
GREATER THAN 24" TO 36"	0.080"
GREATER THAN 36" TO 48"	0.100"
OVER 48"	0.125"

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2024

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SN-1

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

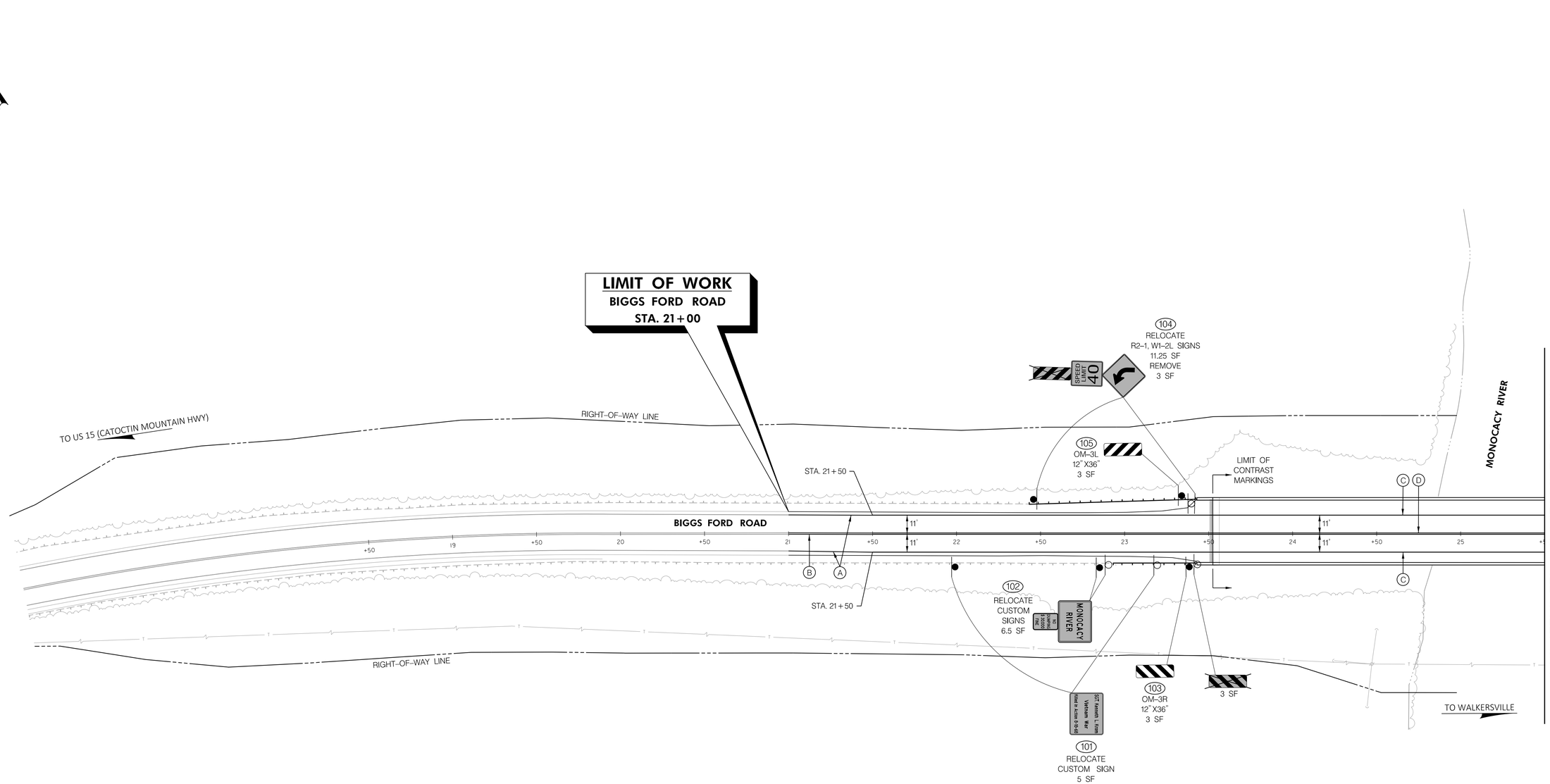
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

SIGNING AND MARKING GENERAL NOTES & PROPOSALS

DATE: JULY 2024 SCALE: NONE

CONTRACT NO. C6017.6017.01 DWG. 74 OF 77

BY: MKM -
PLOTTED: 6/25/2024
FILE: U:\STR\100-298.06 - Biggs Ford Rd\CADD\MicroStation\SN-100_BIGGSFORD.dgn



SIGNING LEGEND

- PROPOSED SIGN AND SUPPORT
- EXISTING SIGN AND SUPPORT TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED GROUND MOUNTED SIGN
- EXISTING GROUND MOUNTED SIGN

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE THERMOPLASTIC PAVEMENT MARKINGS - SOLID
- (B) 5" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKINGS - SOLID
- (C) 5" WHITE CONTRAST PAVEMENT MARKING TAPE - SOLID
- (D) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE - SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2024

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SN-2

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

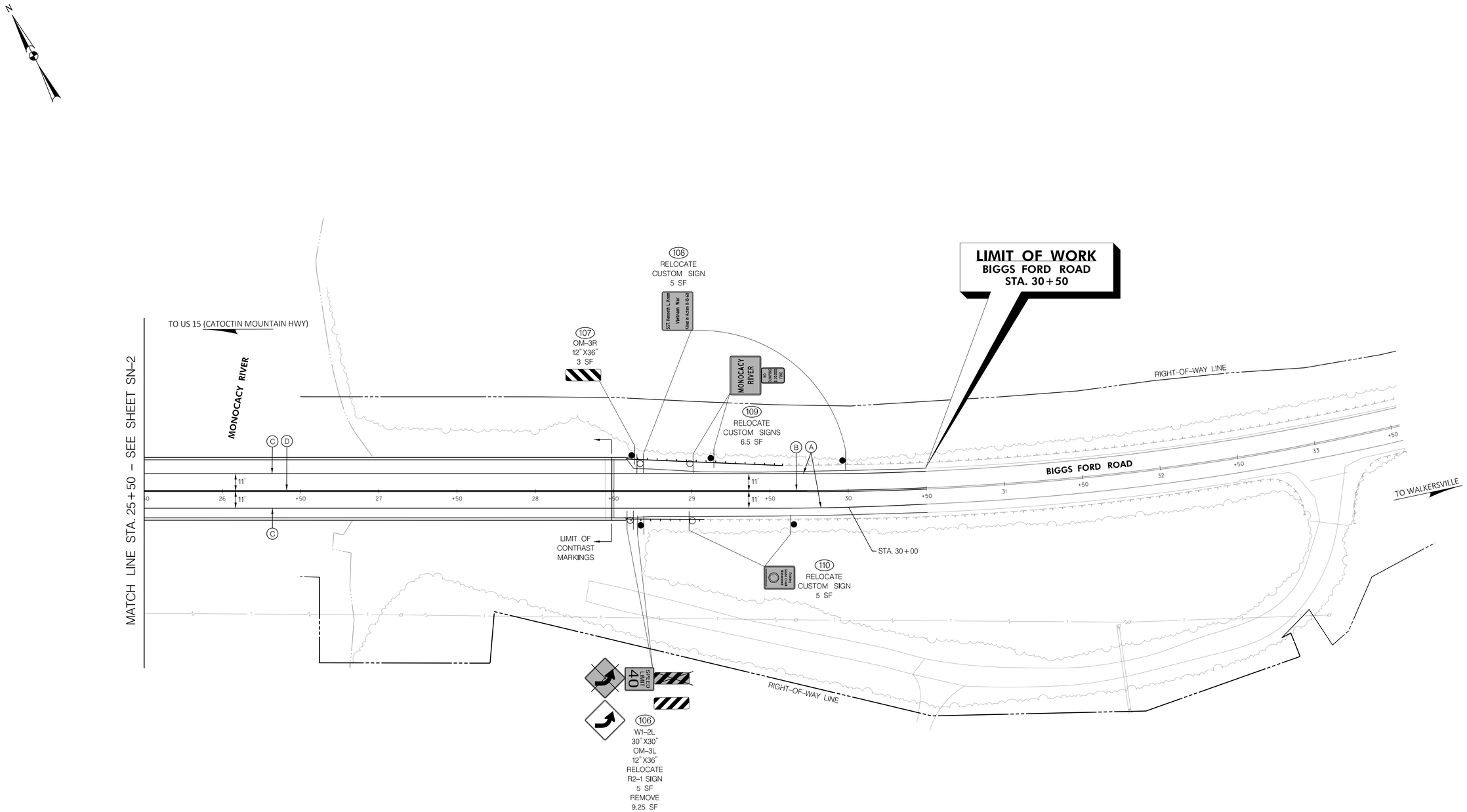
REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

SIGNING AND MARKING PLAN

DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 75 OF 77

BY: MMM
PLOTTED: 6/25/2024
FILE: U:\STR\C6017-298.dgn - Biggs Ford Rd\CADD\MicroStation\SN-2002 BIGGSFORD.dgn



SIGNING LEGEND

- PROPOSED SIGN AND SUPPORT
- EXISTING SIGN AND SUPPORT TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED GROUND MOUNTED SIGN
- EXISTING GROUND MOUNTED SIGN

30' 0 30' 60'
SCALE: 1" = 30'

PAVEMENT MARKING LEGEND

- (A) 5" WHITE THERMOPLASTIC PAVEMENT MARKINGS – SOLID
- (B) 5" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKINGS – SOLID
- (C) 5" WHITE CONTRAST PAVEMENT MARKING TAPE – SOLID
- (D) 5" DOUBLE YELLOW CONTRAST PAVEMENT MARKING TAPE – SOLID

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2024

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SN-3

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

SIGNING AND MARKING PLAN

DATE: JULY 2024 SCALE: 1"=30'

CONTRACT NO. C6017.6017.01 DWG. 76 OF 77

BY: MMM -
PLOTTED: 6/25/2024
FILE: U:\SYS\ADD\Plans\Bridges\Biggs Ford Rd\CADD\Micro$tation\SN-2003_BIGGSFORD.dgn

SHEET NO.	SIGN NO.	REMARKS	SUPPORTS	CODE NUMBERS																			
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SN-2.1	101	RELOCATE R2-1, W1-2R SIGNS	SQUARE PERFORATED STEEL SIGN POST	5	5	1	1																
	102	R1-1 (30"X30"), D-3 (TBD"X9")	SQUARE PERFORATED STEEL SIGN POST	9.25		1	1																
	103	W1-7 (48"X24")	TWO SQUARE PERFORATED STEEL SIGN POSTS	8		2	2																
	104	W1-2R (30"X30")	SQUARE PERFORATED STEEL SIGN POST	6.25		1	1																
	105	R2-1 (24"X30")	SQUARE PERFORATED STEEL SIGN POST	5		1	1																
	106	R2-1 (24"X30")	SQUARE PERFORATED STEEL SIGN POST	5		1	1																
	107	W3-1a (30"X30")	SQUARE PERFORATED STEEL SIGN POST	6.25		1	1																
		REMOVE EX. GROUND MOUNTED SIGNS AND SUPPORTS		44.75	5	8	8																
		SN-2.1 SUBTOTAL		44.75	5.00	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SN-2.2	201	W1-2L (30"X30")	SQUARE PERFORATED STEEL SIGN POST	6.25		1	1																
	202	M2-1 (15"X21"), W1-5 (24"X24")	SQUARE PERFORATED STEEL SIGN POST	6.2		1	1																
	203	OM-3L (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
	204	OM-3R (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
	205	OM-3R (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
	206	OM-3L (12"X36")	SQUARE PERFORATED STEEL SIGN POST	3		1	1																
		SN-2.2 SUBTOTAL		24.45	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		PAVEMENT MARKINGS FOR SN-2.1								1665	1895												
		PAVEMENT MARKINGS FOR SN-2.2								1980	1980												
		TOTAL		124	62	62	62	62	62	3645	3875	0	0	0	0	0	0	0	0	0	0	0	0

CODE NO.	DESCRIPTION	UNIT	CATEGORY CODE
1	SHEET ALUMINUM SIGNS	SF	801605
2	RELOCATE EXISTING GROUND MOUNTED SIGNS	SF	813023
3	REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS	SF	801711
4	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS	EA	801130
5	SQUARE TUBULAR STEEL ANCHOR BASES	EA	801135
6	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	549401
7	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	549403
8	5 INCH WHITE CONTRAST PAVEMENT MARKING TAPE	LF	549101
9	5 INCH YELLOW CONTRAST PAVEMENT MARKING TAPE	LF	549103
10	W BEAM BARRIER REFLECTIVE DELINEATORS	EA	670200

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 24828
EXPIRATION DATE: 02/25/2024

THE WILSON T. BALLARD CO.
CONSULTING ENGINEERS | OWINGS MILLS, MD

SN-4

FREDERICK COUNTY, MARYLAND
DIVISION OF PUBLIC WORKS
DEPARTMENT OF ENGINEERING AND CONSTRUCTION MANAGEMENT
OFFICE OF TRANSPORTATION ENGINEERING
FREDERICK COUNTY, MARYLAND

REHABILITATION OF BRIDGE NO. F26-04 ON BIGGS FORD ROAD OVER MONOCACY RIVER

SIGNING AND MARKING INDEX OF QUANTITIES

DATE: JULY 2024 SCALE: N.T.S.

CONTRACT NO. C6017.6017.01 DWG. 77 OF 77

BY: MMM -
PLOTTED: 6/25/2024
FILE: U:\STR\100-298.06 - Biggs Ford Rd\CADD\MicroStation\SN-1104_BIGGSFORD.dgn